



SOUTHERN CALIFORNIA
ASSOCIATION OF GOVERNMENTS
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SPECIAL MEETING

REGIONAL HOUSING NEEDS ASSESSMENT (RHNA) APPEALS BOARD PUBLIC HEARING

Remote Participation Only
Tuesday, January 19, 2021
9:00 a.m. – 3:00 p.m.

To Participate on Your Computer:
<https://scag.zoom.us/j/91702781766>

To Participate by Phone:
Call-in Number: 1-669-900-6833
Meeting ID: 917 0278 1766

***Please see next page for detailed
instructions on how to participate in the meeting.***

PUBLIC ADVISORY

Given recent public health directives limiting public gatherings due to the threat of COVID-19 and in compliance with the Governor's recent Executive Order N-29-20, the meeting will be held telephonically and electronically.

If members of the public wish to review the attachments or have any questions on any of the agenda items related to RHNA, please send an email to housing@scag.ca.gov. Agendas and Minutes are also available at: www.scag.ca.gov/committees.

SCAG, in accordance with the Americans with Disabilities Act (ADA), will accommodate persons who require a modification of accommodation in order to participate in this meeting. SCAG is also committed to helping people with limited proficiency in the English language access the agency's essential public information and services. You can request such assistance by calling (213) 236-1959. We request at least 72 hours (three days) notice to provide reasonable accommodations and will make every effort to arrange for assistance as soon as possible.



Instructions for Public Comments

You may submit public comments in two (2) ways:

1. Submit written comments via email to: housing@scag.ca.gov by 5pm on Friday, January 15, 2021.

All written comments received after 5pm on Friday, January 15, 2021 will be announced and included as part of the official record of the meeting.

2. If participating via Zoom or phone, during the Public Comment Period, use the “raise hand” function on your computer or *9 by phone and wait for SCAG staff to announce your name/phone number. SCAG staff will unmute your line when it is your turn to speak. Limit oral comments to 3 minutes, or as otherwise directed by the presiding officer.

If unable to connect by Zoom or phone and you wish to make a comment, you may submit written comments via email to: housing@scag.ca.gov.

In accordance with SCAG’s Regional Council Policy, Article VI, Section H and California Government Code Section 54957.9, if a SCAG meeting is “willfully interrupted” and the “orderly conduct of the meeting” becomes unfeasible, the presiding officer or the Chair of the legislative body may order the removal of the individuals who are disrupting the meeting.



Instructions for Participating in the Meeting

SCAG is providing multiple options to view or participate in the meeting:

To Participate and Provide Verbal Comments on Your Computer

1. Click the following link: <https://scag.zoom.us/j/91702781766>
2. If Zoom is not already installed on your computer, click “Download & Run Zoom” on the launch page and press “Run” when prompted by your browser. If Zoom has previously been installed on your computer, please allow a few moments for the application to launch automatically.
3. Select “Join Audio via Computer.”
4. The virtual conference room will open. If you receive a message reading, “Please wait for the host to start this meeting,” simply remain in the room until the meeting begins.
5. During the Public Comment Period, use the “raise hand” function located in the participants’ window and wait for SCAG staff to announce your name. SCAG staff will unmute your line when it is your turn to speak. Limit oral comments to 3 minutes, or as otherwise directed by the presiding officer.

To Listen and Provide Verbal Comments by Phone

1. Call **(669) 900-6833** to access the conference room. Given high call volumes recently experienced by Zoom, please continue dialing until you connect successfully.
2. Enter the **Meeting ID: 917 0278 1766**, followed by #.
3. Indicate that you are a participant by pressing # to continue.
4. You will hear audio of the meeting in progress. Remain on the line if the meeting has not yet started.
6. During the Public Comment Period, press *9 to add yourself to the queue and wait for SCAG staff to announce your name/phone number. SCAG staff will unmute your line when it is your turn to speak. Limit oral comments to 3 minutes, or as otherwise directed by the presiding officer.



REGIONAL HOUSING NEEDS ASSESSMENT (RHNA) APPEALS BOARD PUBLIC HEARING SPECIAL MEETING AGENDA

RHNA APPEALS BOARD MEMBERS – RHNA 6TH CYCLE

VOTING MEMBERS

Representing Imperial County

Primary: Hon. Cheryl Viegas-Walker, El Centro
Alternate: Sup. Luis Plancarte, Imperial County

Representing Los Angeles County

Primary: **VICE CHAIR** Margaret Finlay, Duarte
Alternate: Hon. Rex Richardson, Long Beach

Representing Orange County

Primary: Hon. Wendy Bucknum, Mission Viejo
Alternate: **CHAIR** Peggy Huang, Yorba Linda, TCA

Representing Riverside County

Primary: Hon. Russell Betts, Desert Hot Springs
Alternate: Hon. Rey SJ Santos, Beaumont

Representing San Bernardino County

Primary: Hon. Deborah Robertson, Rialto
Alternate: Hon. Larry McCallon, Highland

Representing Ventura County

Primary: Hon. Carmen Ramirez, Ventura County
Alternate: Hon. Mike Judge, Simi Valley, VCTC



REGIONAL HOUSING NEEDS ASSESSMENT (RHNA) APPEALS BOARD

PUBLIC HEARING – SPECIAL MEETING AGENDA

Southern California Association of Governments
Remote Participation Only
Tuesday, January 19, 2021
9:00 AM – 3:00 PM

CALL TO ORDER AND PLEDGE OF ALLEGIANCE *(The Honorable Peggy Huang, Chair)*

PUBLIC COMMENT PERIOD

Members of the public are encouraged to submit written comments by sending an email to: housing@scag.ca.gov by 5pm on Friday, January 15, 2021. Such comments will be transmitted to members of the legislative body and posted on SCAG's website prior to the meeting. Written comments received after 5pm on January 15, 2021 will be announced and included as part of the official record of the meeting. Members of the public wishing to verbally address the RHNA Appeals Board will be allowed up to 3 minutes to speak, with the presiding officer retaining discretion to adjust time limits as necessary to ensure efficient and orderly conduct of the meeting. The presiding officer has the discretion to reduce the time limit based upon the number of comments received and may limit the total time for all public comments to twenty (20) minutes.

Click [here](#) to access the list of written Public Comments received as of 1/11/2021, or see the attachment.

All comments submitted are posted online at <https://scag.ca.gov/rhna-comments>.

ACTION ITEM/S

1. Public Hearings to Consider Appeals Submitted by Jurisdictions Related to the 6th Cycle Draft RHNA Allocations
(Kome Ajise, Executive Director)

RECOMMENDED ACTION:

Review the appeals submitted by eight (8) jurisdictions regarding their respective 6th cycle Draft RHNA Allocations; review corresponding staff recommendations as reflected in the staff reports; receive public comments; hear arguments by appellants and staff responses; and take action to grant, partially grant, or deny each appeal.

The Chair has the discretion to determine the order of appeals heard.

Schedule

- 1.1 City of Fullerton*
 - 1.2 City of Laguna Hills*
 - 1.3 City of Fountain Valley*
 - 1.4 City of Huntington Beach*
-



1.5 City of La Palma*

1.6 City of Rancho Santa Margarita*

1.7 City of Tustin*

1.8 City of Newport Beach* (continued from January 15, 2021) *

*** For each appeal, the general time allocation is as the following with Chair's discretion to grant extension as needed:**

- Initial Arguments (5 min)
- Staff Response (5 min)
- Rebuttal (3 min)

For more information, please see Appeals Hearing Procedures in the Attachment.

ADJOURNMENT

The Public Hearing to hear submitted appeals to the 6th cycle Regional Housing Needs Assessment (RHNA) Allocations will continue on January 22, 2021.

ATTACHMENT - Appeals Hearing Procedures

(Per Adopted 6th Cycle RHNA Appeals Procedures Section G)

The hearing(s) shall be conducted to provide applicants and jurisdictions that did not file appeals but are the subject of an appeal, with the opportunity to make their case regarding a change in their draft regional housing need allocation or another 7 jurisdiction's allocation, with the burden on the applicants to prove their case. The appeals hearings will be organized by the specific jurisdiction subject to an appeal or appeals and will adhere to the following procedures:

1. Initial Arguments

Applicants who have filed an appeal for a particular jurisdiction will have an opportunity to present their request and reasons to grant the appeal. In the event of multiple appeals filed for a single jurisdiction, the subject jurisdiction will present their argument first if it has filed an appeal on its own draft RHNA allocation. Applicants may present their case either on their own, or in coordination with other applicants, but each applicant shall be allotted five (5) minutes each. If the subject jurisdiction did not file an appeal on its own draft RHNA allocation, it will be given an opportunity to present after all applicants have provided initial arguments on their filed appeals. Any presentation from the jurisdiction who did not appeal but is the subject of the appeal is limited to five (5) minutes unless it is responding to more than one appeal, in which case the jurisdiction is limited to eight (8) minutes.

2. Staff Response

After initial arguments are presented, SCAG staff will present their recommendation to approve or deny the appeals filed for the subject jurisdiction. The staff response is limited to five (5) minutes.

3. Rebuttal

Applicants and the jurisdiction who did not file an appeal but is the subject of the appeal may elect to provide a rebuttal but are limited to the arguments and evidence presented in the staff response. Each applicant and the subject jurisdiction that did not file an appeal on its own draft RHNA allocation will be allotted three (3) minutes each for a rebuttal.

4. Extension of Time Allotment

The Chair of the Appeals Board may elect to grant additional time for any presentation, staff response, or rebuttal in the interest of due process and equity.

5. Appeal Board Discussion and Determination



SPECIAL MEETING AGENDA

After arguments and rebuttals are presented, the RHNA Appeals Board may ask questions of applicants, the subject jurisdiction (if present), and SCAG staff. The Chair of the Appeals Board may request that questions from the Appeals Board be asked prior to a discussion among Appeals Board members. Any voting Board member may make a motion regarding the appeal(s) for the subject jurisdiction.

The Appeals Board is encouraged to make a single determination on the subject jurisdiction after hearing all arguments and presentations on each subject jurisdiction. The RHNA Appeals Board need not adhere to formal evidentiary rules and procedures in conducting the hearing. An appealing jurisdiction may choose to have technical staff present its case at the hearing. At a minimum, technical staff should be available at the hearing to answer any questions of the RHNA Appeals Board.

Written Comments Received on the 6th Cycle RHNA (as of 1/11/21)

Date of Letter	Organization	Name	Topic(s)
10/11/2018	City of Beverly Hills	Hon. John Mirisch	Subcommittee membership
12/2/2018	City of Mission Viejo	Gail Shiomoto-Lohr	Subcommittee charter, subregional delegation, growth forecast
1/17/2019	City of Beverly Hills	Hon. John Mirisch	Urban sprawl
2/4/2019	City of Beverly Hills	Hon. John Mirisch	Role of housing supply, single family homes, subcommittee membership
3/11/2019	City of Beverly Hills	Hon. John Mirisch	Subcommittee membership, upzoning, single family homes
3/30/2019	City of Beverly Hills	Hon. John Mirisch	Upzoning, urbanism, density
5/2/2019	Central Cities Association of Los Angeles	Jessica Lall	Regional Determination
5/6/2019	City of Irvine	Marika Poynter	Regional determination, existing need distribution, social equity adjustment
5/20/2019	City of Redondo Beach	Sean Scully	Existing housing need and zoning
5/23/2019	UCLA Luskin School of Public Affairs	Paavo Monkkonen	Zoning, housing prices, and regulation
5/28/2019	Orange County Council of Governments (OCCOG)	Hon. Stacy Berry	Regional determination consultation package
5/29/2019	City of Anaheim	Chris Zapata	Regional determination consultation package
5/31/2019	City of Yorba Linda	David Brantley	Regional determination consultation package
6/1/2019	City of Mission Viejo		Regional determination consultation package; distribution methodology
6/3/2019	City of Newport Beach	Seimone Jurjis	Regional determination consultation package
6/3/2019	UCLA	Paavo Monkkonen	Regional determination consultation package
6/4/2019	City of Tustin	Elizabeth Binsack	Regional determination consultation package
6/4/2019		Henry Fung	Public outreach and engagement; regional determination consultation package
6/5/2019		Hunter Owens	Regional determination consultation package
6/5/2019	City of Santa Ana	Kristine Ridge	Regional determination consultation package
6/5/2019	City of Newport Beach	Seimone Jurjis	Regional determination consultation package
6/5/2019	City of Calabasas	Mayor David Shapiro	RHNA methodology
6/5/2019		Vyki Englert	Regional determination consultation package
6/5/2019		Juan Lopez	Regional determination consultation package
6/5/2019		Louis Mirante	Regional determination consultation package
6/5/2019		Carter Rubin	Regional determination consultation package
6/6/2019		Hon. Meghan Sahli-Wells, City of Culver City	Regional determination consultation package
6/5/2019		Andy Freeland	Regional determination consultation package
6/5/2019		Eve Bachrach	Regional determination consultation package
6/6/2019		Emily Groendyke	Regional determination consultation package
6/6/2019		Timothy Hayes	Regional determination consultation package
6/6/2019		Carter Moon	Regional determination consultation package
6/6/2019		Jesse Lerner-Kinglake	Regional determination consultation package
6/6/2019		Alex Fisch	Regional determination consultation package
6/6/2019		Jed Lowenthal	Regional determination consultation package
6/6/2019	City of Moorpark	Karen Vaughn	Proposed RHNA Methodology
6/6/2019	City of La Habra	Jim Gomez	Regional determination package
6/6/2019	County of Orange	Supervisor Donald Wagner	Regional determination package
6/18/2019		Thomas Glaz	Proposed RHNA methodology
6/18/2019		Brendan Regulinski	Proposed RHNA methodology
6/18/2019		Chris Palencia	Proposed RHNA methodology
6/19/2019		Henry Fung	Action on regional determination; proposed RHNA methodology; public hearing and outreach process
6/21/2019		Glenn Egelko	Subcommittee member remarks
6/22/2019		Donna Smith	Proposed RHNA methodology
6/24/2019		Fred Zimmerman	Regional determination package
6/24/2019		Antoine Wakim	Regional determination package
6/24/2019		Darrell Clarke	Regional determination package

Written Comments Received on the 6th Cycle RHNA (as of 1/11/21)

Date of Letter	Organization	Name	Topic(s)
6/24/2019		Marcos Rodriguez Maciel	Regional determination package
6/24/2019		Taylor Hallam	Regional determination package
6/24/2019		Phil Lord	Regional determination package
6/24/2019		Edwin Woll	Regional determination package
6/24/2019		Steven Guerry	Regional determination package
6/24/2019		Prabhu Reddy	Regional determination package
6/24/2019		Judd Schoenholtz	Regional determination package
6/24/2019		Bret Contreras	Regional determination package
6/24/2019		Mark Montiel	Regional determination package
6/24/2019		Hardy Wronske	Regional determination package
6/24/2019		William Wright	Regional determination package
6/24/2019		Nicholas Burns III	Regional determination package
6/24/2019		Brendan Regulinski	Regional determination package
6/24/2019		Gabe Rose	Regional determination package
6/24/2019		Sean McKenna	Regional determination package
6/24/2019		Lolita Nurmamade	Regional determination package
6/24/2019		Paul Moorman	Regional determination package
6/24/2019		Ryan Welch	Regional determination package
6/24/2019		Gerald Lam	Regional determination package
6/24/2019		Carol Gordon	Regional determination package
6/24/2019		Anthony Dedousis	Regional determination package
6/24/2019		Christopher Cooper	Regional determination package
6/24/2019		Colin Frederick	Regional determination package
6/24/2019		Joe Goldman	Regional determination package
6/24/2019		David Douglass-Jaimes	Regional determination package
6/24/2019		Liz Barillas	Regional determination package
6/24/2019		Andy Freeland	Regional determination package
6/24/2019		Grayson Peters	Regional determination package
6/24/2019		Andrew Oliver	Regional determination package
6/24/2019		Kyle Jenkins	Regional determination package
6/24/2019		Matthew Ruscigno	Regional determination package
6/24/2019		Amar Billoo	Regional determination package
6/24/2019		Joshua Blumenkopf	Regional determination package
6/24/2019		Leonora Camner	Regional determination package
6/24/2019		Ryan Tanaka	Regional determination package
6/24/2019		Partho Kalyani	Regional determination package
6/24/2019		Victoria Englert	Regional determination package
6/24/2019		Josh Albrektson	Regional determination package
6/24/2019		Matt Stauffer	Regional determination package
6/24/2019		Brooks Dunn	Regional determination package
6/24/2019		Nancy Barba	Regional determination package
6/24/2019		Sandra Madera	Regional determination package
6/25/2019		Gregory Dina	Regional determination package
6/25/2019		Brent Gaisford	Regional determination package
6/25/2019		Andrew Kerr	Regional determination package
6/25/2019		Hunter Owens	Regional determination package
6/25/2019		Alexander Murray	Regional determination package
6/25/2019		Eric Hayes	Regional determination package
6/25/2019		Brent Stoll	Regional determination package
6/25/2019		Matthew Dixon	Regional determination package

Written Comments Received on the 6th Cycle RHNA (as of 1/11/21)

Date of Letter	Organization	Name	Topic(s)
6/25/2019		Mark Yetter	Regional determination package
6/25/2019		Chase Engelhardt	Regional determination package
6/25/2019		Hugh Martinez	Regional determination package
6/25/2019		Christopher Palencia	Regional determination package
6/25/2019		Nathan Pope	Regional determination package
6/25/2019		Lauren Borchard	Regional determination package
6/25/2019		Shane Philips	Regional determination package
6/25/2019		Alexander Naylor	Regional determination package
6/25/2019		Andy May	Regional determination package
6/25/2019		Jon Dearing	Regional determination package
6/25/2019		David Barboza	Regional determination package
6/26/2019		Sofia Tablada	Regional determination package
6/26/2019		Amanda Wilson	Regional determination package
6/26/2019		Mike Bettinardi	Regional determination package
6/26/2019		Emily Skehan	Regional determination package
6/26/2019	City of Long Beach	Patrick West	Proposed RHNA methodology
6/27/2019		Jesse Silva	Regional determination package
6/27/2019		Ryan Rubin	Regional determination package
6/27/2019	City of Garden Grove	Mayor Steve Jones	Regional determination package; proposed RHNA methodology
6/27/2019	County of Los Angeles	Amy Bodek	Proposed RHNA methodology
6/28/2019		Maggie Rattay	Regional determination package
6/28/2019		Brittney Hojo	Regional determination package
6/28/2019		Thomas Irwin	Regional determination package
6/28/2019		Steph Pavon	Regional determination package
7/3/2019		Tyler Lindberg	Regional determination package
7/3/2019		Ji Son	Regional determination package
7/3/2019		David Kitani	Regional determination package
7/3/2019		Chase Andre	Regional determination package
7/3/2019		Taily Pulido	Regional determination package
7/5/2019		Stephanie Palencia	Regional determination package
7/6/2019		Charlie Stigler	Regional determination package
7/8/2019		Chris Rattay	Regional determination package
7/9/2019		Holly Osborne	Proposed RHNA Methodology
7/9/2019	City of Ojai	James Vega	Proposed RHNA Methodology
7/10/2019	City of South Gate	Joe Perez	Proposed RHNA Methodology
7/11/2019	City of Malibu	Reva Feldman	Proposed RHNA Methodology
7/16/2019	City of Los Angeles, 15 th District	Aksel Palacios	Affordable Housing Solutions
7/17/2019	City of Culver City	Mayor Meghan Sahli-Wells	Regional Determination
7/18/2019	League of Women Voters of Los Angeles	Sandra Trutt	Zoning and Homelessness
7/18/2019	County of Riverside	Juan Perez	Proposed RHNA allocation
7/19/2019	League of Women Voters of Los Angeles County	Marge Nichols	Regional Determination
7/20/2019		Therese Mufic Neustaedter	Regional Determination
7/23/2019	County of Ventura – Board of Supervisors	Supervisor Steve Bennett	Proposed RHNA Methodology
7/25/2019		Jose Palencia	Regional Determination
7/27/2019		Henry Fung	Proposed RHNA Methodology
7/29/2019		Paavo Monkkonen	Proposed RHNA Methodology
7/29/2019		Paavo Monkkonen	Proposed RHNA Methodology
7/29/2019	Endangered Habitats League	Dan Silver	Proposed RHNA methodology
7/31/2019	League of Women Voters Los Angeles County	Marge Nichols	Regional Determination; Proposed RHNA Methodology
7/31/2019	City of Beverly Hills	Mayor John Mirisch	Proposed RHNA Methodology

Written Comments Received on the 6th Cycle RHNA (as of 1/11/21)

Date of Letter	Organization	Name	Topic(s)
7/31/2019	City of Beverly Hills	Mayor John Mirisch	Proposed RHNA Methodology
7/31/2019		Assm. Richard Bloom	Proposed RHNA Methodology
8/1/2019	League of Women Voters Santa Monica	Natalya Zernitskaya	Proposed RHNA Methodology
8/1/2019	City of Malibu	Bonnie Blue	Proposed RHNA Methodology; SB 182
8/1/2019	People for Housing OC	Elizabeth Hansburg	Regional Determination
8/1/2019	City of Big Bear Lake	Jeff Matthieu	Proposed RHNA Methodology
8/2/2019		Donna Smith	?
8/4/2019		Gary Drucker	Proposed RHNA Methodology
8/5/2019		Valerie Fontaine	Proposed RHNA Methodology
8/5/2019		Jay Ross	Proposed RHNA Methodology
8/7/2019		Miriam Cantor	Proposed RHNA Methodology
8/8/2019		Jonathan Baty	Population growth
8/12/2019		City of Yucaipa	Proposed RHNA methodology
8/12/2019		Paul Lundquist	?
8/12/2019		Leonora Camner	Proposed RHNA Methodology
8/12/2019		Ryan Tanaka	Proposed RHNA Methodology
8/12/2019		Jesse Silva	Proposed RHNA Methodology
8/12/2019		Joshua Gray-Emmer	Proposed RHNA Methodology
8/12/2019		Chase Engelhardt	Proposed RHNA Methodology
8/12/2019		Drew Heckathorn	Proposed RHNA Methodology
8/12/2019		Liz Barillas	Proposed RHNA Methodology
8/12/2019		Jonah Bliss	Proposed RHNA Methodology
8/12/2019		Angus Beverly	Proposed RHNA Methodology
8/12/2019		Gregory Dina	Proposed RHNA Methodology
8/12/2019		Eduardo Mendoza	Proposed RHNA Methodology
8/12/2019		Carol Gordon	Proposed RHNA Methodology
8/12/2019		Joanne Leavitt	Proposed RHNA Methodology
8/12/2019		Mark Yetter	Proposed RHNA Methodology
8/12/2019		Meredith Jung	Proposed RHNA Methodology
8/12/2019		Nicholas Burns III	Proposed RHNA Methodology
8/12/2019		Judd Scoenholtz	Proposed RHNA Methodology
8/12/2019		Lee Benson	Proposed RHNA Methodology
8/12/2019		Kate Poisson	Proposed RHNA Methodology
8/12/2019		Joshua Blumenkopf	Proposed RHNA Methodology
8/12/2019		Anthony Dedousis	Proposed RHNA Methodology
8/12/2019		Christopher Tausanovitch	Proposed RHNA Methodology
8/12/2019		Emerson Dameron	Proposed RHNA Methodology
8/12/2019		Grayson Peters	Proposed RHNA Methodology
8/12/2019		Tami Kagan-Abrams	Proposed RHNA Methodology
8/12/2019		Lauren Borchard	Proposed RHNA Methodology
8/12/2019		Alec Mitchell	Proposed RHNA Methodology
8/12/2019		Andy Freeland	Proposed RHNA Methodology
8/12/2019		Michelle Castelletto	Proposed RHNA Methodology
8/12/2019		Brent Gaisford	Proposed RHNA Methodology
8/12/2019		Rebecca Muli	Proposed RHNA Methodology
8/12/2019		Ryan Welch	Proposed RHNA Methodology
8/12/2019		Prabhu Reddy	Proposed RHNA Methodology
8/12/2019		Matthew Dixon	Proposed RHNA Methodology
8/12/2019		Richard Hofmeister	Proposed RHNA Methodology

Written Comments Received on the 6th Cycle RHNA (as of 1/11/21)

Date of Letter	Organization	Name	Topic(s)
8/12/2019		David Barboza	Proposed RHNA Methodology
8/12/2019		Michael Drowsky	Proposed RHNA Methodology
8/12/2019		Allison Wong	Proposed RHNA Methodology
8/13/2019		Justin Jones	Proposed RHNA Methodology
8/13/2019		Yurhe Lim	Proposed RHNA Methodology
8/13/2019		Ryan Koyanagi	Proposed RHNA Methodology
8/13/2019		William Wright	Proposed RHNA Methodology
8/13/2019		Norma Guzman	Proposed RHNA Methodology
8/13/2019		Mary Vaiden	Proposed RHNA Methodology
8/13/2019		Andy May	Proposed RHNA Methodology
8/13/2019		Gerald Lam	Proposed RHNA Methodology
8/13/2019		Kelly Koldus	Proposed RHNA Methodology
8/13/2019		Thomas Irwin	Proposed RHNA Methodology
8/14/2019		Susan Decker	Proposed RHNA Methodology
8/14/2019		Michael Busse	Proposed RHNA Methodology
8/14/2019		Rosa Flores	Proposed RHNA Methodology
8/14/2019		Pedro Juarez	Proposed RHNA Methodology
8/14/2019		Zennon Ulyate-Crow	Proposed RHNA Methodology
8/16/2019		Ron Javorsky	
8/16/2019	County of Riverside	Robert Flores	RHNA Public Outreach
8/17/2019		Marianne Buchanan	
8/17/2019		Carolyn Byrnes	Other
8/17/2019		Sharon Willkins	
8/17/2019		Natalya Zernitskaya	Proposed RHNA Methodology
8/19/2019		Kawauna Reed	
8/19/2019		Hon. Manuel Chavez (Costa Mesa Councilmember, District 4)	Proposed RHNA Methodology
		Cassius Rutherford (Parks Commissioner, Costa Mesa)	
		Chris Gaarder (Planning Commission Chair, Fullerton)	
		Brandon Whalen-Castellanos (Transportation Commission Chair, Fullerton)	
		Luis Aleman (Parks Commission, Santa Ana)	
8/19/2019		Theopilis Hester	Proposed RHNA Methodology
8/20/2019	City of Santa Monica	Rick Cole	Proposed RHNA Methodology
8/20/2019	City of Rancho Palos Verdes	Octavio Silva	Proposed RHNA Methodology
8/20/2019	City of Yorba Linda	Mayor Tara Campbell	Proposed RHNA Methodology
8/22/2019	City of Redondo Beach	Mayor William Brand	Proposed RHNA Methodology
8/22/2019	Orange County Council of Governments (OCCOG)	Marnie O. Primmer	Proposed RHNA Methodology
8/23/2019		Bruce Szekes	Public Outreach
8/23/2019	Center for Demographic Research		Proposed RHNA Methodology
8/23/2019		Laura Smith	Housing Distribution
8/23/2019	City of Beverly Hills	Mayor John Mirisch	Proposed RHNA Methodology
8/24/2019		Sharon Commins	Proposed RHNA Methodology
8/26/2019	City of El Segundo		Proposed RHNA Methodology
8/26/2019		Sean McKenna	Proposed RHNA Methodology
8/26/2019		Mark Chenevey	Proposed RHNA Methodology
8/26/2019		Derek Ryder	Proposed RHNA Methodology
8/26/2019	City of Long Beach	Patrick West	Proposed RHNA Methodology
8/27/2019	City of Mission Viejo	Elaine Lister	Proposed RHNA Methodology data correction
8/27/2019		Shawn Danino	Proposed RHNA Methodology
8/27/2019		Jeffery Alvarez	Proposed RHNA Methodology

Written Comments Received on the 6th Cycle RHNA (as of 1/11/21)

Date of Letter	Organization	Name	Topic(s)
8/27/2019		Claudia Vu	Proposed RHNA Methodology
8/27/2019		Laila Delgado	Proposed RHNA Methodology
8/27/2019		Madeline Swim	Proposed RHNA Methodology
8/27/2019		Nicholas Paganini	Proposed RHNA Methodology
8/27/2019		David Aldama	Proposed RHNA Methodology
8/27/2019		Hannah Winnie	Proposed RHNA Methodology
8/27/2019		Akif Khan	Proposed RHNA Methodology
8/27/2019		Gianna Lum	Proposed RHNA Methodology
8/27/2019		Bradley Ewing	Proposed RHNA Methodology
8/27/2019		Anne Martin	Proposed RHNA Methodology
8/27/2019		Mysten Walker	Proposed RHNA Methodology
8/27/2019		Verity Freebern	Proposed RHNA Methodology
8/27/2019		Ryan Oillataguerre	Proposed RHNA Methodology
8/27/2019		Emma Desopo	Proposed RHNA Methodology
8/27/2019		Elyssa Medina	Proposed RHNA Methodology
8/27/2019		Judith Trujillo	Proposed RHNA Methodology
8/27/2019		Kenia Agaton	Proposed RHNA Methodology
8/27/2019	OC Business Council	Alicia Berhow	Proposed RHNA Methodology
8/27/2019	Palms Neighborhood Council	Eryn Block	Proposed RHNA Methodology
8/27/2019	County of Riverside	Juan Perez	Proposed RHNA Methodology
8/28/2019		Sophia Parmisano	Proposed RHNA Methodology
8/28/2019		Anthony Castelletto	Proposed RHNA Methodology
8/28/2019		Minh Le	Proposed RHNA Methodology
8/28/2019		Carol Luong	Proposed RHNA Methodology
8/28/2019		Chitra Patel	Proposed RHNA Methodology
8/28/2019		Misha Ponnuraju	Proposed RHNA Methodology
8/27/2019		Griffin McDaniel	Proposed RHNA Methodology
8/28/2019		Lauren Walker	Proposed RHNA Methodology
8/28/2019		Robert Flores	Proposed RHNA Methodology
8/28/2019		Hailey Maxwell	Proposed RHNA Methodology
8/28/2019		Carey Kayser	Proposed RHNA Methodology
8/28/2019		Annie Bickerton	Proposed RHNA Methodology
8/29/2019	City of Fullerton	Matt Foulkes	Proposed RHNA Methodology
8/29/2019	City of Norco	Steve King	Proposed RHNA Methodology
8/29/2019	City of Signal Hill	Mayor Lori Wood	Proposed RHNA Methodology
8/29/2019	SCANPH	Francisco Martinez	Proposed RHNA Methodology
8/29/2019		Ross Heckmann	Proposed RHNA Methodology
8/30/2019		Dottie Alexanian	Proposed RHNA Methodology
8/30/2019		Judith Deutsch	Proposed RHNA Methodology
8/30/2019	City of Tustin	Elizabeth Binsack	Proposed RHNA Methodology
8/30/2019	City of Menifee	Cheryl Kitzerow	Proposed RHNA Methodology
8/31/2019		Paavo Monkkonen	Proposed RHNA Methodology
8/31/2019		Paavo Monkkonen and 27 professors	Proposed RHNA Methodology
8/31/2019		Ryan Kelly	Proposed RHNA Methodology
8/31/2019		Hydee Feldstein	Proposed RHNA Methodology
8/31/2019		Alex Ivina	Proposed RHNA Methodology
8/31/2019		Steve Rogers	Proposed RHNA Methodology
8/31/2019		Phil Davis	Proposed RHNA Methodology
8/31/2019		Kathy Hersh	Proposed RHNA Methodology
9/1/2019		Jane Demian	Proposed RHNA Methodology

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Date of Letter	Organization	Name	Topic(s)
9/1/2019		Diana Stiller	Proposed RHNA Methodology
9/1/2019		Paula Bourges	Proposed RHNA Methodology
9/1/2019		Raymond Goldstone	Proposed RHNA Methodology
9/1/2019		Christopher Palencia	Proposed RHNA Methodology
9/2/2019		Doris Roach	Proposed RHNA Methodology
9/3/2019		Judy Saunders	Proposed RHNA Methodology
9/3/2019		Susan Ashbrook	Proposed RHNA Methodology
9/3/2019		Marcelo & Irene Olavarria	Proposed RHNA Methodology
9/3/2019		Margret Healy	Proposed RHNA Methodology
9/3/2019		Genie Saffren	Proposed RHNA Methodology
9/3/2019	City of Rancho Santa Margarita	Cheryl Kuta	Proposed RHNA Methodology
9/3/2019	City of Corona	Joanne Coletta	Proposed RHNA Methodology
9/3/2019	City of Desert Hot Springs	Rebecca Deming	Proposed RHNA Methodology
9/3/2019		Karen Boyarsky	Regional Determination
9/3/2019		Nancee L.	Proposed RHNA Methodology
9/3/2019		Tracy St. Claire	Regional Determination
9/4/2019		Shelly Carlo	Housing Distribution
9/4/2019		Bill Zimmerman	Proposed RHNA Methodology
9/4/2019		Mark Vallianatos	Proposed RHNA Methodology
9/4/2019		Marilyn Frost	Housing Distribution
9/4/2019		Matthew Stevens	Proposed RHNA Methodology
9/4/2019		Georgianne Cowan	Regional Determination
9/4/2019		Lisa Schecter	Regional Determination
9/4/2019		Carol Watkins	Regional Determination
9/4/2019		Mark Robbins	Regional Determination
9/4/2019		Susan Horn	Regional Determination
9/4/2019		Barbara Broide	Regional Determination
9/4/2019		Joseph Sherwood	Regional Determination
9/4/2019		Linda Sherwood	Regional Determination
9/4/2019		Darren Swimmer	Regional Determination
9/4/2019		Lee Zeldin	Regional Determination
9/4/2019		Nancy Rae Stone	Regional Determination
9/4/2019		Rachael Gordon	Regional Determination
9/4/2019		Martha Singer	Regional Determination
9/4/2019		Laurie Balustein	Regional Determination
9/4/2019		Henry Fung	Regional Determination
9/4/2019		Brad Pennington	Regional Determination
9/4/2019		Mike Javadi	Regional Determination
9/4/2019		Lauren Thomas	Regional Determination
9/4/2019		Keith Solomon	Regional Determination
9/4/2019		Linda Blank	Regional Determination
9/4/2019		Valerie Brucker	Regional Determination
9/4/2019		Craig Rich	Regional Determination
9/4/2019		Wansun Song	Regional Determination
9/4/2019		Robert Seligman	Regional Determination
9/4/2019	City of Newport Beach	Seimone Jurjis	Regional Determination
9/4/2019	City of Calabasas	Mayor David Shapiro	Regional Determination
9/4/2019		Paul Soroudi	Regional Determination
9/4/2019		Terrence Gomes	Regional Determination
9/4/2019		Kimberly Fox	Regional Determination

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Date of Letter	Organization	Name	Topic(s)
9/4/2019		Mra Tun	Regional Determination
9/4/2019		Laura Levine Lacter	Regional Determination
9/4/2019		Stephen Resnick	Regional Determination
9/4/2019		Kimberly Christensen	Regional Determination
9/4/2019		Rita Villa	Regional Determination
9/4/2019	City of San Clemente	James Makshanoff	Proposed RHNA Methodology
9/4/2019	City of Beaumont	Julio Martinez	Proposed RHNA Methodology
9/4/2019	City of Hawthorne	Arnold Shadbeh	Proposed RHNA Methodology
9/5/2019	City of Murrieta	Mayor Kelly Seyarto	Proposed RHNA Methodology
9/5/2019	City of Canyon Lake	Jim Morrissey	Proposed RHNA Methodology
9/5/2019		Hunter Owens	Proposed RHNA Methodology
9/5/2019		Stephen Twining	Regional Determination
9/5/2019		Paul Callinan	Regional Determination
9/5/2019		C. McAlpin	Regional Determination
9/5/2019		Isabel Janken	Regional Determination
9/5/2019		Ann Hayman	Regional Determination
9/5/2019		Meg Sullivan	Housing Production
9/5/2019	City of Moreno Valley	Patty Nevins	Proposed RHNA Methodology
9/5/2019		Massy Mortazavi	Regional Determination
9/5/2019		Fred Golan	Regional Determination
9/5/2019		Debbie & Howard Nussbaum	Regional Determination
9/5/2019		Devony Hastings	Regional Determination
9/5/2019	League of Women Voters of Los Angeles County	Marge Nichols	RHNA Methodology
9/5/2019		Larry Blugrind	Housing Distribution
9/5/2019		Terry Tegnazian	Regional Determination
9/5/2019	Gateway Cities Council of Governments (GCCOG)	M. Diane DuBois	RHNA Methodology
9/5/2019		Denson Fujikawa	Other
9/5/2019		Tracy Fitzgerald	Regional Determination
9/5/2019	City of Pomona	Anita Gutierrez	Proposed RHNA Methodology
9/5/2019		Minhlinh Nguyen	Regional Determination
9/5/2019		Anita Gutierrez	Proposed RHNA Methodology
9/5/2019	City of Fountain Valley	Steve Nagel	Proposed RHNA Methodology
9/5/2019	City of Camarillo	Kevin Kildee	Proposed RHNA Methodology
9/5/2019		Denson Fujikawa	Other
9/6/2019	City of Sierra Madre	Gabriel Engeland	Proposed RHNA Methodology
9/6/2019	City of Laguna Hills	Donald White	Proposed RHNA Methodology
9/6/2019		David Oliver	Regional Determination
9/6/2019	City of Chino Hills	Joann Lombardo	Proposed RHNA Methodology
9/7/2019		David Ting	Regional Determination
9/9/2019	City of Azusa	Sergio Gonzalez	Proposed RHNA Methodology
9/9/2019	City of Alhambra	Jessica Binnquist	Proposed RHNA Methodology
9/9/2019	Los Angeles Chamber of Commerce	Maria Salinas	RHNA Methodology
9/9/2019	City of Ranchos Palos Verdes	Octavio Silva	Proposed RHNA Methodology
9/9/2019		Kathy Whooley	Regional Determination
	San Gabriel Valley Council of Governments		
9/9/2019	(SGVCOG)	Cynthia Sternquist	Proposed RHNA Methodology
9/9/2019		Matthew Hinsley	Regional Determination
9/9/2019	City of Agoura Hills	Greg Ramirez	Proposed RHNA Methodology
9/10/2019	City of Redondo Beach	Laura Emdee	Regional Determination
9/10/2019		Jessica Sandoval	Proposed RHNA Methodology

Written Comments Received on the 6th Cycle RHNA (as of 1/11/21)

Date of Letter	Organization	Name	Topic(s)
9/10/2019	City of Redondo Beach	Bill Brand	Proposed RHNA Methodology
9/10/2019		Yesenia Medina	Regional Determination
9/10/2019		Jeannette Mazul	Regional Determination
9/10/2019		Jocelyne Irineo	Proposed RHNA Methodology
9/10/2019		Cristina Resendez	Proposed RHNA Methodology
9/10/2019		Carla Bucio	Proposed RHNA Methodology
9/10/2019	City of Redondo Beach	Bill Brand	Proposed RHNA Methodology
9/10/2019	City of Redondo Beach	Laura Emdee	Proposed RHNA Methodology
9/10/2019	City of Garden Grove	Steve Jones	Proposed RHNA Methodology
9/10/2019		Henry Fung	Overall RHNA Process
9/10/2019	City of San Marino	Aldo Cervantes	Proposed RHNA Methodology
9/10/2019	City of South Gate	Jorge Morales	Proposed RHNA Methodology
9/10/2019	City of Torrance	Patrick Furey	Proposed RHNA Methodology
9/10/2019	City of Rancho Cucamonga	John Gillison	Proposed RHNA Methodology
9/10/2019		Jeannette Mazul	Affordable Housing
9/10/2019		Tina Kim	Proposed RHNA Methodology
9/11/2019	City of South Pasadena	Stephanie DeWolfe	Proposed RHNA Methodology
9/11/2019	City of Glendora	Jeff Kugel	Proposed RHNA Methodology
9/11/2019	City of Ojai	John F. Johnson	Proposed RHNA Methodology
9/11/2019	City of Oxnard	Tim Flynn	Proposed RHNA Methodology
9/11/2019	City of Westlake Village	Ned E. Davis	Proposed RHNA Methodology
9/11/2019	City of Cerritos	Art Gallucci	Proposed RHNA Methodology
9/11/2019	City of Hemet	Christopher Lopez	Proposed RHNA Methodology
9/11/2019	City of La Palma	Laurie Murray	Proposed RHNA Methodology
9/11/2019	City of Bell	Ali Saleh	Proposed RHNA Methodology
9/11/2019		Karen Rivera	Regional Determination
9/11/2019		David Coffin	Regional Determination
9/12/2019	City of Lomita	Alicia Velasco	Proposed RHNA Methodology
9/12/2019	City of Wildomar	Matthew Bassi	Proposed RHNA Methodology
9/12/2019	City of Aliso Viejo	David Doyle	Proposed RHNA Methodology
9/12/2019	City of Commerce	Vilko Domic	Proposed RHNA Methodology
9/12/2019	City of El Monte	Betty Donovanik	Proposed RHNA Methodology
	South Bay Cities Council of Governments		
9/12/2019	(SBCCOG)	Christian Horvath	Proposed RHNA Methodology
9/12/2019	City of Huntington Beach	Dave Kiff	Proposed RHNA Methodology
9/12/2019	City of Rosemead	Gloria Molleda	Proposed RHNA Methodology
9/12/2019	City of Dana Point	Matt Schneider	Proposed RHNA Methodology
9/12/2019	City of Placentia	Rhonda Shader	Proposed RHNA Methodology
9/12/2019	City of Palos Verdes Estates	Carolynn Petru	Proposed RHNA Methodology
9/12/2019	City of Palmdale	Mark Oyler	Proposed RHNA Methodology
9/12/2019	City of Hawthorne	Alejandro Vargas	Proposed RHNA Methodology
9/12/2019	City of Irvine	Mayor Christina L. Shea	Proposed RHNA Methodology
9/12/2019	City of Walnut	Rob Wishner	Proposed RHNA Methodology
9/12/2019	City of Maywood	Jennifer Vasquez	Proposed RHNA Methodology
9/12/2019	City of Culver City	Meghan Sahli-Wells	Proposed RHNA Methodology
9/12/2019	City of Buena Park	Joel Rosen	Proposed RHNA Methodology
9/12/2019	City of Santa Clarita	Thomas Cole	Proposed RHNA Methodology
9/12/2019	City of Temecula	Luke Watson	Proposed RHNA Methodology
9/12/2019	City of Lake Elsinore	Richard MacHott	Proposed RHNA Methodology
9/12/2019	City of San Dimas	Ken Duran	Proposed RHNA Methodology

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Date of Letter	Organization	Name	Topic(s)
9/12/2019	City of Irwindale	William Tam	Proposed RHNA Methodology
9/12/2019	City of Santa Ana	Kristine Ridge	Proposed RHNA Methodology
9/12/2019	City of La Mirada	Jeff Boynton	Proposed RHNA Methodology
9/12/2019	City of Anaheim	Chris Zapata	Proposed RHNA Methodology
9/12/2019	City of Costa Mesa	Lori Ann Farrell Harrison	Proposed RHNA Methodology
9/12/2019	City of Huntington Park	Sergio Infanzon	Proposed RHNA Methodology
9/12/2019	Westside Neighborhood Council	Terri Tippit	Proposed RHNA Methodology
9/12/2019	City of Eastvale	Bryan Jones	Proposed RHNA Methodology
9/12/2019		John Birkett	Regional Determination
9/12/2019		Lourdes Petersen	Regional Determination
9/12/2019		Jesse Silva	Proposed RHNA Methodology
9/12/2019		Anne Hilborn	Proposed RHNA Methodology
9/12/2019		Henry Fung	Proposed RHNA Methodology
9/13/2019		Holly Osborne	Proposed RHNA Methodology
9/13/2019		Niall Huffman	Proposed RHNA Methodology
9/13/2019		Michael Hoskinson	Proposed RHNA Methodology
San Bernardino County Transportation			
9/13/2019	Authority/Council of Governments (SBCTA/SBCOG)	Darcy McNaboe	Proposed RHNA Methodology
9/13/2019	City of Downey	Aldo Schindler	Proposed RHNA Methodology
9/13/2019	City of Bellflower	Elizabeth Corpuz	Proposed RHNA Methodology
9/13/2019	City of Lakewood	Abel Avalos	Proposed RHNA Methodology
9/13/2019	City of Orange	Rick Otto	Proposed RHNA Methodology
9/13/2019	City of Paramount	John Carver	Proposed RHNA Methodology
9/13/2019	City of Rolling Hills	Jeff Pieper	Proposed RHNA Methodology
9/13/2019	City of San Fernando	Nick Kimball	Proposed RHNA Methodology
9/13/2019	City of Mission Viejo	Dennis Wilberg	Proposed RHNA Methodology
9/13/2019	City of Moorpark	Karen Vaughn	Proposed RHNA Methodology
9/13/2019	American Planning Association (CA Chapter)	Eric Phillips	Proposed RHNA Methodology
9/13/2019	County of Ventura	David Ward	Proposed RHNA Methodology
9/13/2019	City of Chino	Nicholas Liguori	Proposed RHNA Methodology
9/13/2019	One Step A La Vez	Kate English	Housing Development
American Planning Association (Los Angeles Section)			
9/13/2019	City of Laguna Beach	Ryan Kurtzman	Proposed RHNA Methodology
9/13/2019	City of Laguna Beach	Scott Drapkin	Proposed RHNA Methodology
9/13/2019	Santa Monicans for Renters' Rights	Patricia Hoffman and Denny Zane	Proposed RHNA Methodology
Western Riverside Council of Governments (WRCOG)			
9/13/2019	City of Los Angeles	Rick Bishop	Proposed RHNA Methodology
9/13/2019	City of Los Angeles	Mayor Eric Garcetti	Proposed RHNA Methodology
9/13/2019	City of West Hollywood	Mayor John D'Amico	Proposed RHNA Methodology
9/13/2019	City of San Juan Capistrano	Joel Rojas	Proposed RHNA Methodology
9/13/2019	City of Thousand Oaks	Mark Towne	Proposed RHNA Methodology
9/13/2019	City of Newport Beach	Seimone Jurjis	Proposed RHNA Methodology
9/13/2019	City of Laguna Niguel	Jonathan Orduna	Proposed RHNA Methodology
9/13/2019	County of San Bernardino	Terri Rahhal	Proposed RHNA Methodology
9/13/2019	City of Indio	Kevin Snyder	Proposed RHNA Methodology
9/13/2019	City of Avalon	Anni Marshall	Proposed RHNA Methodology
9/13/2019	City of Burbank	Patrick Prescott	Proposed RHNA Methodology
9/13/2019	City of Santa Monica Housing Commission	Michael Soloff	Proposed RHNA Methodology
9/13/2019	City of Riverside	Jay Eastman	Proposed RHNA Methodology

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Date of Letter	Organization	Name	Topic(s)
9/13/2019	City of Whittier	Conal McNamara	Proposed RHNA Methodology
9/13/2019	City of San Gabriel	Arminé Chaparyan	Proposed RHNA Methodology
9/13/2019	City of San Buenaventura (Ventura)	Peter Gilli	Proposed RHNA Methodology
9/13/2019	City of Temple City	Scott Reimers	Proposed RHNA Methodology
9/13/2019	City of Palm Desert	Ryan Stendell	Proposed RHNA Methodology
9/13/2019	City of Monterey Park	Ron Bow	Proposed RHNA Methodology
9/13/2019	LA Thrives Et Al. (19 total organizations)	LA Thrives Et Al. (19 total organizations)	Proposed RHNA Methodology
9/13/2019	Leadership Council for Justice and Accountability Et Al. (7 total organizations)	Leadership Council for Justice and Accountability Et Al. (7 total organizations)	Proposed RHNA Methodology
9/13/2019	Southern California Business Coalition (7 total organizations)	Southern California Business Coalition (7 total organizations)	Proposed RHNA Methodology
9/15/2019		Michelle Schumacher	Other
9/30/2019	Homeowners of Encino	Eliot Cohen	Proposed RHNA Methodology
9/30/2019		Trudy Sokol	Other
10/1/2019	City of Barstow	Michael Massimini	Proposed RHNA Methodology
10/2/2019	County of Orange	Supervisor Donald Wagner	Draft RHNA Methodology
10/3/2019	County of Riverside	Charissa Leach	Draft RHNA Methodology
10/4/2019	City of Irvine	Mayor Christina L. Shea	Draft RHNA Methodology
10/6/2019	UCLA Luskin School of Public Affairs	Paavo Monkkonen	Draft RHNA Methodology
10/7/2019	City of Costa Mesa	Lori Ann Farrell Harrison	Draft RHNA Methodology
10/8/2019	South Bay Cities Council of Governments (SBCCOG)	Christian Horvath	Draft RHNA Methodology
10/9/2019	Del Rey Residents Association	Tara Walden	Other
10/10/2019		Karen Davis Ferlauto	Other
10/11/2019	Abundant Housing LA	David Bonaccorsi	Draft RHNA Methodology
10/11/2019	City of Oxnard	Mayor Tim Flynn	Draft RHNA Methodology
10/16/2019	County of Riverside	Charissa Leach	Draft RHNA Methodology
10/21/2019	City of Newport Beach	Seimone Jurjis	Draft RHNA Methodology
10/21/2019	San Bernardino County Transportation Authority/Council of Governments (SBCTA/SBCOG)	Ray Wolfe	Draft RHNA Methodology
10/23/2019	County of Riverside	Barbara Broide	Draft RHNA Methodology
10/23/2019	County of Riverside	Supervisor Kevin Jeffries	Draft RHNA Methodology
10/25/2019		Robert Flores	Draft RHNA Methodology
10/25/2019		Reed Bernet	Draft RHNA Methodology
10/29/2019	Rancho Palos Verdes	Ana Mihranian	Draft RHNA Methodology
10/28/2019		Warren Hogg	Draft RHNA Methodology
10/29/2019	City of Coachella	Luis Lopez	Draft RHNA Methodology
10/31/2019		Marilyn Brown	Purpose of RHNA
11/1/2019		Mayor Rusty Bailey (City of Riverside) Supervisor Karen Spiegel (County of Riverside) Mayor Frank Navarro (City of Colton) Hon. Toni Momberger (City of Redlands)	Draft RHNA Methodology
11/1/2019	City of Los Angeles, 4th District	Hon. David Ryu	Draft RHNA Methodology
11/4/2019	Central Cities Association of Los Angeles	Jessica Lall	Draft RHNA Methodology
11/5/2019	Orange County Council of Governments (OCCOG)	Marnie O. Primmer	Draft RHNA Methodology
11/5/2019	City of Gardena	Mayor Tasha Cerda	Draft RHNA Methodology
11/5/2019	City of Los Angeles	Vincent P. Bertoni and Kevin J. Keller	Draft RHNA Methodology
11/5/2019	City of Huntington Beach	Oliver Chi	Draft RHNA Methodology

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Date of Letter	Organization	Name	Topic(s)
11/6/2019	City of Hemet	Christopher Lopez	Draft RHNA Methodology
11/6/2019	City of Chino	Nicholos S. Liguori	Draft RHNA Methodology
11/6/2019	City of Menifee	Cheryl Kitzerow	Draft RHNA Methodology
11/6/2019	County of Los Angeles	Sachi A. Hamai	Draft RHNA Methodology
11/6/2019	City of Newport Beach	Seimone Jurjis	Draft RHNA Methodology
11/6/2019	City of Fontana	Michael Milhiser	Draft RHNA Methodology
11/6/2019	City of Chino Hills	Joann Lombardo	Draft RHNA Methodology
11/6/2019		Henry Fung	Regional Determination
11/6/2019	City of Costa Mesa	Barry Curtis	Draft RHNA Methodology
11/7/2019	City of Temple City	Scott Reimers	Draft RHNA Methodology
11/8/2019	Gateway Cities Council of Governments (GCCOG)	Nancy Pfeffer	Draft RHNA Methodology
11/20/2019	City of Huntington Beach	Michael Gates, Mayor Erik Peterson, and Mayor Pro Tem Lyn Semeta	Draft RHNA Methodology
12/12/2019		Holly Osborne	Draft RHNA Methodology
12/12/2019	City of Tustin	Allan Bernstein	Draft RHNA Methodology
12/19/2019	City of Fountain Valley	Mayor Cheryl Brothers	Draft RHNA Methodology
12/16/2019	City of Chino Hills	Joann Lombardo	Draft RHNA Methodology
12/20/2019	City of Cerritos	Naresh Solanki	Draft RHNA Methodology
1/23/2020		Karen Farley	Draft RHNA Methodology
1/23/2020		Steve Stowell	Draft RHNA Methodology
1/27/2020		Janet Chang	Draft RHNA Methodology
1/29/2020	City of Downey	Mayor Blanca Pacheco	Draft RHNA Methodology
2/4/2020	City of Cerritos	Mayor Naresh Solanki	Draft RHNA Methodology
2/6/2020		Steve Davey	Draft RHNA Methodology
2/6/2020		Connie Bryant	Draft RHNA Methodology
2/6/2020		Tom Wright	Draft RHNA Methodology
2/10/2020	City of Irvine	Marika Poynter	Draft Appeals Procedures
2/10/2020	City of Laguna Hills	David Chantarangsu	Draft Appeals Procedures
2/10/2020	City of Mission Viejo	Gail Shiomoto-Lohr	Draft Appeals Procedures
2/10/2020	City of Santa Ana	Melanie McCann	Draft Appeals Procedures
2/10/2020	City of Oxnard (amended)	Elyssa Vasquez	Draft Appeals Procedures
2/10/2020		Jennifer Denmark	Draft Appeals Procedures
2/12/2020		Janice and Ricardo Lim	Draft RHNA Methodology
2/18/2020	City of Lakewood	Thaddeus McCormack	Draft RHNA Methodology
2/18/2020	OCCOG	Marnie O. Primmer	Regional Determination Objection
2/18/2020		Nancy Norman	Draft RHNA Methodology
2/18/2020		Sepeedeh Ahadiat	Draft RHNA Methodology
2/18/2020		Nas Ahadiat	Draft RHNA Methodology
2/19/2020		Dave Latter	Draft RHNA Methodology
2/19/2020		Vikki Bujold-Peterson	Draft RHNA Methodology
2/19/2020	City of Yorba Linda	David Brantley	Draft RHNA Methodology
2/21/2020	City of Newport Beach	Will O'Neill	Draft RHNA Methodology
2/20/2020	City of Rancho Santa Margarita	Cheryl Kuta	Draft RHNA Methodology
2/20/2020	City of Huntington Beach	Oliver Chi	Draft RHNA Methodology
2/20/2020	City of South Gate	Joe Perez	Draft RHNA Methodology
2/20/2020	City of West Hollywood	John Leonard	Draft RHNA Methodology
2/20/2020	City of Cerritos	Art Gallucci	Draft RHNA Methodology
2/22/2020		Colleen Johnson	Draft RHNA Methodology
2/23/2020		Nancy Pleskot	Other
2/23/2020		Susan Decker	Draft RHNA Methodology

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Date of Letter	Organization	Name	Topic(s)
2/23/2020		Scott Nathan	Housing Development
2/20/2020	City of Irvine	Pete Carmichael	Draft RHNA Methodology
2/20/2020	City of Anaheim	Ted White	Draft RHNA Methodology
2/24/2020	City of Anaheim	Trevor O'Neil	Draft RHNA Methodology
2/25/2020		Vito Mancini	Draft RHNA Methodology
2/25/2020		Henry Fung	CEHD Meeting Agenda
2/25/2020	City of Rosemead	Margaret Clark and Gloria Molleda	Draft RHNA Methodology
2/26/2020	City of Fullerton	Kenneth Domer	Draft RHNA Methodology
2/26/2020		Henry Fung	Draft RHNA Methodology
2/26/2020	City of Alhambra	Jessica Binnquist	Draft RHNA Methodology
2/26/2020		Holly Osborne	Draft RHNA Methodology
2/26/2020	City of La Mirada	Jeff Boynton	Draft RHNA Methodology
2/26/2020	City of Garden Grove	Steven Jones	Draft RHNA Methodology
2/26/2020		Mehta Sunil	Draft RHNA Methodology
2/26/2020	City of Gardena	Tasha Cerda	Draft RHNA Methodology
2/27/2020		Jaimee Suh	Draft RHNA Methodology
2/27/2020	City of South Pasadena	Robert S. Joe	Draft RHNA Methodology
2/27/2020	City of South Gate	Michael Flad	Draft RHNA Methodology
2/27/2020	City of Walnut	Rob Wishner	Draft RHNA Methodology
2/27/2020	City of La Verne	Eric Scherer	Draft RHNA Methodology
2/28/2020		Kari Geosano	Draft RHNA Methodology
2/28/2020	City of Torrance	Danny E. Santana	Draft RHNA Methodology
2/28/2020	City of Laguna Hills	Janine Heft	Draft RHNA Methodology
3/1/2020		Scott Pisano	Draft RHNA Methodology
3/2/2020	City of Bradbury	Richard T. Hale, Jr.	Draft RHNA Methodology
3/2/2020	City of La Mirada	Jeff Boynton	Draft RHNA Methodology
3/2/2020	City of Norco	Steve King	Draft RHNA Methodology
3/2/2020	City of Seal Beach	Les Johnson	Draft RHNA Methodology
3/3/2020	City of Torrance	Danny E. Santana	Draft RHNA Methodology
3/3/2020	City of Cerritos	Art Gallucci	Draft RHNA Methodology
3/3/2020	City of San Dimas	Ken Duran	Draft RHNA Methodology
3/3/2020	City of La Palma	Peter Kim	Draft RHNA Methodology
3/3/2020	City of Newport Beach	Will O'Neill	Draft RHNA Methodology
3/3/2020	City of Rancho Palos Verdes	Terry Rodrigue	Draft RHNA Methodology
3/4/2020		Brian Johnson	Draft RHNA Methodology
3/4/2020	City of Riverside	William R. "Rusty" Bailey (City of Riverside), Frank Navarro (City of Colton), Larry K. McCallon (City of Highland), Deborah Robertson (City of Rialto), Carmen Ramirez (City of Oxnard), Steve Manos (City of Lake Elsinore), Karen S. Spiegel (County of Riverside)	Draft RHNA Methodology
3/4/2020	City of Monterey Park	Ron Bow	Draft RHNA Methodology
3/4/2020		Holly Osborne	Draft RHNA Methodology
3/4/2020	City of La Puente	Bob Lindsey	Draft RHNA Methodology
3/4/2020	City of Huntington Beach	Oliver Chi	Draft RHNA Methodology
3/4/2020	City of Eastvale	Bryan Jones	Draft RHNA Methodology
3/4/2020	City of Lake Forest	Neeki Moatazedi	Draft RHNA Methodology
3/4/2020	City of Chino Hills	Ray Marquez	Draft RHNA Methodology
3/4/2020	City of La Puente	Bob Lindsey	Draft RHNA Methodology
3/5/2020	City of Costa Mesa	Barry Curtis	Draft RHNA Methodology
3/12/2020	City of Fountain Valley	(unsigned)	Proposed Housing Legislative Amendments
3/14/2020		Amy Wasson	RHNA Methodology

Written Comments Received on the 6th Cycle RHNA (as of 1/11/21)

Date of Letter	Organization	Name	Topic(s)
4/27/2020	OCCOG	Hon. Trevor O'Neil	RHNA Methodology
5/5/2020		Holly Osborne	RHNA Methodology
5/5/2020		Holly Osborne	RHNA Methodology (2nd letter received)
11/4/2020	City of Beverly Hills	Lester J. Friedman	RHNA Litigation Committee
11/9/2020	City of Lakewood	Todd Rogers	RHNA Litigation Committee
11/10/2020	City of Rosemead	Sandra Armenta	RHNA Litigation Committee
11/10/2020	City of Gardena	Tasha Cerda	RHNA Litigation Committee
11/11/2020	City of Cypress	Rob Johnson	Comment from Jurisdiction on filed appeal: City of Santa Ana
11/11/2020	City of Cypress	Rob Johnson	RHNA Litigation Committee
11/12/2020	City of Torrance	Patrick J. Furey	RHNA Litigation Committee
11/13/2020	City of Whittier	Joe Vinatieri	RHNA Litigation Committee
11/16/2020	City of Rancho Santa Margarita	Bradley J. McGirr	RHNA Litigation Committee
11/16/2020	City of Pico Rivera	Gustavo Camacho	RHNA Litigation Committee
11/16/2020	City of Pico Rivera	Steve Carmona	RHNA Litigation Committee
11/16/2020	City of Glendora	Michael Allawos	RHNA Litigation Committee
11/17/2020	City of Beverly Hills	George Chavez	RHNA Litigation Committee
11/17/2020	City of Lawndale	Robert Pullen-Miles	RHNA Litigation Committee
11/17/2020	City of Norwalk	Jennifer Perez	RHNA Litigation Committee
11/17/2020	City of Redondo Beach	William Brand	RHNA Litigation Committee
11/17/2020	City of San Fernando	Joel Fajardo	RHNA Litigation Committee
11/17/2020	City of Fountain Valley	Cheryl Brothers	RHNA Litigation Committee
11/17/2020	City of Laguna Beach	Bob Whalen	RHNA Litigation Committee
11/18/2020	City of Cerritos	Frank Aurelio Yokoyama	RHNA Litigation Committee
11/18/2020	City of Rancho Palos Verdes	Ara Michael Mihanian	RHNA Litigation Committee
11/18/2020	City of Pasadena	Steve Mermell	RHNA Litigation Committee
11/18/2020	City of Lomita	James Gazeley	RHNA Litigation Committee
11/18/2020	City of Westminster	Sherry Johnson	RHNA Litigation Committee
11/18/2020	City of Temple City	Bryan Cook	RHNA Litigation Committee
11/20/2020	South Bay Cities Council of Governments	Olivia Valentine	RHNA Litigation Committee
11/24/2020	City of Calipatria	Jim Spellins	RHNA Litigation Committee
11/24/2020	City of Chino	Nicholas S. Liguori	RHNA Litigation Committee
11/30/2020	City of Irvine	Christina Shea	RHNA Litigation Committee
11/30/2020	City of Signal Hill	Robert Copeland	RHNA Litigation Committee
12/1/2020	City of Yorba Linda	Mark Pulone	Comment from Jurisdiction on filed appeal: City of Yorba Linda
12/1/2020	Orange County Mayors	21 Orange County mayors	RHNA Litigation Committee
12/2/2020	City of Rancho Santa Margarita	Bradley J. McGirr	Comment from Jurisdiction on filed appeal: City of Santa Ana
12/3/2020	City of Long Beach	Christopher Koontz	Comment from Jurisdiction on filed appeal: All appeals
12/4/2020		Kevin Yang	Public comment on filed appeal: City of Yorba Linda
12/9/2020	City of Yorba Linda	Mark Pulone	Comment from Jurisdiction on filed appeal: City of Yorba Linda
12/10/2020	City of Whittier	Jeffrey S. Adams	Comment from Jurisdiction on filed appeal: All appeals
12/10/2020	California Department of Housing and Community Development (HCD)	Megan Kirkeby	Comment from California Department of Housing & Community Development on filed appeal: All appeals
12/10/2020	City of Corona	Joanne Coletta	Comment from Jurisdiction on filed appeal: City of Hemet and County of Riverside
12/10/2020	City of Santa Ana	Kristine Ridge	Comment from Jurisdiction on filed appeal: City of Santa Ana
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Costa Mesa
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: County of Orange
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Fountain Valley
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Fullerton
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Garden Grove

Written Comments Received on the 6th Cycle RHNA (as of 1/11/21)

Date of Letter	Organization	Name	Topic(s)
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Irvine
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: La Palma
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Laguna Beach
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Laguna Hills
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Los Alamitos
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Mission Viejo
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Newport Beach
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Rancho Santa Margarita
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Tustin
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Westminster
12/10/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Yorba Linda
12/18/2020	Public Law Center	Alexis Mondares and Richard Walker	Public comment on filed appeal: Orange County jurisdictions
12/21/2020	City of Yorba Linda	Mark Pulone	Response to comment from Public Law Center (12/10/20)
12/24/2020		Holly Osborne	RHNA Methodology
1/4/2021		Henry Fung	RHNA Litigation Committee
1/5/2021	City of Yorba Linda	Nate Farnsworth	Public comment on filed appeal: Fontana; Pico Rivera; San Dimas; Yorba Linda
1/5/2021	City of Chino Hills	Joann Lombardo	Public comment on filed appeal: Chino Hills
1/6/2021		Henry Fung	RHNA Litigation Committee
1/7/2021	City of Pico Rivera	Luis Rodriguez	Public comment on filed appeal: Pico Rivera
1/8/2021	Eastlake Village Community Association	Susan Janowicz	Public comment on filed appeal: Yorba Linda
1/8/2021		Anonymous	Public comment on filed appeal: Yorba Linda

All comments are posted online at <https://scag.ca.gov/rhna-comments>.

Comments can be submitted to: housing@scag.ca.gov



Southern California Association of Governments
Remote Participation Only
January 19, 2021

To: Regional Housing Needs Assessment Subcommittee (RHNA)

EXECUTIVE DIRECTOR'S
APPROVAL

From: Roland Ok, Program Manager,
(213) 236-1819, ok@scag.ca.gov

Subject: Appeal of the Draft RHNA Allocation for the City of Fullerton

RECOMMENDED ACTION:

Deny the appeal filed by the City of Fullerton to reduce its draft RHNA allocation by 3,850 units.

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 2: Advance Southern California's policy interests and planning priorities through regional, statewide, and national engagement and advocacy.

SUMMARY OF APPEAL:

The City of Fullerton requests a reduction of its Draft RHNA Allocation by 3,850 units (from 13,180 units to 9,330 units) and a modification of the 6th Cycle RHNA methodology to remove the residual need component based on the following issue:

1. Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA: The adopted methodology is flawed.

RATIONALE FOR STAFF RECOMMENDATION:

SCAG staff have reviewed the appeal and recommend no change to the City of Fullerton's Draft RHNA Allocation. The City's objection to the adopted Final RHNA Methodology for the 6th Cycle RHNA and its request to modify the 6th Cycle RHNA Methodology by removing the residual need component is not an eligible basis for appeal.

BACKGROUND:

Draft RHNA Allocation

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the adoption of Connect SoCal on September 3, 2020, all local jurisdictions received draft RHNA allocations on September 11, 2020. A summary of the draft allocation for the City of Fullerton is provided below.

OUR MISSION

To foster innovative regional solutions that improve the lives of Southern Californians through inclusive collaboration, visionary planning, regional advocacy, information sharing, and promoting best practices.

OUR VISION

Southern California's Catalyst for a Brighter Future

OUR CORE VALUES

Be Open | Lead by Example | Make an Impact | Be Courageous

Total RHNA for the City of Fullerton: 13,180 units

Very Low Income: 3,190 units

Low Income: 1,985 units

Moderate Income: 2,267 units

Above Moderate Income: 5,738 units

Additional background information related to the Draft RHNA Allocation is included in Attachment 1.

Summary of Comments Received During 45-Day Comment Period

No comments were received from local jurisdictions or the California Department of Housing and Community Development (HCD) during the 45-day public comment period described in Government Code section 65584.05(c) in specific regard the appeal filed by the City of Fullerton. Three comments were received which relate to appeals filed generally:

- HCD submitted a comment on December 10, 2020 delineating the statutory basis for RHNA appeals and the requirement that any appeals granted must include written findings regarding how revisions are necessary to further RHNA's statutory objectives.
- The City of Whittier submitted a comment on December 10, 2020 supporting surrounding cities in their appeals but expressing concern that additional units may be applied to Whittier if reallocated from cities which are successful in their appeals.
- The City of Long Beach submitted a comment on December 3, 2020 indicating their view that the RHNA allocation process was fair and transparent, their support for evaluating appeals on their merits (specifically those from the Gateway Cities Council of Governments), and their opposition to any action which would result in a transfer of additional units to Long Beach.

ANALYSIS:

Issue 1: Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029) [Government Code Section 65584.05 (b)(2)].

The City of Fullerton understands that addressing both projected and existing housing need are critical components for engaging the on-going housing crisis in the SCAG region and throughout the State of California but the process for the redistribution of residual existing need is flawed and must be excluded from the RHNA Methodology. The City requests that all residual need units assigned through the Draft RHNA Allocation be returned to each originating jurisdiction and that its Draft RHNA Allocation be reduced by 3,850 units.

SCAG Staff Response: Any appeal that cites the adopted RHNA methodology as its basis must focus the appeal on the application of the RHNA methodology, not on the methodology itself. An example of misapplication of the adopted methodology might be a data error identified by a local jurisdiction. The City, however, takes issue with the redistribution of residual existing need which is part of the adopted Final RHNA Methodology, and not application of the methodology.

RHNA includes five statutory objectives: 1) to increase the housing supply and mix of housing types, tenure, and affordability within each region in an equitable manner; 2) to promote infill development and socioeconomic equity, protection of environmental and agricultural resources, and encourage efficient development patterns; 3) promote an improved intraregional relationship between jobs and housing; 4) allocate a lower proportion of housing need for income categories in jurisdictions that have a disproportionately high share in comparison to the county distribution; and 5) affirmatively furthering fair housing.

In pursuing these statutory objectives, the adopted RHNA Methodology has a clear delineation to determine whether a jurisdiction may be identified as a “Disadvantaged Community” (DAC). In the methodology, DACs where the calculated projected and existing need is higher than the jurisdiction’s household growth between 2020 and 2045 are considered as having “residual” existing need. Residual need was then subtracted from jurisdictional need in these cases so that the maximum allocation a DAC jurisdiction would receive for existing need is equivalent to its 2020 to 2045 household growth. Residual existing need was tabulated by county and then redistributed within the same county to non-DAC jurisdictions. The purpose of this was to further two of the five RHNA objectives: to avoid an overconcentration of lower income households where they are already located, and to affirmatively further fair housing.

In addition, as described in Attachment 1 (Local Input and Development of Draft RHNA Allocation), the Final RHNA Methodology was adopted by the SCAG Regional Council on March 5, 2020 and describes the various policy factors by which housing unit need is to be allocated across the region including projected household growth, access to jobs and transit, and housing vacancy rates. The RHNA Methodology makes extensive use of locally reviewed input data and describes data sources and how they are calculated in detail. On January 13, 2020, the RHNA Methodology was found by HCD to further the five statutory RHNA objectives largely due to its use of objective factors and, as such, SCAG may not consider factors differently from one jurisdiction to another.

In accordance with the RHNA Methodology, the City was redistributed an additional 3,850 units of residual existing need based on the job and transit access measures in the City. The City of Fullerton has not provided evidence of any misapplication of the RHNA Methodology, and for this reason, SCAG staff does not recommend approval of this appeal based on this factor.

FISCAL IMPACT:

Work associated with this item is included in the current FY20-21 Overall Work Program (300-4872Y0.02: Regional Housing Needs Assessment).

ATTACHMENT(S):

1. Local Input and Development of Draft RHNA Allocation (City of Fullerton)
2. City of Fullerton Appeal
3. Data Input & Verification Form (Fullerton)
4. Comments Received During the Comment Period (General)
5. HCD final 6th Cycle Housing Need Determination for the SCAG Region
6. City of Fullerton 2045 HQT Map
7. City of Fullerton 2045 Job Access

Southern California Association of Governments
Remote Participation Only
City of Fullerton RHNA Appeal
January 19, 2022

Attachment 1: Local Input and Development of the Draft RHNA Allocation

This attachment sets forth the nature and timing of the opportunities which the City of Fullerton had to provide information and local input on SCAG’s growth forecast, the RHNA methodology, and the Growth Vision of the 2020 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal). It also describes how the RHNA Methodology development process integrated this information to develop the City of Fullerton’s Draft RHNA Allocation.

1. Local input

a. Bottom-Up Local Input and Envisioning Process

On October 31, 2017, SCAG took the first step toward developing draft RHNA allocations by initiating the Bottom-Up Local Input and Envisioning Process. At the direction of the Regional Council, the objective of this process was to seek local input and data to prepare for Connect SoCal and the 6th cycle of RHNA.¹ Each jurisdiction was provided a package of land use, transportation, environmental, and growth forecast data for their review and revision which was due on October 1, 2018.² While the local input process materials focus principally on jurisdiction-level and Transportation Analysis Zone (TAZ) level growth, input on specific parcels, sites, and project areas were welcomed and integrated into SCAG’s growth forecast as well as data on other elements. SCAG met one-on-one with all 197 local jurisdictions between November 2017 and July 2018 and provided training opportunities and staff support. Following input from SCAG’s Technical Working Group (TWG), the Connect SoCal growth forecast reflected precisely the jurisdiction-level growth totals provided during this process.

Forecasts for jurisdictions in Orange County were developed through the 2018 Orange County Projections (OCP-2018) update process conducted by the Center for Demographic Research (CDR). Jurisdictions were informed of this arrangement by SCAG at the kickoff of the process. For the City of Fullerton, the projected number of households in 2020 was 47,686, and in 2030 was 49,614 (growth of 1,928 households). In March 2018, SCAG staff and CDR staff met with staff from the City of Fullerton to discuss the Bottom-Up Local Input and Envisioning Process and to answer questions.

b. RHNA Methodology Surveys

¹ While the RTP/SCS and RHNA share data elements, they are distinct processes. The RTP/SCS growth forecast provides an assessment of reasonably foreseeable future patterns of employment, population, and household growth in the region given demographic and economic trends, and existing local and regional policy priorities. RHNA identifies anticipated housing need over a specified eight-year planning period and requires that local jurisdictions make available sufficient zoned capacity to accommodate this need. A further discussion of the relationship between these processes may be found in Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf

² A detailed list of data reviewed during this process may be found in each jurisdiction’s Draft Data/Map Book: <https://scag.ca.gov/local-input-process-towns-cities-and-counties>

On March 19, 2019, SCAG distributed a packet of methodology surveys, which included the local planning factor survey (formerly known as the AB 2158 factor survey), Affirmatively Furthering Fair Housing (AFFH) survey, and replacement need survey, to SCAG jurisdictions' Community Development Directors. Surveys were due on April 30, 2019. SCAG reviewed all submitted responses as part of the development of the draft RHNA methodology. The City of Fullerton submitted the following surveys prior to the adoption of the draft RHNA methodology:

- Local planning factor survey
- Affirmatively Furthering Fair Housing (AFFH) survey
- Replacement need survey
- No survey was submitted to SCAG

c. Connect SoCal Growth Vision and Additional Refinements

Beginning in May 2018, SCAG's Sustainable Communities Working Group began the process of developing growth scenarios for the SCAG region. The culmination of this work was the development of the Connect SoCal Growth Vision, which directly uses jurisdictional-level growth projections obtained through the Bottom-Up Local Input and Envisioning Process, and also features strategies for growth at the TAZ-level to reduce greenhouse gas (GHG) emissions from automobiles and light trucks to help achieve the SCAG region's GHG reduction targets, approved by the California Air Resources Board (CARB) in accordance with state planning law. Additional detail regarding the Connect SoCal Growth Vision, specifically the Transportation Analysis Zone (TAZ, or neighborhood) level projections may be accessed at:

<https://scag.ca.gov/sites/main/files/file-attachments/growth-vision-methodology.pdf>

As a result of these strategies, in some jurisdictions growth at the TAZ-level differed from locally anticipated growth conveyed during the Bottom-Up Local Input and Envisioning Process. As such, SCAG provided two additional opportunities for local jurisdictions to make TAZ-level technical refinements on the topics of general plan capacities and entitlements. With the release of the draft Connect SoCal, jurisdictions were notified on October 31, 2019 that SCAG would accept additional refinements until December 11, 2019. Following the Regional Council's decision to delay full adoption of Connect SoCal for 120 days due to the COVID-19 pandemic, all jurisdictions were again notified on May 26, 2020 that SCAG would accept additional refinements until June 9, 2020.

Connect SoCal Growth Vision data have been available to local jurisdiction staff during the entirety of this process through SCAG's Scenario Planning Model Data Management (SPM-DM) site: <http://spmdm.scag.ca.gov>. Updates were shared with local jurisdictions on technical refinements to the data in February 2020 and August 2020 to share the results of both review opportunities. SCAG received additional technical corrections from the City of Fullerton and incorporated them into the Growth Vision in December 2019.

2. Development of the Final RHNA Methodology

SCAG convened the first meeting of the RHNA Subcommittee in October 2018. In their subsequent monthly meetings, this body reviewed and advised on the development of SCAG's 6th cycle RHNA process, including the development of the RHNA methodology. Per Government Code 65584.04(a), SCAG must develop a RHNA methodology which furthers the five statutory objectives of RHNA:

- 1) *Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low-income households.*
- 2) *Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region's greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080.*
- 3) *Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction.*
- 4) *Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey.*
- (5) *Affirmatively furthering fair housing. (Govt. Code § 65584(d).)*

As explained in more detail below, the Draft RHNA Methodology, which was subsequently adopted as the Final RHNA Methodology, set forth the policy factors, data sources, and calculations which would be used to generate draft RHNA allocations for all local jurisdictions. Following extensive debate and public comment, SCAG's Regional Council voted to approve the Draft RHNA Methodology on November 7, 2019 and provide it to HCD for review. Per Government Code 65584.04(i), HCD is vested with the authority to determine whether a methodology furthers the objectives set forth in Government Code section 65584(d). On January 13, 2020, HCD found that the Draft RHNA Methodology furthers these five statutory objectives of RHNA. Specifically, HCD noted that:

"This methodology generally distributes more RHNA, particularly lower income RHNA, near jobs, transit, and resources linked to long term improvements of life outcomes. In particular, HCD applauds the use of the objective factors specifically linked the statutory objectives in the existing need methodology." (Letter from HCD to SCAG

dated January 13, 2020: <https://scag.ca.gov/sites/main/files/file-attachments/hcd-review-rc-approved-draft-rhna-methodology.pdf?1602190239>).

On March 5, 2020, again following extensive debate and public comment, the SCAG Regional Council voted to approve the Draft RHNA Methodology as the Final RHNA Methodology. Unlike SCAG's 5th cycle RHNA methodology, which relied almost entirely on the household growth component of the RTP/SCS, SCAG's 6th cycle RHNA methodology consists of two primary elements: "projected need", which includes the number of housing units required to accommodate anticipated population growth over the eight-year RHNA planning period, and "existing need", which refers to the number of housing units required to accommodate excess or unsatisfied housing demand experienced by the region's current population.³ Furthermore, the Final RHNA methodology utilizes measures of 2045 job accessibility and "High Quality Transit Area" (HQTA) population based on TAZ-level projections in the Connect SoCal Growth Vision.

More specifically, the Final RHNA Methodology considers three primary factors in determining a local jurisdiction's total housing need which are primarily based on data from Connect SoCal's Bottom-Up Local Input and Envisioning Process:

- Forecasted growth over 2020-2030 (projected need)
- Transit accessibility in 2045 (existing need)
- Job accessibility in 2045 (existing need)

The RHNA methodology is described in further detail at:

<http://scag.ca.gov/programs/Documents/RHNA/SCAG-Final-RHNA-Methodology-030520.pdf>

3. Draft RHNA Allocation for the City of Fullerton

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the 120-day delay due to the COVID-19 pandemic, SCAG adopted Connect SoCal on September 3, 2020, and the City of Fullerton received its draft RHNA allocation on September 11, 2020. Application of the RHNA methodology yields the draft RHNA allocation for the City of Fullerton as summarized in the data and calculations featured in the tables below.

³ Legislative changes in 2018 modified the nature of the regional housing need determination for the 6th cycle of RHNA by adding measures of household overcrowding and housing cost burden to the list of factors to be considered by HCD for the determination of housing need. These new measures are not included in the Connect SoCal Growth Forecast because they are not direct inputs to the growth forecasting process and are independent of employment and population projections. In contrast, they reflect additional latent housing needs in the current population (i.e. "existing need") and would not result in a change in regional population. For further discussion, see Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf

Fullerton city statistics and inputs:		Calculation of Draft RHNA Allocation for Fullerton city	
Forecasted household (HH) growth, RHNA period: <i>(2020-2030 Household Growth * 0.825)</i>	1591	Forecasted household (HH) growth, RHNA period:	1591
Percent of households who are renting:	48%	Vacancy Adjustment <i>(5% for renter households and 1.5% for owner households)</i>	51
Housing unit loss from demolition (2009-18):	-	Replacement Need	-
Adjusted forecasted household growth, 2020-2045: <i>(Local input growth forecast total adjusted by the difference between the RHNA determination and SCAG's regional 2020-2045 forecast, +4%)</i>	5,428	TOTAL PROJECTED NEED:	1641
Percent of regional jobs accessible in 30 mins (2045): <i>(For the jurisdiction's median TAZ)</i>	17.05%	Existing need due to job accessibility (50%)	4143
Jobs accessible from the jurisdiction's median TAZ (2045): <i>(Based on Connect SoCal's 2045 regional forecast of 10,049M jobs)</i>	1,713,000	Existing need due to HQTAs pop. share (50%)	3544
Share of region's job accessibility (population weighted):	0.99%	Net residual factor for existing need <i>(Negative values reflect a cap on lower-resourced community with good job and/or transit access. Positive values represent this amount being redistributed to higher-resourced communities based on their job and/or transit access.)</i>	3850
Jurisdiction's HQTAs population (2045):	86,632	TOTAL EXISTING NEED	11538
Share of region's HQTAs population (2045):	0.85%	TOTAL RHNA FOR FULLERTON CITY	13180
Share of population in low/very low-resource tracts:	33.46%	Very-low income (<50% of AMI)	3190
Share of population in very high-resource tracts:	3.50%	Low income (50-80% of AMI)	1985
Social equity adjustment:	150%	Moderate income (80-120% of AMI)	2267
		Above moderate income (>120% of AMI)	5738

The transit accessibility measure is based on the population anticipated to live in “High Quality Transit Areas” (HQTAs) in 2045 based on Connect SoCal’s designation of HQTAs and population forecasts. With a forecasted 2045 population of 86,632 living within HQTAs, the City of Fullerton will represent 0.85 percent of the SCAG region’s HQTAs population, which provides the basis for allocating housing units based on transit accessibility.

Job accessibility is defined as the jurisdiction’s share of regional jobs accessible within a 30-minute commute time. Since over 80 percent of the region’s workers live and work in different jurisdictions, the RHNA methodology uses a measure based on Connect SoCal travel demand model output for the year 2045 rather than assigning housing units based on the number of jobs located within a specific jurisdiction. Specifically, the share of future (2045) regional jobs which may be reached in a 30-minute automobile commute from the local jurisdiction’s median TAZ is used as to allocate housing units based on job accessibility. From the City of Fullerton’s median TAZ, it will be possible to reach 17.05 percent of the region’s jobs in 2045 within a 30-minute automobile commute (1,713,000 jobs), based on Connect SoCal’s 2045 regional job forecast of 10,049,000 jobs.

An additional factor was included in the methodology to account for RHNA Objective 5: to Affirmatively Further Fair Housing (AFFH). Several jurisdictions in the SCAG region that have been

designated as “Disadvantaged Communities” (DACs) based on measures of access to opportunity (described in the Adopted RHNA Methodology), but also score highly in job and transit accessibility, may have their total RHNA allocations capped based on their long-range (2045) household growth forecast. This additional housing need, referred to as “residual need”, is then reallocated to non-DAC jurisdictions in order to ensure housing units are placed in higher-resourced communities consistent with AFFH principles. This reallocation is based on the job and transit access measures described above and resulted in an additional 3,850 units assigned to the City of Fullerton.

Please note that the above represents only a partial description of the key data and calculations which result in the draft RHNA allocation.

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scaq.ca.gov.
Late submissions will not be accepted.

Date: _____ Jurisdiction Subject to This Appeal Filing:

 (to file another appeal, please use another form)

Filing Party (Jurisdiction or HCD)

Filing Party Contact Name _____ Filing Party Email: _____

APPEAL AUTHORIZED BY:

Name: _____

PLEASE SELECT BELOW:

- Mayor
- Chief Administrative Office
- City Manager
- Chair of County Board of Supervisors
- Planning Director
- Other: _____

BASES FOR APPEAL

- Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029)
- Local Planning Factors and/or Information Related to Affirmatively Furthering Fair Housing (See Government Code Section 65584.04 (b)(2) and (e))
 - Existing or projected jobs-housing balance
 - Sewer or water infrastructure constraints for additional development
 - Availability of land suitable for urban development or for conversion to residential use
 - Lands protected from urban development under existing federal or state programs
 - County policies to preserve prime agricultural land
 - Distribution of household growth assumed for purposes of comparable Regional Transportation Plans
 - County-city agreements to direct growth toward incorporated areas of County
 - Loss of units contained in assisted housing developments
 - High housing cost burdens
 - The rate of overcrowding
 - Housing needs of farmworkers
 - Housing needs generated by the presence of a university campus within a jurisdiction
 - Loss of units during a state of emergency
 - The region’s greenhouse gas emissions targets
 - Affirmatively furthering fair housing
- Changed Circumstances (Per Government Code Section 65584.05(b), appeals based on change of circumstance can only be made by the jurisdiction or jurisdictions where the change in circumstance occurred)

FOR STAFF USE ONLY:

Date _____ Hearing Date: _____ Planner: _____

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scaq.ca.gov.
Late submissions will not be accepted.

Brief statement on why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584 (please refer to Exhibit C of the Appeals Guidelines):

Please include supporting documentation for evidence as needed, and attach additional pages if you need more room.

Brief Description of Appeal Request and Desired Outcome:

Number of units requested to be reduced or added to the jurisdiction's draft RHNA allocation (circle one):

Reduced _____ Added _____

List of Supporting Documentation, by Title and Number of Pages
(Numbers may be continued to accommodate additional supporting documentation):

- 1.

- 2.

- 3.

FOR STAFF USE ONLY:

Date _____

Hearing Date: _____

Planner: _____

Data Input and Verification Form
Bottom-Up Local Input and Envisioning Process
2020 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS)

Date: November 6, 2018

Page 1

A - Contact & Background Information

This Represents Communication:		From the Jurisdiction of <u>Fullerton</u>	to SCAG
Jurisdiction Contact Person: _____ Position: <u>Heather Allen</u> Email: <u>heathera@cityoffullerton.com</u> Phone: <u>714-738-6884</u>	Background Information: <input type="checkbox"/> I am my Jurisdiction's City Manager/County Administrative Officer, Community Development/Planning Director, or City Clerk (submitting on behalf of a jurisdiction's governing body) <input checked="" type="checkbox"/> I am a staff person from a local jurisdiction, submitting input under supervision of one of the persons identified above (see appropriate signature below)		
Additional Background, if any, based upon Previous Communications: _____ _____			

B - Action Items

We are seeking to (select all that apply):	
Submit to SCAG: <input checked="" type="checkbox"/> Provide Input on SCAG's Core Geographic Data Provide Input on SCAG's Core Demographic Data Provide Input on Supplemental Data Elements	<input type="checkbox"/> Other, please specify _____ _____ _____

C - Data Type

With Relation to SCAG's:																												
Core Geographic Data: <input checked="" type="checkbox"/> General Plan Land Use <input checked="" type="checkbox"/> Zoning <input checked="" type="checkbox"/> Existing Land Use <input checked="" type="checkbox"/> Specific Plan Land Use <input type="checkbox"/> Endangered Species and Plants* <input type="checkbox"/> Open Space and Parks* <input type="checkbox"/> Flood Areas* <input type="checkbox"/> Natural Community and Habitat Conservation Plans* Farmland* Coastal Inundation (Sea Level Rise)* <input type="checkbox"/> Major Stops and High Quality Transit Corridors* Transit Priority Areas* Regional Bikeways Regional Truck Routes <input type="checkbox"/> City Boundary* Sphere of Influence* Census Tracts** Transportation Analysis Zone (TAZ) Boundaries** <input checked="" type="checkbox"/> Entitlements <input checked="" type="checkbox"/> Potential Infill Sites	Core Demographic Data: <input type="checkbox"/> Population <input type="checkbox"/> Households <input type="checkbox"/> Employment Year: <input type="checkbox"/> 2016 <input type="checkbox"/> 2020 <input type="checkbox"/> 2030 (input needed at jurisdictional level only) <input type="checkbox"/> 2035 <input type="checkbox"/> 2045 Geographic Level: <input type="checkbox"/> Jurisdictional Level <input type="checkbox"/> Transportation Analysis Zone (TAZ) <input type="checkbox"/> Other Geographic Level (Please Specify): _____																											
Supplemental Data Elements (available for review June 2018): <table style="width:100%; border: none;"> <tr> <td style="border: none;">Zoning Overlay Areas</td> <td style="border: none;"> </td> <td style="border: none;">Corridor Plans</td> </tr> <tr> <td style="border: none;">Community Design Overlays</td> <td style="border: none;"> </td> <td style="border: none;">Special Districts</td> </tr> <tr> <td style="border: none;">Community Land Trusts</td> <td style="border: none;"> </td> <td style="border: none;">Bike/Ped Volume Data***</td> </tr> <tr> <td style="border: none;">Historic Preservation Areas</td> <td style="border: none;"> </td> <td style="border: none;">Ped Trails/Sidewalk Data***</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Bike Sharing Facilities</td> <td style="border: none;"> </td> <td style="border: none;"><input type="checkbox"/> Public Health Data***</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Bike Stations</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Car-Sharing Parking Sites</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Joint Public/Private Developments for Affordable Housing</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Areas with Reduced Parking Minimums and Maximums</td> <td style="border: none;"></td> <td style="border: none;"></td> </tr> </table>		Zoning Overlay Areas		Corridor Plans	Community Design Overlays		Special Districts	Community Land Trusts		Bike/Ped Volume Data***	Historic Preservation Areas		Ped Trails/Sidewalk Data***	<input type="checkbox"/> Bike Sharing Facilities		<input type="checkbox"/> Public Health Data***	<input type="checkbox"/> Bike Stations			<input type="checkbox"/> Car-Sharing Parking Sites			<input type="checkbox"/> Joint Public/Private Developments for Affordable Housing			<input type="checkbox"/> Areas with Reduced Parking Minimums and Maximums		
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* These data elements are maintained by local, state, or federal entities, and SCAG will forward input received from jurisdictions to the appropriate source

** These data elements are being provided as reference information as they are not open to revision (TAZ Boundaries and Census Tracts)

*** For these elements, SCAG is looking to obtain any available data; local review not needed

Attachment: Data Input & Verification Form (Fullerton) (Appeal of the Draft RHNA Allocation for the City of Fullerton)

**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF HOUSING POLICY DEVELOPMENT**

2020 W. El Camino Ave
Sacramento, CA 95833-1829
916) 263-2911 FAX: (916) 263-7453
www.hcd.ca.gov



December 10, 2020

Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Dear Executive Director Ajise:

RE: Comment on Appeals of the Draft Regional Housing Need Allocation (RHNA) Plan

Thank you for the opportunity to comment on the 52 appeals Southern California Association of Governments (SCAG) has received regarding the draft RHNA plan. The appeal process is an important phase in the development of a RHNA plan that ensures that all relevant factors and circumstances are considered.

The only circumstances under which a jurisdiction can appeal are:

- 65584.05(b)(1): The council of governments failed to adequately consider the information regarding the factors listed in subdivision (e) of section 65584.04.
- 65584.05(b)(2): The council of governments failed to determine the share of the regional housing need in a manner that furthers the intent of the objectives listed in subdivision (d) of section 65584.
- 65584.05(b)(3): A significant unforeseen change in circumstances occurred in the local jurisdiction that merits a revision of the information submitted pursuant to subdivision (e) of Section 65584.04.

The California Department of Housing and Community Development (HCD) urges SCAG to only consider appeals that meet these criteria.

Per Government Code section 65584.05(e)(1), SCAG's final determination on whether to accept, reject, or modify any appeal must be accompanied by written findings, including how the final determination is based upon the adopted RHNA allocation methodology, and how any revisions are necessary to further the statutory objectives of RHNA described in Government Code section 65584(d).

Among the appeals based on Government Code section 65584.05(b)(1), several appeals state that SCAG failed to consider the factor described in Government Code section 65584.04(e)(2)(B), citing the lack of land suitable for development as a basis for the appeal. However, this section states the council of governments may not limit its consideration of suitable housing sites to existing zoning and land use restrictions and must consider the potential for increased development under alternative zoning and

land use restrictions. Any comparable data or documentation supporting this appeal should contain an analysis of not only land suitable for urban development, but land for conversion to residential use, the availability of underutilized land, and opportunity for infill development and increased residential densities. In simple terms, this means housing planning cannot be limited to vacant land, and even communities that view themselves as built out must plan for housing through means such as rezoning commercial areas as mixed-use areas and upzoning non-vacant land.

With regard to appeals submitted related to Government Code section 65584.05(b)(2), that SCAG failed to determine the RHNA in a manner that furthers the statutory objectives, it should be noted that HCD reviewed SCAG's draft allocation methodology and found that the draft RHNA allocation methodology furthered the statutory objectives described in Government Code section 65584.

Among the appeals based on Government Code section 65584.05(b)(2), several contend that the cap on units allocated to extremely disadvantaged communities (DACs) does not further RHNA's statutory objectives. This cap furthers the statutory objective to affirmatively further fair housing by allocating more units to high opportunity areas and fewer units to low resource communities, and concentrated areas of poverty with high levels of segregation. Due to the inclusion of this factor, as well as the use of TCAC/HCD Opportunity Maps, SCAG's methodology allocates 14 of the top 15 highest shares of lower-income RHNA to jurisdictions with over 99.95 percent High and Highest Resource areas. With the exceptions of two jurisdictions, the 31 jurisdictions with the highest share of lower-income RHNA are all over 95 percent High and Highest Resource areas. Any weakening of these inputs to the methodology could risk not fulfilling the statutory objective to affirmatively further fair housing.

Several appeals argue that SCAG's RHNA allocation methodology does not adequately promote access to jobs and transit, as required in objectives two and three. HCD's review of SCAG's RHNA methodology found the allocation does further the environmental principles of objective two. SCAG's overall allocation includes significant weight related to the location of high-quality transit areas and the regional distribution of jobs that can be accessed within a 30-minute driving commutes. Regarding objective three, HCD's analysis as to whether jobs-housing fit was furthered by SCAG's draft methodology found that across all jurisdictions there is generally good alignment between low-wage jobs and lower-income RHNA, with all but 15 jurisdictions within a half percent plus or minus difference between their share of lower-income RHNA for the region and their percentage low-wage jobs for the region.

Several appeals are based upon the provision described in Government Code section 65584.05(b)(3), arguing that the COVID-19 pandemic represents a significant and unforeseen change in circumstances that will affect future population and job growth. Ensuring everyone has a home is critical to public health. Reducing and preventing overcrowding and homelessness are essential concerns for every community. The COVID-19 pandemic has only increased the importance that each community is planning for sufficient affordable housing.

Lastly, several appeals state that the Regional Housing Needs Determination (RHND) HCD provided to the SCAG region is too large. SCAG submitted an objection to the RHND at the appropriate time and through the appropriate process. HCD considered those objections and [determined the final RHND for 6th Housing Element Cycle for the SCAG region on October 15, 2019](#). There are no further appeal procedures available to alter the SCAG region's RHND for this cycle. Government Code section 65584.05(b) does not allow local governments to appeal the RHND during the 45-day period following receipt of the draft allocation.

HCD acknowledges that many local governments will need to plan for more housing than in the prior cycle to accommodate a RHND that more fully captures the housing need and as the statutory objectives of RHNA shift more housing planning near jobs, transit, and resources. The Southern California region's housing crisis requires each jurisdiction to plan for the housing needs of their community and the region. In recognition of this effort there are more resources available than ever before to support jurisdictions as they prepare to update their 6th cycle housing elements:

- SB 2 Planning Grants – \$123 million one-time allocation to cities and counties
- SB 2 Planning Grants Technical Assistance offered to all jurisdictions
- Regional and Local Early Action Planning Grants – \$238 million one-time allocation for local and regional governments
- SB 2 Permanent Local Housing Allocation – approximately \$175 million annually in ongoing funding for local governments to increase affordable housing stock

If HCD can provide any additional assistance, or if you, or your staff, have any questions, please contact Megan Kirkeby, Deputy Director, megan.kirkeby@hcd.ca.gov.



Megan Kirkeby
Deputy Director



City of Whittier

13230 Penn Street, Whittier, California 90602-1716
(562) 567-9320 Fax (562) 567-2872 www.cityofwhittier.org

Electronically Transmitted to: Housing@scag.ca.gov

December 10, 2020

RHNA Appeals Committee
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

SUBJECT: City of Whittier's Comments on Appeals to the Sixth Cycle Regional Housing Needs Assessment (RHNA) Allocation

Honorable Chair and Honorable Committee Members:

The City of Whittier ("City") appreciates the challenges that are inherent in allocating 1,341,827 housing units by the thousands (a 226% increase above the baseline 412,137 unit) to cities across Southern California, especially in built-out cities. However, the City is deeply concerned its housing allocation of 3,431 units from the State Department of Housing and Community Development ("HCD") and the Southern California Association of Government's ("SCAG") unit distribution methodology, along with recent housing legislation will fundamentally abridge the City's ability to develop effective land-use policies that are appropriate for managing the community's actual needs. The 878 units in the 5th cycle RHNA allocation has been increased by 290% to 3,431 units in the current 6th cycle. Particularly challenging in the 6th cycle, is the number of low and very low-income units (1,558) which combined with the moderate and above moderate unit totals forces unplanned and unnecessary residential densification of the community.

The affordable units are an unfunded mandate with very limited regional or State financial support for their development. Considering the affordable housing subsidies typically range from \$50,000 to \$250,000 per unit, the overall funding requirements could range from \$78,000,000 to \$390,000,000 which is clearly beyond the reach of the City of Whittier in that the City's general fund budget is just \$72,000,000 which already include \$2,000,000 annually to house the City's unsheltered residents in transitional housing. Additionally, the City only receives 7.5% of each property tax dollar to provide general services including police and library services.

The City is currently in the process of updating its Housing Element as well as the General Plan to incorporate the current RHNA allocation, so Whittier is acutely aware of the various housing needs as well as the potential obstacles, such as aging infrastructure and unplanned density, to creating the requisite housing within a city that

is essentially built out. The changes in the State's housing laws (SB 35, SB 166 and AB 1397) have created additional constraints for the agencies and may severely impact the City's ability to accomplish our regional and local housing goals.

Since development in Whittier began more than 130 years ago, the City is virtually built-out with little developable vacant land outside of its designated open space areas that are dedicated to accommodating existing and future residents. While the City has made significant efforts through its specific plans to densify existing corridors and districts, the majority of Whittier's remaining single-family residential neighborhoods cannot accommodate similar densification. Furthermore, the hills north of Whittier contain regional open space, sensitive habitat and wildlife areas that must be preserved in perpetuity. There are also significant infrastructure and water service constraints that impact Whittier's ability to produce significantly more housing. Although these facts may not be desirable, they must be pragmatically accounted for and mitigated by not further increasing Whittier's share of housing units contained in SCAG's 6th Cycle RHNA. The final RHNA allocation and methodology must be fair and equitable while reflecting the capacity for reasonable housing unit construction.

As with many other cities, the City is concerned about the current allocation, but an even greater concern is that additional units may be applied to the City if reallocated from cities that are successful in their appeals. To that end, the City believes the appeal process itself was unclear as to the potential ramifications to other cities and not fully understood.

Although we fully support the surrounding cities in their appeals, the potential for additional units being applied to the City would exacerbate the problems described herein and in Whittier's September 13, 2019 letter to SCAG.

Should you have any questions, please do not hesitate to contact me.

Sincerely,



Jeffery S. Adams
Director of Community Development

File

From: Christopher Koontz <Christopher.Koontz@longbeach.gov>
Sent: Thursday, December 3, 2020 11:14 AM
To: Regional Housing
Subject: RHNA Appeals

Categories: Response Required, Record

Good morning,

The purpose of this email is to provide the City of Long Beach's position in regards to pending RHNA appeals before SCAG. The City of Long Beach seeks to meet its housing needs and obligations for the benefit of Long Beach residents and the region. Our allocation was extremely large and presents a planning and financing challenge for the City. Nonetheless we chose not to appeal our allocation because the allocation process was fair and transparent including taking the City of Long Beach's input into consideration.

We oppose and will not accept any transfer of additional allocation due to the pending appeals. We note that within our area, the Gateway COG, appeals are pending from Bellflower, Cerritos, Downey, Huntington Park, La Mirada, Lakewood, Pico Rivera, and South Gate. Each of these appeals should be evaluated by SCAG on the merits, however Long Beach opposes any transfer of allocation to our City. It would be inappropriate to transfer a further burden to Long Beach when we have already accepted a large allocation and have done more than many cities in the region to accommodate housing growth under the current RHNA cycle, including fully meeting our market-rate RHNA allocation.

The City of Long Beach will continue to work with SCAG and our neighbor jurisdictions to address the housing needs of our residents.

We thank you for consideration and please do not hesitate to contact the City regarding our position.

Christopher Koontz, AICP
Deputy Director

Development Services
411 W. Ocean Blvd., 3rd Floor | Long Beach, CA 90802
Office: 562.570.6288 | Fax: 562.570.6068



**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF HOUSING POLICY DEVELOPMENT**

2020 W. El Camino Avenue, Suite 500
Sacramento, CA 95833
(916) 263-2911 / FAX (916) 263-7453
www.hcd.ca.gov



October 15, 2019

Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Dear Executive Director Ajise,

RE: Final Regional Housing Need Assessment

The California Department of Housing and Community Development (HCD) has received and reviewed your objection to the Southern California Association of Governments (SCAG)'s Regional Housing Needs Assessment (RHNA) provided on August 22, 2019. Pursuant to Government Code (Gov. Code) section 65584.01(c)(3), HCD is reporting the results of its review and consideration, along with a final written determination of SCAG's RHNA and explanation of methodology and inputs.

As a reminder, there are several reasons for the increase in SCAG's 6th cycle Regional Housing Needs Assessment (RHNA) as compared to the 5th cycle. First, as allowed under Gov. Code 65584.01(b)(2), the 6th cycle RHNA applied housing need adjustment factors to the region's total projected households, thus capturing existing and projected need. Second, overcrowding and cost burden adjustments were added by statute between 5th and 6th cycle; increasing RHNA in regions where incidents of these housing need indicators were especially high. SCAG's overcrowding rate is 10.11%, 6.76% higher than the national average. SCAG's cost burden rate is 69.88% for lower income households, and 18.65% for higher income households, 10.88% and 8.70% higher than the national average respectively. Third, the 5th cycle RHNA for the SCAG region was impacted by the recession and was significantly lower than SCAG's 4th cycle RHNA.

This RHNA methodology establishes the minimum number of homes needed to house the region's anticipated growth and brings these housing need indicators more in line with other communities, but does not solve for these housing needs. Further, RHNA is ultimately a requirement that the region zone sufficiently in order for these homes to have the potential to be built, but it is not a requirement or guarantee that these homes will be built. In this sense, the RHNA assigned by HCD is already a product of moderation and compromise; a minimum, not a maximum amount of planning needed for the SCAG region.

For these reasons HCD has not altered its RHNA approach based on SCAG's objection. However, the cost burden data input has been updated following SCAG's objection due to the availability of more recent data. Attachment 1 displays the minimum RHNA of **1,341,827** total homes among four income categories for SCAG to distribute among its local governments. Attachment 2 explains the methodology applied pursuant to Gov. Code section 65584.01.

The following briefly responds to each of the points raised in SCAG's objection:

Use of SCAG's Population Forecast

SCAG's overall population estimates for the end of the projection period exceed Department of Finance's (DOF) population projections by 1.32%, however the SCAG household projection derived from this population forecast is 1.96% lower than DOF's household projection. This is a result of SCAG's population forecast containing 3,812,391 under 15-year old persons, compared to DOF's population projection containing 3,292,955 under 15-year old persons; 519,436 more persons within the SCAG forecast that are anticipated to form no households. In this one age category, DOF's projections differ from SCAG's forecast by 15.8%.

Due to a greater than 1.5% difference in the population forecast assessment of under 15-year olds (15.8%), and the resulting difference in projected households (1.96%), HCD maintains the use of the DOF projection in the final RHNA.

Use of Comparable Regions

While the statute allows for the council of government to determine and provide the comparable regions to be used for benchmarking against overcrowding and cost burden, Gov. Code 65584.01(b)(2) also allows HCD to "accept or reject information provided by the council of governments or modify its own assumptions or methodology based on this information." Ultimately, HCD did not find the proposed comparable regions an effective benchmark to compare SCAG's overcrowding and cost burden metrics to. HCD used the national average as the comparison benchmark, which had been used previously throughout 6th cycle prior to the addition of comparable region language into the statute starting in January 2019. As the housing crisis is experienced nationally, even the national average does not express an ideal overcrowding or cost burden rate; we can do more to reduce and eliminate these worst-case housing needs.

Vacancy Rate

No changes have been made to the vacancy rate standard used by HCD for the 6th cycle RHNA methodology.

Replacement Need

No changes have been made to the replacement need minimum of adjustment .5%. This accounts for replacement homes needed to account for homes potentially lost during the projection period.

Household Growth Anticipated on Tribal Lands

No changes have been made to reduce the number of households planned in the SCAG region by the amount of household growth expected on tribal lands. The region should plan for these homes outside of tribal lands.

Overlap between Overcrowding and Cost Burden

No changes have been made to overcrowding and cost burden methodology. Both factors are allowed statutorily, and both are applied conservatively in the current methodology.

Data Sources

No changes have been made to the data sources used in the methodology. 5-year American Community Survey data allows for lower margin of error rates and is the preferred data source used throughout this cycle. With regard to cost burden rates, HCD continues to use the Comprehensive Housing Affordability Strategy, known as CHAS data. These are custom tabulations of American Community Survey requested by the U.S. Department of Housing and Urban Development. These custom tabulations display cost burden by income categories, such as lower income, households at or below 80% area median income; rather than a specific income, such as \$50,000. The definition of lower income shifts by region and CHAS data accommodates for that shift. The 2013-2016 CHAS data became available August 9, 2019, shortly prior to the issuance of SCAG's RHNA determination so that data is now used in this RHNA.

Next Steps

As you know, SCAG is responsible for adopting a RHNA allocation methodology for the *projection* period beginning June 30, 2021 and ending October 15, 2029. Pursuant to Gov. Code section 65584(d), SCAG's RHNA allocation methodology must further the following objectives:

- (1) Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very-low income households.
- (2) Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region's greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080.
- (3) Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction.
- (4) Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey.
- (5) Affirmatively furthering fair housing.

Pursuant to Gov. Code section 65584.04(e), to the extent data is available, SCAG shall include the factors listed in Gov. Code section 65584.04(e)(1-12) to develop its RHNA allocation methodology. Pursuant to Gov. Code section 65584.04(f), SCAG must explain in writing how each of these factors was incorporated into the RHNA allocation methodology and how the methodology furthers the statutory objectives described above. Pursuant to Gov. Code section 65584.04(h), SCAG must consult with HCD and submit its draft allocation methodology to HCD for review.

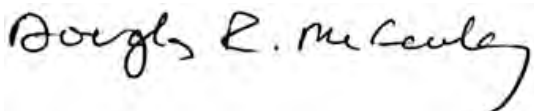
HCD appreciates the active role of SCAG staff in providing data and input throughout the consultation period. HCD especially thanks Ping Chang, Ma'Ayn Johnson, Kevin Kane, and Sarah Jepson.

HCD looks forward to its continued partnership with SCAG to assist SCAG's member jurisdictions meet and exceed the planning and production of the region's housing need. Just a few of the support opportunities available for the SCAG region this cycle include:

- SB 2 Planning Grants and Technical Assistance (application deadline November 30, 2019)
- Regional and Local Early Action Planning Grants
- Permanent Local Housing Allocation

If HCD can provide any additional assistance, or if you, or your staff, have any questions, please contact Megan Kirkeby, Assistant Deputy Director for Fair Housing, at megan.kirkeby@hcd.ca.gov.

Sincerely,



Douglas R. McCauley
Acting Director

Enclosures

ATTACHMENT 1

HCD REGIONAL HOUSING NEED DETERMINATION

SCAG: June 30, 2021 – October 15, 2029 (8.3 years)

<u>Income Category</u>	<u>Percent</u>	<u>Housing Unit Need</u>
Very-Low*	26.2%	351,796
Low	15.4%	206,807
Moderate	16.7%	223,957
Above-Moderate	41.7%	559,267
Total	100.0%	1,341,827
* Extremely-Low	14.5%	Included in Very-Low Category

Notes:

Income Distribution:

Income categories are prescribed by California Health and Safety Code (Section 50093, et.seq.). Percents are derived based on ACS reported household income brackets and regional median income, then adjusted based on the percent of cost-burdened households in the region compared with the percent of cost burdened households nationally.

ATTACHMENT 2

**HCD REGIONAL HOUSING NEED DETERMINATION
SCAG: June 30, 2021 – October 15, 2029 (8.3 years)**

Methodology

SCAG: June 30, 2021-October 15, 2029 (8.3 Years) HCD Determined Population, Households, & Housing Need				
1.	Population: DOF 6/30/2029 projection adjusted +3.5 months to 10/15/2029			20,455,355
2.	- Group Quarters Population: DOF 6/30/2029 projection adjusted +3.5 months to 10/15/2029			-363,635
3.	Household (HH) Population: October 15, 2029			20,079,930
	Household Formation Groups	HCD Adjusted DOF Projected HH Population	DOF HH Formation Rates	HCD Adjusted DOF Projected Households
		20,079,930		6,801,760
	under 15 years	3,292,955	n/a	n/a
	15 – 24 years	2,735,490	6.45%	176,500
	25 – 34 years	2,526,620	32.54%	822,045
	35 – 44 years	2,460,805	44.23%	1,088,305
	45 – 54 years	2,502,190	47.16%	1,180,075
	55 – 64 years	2,399,180	50.82%	1,219,180
	65 – 74 years	2,238,605	52.54%	1,176,130
	75 – 84 years	1,379,335	57.96%	799,455
	85+	544,750	62.43%	340,070
4.	Projected Households (Occupied Unit Stock)			6,801,760
5.	+ Vacancy Adjustment (2.63%)			178,896
6.	+ Overcrowding Adjustment (6.76%)			459,917
7.	+ Replacement Adjustment (.50%)			34,010
8.	- Occupied Units (HHs) estimated (June 30, 2021)			-6,250,261
9.	+ Cost Burden Adjustment (Lower Income: 10.63%, Moderate and Above Moderate Income: 9.28%)			117,505
6th Cycle Regional Housing Need Assessment (RHNA)				1,341,827

Explanation and Data Sources

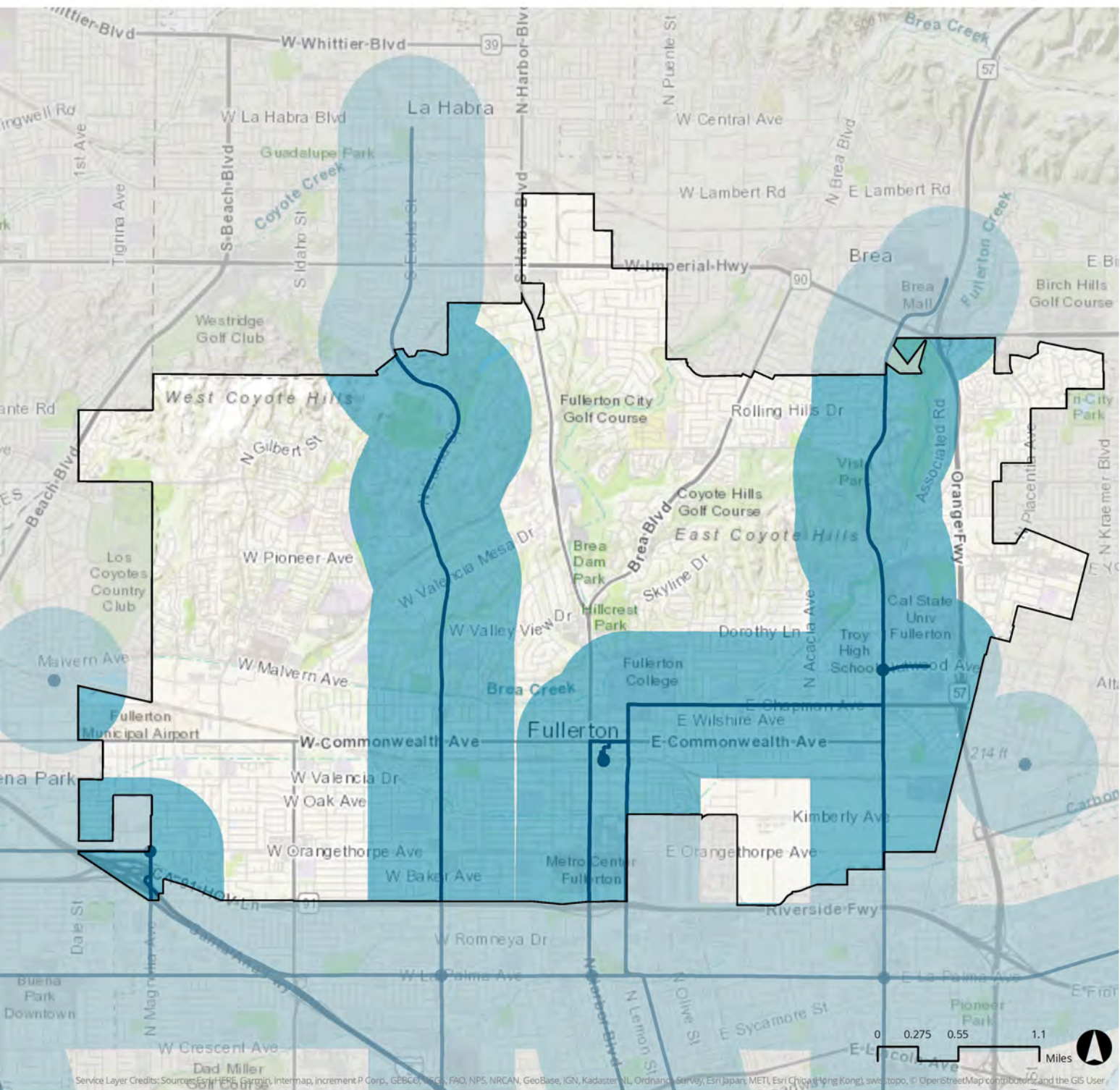
- 1-4. Population, Group Quarters, Household Population, & Projected Households: Pursuant to Government Code Section 65584.01, projections were extrapolated from Department of Finance (DOF) projections. Population reflects total persons. Group Quarter Population reflects persons in a dormitory, group home, institution, military, etc. that do not require residential housing. Household Population reflects persons requiring residential housing. Projected Households reflect the propensity of persons, by age-groups, to form households at different rates based on Census trends.
5. Vacancy Adjustment: HCD applies a vacancy adjustment based on the difference between a standard 5% vacancy rate and the region's current "for rent and sale" vacancy percentage to provide healthy market vacancies to facilitate housing availability and resident mobility. The adjustment is the difference between standard 5% and region's current vacancy rate (2.37%) based on the 2013-2017 5-year American Community Survey (ACS) data. For SCAG that difference is 2.63%.
6. Overcrowding Adjustment: In region's where overcrowding is greater than the U.S overcrowding rate of 3.35%, HCD applies an adjustment based on the amount the region's overcrowding rate (10.11%) exceeds the U.S. overcrowding rate (3.35%) based on the 2013-2017 5-year ACS data. For SCAG that difference is 6.76%.

Continued on next page

7. Replacement Adjustment: HCD applies a replacement adjustment between .5% & 5% to total housing stock based on the current 10-year average of demolitions in the region's local

government annual reports to Department of Finance (DOF). For SCAG, the 10-year average is .14%, and SCAG's consultation package provided additional data on this input indicating it may be closer to .41%; in either data source the estimate is below the minimum replacement adjustment so the minimum adjustment factor of .5% is applied.

8. Occupied Units: Reflects DOF's estimate of occupied units at the start of the projection period (June 30, 2021).
9. Cost Burden Adjustment: HCD applies an adjustment to the projected need by comparing the difference in cost-burden by income group for the region to the cost-burden by income group for the nation. The very-low and low income RHNA is increased by the percent difference ($69.88\% - 59.01\% = 10.88\%$) between the region and the national average cost burden rate for households earning 80% of area median income and below, then this difference is applied to very low- and low-income RHNA proportionate to the share of the population these groups currently represent. The moderate and above-moderate income RHNA is increased by the percent difference ($18.65\% - 9.94\% = 8.70\%$) between the region and the national average cost burden rate for households earning above 80% Area Median Income, then this difference is applied to moderate and above moderate income RHNA proportionate to the share of the population these groups currently represent. Data is from 2013-2016 Comprehensive Housing Affordability Strategy (CHAS).



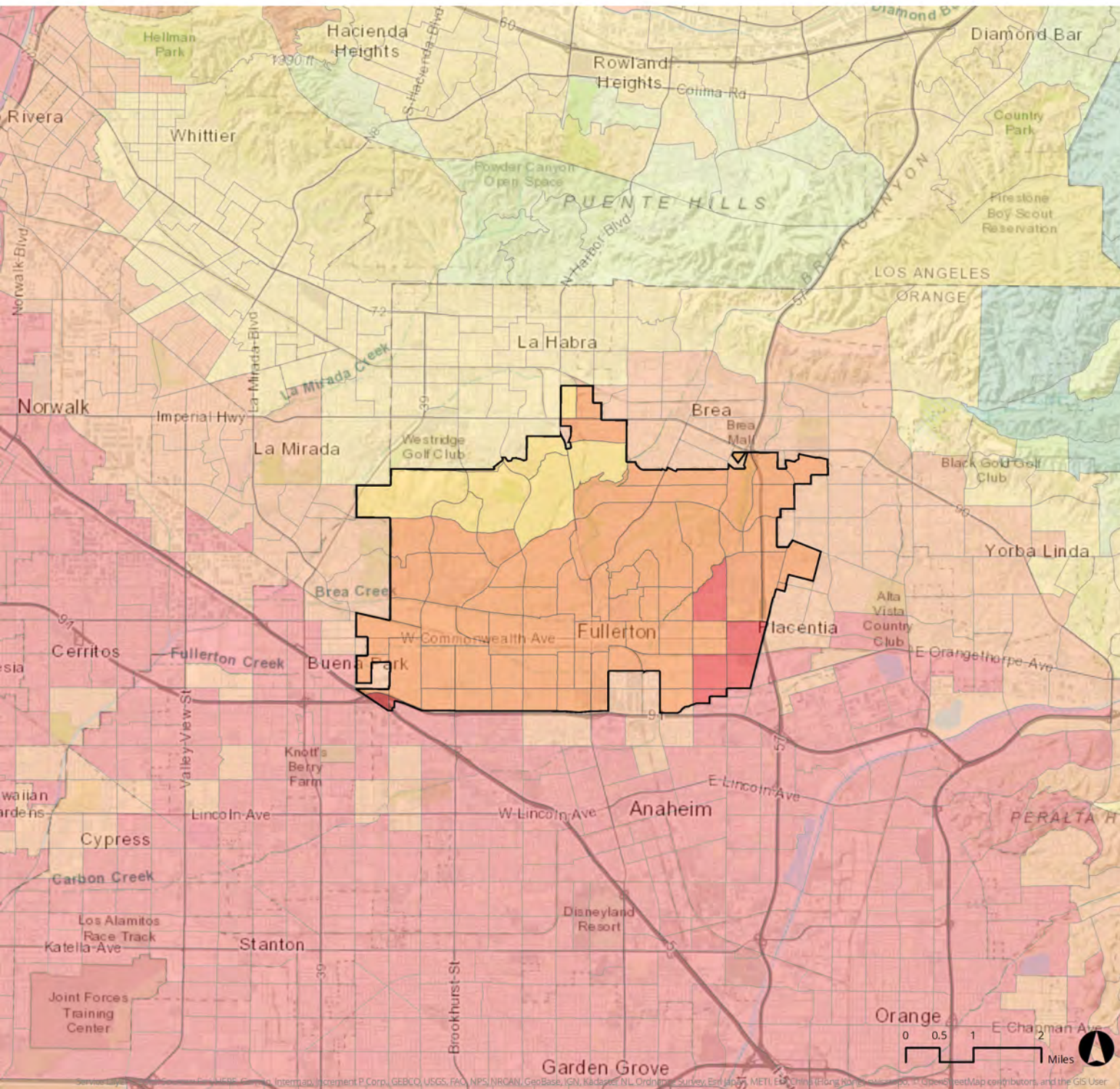
Major Transit Stops and High Quality Transit Areas in City of Fullerton [Year 2045]

- Major Transit Stops
- ⚡ High Quality Transit Corridors (HQTCs)
- High Quality Transit Areas (HQTAs)

Note: SCAG identifies Major Transit Stops and High Quality Transit Corridors (HQTCs), and their surrounding areas in one-half mile radius distance as specified in Section 21155.(b)(3). Major transit stops and HQTCs are extracted from 2045 plan year data of Connect SoCal. SCAG's High Quality Transit Area (HQTA) is within one-half mile from Major Transit Stops and HQTCs and developed based on the language in SB375; however, freeway transit corridors with no bus stops on the freeway alignment do not have a directly associated HQTA. The RHNA process, per Section 65584 et seq., specifies that SCAG's housing needs allocation plan shall further several objectives including those related to infill development and jobs-housing balance. To that end, SCAG's Regional Council-adopted 6th Cycle Final RHNA Methodology relies on a jurisdiction's forecasted 2045 population within HQTAs to allocate housing need.

Data Source: SCAG, County Transportation Commissions, 2020 | Map Created: 10/22/2020

Disclaimer: The information shown on this map reflect jurisdiction's input submitted during the Local Input and Envisioning Process for the City of Fullerton. SCAG shall not be responsible for user's misuse or misrepresentation of this map. For the details regarding the sources, methodologies and data please refer to the SCAG Data/Map Book at connectsoocal.org/Pages/Local-Input-Process.aspx or contact RTPLocalInput@scag.ca.gov.



TAZ-level job accessibility in and around: City of Fullerton [Year 2045]

0% - 2.3% 2.4% - 7.8% 7.9% - 11.7% 11.8% - 15.5% 15.6% - 19.6% 19.7% - 32.3%

Note: These data represent the share of jobs in the SCAG region accessible by automobile commute in 30 minutes in 2045 during the peak AM commute (6-9am). Further detail on the job accessibility measure can be found in SCAG's Final RHNA Methodology. Note that since the SCAG region's total employment forecast for 2045 is 10,049,000 jobs, the number of jobs available can be measured by multiplying the percentage found on the map by this number. For example, a TAZ-level job accessibility measure of 10.0% means that 1,049,000 future jobs could be reached in 30 minutes.

Data Source: SCAG, 2020 | Map Created: 10/22/2020

Disclaimer: The data underlying the information shown on this map reflect jurisdiction's input submitted during the Local Input and Envision Connect SoCal. SCAG shall not be responsible for user's misuse or misrepresentation of this map. For the details regarding the sources, methodology of this map, please refer to the SCAG Data/Map Book at <https://www.connectsocial.org/Pages/Local-Input-Process.aspx> or contact RTPLocalIn



Southern California Association of Governments
Remote Participation Only
January 19, 2021

To: Regional Housing Needs Assessment Subcommittee (RHNA)

EXECUTIVE DIRECTOR'S
APPROVAL

From: Ma'Ayn Johnson, Regional Planner Specialist,
(213) 236-1975, johnson@scag.ca.gov

Subject: Appeal of the Draft RHNA Allocation for the City of Laguna Hills

RECOMMENDED ACTION:

Deny the appeal filed by the City of Laguna Hills to reduce the Draft RHNA Allocation for the City of Laguna Hills by 365 units.

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 2: Advance Southern California's policy interests and planning priorities through regional, statewide, and national engagement and advocacy.

SUMMARY OF APPEAL(S):

The City of Laguna Hills requests a reduction of its RHNA Allocation by 365 units (from 1,980 units to 1,615 units) based on the following:

1. Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029) based on location of HQTAs and redistribution of residual need.*

* While the City mentions achieving regional GHG targets and jobs housing balance in their cover letter, these issues are not checked on the City's appeal request form and are not separately discussed.

RATIONALE FOR STAFF RECOMMENDATION:

Staff have reviewed the appeal(s) and recommend no change to the City of Laguna Hills' RHNA Allocation. The Final RHNA Methodology was consistently applied including to the City of Laguna Hills and challenge to the adopted Final methodology itself is not the basis for an appeal.

BACKGROUND:

Draft RHNA Allocation

OUR MISSION

To foster innovative regional solutions that improve the lives of Southern Californians through inclusive collaboration, visionary planning, regional advocacy, information sharing, and promoting best practices.

OUR VISION

Southern California's Catalyst for a Brighter Future

OUR CORE VALUES

Be Open | Lead by Example | Make an Impact | Be Courageous

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the adoption of Connect SoCal on September 3, 2020, all local jurisdictions received draft RHNA allocations on September 11, 2020. A summary is below.

Total RHNA for the City of Laguna Hills: 1,980 units

Very Low Income:	566 units
Low Income:	353 units
Moderate Income:	353 units
Above Moderate Income:	708 units

Additional background related to the Draft RHNA Allocation is included in Attachment 1.

Summary of Comments Received during 45-day Comment Period

No comments were received from local jurisdictions or HCD during the 45-day public comment period described in Government Code section 65584.05(c) which specifically regard the appeal filed for the City of Laguna Hills. Three comments were received which relate to appeals filed generally:

- HCD submitted a comment on December 10, 2020 delineating the statutory basis for RHNA appeals and the requirement that any appeals granted must include written findings regarding how revisions are necessary to further RHNA's statutory objectives.
- The City of Whittier submitted a comment on December 10, 2020 supporting surrounding cities in their appeals, but expressing concern that additional units may be applied to Whittier if reallocated from cities which are successful in their appeals.
- The City of Long Beach submitted a comment on December 3, 2020 indicating their view that the RHNA allocation process was fair and transparent, their support for evaluating appeals on their merits (specifically those from the Gateway Council of Governments), and their opposition to any action which would result in a transfer of additional units to Long Beach.

ANALYSIS:

Issue 1: Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029) [Government Code Section 65584.05 (b)(2)].

The City of Laguna Hills indicates that the Bus Rapid Transit Route project, which would create an HQT, has not been approved, has not been funded, and possibly may not be approved or constructed. Orange County Transit Agency (OCTA) is currently examining five different

concepts/route configuration and only two of these concepts include the Laguna Hills portion of the5. The City should not receive additional RHNA units based on potential transit projects.

The City of Laguna Hills believes the redistribution of nearly 24,000 residual housing units from the City of Santa Ana to non-disadvantaged community (DAC) communities throughout Orange County, including Laguna Hills, conflicts with two of the five RHNA objectives specified in Government Code Section 65584.04(a).

SCAG Staff Response: SCAG’s final regional determination of approximately 1.34 million units was issued by HCD on October 15, 2019 per state housing law. The regional determination is not a basis for appeal per adopted RHNA Appeals Procedures as it is not within the authority of the Appeals Board to make any changes to HCD’s regional housing needs assessment. Only improper application of the methodology is grounds for an appeal. An example of an improper application of the adopted methodology might be a data error which was identified by a local jurisdiction.

With respect to the statutory objectives¹, SCAG used objective measures to advance certain principles, but since local and regional conditions vary tremendously across the state and over time, there are few consistent quantitative standards which can be used to evaluate all aspects of the methodology. Ultimately, however, the RHNA statute vests HCD with the authority to decide whether statutory objectives have been met.

As described in Attachment 1: Local Input and Development of Draft RHNA Allocation, the Final RHNA Methodology was adopted by the Regional Council on March 5, 2020 and describes the various policy factors whereby housing unit need is to be allocated across the region—for example, anticipated growth, access to jobs and transit, and vacancy. The methodology makes extensive use of locally reviewed input data and describes data sources and how they are calculated in detail. On January 13, 2020, the Final RHNA Methodology was found by HCD to further the five statutory objectives in large part due to its use of objective factors and as such cannot consider factors differently in one jurisdiction versus another.

¹ The objectives are: 1) Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low-income households. (2) Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region’s greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080. (3) Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction. (4) Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey. (5) Affirmatively furthering fair housing (Govt. Code § 65584(d)).

HQTAs

The adopted Final RHNA Methodology includes a component that calculates need based on a jurisdiction's population within high-quality transit areas (HQTA) in 2045 in Connect SoCal, SCAG's 2045 RTP/SCS.

For planning and SCS purposes, SCAG identifies a "high quality transit area" as generally a walkable transit village or corridor that is within one-half mile of a major transit stop or High-Quality Transit Corridor (HQTC) as defined in Government Code 21155(b) and 21064.3 excluding freeway transit corridors with no bus stops on the freeway alignment. SCAG's technical methodology for identifying HQTCs and major transit stops is based on input from the Regional Transit Technical Advisory Committee (RTTAC), as well as consultation with local agencies, other large MPOs in California, and the Governor's Office of Planning and Research.

Planned HQTCs and major transit stops are future improvements that are expected to be implemented by transit agencies by the RTP/SCS horizon year of 2045. These are assumed by definition to meet the statutory requirements of an HQTC or major transit stop. SCAG updates its inventory of planned major transit stops and HQTCs with the adoption of a new RTP/SCS, once every four years. However, transit planning studies may be completed by transit agencies on a more frequent basis than the RTP/SCS is updated by SCAG and as such it is understood that planned transit projects are subject to further project-specific evaluation, but that is the nature of the long-range planning process.

The attached map shows the 2045 HQTA boundaries for the City of Laguna Hills which were used in Connect SoCal. For the City of Laguna Hills, OCTA proposes a I-5 bus rapid transit (BRT) via OCTA Transit Vision, which has both morning and evening headways of 15 minutes. The estimated completion year of the project is 2027. While freeway segments are not included in the analysis of HQTAs, local arterials to and from the stops are included within HQTA.

While there is an inherent chance that transit agencies may change future plans, ultimately SCAG's adopted Final RHNA Methodology uses this definition of 2045 HQTAs in order to better align future housing with anticipated future transit rather than focusing on only what exists today. For this reason, SCAG staff does not recommend a decrease on the City's RHNA Allocation based on identification of HQTAs and application of the adopted FINAL RHNA Methodology.

Residual Need

In pursuing the RHNA objectives, the adopted RHNA Methodology identifies jurisdictions that are "disadvantaged" (DACs). The City of Laguna Hills is not a DAC. In the methodology, DACs where the calculated projected and existing need is higher than the jurisdiction's household growth between 2020 and 2045 are considered as having "residual" existing need. Residual need was subtracted from jurisdictional need in these cases so that the maximum a DAC jurisdiction would receive for

existing need is equivalent to its 2020 to 2045 household growth. Residual existing need was tabulated by county and then redistributed within the same county to non-DAC jurisdictions. The purpose of this was to further two of the five objectives of State housing law, avoiding an overconcentration of lower income households where they are already located and affirmatively further fair housing.

The jurisdiction has not provided evidence that there was a data error or that the residual need assigned to the City was incorrectly calculated and thus cannot appeal under this basis. For this reason, SCAG staff does not recommend approval of this appeal based on distribution of residual need and application of the adopted Final RHNA Methodology.

FISCAL IMPACT:

Work associated with this item is included in the current FY20-21 Overall Work Program (300-4872Y0.02: Regional Housing Needs Assessment).

ATTACHMENT(S):

1. Local Input and Development of Draft RHNA Allocation (City of Laguna Hills)
2. Appeal Form and Supporting Documentation (City of Laguna Hills)
3. Comments Received During the Comment Period (General)
4. 2045 HQTAs Laguna Hills

Southern California Association of Governments
Remote Participation Only
City of Laguna Hills RHNA Appeal
January 19, 2022

Attachment 1: Local Input and Development of the Draft RHNA Allocation

This attachment sets forth the nature and timing of the opportunities which the City of Laguna Hills had to provide information and local input on SCAG’s growth forecast, the RHNA methodology, and the Growth Vision of the 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS or Connect SoCal). It also describes how the RHNA Methodology development process integrates this information in order to develop the City of Laguna Hills’ Draft RHNA Allocation.

1. Local input

a. Bottom-Up Local Input and Envisioning Process

On October 31, 2017, SCAG took the first step toward developing draft RHNA allocations by initiating the Bottom-Up Local Input and Envisioning Process. At the direction of the Regional Council, the objective of this process was to seek local input and data to prepare for Connect SoCal and the 6th cycle of RHNA.¹ Each jurisdiction was provided with a package of land use, transportation, environmental, and growth forecast data for review and revision which was due on October 1, 2018.² While the local input process materials focus principally on jurisdiction-level and Transportation Analysis Zone (TAZ) level growth, input on specific parcels, sites, and project areas were welcomed and integrated into SCAG’s growth forecast as well as data on other elements. SCAG met one-on-one with all 197 local jurisdictions between November 2017 and July 2018 and provided training opportunities and staff support. Following input from SCAG’s Technical Working Group (TWG), the Connect SoCal growth forecast reflected precisely the jurisdiction-level growth totals provided during this process.

Forecasts for jurisdictions in Orange County were developed through the 2018 Orange County Projections (OCP-2018) update process conducted by the Center for Demographic Research (CDR) at Cal State Fullerton. Jurisdictions were informed of this arrangement by SCAG at the kickoff of the Process. For the City of Laguna Hills, the anticipated number of households in 2020 was 10,666 and in 2030 was 11,669 (growth of 1,003 households). In March 2018, SCAG staff and CDR staff met with staff from the City of Laguna Hills to discuss the Bottom-Up Local Input and Envisioning Process and answer questions.

¹ While the RTP/SCS and RHNA share data elements, they are distinct processes. The RTP/SCS growth forecast provides an assessment of reasonably foreseeable future patterns of employment, population, and household growth in the region given demographic and economic trends, and existing local and regional policy priorities. The RHNA identifies anticipated housing need over a specified eight-year period and requires that local jurisdictions make available sufficient zoned capacity to accommodate this need. A further discussion of the relationship between these processes can be found in Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

² A detailed list of data during this process reviewed can be found in each jurisdiction’s Draft Data/Map Book at <https://scag.ca.gov/local-input-process-towns-cities-and-counties>.

b. RHNA Methodology Surveys

On March 19, 2019, SCAG distributed a packet of methodology surveys, which included the local planning factor survey (formerly known as the AB2158 factor survey), Affirmatively Furthering Fair Housing (AFFH) survey, and replacement need survey, to SCAG jurisdictions' Community Development Directors. Surveys were due on April 30, 2019. SCAG reviewed all submitted responses as part of the development of the draft RHNA methodology. The City of Laguna Hills submitted the following surveys prior to the adoption of the draft RHNA methodology:

- Local planning factor survey
- Affirmatively Furthering Fair Housing (AFFH) survey
- Replacement need survey
- No survey was submitted to SCAG

c. Connect SoCal Growth Vision and Additional Refinements

Beginning in May 2018, SCAG's Sustainable Communities Working Group began the process of developing growth scenarios for the SCAG region. The culmination of this work was the development of the Connect SoCal Growth Vision, which directly uses jurisdictional-level growth projections from the Bottom-Up Local Input and Envisioning process, and also features strategies for growth at the TAZ-level that help to reduce greenhouse gas emissions (GHG) from automobiles and light trucks to achieve Southern California's GHG reduction target, approved by the California Air Resources Board (CARB) in accordance with state planning law. Additional detail regarding the Connect SoCal Growth Vision, specifically the Transportation Analysis Zone (TAZ, or neighborhood) level projections is found at <https://scag.ca.gov/sites/main/files/file-attachments/growth-vision-methodology.pdf>.

As a result of these strategies, in some jurisdictions growth at the TAZ-level differed from locally anticipated growth conveyed during the Bottom-Up Local Input and Envisioning Process.

As such, SCAG provided two additional opportunities for all local jurisdictions to make TAZ-level technical refinements on the topics of general plan capacities and entitlements. During the release of the draft Connect SoCal Plan, jurisdictions were notified on October 31, 2019 that SCAG would accept additional refinements until December 11, 2019. Following the Regional Council's decision to delay full adoption of Connect SoCal for 120 days due to the COVID-19 pandemic, all jurisdictions were again notified on May 26, 2020 that SCAG would accept additional refinements until June 9, 2020.

Connect SoCal Growth Vision data have been available to local jurisdiction staff during the entirety of this process through SCAG's Scenario Planning Model Data Management Site (SPM-DM) at <http://spmdm.scag.ca.gov> and updates were shared with local jurisdictions on technical refinements to the data in February 2020 and August 2020 to share the results of both review opportunities. SCAG

received additional technical corrections from the City of Laguna Hills and incorporated them into the Growth Vision in December 2019.

2. Development of the Final RHNA Methodology

SCAG convened the first meeting of the RHNA Subcommittee in October 2018. In their subsequent monthly meetings, this body reviewed and advised on the development of SCAG’s 6th cycle RHNA process, including the development of the RHNA methodology. Per Government Code 65584.04(a), SCAG must develop a RHNA methodology which furthers the five statutory objectives of RHNA:

(1) Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low income households.

(2) Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region’s greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080.

(3) Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction.

(4) Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey.

(5) Affirmatively furthering fair housing. (Govt. Code § 65584(d)).

As explained in more detail below, the Draft RHNA Methodology (which was adopted as the Final RHNA Methodology) set forth the policy factors, data sources, and calculations which would be used to generate draft RHNA allocations for all local jurisdictions. Following extensive debate and public comment, SCAG’s Regional Council voted to approve the Draft RHNA Methodology on November 7, 2019 and provide it to HCD for review. Per Government Code 65584.04(i), HCD is vested with the authority to determine whether a methodology furthers the objectives set forth in Government Code section 65584(d). On January 13, 2020, HCD found that the Draft RHNA Methodology furthers these five statutory objectives of RHNA. Specifically, HCD noted that:

“This methodology generally distributes more RHNA, particularly lower income RHNA, near jobs, transit, and resources linked to long term improvements of life outcomes.

In particular, HCD applauds the use of the objective factors specifically linked the statutory objectives in the existing need methodology.” (Letter from HCD to SCAG dated January 13, 2020 at <https://scag.ca.gov/sites/main/files/file-attachments/hcd-review-rc-approved-draft-rhna-methodology.pdf?1602190239>).

On March 5, 2020, again following extensive debate and public comment, the Regional Council voted to approve the Draft RHNA Methodology as the Final RHNA Methodology. Unlike SCAG’s 5th cycle RHNA methodology which relies almost entirely on the household growth component of the RTP/SCS, SCAG’s 6th cycle RHNA methodology consists of two primary elements: “projected need” which includes the number of housing units required to accommodate anticipated population growth over the 8-year RHNA planning period and “existing need,” which refers to the number of housing units required to accommodate excess or unsatisfied housing demand experienced by the region’s current population.³ Furthermore, the Final RHNA methodology utilizes measures of 2045 job accessibility and High Quality Transit Area (HQT) population measures based on TAZ-level projections in the Connect SoCal Growth Vision.

More specifically, the Final RHNA Methodology considers three primary factors in determining a local jurisdiction’s total housing need which are primarily based on data from Connect SoCal’s aforementioned Bottom-Up Local Input and Envisioning Process:

- Forecasted growth over 2020-2030 (projected need)
- Transit accessibility in 2045 (existing need)
- Job accessibility in 2045 (existing need)

The methodology is described in further detail at <http://scag.ca.gov/programs/Documents/RHNA/SCAG-Final-RHNA-Methodology-030520.pdf>.

3. Draft RHNA Allocation for the City of Laguna Hills

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the 120 day delay due to the COVID-19 pandemic, SCAG adopted Connect SoCal on September 3, 2020, and the City of Laguna Hills received its draft RHNA allocation on September 11, 2020. Application of the RHNA methodology yields the Draft RHNA Allocation for the City of Laguna Hills as summarized in the data and calculations in the tables below.

³ Legislative changes in 2018 modified the nature of the regional housing need determination for the 6th cycle of RHNA by adding measures of household overcrowding and housing cost burden to the list of factors to be considered by HCD for the determination of housing need. These new measures are not included in the Connect SoCal Growth Forecast because they are not direct inputs to the growth forecasting process and are independent of employment and population projections. In contrast, they reflect additional latent housing needs in the current population (i.e. “existing need”) and would not result in a change in regional population. For further discussion see Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

Laguna Hills city statistics and inputs:	
Forecasted household (HH) growth, RHNA period: <i>(2020-2030 Household Growth * 0.825)</i>	827
Percent of households who are renting:	29%
Housing unit loss from demolition (2009-18):	-
Adjusted forecasted household growth, 2020-2045: <i>(Local input growth forecast total adjusted by the difference between the RHNA determination and SCAG's regional 2020-2045 forecast, +4%)</i>	1,077
Percent of regional jobs accessible in 30 mins (2045): <i>(For the jurisdiction's median TAZ)</i>	11.06%
Jobs accessible from the jurisdiction's median TAZ (2045): <i>(Based on Connect SoCal's 2045 regional forecast of 10.049M jobs)</i>	1,111,000
Share of region's job accessibility (population weighted):	0.14%
Jurisdiction's HQTAs population (2045):	4,322
Share of region's HQTAs population (2045):	0.04%
Share of population in low/very low-resource tracts:	6.36%
Share of population in very high-resource tracts:	0.24%
Social equity adjustment:	150%

Calculation of Draft RHNA Allocation for Laguna Hills city	
Forecasted household (HH) growth, RHNA period:	827
Vacancy Adjustment <i>(5% for renter households and 1.5% for owner households)</i>	21
Replacement Need	-
TOTAL PROJECTED NEED:	848
Existing need due to job accessibility (50%)	577
Existing need due to HQTAs pop. share (50%)	177
Net residual factor for existing need <i>(Negative values reflect a cap on lower-resourced community with good job and/or transit access. Positive values represent this amount being redistributed to higher-resourced communities based on their job and/or transit access.)</i>	378
TOTAL EXISTING NEED	1132
TOTAL RHNA FOR LAGUNA HILLS CITY	1980
Very-low income (<50% of AMI)	566
Low income (50-80% of AMI)	353
Moderate income (80-120% of AMI)	353
Above moderate income (>120% of AMI)	708

The transit accessibility measure is based on the population anticipated to live in High-Quality Transit Areas (HQTAs) in 2045 based on Connect SoCal’s designation of high-quality transit areas and population forecasts. With a forecasted 2045 population of 4,322 living within HQTAs, the City of Laguna Hills represents 0.14% of the SCAG region’s HQTAs population, which is the basis for allocating housing units based on transit accessibility.

Job accessibility is defined as the jurisdiction’s share of regional jobs accessible within a 30-minute drive commute. Since over 80 percent of the region’s workers live and work in different jurisdictions, the RHNA methodology uses a measure based on Connect SoCal’s travel demand model output for the year 2045 rather than assigning housing units based on the number of jobs with a specific jurisdiction. Specifically, the share of future (2045) regional jobs which can be reached in a 30-minute automobile commute from the local jurisdiction’s median TAZ is used as to allocate housing units based on transit accessibility. From the City of Laguna Hills’s median TAZ, it will be possible to reach 11.06% of the region’s jobs in 2045 within a 30-minute automobile commute (1,111,000 jobs, based on Connect SoCal’s 2045 regional job forecast of 10,049,000 jobs).

An additional factor is included in the methodology to account for RHNA Objective #5 to Affirmatively Further Fair Housing (AFFH). Several jurisdictions in the region which are considered disadvantaged communities (DACs) on the basis of access to opportunity measures (described further in the RHNA methodology document), but which also score highly in job and transit access, may have their total

RHNA allocations capped based on their long-range (2045) household forecast. This additional housing need, referred to as residual, is then reallocated to non-DAC jurisdictions in order to ensure housing units are placed in higher-resourced communities consistent with AFFH principles. This reallocation is based on the job and transit access measures described above, and results in an additional 378 units assigned to the City of Laguna Hills.

Please note that the above represents only a partial description of key data and calculations which result in the Draft RHNA Allocation.

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scag.ca.gov.
Late submissions will not be accepted.

Date: 10/26/20 Jurisdiction Subject to This Appeal Filing: City of Laguna Hills
(to file another appeal, please use another form)

Filing Party (Jurisdiction or HCD)
City of Laguna Hills

Filing Party Contact Name: David Chantarangsu Filing Party Email: dchantarangsu@lagunahillsca.gov

APPEAL AUTHORIZED BY:

Name: City of Laguna Hills City Council

PLEASE SELECT BELOW:

- Mayor
- Chief Administrative Office
- City Manager
- Chair of County Board of Supervisors
- Planning Director
- Other: City Council

BASES FOR APPEAL

- Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029)
- Local Planning Factors and/or Information Related to Affirmatively Furthering Fair Housing (See Government Code Section 65584.04 (b)(2) and (e))
 - Existing or projected jobs-housing balance
 - Sewer or water infrastructure constraints for additional development
 - Availability of land suitable for urban development or for conversion to residential use
 - Lands protected from urban development under existing federal or state programs
 - County policies to preserve prime agricultural land
 - Distribution of household growth assumed for purposes of comparable Regional Transportation Plans
 - County-city agreements to direct growth toward incorporated areas of County
 - Loss of units contained in assisted housing developments
 - High housing cost burdens
 - The rate of overcrowding
 - Housing needs of farmworkers
 - Housing needs generated by the presence of a university campus within a jurisdiction
 - Loss of units during a state of emergency
 - The region's greenhouse gas emissions targets
 - Affirmatively furthering fair housing
- Changed Circumstances (Per Government Code Section 65584.05(b), appeals based on change of circumstance can only be made by the jurisdiction or jurisdictions where the change in circumstance occurred)

FOR STAFF USE ONLY:

Date: _____ Hearing Date: _____ Planner: _____

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scag.ca.gov.
Late submissions will not be accepted.

Brief statement on why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584 (please refer to Exhibit C of the Appeals Guidelines):

Please include supporting documentation for evidence as needed, and attach additional pages if you need more room.

See City of Laguna Hills RHNA Appeal Request Form Attachment 2 for this response.

Brief Description of Appeal Request and Desired Outcome:

See City of Laguna Hills RHNA Appeal Request Form Attachment 2 for this response.

Number of units requested to be reduced or added to the jurisdiction's draft RHNA allocation (circle one):

Reduced 365 Added _____

List of Supporting Documentation, by Title and Number of Pages

(Numbers may be continued to accommodate additional supporting documentation):

1. Cover letter from the City of Laguna Hills to SCAG, dated October 26, 2020
2. Appeal Request Form Attachment 2 - Responses
- 3.

FOR STAFF USE ONLY:

Date _____

Hearing Date: _____

Planner: _____



CITY OF LAGUNA HILLS

October 26, 2020

Mr. Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

Delivered Electronically & USPS First Class Mail

Re: Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal

Mr. Ajise:

The City of Laguna Hills appreciates this opportunity, provided by the Southern California Association of Governments (SCAG), to file an appeal to modify our allocated share of the regional housing need included as part of SCAG's Regional Housing Needs Assessment (RHNA) Allocation Plan. The City has reviewed SCAG's final RHNA methodology approved on March 5, 2020 and the RHNA resultant allocations. The City of Laguna Hills has also reviewed the *6th Cycle RHNA Appeals Procedures* published by SCAG, including the bases for appeal established by SCAG. Through this review, the City has identified discrepancies demonstrating that the methodology and its applications run counter to specific objectives required by Government Code Section 65584(d), namely that the methodology and its application fail to:

- Promote and encourage infill development and efficient development patterns, and the achievement of the region's ability to achieve greenhouse gas reduction targets provided by the State Air Resources Board, as specified by objective (2).
- Promote an improved intraregional relationship between jobs and housing, as specified by objective (3).

Through our review of the final RHNA methodology and its resultant allocations, the City of Laguna Hills has identified two factors where the manner in which this methodology was applied conflicts with these two objectives. As described below, these are: (1) the inaccurate designation of a High Quality Transit Area within the jurisdictional boundaries of Laguna Hills and (2) the redistribution of residual needs from the City of Santa Ana to non-disadvantaged communities (DAC) throughout Orange County.

APPEAL POINT #1 – HIGH QUALITY TRANSIT AREA (HQTA) DESIGNATION

Objective 3 of Government Code Section 65584.04 (a) requires that the RHNA methodology promote “an improved intraregional relationship between jobs and housing.” Improving proximity to transit for a defined population can improve this critical relationship by aligning transportation with housing planning. The City of Laguna Hills has been allocated a transit accessibility factor of 176 housing units based on the designation of a High Quality Transit Area (HQTA) within its jurisdictional boundaries. The City points out that this HQTA does not exist today and may never be constructed.

The potential project that would create an HQTA is a Bus Rapid Transit Route (BRTR) proposed to run along Interstate 5 (I-5), with a contemplated stop in Laguna Hills. This BRTR is currently under study by the Orange County Transit Agency (OCTA), but the project has not been approved, has not been funded, and possibly may never be approved or constructed. Not only does the route first need to be recommended, it would require an extensive environmental review process which could find it infeasible. It would also require a lengthy public hearing process, during which the public and the ultimate decision-makers may reject it. Even if the BRTR eventually gets approved as part of a broader network, its construction is so far into the future and dependent upon yet-unidentified funding sources that including the HQTA as a factor in the RHNA process is premature.

The current OCTA study is examining five different concepts/route configurations. As indicated by the asterisk below, only two of the five concepts under study include the Laguna Hills portion of I-5. The other three BRT concepts are located further north along I-5 and/or involve State Route 55 (SR 55).

- Concept 1 – Fullerton to Irvine
- Concept 2 – Anaheim to Laguna Niguel*
- Concept 2A – Fullerton to Laguna Niguel*
- Concept 3 – Santa Ana to Newport Beach
- Concept 4 – Fullerton to Irvine

Findings and recommendation from the I-5 Bus Rapid Transit Study will not be available until Spring 2021, at the earliest. It is not reasonable to burden Laguna Hills with additional RHNA housing units based on the assumption of an HQTA which is only a planning concept.

In addition, should the I-5 route adjacent to Laguna Hills be selected for the proposed BRTR on-ramps and station, construction would likely not begin for at least another 10 years, with completion several years after that. This extends well beyond the eight-year time frame of the current 6th cycle RHNA.

For these reasons, the City of Laguna Hills appeals this portion of its allocation. The City should not receive an increased allocation based on what is today only a potential transit project on paper and one which may never occur and, if it does, will be more than a decade in the future before it is completed and operable.

Given the speculative nature of this HQTA designation, the City requests a reduction of 176 housing units.

APPEAL POINT # 2 – REDISTRIBUTION OF RESIDUAL NEEDS FROM THE CITY OF SANTA ANA

The redistribution of nearly 24,000 residual housing units from the City of Santa Ana to non-disadvantaged community (DAC) jurisdictions throughout Orange County, including Laguna Hills, conflicts with two of the five RHNA objectives specified in Government Code Section 65584.04 (a).

First, the reallocation conflicts with objective #2 of “promoting infill development...the encouragement of efficient development patterns, and the achievement of the region’s greenhouse gas reduction targets provided by the State Air Resources Board...”. To fulfill this objective, the RHNA allocation process should encourage more robust development/housing growth in major employment centers like Santa Ana, rather than spreading such growth across the entire county, which will only result in longer commutes, more traffic congestion, and more greenhouse gas (GHG) emissions.

Likewise, the reallocation of the residual housing units away from Santa Ana to other jurisdictions conflicts with objective #3, which is to promote “improved intraregional relationship between jobs and housing... “. Neglecting the opportunity presented by a large and still growing jobs center such as Santa Ana to achieve better jobs/housing balance is counterintuitive given the significant challenge faced by the region in trying to achieve these critically important transportation and environmental goals. This significant opportunity should not be neglected.

Through the RHNA process, the residual needs from the City of Santa Ana—23,167 housing units—were redistributed to non-DAC jurisdictions throughout Orange County. This redistribution was based on the determination that the initial RHNA allocation for Santa Ana exceeded projected household growth in that city between 2020 and 2045. The Laguna Hills share of that reallocation is an additional 387 housing units. As described above, however, the principle of transferring what is characterized as “excess” housing from what is acknowledged to be a job-rich and transit-rich community conflicts with two of the five RHNA objectives specified in Government Code Section 65584.04 (a). To fulfill RHNA objectives 2 and 3, the RHNA allocation process should encourage more development/housing growth in major jobs centers like Santa Ana.

The City acknowledges the goal for all cities in the county to provide their fair share to achieve RHNA goals. However, fair-share goals should not entirely override regional transportation and environmental goals. A more balanced approach would assign 50 percent of the residual amount to non-DAC cities (approximately 11,583 housing units) with the balance remaining within Santa Ana, which has the jobs base equipped to meet these objectives. For Laguna Hills, this shift would reduce our allocation from 378 housing units to 189 housing units.

Given the conflict with objectives 2 and 3, the City of Laguna Hills requests a reduction of 189 housing units

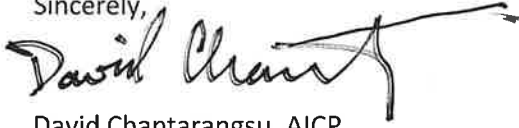
RHNA REDUCTION REQUEST

Based on the above discussion and analysis, the City of Laguna Hills argues that a reduction in its RHNA by **365 units** strengthen the attainment of objectives of: (1) promoting infill development...the encouragement of efficient development patterns, and the achievement of the region’s greenhouse gas

reduction targets provided by the State Air Resources Board...” and (2) promoting an improved intraregional relationship between jobs and housing.

The attached RHNA Appeal Form summarizes our arguments and reduction request.

Sincerely,



David Chantarangsu, AICP
Community Development Director
City of Laguna Hills

Attachment: Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form with Responses Attachment (Attachment 2)

Brief statement on why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584

The manner in which the RHNA methodology was applied and the resultant RHNA allocations to the City of Laguna Hills conflicts with two objectives of Government Code Section 65584.04. First, it conflicts with objective (2), which requires promoting infill development...the encouragement of efficient development patterns, and the achievement of the regions greenhouse gas targets. Secondly, the application also conflicts with objective (3), which requires that the RHNA methodology promote an improved intraregional relationship between jobs and housing.

The City of Laguna Hills has identified two separate factors which are in conflict with with the stated objectives of the RHNA methodolgy. First, the City of Laguna Hills has been allocated a transit accessibility factor of 176 housing units based on the designation of a High Quality Transit Area (HQTA) within its jurisdictional boundaries. In reality, this HQTA currently does not exist and may never exist. This conflicts with objective (3).

Second, the redistribution of nearly 24,000 housing units from the City of Santa Ana, a job-rich and transit-rich community, to non-disadvantaged jurisdictions throughout Orange County conflicts with both objectives (2) and (3). Spreading these "excess" housing units across the county will only result in longer commutes, more traffic congestion, and increased greenhouse gas emissions.

Brief Description of Appeal Request and Desired Outcome:

First, the potential HQTA is a Bus Rapid Transit Route proposed to run along Interstate 5, with a possible station in Laguna Hills. This BRTR is currently under study by the Orange County Transit Agency, but the project has not been approved, has not been funded, and possibly may never be approved or constructed. Given the speculative nature of this HQTA designation, the City requests a reduction of 176 units.

Second, the RHNA allocation process should encourage more robust development/housing growth in major employment centers like Santa Ana. Neglecting the opportunity presented by a large and still growing job center to achieve a better jobs/housing balance is counterintuitive. The City of Laguna Hills acknowledges the need for all cities to provide their fair share to achieve RHNA goals, but fair share goals should not entirely override regional transportation and environmental goals. A more balanced approach would assign 50 percent of the residual amount to non-DAC cities and the remaining 50 percent would stay with Santa Ana. This more balanced approach would reduce the allocation for Laguna Hills from 378 housing units to 189 units.

**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF HOUSING POLICY DEVELOPMENT**

2020 W. El Camino Ave
Sacramento, CA 95833-1829
916) 263-2911 FAX: (916) 263-7453
www.hcd.ca.gov



December 10, 2020

Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Dear Executive Director Ajise:

RE: Comment on Appeals of the Draft Regional Housing Need Allocation (RHNA) Plan

Thank you for the opportunity to comment on the 52 appeals Southern California Association of Governments (SCAG) has received regarding the draft RHNA plan. The appeal process is an important phase in the development of a RHNA plan that ensures that all relevant factors and circumstances are considered.

The only circumstances under which a jurisdiction can appeal are:

- 65584.05(b)(1): The council of governments failed to adequately consider the information regarding the factors listed in subdivision (e) of section 65584.04.
- 65584.05(b)(2): The council of governments failed to determine the share of the regional housing need in a manner that furthers the intent of the objectives listed in subdivision (d) of section 65584.
- 65584.05(b)(3): A significant unforeseen change in circumstances occurred in the local jurisdiction that merits a revision of the information submitted pursuant to subdivision (e) of Section 65584.04.

The California Department of Housing and Community Development (HCD) urges SCAG to only consider appeals that meet these criteria.

Per Government Code section 65584.05(e)(1), SCAG's final determination on whether to accept, reject, or modify any appeal must be accompanied by written findings, including how the final determination is based upon the adopted RHNA allocation methodology, and how any revisions are necessary to further the statutory objectives of RHNA described in Government Code section 65584(d).

Among the appeals based on Government Code section 65584.05(b)(1), several appeals state that SCAG failed to consider the factor described in Government Code section 65584.04(e)(2)(B), citing the lack of land suitable for development as a basis for the appeal. However, this section states the council of governments may not limit its consideration of suitable housing sites to existing zoning and land use restrictions and must consider the potential for increased development under alternative zoning and

land use restrictions. Any comparable data or documentation supporting this appeal should contain an analysis of not only land suitable for urban development, but land for conversion to residential use, the availability of underutilized land, and opportunity for infill development and increased residential densities. In simple terms, this means housing planning cannot be limited to vacant land, and even communities that view themselves as built out must plan for housing through means such as rezoning commercial areas as mixed-use areas and upzoning non-vacant land.

With regard to appeals submitted related to Government Code section 65584.05(b)(2), that SCAG failed to determine the RHNA in a manner that furthers the statutory objectives, it should be noted that HCD reviewed SCAG's draft allocation methodology and found that the draft RHNA allocation methodology furthered the statutory objectives described in Government Code section 65584.

Among the appeals based on Government Code section 65584.05(b)(2), several contend that the cap on units allocated to extremely disadvantaged communities (DACs) does not further RHNA's statutory objectives. This cap furthers the statutory objective to affirmatively further fair housing by allocating more units to high opportunity areas and fewer units to low resource communities, and concentrated areas of poverty with high levels of segregation. Due to the inclusion of this factor, as well as the use of TCAC/HCD Opportunity Maps, SCAG's methodology allocates 14 of the top 15 highest shares of lower-income RHNA to jurisdictions with over 99.95 percent High and Highest Resource areas. With the exceptions of two jurisdictions, the 31 jurisdictions with the highest share of lower-income RHNA are all over 95 percent High and Highest Resource areas. Any weakening of these inputs to the methodology could risk not fulfilling the statutory objective to affirmatively further fair housing.

Several appeals argue that SCAG's RHNA allocation methodology does not adequately promote access to jobs and transit, as required in objectives two and three. HCD's review of SCAG's RHNA methodology found the allocation does further the environmental principles of objective two. SCAG's overall allocation includes significant weight related to the location of high-quality transit areas and the regional distribution of jobs that can be accessed within a 30-minute driving commutes. Regarding objective three, HCD's analysis as to whether jobs-housing fit was furthered by SCAG's draft methodology found that across all jurisdictions there is generally good alignment between low-wage jobs and lower-income RHNA, with all but 15 jurisdictions within a half percent plus or minus difference between their share of lower-income RHNA for the region and their percentage low-wage jobs for the region.

Several appeals are based upon the provision described in Government Code section 65584.05(b)(3), arguing that the COVID-19 pandemic represents a significant and unforeseen change in circumstances that will affect future population and job growth. Ensuring everyone has a home is critical to public health. Reducing and preventing overcrowding and homelessness are essential concerns for every community. The COVID-19 pandemic has only increased the importance that each community is planning for sufficient affordable housing.

Lastly, several appeals state that the Regional Housing Needs Determination (RHND) HCD provided to the SCAG region is too large. SCAG submitted an objection to the RHND at the appropriate time and through the appropriate process. HCD considered those objections and [determined the final RHND for 6th Housing Element Cycle for the SCAG region on October 15, 2019](#). There are no further appeal procedures available to alter the SCAG region's RHND for this cycle. Government Code section 65584.05(b) does not allow local governments to appeal the RHND during the 45-day period following receipt of the draft allocation.

HCD acknowledges that many local governments will need to plan for more housing than in the prior cycle to accommodate a RHND that more fully captures the housing need and as the statutory objectives of RHNA shift more housing planning near jobs, transit, and resources. The Southern California region's housing crisis requires each jurisdiction to plan for the housing needs of their community and the region. In recognition of this effort there are more resources available than ever before to support jurisdictions as they prepare to update their 6th cycle housing elements:

- SB 2 Planning Grants – \$123 million one-time allocation to cities and counties
- SB 2 Planning Grants Technical Assistance offered to all jurisdictions
- Regional and Local Early Action Planning Grants – \$238 million one-time allocation for local and regional governments
- SB 2 Permanent Local Housing Allocation – approximately \$175 million annually in ongoing funding for local governments to increase affordable housing stock

If HCD can provide any additional assistance, or if you, or your staff, have any questions, please contact Megan Kirkeby, Deputy Director, megan.kirkeby@hcd.ca.gov.



Megan Kirkeby
Deputy Director



City of Whittier

13230 Penn Street, Whittier, California 90602-1716
(562) 567-9320 Fax (562) 567-2872 www.cityofwhittier.org

Electronically Transmitted to: Housing@scag.ca.gov

December 10, 2020

RHNA Appeals Committee
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

SUBJECT: City of Whittier's Comments on Appeals to the Sixth Cycle Regional Housing Needs Assessment (RHNA) Allocation

Honorable Chair and Honorable Committee Members:

The City of Whittier ("City") appreciates the challenges that are inherent in allocating 1,341,827 housing units by the thousands (a 226% increase above the baseline 412,137 unit) to cities across Southern California, especially in built-out cities. However, the City is deeply concerned its housing allocation of 3,431 units from the State Department of Housing and Community Development ("HCD") and the Southern California Association of Government's ("SCAG") unit distribution methodology, along with recent housing legislation will fundamentally abridge the City's ability to develop effective land-use policies that are appropriate for managing the community's actual needs. The 878 units in the 5th cycle RHNA allocation has been increased by 290% to 3,431 units in the current 6th cycle. Particularly challenging in the 6th cycle, is the number of low and very low-income units (1,558) which combined with the moderate and above moderate unit totals forces unplanned and unnecessary residential densification of the community.

The affordable units are an unfunded mandate with very limited regional or State financial support for their development. Considering the affordable housing subsidies typically range from \$50,000 to \$250,000 per unit, the overall funding requirements could range from \$78,000,000 to \$390,000,000 which is clearly beyond the reach of the City of Whittier in that the City's general fund budget is just \$72,000,000 which already include \$2,000,000 annually to house the City's unsheltered residents in transitional housing. Additionally, the City only receives 7.5% of each property tax dollar to provide general services including police and library services.

The City is currently in the process of updating its Housing Element as well as the General Plan to incorporate the current RHNA allocation, so Whittier is acutely aware of the various housing needs as well as the potential obstacles, such as aging infrastructure and unplanned density, to creating the requisite housing within a city that

is essentially built out. The changes in the State's housing laws (SB 35, SB 166 and AB 1397) have created additional constraints for the agencies and may severely impact the City's ability to accomplish our regional and local housing goals.

Since development in Whittier began more than 130 years ago, the City is virtually built-out with little developable vacant land outside of its designated open space areas that are dedicated to accommodating existing and future residents. While the City has made significant efforts through its specific plans to densify existing corridors and districts, the majority of Whittier's remaining single-family residential neighborhoods cannot accommodate similar densification. Furthermore, the hills north of Whittier contain regional open space, sensitive habitat and wildlife areas that must be preserved in perpetuity. There are also significant infrastructure and water service constraints that impact Whittier's ability to produce significantly more housing. Although these facts may not be desirable, they must be pragmatically accounted for and mitigated by not further increasing Whittier's share of housing units contained in SCAG's 6th Cycle RHNA. The final RHNA allocation and methodology must be fair and equitable while reflecting the capacity for reasonable housing unit construction.

As with many other cities, the City is concerned about the current allocation, but an even greater concern is that additional units may be applied to the City if reallocated from cities that are successful in their appeals. To that end, the City believes the appeal process itself was unclear as to the potential ramifications to other cities and not fully understood.

Although we fully support the surrounding cities in their appeals, the potential for additional units being applied to the City would exacerbate the problems described herein and in Whittier's September 13, 2019 letter to SCAG.

Should you have any questions, please do not hesitate to contact me.

Sincerely,



Jeffery S. Adams
Director of Community Development

File

From: Christopher Koontz <Christopher.Koontz@longbeach.gov>
Sent: Thursday, December 3, 2020 11:14 AM
To: Regional Housing
Subject: RHNA Appeals

Categories: Response Required, Record

Good morning,

The purpose of this email is to provide the City of Long Beach’s position in regards to pending RHNA appeals before SCAG. The City of Long Beach seeks to meet its housing needs and obligations for the benefit of Long Beach residents and the region. Our allocation was extremely large and presents a planning and financing challenge for the City. Nonetheless we chose not to appeal our allocation because the allocation process was fair and transparent including taking the City of Long Beach’s input into consideration.

We oppose and will not accept any transfer of additional allocation due to the pending appeals. We note that within our area, the Gateway COG, appeals are pending from Bellflower, Cerritos, Downey, Huntington Park, La Mirada, Lakewood, Pico Rivera, and South Gate. Each of these appeals should be evaluated by SCAG on the merits, however Long Beach opposes any transfer of allocation to our City. It would be inappropriate to transfer a further burden to Long Beach when we have already accepted a large allocation and have done more than many cities in the region to accommodate housing growth under the current RHNA cycle, including fully meeting our market-rate RHNA allocation.

The City of Long Beach will continue to work with SCAG and our neighbor jurisdictions to address the housing needs of our residents.

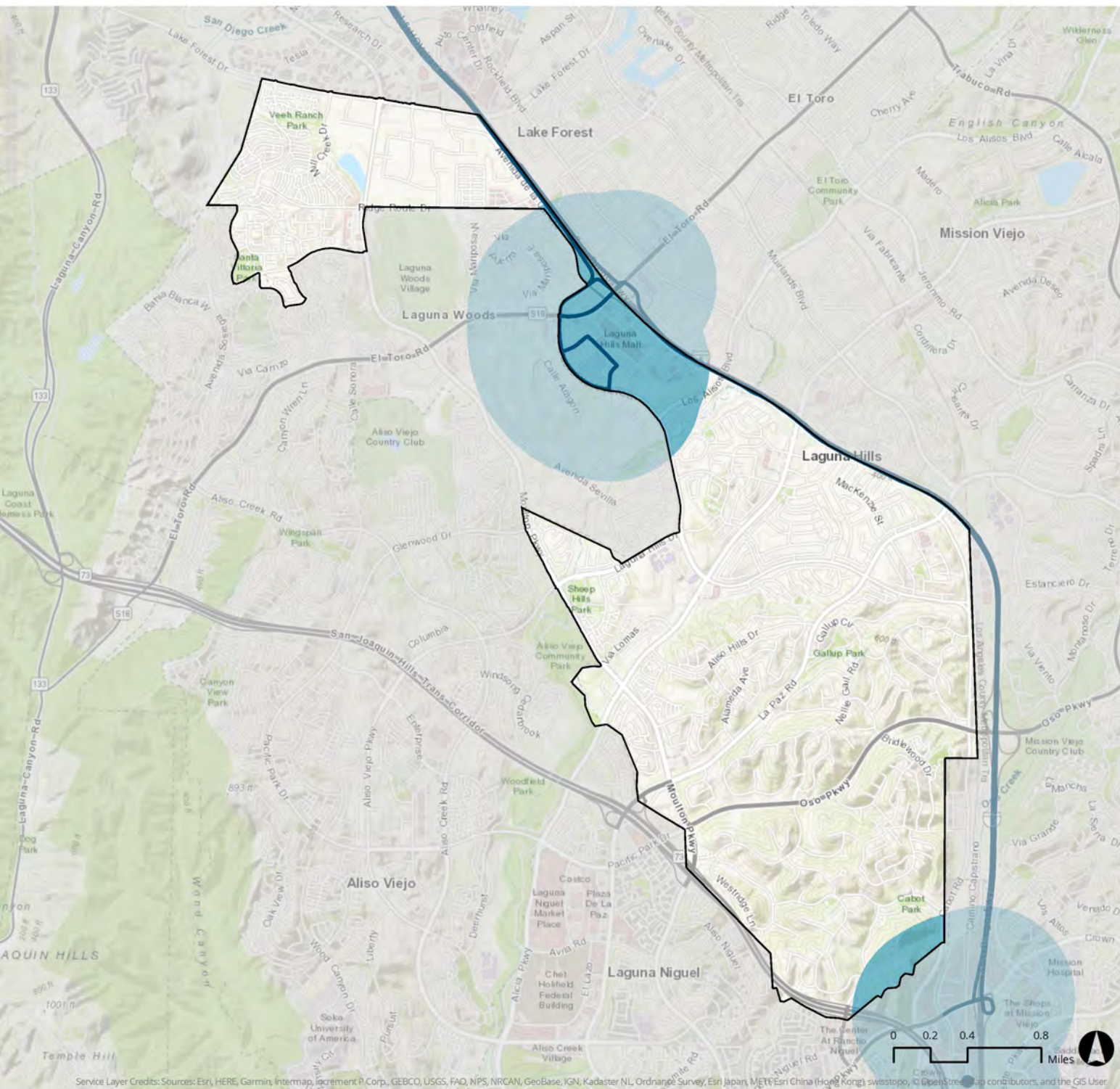
We thank you for consideration and please do not hesitate to contact the City regarding our position.

Christopher Koontz, AICP
Deputy Director

Development Services
411 W. Ocean Blvd., 3rd Floor | Long Beach, CA 90802
Office: 562.570.6288 | Fax: 562.570.6068



Attachment: Comments Received During the Comment Period (General) (Appeal of the Draft Allocation for the City of Laguna Hills)



Attachment: 2045 HQTA Laguna Hills (Appeal of the Draft Allocation for the City of Laguna Hills)

Major Transit Stops and High Quality Transit Areas in City of Laguna Hills [Year 2045]

- Major Transit Stops
- ⚡ High Quality Transit Corridors (HQTCs)
- High Quality Transit Areas (HQTAs)

Note: SCAG identifies Major Transit Stops and High Quality Transit Corridors (HQTCs), and their surrounding areas in one-half mile radius distance as specified in Section 21155.(b)(3). Major transit stops and HQTCs are extracted from 2045 plan year data of Connect SoCal. SCAG's High Quality Transit Area (HQTA) is within one-half mile from Major Transit Stops and HQTCs and developed based on the language in SB375; however, freeway transit corridors with no bus stops on the freeway alignment do not have a directly associated HQTA. The RHNA process, per Section 65584 et seq., specifies that SCAG's housing needs allocation plan shall further several objectives including those related to infill development and jobs-housing balance. To that end, SCAG's Regional Council-adopted 6th Cycle Final RHNA Methodology relies on a jurisdiction's forecasted 2045 population within HQTAs to allocate housing need.

Data Source: SCAG, County Transportation Commissions, 2020 | Map Created: 10/22/2020

Disclaimer: The information shown on this map reflect jurisdiction's input submitted during the Local Input and Envisioning Process for the City of Laguna Hills. SCAG shall not be responsible for user's misuse or misrepresentation of this map. For the details regarding the sources, methodologies and data please refer to the SCAG Data/Map Book at connectsoocal.org/Pages/Local-Input-Process.aspx or contact RTPLocalInput@scag.ca.gov.



Southern California Association of Governments
Remote Participation Only
January 19, 2021

To: Regional Housing Needs Assessment Subcommittee (RHNA)

EXECUTIVE DIRECTOR'S
APPROVAL

From: Ma'Ayn Johnson, Regional Planner Specialist,
(213) 236-1975, johnson@scag.ca.gov

Subject: Appeal of the Draft RHNA Allocation for the City of Fountain Valley

RECOMMENDED ACTION:

Deny the appeal filed by the City of Fountain Valley to reduce the draft RHNA allocation for the City of Fountain Valley by 3,455 units.

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 2: Advance Southern California's policy interests and planning priorities through regional, statewide, and national engagement and advocacy.

SUMMARY OF APPEAL(S):

The City of Fountain Valley requests a reduction of its RHNA allocation from 4,827 units to 1,372 units (3,455 units). The requested reduction is equivalent to the total allocation which Fountain Valley would have received under a draft version of the RHNA methodology, which was considered, but ultimately defeated at the November 2019 Regional Council meeting. Fountain Valley bases its appeal on the following:

- 1) Application of the adopted final RHNA methodology for the 6th Cycle RHNA (2021 – 2029) - the procedure for the November 2019 regional council decision which yielded the draft RHNA methodology was insufficiently transparent.
- 2) Availability of land suitable for urban development or conversion to residential use – the City lacks suitable sites.
- 3) Affirmatively furthering fair housing – the City identifies seven potential sites and indicates that developing affordable housing in those locations could lead to overconcentration of low-income units and a segregated living pattern in the City.
- 4) Changed circumstances – the City indicates the allocation was based on an incomplete replacement need survey and that Covid-19 has changed conditions.

RATIONALE FOR STAFF RECOMMENDATION:

Staff have reviewed the appeal(s) and recommend no change to the City of Fountain Valley's RHNA allocation.

OUR MISSION

To foster innovative regional solutions that improve the lives of Southern Californians through inclusive collaboration, visionary planning, regional advocacy, information sharing, and promoting best practices.

OUR VISION

Southern California's Catalyst for a Brighter Future

OUR CORE VALUES

Be Open | Lead by Example | Make an Impact | Be Courageous

Regarding Issue 1, SCAG undertook an extensive process to develop the draft and final methodology including numerous opportunities for input by local jurisdictions; the City's objection to the adopted final RHNA methodology is not a valid basis for an appeal.

Regarding Issues 2 and 3, State law requires the consideration of alternative land use opportunities including, for example, alternative zoning and accessory dwelling units, and the City does not provide sufficient evidence that it cannot accommodate the allocation. As such, we do not recommend granting the appeal on these bases.

Regarding Issue 4, updated information on replacement need was submitted too late in the process to be considered in the draft RHNA allocation process. Furthermore, impacts from COVID-19 are not unique to any single SCAG jurisdiction and the City has not provided evidence that housing need within Fountain Valley is disproportionately impacted in comparison to the rest of the SCAG region. As such, we do not recommend granting an appeal on these bases.

BACKGROUND:

Draft RHNA Allocation

Following the adoption of the final RHNA methodology on March 5, 2020 and the adoption of Connect SoCal on September 3, 2020, all local jurisdictions received draft RHNA allocations on September 11, 2020. A summary is below.

Total RHNA for the City of Fountain Valley : 4,827 units

Very Low Income: 1,304 units

Low Income: 784 units

Above Moderate Income: 1,937 units

Additional background related to the Draft RHNA Allocation is included in Attachment 1.

Summary of Comments Received during 45-day Comment Period

No comments were received from local jurisdictions or HCD during the 45-day public comment period described in Government Code section 65584.05(c) which specifically regard the appeal filed for the City of Fountain Valley. Three comments were received which relate to appeals filed generally:

- HCD submitted a comment on December 10, 2020 delineating the statutory basis for RHNA appeals and the requirement that any appeals granted must include written findings regarding how revisions are necessary to further RHNA's statutory objectives.
- The City of Whittier submitted a comment on December 10, 2020 supporting surrounding cities in their appeals, but expressing concern that additional units may be applied to Whittier if reallocated from cities which are successful in their appeals.
- The City of Long Beach submitted a comment on December 3, 2020 indicating their view that the RHNA allocation process was fair and transparent, their support for evaluating appeals on their merits (specifically those from the Gateway Council of Governments), and their opposition to any action which would result in a transfer of additional units to Long Beach.

ANALYSIS:

Issue 1: Application of the adopted final RHNA methodology for the 6th Cycle RHNA (2021-2029) [Government Code Section 65584.05 (b)(2)].

The City of Fountain Valley claims that the adoption of the draft RHNA methodology on 11/7/2019, was insufficiently transparent and did not provide ample opportunity for review. This is especially important in Fountain Valley who received a draft allocation of 4,827 units compared to 1,372 in a previously recommended version. Fountain Valley claims, but does not provide evidence of, "violations of procedural by-laws." The City also suggests that the adopted methodology "fails to account for local input and growth forecast data," and "was unable to be analyzed for potential impacts by SCAG staff before the vote of the Regional Council."

SCAG Staff Response: An appeal citing RHNA methodology as its basis must appeal the application of the adopted methodology, not the methodology itself or the manner in which the methodology was adopted. Nevertheless, SCAG respectfully disagrees with the characterizations of the actions of the Regional Council as set forth by the City as SCAG properly adopted the RHNA methodology.

First, the SCAG Regional Council took action on both the draft and final RHNA methodology pursuant to properly noticed agendas, and every member of the Regional Council, in addition to a significant number of members of the public, had ample opportunity to place on the record, both in writing and in person, their respective input for the Regional Council's consideration. For example, no less than fourteen (14) letters were acknowledged on the record and these were made available for public and SCAG review prior to the Regional Council's action on the draft methodology, all in compliance with applicable law.

Further, many members of the public offered oral testimony on the draft RHNA methodology both in support of the original staff recommendation and in support of the alternative draft RHNA methodology that was ultimately approved after a robust discussion among the Regional Council, with staff offering input and answering questions as requested. Both methodologies had been presented in the staff report that was published in the November 7th Regional Council meeting agenda in advance of the meeting in accordance with applicable law. Finally, members of the Regional Council were given wide opportunity to offer input and comments during the course of the discussion and consideration of the item.

The November 7th Regional Council action was preceded by more than nine months of preparatory work and the regional planning process is necessarily complex and multi-faceted. That there are competing interests and priorities is not new. Since the start of the RHNA process in October 2018, SCAG staff has been committed to a fair and transparent process from the very beginning.

Importantly, the draft methodology was reviewed by HCD and was found to further statutory objectives of RHNA on January 13, 2020. On March 5, 2020, SCAG Regional Council adopted the draft methodology as the final methodology.

Therefore, in light of the above, SCAG staff does not recommend a reduction to the City's draft RHNA allocation based on this factor.

Issue 2: Availability of land suitable for urban development or for conversion to residential use [Government Code Section 65584.04(e)(2)(B)].

Fountain Valley claims that SCAG failed to consider the availability of land suitable for urban development, which is a local planning factor. The City references HCD's site inventory guidebook and indicates that it would be especially difficult to demonstrate that much of the city's developable land fits HCD's criteria based on, among other factors, market conditions, the realistic development capacity of non-vacant sites, and providing substantial evidence that existing land uses do not present impediments to development. The City provides an assessment of 114.6 acres across seven sites which are identified based on its initial assessment of suitable land and which would have a realistic capacity of 2,476 units.

SCAG Staff Response: Pursuant to Government Code Section 65584.04(e)(2)(B), SCAG "may not limit its consideration of suitable housing sites or land suitable for urban development to existing zoning ordinances and land use restrictions of a locality" (which includes the land use policies in its General Plan). "Available land suitable for urban development or conversion to residential use," as expressed in 65584.04(e)(2)(B), is not restricted to vacant sites; rather, it specifically indicates that underutilized land, opportunities for infill development, and increased residential densities are a

component of “available” land. As indicated by HCD in its December 10, 2020 comment letter (HCD Letter):

“In simple terms, this means housing planning cannot be limited to vacant land, and even communities that view themselves as built out must plan for housing through means such as rezoning commercial areas as mixed-use areas and upzoning non-vacant land.” (HCD Letter at p. 2).

As such, the City can and must consider other opportunities for development. This includes the availability of underutilized land, opportunities for infill development and increased residential densities, or alternative zoning and density. Alternative development opportunities should be explored further and could possibly provide the land needed to zone for the City’s projected growth. While the City discusses in its appeal the possible challenges for the City to find available sites, such as additional analyses required by HCD, they have not demonstrated they are precluded from finding these sites. Additionally, other challenges outlined by the City, such as the cost of development, are not a basis for appeal.

While the local input growth forecast—which had taken extensive consideration of land availability—was the principal driver for roughly 38% of the RHNA methodology, this is only one of the factors considered in the development of a RHNA methodology. In fact, the measures of existing housing need (job access and transit access) are also based on local input as they are derived from small area growth forecast data reviewed by local jurisdictions.

While an assessment is provided for development on 114.6 acres (which yields an estimated development capacity of 2,476 units—in excess of the City’s proposed *total* RHNA allocation of 1,372 units), state law requires the consideration of alternative land use opportunities including, for example, alternative zoning and accessory dwelling units. Therefore, SCAG staff does not recommend a reduction to the jurisdiction’s RHNA allocation based on these factors.

Issue 3: Affirmatively furthering fair housing.

The City claims that, with a RHNA allocation of 2,039 low and very low-income units, if allocated to the 114.6 acres across the seven sites discussed above in Issue 2, this would result in an excessive concentration of low-income units and thus a segregated living pattern.

SCAG Staff Response: SCAG recognizes that HCD’s regional target for affordable units in particular can be especially difficult given the challenges inherent in promoting and financing affordable development. While a demonstration of these challenges are not a basis for an appeal, they are noted in Fountain Valley’s appeal letter. Based on the RHNA methodology’s social equity adjustment, Fountain Valley’s share of units by income is comparable to the SCAG region share:

	Fountain Valley draft allocation	SCAG regional determination
Very-low income	27.0%	26.2%
Low income	16.2%	15.4%
Moderate Income	17.2%	16.7%
Above-moderate Income	39.5%	41.7%

Ultimately, the RHNA determination for the region as well as the social equity adjustment component of SCAG’s methodology both promote a mix of development types.

Government Code 65584(3), which describes AFFH, includes wide-ranging objectives:

“(e) For purposes of this section, “affirmatively furthering fair housing” means taking meaningful actions, in addition to combating discrimination, that overcome patterns of segregation and foster inclusive communities free from barriers that restrict access to opportunity based on protected characteristics. Specifically, affirmatively furthering fair housing means taking meaningful actions that, taken together, address significant disparities in housing needs and in access to opportunity, replacing segregated living patterns with truly integrated and balanced living patterns, transforming racially and ethnically concentrated areas of poverty into areas of opportunity, and fostering and maintaining compliance with civil rights and fair housing laws.”

A particular point of emphasis in AFFH is access to opportunity, which is included in SCAG’s RHNA methodology through the use of opportunity scores. This factor was a point of emphasis in HCD’s finding that SCAG’s methodology furthered the statutory objectives of RHNA (attached). Fountain Valley compares positively to the region with 12.3% of residents living in low/very-low opportunity areas (compared to an average across SCAG jurisdictions of 30%) and 67% of residents living in high/very-high opportunity areas (compared to an average across SCAG jurisdictions of 49%). This comparison of opportunity measures suggests that Fountain Valley compares adequately or favorably to the region and as such additional affordable units in Fountain Valley would increase region-wide access to opportunity. As such, SCAG staff does not recommend a reduction to Fountain Valley’s RHNA allocation based on this appeal’s claim of potential segregation resulting from its allocation of lower-income units.

Issue 4: Changed Circumstances [Government Code 65584.05(b)].

Fountain Valley notes that there was an error in their submitted replacement need survey which would reduce their replacement need from 21 units to 0 units.

Fountain Valley also asserts that the COVID-19 pandemic is causing additional uncertainty in planning, including the move of many to remote work and the potential for additional housing development capacity due to reduced demand for the City's office land uses.

SCAG Staff Response: Fountain Valley submitted a timely replacement needs survey indicating that over 2009-2018, 29 housing units were demolished, and 8 new units were built on those sites. As such, and per SCAG's RHNA methodology, the City received a replacement need adjustment totaling 21 units. The City's replacement need data have been posted in the SCAG website since at least October 2019 in the draft RHNA methodology data appendix.

While Fountain Valley has provided an updated table indicating that the net replacement need should be reduced from 21 to 0, additional documentation supporting this change is not provided. Since these city-submitted data have been posted publicly for almost a year prior to the distribution of the draft RHNA allocation, there was sufficient time and transparency to correct any mistakes by the jurisdiction. However, since draft RHNA allocations have already been issued, it is no longer possible to make any changes without impacting the RHNA allocations of other jurisdictions. As such, SCAG does not recommend changing Fountain Valley's replacement need adjustment without additional documentation regarding the 21 sites referenced.

While we recognize that COVID-19 presents unforeseen circumstances, these facts, as presented by the City, do not "merit a revision of the information submitted pursuant to subdivision (b) of Section 65584.04(b)." Section 65584.05(b) requires that:

"Appeals shall be based upon comparable data available for all affected jurisdictions and accepted planning methodology, and supported by adequate documentation, and shall include a statement as to why the revision is necessary to further the intent of the objectives listed in subdivision (d) of Section 65584."

SCAG's Regional Council delayed the adoption of its 2020-2045 RTP/SCS by 120 days in order to assess the extent to which long-range forecasts of population, households, and employment may be impacted by COVID-19; however, the document's long-range (2045) forecast of population, employment, and household growth remained unchanged. The Demographics and Growth Forecast Technical Report¹ outlines the process for forecasting long-range employment growth which involves understanding national growth trends and regional competitiveness, i.e., the SCAG's region share of national jobs. Short-term economic forecasts commenting on COVID-19 impacts generally do not provide a basis for changes in the region's long-term competitiveness or the region's employment outlook for 2023-2045. As such, SCAG's assessment is that comparable data would not suggest long-range regional employment declines.

¹ See https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Demographics-And-Growth-Forecast.pdf

The COVID-19 pandemic has had various impacts throughout Southern California, however it has not resulted in a slowdown in major construction nor has it resulted in a decrease in a demand for housing or housing need. Southern California home prices continue to increase (+2.6 percent from August to September 2020) led by Los Angeles (+10.4 percent) and Ventura (+6.2 percent) counties. Demand for housing as quantified by the RHNA allocation is a need that covers an 8-year period, not simply for impacts that are in the immediate near-term. Moreover, impacts from COVID-19 are not unique to any single SCAG jurisdiction and no evidence has been provided in the appeal that indicates that housing need within the jurisdiction is disproportionately impacted in comparison to the rest of the SCAG region.

Fountain Valley's appeal describes the impacts of COVID-19 in general terms, and also suggests that they may present even more housing development opportunities due to shifts to remote working. As such, the City's appeal has not met the requirement above and SCAG staff does not recommend a reduction in the jurisdiction's RHNA allocation.

FISCAL IMPACT:

Work associated with this item is included in the current FY20-21 Overall Work Program (300-4872Y0.02: Regional Housing Needs Assessment).

ATTACHMENT(S):

1. Local Input and Development of Draft RHNA Allocation (City of Fountain Valley)
2. Appeal Form and Supporting Documentation (City of Fountain Valley)
3. Comments Received During the Comment Period (General)

Southern California Association of Governments
Remote Participation Only
City of Fountain Valley RHNA Appeal
January 19, 2022

Attachment 1: Local Input and Development of the Draft RHNA Allocation

This attachment sets forth the nature and timing of the opportunities which the City of Fountain Valley had to provide information and local input on SCAG's growth forecast, the RHNA methodology, and the Growth Vision of the 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS or Connect SoCal). It also describes how the RHNA Methodology development process integrates this information in order to develop the City of Fountain Valley's Draft RHNA Allocation.

1. Local input

a. Bottom-Up Local Input and Envisioning Process

On October 31, 2017, SCAG took the first step toward developing draft RHNA allocations by initiating the Bottom-Up Local Input and Envisioning Process. At the direction of the Regional Council, the objective of this process was to seek local input and data to prepare for Connect SoCal and the 6th cycle of RHNA.¹ Each jurisdiction was provided with a package of land use, transportation, environmental, and growth forecast data for review and revision which was due on October 1, 2018.² While the local input process materials focus principally on jurisdiction-level and Transportation Analysis Zone (TAZ) level growth, input on specific parcels, sites, and project areas were welcomed and integrated into SCAG's growth forecast as well as data on other elements. SCAG met one-on-one with all 197 local jurisdictions between November 2017 and July 2018 and provided training opportunities and staff support. Following input from SCAG's Technical Working Group (TWG), the Connect SoCal growth forecast reflected precisely the jurisdiction-level growth totals provided during this process.

Forecasts for jurisdictions in Orange County were developed through the 2018 Orange County Projections (OCP-2018) update process conducted by the Center for Demographic Research (CDR) at Cal State Fullerton. Jurisdictions were informed of this arrangement by SCAG at the kickoff of the Process. For the City of Fountain Valley, the anticipated number of households in 2020 was 18,898 and in 2030 was 19,082 (growth of 184 households). In March 2018, SCAG staff and CDR staff met with staff from the City of Fountain Valley to discuss the Bottom-Up Local Input and Envisioning Process and answer questions.

¹ While the RTP/SCS and RHNA share data elements, they are distinct processes. The RTP/SCS growth forecast provides an assessment of reasonably foreseeable future patterns of employment, population, and household growth in the region given demographic and economic trends, and existing local and regional policy priorities. The RHNA identifies anticipated housing need over a specified eight-year period and requires that local jurisdictions make available sufficient zoned capacity to accommodate this need. A further discussion of the relationship between these processes can be found in Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

² A detailed list of data during this process reviewed can be found in each jurisdiction's Draft Data/Map Book at <https://scag.ca.gov/local-input-process-towns-cities-and-counties>

b. RHNA Methodology Surveys

On March 19, 2019, SCAG distributed a packet of methodology surveys, which included the local planning factor survey (formerly known as the AB2158 factor survey), Affirmatively Furthering Fair Housing (AFFH) survey, and replacement need survey, to SCAG jurisdictions' Community Development Directors. Surveys were due on April 30, 2019. SCAG reviewed all submitted responses as part of the development of the draft RHNA methodology. The City of Fountain Valley submitted the following surveys prior to the adoption of the draft RHNA methodology:

- Local planning factor survey
- Affirmatively Furthering Fair Housing (AFFH) survey
- Replacement need survey
- No survey was submitted to SCAG

c. Connect SoCal Growth Vision and Additional Refinements

Beginning in May 2018, SCAG's Sustainable Communities Working Group began the process of developing growth scenarios for the SCAG region. The culmination of this work was the development of the Connect SoCal Growth Vision, which directly uses jurisdictional-level growth projections from the Bottom-Up Local Input and Envisioning process, and also features strategies for growth at the TAZ-level that help to reduce greenhouse gas emissions (GHG) from automobiles and light trucks to achieve Southern California's GHG reduction target, approved by the California Air Resources Board (CARB) in accordance with state planning law. Additional detail regarding the Connect SoCal Growth Vision, specifically the Transportation Analysis Zone (TAZ, or neighborhood) level projections is found at <https://www.connectsocal.org/Documents/DataMapBooks/Growth-Vision-Methodology.pdf>.

As a result of these strategies, in some jurisdictions growth at the TAZ-level differed from locally anticipated growth conveyed during the Bottom-Up Local Input and Envisioning Process.

As such, SCAG provided two additional opportunities for all local jurisdictions to make TAZ-level technical refinements on the topics of general plan capacities and entitlements. During the release of the draft Connect SoCal Plan, jurisdictions were notified on October 31, 2019 that SCAG would accept additional refinements until December 11, 2019. Following the Regional Council's decision to delay full adoption of Connect SoCal for 120 days due to the COVID-19 pandemic, all jurisdictions were again notified on May 26, 2020 that SCAG would accept additional refinements until June 9, 2020.

Connect SoCal Growth Vision data have been available to local jurisdiction staff during the entirety of this process through SCAG's Scenario Planning Model Data Management Site (SPM-DM) at <http://spm dm.scag.ca.gov> and updates were shared with local jurisdictions on technical refinements to the data in February 2020 and August 2020 to share the results of both review opportunities. SCAG

received additional technical corrections from the City of Fountain Valley and incorporated them into the Growth Vision in December 2019.

2. Development of the Final RHNA Methodology

SCAG convened the first meeting of the RHNA Subcommittee in October 2018. In their subsequent monthly meetings, this body reviewed and advised on the development of SCAG’s 6th cycle RHNA process, including the development of the RHNA methodology. Per Government Code 65584.04(a), SCAG must develop a RHNA methodology which furthers the five statutory objectives of RHNA:

(1) Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low income households.

(2) Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region’s greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080.

(3) Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction.

(4) Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey.

(5) Affirmatively furthering fair housing. (Govt. Code § 65584(d)).

As explained in more detail below, the Draft RHNA Methodology (which was adopted as the Final RHNA Methodology) set forth the policy factors, data sources, and calculations which would be used to generate draft RHNA allocations for all local jurisdictions. Following extensive debate and public comment, SCAG’s Regional Council voted to approve the Draft RHNA Methodology on November 7, 2019 and provide it to HCD for review. Per Government Code 65584.04(i), HCD is vested with the authority to determine whether a methodology furthers the objectives set forth in Government Code section 65584(d). On January 13, 2020, HCD found that the Draft RHNA Methodology furthers these five statutory objectives of RHNA. Specifically, HCD noted that:

“This methodology generally distributes more RHNA, particularly lower income RHNA, near jobs, transit, and resources linked to long term improvements of life outcomes.

In particular, HCD applauds the use of the objective factors specifically linked the statutory objectives in the existing need methodology.” (Letter from HCD to SCAG dated January 13, 2020 at <https://scag.ca.gov/sites/main/files/file-attachments/hcd-review-rc-approved-draft-rhna-methodology.pdf?1602190239>).

On March 5, 2020, again following extensive debate and public comment, the Regional Council voted to approve the Draft RHNA Methodology as the Final RHNA Methodology. Unlike SCAG’s 5th cycle RHNA methodology which relies almost entirely on the household growth component of the RTP/SCS, SCAG’s 6th cycle RHNA methodology consists of two primary elements: “projected need” which includes the number of housing units required to accommodate anticipated population growth over the 8-year RHNA planning period and “existing need,” which refers to the number of housing units required to accommodate excess or unsatisfied housing demand experienced by the region’s current population.³ Furthermore, the Final RHNA methodology utilizes measures of 2045 job accessibility and High Quality Transit Area (HQT) population measures based on TAZ-level projections in the Connect SoCal Growth Vision.

More specifically, the Final RHNA Methodology considers three primary factors in determining a local jurisdiction’s total housing need which are primarily based on data from Connect SoCal’s aforementioned Bottom-Up Local Input and Envisioning Process:

- Forecasted growth over 2020-2030 (projected need)
- Transit accessibility in 2045 (existing need)
- Job accessibility in 2045 (existing need)

The methodology is described in further detail at <http://scag.ca.gov/programs/Documents/RHNA/SCAG-Final-RHNA-Methodology-030520.pdf>.

3. Draft RHNA Allocation for the City of Fountain Valley

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the 120 day delay due to the COVID-19 pandemic, SCAG adopted Connect SoCal on September 3, 2020, and the City of Fountain Valley received its draft RHNA allocation on September 11, 2020. Application of the RHNA methodology yields the draft RHNA allocation for the City of Fountain Valley as summarized in the data and calculations in the tables below.

³ Legislative changes in 2018 modified the nature of the regional housing need determination for the 6th cycle of RHNA by adding measures of household overcrowding and housing cost burden to the list of factors to be considered by HCD for the determination of housing need. These new measures are not included in the Connect SoCal Growth Forecast because they are not direct inputs to the growth forecasting process and are independent of employment and population projections. In contrast, they reflect additional latent housing needs in the current population (i.e. “existing need”) and would not result in a change in regional population. For further discussion see Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

Fountain Valley city statistics and inputs:	
Forecasted household (HH) growth, RHNA period: <i>(2020-2030 Household Growth * 0.825)</i>	152
Percent of households who are renting:	30%
Housing unit loss from demolition (2009-18):	21
Adjusted forecasted household growth, 2020-2045: <i>(Local input growth forecast total adjusted by the difference between the RHNA determination and SCAG's regional 2020-2045 forecast, +4%)</i>	552
Percent of regional jobs accessible in 30 mins (2045): <i>(For the jurisdiction's median TAZ)</i>	20.56%
Jobs accessible from the jurisdiction's median TAZ (2045): <i>(Based on Connect SoCal's 2045 regional forecast of 10.049M jobs)</i>	2,066,000
Share of region's job accessibility (population weighted):	0.44%
Jurisdiction's HQTAs population (2045):	30,248
Share of region's HQTAs population (2045):	0.30%
Share of population in low/very low-resource tracts:	12.30%
Share of population in very high-resource tracts:	19.00%
Social equity adjustment:	150%

Calculation of Draft RHNA Allocation for Fountain Valley city	
Forecasted household (HH) growth, RHNA period:	152
Vacancy Adjustment <i>(5% for renter households and 1.5% for owner households)</i>	4
Replacement Need	21
TOTAL PROJECTED NEED:	177
Existing need due to job accessibility (50%)	1861
Existing need due to HQTAs pop. share (50%)	1237
Net residual factor for existing need <i>(Negative values reflect a cap on lower-resourced community with good job and/or transit access. Positive values represent this amount being redistributed to higher-resourced communities based on their job and/or transit access.)</i>	1552
TOTAL EXISTING NEED	4650
TOTAL RHNA FOR FOUNTAIN VALLEY CITY	4827
Very-low income (<50% of AMI)	1304
Low income (50-80% of AMI)	784
Moderate income (80-120% of AMI)	832
Above moderate income (>120% of AMI)	1907

The transit accessibility measure is based on the population anticipated to live in High-Quality Transit Areas (HQTAs) in 2045 based on Connect SoCal’s designation of high-quality transit areas and population forecasts. With a forecasted 2045 population of 30,248 living within HQTAs, the City of Fountain Valley represents 0.30% of the SCAG region’s HQTAs population, which is the basis for allocating housing units based on transit accessibility.

Job accessibility is defined as the jurisdiction’s share of regional jobs accessible within a 30-minute drive commute. Since over 80 percent of the region’s workers live and work in different jurisdictions, the RHNA methodology uses a measure based on Connect SoCal’s travel demand model output for the year 2045 rather than assigning housing units based on the number of jobs with a specific

jurisdiction. Specifically, the share of future (2045) regional jobs which can be reached in a 30-minute automobile commute from the local jurisdiction's median TAZ is used as to allocate housing units based on transit accessibility. From the City of Fountain Valley's median TAZ, it will be possible to reach 20.56% of the region's jobs in 2045 within a 30-minute automobile commute (2,066,000 jobs, based on Connect SoCal's 2045 regional job forecast of 10,049,000 jobs).

An additional factor is included in the methodology to account for RHNA Objective #5 to Affirmatively Further Fair Housing (AFFH). Several jurisdictions in the region which are considered disadvantaged communities (DACs) on the basis of access to opportunity measures (described further in the RHNA methodology document), but which also score highly in job and transit access, may have their total RHNA allocations capped based on their long-range (2045) household forecast. This additional housing need, referred to as residual, is then reallocated to non-DAC jurisdictions in order to ensure housing units are placed in higher-resourced communities consistent with AFFH principles. This reallocation is based on the job and transit access measures described above, and results in an additional 1,552 units assigned to the City of Fountain Valley.

Please note that the above represents only a partial description of key data and calculations which result in the draft RHNA allocation.



October 22, 2020

Mr. Kome Ajise, Executive Director

Southern California Association of Governments

900 Wilshire Boulevard, Suite 1700

Los Angeles, CA 90017

Subject: Appeal of the 6th Cycle Draft Regional Housing Needs Assessment (RHNA) Allocation - City of Fountain Valley

Dear Mr. Ajise:

In accordance with California Government Code Section 65584.05, the City of Fountain Valley hereby submits this appeal to the Southern California Association of Governments (SCAG) of the Draft Regional Housing Needs Assessment (RHNA) Allocation for the 6th Housing Element Cycle (2021-2029).

As detailed in the attached information, the requested revision is necessary to further the intent of the objectives listed in Government Code 65584 (d). The revision would still increase housing supply and the mix of housing types, tenure, and affordability, including units for low- and very low income households, and allow their distribution in an equitable manner that promotes socioeconomic equity and does not result in the creation of concentrated areas of poverty or segregated living patterns divided by income. The revision would result in a more efficient development pattern. As the City is built-out, any development will be infill and, based on the location of the suitable sites, protect environmental resources and be located near transit lines to help achieve greenhouse gas reductions targets. Given the City's access to High Quality Transit Lines and Jobs, the land use pattern will continue the intraregional relationship and balance between jobs and housing – including affordable housing. Given that the RHNA distribution methodology shows that the City reflects the county's income distribution, the revision will still allow a proportionality balanced distribution of households by income category.

As detailed in the attached information, this appeal is based upon the following factors:

- SCAG failed to adhere to Government Code 65584.04(d), which requires a transparent and collaborative approach to regional planning involving opportunity for informed stakeholder input and thoughtful deliberation. A modified motion approved on November 7, 2019, increased the City’s RHNA allocation from 1,372 units to 4,827 units (352% increase) and failed to account for local input and growth forecast data and, due to the late introduction by substitute motion, was unable to be analyzed for potential impacts before the vote of the Regional Council.
- Because the action on November 7, 2019, SCAG did not have the opportunity and failed to consider the availability of land suitable for urban development or for conversion to residential use, the availability of underutilized land, and opportunities for infill development and increased residential densities as required by Government Code 65584.04(e)(2)(B).
- Because of the immensity of the modified RHNA allocation, the lack of suitable housing sites, and other Housing laws, approximately 13,593 units, including 2,039 affordable units, will be squeezed onto 114.6 acres. Instead of spreading out the RHNA allocation in an equitable manner, the resulting over-concentrated land use pattern will not be consistent with Government Code 65584.04(e)(2)(B), which generally prohibits housing discrimination through public or private land use practices and decisions.
- An error in the replacement need survey and the COVID-19 pandemic represent significant and unforeseen changes in circumstances that supports revisions to the information submitted pursuant to Government Code Section 65584.04(b).

Respectfully Submitted,



Rob Houston, City Manager
City of Fountain Valley

cc:
City Council Members
Planning Commission Members
General Plan Advisory Committee Members

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scaq.ca.gov.
Late submissions will not be accepted.

Date: _____ Jurisdiction Subject to This Appeal Filing: _____

(to file another appeal, please use another form)

Filing Party (Jurisdiction or HCD)

Filing Party Contact Name _____ Filing Party Email: _____

APPEAL AUTHORIZED BY:

Name: _____

PLEASE SELECT BELOW:

- Mayor
- Chief Administrative Office
- City Manager
- Chair of County Board of Supervisors
- Planning Director
- Other: _____

BASES FOR APPEAL

- Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029)
- Local Planning Factors and/or Information Related to Affirmatively Furthering Fair Housing (See Government Code Section 65584.04 (b)(2) and (e))
 - Existing or projected jobs-housing balance
 - Sewer or water infrastructure constraints for additional development
 - Availability of land suitable for urban development or for conversion to residential use
 - Lands protected from urban development under existing federal or state programs
 - County policies to preserve prime agricultural land
 - Distribution of household growth assumed for purposes of comparable Regional Transportation Plans
 - County-city agreements to direct growth toward incorporated areas of County
 - Loss of units contained in assisted housing developments
 - High housing cost burdens
 - The rate of overcrowding
 - Housing needs of farmworkers
 - Housing needs generated by the presence of a university campus within a jurisdiction
 - Loss of units during a state of emergency
 - The region’s greenhouse gas emissions targets
 - Affirmatively furthering fair housing
- Changed Circumstances (Per Government Code Section 65584.05(b), appeals based on change of circumstance can only be made by the jurisdiction or jurisdictions where the change in circumstance occurred)

FOR STAFF USE ONLY:

Date _____ Hearing Date: _____ Planner: _____

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scaq.ca.gov.
Late submissions will not be accepted.

Brief statement on why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584 (please refer to Exhibit C of the Appeals Guidelines):

Please include supporting documentation for evidence as needed, and attach additional pages if you need more room.

Brief Description of Appeal Request and Desired Outcome:

Number of units requested to be reduced or added to the jurisdiction's draft RHNA allocation (circle one):

Reduced _____ Added _____

List of Supporting Documentation, by Title and Number of Pages
(Numbers may be continued to accommodate additional supporting documentation):

- 1.
- 2.
- 3.

FOR STAFF USE ONLY:

Date _____

Hearing Date: _____

Planner: _____

City of Fountain Valley
6th Cycle RHNA Appeal Request Form
Supplemental Information - Basis for RHNA Appeal

Fountain Valley’s Commitment to Complying with State Housing Laws

During the current Housing Element cycle, the City has issued building permits for 277 new housing units, which represents 77% of its current RHNA target (358). In addition, there are 40 accessory dwelling units and a new 50 unit affordable housing development currently in plan-check. 49 units of the 50 unit project will be 100% affordable to the extremely, very, and low income categories and was made possible by the City’s loan of \$8.2 million dollars from the Low Moderate Income Housing Asset Fund (equating to 68% of the fund’s total assets) for property acquisition and development costs.

1. Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029)

Per Government Code 65584.04(d), this appeal is necessary to ensure that “Public participation and access shall be required in the development of the methodology and in the process of drafting and adoption of the allocation of the regional housing need.”

As required by Government Code 65584.04(d), a transparent and collaborative approach to regional planning involving opportunity for informed stakeholder input and thoughtful deliberation is critical to achieving desirable and equitable outcomes. SCAG staff’s process to develop the allocation methodology for the 6th cycle RHNA, covering the planning period from October 2021 through October 2029, included multiple opportunities for stakeholder engagement, including detailed analysis of three draft allocation methodologies during a series of public meetings and hearings over an approximately year-long effort.

Based in part on stakeholder input, SCAG staff worked diligently and developed a single recommended RHNA allocation methodology, which was introduced in September 2019 at a public workshop, subsequently reviewed and approved by both the SCAG RHNA Subcommittee and the SCAG Community, Economic and Human Development (CEHD) Committee, and finally recommended for SCAG Regional Council approval before submittal to the California Department of Housing and Community Development (HCD). At this time, the proposed RHNA allocation for the City of Fountain Valley was 1,372 units. This figure represents a 383% increase over the 5th cycle RHNA allocation, indicating that Fountain Valley would need to take unexpected and extraordinary measures to plan for new housing units.

In spite of SCAG staff’s best efforts, at the November 7, 2019, meeting of the SCAG Regional Council to consider the recommended RHNA allocation methodology, a substitute motion was

made by the City of Riverside introducing a modified RHNA methodology, which effectively shifted a significant portion of the 6th cycle RHNA allocation away from developing areas in Riverside and San Bernardino Counties to the largely developed coastal areas, mainly into Orange County. The modified RHNA allocation methodology was approved for submittal to HCD by the SCAG Regional Council on a contested vote of 43-19 (opposed by all Orange County SCAG representatives) in violation of procedural by-laws and despite a lack of detailed regarding the associated impacts of the proposed methodology changes, supporting documentation, and opportunity for informed input. The modified methodology fails to account for local input and growth forecast data and, due to the late introduction by substitute motion, was unable to be analyzed for potential impacts by SCAG staff before the vote of the Regional Council. Because of this unusual procedural action, Fountain Valley's RHNA allocation increased to 4,827 units, which is 352% larger compared to the initial draft RHNA allocation of 1,372 units.

2. Availability of Suitable Land and Affirmatively Furthering Fair Housing (AFFH)

Per Government Code 65584.04(e)(2)(B), this appeal is necessary to ensure consistency with the provisions of AFFH, which generally prohibits housing discrimination with respect to the personal characteristics of race, color, religion, sex, gender, gender identity, gender expression, sexual orientation, marital status, national origin, ancestry, familial status, source of income, disability, or genetic information. Existing law prohibits the discrimination through public or private land use practices, decisions, and authorizations because of one of those personal characteristics.

Government Code 65584.04(e)(2)(B) states:

(e) To the extent that sufficient data is available from local governments pursuant to subdivision (b) or other sources, each council of governments, or delegate subregion as applicable, shall include the following factors to develop the methodology that allocates regional housing needs:

(2) The opportunities and constraints to development of additional housing in each member jurisdiction, including all of the following:

(B) The availability of land suitable for urban development or for conversion to residential use, the availability of underutilized land, and opportunities for infill development and increased residential densities. The council of governments may not limit its consideration of suitable housing sites or land suitable for urban development to existing zoning ordinances and land use restrictions of a locality, but shall consider the potential for increased residential development under alternative zoning ordinances and land use restrictions.

In short, SCAG failed to consider the availability of land suitable for urban development or for conversion to residential use in Fountain Valley. Because of the City's unprecedented RHNA allocation of 4,827 units and the lack of suitable sites, the inevitable land use pattern will be an

overconcentration of affordable units. As noted in #1 above, this unprecedented RHNA allocation stemmed from a last second substitute motion that increased the expected and thoroughly vetted RHNA allocation proposed by SCAG staff 352%. This will create concentrated areas of poverty and create a segregated living pattern divided by income where these do not currently exist.

- *Unprecedented and Un-Planned RHNA Allocation.* Fountain Valley received a RHNA allocation of 4,827 units, which is an increase of 1,350% over the 5th Cycle RHNA allocation. This allocation came without warning or the ability to plan for this type of growth and, as noted above, the ability to discuss the allocated growth. As noted in #1 above, this unprecedented RHNA allocation stemmed from a last second substitute motion that increased the expected and thoroughly vetted RHNA allocation proposed by SCAG staff 352%.
- *Lack of Suitable Sites.* In response, the City has conducted an exhaustive analysis to find suitable sites, including extensive property owner interviews. In essence, the city has prepared the site analysis for the 6th Cycle Housing Element in an attempt to address the RHNA allocation. The analysis of suitable sites was not limited by local ordinances or to residential lands and considered the potential for increased residential development under alternative zoning ordinances and land use scenarios. Fountain Valley is attempting to accommodate the unprecedented RHNA allocation with unprecedented steps in expanding capacity. The City is considering doubling its current maximum residential density standard, amending and nearly doubling the number of units permitted in the Crossing Specific Plan, and zoning all viable sites for housing.

Before addressing the results, a discussion of housing projects in the pipeline will be helpful. There are four residential projects in the pipeline that will total 143 units, including 49 units affordable to low-income residents. After factoring in these projects, the remaining RHNA that would need to be accommodated is 4,684 units, including 2,039 affordable units (combined).

The results of this extensive analysis show that the City has a total of 114.6 acres that could potentially be considered housing opportunity sites for the 2021–2029 planning period. Table 1 breaks down the realistic development potential of these sites as directed by the State’s Site Inventory Guidebook.¹ If any of these sites develop during the planning period with fewer affordable units than projected, the City would be required to rezone other sites to accommodate the shortfall at any point in the planning period.² As the City will not likely have any other land to rezone in place of these opportunity sites, the City

¹ Division of Housing Policy Development. *Housing Element Site Inventory Guidebook*, 21-22.

² California Government Code Section 65863(c)(2), introduced through California Senate Bill 166 (2017).

assumed a conservative minimum density, percentage of total residential, and percentage of affordable units.

With these restrictions, the capacity in Table 1 would have been adequate for the 2013–2021 RHNA. However, for the 2021–2029 RHNA, the City’s capacity for lower income housing is but 22 percent of its 2,039 remaining lower income allocation. Nearly all of the sites would need to be rezoned for and built as high-density residential affordable to very low and low-income households for the City to demonstrate and maintain capacity throughout the planning period.

Table 1. Potential Suitable Sites for Housing – Conceptual Capacities

Site	Acres	Current or Potential Zoning	Density (du/ac)		Realistic Potential		Lower Income	
			Max	Assumed	Total Residential Percent	Units	Percent	Units
Golden Triangle	2.3	Res Mixed Use ¹	60	45	100	103	100	103
Southpark	35.4	Res Mixed Use ¹	60	45	60	956	15 ²	143
Silky Sullivan’s	3.3	Res Mixed Use ¹	40	30	100	99	15 ²	14
Warner Square	1.8	Res Mixed Use ¹	40	30	85	46	15 ²	6
Crossings SP	49.0	Res Mixed Use ¹	40	30	50	800	15 ²	120
Miller Property	18.6	High Den Res	30	22	100	409	15 ²	61
Smith Farm	4.2	Med Den Res	15	15	100	63	15 ²	9
TOTAL	114.6	--	--	--	--	2,476	--	456

Notes:

1. Rezoning would allow 100% residential projects and/or require a minimum amount of residential to be built.

2. Assumes passage of inclusionary housing ordinance requiring 15 percent of all new residential to be affordable to lower income households.

- Overconcentration.** In order to accommodate the remaining RHNA allocation of 4,639 units on the 114.6 acres of underutilized land, each of the eight properties noted above would have to develop at an average density of 40 units per acre – *assuming they voluntarily developed with the necessary levels of affordability*. Since 2,039 of the 4,639 units must be affordable to lower income households, it would necessitate that these eight sites develop at a level of 44% affordable. Alternatively, 50 of the 114.6 acres would need to develop as 100% affordable. However, as no property owners have expressed interest in developing affordable housing and no affordable housing developers have control of these properties, it is not realistic to assume that this level of affordability will occur and the City must consider alternative means. If the City enacted a 15 percent affordability mandate (maximum allowed) to encourage the development of affordable units, roughly 13,593 units would need to be built to accommodate the lower income RHNA allocations (2,039 combined). Based on the inventory of suitable sites, this would require construction to occur at approximately 119 units per acre.

When discussing a density like 119 units per acre, it is critical to consider the cost of developing multi-family housing. The 50 unit affordable housing project noted above

resulted in a true cost of \$582,373 per unit (avg. 740 sf) and the City subsidized its development with a loan of \$8.2 million dollars from the Low Moderate Income Housing Asset Fund (equating to 68% of the fund's total assets). Assuming future affordable units would require a similar subsidy to develop, the remaining lower income RHNA allocation would generate the need for an additional \$335 million (\$164,000 per unit x 2,039 units) of up-front zero/low-interest/deferred loans and/or grants to developers over the next four to six years to realize the construction of very-low and low-income housing. If done through loans, this would equate to an estimated distribution/loss of \$163.4 million (\$80,216 per unit x 2,039 units) over the combined loan repayment periods. Additionally, an *average* density of 119 units per acre requires housing products using more expensive construction types, further exacerbating the already high costs of developing multi-family housing. For example, such densities would typically require at least five to seven stories using Type I (steel and concrete) construction, increasing construction costs by an average of \$65 per square foot compared to Type V (wood frame) construction.³

Setting aside the reality of lack of available funding to develop multi-family affordable housing, and assuming affordable housing developers could obtain control of 50 acres, achieving the RHNA would likely concentrate 6,117 lower income residents (3 persons per household) into a handful of sites. This will create concentrated areas of poverty and create a segregated living pattern divided by income where these do not currently exist.

- *Suitable Sites*. Existing laws governing Housing Elements were not considered in the RHNA Allocation. This is a critical caveat to the analysis of suitable sites above because more than half of the lands identified as potential suitable sites are developed. The HCD Guidebook states that when a City plans to accommodate more than 50 percent of the lower-income RHNA on non-vacant land, substantial evidence must be provided proving that the existing uses of the land will be discontinued during the planning period. Specifically, the California Government Code states that jurisdictions must demonstrate that:
 - Land Inventory Sites Must Be “Available” and May Only Include Non-Vacant Sites with Realistic Development Potential (Government Code Section 65583).
 - Sites in the Land Inventory Must Have Demonstrated Potential for Development (Government Code Section 65583(a)(3))

Per HCD's guidance on determining if non-vacant sites qualify, the following factors must be considered:

- Existing Uses: *The housing element must demonstrate non-vacant and/or underutilized sites in the inventory that can be realistically developed with*

³ Rietz, Hayley, et al. *The Hard Costs of Construction: Recent Trends in Labor and Materials Costs for Apartment Buildings in California*, 14.

residential uses or more-intensive residential uses at densities appropriate to accommodate the regional housing need (by income) within the planning period... The condition or age of existing uses and the potential for such uses to be discontinued and replaced with housing (within the planning period) are important factors in determining “realistic” development potential...

- *Market Conditions: “Housing market conditions also play a vital role in determining the feasibility or realistic potential of non-vacant sites and/or underutilized sites for residential development. The housing element should evaluate the impact of local market conditions on redevelopment or reuse strategies. For example, high land and construction costs, combined with a limited supply of available and developable land may indicate conditions ‘ripe’ for more-intensive, compact and infill development or redevelopment and reuse.”*
- *Development Trends: “The inventory analysis should describe recent development and/or redevelopment trends in the community. The housing element should also include a description of the local government’s track record and specific role in encouraging and facilitating redevelopment, adaptive reuse, or recycling to residential or more-intense residential uses. If the local government does not have any examples of recent recycling or redevelopment, the housing element should describe current or planned efforts (via new programs) to encourage and facilitate this type of development (e.g. providing incentives to encourage lot consolidation or assemblage to facilitate increased residential-development capacity).”*
- *Realistic Development Capacity: Realistic development capacity calculation accounts for minimum density requirements, land use controls, site improvements, and typical densities of existing or approved projects at similar income levels, and access to current, or planned, water, sewer, and dry utilities (Government Code Sections 65583.2(c)(1) and (2)).*
- *Realistic Capacity of Non-Vacant Sites: The realistic capacity methodology analyzes the extent the existing use may impede additional residential development, the jurisdiction’s past experience converting existing uses to higher density residential development, current market demand for the existing use, analysis of existing leases or other contracts that would perpetuate the existing use or prevent additional residential development, development trends, market conditions, and incentives or standards that encourage development (Government Code Section 65583.2(g)(1).*
- *Substantial Evidence: If non-vacant sites accommodate 50 percent or more of the lower-income need, the housing element must describe “substantial evidence” that the existing use does not constitute an impediment for additional residential use on the site. Absent substantial evidence, the existing use is deemed an impediment to additional residential development during the planning period (Government Code Section 65583.2(g)(2)).*

As demonstrated above, the cost of acquiring land and constructing affordable housing is considerable and there are no foreseeable funding sources that would be sufficient. Furthermore, given the unprecedented size of the RHNA allocation, the fact that no property owners have expressed an interest in developing affordable housing, and the lack of the suitable sites, future residential development would have to be realized as a proportion of market rate housing. This means that the City would need to find suitable sites for 13,593 units and future residential development would be concentrated in levels approaching 119 units per acre, further increasing construction costs far beyond levels experienced in the City.

Finally, the health and condition of the commercial, office, and industrial areas of the City dictated the potential suitable sites noted in Table 1. For those non-vacant sites that remain on the list of potential sites, proving their suitability will require an analysis of private lease agreements and contracts. It is not realistic to assume that any of these agreements will be provided making this task impossible to fulfill. Second, consider that market factors will be the actual determining factor in any non-vacant site transitioning to residential use during the planning period. The long-term financing provisions, many with penalties if these provisions are compromised, will prevent the redevelopment of the non-vacant sites – even with rezoning to by-right residential and the provision of incentives.

3. Changed Circumstances (Per Government Code Section 65584.05(b), appeals based on change of circumstance can only be made by the jurisdiction or jurisdictions where the change in circumstance occurred)

Per Government Code 65584.05(b), this appeal is necessary to correct errors in the Replacement Need Factor for the City of Fountain Valley.

The adopted methodology assumed a replacement need of 21 units. This was based on an incomplete replacement need survey that did not correctly report that all of the units that were demolished between 2009 and 2017 have been replaced. The corrected survey is attached.

It must also be considered that the COVID-19 pandemic was unforeseen during the development of regional RHNA methodology and it is not known how it will impact population, housing, and economic patterns. At this time, it can no longer be assumed that the factors behind the unprecedented growth inherent in the RHNA allocation will not be radically altered. Already, employers are shifting to remote working on a permanent basis. Some employees in these circumstances have already permanently relocated – some to less populated areas or out of state. It is not known what this means to Fountain Valley. Will this mean reduced population levels in Fountain Valley? Will it result in a glut of offices thereby freeing up suitable housing sites? Because of this change in circumstance, it is prudent to pause the RHNA effort and

consider these realities instead of proceeding down a path that forces radical changes to accommodate a RHNA born out of a last second substitute motion on November 7th 2019.

Revised Housing Unit Demolition Data Survey Form

Please complete and return the survey by April 30, 2019 to housing@scag.ca.gov.

City: Fountain
 Valley
 County: Orange

Report Year	Demolished Housing Units Lost										Newly Constructed or Permitted Housing Units (on site of demolition)								Not Developed Nor Permitted for Housing Uses After the			
	Single Unit Structure				Multi-unit Structure			Total units lost	Affordable units out of total units	Single Unit Structure				Multi-unit Structure			Total units gained	Affordable units out of total units	Not Developed		Land Use Change	
	Detached	Attached	Mobile Homes	Total	2,3, or 4-plex	5 or more	Total			Detached	Attached	Mobile Homes	Total	2, 3, or 4-plex	5 or more	Total			Parcels	Units	Parcels	Units
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
2009	-3	0	0	-3	0	0	0	-3		3			3			0	3					
2010	-3	0	0	-3	0	0	0	-3		3			3			0	3					
2011	-2	0	0	-2	0	0	0	-2		2			2			0	2					
2012	0	0	0	0	0	0	0	0					0			0	0					
2013	-3	0	0	-3	0	0	0	-3		3			3			0	3					
2014	-4	0	0	-4	0	0	0	-4		4			4			0	4					
2015	0	0	0	0	0	0	0	0					0			0	0					
2016	-6	0	0	-6	0	0	0	-6		6			6			0	6					
2017	0	0	0	0	0	0	0	0					0			0	0					
2018	-8	0	0	-8	0	0	0	-8	0	8	0		8			0	8	0				

- Directions
- Column A-I Confirm that the number of demolished units for each category is correct.
 - Column J Enter the number of affordable housing units that were among the demolished housing units.
 - Column K-R Enter the number of newly constructed or permitted housing units on the site of demolition.
 - Column S Enter the number of affordable housing units among the newly constructed or permitted housing units on the site of demolition.
 - Column T-U For sites that remained vacant after the demolition where zoning is designated for housing uses, enter the number of parcels and potential housing unit capacity on these sites
 - Column V-W For sites that have been converted to non-housing units after the demolition or sites that have remained vacant after the demolition where zoning is designated for non-housing uses, enter the number of parcels and the potential loss of housing unit capacity from the changes.

**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF HOUSING POLICY DEVELOPMENT**

2020 W. El Camino Ave
Sacramento, CA 95833-1829
916) 263-2911 FAX: (916) 263-7453
www.hcd.ca.gov



December 10, 2020

Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Dear Executive Director Ajise:

RE: Comment on Appeals of the Draft Regional Housing Need Allocation (RHNA) Plan

Thank you for the opportunity to comment on the 52 appeals Southern California Association of Governments (SCAG) has received regarding the draft RHNA plan. The appeal process is an important phase in the development of a RHNA plan that ensures that all relevant factors and circumstances are considered.

The only circumstances under which a jurisdiction can appeal are:

- 65584.05(b)(1): The council of governments failed to adequately consider the information regarding the factors listed in subdivision (e) of section 65584.04.
- 65584.05(b)(2): The council of governments failed to determine the share of the regional housing need in a manner that furthers the intent of the objectives listed in subdivision (d) of section 65584.
- 65584.05(b)(3): A significant unforeseen change in circumstances occurred in the local jurisdiction that merits a revision of the information submitted pursuant to subdivision (e) of Section 65584.04.

The California Department of Housing and Community Development (HCD) urges SCAG to only consider appeals that meet these criteria.

Per Government Code section 65584.05(e)(1), SCAG's final determination on whether to accept, reject, or modify any appeal must be accompanied by written findings, including how the final determination is based upon the adopted RHNA allocation methodology, and how any revisions are necessary to further the statutory objectives of RHNA described in Government Code section 65584(d).

Among the appeals based on Government Code section 65584.05(b)(1), several appeals state that SCAG failed to consider the factor described in Government Code section 65584.04(e)(2)(B), citing the lack of land suitable for development as a basis for the appeal. However, this section states the council of governments may not limit its consideration of suitable housing sites to existing zoning and land use restrictions and must consider the potential for increased development under alternative zoning and

land use restrictions. Any comparable data or documentation supporting this appeal should contain an analysis of not only land suitable for urban development, but land for conversion to residential use, the availability of underutilized land, and opportunity for infill development and increased residential densities. In simple terms, this means housing planning cannot be limited to vacant land, and even communities that view themselves as built out must plan for housing through means such as rezoning commercial areas as mixed-use areas and upzoning non-vacant land.

With regard to appeals submitted related to Government Code section 65584.05(b)(2), that SCAG failed to determine the RHNA in a manner that furthers the statutory objectives, it should be noted that HCD reviewed SCAG's draft allocation methodology and found that the draft RHNA allocation methodology furthered the statutory objectives described in Government Code section 65584.

Among the appeals based on Government Code section 65584.05(b)(2), several contend that the cap on units allocated to extremely disadvantaged communities (DACs) does not further RHNA's statutory objectives. This cap furthers the statutory objective to affirmatively further fair housing by allocating more units to high opportunity areas and fewer units to low resource communities, and concentrated areas of poverty with high levels of segregation. Due to the inclusion of this factor, as well as the use of TCAC/HCD Opportunity Maps, SCAG's methodology allocates 14 of the top 15 highest shares of lower-income RHNA to jurisdictions with over 99.95 percent High and Highest Resource areas. With the exceptions of two jurisdictions, the 31 jurisdictions with the highest share of lower-income RHNA are all over 95 percent High and Highest Resource areas. Any weakening of these inputs to the methodology could risk not fulfilling the statutory objective to affirmatively further fair housing.

Several appeals argue that SCAG's RHNA allocation methodology does not adequately promote access to jobs and transit, as required in objectives two and three. HCD's review of SCAG's RHNA methodology found the allocation does further the environmental principles of objective two. SCAG's overall allocation includes significant weight related to the location of high-quality transit areas and the regional distribution of jobs that can be accessed within a 30-minute driving commutes. Regarding objective three, HCD's analysis as to whether jobs-housing fit was furthered by SCAG's draft methodology found that across all jurisdictions there is generally good alignment between low-wage jobs and lower-income RHNA, with all but 15 jurisdictions within a half percent plus or minus difference between their share of lower-income RHNA for the region and their percentage low-wage jobs for the region.

Several appeals are based upon the provision described in Government Code section 65584.05(b)(3), arguing that the COVID-19 pandemic represents a significant and unforeseen change in circumstances that will affect future population and job growth. Ensuring everyone has a home is critical to public health. Reducing and preventing overcrowding and homelessness are essential concerns for every community. The COVID-19 pandemic has only increased the importance that each community is planning for sufficient affordable housing.

Lastly, several appeals state that the Regional Housing Needs Determination (RHND) HCD provided to the SCAG region is too large. SCAG submitted an objection to the RHND at the appropriate time and through the appropriate process. HCD considered those objections and [determined the final RHND for 6th Housing Element Cycle for the SCAG region on October 15, 2019](#). There are no further appeal procedures available to alter the SCAG region's RHND for this cycle. Government Code section 65584.05(b) does not allow local governments to appeal the RHND during the 45-day period following receipt of the draft allocation.

HCD acknowledges that many local governments will need to plan for more housing than in the prior cycle to accommodate a RHND that more fully captures the housing need and as the statutory objectives of RHNA shift more housing planning near jobs, transit, and resources. The Southern California region's housing crisis requires each jurisdiction to plan for the housing needs of their community and the region. In recognition of this effort there are more resources available than ever before to support jurisdictions as they prepare to update their 6th cycle housing elements:

- SB 2 Planning Grants – \$123 million one-time allocation to cities and counties
- SB 2 Planning Grants Technical Assistance offered to all jurisdictions
- Regional and Local Early Action Planning Grants – \$238 million one-time allocation for local and regional governments
- SB 2 Permanent Local Housing Allocation – approximately \$175 million annually in ongoing funding for local governments to increase affordable housing stock

If HCD can provide any additional assistance, or if you, or your staff, have any questions, please contact Megan Kirkeby, Deputy Director, megan.kirkeby@hcd.ca.gov.



Megan Kirkeby
Deputy Director



City of Whittier

13230 Penn Street, Whittier, California 90602-1716
(562) 567-9320 Fax (562) 567-2872 www.cityofwhittier.org

Electronically Transmitted to: Housing@scag.ca.gov

December 10, 2020

RHNA Appeals Committee
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

SUBJECT: City of Whittier's Comments on Appeals to the Sixth Cycle Regional Housing Needs Assessment (RHNA) Allocation

Honorable Chair and Honorable Committee Members:

The City of Whittier ("City") appreciates the challenges that are inherent in allocating 1,341,827 housing units by the thousands (a 226% increase above the baseline 412,137 unit) to cities across Southern California, especially in built-out cities. However, the City is deeply concerned its housing allocation of 3,431 units from the State Department of Housing and Community Development ("HCD") and the Southern California Association of Government's ("SCAG") unit distribution methodology, along with recent housing legislation will fundamentally abridge the City's ability to develop effective land-use policies that are appropriate for managing the community's actual needs. The 878 units in the 5th cycle RHNA allocation has been increased by 290% to 3,431 units in the current 6th cycle. Particularly challenging in the 6th cycle, is the number of low and very low-income units (1,558) which combined with the moderate and above moderate unit totals forces unplanned and unnecessary residential densification of the community.

The affordable units are an unfunded mandate with very limited regional or State financial support for their development. Considering the affordable housing subsidies typically range from \$50,000 to \$250,000 per unit, the overall funding requirements could range from \$78,000,000 to \$390,000,000 which is clearly beyond the reach of the City of Whittier in that the City's general fund budget is just \$72,000,000 which already include \$2,000,000 annually to house the City's unsheltered residents in transitional housing. Additionally, the City only receives 7.5% of each property tax dollar to provide general services including police and library services.

The City is currently in the process of updating its Housing Element as well as the General Plan to incorporate the current RHNA allocation, so Whittier is acutely aware of the various housing needs as well as the potential obstacles, such as aging infrastructure and unplanned density, to creating the requisite housing within a city that

is essentially built out. The changes in the State's housing laws (SB 35, SB 166 and AB 1397) have created additional constraints for the agencies and may severely impact the City's ability to accomplish our regional and local housing goals.

Since development in Whittier began more than 130 years ago, the City is virtually built-out with little developable vacant land outside of its designated open space areas that are dedicated to accommodating existing and future residents. While the City has made significant efforts through its specific plans to densify existing corridors and districts, the majority of Whittier's remaining single-family residential neighborhoods cannot accommodate similar densification. Furthermore, the hills north of Whittier contain regional open space, sensitive habitat and wildlife areas that must be preserved in perpetuity. There are also significant infrastructure and water service constraints that impact Whittier's ability to produce significantly more housing. Although these facts may not be desirable, they must be pragmatically accounted for and mitigated by not further increasing Whittier's share of housing units contained in SCAG's 6th Cycle RHNA. The final RHNA allocation and methodology must be fair and equitable while reflecting the capacity for reasonable housing unit construction.

As with many other cities, the City is concerned about the current allocation, but an even greater concern is that additional units may be applied to the City if reallocated from cities that are successful in their appeals. To that end, the City believes the appeal process itself was unclear as to the potential ramifications to other cities and not fully understood.

Although we fully support the surrounding cities in their appeals, the potential for additional units being applied to the City would exacerbate the problems described herein and in Whittier's September 13, 2019 letter to SCAG.

Should you have any questions, please do not hesitate to contact me.

Sincerely,



Jeffery S. Adams
Director of Community Development

File

From: Christopher Koontz <Christopher.Koontz@longbeach.gov>
Sent: Thursday, December 3, 2020 11:14 AM
To: Regional Housing
Subject: RHNA Appeals

Categories: Response Required, Record

Good morning,

The purpose of this email is to provide the City of Long Beach’s position in regards to pending RHNA appeals before SCAG. The City of Long Beach seeks to meet its housing needs and obligations for the benefit of Long Beach residents and the region. Our allocation was extremely large and presents a planning and financing challenge for the City. Nonetheless we chose not to appeal our allocation because the allocation process was fair and transparent including taking the City of Long Beach’s input into consideration.

We oppose and will not accept any transfer of additional allocation due to the pending appeals. We note that within our area, the Gateway COG, appeals are pending from Bellflower, Cerritos, Downey, Huntington Park, La Mirada, Lakewood, Pico Rivera, and South Gate. Each of these appeals should be evaluated by SCAG on the merits, however Long Beach opposes any transfer of allocation to our City. It would be inappropriate to transfer a further burden to Long Beach when we have already accepted a large allocation and have done more than many cities in the region to accommodate housing growth under the current RHNA cycle, including fully meeting our market-rate RHNA allocation.

The City of Long Beach will continue to work with SCAG and our neighbor jurisdictions to address the housing needs of our residents.

We thank you for consideration and please do not hesitate to contact the City regarding our position.

Christopher Koontz, AICP
Deputy Director

Development Services
411 W. Ocean Blvd., 3rd Floor | Long Beach, CA 90802
Office: 562.570.6288 | Fax: 562.570.6068



Attachment: Comments Received During the Comment Period (General) (Appeal of the Draft Allocation for the City of Fountain Valley)



Southern California Association of Governments
Remote Participation Only
January 19, 2021

To: Regional Housing Needs Assessment Subcommittee (RHNA)

**EXECUTIVE DIRECTOR'S
APPROVAL**

From: MaAyn Johnson, Regional Planner Specialist,
(213) 236-1975, johnson@scag.ca.gov

Subject: Appeal of the Draft Allocation for the City of Huntington Beach

RECOMMENDATION:

Deny the appeal filed by the City of Huntington Beach to reduce the draft RHNA allocation for the City of Huntington Beach.

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 2: Advance Southern California’s policy interests and planning priorities through regional, statewide, and national engagement and advocacy.

SUMMARY OF APPEAL(S):

The City’s draft RHNA allocation is 13,337 units. The City does not specify a requested reduction, its appeal is organized around several issues, some of which do specify a reduction, the total of which is in excess of the City’s draft RHNA allocation. The City of Huntington Beach requests a reduction of its RHNA allocation based on the following seven issues:

- 1) Application of the adopted Final RHNA methodology for the 6th Cycle RHNA (2021-2029) - incorrect identification of a high-quality transit area (requested reduction of 3,625 units), use of improper year of forecast data (requested reduction 1,861 units).
- 2) Existing or projected jobs-housing balance.*
- 3) Availability of land suitable for urban development or conversion to residential use - impact of sea level rise, coastal inundation, and FEMA-designated flood zones (requested reduction of 2,000 units).
- 4) Distribution of household growth assumed for purposes of comparable Regional Transportation Plans (RTPs).*
- 5) The rate of overcrowding - City’s lower overcrowding rate should be considered in allocating regional housing need (requested reduction of 6,428 units).
- 6) Housing needs generated by the presence of a university campus within any jurisdiction - housing needs generated by colleges or universities in the region in general (requested reduction 360 units).

OUR MISSION

To foster innovative regional solutions that improve the lives of Southern Californians through inclusive collaboration, visionary planning, regional advocacy, information sharing, and promoting best practices.

OUR VISION

Southern California’s Catalyst for a Brighter Future

OUR CORE VALUES

Be Open | Lead by Example | Make an Impact | Be Courageous

- 7) The region's greenhouse gas emissions target – lower income workers are driving alone, longer commutes because housing would not be placed where it is needed and would not be consistent with the SCS.*

* These issues are checked on the appeals form but are discussed together with the arguments related to application of the methodology.

Other: Huntington Beach also argues that the State's imposition of RHNA allocation requirements on Charter Cities violates the constitution and is in and of itself an illegal act; the City also argues that the residual adjustment is illegal (and requests an associated reduction of 3,442 units); however, this is not a basis for a RHNA appeal. In addition, the City mentions change in circumstances with respect to COVID-19 although this box is not checked on the form.

RATIONALE FOR STAFF RECOMMENDATION:

Staff have reviewed the appeal(s) and recommend no change to the City of Huntington Beach's RHNA allocation. Following Huntington Beach's appeal issues:

Issues 1, 2, 4 and 7, SCAG appropriately identified the Beach Boulevard corridor as constituting an HQTAs per its adopted procedures; use of future year HQTAs is not illegal and is a part of SCAG's adopted Final RHNA Methodology. The Final RHNA Methodology does not substitute 2045 forecasts in lieu of 2030 as Huntington Beach attests; data steps using forecasted growth were all conducted consistent with the Final RHNA Methodology and extensive review opportunities were provided to Huntington Beach of these data elements. The regional greenhouse gas reduction targets are met and the distribution of housing need is consistent with the Sustainable Communities Strategy (SCS).

Issue 3, SCAG appropriately considered available land constraints related to sea level rise, coastal inundation, and FEMA-designated flood zones; however, Huntington Beach does not demonstrate why its draft RHNA allocation could not be accommodated in any way in the vast majority of the city's land area which is not subject to such constraints.

Issue 5, the City misinterprets the role of overcrowding in HCD's regional housing needs determination as necessitating inclusion in SCAG's final RHNA allocation methodology. SCAG's Final RHNA Methodology, which was found by HCD to further all necessary statutory objectives, does not and need not include a measure of jurisdiction-level overcrowding; to do so would constitute a change of the methodology which cannot be considered in the appeals process.

Issue 6, Huntington Beach fails to demonstrate why housing need generated by colleges and universities outside the city disproportionately affects Huntington Beach or in any way would reduce the city's housing need.

Other: The residual need component was applied correctly and is a part of SCAG's adopted final RHNA methodology, which was found by HCD to further all statutory objectives, including those related to Affirmatively Furthering Fair Housing (AFFH).

BACKGROUND:

Draft RHNA Allocation

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the adoption of Connect SoCal on September 3, 2020, all local jurisdictions received draft RHNA allocations on September 11, 2020. A summary is below.

Total RHNA for the City of Huntington Beach: 13,337 units
Very Low Income: 3,652 units
Low Income: 2,179 units
Moderate Income: 2,303 units
Above Moderate Income: 5,203 units

Additional background related to the Draft RHNA Allocation is included in Attachment 1.

Summary of Comments Received during 45-day Comment Period

No comments were received from local jurisdictions or HCD during the 45-day public comment period described in Government Code section 65584.05(c) which specifically regard the appeal filed for the City of Huntington Beach. Three comments were received which relate to appeals filed generally:

- HCD submitted a comment on December 10, 2020 delineating the statutory basis for RHNA appeals and the requirement that any appeals granted must include written findings regarding how revisions are necessary to further RHNA's statutory objectives.
- The City of Whittier submitted a comment on December 10, 2020 supporting surrounding cities in their appeals, but expressing concern that additional units may be applied to Whittier if reallocated from cities which are successful in their appeals.
- The City of Long Beach submitted a comment on December 3, 2020 indicating their view that the RHNA allocation process was fair and transparent, their support for evaluating appeals on their merits (specifically those from the Gateway Council of Governments), and their opposition to any action which would result in a transfer of additional units to Long Beach.

ANALYSIS:

Issues 1, 2, 4, 7: Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029) [Government Code section 65584.05 (b)(2)]; existing or projected jobs-housing balance [Government Code section 65584.04(e)(1)]; distribution of household growth assumed for purposes of comparable Regional Transportation Plans [Government Code section 65584.04(e)(3)]; and the region's greenhouse gas emissions targets [Government Code section 65584.04(e)(12)].

The City of Huntington Beach contends that the portion of the Beach Boulevard corridor within the City should not be considered an HQTAs. The City contends that Orange County Transportation Authority (OCTA) Route 29 does not meet the threshold of 15 minutes' peak service frequency which is necessary for inclusion as an HQTAs. The City also contends that since statute does not specify what a future year HQTAs/HQTAs may be that the definition is illegal and cannot be used in calculation of RHNA.

Huntington Beach contends that SCAG incorrectly projected household growth and employment, introducing growth projections for the year 2045 despite the fact that the RHNA projection period extends only through 2029. Huntington Beach contends that the basis for the entire methodology is fundamentally flawed. The City further contends that SCAG should use 2030 employable population as a factor in allocating housing need.

The City indicates that lower income workers are driving alone, and that longer commutes would occur as a result of housing not being placed where it is needed and allocation of housing to the City would not be consistent with the SCS and this would increase greenhouse gas emissions.

In addition to the above bases for appeal, the City includes identifies the following planning factor:

- Opportunities to maximize the use of public transportation and existing transportation infrastructure (not an appeal basis).*

SCAG Staff Response: The arguments raised by the City of Huntington Beach in its appeal amount to a challenge to the Final RHNA Methodology, which, as described in Attachment 1, was adopted by the Regional Council on March 5, 2020 after an extensive public development and review process. The issues outlined in the appeal, such as the calculation and distribution of projected and existing need, the use of a 2045 horizon year, and the calculation of job accessibility are arguments against the adopted Final RHNA Methodology itself, and not how the methodology was applied to the City. Development of the Final RHNA Methodology is a separate process from the RHNA appeals process, and it is outside the scope of the appeals process for the Appeals Board to change the adopted methodology. No arguments or supporting evidence is provided in the appeal that indicates that the methodology to determine the City's share of regional housing need was improperly applied.

The statute vests in HCD the authority to assess whether a RHNA methodology furthers statutory objectives¹ [Government Code section 65584.04(i)], and per the attached letter dated January 13, 2020, HCD has found that SCAG's 6th cycle RHNA methodology furthers all of RHNA's statutory objectives. As such, the methodology is not, as Huntington Beach claims, fundamentally flawed.

HQTA Location, Population and Transit Access

The adopted final RHNA methodology includes a component that calculates need based on a jurisdiction's population within an HQTA in 2045 in Connect SoCal, SCAG's 2045 RTP/SCS. For planning and SCS purposes, SCAG identifies a "high quality transit area" as generally a walkable transit village or corridor that is within one-half mile of a major transit stop or High-Quality Transit Corridor (HQTC) as defined in Government Code 21155(b) and 21064.3 excluding freeway transit corridors with no bus stops on the freeway alignment. SCAG's technical methodology for identifying HQTCs and major transit stops is based on input from the Regional Transit Technical Advisory Committee (RTTAC), as well as consultation with local agencies, other large MPOs in California, and the Governor's Office of Planning and Research.

SCAG's definition of high-quality transit corridors is found in Appendix A of Connect SoCal's Transit Technical Report (attached) and indicates that:

Planned HQTCs and major transit stops are future improvements that are expected to be implemented by transit agencies by the RTP/SCS horizon year of 2045. These are assumed by definition to meet the statutory requirements of an HQTC or major transit stop. SCAG updates its inventory of planned major transit stops and HQTCs with the adoption of a new RTP/SCS, once every four years.

However, transit planning studies may be completed by transit agencies on a more frequent basis than the RTP/SCS is updated by SCAG and as such it is understood that planned transit projects are subject to further project-specific evaluation, but that is the nature of the long-range planning process. While there is an inherent chance that transit agencies may change future plans, SCAG's adopted final RHNA methodology uses this definition of 2045 QTAs in order to better align future

¹ The objectives are: 1) Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low-income households. (2) Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region's greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080. (3) Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction. (4) Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey. (5) Affirmatively furthering fair housing. (Govt. Code § 65584(d).)

housing with anticipated future transit and promote the objectives and strategies of SCAG's adopted 2020 Connect SoCal Plan.

Huntington Beach correctly notes that there is not a specific statutory definition for future year HQTAs or HQTAs. SCAG's adopted RHNA methodology, which uses future year HQTAs as defined above and several other inputs, was reviewed by HCD on January 13, 2020 pursuant to their review authority in Government Code 65584.04(i) and found to further the statutory objectives of RHNA (attached). As a part of the RHNA methodology, the use of future year HQTAs contributed to this finding, specifically relating to RHNA objective #2 related to infill, environmental, and development efficiency.

The attached map shows the 2045 HQTAs boundaries for the City of Huntington Beach which were used in Connect SoCal. SCAG worked closely with OCTA to identify the HQTAs in Orange County which form the basis for HQTAs. SCAG and OCTA together identified the Beach Blvd. corridor, including the entire alignment within the City of Huntington Beach, as both an existing and future HQTAs. See figure 4.10 in OCTA's 2018 LRTP (attached). The nature of bus services is that routes and service frequency can change periodically, thus a CTC's estimate of future transit service frequency is the best estimate available at a given point in time—in this instance, the point in time required to complete Connect SoCal.

Specifically, OCTA provided data for inclusion in Connect SoCal which indicated a 10-minute AM and PM peak headway for Rapid Route 529 on the Beach Blvd Corridor and is identified in the Connect SoCal Project List as RTP ID 2160008. Thus, it is qualified as an HQTAs for Connect SoCal and by extension, the adopted RHNA methodology.

In addition to the arguments related to the inclusion of this specific transit corridor, Huntington Beach also contends that OCTA is experiencing ridership and revenue declines during the COVID-19 pandemic; however, the City has not provided evidence of a specific change in future service which might impact whether the Beach Blvd corridor is designated as an HQTAs. The City also suggests that the pandemic is currently impacting public transportation more generally; however, evidence is not provided to indicate that this is a sufficiently lasting trend through the end of the RHNA planning period (2029) and/or the Connect SoCal horizon year (2045).

The Wendell Cox report submitted as an attachment to this appeal also brings up several other issues in the context of HQTAs, including that access to jobs by transit "tends to be considerably less than by driving alone." Recognizing that transit service is uneven across the region, the adopted RHNA methodology also allocates a substantial amount of housing need on the basis of automobile-based job accessibility. The report also contends that transit share is declining amongst low-income workers; however, the policy objective of RHNA is to promote a better jobs-housing balance and this is accomplished by assigning housing to areas with future HQTAs, including Huntington Beach.

Greenhouse Gas Emissions and SCS Consistency

The City argues that the allocation is not consistent with the SCS and workers would be driving further which would increase greenhouse gas emissions. SCAG allocates both “projected need” and “existing need” in a manner that is consistent with the development pattern in the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal), which includes a GHG emission reduction target for the region. The 6th cycle RHNA does not change the population growth forecast from Connect SoCal for 2029 (end of RHNA period) or any other year including 2035 for which Connect SoCal is required to meet the greenhouse gas emissions target. The Connect SoCal Forecasted Regional Development Pattern is shown on Exhibit 1 of the Sustainable Communities Strategy Technical Report, p. 13. Specifically, the development pattern includes priority growth areas, incorporated areas, job centers, entitled projects and sphere of influence which together would accommodate 95% of the growth till 2045. The development pattern reflects the strategies and policies contained in Connect SoCal.

While RHNA would also require the City to address existing need, those units are intended to serve the existing population and were allocated based on transit and job access measures derived from Connect SoCal data. Therefore, the RHNA methodology for “existing need” also promotes an efficient development pattern in utilizing public transit, reducing commute distance and contribute to further reduce per capita greenhouse gas emissions. Accordingly, the total allocation for regional housing need (“existing need” and “projected need”) is aligned with the strategies and policies underlying the development pattern in the Connect SoCal, and the RHNA allocation methodology is consistent with meeting the region’s GHG emissions target.

Conclusion

An appeal citing RHNA methodology as its basis must appeal the application of the adopted methodology, not the methodology itself. Notwithstanding the City’s arguments, SCAG properly determined the allocation of housing need on the basis of future transit accessibility, HQTAs considerations, and other factors pursuant to the adopted RHNA methodology which cannot be altered through the RHNA appeals process. Since the RHNA methodology was applied properly to Huntington Beach and the methodology was found by HCD to further RHNA’s statutory objectives including objective 3) related to jobs-housing balance, SCAG staff do not recommend a decrease to Huntington Beach’s draft RHNA allocation.

Issue 3: Availability of land suitable for urban development or for conversion to residential use [Government Code section 65584.04(e)(2)(B)].

Huntington Beach asserts that SCAG failed to consider the impact of sea level rise, planning for coastal inundation, and FEMA designated flood zones when allocating RHNA to Huntington Beach. Huntington Beach is not appealing on the basis of lands protected from urban development under existing federal or state programs [Section 65584.04(e)(3)].

Huntington Beach cites California Coastal Commission (CCC) documents indicating their role in planning and development approvals, and asserts that the CCC was not sufficiently engaged during the development of SCAG's RHNA methodology. Huntington Beach states that CCC guidelines recommend residential land to be rezoned to open space in order to accommodate managed retreat of areas subject to sea level rise, and that the RHNA methodology failed to include these and related analyses.

SCAG's Data/Map Books include an exhibit depicting 2 foot sea level rise areas; however, the City argues that a 3.5 foot sea level rise analysis would be more appropriate, and that sea level rise data are not used in Connect SoCal or RHNA calculations. The City also attests that data covering potential infill parcels contained in the Data/Map Book are inaccurate.

Huntington Beach argues that coastal cities are explicitly unable to accommodate any development, especially residential development, in sea level rise areas, and that these areas should be fully excluded from all aspects of the RHNA calculation.

SCAG Staff Response: Once again, a challenge to the RHNA methodology is not a basis for appeal. Moreover, it is presumed that planning factors such as lands protected by federal and state programs have already been accounted for prior to the local input submitted to SCAG since such factors are required to be considered at the local level. Attachment 1 describes SCAG's extensive Bottom-Up Local Input and Envisioning Process which provided extensive engagement and review opportunities to ensure that forecasting growth in constrained areas was avoided. An updated version of the draft data/map book originally provided to and discussed with Huntington Beach in March 2018 is available at <https://scag.ca.gov/sites/main/files/file-attachments/huntingtonbeach.pdf> and specifically includes data on coastal inundation/sea level rise, protected natural lands, and flood hazard zones.

As such, Huntington Beach's forecasted growth – recorded as 517 households during the 2020-2030 period and used as an input to the RHNA methodology – would have reflected the development constraints referenced in the City's appeal. No evidence was submitted that these areas have changed since the most current input provided in August 2018. However, locally-reviewed growth forecasts are not the only part of the RHNA methodology—additional units are assigned on the basis of job and transit accessibility in particular. There is no requirement for each part of the RHNA methodology to consider each local planning factor.

These data/map books also included a draft map which used a rudimentary, region-wide approach to highlight potential infill or refill opportunities based on largely on property value. These were included for research purposes and were not used for growth forecasting or RHNA allocation purposes.

Per Government Code 65584.04(e)(2)(B), “the determination of land available suitable for urban development may exclude lands where the Federal Emergency Management Agency (FEMA) or the Department of Water Resources has determined that the flood management infrastructure designed to protect that land is not adequate to avoid the risk of flooding.” While SCAG staff does not dispute that there may be areas at risk of flooding in the jurisdiction, the jurisdiction has not provided evidence that an agency or organization such as FEMA has determined that flood management infrastructure is inadequate to avoid flood risk in these areas. Additionally, the jurisdiction has not provided evidence that it cannot plan for its assigned draft RHNA allocation in other areas of the jurisdiction that are not at risk for floods specifically.

While Huntington Beach explains why it cannot accommodate growth in these areas, the City fails to explain if or why the 94.5% of the city’s land area which are not in the coastal zone or the 92.5% of the city’s land area which is not in a FEMA-designated flood zone cannot accommodate the additional housing units called for in its draft RHNA allocation. The presence of protected open space alone does not reduce housing need, nor does it preclude a jurisdiction from accommodating its housing need elsewhere. Specifically, Government Code Section 65584.04(e)(2)(B) indicates that:

“...The council of governments may not limit its consideration of suitable housing sites or land suitable for urban development to existing zoning ordinances and land use restrictions of a locality, but shall consider the potential for increased residential development under alternative zoning ordinances and land use restrictions...”

In response to similar arguments made by the cities of Coronado and Solana Beach in their RHNA allocation appeals earlier this year,

“Coastal Commission Executive Director Jack Ainsworth said that while there are some constraints in the coastal zone related to increases in housing density around areas vulnerable to sea level rise and erosion, that doesn’t mean that there are not areas within the coastal zone where significant increases in housing density are possible. ‘To make a blanket statement that the Coastal Commission would not approve increases in housing density is simply not accurate,’ he wrote. ‘Over the past year or so, the Commission has demonstrated our commitment to increasing

housing density through individual permitting actions and our local coastal program planning efforts with local governments.’²

The California Coastal Act encourages the protection of housing opportunities for individuals of low and moderate incomes (Public Resources Code section 30604). Furthermore, the Coastal Act does not allow residential densities to be reduced (including projects making use of density bonuses) unless the density cannot feasibly be accommodated in conformity with the Local Coastal Program (Public Resources Code section 30604(f)). The Coastal Act also encourages the minimization of vehicle miles traveled (Public Resources Code section 30253(e)). In addition, in April 2020, the Coastal Commission recently issued new guidance on the “Implementation of New ADU [accessory dwelling units] Laws”.³

As such, the City can and must consider other opportunities for development. This includes the availability of underutilized land, opportunities for infill development and increased residential densities, alternative zoning and density, and accessory dwelling units. As indicated by HCD in its December 10, 2020 comment letter (HCD Letter):

“In simple terms, this means housing planning cannot be limited to vacant land, and even communities that view themselves as built out must plan for housing through means such as rezoning commercial areas as mixed-use areas and upzoning non-vacant land.” (HCD Letter at p. 2).

Alternative development opportunities should be explored further and could possibly provide the land needed to zone for the City’s draft RHNA allocation. For these reasons, SCAG staff does not recommend a reduction to the jurisdiction’s RHNA allocation based on this factor.

Issue 5: Rate of overcrowding [Government Code section 65584.04(e)(7)].

Huntington Beach contends that because the city’s overcrowding rate (relative to the national rate) is less than that of the SCAG region it should receive a proportionately lower housing need allocation.

The City notes that approximately 34% of HCD’s determination of housing need for the SCAG region was based on a regional overcrowding adjustment (459,917 units out of the regional total of 1,341,827 units). The origin of this adjustment is that overcrowding in SCAG region is 6.76% higher

² *San Diego County cities push back on state-mandated housing goals*, San Diego Union Tribune, January 14, 2020 (<https://www.sandiegouniontribune.com/business/growth-development/story/2020-01-14/sandag-housing>).

³ Memo from John Ainsworth to Planning Directors of Coastal Cities and Counties dated April 21, 2020 re: Implementation of New ADU Laws (<https://documents.coastal.ca.gov/assets/rflg/California%20Coastal%20Commission%20ADU%20Memo%20dated%20042120.pdf>).

than the national average. Since Huntington Beach's overcrowding rate is only 0.31% higher than the national average, the City contends that its RHNA allocation should reflect this difference and be reduced by 6,428 units.

SCAG Staff Response: Government Code section 65584.01 *et seq.* allows HCD to use the region's level of household overcrowding as a factor in determining regional housing need. HCD elected to use this measure and determined that the region's level of overcrowding merited an adjustment to the region's housing needs based on extent to which the region's overcrowding rate exceeds the rate of the nation. This results in an adjustment of 459,917 units (comprising 34.2% of the total regional housing needs determination of 1,341,827 units). Both the statute and HCD's interpretation thereof frame overcrowding as an issue relevant to the regional housing market and not one limited by jurisdictional boundaries. In other words, overcrowding is a regional issue relevant to jurisdictions with both high and low levels of overcrowding themselves. There is no requirement that SCAG allocate housing units on the same basis HCD assigned housing need to the SCAG region (i.e. allocate to jurisdictions on the basis of their individual overcrowding rates). SCAG's adopted RHNA methodology relies on other factors to distribute housing need – namely job and transit accessibility – which more effectively furthers RHNA's statutory objectives, particularly with respect to increasing the mix of housing types, promoting socioeconomic equity, improving the interregional jobs-housing balance, and affirmatively furthering fair housing (AFFH).

Furthermore, the City mistakenly characterizes its RHNA allocation as being based on a "SCAG overcrowding adjustment" when there is no such adjustment in RHNA methodology. The City then proposes a different RHNA methodology; however, an alternative methodology cannot be considered by the appeals board and is not a basis for appeal. As such, SCAG staff does not recommend a revision to Huntington Beach's RHNA allocation on this basis.

Issue 4: Housing needs generated by the presence of a university campus within a member jurisdiction [Government Code section 65584.04(e)(9)].

Huntington Beach argues that the final RHNA methodology does not address the housing needs generated by universities across the region, specifically the needs for off-campus housing, referencing an Executive Summary to the adopted final RHNA methodology. The City alleges illegal political manipulation of the RHNA process with regards to discussions of university housing needs amongst Regional Council members since university housing needs were not discussed at the November 7th Regional Council meeting.

The City cites UCLA and Cal State system student housing documents which indicate housing shortfalls, overcrowding, and homelessness amongst students, and contends that SCAG failed to account for these needs in the development of the RHNA methodology.

The City furnishes a consultant study assessing the regional demand for off-campus housing generated by 13 universities in the SCAG region, citing a total need for housing 27,826 students by 2030. The City suggests that Huntington Beach's total RHNA should be reduced by 360 units based on the ratio of this demonstrated housing need to the regional housing needs determination of 1,341,827 units (alternately listed as 2.7% in the City's appeal letter and 2.07% in the consultant study).

SCAG Staff Response: While the RHNA methodology does not contain an executive summary, it appears as though the City is referring to discussion on page 24 of SCAG's adopted RHNA methodology relating to this local planning factor. This discussion concludes that region-wide, most university housing needs are addressed and met by the institution both on- and off-campus, but a small number of jurisdictions indicated that off-campus student housing is an important issue and that this may be best addressed in individual housing elements. As such, no distinct, additional factor or adjustment was included in SCAG's adopted RHNA methodology related to university housing needs.

RHNA is concerned with the region's and local jurisdictions' population within households and excludes population within group quarters as defined by the US Census Bureau, of which college dormitories are a part. Students living either with family or in other household types (e.g. with roommates) in non-group quarters housing would be included as part of a forecast of regional or local household population⁴ and thus would be reflected in the projected need component of the RHNA methodology.

Huntington Beach's local planning factor survey, which would have contributed to the regional assessment of this local planning factor which is referenced, was returned to SCAG (attached) but the City indicated that it was not impacted by university-generated housing needs.

The appeal proposes that this planning factor be applied in a different manner than what was adopted in the Final RHNA Methodology. Again, the City is proposing an alternative RHNA methodology which is outside the scope of the RHNA appeals process and cannot be considered by the Appeals Board. In addition, Huntington Beach fails to establish why the City is disproportionately affected in any way by housing need generated by colleges or universities. Notably, the City does not assert any housing needs generated by universities or campuses which are in Huntington Beach—the analysis provides a *regional* analysis of off-campus housing demand at 13 universities outside of Huntington Beach. Whether, and the extent to which, students at universities elsewhere may choose to live in Huntington Beach more than in other local

⁴ Details for how the Connect SoCal forecast treats group quarters population can be found in the Demographics & Growth Forecast Technical Report at https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial_demographics-and-growth-forecast.pdf

jurisdictions, is not explored in the City's analysis. As such, SCAG staff does not recommend a reduction on this basis.

Other: Legality of RHNA allocation and residual allocation; change in circumstances – COVID-19.

The City argues that the State's imposition of RHNA allocation requirements on Charter Cities violates the constitution and is in and of itself an illegal act. Huntington Beach also asserts that the residual reallocation portion of the RHNA methodology is illegal, capricious, is to the detriment of other statutory objectives, and prevents Huntington Beach from promoting socioeconomic equity. The City argues that the cap applied to lower-resourced jurisdictions is arbitrary that Santa Ana's RHNA allocation in particular should be higher as this cap is based on self-reported growth.

The City also argues that COVID-19 has resulted in a change in circumstances that have resulted in a strain on the ability of transit agencies to provide service resulting in a change in transit patterns.

SCAG Staff Response: As noted above in response to Issues 1, 2, 4 and 7, the adopted RHNA methodology is not grounds for an appeal, only its application may be appealed. SCAG's RHNA allocation process is fully consistent with State law.

The RHNA methodology is a complex balance of several regional objectives ranging from job-housing balance to Affirmatively Furthering Fair Housing (AFFH). Ultimately, AFFH is one of the RHNA objectives described in Government Code 65584(d) and the residual reallocation is part of the adopted final RHNA methodology. It furthers the AFFH objectives by ensuring that RHNA allocations are not concentrated in jurisdictions with lower opportunity scores, reallocating them to jurisdictions with higher opportunity scores (such as Huntington Beach). Huntington Beach asserts that this reallocation is to the detriment of job and transit access because DAC jurisdictions may not receive allocation on those bases, compromising these statutory objectives.

It is unclear from Huntington Beach's appeal how socioeconomic equity is undermined through this component of the RHNA allocation methodology, specifically given HCD's finding to the contrary. Per their January 13, 2020 letter (attached), HCD provided the finding that SCAG's RHNA methodology furthered all five objectives of State housing law, including the inclusion of the methodology's residual factor's connection to affirmatively furthering fair housing. As discussed in the response to Issue 5, assigning units to jurisdictions based on their own overcrowding rate, which was not part of a methodology found to further socioeconomic equity or other RHNA objectives, is not required and its consideration at this time would constitute a change to the methodology itself which is not possible through an appeal.

SCAG staff does not recommend a reduction to Huntington Beach's draft RHNA allocation based on this issue.

See response to Issues 1, 2, 4 and 7 above regarding HQTAs and changes in transit service as a result of COVID-19. SCAG recognizes that COVID-19 presents unforeseen circumstances. However, Section 65584.05(b) requires that:

“Appeals shall be based upon comparable data available for all affected jurisdictions and accepted planning methodology, and supported by adequate documentation, and shall include a statement as to why the revision is necessary to further the intent of the objectives listed in subdivision (d) of Section 65584.”

As noted above, the City has not provided evidence to indicate that change in transit service related to COVID-19 is a sufficiently lasting trend that will extend through the end of the RHNA planning period (2029) and/or the Connect SoCal horizon year (2045).

SCAG’s Regional Council delayed the adoption of its 2020-2045 RTP/SCS by 120 days in order to assess the extent to which long-range forecasts of population, households, and employment may be impacted by COVID-19; however, the document’s long-range (2045) forecast of population, employment, and household growth remained unchanged. The Demographics and Growth Forecast Technical Report⁵ outlines the process for forecasting long-range employment growth which involves understanding national growth trends and regional competitiveness, i.e., the SCAG’s region share of national jobs. Short-term economic forecasts commenting on COVID-19 impacts generally do not provide a basis for changes in the region’s long-term competitiveness or the region’s employment outlook for 2023-2045. As such, SCAG’s assessment is that comparable data would not suggest long-range regional employment declines.

The COVID-19 pandemic has had various impacts throughout Southern California; however, it has not resulted in a slowdown in major construction nor has it resulted in a decrease in a demand for housing or housing need. Southern California home prices continue to increase (+2.6 percent from August to September 2020) led by Los Angeles (+10.4 percent) and Ventura (+6.2 percent) counties. Demand for housing as quantified by the RHNA allocation is a need that covers an 8-year period, not simply for impacts that are in the immediate near-term. Moreover, impacts from COVID-19 are not unique to any single SCAG jurisdiction and no evidence has been provided in the appeal that indicates that housing need within Huntington Beach is disproportionately impacted in comparison to the rest of the SCAG region. For these reasons, SCAG staff does not recommend a reduction to the jurisdiction’s draft RHNA allocation.

FISCAL IMPACT:

Work associated with this item is included in the current FY20-21 Overall Work Program (300-4872Y0.02: Regional Housing Needs Assessment).

⁵ See https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Demographics-And-Growth-Forecast.pdf

ATTACHMENT(S):

1. Local Input and Development of Draft RHNA Allocation (City of Huntington Beach)
2. HQTAL Job Access Local Input Survey Form (City of Huntington Beach)
3. Comments Received During the Comment Period (General)
4. Appeal Form and List of Attachments (City of Huntington Beach)
5. Attachment No. 1 - Description of City's Appeal, Desired Outcome and Statements
6. Attachment No. 2 - Wendell Cox Expert Report
7. Attachment No. 3 - City of Huntington Beach Comment Letters
8. Attachment No. 4 - SCAG Technical Working Group Meeting_HighQualityTransitCorridorsand MajorTransitStops
9. Attachment No. 5a - OCTA Oct. 2019 Bus Book pages 1-2
10. Attachment No. 5b - OCTA Oct. 2019 Bus Book pages 3-4
11. Attachment No. 5c - OCTA Oct. 2020 Bus Book
12. Attachment No. 6 - SCAG Connect SoCal Master Response 1_page92
13. Attachment No. 7 - Figure 4.1 2018 OCTA LRTP
14. Attachment No. 8 -
June22_2020_OCTABoardAgendaItem22_BusOperationsPerformanceMeasurements
15. Attachment No. 9 - ITS_SCAG_Transit_Ridership_Falling Transit
Ridership_CaliforniaandSouthernCalifornia
16. Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)
17. Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)
18. Attachment No. 11 - HCD Regional Determination Letter August 19 2019
19. Attachment No. 12 - SCAG-Final-RHNA-Methodology-030520
20. Attachment No. 13 - UCLA_Student_Housing_Master_Plan_2016-26
21. Attachment No. 14 - UCLA_LRDP_Amendment_Final_SEIR-January2018
22. Attachment No. 15 - Cal State University Basic Needs Initiative Study
23. Attachment No. 16 - Terra Nova Planning and Research Inc. Memorandum
24. Attachment No. 17a - Making California's Coast Resilient to Sea Level Rise_Principles for Aligned
State Action
25. Attachment No. 17b - Exhibits
26. Attachment No. 18 - Chapter 5 CCC SLR Policy Guidance SLR in LCPs
27. Attachment No. 19 - Chapter 7 CCC SLR Policy Guidance Adaptation Strategies
28. Attachment No. 20 - SCAG Data Map Book
29. Attachment No. 21 - CCC SLR Adopted Policy Guidance 2018
30. Attachment No. 22 - Declaration of Wendell Cox in Support of Petitioner

Southern California Association of Governments
Remote Participation Only
City of Huntington Beach RHNA Appeal
January 19, 2022

Attachment 1: Local Input and Development of the Draft RHNA Allocation

This attachment sets forth the nature and timing of the opportunities which the City of Huntington Beach had to provide information and local input on SCAG’s growth forecast, the RHNA methodology, and the Growth Vision of the 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS or Connect SoCal). It also describes how the RHNA Methodology development process integrates this information in order to develop the City of Huntington Beach’s Draft RHNA Allocation.

1. Local input

a. Bottom-Up Local Input and Envisioning Process

On October 31, 2017, SCAG took the first step toward developing draft RHNA allocations by initiating the Bottom-Up Local Input and Envisioning Process. At the direction of the Regional Council, the objective of this process was to seek local input and data to prepare for Connect SoCal and the 6th cycle of RHNA.¹ Each jurisdiction was provided with a package of land use, transportation, environmental, and growth forecast data for review and revision which was due on October 1, 2018.² While the local input process materials focus principally on jurisdiction-level and Transportation Analysis Zone (TAZ) level growth, input on specific parcels, sites, and project areas were welcomed and integrated into SCAG’s growth forecast as well as data on other elements. SCAG met one-on-one with all 197 local jurisdictions between November 2017 and July 2018 and provided training opportunities and staff support. Following input from SCAG’s Technical Working Group (TWG), the Connect SoCal growth forecast reflected precisely the jurisdiction-level growth totals provided during this process.

Forecasts for jurisdictions in Orange County were developed through the 2018 Orange County Projections (OCP-2018) update process conducted by the Center for Demographic Research (CDR) at Cal State Fullerton. Jurisdictions were informed of this arrangement by SCAG at the kickoff of the Process. For the City of Huntington Beach, the anticipated number of households in 2020 was 79,048 and in 2030 was 79,565 (growth of 517 households). In March 2018, SCAG staff and CDR staff met with staff from the City of Huntington Beach to discuss the Bottom-Up Local Input and Envisioning Process and answer questions.

¹ While the RTP/SCS and RHNA share data elements, they are distinct processes. The RTP/SCS growth forecast provides an assessment of reasonably foreseeable future patterns of employment, population, and household growth in the region given demographic and economic trends, and existing local and regional policy priorities. The RHNA identifies anticipated housing need over a specified eight-year period and requires that local jurisdictions make available sufficient zoned capacity to accommodate this need. A further discussion of the relationship between these processes can be found in Connect SoCal Master Response 1 at https://www.connectsoocal.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

² A detailed list of data during this process reviewed can be found in each jurisdiction’s Draft Data/Map Book at <https://scag.ca.gov/local-input-process-towns-cities-and-counties>

b. RHNA Methodology Surveys

On March 19, 2019, SCAG distributed a packet of methodology surveys, which included the local planning factor survey (formerly known as the AB2158 factor survey), Affirmatively Furthering Fair Housing (AFFH) survey, and replacement need survey, to SCAG jurisdictions’ Community Development Directors. Surveys were due on April 30, 2019. SCAG reviewed all submitted responses as part of the development of the draft RHNA methodology. The City of Huntington Beach submitted the following surveys prior to the adoption of the draft RHNA methodology:

- Local planning factor survey
- Affirmatively Furthering Fair Housing (AFFH) survey
- Replacement need survey
- No survey was submitted to SCAG

c. Connect SoCal Growth Vision and Additional Refinements

Beginning in May 2018, SCAG’s Sustainable Communities Working Group began the process of developing growth scenarios for the SCAG region. The culmination of this work was the development of the Connect SoCal Growth Vision, which directly uses jurisdictional-level growth projections from the Bottom-Up Local Input and Envisioning process, and also features strategies for growth at the TAZ-level that help to reduce greenhouse gas emissions (GHG) from automobiles and light trucks to achieve Southern California’s GHG reduction target, approved by the California Air Resources Board (CARB) in accordance with state planning law. Additional detail regarding the Connect SoCal Growth Vision, specifically the Transportation Analysis Zone (TAZ, or neighborhood) level projections is found at <https://www.connectsocial.org/Documents/DataMapBooks/Growth-Vision-Methodology.pdf>.

As a result of these strategies, in some jurisdictions growth at the TAZ-level differed from locally anticipated growth conveyed during the Bottom-Up Local Input and Envisioning Process.

As such, SCAG provided two additional opportunities for all local jurisdictions to make TAZ-level technical refinements on the topics of general plan capacities and entitlements. During the release of the draft Connect SoCal Plan, jurisdictions were notified on October 31, 2019 that SCAG would accept additional refinements until December 11, 2019. Following the Regional Council’s decision to delay full adoption of Connect SoCal for 120 days due to the COVID-19 pandemic, all jurisdictions were again notified on May 26, 2020 that SCAG would accept additional refinements until June 9, 2020.

Connect SoCal Growth Vision data have been available to local jurisdiction staff during the entirety of this process through SCAG’s Scenario Planning Model Data Management Site (SPM-DM) at <http://spmdm.scag.ca.gov> and updates were shared with local jurisdictions on technical refinements to the data in February 2020 and August 2020 to share the results of both review opportunities. SCAG

received additional technical corrections from the City of Huntington Beach and incorporated them into the Growth Vision in December 2019.

2. Development of the Final RHNA Methodology

SCAG convened the first meeting of the RHNA Subcommittee in October 2018. In their subsequent monthly meetings, this body reviewed and advised on the development of SCAG's 6th cycle RHNA process, including the development of the RHNA methodology. Per Government Code 65584.04(a), SCAG must develop a RHNA methodology which furthers the five statutory objectives of RHNA:

(1) Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low income households.

(2) Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region's greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080.

(3) Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction.

(4) Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey.

(5) Affirmatively furthering fair housing (Govt. Code § 65584(d)).

As explained in more detail below, the Draft RHNA Methodology (which was adopted as the Final RHNA Methodology) set forth the policy factors, data sources, and calculations which would be used to generate draft RHNA allocations for all local jurisdictions. Following extensive debate and public comment, SCAG's Regional Council voted to approve the Draft RHNA Methodology on November 7, 2019 and provide it to HCD for review. Per Government Code 65584.04(i), HCD is vested with the authority to determine whether a methodology furthers the objectives set forth in Government Code section 65584(d). On January 13, 2020, HCD found that the Draft RHNA Methodology furthers these five statutory objectives of RHNA. Specifically, HCD noted that:

"This methodology generally distributes more RHNA, particularly lower income RHNA, near jobs, transit, and resources linked to long term improvements of life outcomes.

In particular, HCD applauds the use of the objective factors specifically linked the statutory objectives in the existing need methodology.” (Letter from HCD to SCAG dated January 13, 2020 at <https://scag.ca.gov/sites/main/files/file-attachments/hcd-review-rc-approved-draft-rhna-methodology.pdf?1602190239>).

On March 5, 2020, again following extensive debate and public comment, the Regional Council voted to approve the Draft RHNA Methodology as the Final RHNA Methodology. Unlike SCAG’s 5th cycle RHNA methodology which relies almost entirely on the household growth component of the RTP/SCS, SCAG’s 6th cycle RHNA methodology consists of two primary elements: “projected need” which includes the number of housing units required to accommodate anticipated population growth over the 8-year RHNA planning period and “existing need,” which refers to the number of housing units required to accommodate excess or unsatisfied housing demand experienced by the region’s current population.³ Furthermore, the Final RHNA methodology utilizes measures of 2045 job accessibility and High Quality Transit Area (HQTAs) population measures based on TAZ-level projections in the Connect SoCal Growth Vision.

More specifically, the Final RHNA Methodology considers three primary factors in determining a local jurisdiction’s total housing need which are primarily based on data from Connect SoCal’s aforementioned Bottom-Up Local Input and Envisioning Process:

- Forecasted growth over 2020-2030 (projected need)
- Transit accessibility in 2045 (existing need)
- Job accessibility in 2045 (existing need)

The methodology is described in further detail at <http://scag.ca.gov/programs/Documents/RHNA/SCAG-Final-RHNA-Methodology-030520.pdf>.

3. Draft RHNA Allocation for the City of Huntington Beach

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the 120 day delay due to the COVID-19 pandemic, SCAG adopted Connect SoCal on September 3, 2020, and the City of Huntington Beach received its draft RHNA allocation on September 11, 2020. Application of the RHNA methodology yields the draft RHNA allocation for the City of Huntington Beach as summarized in the data and calculations in the tables below.

³ Legislative changes in 2018 modified the nature of the regional housing need determination for the 6th cycle of RHNA by adding measures of household overcrowding and housing cost burden to the list of factors to be considered by HCD for the determination of housing need. These new measures are not included in the Connect SoCal Growth Forecast because they are not direct inputs to the growth forecasting process and are independent of employment and population projections. In contrast, they reflect additional latent housing needs in the current population (i.e. “existing need”) and would not result in a change in regional population. For further discussion see Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

Huntington Beach city statistics and inputs:	
Forecasted household (HH) growth, RHNA period: <i>(2020-2030 Household Growth * 0.825)</i>	427
Percent of households who are renting:	42%
Housing unit loss from demolition (2009-18):	2
Adjusted forecasted household growth, 2020-2045: <i>(Local input growth forecast total adjusted by the difference between the RHNA determination and SCAG's regional 2020-2045 forecast, +4%)</i>	1,309
Percent of regional jobs accessible in 30 mins (2045): <i>(For the jurisdiction's median TAZ)</i>	17.56%
Jobs accessible from the jurisdiction's median TAZ (2045): <i>(Based on Connect SoCal's 2045 regional forecast of 10.049M jobs)</i>	1,765,000
Share of region's job accessibility (population weighted):	1.32%
Jurisdiction's HQTa population (2045):	74,765
Share of region's HQTa population (2045):	0.73%
Share of population in low/very low-resource tracts:	7.76%
Share of population in very high-resource tracts:	37.53%
Social equity adjustment:	150%

Calculation of Draft RHNA Allocation for Huntington Beach city	
Forecasted household (HH) growth, RHNA period:	427
Vacancy Adjustment <i>(5% for renter households and 1.5% for owner households)</i>	13
Replacement Need	2
TOTAL PROJECTED NEED:	441
Existing need due to job accessibility (50%)	5534
Existing need due to HQTAs pop. share (50%)	3059
Net residual factor for existing need <i>(Negative values reflect a cap on lower-resourced community with good job and/or transit access. Positive values represent this amount being redistributed to higher-resourced communities based on their job and/or transit access.)</i>	4304
TOTAL EXISTING NEED	12896
TOTAL RHNA FOR HUNTINGTON BEACH CITY	13337
Very-low income (<50% of AMI)	3652
Low income (50-80% of AMI)	2179
Moderate income (80-120% of AMI)	2303
Above moderate income (>120% of AMI)	5203

The transit accessibility measure is based on the population anticipated to live in High-Quality Transit Areas (HQTAs) in 2045 based on Connect SoCal’s designation of high-quality transit areas and population forecasts. With a forecasted 2045 population of 74,765 living within HQTAs, the City of Huntington Beach represents 0.73% of the SCAG region’s HQTAs population, which is the basis for allocating housing units based on transit accessibility.

Job accessibility is defined as the jurisdiction’s share of regional jobs accessible within a 30-minute drive commute. Since over 80 percent of the region’s workers live and work in different jurisdictions, the RHNA methodology uses a measure based on Connect SoCal’s travel demand model output for the year 2045 rather than assigning housing units based on the number of jobs with a specific jurisdiction. Specifically, the share of future (2045) regional jobs which can be reached in a 30-minute

automobile commute from the local jurisdiction's median TAZ is used as to allocate housing units based on transit accessibility. From the City of Huntington Beach's median TAZ, it will be possible to 17.56% of the region's jobs in 2045 within a 30-minute automobile commute (1,765,000 jobs, based on Connect SoCal's 2045 regional job forecast of 10,049,000 jobs).

An additional factor is included in the methodology to account for RHNA Objective #5 to Affirmatively Further Fair Housing (AFFH). Several jurisdictions in the region which are considered disadvantaged communities (DACs) on the basis of access to opportunity measures (described further in the RHNA methodology document), but which also score highly in job and transit access, may have their total RHNA allocations capped based on their long-range (2045) household forecast. This additional housing need, referred to as residual, is then reallocated to non-DAC jurisdictions in order to ensure housing units are placed in higher-resourced communities consistent with AFFH principles. This reallocation is based on the job and transit access measures described above, and results in an additional 4,304 units assigned to the City of Huntington Beach.

Please note that the above represents only a partial description of key data and calculations which result in the draft RHNA allocation.

APPENDIX 1 OF 1

High Quality Transit Corridors and Major Transit Stops

BACKGROUND

The Sustainable Communities and Climate Protection Act of 2008, Senate Bill (SB) 375, requires that Metropolitan Planning Organizations (MPOs) develop a Sustainable Communities Strategy (SCS) to reduce per capita greenhouse gas emissions through integrated transportation, land use, housing and environmental planning. SB 375 creates incentives for residential or mixed-use projects that may be exempt from, or subject to a limited review of, the California Environmental Quality Act (CEQA), provided they are consistent with the MPO's adopted SCS. These "transit priority projects" must, among other criteria, be located within one-half mile of a major transit stop or high-quality transit corridor (HQTC).

SB 743, signed into law in 2013, provides further opportunities for CEQA exemption and streamlining to facilitate transit oriented development (TOD). Specifically, certain types of projects within "transit priority areas" (TPAs) can benefit from a CEQA exemption if they are consistent with an adopted specific plan and the SCS. A TPA is an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Federal Transportation Improvement Program (FTIP).

STATUTORY DEFINITIONS

Definitions of "major transit stop" and "high quality transit corridor" are set forth under California law as follows:

CA Pub. Res. Code § 21155(b)

For purposes of this chapter, a transit priority project shall (1) contain at least 50 percent residential use, based on total building square footage and, if the project contains between 26 percent and 50 percent nonresidential uses, a floor area ratio of not less than 0.75; (2) provide a minimum net density of at least 20 dwelling units per acre; and (3) be within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan. A major transit stop is as defined in Section 21064.3, except that, for purposes of this section, it also includes major transit stops that are included in the applicable regional transportation plan. For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. A project shall be considered to be within one-half mile of a major transit stop or high-quality transit corridor if all parcels within the project have no more than 25 percent of their area farther than one-half mile from the stop or corridor and if not more than 10 percent of the residential units or 100 units, whichever is less, in the project are farther than one-half mile from the stop or corridor.

CA Pub. Res. Code § 21064.3

“Major transit stop” means a site containing any of the following:

- (a) An existing rail or bus rapid transit station.
- (b) A ferry terminal served by either a bus or rail transit service.
- (c) The intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

CA Pub. Res. Code § 21060.2

- (a) “Bus rapid transit” means a public mass transit service provided by a public agency or by a public-private partnership that includes all of the following features:

- (1) Full-time dedicated bus lanes or operation in a separate right-of-way dedicated for public transportation with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.
- (2) Transit signal priority.
- (3) All-door boarding.
- (4) Fare collection system that promotes efficiency.
- (5) Defined stations.

- (b) “Bus rapid transit station” means a clearly defined bus station served by a bus rapid transit.

METHODOLOGY

SCAG’s technical methodology for identifying HQTcs and major transit stops is based on input from the Regional Transit Technical Advisory Committee (RTTAC), as well as consultation with local agencies, other large MPOs in California, and the Governor’s Office of Planning and Research. The methodology and assumptions are discussed below. This methodology may be periodically updated to incorporate revisions or clarifications. Questions should be directed to Steve Fox, at fox@scag.ca.gov, or Phillip Law, at law@scag.ca.gov.

SCAG maps and data depicting HQTcs and major transit stops are intended for planning purposes only. SCAG shall incur no responsibility or liability as to the completeness, currentness, or accuracy of this information. SCAG assumes no responsibility arising from use of this information by individuals, businesses, or other public entities. The information is provided with no warranty of any kind, expressed or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.

For the methodology SCAG uses to identify “high quality transit areas,” see the Sustainable Communities Strategies Technical Report.

EXISTING HQTCS AND MAJOR TRANSIT STOPS

SCAG updates its inventory of existing major transit stops and HQTCS with the adoption of a new Regional Transportation Plan (RTP) and SCS, once every four years. Data for the existing (“base year”) condition for the RTP/SCS are typically obtained several years before plan adoption. The base year transit network for *Connect SoCal*, the 2020 RTP/SCS, is based primarily on data for 2016. This inventory of existing major transit stops and HQTCS is therefore only a snapshot in time as of 2016, and does not reflect the existing levels of transit service for any other timeframe.

See **EXHIBIT 7, 2016 Base Year “existing” major transit stops and high quality transit corridors.**

Transit agencies make adjustments to bus service on a regular basis. Therefore, given the limitations of the RTP/SCS base year transit network, local jurisdictions should consult with the appropriate transit provider(s) to obtain the latest information on existing transit routes, stop locations, and service intervals before making determinations regarding CEQA exemption or streamlining. It is the responsibility of the lead agency under CEQA to determine if a project meets statutory requirements.

STOP-BASED ANALYSIS

SCAG calculates peak commute bus service intervals at the stop level using schedule data published by transit agencies in the General Transit Feed Specification (GTFS) format (see for example, www.transitfeeds.com). An HQTC therefore comprises or is determined by the qualifying stops on an individual bus route.

PEAK PERIOD BUS SERVICE INTERVAL (FREQUENCY)

To determine whether the peak commute bus service interval (also called frequency) meets the statutory threshold of 15 minutes or less, SCAG uses the peak period defined in its regional travel demand model. The morning peak

is defined as 6am to 9am and the afternoon peak is defined as 3pm to 7pm. A transit operator may have a different, board-adopted or de facto peak period; in such cases SCAG will accept requests to use operator-specific peak-hour periods on a case-by-case basis.

SCAG uses the total population of bus trips during the combined seven-hour morning and afternoon peak periods to determine the peak frequency at a bus stop. This is done for each bus route, by direction. The peak frequency is calculated by dividing 420 minutes (the seven-hour peak converted to minutes) by the total peak bus trips. This average frequency should be 15 minutes or less in order to qualify. The threshold is strict, at 15.0 minutes.

DIRECTIONAL FREQUENCY

A bus route must only meet the 15-minute service interval threshold in one direction to qualify as an HQTC. This is based on RTTAC feedback that transit agencies often operate very peak-directional service or operate predominantly one-way service on a corridor.

CORRIDORS WITH MULTIPLE OVERLAPPING BUS ROUTES

Separate but overlapping bus routes that do not individually meet the 15-minute threshold may not be combined in order to qualify as an HQTC. However, based on RTTAC feedback, there are certain corridors where overlapping “line families” or local/bus rapid transit (BRT) lines are intended to function as one bus route. On these corridors, transit riders typically board the first bus available, whether it be a local, express, or BRT line. For these line families or local/BRT corridors, SCAG uses the combined routes to calculate the frequency.

ROUTE ALIGNMENT

The entire alignment of a bus route, based on the stops that meet the 15-minute peak frequency threshold, is considered an HQTC. This would include,

for example, express bus services that operate along freeways where there are no stops along the freeway right-of-way.

BUS RAPID TRANSIT

As defined in statute, a BRT must include full-time dedicated bus lanes. In the SCAG region, there are existing and proposed BRT projects that have only a portion of their alignment in a full-time dedicated bus lane. For these BRT projects, only those stations that are adjacent to a full-time dedicated bus lane are considered major transit stops. For the BRT projects that have a full-time dedicated bus lane on their entire route, all of the stations are considered major transit stops.

MAJOR TRANSIT STOPS AND INTERSECTING SERVICE TRANSFER ZONES

As defined in statute, major transit stops include the intersection of two or more HQTcs. For purposes of transferring between intersecting service, SCAG uses a 500-foot buffer to determine a major transit stop. In other words, two intersecting HQTcs must have stops that are within 500 feet of each other to qualify as a major transit stop. A 500-foot buffer is assumed to be a reasonable limit to the distance that a transit patron would walk to transfer between bus routes. It is also consistent with the Metro Transfers Design Guide definition of a transfer zone.

AMTRAK STATIONS AND FERRY STATIONS

Amtrak intercity passenger rail stations with only limited long-distance service are not automatically included as a major transit stop unless requested by a local agency. Similarly, ferry stations with seasonal and/or non-commuter based service (and that are served by bus or rail transit) are not automatically included as a major transit stop unless requested by a local agency.

PLANNED HQTCS AND MAJOR TRANSIT STOPS

Planned HQTcs and major transit stops are future improvements that are expected to be implemented by transit agencies by the RTP/SCS horizon year of 2045. These are assumed by definition to meet the statutory requirements of an HQTc or major transit stop. SCAG updates its inventory of planned major transit stops and HQTcs with the adoption of a new RTP/SCS, once every four years. However, transit planning studies may be completed by transit agencies on a more frequent basis than the RTP/SCS is updated by SCAG. Local jurisdictions should consult with the appropriate transit provider(s) to obtain the latest information on planned transit routes, stop locations, and service intervals/frequencies before making determinations regarding CEQA exemption or streamlining.

See **EXHIBIT 14, planned (year 2045) major transit stops and high quality transit corridors.**

ID	Comment	Response
<p><i>Submitted by</i></p> <p>City of Costa Mesa</p>	<p>Submitted 0001527</p> <p>Related Documents Link</p>	
0001527.01	<p>Dear Connect SoCal Team: The City of Costa Mesa appreciates the time and effort undertaken by the Southern California Association of Governments (SCAG) staff in its efforts to develop a RTP/SCS of our large and diverse metropolitan planning area. The City of Costa Mesa remains committed to doing its fair share in addressing regional issues and appreciate the comment and review period provided by SCAG for the Connect SoCal Plan and its associated PEIR.</p>	<p>Thank you for your comments on the Draft Connect SoCal and associated PEIR. Comment noted. For responses related to the Connect SoCal Program Environmental Impact Report (PEIR), please refer to Chapter 9.0, Responses to Comments, of the Final Connect SoCal PEIR.</p>
0001527.02	<p>The City would like to express its support of recommendations and comments submitted by the Orange County Council of Governments, Orange County Transportation Authority, and Center for Demographic Research. We strongly recommend that all comments and concerns from these bodies be implemented into the Connect SoCal Plan and the associated PEIR.</p>	<p>Comment noted. For responses related to the Draft Connect SoCal Program Environmental Impact Report (PEIR), please refer to Chapter 9.0, Responses to Comments, and Chapter 10, Corrections and Additions, of the Final Connect SoCal PEIR.</p>
<p><i>Submitted by</i></p> <p>City of Huntington Beach</p>	<p>Submitted 0001393</p> <p>Related Documents Link</p>	
0001393.01	<p>Thank you for the opportunity to submit comments on the Draft Connect SoCal plan and Program EIR. The City of Huntington Beach appreciates SCAG's public outreach efforts for this process and offers the following comments and concerns for your consideration.</p>	<p>Thank you for your comments on the Draft Connect SoCal and associated PEIR.</p>
0001393.02	<p>High Quality Transit Areas (HQTAs). HQTAs are defined as "corridors that have at least a fifteen minute headway (time in between the next scheduled service) during peak hours bus service." According to RTP/SCS maps, all of Beach Boulevard within the City of Huntington Beach is defined as a HQTA. However, based on the October 13, 2019 Orange County Transportation Authority (OCTA) Bus Schedule 1, there are no bus stops on Beach Boulevard within the City of Huntington Beach with headway times of 15 minutes or less. Route 29 services Beach Boulevard from the City of La Habra to PCH in Huntington Beach. The shortest headway time during peak hours for bus service is on the Route 29 stop at PCH/1 51 Street (not a stop on Beach Boulevard) traveling southbound with an average headway time of 18.23 minutes during the PM peak hours. Most stops have an average peak hour headway time of approximately 19-25 minutes. Some stops, such as the Beach Boulevard/Talbert Avenue stop, have peak hour headway times of 40-49 minutes. One stop (Beach Boulevard/Atlanta Avenue) did not list any stop times as part of any route for this stop. It must also be noted that OCTA eliminated Route 211 in October 2019, which serviced Huntington Beach to Irvine (a major Orange County job center) due to low ridership. Further, OCTA's 2018 Long Range Transportation Plan (LRTP)2 includes Figure 4.1 - Local, Community, and Bravo! Final Route Recommendations. This figure recommends that Route 29 receive a reduction in frequency of service. This will add further delay to the 19-25 minute average peak hour headway service times on Beach Boulevard.</p>	<p>SCAG worked closely with the Orange County Transportation Authority (OCTA) to identify the high quality transit corridors (HQTAs) in Orange County which form the basis for high quality transit areas (HQTAs). SCAG and OCTA together identified the Beach Blvd corridor, including the entire alignment within the City of Huntington Beach, as both an existing and future HQTAs. See Figure 4.10 in OCTA's 2018 Long Range Transportation Plan. The nature of bus services is that routes and service frequency can change periodically, thus a County Transportation Commission's (CTC) estimate of future transit service frequency is the best estimate available at a given point in time. For the 6th cycle of RHINA, SCAG is assigning a portion of housing unit need on the basis of 2045 HQTAs. These HQTAs will be consistent with those developed for Connect SoCal. CTCs including OCTA have provided SCAG with the most likely future service scenario in order to assist with our long-range planning efforts.</p>

Regional Housing Needs Assessment (RHNA) Local Planning Factor Survey

The RHNA process requires that SCAG survey its jurisdictions on local planning factors (formerly known as “AB 2158 factors”) prior to the development of a proposed RHNA methodology, per Government Code 65584.04 (b). Information collected from this survey will be included as part of the proposed RHNA methodology.

Between October 2017 and October 2018, SCAG included these factors as part of the local input survey and surveyed a binary yes/no as to whether these factors impacted jurisdictions. If your jurisdiction answered this part of the survey, your reply has been pre-populated in the table. Please review each factor and provide any information that may be relevant to the RHNA methodology. You may attach additional information to the survey. Please keep in mind that recent housing-related legislation has updated some of the factors listed, which were not included in the prior survey.

Per Government Code Section 65584.04 (g), there are several criteria that **cannot** be used to determine or reduce a jurisdiction’s RHNA allocation:

- (1) Any ordinance, policy, voter-approved measure, or standard of a city or county that directly or indirectly limits the number of residential building permits issued by the jurisdiction
- (2) Underproduction of housing units as measured by the last RHNA cycle allocation
- (3) Stable population numbers as measured by the last RHNA cycle allocation

The planning factors in the table below are abbreviated. For the full language used, please refer to Government Code Section 65584.04 (e) or the attached reference list.

Please review and submit the survey by 5 p.m. April 30, 2019 to housing@scag.ca.gov.

RHNA Methodology Local Planning Factor Survey

Jurisdiction	
County	

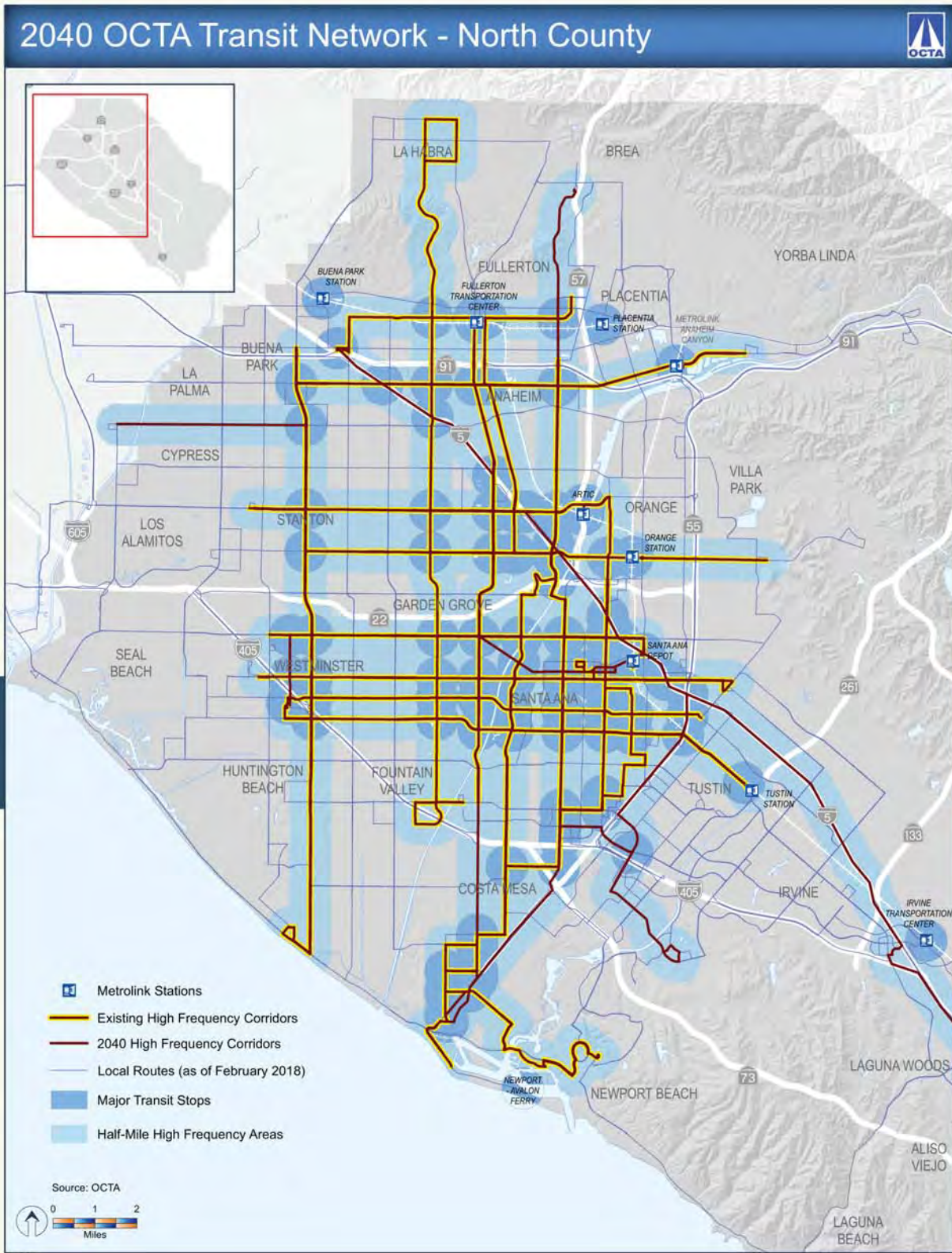
Planning Factor	Impact on Jurisdiction
Existing and projected jobs and housing relationship, particularly low-wage jobs and affordable housing	
Lack of capacity for sewer or water service due to decisions made outside of the jurisdiction's control	
Availability of land suitable for urban development	

Lands protected from development under Federal or State programs	
County policies to preserve agricultural land	
Distribution of household growth assumed for regional transportation planning and opportunities to maximize use of public transportation	
Agreements between a county and cities to direct growth to incorporated areas of the county	

Loss of low income units through contract expirations	
[NEW] Percentage of households that pay more than 30% and more than 50% of their income on rent	
[NEW] Rate of overcrowding	
Farmworker housing needs	

<p>Housing needs generated by the presence of a university campus within the jurisdiction</p>	
<p>[NEW] Loss of units during a declared state of emergency that have yet to rebuilt at the time of this survey</p>	
<p>[NEW] The region's greenhouse gas emission targets provided by the California Air Resources Board</p>	
<p>Other factors</p>	

FIGURE 4.10



Data Input and Verification Form
 Bottom-Up Local Input and Envisioning Process
 2020 Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS)

Date: 8/21/18

HUNTINGTON

Page 1

A - Contact & Background Information

From the Jurisdiction of <u>BEACH</u> to SCAG	
Jurisdiction Contact Person: <u>RICKY RAMOS</u> Position: <u>SENIOR PLANNER</u> Email: <u>RRAMOS@SURFCITY-HB.ORG</u> Phone: <u>(714) 536-5271</u>	Background Information: <input type="checkbox"/> I am my Jurisdiction's City Manager/County Administrative Officer, Community Development/Planning Director, or City Clerk (submitting on behalf of a jurisdiction's governing body) <input checked="" type="checkbox"/> I am a staff person from a local jurisdiction, submitting input under supervision of one of the persons identified above (see appropriate signature below)
Additional Background, if any, based upon Previous Communications: _____ _____	

B - Action Items

We are seeking to (select all that apply):

Submit to SCAG:

Provide Input on SCAG's Core Geographic Data Other, please specify _____

Provide Input on SCAG's Core Demographic Data _____

Provide Input on Supplemental Data Elements _____

C - Data Type

<p>Core Geographic Data:</p> <input checked="" type="checkbox"/> General Plan Land Use <input checked="" type="checkbox"/> Zoning <input checked="" type="checkbox"/> Existing Land Use Specific Plan <input type="checkbox"/> Land Use Endangered Species <input type="checkbox"/> and Plants* Open Space and <input checked="" type="checkbox"/> Parks* <input type="checkbox"/> Flood Areas* <input type="checkbox"/> Natural Community and Habitat Conservation Plans* <input type="checkbox"/> Farmland* <input type="checkbox"/> Coastal Inundation (Sea Level Rise)* <input type="checkbox"/> Major Stops and High Quality Transit Corridors* <input type="checkbox"/> Transit Priority Areas* <input checked="" type="checkbox"/> Regional Bikeways <input checked="" type="checkbox"/> Regional Truck Routes <input checked="" type="checkbox"/> City Boundary* <input type="checkbox"/> Sphere of Influence* <input type="checkbox"/> Census Tracts** <input type="checkbox"/> Transportation Analysis Zone (TAZ) Boundaries** <input type="checkbox"/> Entitlements <input checked="" type="checkbox"/> Potential Infill Sites	<p>Core Demographic Data:</p> <input type="checkbox"/> Population <input type="checkbox"/> Households <input type="checkbox"/> Employment Year: <input type="checkbox"/> 2016 <input type="checkbox"/> 2020 <input type="checkbox"/> 2030 (Input needed at jurisdictional level only) <input type="checkbox"/> 2035 <input type="checkbox"/> 2045 Geographic Level: <input type="checkbox"/> Jurisdictional Level <input type="checkbox"/> Transportation Analysis Zone (TAZ) <input type="checkbox"/> Other Geographic Level (Please Specify): _____																		
<p>Supplemental Data Elements (available for review June 2018):</p> <table style="width:100%;"> <tr> <td><input type="checkbox"/> Zoning Overlay Areas</td> <td><input type="checkbox"/> Corridor Plans</td> </tr> <tr> <td><input type="checkbox"/> Community Design Overlays</td> <td><input type="checkbox"/> Special Districts</td> </tr> <tr> <td><input type="checkbox"/> Community Land Trusts</td> <td><input type="checkbox"/> Bike/Ped Volume Data***</td> </tr> <tr> <td><input type="checkbox"/> Historic Preservation Areas</td> <td><input type="checkbox"/> Ped Trails/Sidewalk Data***</td> </tr> <tr> <td><input type="checkbox"/> Bike Sharing Facilities</td> <td><input type="checkbox"/> Public Health Data***</td> </tr> <tr> <td><input type="checkbox"/> Bike Stations</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Car-Sharing Parking Sites</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Joint Public/Private Developments for Affordable Housing</td> <td></td> </tr> <tr> <td><input type="checkbox"/> Areas with Reduced Parking Minimums and Maximums</td> <td></td> </tr> </table>		<input type="checkbox"/> Zoning Overlay Areas	<input type="checkbox"/> Corridor Plans	<input type="checkbox"/> Community Design Overlays	<input type="checkbox"/> Special Districts	<input type="checkbox"/> Community Land Trusts	<input type="checkbox"/> Bike/Ped Volume Data***	<input type="checkbox"/> Historic Preservation Areas	<input type="checkbox"/> Ped Trails/Sidewalk Data***	<input type="checkbox"/> Bike Sharing Facilities	<input type="checkbox"/> Public Health Data***	<input type="checkbox"/> Bike Stations		<input type="checkbox"/> Car-Sharing Parking Sites		<input type="checkbox"/> Joint Public/Private Developments for Affordable Housing		<input type="checkbox"/> Areas with Reduced Parking Minimums and Maximums	
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<input type="checkbox"/> Car-Sharing Parking Sites																			
<input type="checkbox"/> Joint Public/Private Developments for Affordable Housing																			
<input type="checkbox"/> Areas with Reduced Parking Minimums and Maximums																			

* These data elements are maintained by local, state, or federal entities, and SCAG will forward input received from jurisdictions to the appropriate source

** These data elements are being provided as reference information as they are not open to revision (TAZ Boundaries and Census Tracts)

*** For these elements, SCAG is looking to obtain any available data; local review not needed

Attachment: HQTA Job Access Local Input Survey Form (City of Huntington Beach) (Appeal of the Draft Allocation for the City of Huntington

Input on SCAG's Core Geographic Data (select all that apply):

- We have reviewed the selected Core Geographic Data and verify their accuracy
- We cannot verify the accuracy of certain data items at this time and would like to suggest the revisions described above

X 
 Signature (to be executed by City Manager/County Administrative Officer, Community Development/Planning Director, or City Clerk (on behalf of a jurisdiction's governing body))

Input on SCAG's Core Demographic Data (select all that apply):

- We have reviewed SCAG's Jurisdictional Level Demographic Data and can provide official approval
- We have reviewed SCAG's Tier 2 TAZ Demographic Data and can provide official approval
- We cannot provide official approval at this time, and would like to suggest revisions to the jurisdictional-level figures listed below with the following considerations (please select a reason and provide comments below. Optionally, documentation can also be submitted to SCAG)

- Infrastructure Capacity (e.g. sewer or water capacity)
- Available Land Capacity
- Special Housing Needs (e.g. farmworkers, student dormitories, etc.)
- Market Conditions (e.g. high number of residential vacancies)
- Historical Trends (e.g. Census and/or historical data)
- Economic Constraints (e.g. retail center closure)
- Other Factors (please specify)****

	2016	2020	2030	2035	2045
Population					
Households					
Employment					

- We cannot provide official approval at this time, and would like to suggest revisions to the TAZ-level figures with the following considerations (please submit TAZ-level figures as an attachment to this form, select a reason, and provide comments below. Optionally, documentation can also be submitted to SCAG)

- Infrastructure Capacity (e.g. sewer or water capacity)
- Available Land Capacity
- Special Housing Needs (e.g. farmworkers, student dormitories)
- Market Conditions (e.g. high number of residential vacancies)
- Historical Trends (e.g. Census and/or historical data)
- Economic Constraints (e.g. retail center closure)
- Other Factors (please specify)****

X _____
 Signature (to be executed by City Manager/County Administrative Officer, Community Development/Planning Director, or City Clerk (on behalf of a jurisdiction's governing body))

**** Per State housing law, jurisdictions cannot use any ordinance, policy, voter-approved measure, or standard to justify a determination or reduction in share of regional housing need

Input on SCAG's Supplemental Data Elements (select all that apply):

- We have reviewed the selected Supplemental Data Elements and verify their accuracy
- We cannot verify the accuracy of the data at this time and would like to suggest the revisions described above
- We would like to submit supplemental data items for SCAG's database

X _____
 Signature (to be executed by City Manager/County Administrative Officer, Community Development/Planning Director, or City Clerk (on behalf of a jurisdiction's governing body))


Comments (if applicable):

DEMOGRAPHIC DATA SUBMITTED TO CENTER FOR DEMOGRAPHIC RESEARCH AS PART OF OCP 2018.

PLEASE REPLACE THE MAPS IN THE SCAG DATA/MAP BOOK WITH CITY OF HUNTINGTON BEACH MAPS THAT HAVE BEEN SUBMITTED TO SCAG. PLEASE DELETE ALL VACANT AND REFill PARCELS FROM SCAG'S POTENTIAL INFILL PARCELS MAP AND REPLACE WITH THE VACANT PARCELS SUBMITTED BY THE CITY OF HUNTINGTON BEACH.

Input was Submitted to SCAG via (select all that apply):

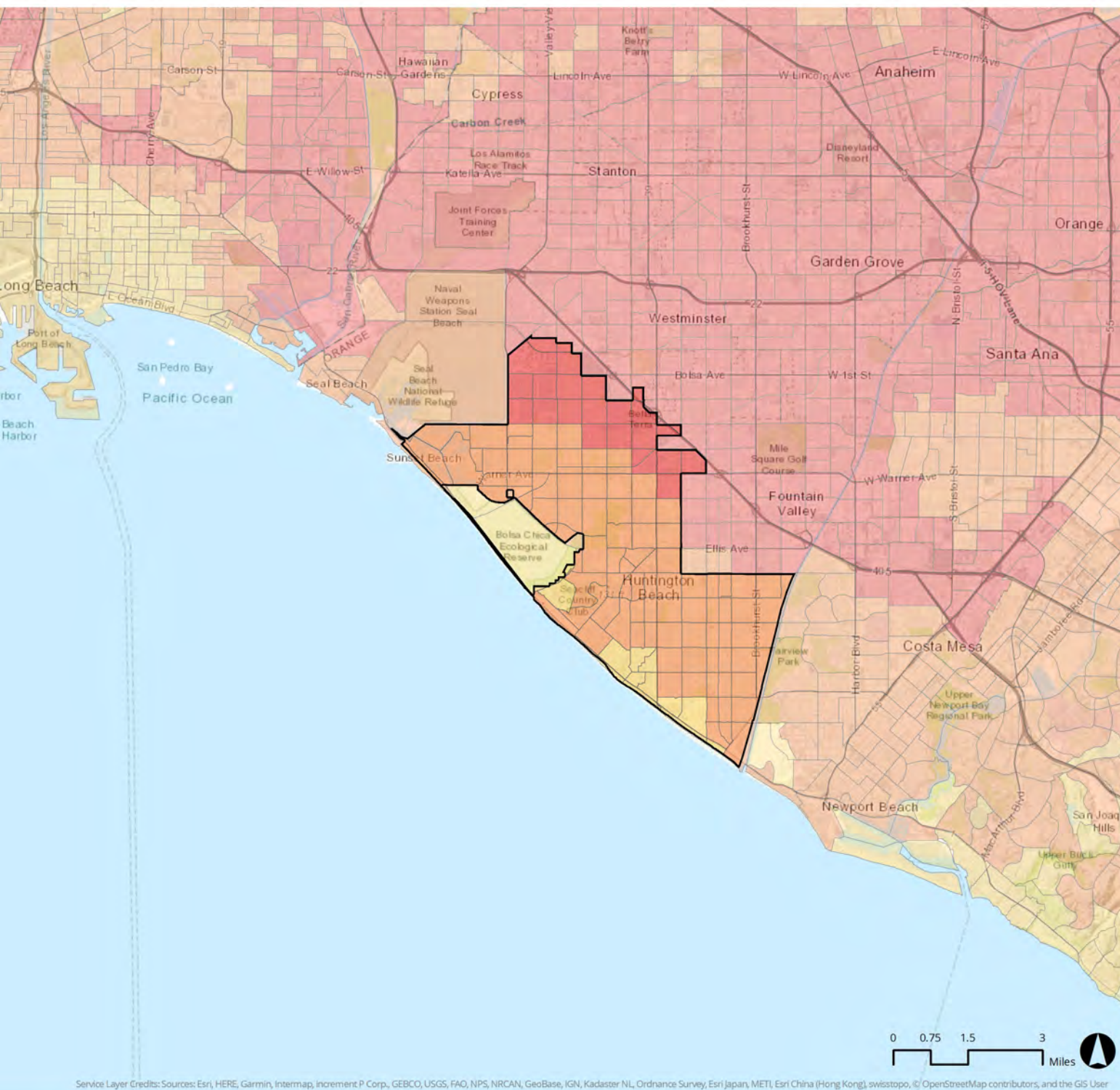
- SCAG's Scenario Planning Model - Data Management Site
- Email to SCAG's RTPLocalInput@scag.ca.gov
- In person communication with SCAG staff
- Hard copies that have been mailed to SCAG's offices
- Other, please specify GIS SHAPEFILES SENT TO SCAG FTP SITE.

X 
 Signature (to be executed by City Manager/County Administrative Officer, Community Development/Planning Director, or City Clerk (on behalf of a jurisdiction's governing body))

D - Description of Action Items

E - Method of Submission

Attachment: HQTA Job Access Local Input Survey Form (City of Huntington Beach) (Appeal of the Draft Allocation for the City of Huntington



Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, and the GIS User

TAZ-level job accessibility in and around: City of Huntington Beach [Year 2045]

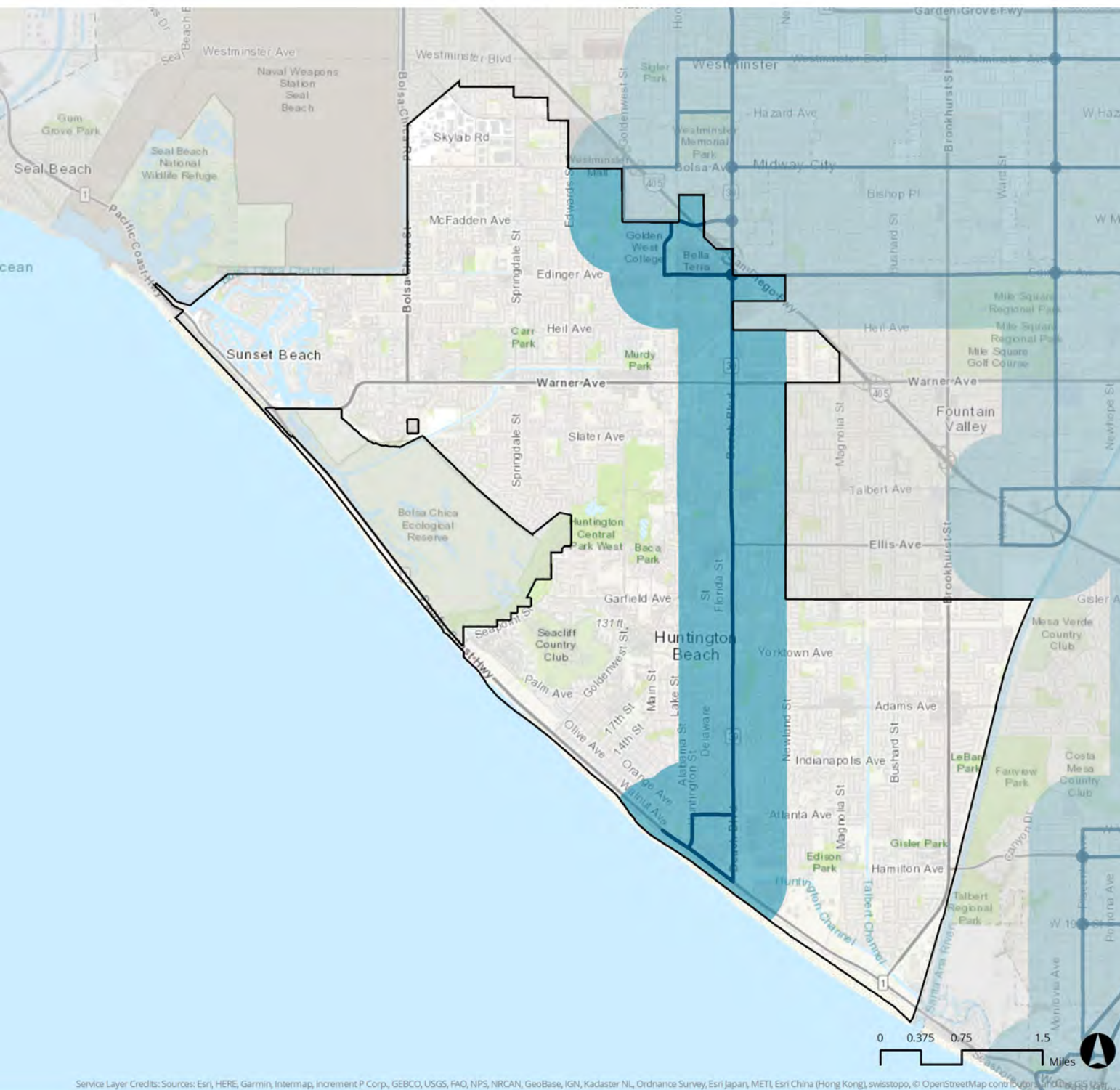


Note: These data represent the share of jobs in the SCAG region accessible by automobile commute in 30 minutes in 2045 during the peak AM commute (6-9am). Further detail on the job accessibility measure can be found in SCAG's Final RHNA Methodology. Note that since the SCAG region's total employment forecast for 2045 is 10,049,000 jobs, the number of jobs available can be measured by multiplying the percentage found on the map by this number. For example, a TAZ-level job accessibility measure of 10.0% means that 1,049,000 future jobs could be reached in 30 minutes.

Data Source: SCAG, 2020 | Map Created: 10/22/2020

Disclaimer: The data underlying the information shown on this map reflect jurisdiction's input submitted during the Local Input and Envision Connect SoCal. SCAG shall not be responsible for user's misuse or misrepresentation of this map. For the details regarding the sources, methodology of this map, please refer to the SCAG Data/Map Book at <https://www.connectsocial.org/Pages/Local-Input-Process.aspx> or contact RTPLocalIn

Attachment: HQT A Job Access Local Input Survey Form (City of Huntington Beach) (Appeal of the Draft Allocation for the City of Huntington



Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, © OpenStreetMap contributors, CC BY-SA, Imagery © Mapbox, © Swisstopo

Major Transit Stops and High Quality Transit Areas in City of Huntington Beach [Year 2045]

- Major Transit Stops
- ⋈ High Quality Transit Corridors (HQTCS)
- High Quality Transit Areas (HQTAs)

Note: SCAG identifies Major Transit Stops and High Quality Transit Corridors (HQTCS), and their surrounding areas in one-half mile radius distance as specified in Section 21155.(b)(3). Major transit stops and HQTCS are extracted from 2045 plan year data of Connect SoCal. SCAG's High Quality Transit Area (HQTA) is within one-half mile from Major Transit Stops and HQTCS and developed based on the language in SB375; however, freeway transit corridors with no bus stops on the freeway alignment do not have a directly associated HQTA. The RHNA process, per Section 65584 et seq., specifies that SCAG's housing needs allocation plan shall further several objectives including those related to infill development and jobs-housing balance. To that end, SCAG's Regional Council-adopted 6th Cycle Final RHNA Methodology relies on a jurisdiction's forecasted 2045 population within HQTAs to allocate housing need.

Data Source: SCAG, County Transportation Commissions, 2020 | Map Created: 10/22/2020

Disclaimer: The information shown on this map reflect jurisdiction's input submitted during the Local Input and Envisioning Process for the City of Huntington Beach. SCAG shall not be responsible for user's misuse or misrepresentation of this map. For the details regarding the sources, methodologies and data used, please refer to the SCAG Data/Map Book at connectsocial.org/Pages/Local-Input-Process.aspx or contact RTPLocalInput@scag.ca.gov.

**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF HOUSING POLICY DEVELOPMENT**

2020 W. El Camino Ave
Sacramento, CA 95833-1829
916) 263-2911 FAX: (916) 263-7453
www.hcd.ca.gov



December 10, 2020

Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Dear Executive Director Ajise:

RE: Comment on Appeals of the Draft Regional Housing Need Allocation (RHNA) Plan

Thank you for the opportunity to comment on the 52 appeals Southern California Association of Governments (SCAG) has received regarding the draft RHNA plan. The appeal process is an important phase in the development of a RHNA plan that ensures that all relevant factors and circumstances are considered.

The only circumstances under which a jurisdiction can appeal are:

- 65584.05(b)(1): The council of governments failed to adequately consider the information regarding the factors listed in subdivision (e) of section 65584.04.
- 65584.05(b)(2): The council of governments failed to determine the share of the regional housing need in a manner that furthers the intent of the objectives listed in subdivision (d) of section 65584.
- 65584.05(b)(3): A significant unforeseen change in circumstances occurred in the local jurisdiction that merits a revision of the information submitted pursuant to subdivision (e) of Section 65584.04.

The California Department of Housing and Community Development (HCD) urges SCAG to only consider appeals that meet these criteria.

Per Government Code section 65584.05(e)(1), SCAG's final determination on whether to accept, reject, or modify any appeal must be accompanied by written findings, including how the final determination is based upon the adopted RHNA allocation methodology, and how any revisions are necessary to further the statutory objectives of RHNA described in Government Code section 65584(d).

Among the appeals based on Government Code section 65584.05(b)(1), several appeals state that SCAG failed to consider the factor described in Government Code section 65584.04(e)(2)(B), citing the lack of land suitable for development as a basis for the appeal. However, this section states the council of governments may not limit its consideration of suitable housing sites to existing zoning and land use restrictions and must consider the potential for increased development under alternative zoning and

land use restrictions. Any comparable data or documentation supporting this appeal should contain an analysis of not only land suitable for urban development, but land for conversion to residential use, the availability of underutilized land, and opportunity for infill development and increased residential densities. In simple terms, this means housing planning cannot be limited to vacant land, and even communities that view themselves as built out must plan for housing through means such as rezoning commercial areas as mixed-use areas and upzoning non-vacant land.

With regard to appeals submitted related to Government Code section 65584.05(b)(2), that SCAG failed to determine the RHNA in a manner that furthers the statutory objectives, it should be noted that HCD reviewed SCAG's draft allocation methodology and found that the draft RHNA allocation methodology furthered the statutory objectives described in Government Code section 65584.

Among the appeals based on Government Code section 65584.05(b)(2), several contend that the cap on units allocated to extremely disadvantaged communities (DACs) does not further RHNA's statutory objectives. This cap furthers the statutory objective to affirmatively further fair housing by allocating more units to high opportunity areas and fewer units to low resource communities, and concentrated areas of poverty with high levels of segregation. Due to the inclusion of this factor, as well as the use of TCAC/HCD Opportunity Maps, SCAG's methodology allocates 14 of the top 15 highest shares of lower-income RHNA to jurisdictions with over 99.95 percent High and Highest Resource areas. With the exceptions of two jurisdictions, the 31 jurisdictions with the highest share of lower-income RHNA are all over 95 percent High and Highest Resource areas. Any weakening of these inputs to the methodology could risk not fulfilling the statutory objective to affirmatively further fair housing.

Several appeals argue that SCAG's RHNA allocation methodology does not adequately promote access to jobs and transit, as required in objectives two and three. HCD's review of SCAG's RHNA methodology found the allocation does further the environmental principles of objective two. SCAG's overall allocation includes significant weight related to the location of high-quality transit areas and the regional distribution of jobs that can be accessed within a 30-minute driving commutes. Regarding objective three, HCD's analysis as to whether jobs-housing fit was furthered by SCAG's draft methodology found that across all jurisdictions there is generally good alignment between low-wage jobs and lower-income RHNA, with all but 15 jurisdictions within a half percent plus or minus difference between their share of lower-income RHNA for the region and their percentage low-wage jobs for the region.

Several appeals are based upon the provision described in Government Code section 65584.05(b)(3), arguing that the COVID-19 pandemic represents a significant and unforeseen change in circumstances that will affect future population and job growth. Ensuring everyone has a home is critical to public health. Reducing and preventing overcrowding and homelessness are essential concerns for every community. The COVID-19 pandemic has only increased the importance that each community is planning for sufficient affordable housing.

Lastly, several appeals state that the Regional Housing Needs Determination (RHND) HCD provided to the SCAG region is too large. SCAG submitted an objection to the RHND at the appropriate time and through the appropriate process. HCD considered those objections and [determined the final RHND for 6th Housing Element Cycle for the SCAG region on October 15, 2019](#). There are no further appeal procedures available to alter the SCAG region's RHND for this cycle. Government Code section 65584.05(b) does not allow local governments to appeal the RHND during the 45-day period following receipt of the draft allocation.

HCD acknowledges that many local governments will need to plan for more housing than in the prior cycle to accommodate a RHND that more fully captures the housing need and as the statutory objectives of RHNA shift more housing planning near jobs, transit, and resources. The Southern California region's housing crisis requires each jurisdiction to plan for the housing needs of their community and the region. In recognition of this effort there are more resources available than ever before to support jurisdictions as they prepare to update their 6th cycle housing elements:

- SB 2 Planning Grants – \$123 million one-time allocation to cities and counties
- SB 2 Planning Grants Technical Assistance offered to all jurisdictions
- Regional and Local Early Action Planning Grants – \$238 million one-time allocation for local and regional governments
- SB 2 Permanent Local Housing Allocation – approximately \$175 million annually in ongoing funding for local governments to increase affordable housing stock

If HCD can provide any additional assistance, or if you, or your staff, have any questions, please contact Megan Kirkeby, Deputy Director, megan.kirkeby@hcd.ca.gov.



Megan Kirkeby
Deputy Director



City of Whittier

13230 Penn Street, Whittier, California 90602-1716
(562) 567-9320 Fax (562) 567-2872 www.cityofwhittier.org

Electronically Transmitted to: Housing@scag.ca.gov

December 10, 2020

RHNA Appeals Committee
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

SUBJECT: City of Whittier's Comments on Appeals to the Sixth Cycle Regional Housing Needs Assessment (RHNA) Allocation

Honorable Chair and Honorable Committee Members:

The City of Whittier ("City") appreciates the challenges that are inherent in allocating 1,341,827 housing units by the thousands (a 226% increase above the baseline 412,137 unit) to cities across Southern California, especially in built-out cities. However, the City is deeply concerned its housing allocation of 3,431 units from the State Department of Housing and Community Development ("HCD") and the Southern California Association of Government's ("SCAG") unit distribution methodology, along with recent housing legislation will fundamentally abridge the City's ability to develop effective land-use policies that are appropriate for managing the community's actual needs. The 878 units in the 5th cycle RHNA allocation has been increased by 290% to 3,431 units in the current 6th cycle. Particularly challenging in the 6th cycle, is the number of low and very low-income units (1,558) which combined with the moderate and above moderate unit totals forces unplanned and unnecessary residential densification of the community.

The affordable units are an unfunded mandate with very limited regional or State financial support for their development. Considering the affordable housing subsidies typically range from \$50,000 to \$250,000 per unit, the overall funding requirements could range from \$78,000,000 to \$390,000,000 which is clearly beyond the reach of the City of Whittier in that the City's general fund budget is just \$72,000,000 which already include \$2,000,000 annually to house the City's unsheltered residents in transitional housing. Additionally, the City only receives 7.5% of each property tax dollar to provide general services including police and library services.

The City is currently in the process of updating its Housing Element as well as the General Plan to incorporate the current RHNA allocation, so Whittier is acutely aware of the various housing needs as well as the potential obstacles, such as aging infrastructure and unplanned density, to creating the requisite housing within a city that

is essentially built out. The changes in the State's housing laws (SB 35, SB 166 and AB 1397) have created additional constraints for the agencies and may severely impact the City's ability to accomplish our regional and local housing goals.

Since development in Whittier began more than 130 years ago, the City is virtually built-out with little developable vacant land outside of its designated open space areas that are dedicated to accommodating existing and future residents. While the City has made significant efforts through its specific plans to densify existing corridors and districts, the majority of Whittier's remaining single-family residential neighborhoods cannot accommodate similar densification. Furthermore, the hills north of Whittier contain regional open space, sensitive habitat and wildlife areas that must be preserved in perpetuity. There are also significant infrastructure and water service constraints that impact Whittier's ability to produce significantly more housing. Although these facts may not be desirable, they must be pragmatically accounted for and mitigated by not further increasing Whittier's share of housing units contained in SCAG's 6th Cycle RHNA. The final RHNA allocation and methodology must be fair and equitable while reflecting the capacity for reasonable housing unit construction.

As with many other cities, the City is concerned about the current allocation, but an even greater concern is that additional units may be applied to the City if reallocated from cities that are successful in their appeals. To that end, the City believes the appeal process itself was unclear as to the potential ramifications to other cities and not fully understood.

Although we fully support the surrounding cities in their appeals, the potential for additional units being applied to the City would exacerbate the problems described herein and in Whittier's September 13, 2019 letter to SCAG.

Should you have any questions, please do not hesitate to contact me.

Sincerely,



Jeffery S. Adams
Director of Community Development

File

From: Christopher Koontz <Christopher.Koontz@longbeach.gov>
Sent: Thursday, December 3, 2020 11:14 AM
To: Regional Housing
Subject: RHNA Appeals

Categories: Response Required, Record

Good morning,

The purpose of this email is to provide the City of Long Beach’s position in regards to pending RHNA appeals before SCAG. The City of Long Beach seeks to meet its housing needs and obligations for the benefit of Long Beach residents and the region. Our allocation was extremely large and presents a planning and financing challenge for the City. Nonetheless we chose not to appeal our allocation because the allocation process was fair and transparent including taking the City of Long Beach’s input into consideration.

We oppose and will not accept any transfer of additional allocation due to the pending appeals. We note that within our area, the Gateway COG, appeals are pending from Bellflower, Cerritos, Downey, Huntington Park, La Mirada, Lakewood, Pico Rivera, and South Gate. Each of these appeals should be evaluated by SCAG on the merits, however Long Beach opposes any transfer of allocation to our City. It would be inappropriate to transfer a further burden to Long Beach when we have already accepted a large allocation and have done more than many cities in the region to accommodate housing growth under the current RHNA cycle, including fully meeting our market-rate RHNA allocation.

The City of Long Beach will continue to work with SCAG and our neighbor jurisdictions to address the housing needs of our residents.

We thank you for consideration and please do not hesitate to contact the City regarding our position.

Christopher Koontz, AICP
Deputy Director

Development Services
411 W. Ocean Blvd., 3rd Floor | Long Beach, CA 90802
Office: 562.570.6288 | Fax: 562.570.6068



Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scaq.ca.gov.
Late submissions will not be accepted.

Date: _____ Jurisdiction Subject to This Appeal Filing: _____

(to file another appeal, please use another form)

Filing Party (Jurisdiction or HCD)

Filing Party Contact Name _____ Filing Party Email: _____

APPEAL AUTHORIZED BY:

Name: _____

PLEASE SELECT BELOW:

- Mayor
- Chief Administrative Office
- City Manager
- Chair of County Board of Supervisors
- Planning Director
- Other: _____

BASES FOR APPEAL

- Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029)
- Local Planning Factors and/or Information Related to Affirmatively Furthering Fair Housing (See Government Code Section 65584.04 (b)(2) and (e))
 - Existing or projected jobs-housing balance
 - Sewer or water infrastructure constraints for additional development
 - Availability of land suitable for urban development or for conversion to residential use
 - Lands protected from urban development under existing federal or state programs
 - County policies to preserve prime agricultural land
 - Distribution of household growth assumed for purposes of comparable Regional Transportation Plans
 - County-city agreements to direct growth toward incorporated areas of County
 - Loss of units contained in assisted housing developments
 - High housing cost burdens
 - The rate of overcrowding
 - Housing needs of farmworkers
 - Housing needs generated by the presence of a university campus within a jurisdiction
 - Loss of units during a state of emergency
 - The region’s greenhouse gas emissions targets
 - Affirmatively furthering fair housing
- Changed Circumstances (Per Government Code Section 65584.05(b), appeals based on change of circumstance can only be made by the jurisdiction or jurisdictions where the change in circumstance occurred)

FOR STAFF USE ONLY:

Date _____ Hearing Date: _____ Planner: _____

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scaq.ca.gov.
Late submissions will not be accepted.

Brief statement on why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584 (please refer to Exhibit C of the Appeals Guidelines):

Please include supporting documentation for evidence as needed, and attach additional pages if you need more room.

Brief Description of Appeal Request and Desired Outcome:

Number of units requested to be reduced or added to the jurisdiction's draft RHNA allocation (circle one):

See Attachment No. 1
Reduced for specific reduction numbers **Added** _____

List of Supporting Documentation, by Title and Number of Pages
(Numbers may be continued to accommodate additional supporting documentation):

See attached index for full list of Attachments

- 1.
- 2.
- 3.

FOR STAFF USE ONLY:

Date _____

Hearing Date: _____

Planner: _____

List of Attachments

Attachment No.	Title	No. of Pages
1.	Description of Appeal Request, Desired Outcome and Statements on why the revisions are necessary to further the objectives listed in Government Code Section 65584	33 pages
2.	City of Huntington Beach Proposed Appeals to City Allocations in the Regional Housing Needs Assessment Allocation to the Southern California Association of Governments (SCAG), Prepared by Wendell Cox	34 pages
3.	Copy of all communication submitted to SCAG from the City of Huntington Beach during the RHNA and Connect SoCal process	29 pages
4.	SCAG Meeting of the Technical Working Group, "High Quality Transit Corridors and Major Transit Stops," (Agenda item 1-d)	18 pages
5.	Pages from October 2019 OCTA Bus Book Full October 2020 OCTA Bus Book	148 pages
6.	SCAG, "Connect SoCal: Community Input: Public Participation and Consultation: Master Response No. 1: Regional Housing Needs Assessment" (page 92)	1
7.	OCTA Long Range Transportation Plan, Figure 4.1	1
8.	OCTA June 22, 2020 Board Agenda Packet - Item 22: Bus Operations Performance Measurement	32 pages
9.	Michael Manville, Bryan Taylor and Evelyn Blumenberg, "Falling Transit Ridership: California and Southern California," January 2018	83 pages
10.	American Public Transportation Association Fourth Quarter Ridership Reports	73 pages
11.	HCD Regional Housing Need Determination Letter, August 22, 2019	5 pages
12.	SCAG Final RHNA Methodology	32 pages
13.	UCLA Student Housing Master Plan 2016-2026	20 pages
14.	UCLA Long Range Development Plan Amendment and Student Housing Projects SEIR (2018)	2,353 pages
15.	California State University System Basic Needs Initiative	53 pages
16.	Terra Nova Planning and Research Inc. Memorandum	7 pages
17.	Making California's Coast Resilient to Sea Level Rise: Principles for Aligned State Action, California Coastal Commission	14 pages
18.	CCC Sea Level Rise Policy Guidance Chapter 5: Addressing Sea Level Rise in Local Coastal Programs	29 pages
19.	CCC Sea Level Rise Policy Guidance Chapter 7: Adaptation Strategies	42 pages
20.	SCAG Data Map Book	48 pages
21.	California Coastal Commission Sea Level Rise Policy Guidance	307 pages
22.	Declaration of Wendell Cox in Support of CHB.s Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal	3 pages

**Description of the City’s Appeal, Desired Outcome and Statements on Why
Huntington Beach’s Requested Revision is Necessary to
Further the Intent of State Law**

The City of Huntington Beach (City) appeals the Draft 6th Cycle (2021-2029) RHNA allocation to the City (City RHNA Allocation) totaling 13,337 units, which consists of 3,652 very-low income units, 2,179 low income units, 2,303 moderate income units, and 5,203 above-moderate income units. This Appeal is based upon empirical data that is comparable to the data used by Southern California Association of Governments (SCAG) and California Department of Housing and Community Development (HCD), and which is supported by evidence, including expert reports.

A revision to the City RHNA Allocation is necessary to further the intent and objectives of State law, and to further sound and established principles of planning and land use, such as placing housing where it is actually needed. As the State legislature has found:

[I]nsufficient housing in job centers hinders the state’s environmental quality and runs counter to the state’s environmental goals. In particular, when Californians seeking affordable housing are forced to drive longer distances to work, an increased amount of greenhouse gases and other pollutants is released and puts in jeopardy the achievement of the state’s climate goals....

(California Government Code Section 65584(a)(3).)

The City RHNA Allocation is not consistent with the development pattern included in the sustainable communities strategy, or with preventing urban sprawl by encouraging efficient development patterns (i.e., placing housing in or near adequate job centers, ensuring adequate infrastructure including water supply, and protecting environmental and open space resources and reducing greenhouse gases). SCAG’s determination of the City RHNA Allocation does not further the objectives of State Planning Law. SCAG did not reasonably apply the methodology and requisites of state law, but instead created an illegal, arbitrary and capricious methodology of allocation. For each of the arguments set forth below, SCAG and HCD failed to create and apply a methodology that supports the legally mandated objectives of state law. Instead, these agencies used a political process, adopting and abusing unfettered discretion to hap-hazardously determine the City RHNA Allocation.

In addition, the State’s attempt to impose RHNA allocation upon Charter Cities violates the State Constitution. For over 120 years, the California Constitution has recognized and advanced “the principle that the municipality itself knew better what it wanted and needed than the state at large....” (*Fragley v. Phelan* (1899) 126 Cal. 383, 387 (Garrouette, J.)) “The state constitution is... the highest expression of the will of the people of the state,

and so far as it speaks, represents the state.” (*Ex Parte Braun* (1903) 141 Cal. 204, 211.) Article XI, section 5 of the California Constitution authorizes municipalities to organize themselves under city charters and further provides: “City charters adopted pursuant to this Constitution **shall supersede** any existing charter, **and with respect to municipal affairs shall supersede all laws inconsistent therewith.**” (Cal. Const., art. XI, § 5(a) (emphasis added).)

For nearly quite as long as charter city home rule has been established in our Constitution, the Legislature has consistently recognized charter cities’ local control and home rule over their land use and zoning decisions. The State is now using a housing crisis and environmental greenhouse gas reduction goals to force one-size-fits-all land use policies upon Charter Cities. However, it is the City’s contention, consonant with the California Constitution, that the City knows best how to manage the use of its land and resources to meet local needs. The State’s attempt to impose RHNA allocation requirements is in and of itself an illegal act.

As detailed in a letter sent to SCAG by the City of Huntington Beach, SCAG failed to follow the process outlined in California Government Code Section 65584.04(b)–(f) when it voted to follow an arbitrary and capricious formula that incorrectly allocated approximately 6,000 additional RHNA units to the City of Huntington Beach. This vote was not based upon any empirical data, and was not based on the rule of law, but was instead based on last minute political wrangling. Government Code 65584.3(a) requires that actions taken by SCAG be done according to a vote provided for in established rules following general principles of due process. Huntington Beach was not provided due process in participating in this vote. This new formula had no corresponding analysis as to access to high quality transit or access to jobs. This allocation undermines and does not promote the critical objectives of socioeconomic equity, placement of housing that can be reached quickly by transit, and achievement of statewide greenhouse gas emissions reduction goals. Housing Law requires that RHNA should be allocated based upon empirical data, not political determinations. The result of this arbitrary and capricious allocation of RHNA is to over exaggerate the actual need for housing in Huntington Beach and corresponding Cities.

The City requests its allocation of Housing units be reduced as described below.

II. Huntington Beach Issues on Appeal

A. Appeal Issue #1 – The portion of Beach Boulevard within the City is incorrectly identified as a High Quality Transit Area.

1. Bases for Appeal:

- a. Pursuant to California Government Code Section 65584.05(b)(1) SCAG failed to adequately consider the information the City of Huntington Beach submitted to address existing or projected jobs housing balance, the region's greenhouse gas emissions targets, and the distribution of a comparable period of regional transportation plans and opportunities to maximize the use of public transportation and existing transportation infrastructure .
- b. Pursuant to California Government Code Section 65584.05(b)(2) SCAG failed to determine the City's share of the regional housing need in a manner that furthers and does not undermine the following objectives listed in Section 65584(d):
 - Promoting socioeconomic equity and the achievement of the region's greenhouse gas reduction targets (Section 65584(d)(2))
 - Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction (Section 65584(d)(3))

As noted in multiple public comments from the City,¹ the portion of Beach Boulevard within the City is incorrectly identified as a High Quality Transit Area (HQTA). Government Code Section 65584.04(e)(3) requires the RHNA methodology to include "the distribution of household growth assumed for purposes of a comparable period of regional transportation plans and opportunities to maximize the use of public transportation and existing transportation infrastructure." SCAG's Final RHNA Allocation Methodology explains that HQTAs "are based on state statutory definitions of high-quality transit corridors (HQTCs) and major transit stops." SCAG's RHNA Methodology to determine a jurisdiction's existing housing need "assigns 50 percent of regional existing need based on a jurisdiction's share of the region's population within the high quality transit areas (HQTAs) based on future 2045 HQTAs." However, SCAG's application of HQTC is incorrect. Public Resources Code Section 21155(b) defines a high-quality transit corridor (HQTC) as "a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours." Public Resources Code Section 21155(b) **does**

¹ A copy of each letter sent by the City is attached hereto – refer to Attachment No. 3.

not include future planned facilities within the definition. SCAG's RHNA methodology creates its own definition of HQTTC as inclusive of planned HQTTC, which conflicts with the statutory definition. This new definition is illegal and cannot be used in calculation of RHNA.

SCAG's RHNA methodology designates all of Beach Boulevard within the City as a HQTTC. According to SCAG²:

Peak Period Bus Service Interval (Frequency)

To determine whether the peak commute bus service interval (also called frequency) meets the statutory threshold of 15 minutes or less, SCAG uses the peak period defined in its regional travel demand model. The morning peak is defined as 6am to 9am and the afternoon peak is defined as 3pm to 7pm. A transit operator may have a different, board-adopted or de facto peak period; in such cases SCAG will accept requests to use operator-specific peak-hour periods on a case-by-case basis.

SCAG uses the total population of bus trips during the combined seven-hour morning and afternoon peak periods to determine the peak frequency at a bus stop. This is done for each bus route, by direction. The peak frequency is calculated by dividing 420 minutes (the seven hour peak converted to minutes) by the total peak bus trips. This average frequency should be 15 minutes or less in order to qualify. The threshold is strict, at 15.0 minutes.

Beach Boulevard in Huntington Beach has failed to meet the HQTTC definition at any time during the RHNA process, including the baseline year 2016. During 2016, 2017 and 2018, Route 29 met the HQTTC threshold only northbound during the morning peak and southbound during the evening peak. Additionally, based on the October 13, 2019 Orange County Transportation Authority (OCTA) Bus Schedule³, there are no bus stops on Beach Boulevard within the City of Huntington Beach with headway times of 15 minutes or less. Route 29 services Beach Boulevard from the City of La Habra to PCH in the City. The shortest headway time during peak hours for bus service is on the Route 29 stop at PCH/1st Street (which is clearly not a stop on Beach Boulevard) traveling southbound with an average headway time of 18.23 minutes during the PM peak hours. Most stops have an average peak hour headway time of approximately 19-25 minutes. Some stops, such as the Beach Boulevard/Talbert Avenue stop, have peak hour headway times of 40-49 minutes. One stop (Beach Boulevard/Atlanta Avenue) did not list any stop times as part

² SCAG Meeting of the Technical Working Group, "High Quality Transit Corridors and Major Transit Stops," (Agenda item 1-d)
<http://www.scag.ca.gov/committees/CommitteeDocLibrary/twg101619fullagn.pdf>

³ OCTA Bus Book <http://www.octa.net/ebusbook/CompleteBusBook.pdf>

of any route for this stop. It must also be noted that OCTA eliminated Route 211 in October 2019, which serviced Huntington Beach to Irvine (a major Orange County job center) due to low ridership.

Peak period service on Route 29 was reduced 19% from 2018 to 2019. In 2018, a total of 102 buses served the two stops, which was reduced to 83 buses in 2019. This service reduction was maintained in the February 2020 schedule. Route 29 has failed to meet the HQTAs frequency threshold during either peak period as of the February 9, 2020 (pre-COVID19) bus schedule (Table 1-1). Route 29 does not meet the HQTAs service frequency threshold in any of the peak periods in the City, south of Heil Avenue⁴. For this reason as well, the area from Heil Avenue south to the southern route terminal at Pacific Coast Highway and First Street in the City is wrongly designated as an HQTAs.

Although Route 29 has been indicated as an HQTAs in the “2018 OCTA Long Range Transportation Plan (LRTP)” in Figure 4.10, reaffirmed by SCAG in response to a request for correction by the City of Huntington Beach⁵, OCTA’s 2018 LRTP⁶ Figure 4.1 – *Local, Community, and Bravo! Final Route Recommendations* recommends that Route 29 receive a **reduction** in frequency of service. This will add further delay to the 19-25 minute average peak hour headway service times on Beach Boulevard. In addition, the City of Huntington Beach has engaged with OCTA regarding implementation of their 2018 Long Range Transportation Plan, including the Final Beach Boulevard Corridor Feasibility Study (Study). The suggested improvement elements within the Study are conceptual and are not developed into any specific project to be implemented on any specific timeline. It is at the discretion and capability of the local jurisdiction to coordinate implementation and infrastructure improvements with all relevant agencies, such as CalTrans. For example, if Bus Rapid Transit (BRT) to achieve service at 15 minute intervals is hypothetically chosen to be implemented for a portion of Beach Boulevard, a subsequent specific BRT study is required to determine potential alignments, project limits, and other details. There is no requirement upon any City within the Study or OCTA to implement any particular recommendation of the study or the LRTP, and no evidence that Beach Boulevard is currently, or will be in 2045, an HQTAs.

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⁴ Peak periods are defined by SCAG as 6:00 am to 9:00 am and 3:00 pm to 7:00 pm. SCAG, “Connect SoCal: Community Input: Public Participation and Consultation: Master Response No. 1: Regional Housing Needs Assessment,” page 92,
https://www.connectsocial.org/Documents/Proposed/pfConnectSoCal_Public-Participation-Appendix-2.pdf. <http://www.scag.ca.gov/committees/CommitteeDocLibrary/twg101619fullagn.pdf>

⁵ SCAG, “Connect SoCal: Community Input: Public Participation and Consultation: Master Response No. 1: Regional Housing Needs Assessment,” page 92,
https://www.connectsocial.org/Documents/Proposed/pfConnectSoCal_Public-Participation-Appendix-2.pdf.

⁶ OCTA Long Range Transportation Plan, Figure 4.1
<http://www.octa.net/pdf/OCTALRTP111618FINAL.pdf>

Finally, the OCTA Board of Directors wrote a letter dated March 23, 2020 to Governor Newsom discussing the impact of COVID19 on their operations. The following excerpt describes the changes in circumstances that have created a substantial strain on the ability of OCTA to provide transit service:

The COVID-19 response has fundamentally changed the way people interact, and the resulting collapse of nonessential economic activity will have a dramatic impact on the availability of federal, state, and local funding. Short-term revenue decreases will cause extraordinary budgetary constraints. OCTA collects approximately \$48 million annually in transit fares, which partially fund bus operations that help our agency maintain ridership. Transit fares are expected to decrease significantly as a result of our current ridership decline. OCTA will also see a severe decline in revenues from Orange County's half-cent sales tax dedicated to transportation improvements, Measure M2. **During the Great Recession, OCTA saw a 20 percent decrease in sales tax revenue and ridership levels never fully recovered. If the impacts are similar from COVID-19, long-lasting impacts will be felt systemwide.** Similarly, gas tax revenues are likely to fall as people across the country heed social distancing guidance, which will only exacerbate the Highway Trust Fund's on-going structural revenue deficit. Given the likelihood of long-term revenue instability, **OCTA is planning for an uncertain future while maintaining our long-standing commitment to fiscal responsibility.** (Emphasis Added)

SCAG must acknowledge that the COVID19 pandemic has truly shifted mobility methods, transit patterns, and the way people utilize public transportation within the region. Decreased OCTA funding and reduced on-time performance reliability⁷ demonstrates not only that the identification of HQTAs in the City is inaccurate.

2. Requested Revision

It is estimated that only 7.2% of the City's population lives in HQTAs that are not appealed. (Attachment No. 2 - Wendell Cox Expert Report) This is a reduction from the 36.4% incorrectly determined by SCAG to reside in an HQTAs in the City. This requires an estimated reduction of 80.7%, or 2,455 units from the City's HQTAs allocation of 3,059 units and an additional 1,170 units from the residual adjustment. **The total requested reduction due to inaccurate HQTAs data is 3,625 units.**

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⁷ OCTA June 22, 2020 Board Agenda Packet - Item 22: Bus Operations Performance Measurement
<https://octa.legistar.com/View.ashx?M=E1&ID=749492&GUID=340A1A00-DE29-4B85-845E-B1697E8B9FB7>

3. Statement as to why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584

This revision is necessary to further the intent of the objectives listed in Government Code Section 65884 because the present allocation method undermines and does not promote socioeconomic equity. (Government Code § 65584(d)(2).) The present allocation method also undermines and does not promote an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction. (Government Code § 65584(d)(3).)

In addition, SCAG's incorrect assumptions for HQTAs in Huntington Beach undermine and do not promote important intentions of SCAG's *Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy*, such as housing construction in transit rich areas (page 4), strategies that result in reduced demand for single occupancy vehicle use (page 10) and land use patterns that facilitate multimodal access to work (page 25).⁸

Generally, the objectives of state law and SCAG's Sustainable Communities Strategy would be served by a larger share of solo drivers being attracted from their cars to transit and other non-motorized modes. Minimization of solo driving commutes requires considerably better transit job access. State and regional policies have been adopted to seek these objectives by constructing housing units close to jobs that can be filled by nearby resident workers.

The higher number of units incorrectly allocated to Huntington Beach will also have related consequences, because the city has more limited transit job access measures than other jurisdictions and areas of Orange County, Los Angeles County and the 5-county Los Angeles-Long Beach combined statistical area (CSA).⁹

The City has virtually no 30-minute transit access to the richest job centers in the CSA. (Attachment No. 2 – Wendell Cox Expert Report.) This is unlikely to change materially in the foreseeable future. This is in contrast to the huge transit investments in urban rail and busways have been and are being further developed in Los Angeles County, with the intent of materially increasing transit access and creating a more compact urban form.

The promotion of socioeconomic equity is undermined by the overestimate of residents in HQTAs in the City, which results in a higher RHNA Allocation to the city of Huntington Beach than is warranted. Potential new residents will have considerably less economic

⁸ Page numbers refer to the Sustainable Communities Strategy within the *Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy*.

⁹ This analysis uses the Los Angeles-Long Beach combined statistical area (the SCAG area, without Imperial County), which is the largest labor market definition by the U.S. Office of Management and Budget. As a labor market area, the CSA is also a housing market.

opportunity due to the limited transit job access. As a result, low-income residents moving to the City are likely to face significant impediments to socioeconomic advancement. The higher allocation to the City will undermine the intraregional relationship between jobs and housing because transit access is so limited. Conversely, the interregional relationship between jobs and housing would be promoted by allocating a smaller number of units to the City. Consistent with trends already evident in research prepared for SCAG (Attachment No. 2 – Wendell Cox Expert Report), the limited transit job access from the City is likely to require workers to purchase cars to access far-flung employment opportunities. This means higher incidence of solo commuting and high commuting expenses. The longer transit commutes significantly reduce the incentive for some potential workers to seek employment and imposes a substantial drag on socioeconomic advancement for those that do.

Relatively short commute times are crucial for transit to maintain its market share. In the United States, the average drive alone time is less than 30 minutes and is 26.8 minutes in Orange County. By comparison, transit commute times average 53.6 minutes¹⁰ in Orange County, nearly double the drive alone time.

Around the country, a 30-minute standard is increasingly being used to evaluate transit and automobile commuting. SCAG uses a 30-minute standard for auto trips, though uses 45-minutes for transit trips in its RHNA allocation. The Puget Sound Regional Council (Seattle area) uses a 30-minute standard for both auto and transit trips. The Center for Neighborhood Technology (CNT) publishes comprehensive 30-minute transit commute data within many metropolitan areas, including estimates from virtually any address (below). The University of Minnesota Accessibility Observatory publishes 30-minute transit and car job access estimates for 50 of the nation's largest metropolitan areas.

As the data below indicates, access to jobs by transit tends to be considerably lower than by driving alone. For RHNA to encourage transit commuting rather than driving alone, affordable housing needs to be built in jobs-rich areas, where transit can be more competitive with the auto.

However, the transit trends in the SCAG region are working against any such policy objective. Low-income workers are buying cars, and they are abandoning transit. A SCAG sponsored research report noted:¹¹

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¹⁰ Derived from American Community Survey, 2013/2017.

¹¹ Michael Manville, Bryan Taylor and Evelyn Blumenberg, "Falling Transit Ridership: California and Southern California," January 2018.

https://www.scag.ca.gov/Documents/ITS_SCAG_Transit_Ridership.pdf.

Driving is relatively easy, while moving around by means other than driving is not. These circumstances give people strong economic and social incentives to acquire cars, and — once they have cars — to drive more and ride transit less.

With its below average transit job access, residents of the allocated housing are likely to obtain vehicles to improve their employment prospects.

The following facts are asserted in support of the appeal analysis:

(1) Lower Income Worker Transit Commuting is Declining

Low income residents are far more likely to drive alone than to commute by transit and this is becoming increasingly so. In Orange County, workers with earnings below the poverty line are 12 times as likely to drive alone than to commute by transit. In the last seven years (2006/2010) to 2013/2017) transit commuting by workers below the poverty line has decreased by 41%. By comparison, in Los Angeles County, below poverty line commuters are only four times as likely to drive alone, while, in the 5-county CSA, workers below the poverty line are six times as likely to drive alone (Table 1-2). A similar downward trend in low-income commuting is evident in both Los Angeles County and the CSA (Figure 1).

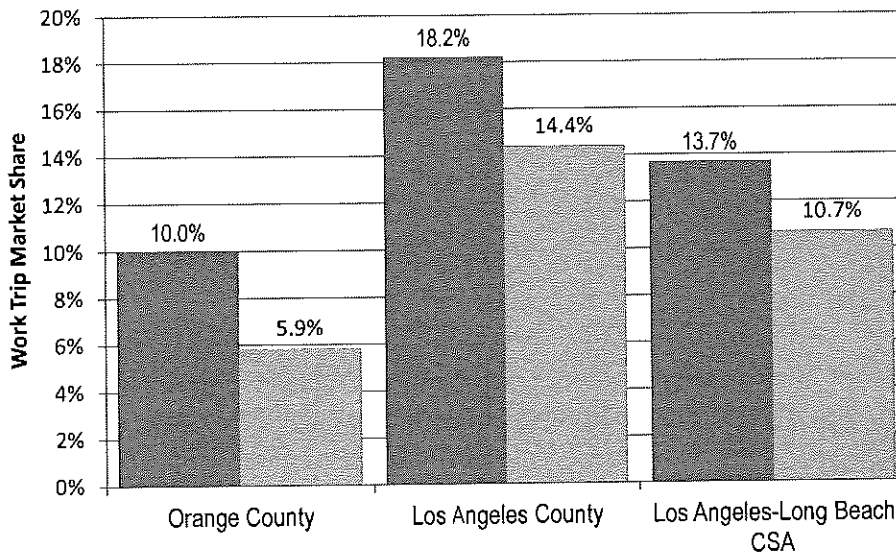
The very demographic that is the primary target of affordable housing under RHNA drives alone at a rate similar to that of all workers and is increasingly abandoning transit.

	Drive Alone Share	Transit Share	Drive Alone per Transit Ratio
Los Angeles County	58.8%	14.4%	4
Orange County	68.2%	5.9%	12
Los Angeles-Long Beach CSA	62.2%	10.7%	6

Derived from American Community Survey, 2013/2017

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Below Poverty Line Transit Commuting 2008/2012 TO 2013/2017



Derived from American Community Survey

Figure 1

(2) Huntington Beach residents are far more likely to drive alone than to use transit.

Among the City’s residents, driving alone accounts for 80% of commuting, while transit’s market share (1.1%) is less than one half that of Orange County overall (2.3%). About 75 times (7,500%) as many workers from the City drive alone as use transit. This is more than twice the rate of Orange County overall (36x) and more than six times the rate of Los Angeles County (12x). The drive alone-to-transit ratio in the City is also well above that of the five-county CSA average of 57 times (Table 1-3).

	Drive Alone	Transit	Drive Alone times Transit
Huntington Beach	79.7%	1.1%	75
Los Angeles County	73.7%	6.3%	12
Orange County	78.6%	2.2%	36
Los Angeles-Long Beach CSA	77.2%	1.3%	57

Derived from American Community Survey, 2013/2017

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Further, as previously noted, bus ridership is declining in Orange County. OCTA bus ridership dropped 46 percent, from 68.9 million in 2008 to 37.3 million in 2019.¹² The COVID19 pandemic has led to even greater ridership losses and uncertainty with respect to when or even if, ridership will return to previous levels. It is inconceivable that there will be a sufficient increase in Huntington Beach transit service to sustain a materially larger share of workers.

(3) 30-minute transit access to jobs from Huntington Beach is materially less than the CSA, Los Angeles County and Orange County.

Estimates of 30-minute transit jobs access are reported by the Alltransit.cnt.org website (Alltransit), sponsored by the Center for Neighborhood Technology (CNT). Estimates are provided at the metropolitan, county, and city levels for much of the United States, and specific street address inquiries are available.

Alltransit data indicates that transit employment access from the City is far below that of Orange County, Los Angeles County and a number of constituent jurisdictions (Table 1-4).¹³

- Approximately 134,000 jobs, overall, can be reached by transit within 30 minutes from the City. By comparison, 30-minute job access was 2.4 times higher in Los Angeles County (322,000) and 1.3 times higher, on average, in Orange County (173,000). On average, 217,000 jobs can be reached by transit within the SCAG region, 1.6 times that from the City.
- Approximately 40,000 jobs requiring no more than a high school education were accessible by transit in 30 minutes from the City. By comparison, 30-minute job access was 2.4 times higher in Los Angeles County (97,000), 1.3 times higher, on average, in Orange County (52,000) and 1.6 times higher overall in the SCAG region.

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¹² From American Public Transportation Association Fourth Quarter Ridership Reports (https://www.apta.com/wp-content/uploads/Resources/resources/statistics/Documents/Ridership/2008_q4_ridership_APTA.pdf and <https://www.apta.com/wp-content/uploads/2019-Q4-Ridership-APTA.pdf>).

¹³ Data downloaded October 11, 2019.

Table 1-4 30-Minute Transit Access to Jobs (Average Household)		
	All Jobs	Jobs Requiring High School Education or Less
Huntington Beach	133,743	39,989
Los Angeles County	321,664	96,821
Orange County	172,595	51,261
SCAG Region	216,605	65,198

Source: Alltransit.cnt.org

30-minute transit access is even lower in Huntington Beach compared to jobs rich areas, especially in central Los Angeles County. Examples are indicated in Table 1-5. This is largely due to proximity to the most transit oriented major job center in the SCAG region (downtown Los Angeles).

- In three of the areas, near the densest employment center in the CSA, where much of the regional transit system converges (downtown Los Angeles), more than 1,000,000 jobs can be accessed within 30-minutes. This is between eight and nine times the transit access from the City. Residents of a number of other areas have 30-minute transit access to more than 500,000 jobs, which is far greater than the City's transit access of 134,000 jobs.
- In these three areas, more than 330,000 jobs requiring a high school education or less can be accessed in 30-minutes, which is from 8.5 to 9.2 times the transit access from the City. Residents of a number of other areas have 30-minute transit access to more than 150,000 of these jobs, which is far greater than the City's transit access of 40,000 jobs (Table 1-5).

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Table 1-5 30-Minute Transit Access to Jobs (Average Household) Huntington Beach & Jobs/Transit Rich Area Examples		
	All Jobs	Jobs Requiring High School Education or Less
Huntington Beach	133,743	39,989
Los Angeles Historic Core	1,186,787	367,904
Los Angeles Bunker Hill	1,144,474	354,787
Los Angeles Civic Center	1,100,441	338,936
Mid-Wilshire	928,498	259,051
Westlake-Dockweiler	909,290	272,787
Silver Lake	837,378	243,677
Echo Park	832,655	247,299
Hollywood	768,614	210,600
Pico-Union	767,775	229,565
Boyle Heights	682,286	221,743
Westwood	654,120	177,267
Culver City	566,368	156,318
East Los Angeles	485,477	156,809

Source: Alltransit.cnt.org

CNT does not produce similar data for driving alone.

Comparative transit and drive alone employment access data is available from the University of Minnesota Accessibility Observatory (<http://access.umn.edu/>) for 50 of the largest metropolitan areas. In 2017, the average resident of the Los Angeles metropolitan area (Los Angeles and Orange County) could reach 33 times (3,300%) as many jobs in 30 minutes driving alone as by transit.¹⁴

(4) Actual transit access to jobs in much of the 5-county CSA, measured by commuting behavior, is considerably higher than that of Huntington Beach.

Among the City’s commuters reaching work in less than 30 minutes, 133 times as many drive alone as use transit. This is five times the 5-county CSA rate (26x), eight times the Los Angeles County rate (17x) and more than double that of Orange County (59x) (Table 1-6).

¹⁴ CNT and the University of Minnesota use different criteria for transit access.

Table 1-6
 Commuters Reaching Jobs in Less than 30 Minutes (of all commuters)

	Drive Alone Share	Transit Share	Drive Alone per Transit Ratio
Huntington Beach	45.3%	0.3%	133
Los Angeles County	40.2%	2.4%	17
Orange County	49.4%	0.8%	59
Los Angeles-Long Beach CSA	43.6%	1.7%	26

Derived from American Community Survey, 2013/2017

Transit is far more competitive in other parts of the SCAG region than in the City. This is illustrated by ACS data for Public Use Microdata Areas (PUMAs).¹⁵ In the SCAG PUMA with the lowest drive alone to transit ratio, only 2.3 times as many commuters drive alone as use transit (Los Angeles County [Central]--LA City [Central/Koreatown PUMA]) Huntington Beach's 133 drive alone to transit 30 minute commute ratio is 58 times that figure.

Among the nation's more than 2,300 PUMAs, the Los Angeles County [Central]--LA City [Central/Koreatown PUMA] had the 27th highest population density in 2013/2017. It also has the highest transit market share (27.3%) of any PUMA in the CSA. This PUMA also contains some of the most intense transit service in the SCAG region. The region's only station serving two fully grade separate subway lines is in the Los Angeles County [Central]--LA City [Central/Koreatown PUMA].

Another 17 PUMA's have 30-minute drive alone to transit commute ratios no greater than one-tenth that of Huntington Beach (Table 1-7).

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¹⁵ PUMAs are analysis zones designated by the Census Bureau that divide the United States into areas of similar population, averaging 130,000. PUMAs are especially helpful for examining somewhat smaller area data within large jurisdictions, such as the cities of Los Angeles, Anaheim and Santa Ana.

Table 1-7 Local Areas (PUMAs) with Less than 1/10th Huntington Beach Drive Alone to Transit Commuting Ratio Commuters Reaching Jobs in Less than 30 Minutes (of all commuters)			
	Drive Alone Share	Transit Share	Drive Alone per Transit Ratio
Huntington Beach	45.3%	0.3%	133.2
Los Angeles County (Central)--LA City (Central/Koreatown) PUMA	25.3%	11.0%	2.3
Los Angeles County--LA City (East Central/Silver Lake, Echo Park & Westlake) PUMA	27.9%	11.5%	2.4
Los Angeles County (Central)--LA City (Southeast/East Vernon) PUMA	28.9%	9.5%	3.0
Los Angeles County--LA City (Central/Univ. of Southern California & Exposition Park) PUMA	22.8%	6.2%	3.7
Los Angeles County (Central)--LA City (East Central/Central City & Boyle Heights) PUMA	30.6%	7.4%	4.1
Los Angeles County (Central)--LA City (East Central/Hollywood) PUMA	31.7%	7.6%	4.2
Los Angeles County (Central)--Huntington Park City, Florence-Graham & Walnut Park PUMA	32.1%	4.4%	7.2
Los Angeles County (South Central)--LA City (South Central/Watts) PUMA	28.6%	3.8%	7.5
Los Angeles County (Central)--East Los Angeles PUMA	37.8%	4.4%	8.6
Los Angeles County (South)--Long Beach City (Southwest & Port) PUMA	36.5%	4.1%	8.8
Los Angeles County (North)--LA City (North Central/Mission Hills & Panorama City) PUMA	37.1%	4.1%	9.1
Los Angeles County--LA City (Mount Washington, Highland Park & Glassell Park) PUMA	35.3%	3.7%	9.6
Los Angeles County (Southeast)--Long Beach (Central) & Signal Hill Cities PUMA	40.5%	3.7%	11.0
Los Angeles County (South Central)--LA City (South Central/Westmont) PUMA	29.8%	2.7%	11.2
Los Angeles County (Northwest)--LA City (North Central/Van Nuys & North Sherman Oaks) PUMA	34.6%	2.9%	11.8
Los Angeles County (West Central)--LA City (West Central/Westwood & West Los Angeles) PUMA	45.5%	3.7%	12.4
Los Angeles County (West Central)--LA City (Central/Hancock Park & Mid-Wilshire) PUMA	40.7%	3.2%	12.7
Los Angeles County (Central)--LA City (Central/West Adams & Baldwin Hills) PUMA	34.2%	2.6%	13.2

Derived from American Community Survey, 2013/2017

B. Appeal Issue #2 – SCAG Incorrectly Projected Household Growth and Employable Population

1. Bases for Appeal:

- a. Pursuant to California Government Code Section 65584.05(b)(1) SCAG failed to adequately consider the information regarding the City's existing and projected jobs and housing relationship.
- b. Pursuant to California Government Code Section 65584.05(b)(2) SCAG failed to determine the City's share of the regional housing need in a manner that furthers and does not undermine the following objectives listed in Section 65584(d):
 - Promoting socioeconomic equity and the achievement of the region's greenhouse gas reduction targets (Section 65584(d)(2))
 - Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction (Section 65584(d)(3))

California Government Code 65584.01(a) uses a projection year as the basis for the development of housing need. SCAG defines the "projection period" as that period between July 1, 2021 and October 1, 2029. On that basis, SCAG should have limited its analysis to regional growth projections for that period. However, because SCAG's projections for the period ending in 2030 did not generate sufficient household formation to justify the HCD's allocation to the Southern California region, SCAG improperly introduced growth projections to 2045 in order to be able to reach "total housing need in excess of household growth..." In other words, as stated in SCAG's methodology, HCD's determination of 1,341,827 housing units needed between 2021 and 2029 exceeds SCAG's own projection of housing unit demand. SCAG appears to have determined that the only way to reconcile the disparity was to include projections to 2045. The basis for the methodology SCAG has implemented, therefore, is fundamentally flawed.

SCAG has used this flawed basis to differentiate between Projected Need and Existing Need. The Projected Need calculation is presented as that need for each jurisdiction for the planning period of 2021 to 2029. For the City, that calculation results in a RHNA allocation of 441 housing units, which is consistent with the projected household growth for the planning period. However, since the Projected Need calculations for all SCAG jurisdictions, calculated based on 2030 growth projections, did not add up to HCD's allocation of 1.3 million units, SCAG improperly determined that the difference between the HCD's allocation and the Projected Need should be assumed to be Existing Need. This backwards presumption, unsupported in the methodology, is that there are 836,857

households in the SCAG region that are currently unhoused. Further, in order to allocate this backwards-reasoned assumed Existing Need, and because SCAG’s own growth forecasts did not support the HCD allocation, SCAG used growth projections all the way out to 2045. This presumption, especially as the basis for the calculation of the current and future regional housing needs for all SCAG jurisdictions, is unfounded and unsupported.

SCAG projected the City’s household growth to reach 79,565 in 2030¹⁶. By 2045, there are expected to be 80,309 households in the City¹⁷. By substituting the 2045 household data for the period through 2030, the methodology over-estimates household growth in the planning period by 744 units, and population by 1,905.

In addition, the methodology bases Job Accessibility on total population, not on employable population. According to the US Census, 66.7% of the City’s population is in the labor force (both employed and unemployed)¹⁸. The City will have a 2030 total population of 203,405. Its employable population will be 135,671. This population should have been the basis for job accessibility by population, not the inflated gross population.

The City’s corrected dataset should reflect:

- Total 2030 Population: 203,405 (not 205,310 as shown in the Methodology Worksheet)
- Total 2030 Employable Population: 135,671 (not 205,310 as shown in the Methodology Worksheet)
- Total Job Accessibility by Population: 23,824 (not 36,052 as shown in the Methodology Worksheet)
- Existing Job Need: 3,673 (not 5,534 as shown in the Methodology Worksheet).

2. Requested Revision

On the basis of the above analysis, the requested reduction based on the inaccurate application of the household growth and employment population is a reduction of 1,861 units.

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¹⁶ Draft RHNA Methodology Data Appendix, prepared by SCAG.

¹⁷ Ibid.

¹⁸ 2018 American Community Survey 5-Year Estimates Data Profiles, US Census Bureau

3. Statement as to why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584

The requested reduction is necessary to further the RHNA objectives of increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner; and promoting an improved intraregional relationship between jobs and housing.

The use of longer term projections results in an inequitable RHNA allocation because the data is so unreliable. This is illustrated by the downward revisions in state Department of Finance population forecasts. In 2007, the DOF projected a state population of 59.7 million by 2050. The DOF January 2020 revised projection is 44.9 million. This reduction of almost 15 million residents is more people than live in all but four states (California, Texas, Florida and New York).

The current 2045 DOF population projection for the six SCAG counties combined is 20.5 million, approximately 9 % below the SCAG figure for the same year (22.5 million), as indicated in the RHNA Allocation spreadsheet. Household projections generally also show the same pattern. Taking Los Angeles County as an example, in 2007, the **DOF projected** it would have **13.1 million residents** by 2050. The **DOF's latest 2050 projection** is **10.1 million residents**, which is below the DOF's current estimate of 10.3 million residents (indicating that population is projected to decrease).

The changing demographic trends in California make longer term projections particularly unreliable. To use them in calculating and allocating the Existing Need is arbitrary and illogical, resulting in RHNA allocations that are unreasonably high and inequitable. In addition, the use of 2045 projections is inconsistent with state law and the legislative intent.

C. Appeal Issue #3 – The SCAG allocation of the regional housing need fails to account for the low rate of housing overcrowding in the City

1. Bases for Appeal:

- a. Pursuant to California Government Code Section 65584.05(b)(1) SCAG failed to adequately consider the information regarding the rate of overcrowding.
- b. Pursuant to California Government Code Section 65584.05(b)(2) SCAG failed to determine the City's share of the regional housing need in a manner that furthers and does not undermine the following objectives listed in Section 65584(d):
 - Promoting socioeconomic equity and the achievement of the region's greenhouse gas reduction targets (Section 65584(d)(2))
 - Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction (Section 65584(d)(3))

In 2018, the Legislature required the addition of an overcrowding measure to the determination of housing need by HCD. Approximately 34% of the RHNA allocation for the SCAG region is attributable to the overcrowding measure. However, the SCAG RHNA methodology did not reflect the level of overcrowding in the City.

HCD describes the overcrowding adjustment as follows:

Overcrowding Adjustment: In regions where overcrowding is greater than the U.S overcrowding rate of 3.35%, HCD applies an adjustment based on the amount the region's overcrowding rate (10.11%) exceeds the U.S. overcrowding rate (3.35%) based on the 2013-2017 5-year ACS data. For SCAG that difference is 6.76%.¹⁹

However, the SCAG allocation formula does not reflect the differences in overcrowding rates by jurisdiction. The City has a far lower overcrowding rate than the SCAG region, at 3.66%, which is little more than the US overcrowding rate of 3.35%, a difference of 0.31%. SCAG's failure to specifically adjust the RHNA allocation for overcrowding, effectively imposing a blanket allocation for overcrowding, applies the regional average excess overcrowding rate of 6.76% to the City. This is more than **20 times the City's actual** excess overcrowding rate.²⁰

¹⁹ Calculated from data in HCD Regional Housing Need Determination Letter, August 22, 2019.

²⁰ Note: By an alternative measure, which defines overcrowding based on multiple households occupying the same housing unit (additional households are called "subfamilies" (ACS 2013-2017 table C-11014)

2. Requested Revision

As noted, the Huntington Beach overcrowding rate (relative to the national rate) is considerably less than that of the SCAG region. Approximately 34% of the overall SCAG allocation is attributable the HCD overcrowding adjustment. At this rate, the overall Huntington Beach allocation includes 4,564 units due to the blanket application of the SCAG overcrowding adjustment. The Huntington Beach RHNA allocation should reflect an overcrowding adjustment of 0.31%, rather than the SCAG overall overcrowding adjustment of 6.76%, which results in a requested reduction of 4,354 units and an additional 2,074 units residual reduction. ***The total requested reduction due to inaccurate overcrowding rate application is 6,428.***

3. Statement as to why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584

As discussed, this revision is necessary to further the intent of the objectives listed in Government Code Section 65884 because the present allocation method undermines and does not promote socioeconomic equity” (Section 65584(d)(2)). The present allocation method also undermines and does not promote an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction (Section 65584(d)(3)).

The promotion of socioeconomic equity is undermined by failing to apply the City’s actual overcrowding rate instead of the SCAG region average rate. Residents of the City will have considerably less economic opportunity due to the limited transit job access. As a result, low-income residents moving to Huntington Beach are likely to face significant impediments to socioeconomic advancement.

The higher allocation to Huntington Beach will undermine the intraregional relationship between jobs and housing because transit access is so limited. Conversely, the interregional relationship between jobs and housing would be promoted by allocating a smaller number of units to Huntington Beach.

In addition, SCAG’s failure to adjust the RHNA Allocation for the actual level of overcrowding in the City undermines and does not promote important intentions of SCAG’s *Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy*, such as housing construction in transit rich areas (page 4), strategies that result in reduced demand for single occupancy vehicle use (page 10) and land use patterns that facilitate multimodal access to work (page 25).

Huntington Beach’s overcrowding rate is 19% below the national average (3.66% compared to the US average of 3.26%).

Generally, the objectives of state law and SCAG's Sustainable Communities Strategy would be served by a larger share of solo drivers being attracted from their cars to utilize transit and other nonmotorized modes. Minimization of solo driving commutes requires considerably better transit job access. State and regional policies have been adopted to seek these objectives by constructing housing units close to jobs that can be filled by nearby resident workers.

Additionally, the same four justification assertions from the City's HQTAs (Issue #1) are made in support of a revision to adjust for overcrowding rate to ensure that the RHNA allocation furthers the RHNA objectives in furthering socioeconomic equity and improving the intraregional relationship between jobs and housing. (Wendell Cox Expert Report – Attachment No. 2)

D. Appeal Issue #4 – The Final RHNA methodology does not address the housing needs generated by the presence of public or private universities in Huntington Beach.

1. Bases for Appeal:

Pursuant to California Government Code Section 65584.05(b)(1) SCAG failed to adequately consider information submitted regarding the housing needs generated by the presence of a private university or a campus of the California State University or the University of California within any member jurisdiction.

The Final RHNA methodology²¹ does not address the housing needs generated by the presence of public or private universities, which does not comply with the Government Code Section 65584.04(e)(9). SCAG’s Executive Summary of the RHNA methodology indicates that “evaluation of survey responses that indicated a presence of a university within their boundaries, SCAG staff concludes that most housing needs related to university enrollment are addressed and met by dormitories provided by the institution both on- and off-campus.” Additionally, some SCAG jurisdictions “have indicated outside of the survey that off-campus student housing is an important issue within their jurisdictions and are in dialogue with HCD to determine how this type of housing can be integrated into their local housing elements.” SCAG ultimately recommends that “housing needs generated by a public or private university be addressed in the jurisdiction’s housing element if it is applicable” because “this circumstance only applies to a handful of jurisdictions.”

It must be noted that the SCAG survey sent to university jurisdictions and any communications from those jurisdictions about university housing “outside of the survey” is another example of illegal political manipulation of the RHNA process by Riverside and Los Angeles County. Prior to the November 7th Regional Council meeting, Mayor Bailey of Riverside repeatedly brought up concerns during public meeting discussions regarding university housing and its marked impact on Riverside’s inability to meet its RHNA. Mayor Bailey suddenly ceased to bring up university housing at the November 7th meeting, likely as he was informed that the housing needs generated by universities would only ensure that Riverside’s RHNA would increase to accommodate this real, quantifiable need for housing.

²¹ Final RHNA methodology <http://www.scag.ca.gov/programs/Documents/RHNA/SCAG-Final-RHNA-Methodology-030520.pdf>

Additionally, SCAG’s own conclusion notes that only most, not all housing needs related to university enrollment are addressed and met by dormitories provided by the institution both on- and off-campus. The topic of off-campus housing provided by each institution is a vital topic for the RHNA methodology. Many universities develop their own long range housing and expansion plans in order to define their growth within the campus and vicinity. For example, the UCLA Student Housing Master Plan²² notes that between 2014-2019 their off-campus apartment inventory increased by 736 beds through university acquisition of existing housing units. Universities are removing existing housing units from the market available to the general population and reserving them solely for students.

Further, UCLA’s 2018 Long Range Development Plan Amendment and Student Housing Projects SEIR²³ concludes the following:

The current demand for housing on campus exceeds existing supply. Even with the additional beds from new developments, redevelopments, conversion of faculty buildings, and renovations, UCLA Housing is meeting current guarantees for undergraduate and transfer students by maintaining higher than desired triple occupancy percentages (putting three students in rooms designed for two students).

SCAG area universities are acquiring private market properties for student conversions and it is **still not enough housing** to meet the demand generated by their housing needs. Universities are contributing to an issue that is also included in the RHNA methodology – overcrowding. A university room actually designed for two students only counts for one person based on SCAG’s persons per room analysis, and universities are actually housing up to three people per such room. UCLA’s Student Housing Master Plan notes that “since the early 1990s, occupancy with triple rooms has exceeded 125 percent.” Additionally, the California State University System Basic Needs Initiative²⁴ found that 10.9% of CSU students had experienced homelessness in the past 12 months. There is an increased demand for housing in university jurisdictions, which in turn increases price and overcrowding among students while simultaneously removing existing housing stock available to the local non-student population.

²² UCLA Student Housing Master Plan 2016-2026 http://wscuc.ucla.edu/wp-content/uploads/2019/01/C5_23_UCLA_Student_Housing_Master_Plan_2016-26.pdf
²³ UCLA Long Range Development Plan Amendment and Student Housing Projects SEIR (2018) http://www.capitalprograms.ucla.edu/content/PDF/UCLA_LRDP_Amendment_Final_SEIR-January2018.pdf

²⁴ California State University System Basic Needs Initiative https://www2.calstate.edu/impact-of-the-csu/student-success/basic-needs-initiative/Documents/BasicNeedsStudy_phaseII_withAccessibilityComments.pdf

It is clear that the housing needs generated by universities in the SCAG region have not been sufficiently considered in previous housing element cycles and have not been considered in the 6th Cycle RHNA, either. An accurate quantitative analysis of housing needs within SCAG university jurisdictions is necessary to affirmatively further fair housing by promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region's greenhouse gas reductions targets. Failure to address these needs does not further the five statutory requirements of RHNA, does not comply with the statutory requirements of the RHNA methodology, and does not comply with statutes requiring Connect SoCal and RHNA to be consistent (Government Code Section 65080(b)(2)(B) and Section 65584.04(m)).

2. Requested Revision

The total requested reduction due to failure to consider the housing needs of universities is 360 units.

3. Statement as to why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584.

The RHNA methodology completely ignores its statutory requirement to consider housing needs for universities in compliance with Government Code Section 65584.04(e)(9). Approximately 14% of SCAG's jurisdictions (27 cities out of 197 jurisdictions) have a public or private university presence, which is much greater than a "handful" as characterized by the SCAG Executive Summary. This assumption completely discounts the impact placed on specific jurisdictions by State schools, and improperly spreads the impact to all SCAG jurisdictions.

In order to determine if SCAG's assumptions were valid, the City commissioned an analysis of the published off-campus demand for housing for 13 total University of California and California State University campuses within the SCAG region (Attachment No. 16 – Terra Nova Planning and Research Inc. Memorandum). In order to analyze the future demand for off-campus housing, each school's planning documents were collected and analyzed. Once the total future growth patterns and need for housing was determined, the demand for the period from 2020 to 2030 was developed. The analysis found that a total of 27,826 students will require off-campus housing in the region within these two public university systems by 2030. This represents 2.7% of the total RHNA for the planning period. Since this impact has been spread across the entire SCAG jurisdiction, rather than assigned to those jurisdictions who will be impacted, Huntington Beach's total RHNA should be reduced by 2.7%, (360 units). This reduction is necessary to ensure that RHNA objectives to increase the housing supply and promote intraregional jobs/housing relationship are furthered.

E. Appeal Issue #5 – SCAG failed to consider the impact of sea level rise, planning for coastal inundation and FEMA designated flood zones when allocating RHNA to the City.

1. Bases for Appeal:

- a. Pursuant to California Government Code Section 65584.04(e)(2)(B), SCAG failed to adequately consider the City's availability of land suitable for urban development or for conversion to residential use, the availability of underutilized land, and opportunities for infill development and increased residential densities. The determination of available land suitable for urban development may exclude lands where the Federal Emergency Management Agency (FEMA) or the Department of Water Resources has determined that the flood management infrastructure designed to protect that land is not adequate to avoid the risk of flooding.
- b. Pursuant to California Government Code Section 65584.05(b)(1) SCAG failed to adequately consider the information the City of Huntington Beach submitted to address existing or projected jobs housing balance and the region's greenhouse gas emissions targets.
- c. Pursuant to California Government Code Section 65584.05(b)(2) SCAG failed to determine the City's share of the regional housing need in a manner that furthers and does not undermine the following objectives listed in Section 65584(d): Promoting socioeconomic equity and the achievement of the region's greenhouse gas reduction targets (Section 65584(d)(2))

Sea Level Rise

The State of California is highly concerned with the impact of sea level rise and planning for coastal inundation. The State's Ocean Protection Council adopted its first sea level rise guidance document in March 2013. The California Coastal Commission (CCC) has adopted multiple guidance documents since 2015 regarding climate change, sea level rise, and coastal inundation utilizing the best available data. At their May 13, 2020 meeting, the CCC adopted a document titled, "Making California's Coast Resilient to Sea Level Rise: Principles for Aligned State Action²⁵." This document is a tool for aligned,

²⁵ <https://documents.coastal.ca.gov/reports/2020/5/W6g/w6g-5-2020-report.pdf>

<https://documents.coastal.ca.gov/reports/2020/5/W6g/w6g-5-2020-exhibits.pdf>

consistent state agency action in planning and preparing for a minimum baseline 3.5 feet of sea level rise statewide. The principles are intended to guide unified, effective action towards sea level rise resilience for California’s coastal communities, ecosystems, and economies across state agencies in order to improve effectiveness in addressing this immediate challenge.

The development of the RHNA methodology necessitates contributions from all relevant stakeholders throughout the SCAG region. The CCC has not been engaged in the public review process. The CCC is a key stakeholder for jurisdictions in the coastal zone across Ventura, Los Angeles, and Orange counties. Development proposals in the coastal zone are subject to final approval of the CCC even if the jurisdiction has a certified Local Coastal Program. The CCC has the ability to appeal a City's approval of any project within the coastal zone and conduct their own review of the project, which may ultimately result in project disapproval beyond control of the City. Rezoning and associated land use changes required to adequately plan for RHNA allocations will necessitate a Local Coastal Program Amendment for all jurisdictions with certified Local Coastal Programs. Coastal jurisdictions may adopt land use changes to comply with RHNA requirements, but there is no guarantee that those changes will be approved by the CCC.

The authority of the CCC to make decisions based on sea level rise is specifically noted in Public Resources Code Section 30006.5 Legislative findings and declarations; technical advice and recommendations:

“The Legislature further finds and declares that sound and timely scientific recommendations are necessary for many coastal planning, conservation, and development decisions and that the commission should, in addition to developing its own expertise in significant applicable fields of science, interact with members of the scientific and academic communities in the social, physical, and natural sciences so that the commission may receive technical advice and recommendations with regard to its decision making, especially with regard to issues such as coastal erosion and geology, marine biodiversity, wetland restoration, the question of sea level rise, desalination plants, and the cumulative impact of coastal zone developments.”

Further, the CCC’s 2018 Sea Level Rise Policy Guidance for development in areas subject to sea level rise requires coastal cities to complete Local Coastal Program Updates/Amendments 26 (which will be necessary as a result of RHNA) to do the following:

²⁶ CCC Sea Level Rise Policy Guidance Chapter 5: Addressing Sea Level Rise in Local Coastal Programs

https://documents.coastal.ca.gov/assets/slr/guidance/2018/5_Ch5_2018AdoptedSLRGuidanceUpdate.pdf

It is likely that policies throughout the LCP will need to be revised or developed to address impacts from sea level rise. Two major types of updates to the LCP will likely be needed to address sea level rise:

2. Updated land use and zoning designations, as well as programs to facilitate adaptive community responses, to reduce risks to specific coastal resources. For example, the LCP could modify the zoning of undeveloped land located upland of wetlands from residential to open space in order to provide the opportunity for wetlands to migrate inland, and protect wetlands for the future.

The CCC Guidelines specifically recommend rezoning residential land to open space in order to accommodate managed retreat of areas subject to sea level rise. The associated challenges the City, and other coastal cities, faces result in vast amounts of land that are not suitable or safe for any type of development with permanent structures, including residences.

To further demonstrate the significance of sea level rise in land use planning, Chapter 7 of the CCC Guidelines²⁷ includes specific adaptation strategies to consider in the planning and development review processes. These strategies include “gradually removing and relocating existing development” within vulnerable areas. This is a challenge unique to coastal cities, which the RHNA Allocation failed to include for analysis. The adaptation strategies also include the following, which will impact all types of development other than protected open space in areas vulnerable to sea level rise, which will have a significant negative impact on the SCAG region’s ability to achieve GHG emission reduction goals:

A.4 Limit new development in hazardous areas: Restrict or limit construction of new development in zones or overlay areas that have been identified or designated as hazardous areas to avoid or minimize impacts to coastal resources and property from sea level rise impacts.

A.7 Limit subdivisions in areas vulnerable to sea level rise: Prohibit any new land divisions, including subdivisions, lot splits, lot line adjustments, and/or certificates of compliance that create new beachfront or blufftop lots unless the lots can meet specific criteria that ensure that when the lots are developed, the development will not be exposed to hazards or pose any risks to protection of coastal resources.

A.9a Develop a plan to remove or relocate structures that become threatened: Require new development authorized through a CDP that is

²⁷ CCC Sea Level Rise Policy Guidance Chapter 7: Adaptation Strategies
https://documents.coastal.ca.gov/assets/slr/guidance/2018/7_Ch7_2018AdoptedSLRGuidanceUpdate.pdf

subject to wave action, erosion, or other hazards to be removed or relocated if it becomes threatened in the future.

A.10 Ensure that current and future risks are assumed by the property owner: New development should be undertaken in such a way that the consequences from development in high hazard areas will not be passed on to public or coastal resources. Recognize that over time, sea level rise will cause the public trust boundary to move inland. Establish standards, permit conditions, and deed restrictions that ensure that current and future risks are assumed by the property owner. Consider policies that would encourage or require property owners to set aside money, such as in the form of a bond, as a contingency if it becomes necessary to modify, relocate, or remove development that becomes threatened in the future.

Goal: Encourage the removal of development that is threatened by sea level rise

A.15 Use Rolling Easements: The term “rolling easement” refers to the policy or policies intended to allow coastal lands and habitats including beaches and wetlands to migrate landward over time as the mean high tide line and public trust boundary moves inland with sea level rise. Such policies often restrict the use of shoreline protective structures (such as the “no future seawall” limitation sometimes used by the Commission), limit new development, and encourage the removal of structures that are seaward (or become seaward over time) of a designated boundary. This boundary may be designated based on such variables as the mean high tide line, dune vegetation line, or other dynamic line or legal requirement. Despite the term “rolling easements,” not all of the strategies related to rolling easements actually involve the use of recorded easements.

A.18 Acquisition and buyout programs: Acquisition includes the acquiring of land from the individual landowner(s). Structures are typically demolished or relocated, the property is restored, and future development on the land is restricted. Such a program is often used in combination with a TDR program that can provide incentives for relocation. Undeveloped lands are conserved as open space or public parks. LCPs can include policies to encourage the local government to establish an acquisition plan or buyout program to acquire property at risk from flooding or other hazards.

The CCC is actively implementing these guidelines. For example, a property within the City’s certified LCP has a land use designation of medium density residential. The property owner submitted an entitlement application to the City to permit the development of 48 residential condominiums. This included four deed-restricted moderate income ownership units and payment of approximately \$200,000 in fees dedicated towards development of affordable units in the City. The City coordinated a meeting with the

applicant and the CCC in an effort to bring new housing stock, including affordable housing opportunities within 800 feet of the state beach, to the City. The CCC explicitly stated they would not support residential development on this property due to hazard risks from sea level rise even though the existing, approved land use designation is medium density residential. The applicant has subsequently withdrawn their entitlement application. The applicant is now selling the property, which will likely be developed with a commercial parking lot.

SCAG's RHNA methodology has not addressed the impact of sea level rise, coastal inundation, and other coastal issues which affect the ability of coastal jurisdictions to plan for their RHNA Allocations. SCAG's 2017 RTP Data Map Book for Huntington Beach includes an exhibit depicting "Sea Level Rise Impacted Areas (2 feet) 2040 Scenario in Orange County²⁸." Nearly all of the lowest lying land in Orange County is within the City and its annexation of Sunset Beach; a small portion affects Newport Beach and Seal Beach. The data from the Map Book does not utilize the best available science/data as the State has since revised SLR analysis to plan for a baseline of 3.5 feet of SLR statewide. It must also be noted that the Map Book contains these exhibits and information regarding SLR, but SCAG does not utilize them for any analysis within Connect SoCal or RHNA.

The Map Book's exhibit for Potential Infill Parcels in City of Huntington Beach also contains errors that do not affirmatively further fair housing. Notably, this exhibit depicts an existing 265 unit mobile home park as a refill parcel (north of PCH and east of Beach Blvd. – 80 Huntington St.). SCAG's own documents undermine the statutory objectives to affirmatively further fair housing by designating a mobile home park, one of the most affordable existing housing developments in the City's coastal zone, as an area desirable for redevelopment. This is another example of the unattainable goals set by SCAG and competing interests created by RHNA that result in a RHNA allocation that is unrealistic for the City to achieve. It should be noted that the City provided input to delete this map from the map data book and use the City's own GIS files for vacant properties.

SCAG fails to address this critical information from the CCC. Coastal cities are explicitly unable to accommodate **any** development, especially residential development as it is specifically vulnerable and unable to adapt to managed retreat, within areas of sea level rise. The CCC expects all Local Coastal Programs to recognize that lands adjacent to the Pacific Ocean and harbors will extend inward as a direct result of sea level rise²⁹. This information alone indicates that coastal cities will lose land available for development (and land that is currently developed) to the public trust boundary. The CCC recommends that coastal cities purchase land within sea level rise areas and remove all associated structures to conserve the land as open space.

²⁸ <http://scagrtpscs.net/Documents/DataMapBooks/HuntingtonBeach.pdf>

²⁹ California Coastal Commission Sea Level Rise Policy Guidance
https://documents.coastal.ca.gov/assets/slr/guidance/2018/0_Full_2018AdoptedSLRGuidanceUpdate.pdf

The development challenges faced by coastal cities due to sea level rise are arbitrarily and capriciously ignored by SCAG throughout the RHNA and Connect SoCal process to accommodate political will from other areas of the SCAG region. Connect SoCal and its PEIR characterize coastal cities as opposed to new development due to “community resistance to new housing, especially medium and high density projects.” In order to serve political will in the LA and Inland areas of SCAG, the RTP/SCS and RHNA purposefully do not acknowledge **any relevant information** regarding the significant negative environmental impacts and CCC prohibition on coastal development other than protected open space within areas subject to sea level rise, **including SCAG’s own Data Map Book exhibits produced in 2017**. Excluding this pertinent analysis from the RHNA and RTP/SCS process only serves to enable Connect SoCal and RHNA to arbitrarily and capriciously achieve on paper Governor Newsom’s admitted “stretch goal” to construct 3.5 million units in California by 2025.

All areas within the SCAG region that are subject to sea level rise, including the City, must be accurately identified in Connect SoCal and RHNA, removed from the model scenarios in each, and also excluded from the RHNA calculation (including but not limited to job accessibility, HQTAs proximity, reallocated residual need, and additional social equity adjustments) in order for Connect SoCal and RHNA to be consistent (Government Code Section 65080(b)(2)(B) and Section 65584.04(m)).

FEMA Designated Areas of Flood Hazard Risk

The RHNA allocation does not include any analysis of land areas located in or near a 100-year flood hazard zone. Approximately 2.4 square miles of land within Huntington Beach is within a FEMA designated 100-year flood hazard zone³⁰. Exponentially more area of land within the City is located near a 100-year flood hazard zone in MM HYD-4 of Connect SoCal’s PEIR. The City’s land that is within or near a 100-year flood hazard zone must be excluded from the RHNA calculation (including but not limited to job accessibility, HQTAs proximity, reallocated residual need, and additional social equity adjustments).

The analysis presented above regarding sea level rise and FEMA flood zone areas demonstrates the environmental challenges faced by the City. These challenges result in the City’s inability to accommodate any type of development other than protected open space in these areas, which will have a significant negative impact on the region’s ability to achieve statewide GHG emission reduction goals.

2. Requested Revision

Residential uses in the coastal zone represent 34% of the land area in the coastal zone, 15% of the total residential acreage in the City, and 6.5% of the total land area of the City. **The total requested reduction based on failure to account for areas unavailable due**

³⁰ <https://msc.fema.gov/portal/search?AddressQuery=huntington%20beach%2C%20ca#searchresultsanchor>

to hazards from sea level rise impacts is 866 units (6.5% of the draft RHNA allocation).

Approximately 2.4 square miles of land within the City is located in a FEMA-designated flood zone. This equates to approximately 8.5% of the City's total land area. **The total requested reduction based on failure to account for areas unavailable due to hazards from FEMA designated flood zones is 1,134 units (8.5% of the draft RHNA allocation).**

3. Statement as to why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584

As discussed, this revision is necessary to further the intent of the objectives listed in Government Code Section 65884 because the present allocation method undermines and does not promote **"infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region's greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080."** (Section 65584(d)(2) (emphasis added).) The present allocation method also undermines and does not promote an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction (Section 65584(d)(3)).

The promotion of socioeconomic equity is undermined by failing to correctly consider **the availability of land suitable for urban development or for conversion to residential use, the availability of underutilized land, and opportunities for infill development and increased residential densities** in compliance with Government Code Section 65584.04(e)(2)(B), because SCAG has not considered areas subject to sea level rise, FEMA designated flood zones, or areas of tsunami hazard. The City has considerably less land available for urban development than analyzed in the RHNA process, resulting in reduced economic opportunity due to the City's limited ability to increase the housing supply and the mix of housing types, tenure, and affordability. The RHNA Allocation does not further an increase in housing supply in all cities and counties within the region **in an equitable manner** in that it unreasonably allocates units to the City that would either never be approved due to CCC actions or put new residents (including lower-income peoples and at-risk populations) in an substantial physical and economic danger due to environmental hazards.

F. Appeal Issue #6 – Residual Adjustment

1. Bases for Appeal

The “Residual Adjustment” is not found in State law, and is therefore an illegal and arbitrary and capricious methodology. The SCAG residual adjustment is so high that it materially undermines and fails to promote other substantial statutory objectives, which may be of greater importance given state and regional policy priorities (Wendell Cox Expert Report – Attachment No. 2).

Approximately one-third (32%) of the City RHNA Allocation is attributable to the SCAG residual adjustment (redistribution methodology), comprising 4,303 of the 13,337 units allocated to the City. Subdivision (d)(2) of Section 65584 requires a RHNA allocation to further an objective of “socioeconomic equity,” addressing fundamental human economic needs and upward mobility. By basing such a large portion of the RHNA allocation to lower “the proportion of housing need when a jurisdiction already has a disproportionately high share of households in that income category...” the potential to promote “socioeconomic equity” is materially diminished. The methodology substantially increases the City RHNA Allocation irrespective of, and detrimental to, the City’s ability to promote socioeconomic equity, in comparison to other jurisdictions.

The promotion of socioeconomic equity is undermined by failing to apply the City’s overcrowding rate instead of the SCAG region average rate. Under the current City RHNA Allocation, residents will have considerably less economic opportunity due to limited transit job access, in both absolute and relative terms. As a result, low-income residents moving to the City are likely to face significant impediments to socioeconomic advancement. The higher allocation to the City will undermine the intraregional relationship between jobs and housing because transit access is so limited.

Santa Ana has one of the best Jobs Accessibility and HQTAs of all the Orange County cities. Santa Ana’s share of the regional HQTAs 2045 population is 3.11% and the share of job accessibility is 2.66%, which represent the highest and second highest shares in Orange County respectively. As such, they should have a much higher RHNA allocation in order to truly reflect the statutory objectives. According to the current SCAG methodology, Santa Ana should have an additional 23,168 units. However, Santa Ana’s RHNA allocation is arbitrarily capped at 3,087 due to its reported 2045 household growth. Because they are identified as a disadvantaged community, their share of the RHNA allocation is redistributed within the County to cities, such as the City, with significantly worse transit and jobs access. This is not only contrary to the RHNA objectives, it conflicts with many of the preferred policies of the state, California Air Resources Board, HCD, and the recently approved Connect SoCal (2020 RTP/SCS). This arbitrary household growth cap is based on Santa Ana’s self-reported growth, which is outdated and misleading. According to the City of Santa Ana website, over 10,000 units are either under construction, approved or currently under review and should be counted toward their 2045

household growth. This also doesn't include additional growth that would be permitted under their General Plan Update, which is the final phases of approval.

A more modest residual adjustment allocation to the City would better promote socioeconomic equity by taking into account the capacity of the City's transit job access to support residents' efforts to obtain jobs and socioeconomic security and advancement, while still easing the challenges faced by disadvantaged cities. For example, a residual adjustment allocation one-fifth that of the current method to jurisdictions with richer transit and jobs environments could benefit a large number of households by placing housing where the opportunities for upward mobility are better, while moderating the allocations for disadvantaged cities. (Expert report Wendell Cox)

2. Requested Revision

The total reduction based on the suggested residual adjustment is 3,442 units.

3. Statement as to why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584.

As discussed, this revision is necessary to further the intent of the objectives listed in Government Code Section 65884 because the present allocation method undermines and does not promote "***infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region's greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080***" (Section 65584(d)(2) (emphasis added).) The present allocation method also undermines and does not promote an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction (Section 65584(d)(3)).

**CITY OF HUNTINGTON BEACH
PROPOSED APPEALS TO CITY ALLOCATIONS
IN THE
REGIONAL HOUSING NEEDS ASSESSMENT ALLOCATION
TO THE
SOUTHERN CALIFORNIA ASSOCIATION OF
GOVERNMENTS (SCAG)**

**Report prepared for the
City of Huntington Beach
By Wendell Cox**

October 20, 2020



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Proposed Appeal Requests (Draft)
Prepared for the City of Huntington Beach

October 20, 2020

Introduction

This report includes three proposed Regional Housing Needs Assessment (RHNA) Sixth Cycle Appeal requests from the city of Huntington Beach to the Southern California Association of Governments (SCAG). The calculations for estimates in the appeal requests are in the Appendix: Calculation of Estimates.

Issue #1: Over-Estimation of HQTAs Allocation

Part of the SCAG RHNA allocation includes the extent of high quality transit areas (HQTAs) in a city. SCAG defines its HQTAs based on the state high quality transit corridor (HQTC) definition.¹ The SCAG HQTC based Huntington Beach allocation is higher than appropriate.

The higher number of units incorrectly allocated to Huntington Beach will also have related consequences, because the city has more limited transit job access measures than other jurisdictions and areas of Orange County, Los Angeles County and the 5-county Los Angeles-Long Beach combined statistical area (CSA).²

Approximately 23% of the Huntington Beach RHNA allocation is attributable to the HQTA population, which comprises 3,059 of the 13,337 units.

Principal Justification: A high-quality transit corridor (HQTC) is defined as a corridor with fixed route bus service containing service intervals no longer than 15 minutes during peak commute hours (California Public Resources Code Section 21155(b)).

¹ SCAG Meeting of the Technical Working Group, “High Quality Transit Corridors and Major Transit Stops,” (Agenda item 1-d) <http://www.scag.ca.gov/committees/CommitteeDocLibrary/twg101619fullagn.pdf>.

² This analysis uses the Los Angeles-Long Beach combined statistical area (the SCAG area, without Imperial County), which is the largest labor market definition by the U.S. Office of Management and Budget. As a labor market area, the CSA is also a housing market.

The population within the HQTAs is a principal factor used to determine the city's RHNA existing need. Part of the RHNA Allocation for the Huntington Beach is based upon an assumption that 36.43% of the population will be in a HQTAs in 2045.

The SCAG RHNA Allocation to the city of Huntington Beach assumes that the entirety of OCTA Route 29 is a high-quality transit corridor (HQTAs). However, as of the last pre-Covid bus timetable, Route 29 did not meet the criteria for an HQTAs south of Heil Avenue.

According to SCAG:³

Peak Period Bus Service Interval (Frequency)

To determine whether the peak commute bus service interval (also called frequency) meets the statutory threshold of 15 minutes or less, SCAG uses the peak period defined in its regional travel demand model. The morning peak is defined as 6am to 9am and the afternoon peak is defined as 3pm to 7pm. A transit operator may have a different, board-adopted or de facto peak period; in such cases SCAG will accept requests to use operator-specific peak-hour periods on a case-by-case basis.

SCAG uses the total population of bus trips during the combined seven-hour morning and afternoon peak periods to determine the peak frequency at a bus stop. This is done for each bus route, by direction. The peak frequency is calculated by dividing 420 minutes (the sevenhour peak converted to minutes) by the total peak bus trips. This average frequency should be 15 minutes or less in order to qualify. The threshold is strict, at 15.0 minutes.

Route 29 is included in the RHNA as an HQTAs by SCAG. Route 29 has been indicated as an HQTAs in the "2018 OCTA Long Range Transportation Plan" in Figure 4.10 and reaffirmed by SCAG in response to a request for correction by the City of Huntington Beach.⁴

However, Route 29 fails to meet the "strict" service frequency threshold defined above, as of the February 9, 2020 (pre-Covid) bus schedule (Table 1-1 and Exhibit). Route 29 does not meet the HQTAs service frequency threshold in any of the peak periods at two bus stops in Huntington Beach, south of Heil Avenue.⁵The bus stops are the southern terminus, at Pacific Coast Highway/First Street and Beach Boulevard/ Garfield.

³ SCAG Meeting of the Technical Working Group, "High Quality Transit Corridors and Major Transit Stops," (Agenda item 1-d) <http://www.scag.ca.gov/committees/CommitteeDocLibrary/twg101619fullagn.pdf>

⁴ SCAG, "Connect SoCal: Community Input: Public Participation and Consultation: Master Response No. 1: Regional Housing Needs Assessment," page 92, https://www.connectsocial.org/Documents/Proposed/pfConnectSoCal_Public-Participation-Appendix-2.pdf.

⁵ Peak periods are defined by SCAG as 6:00 am to 9:00 am and 3:00 pm to 7:00 pm. SCAG, "Connect SoCal: Community Input: Public Participation and Consultation: Master Response No. 1: Regional Housing Needs Assessment," page 92, https://www.connectsocial.org/Documents/Proposed/pfConnectSoCal_Public-Participation-Appendix-2.pdf.<http://www.scag.ca.gov/committees/CommitteeDocLibrary/twg101619fullagn.pdf>

Table 1-1
 Route 29 Service Frequencies in Minutes During Peak Periods (Weekdays)
 Huntington Park Area Bus Stops
 February 9, 2020 Schedule

	Northbound		Southbound	
	AM (6-9)	PM (3-7)	AM (6-9)	PM (3-7)
PCH-1st	20.0	21.8	20.0	20.0
Beach Bl./Garfield	20.0	20.0	20.0	20.0

Note: Service frequency must meet the statutory frequency of 15 minutes or less (see text)

The result is that the area from Heil Avenue south to the southern route terminal at Pacific Coast Highway and First in Huntington Beach is wrongly designated as an HQTAs. North of Heil Avenue, Beach Boulevard is considered an HQTAs because Routes 66 and 70 are defined as HQTAs.

Finally, the OCTA “2018 Long Range Transportation Plan” Figure 4.1 indicates that a service reduction is recommended for Route 29.

In short, Route 29 in the city of Huntington Beach does not qualify as an HQTAs south of Heil Avenue. As a result, the HQTAs designation is incorrect and should be reversed.

Related Consequences: The following factors undermine the objectives above, as follows:

The promotion of socioeconomic equity is undermined by the overestimate of residents in HQTAs, which results in a higher RHNA allocation to the city of Huntington Beach.

Residents of the new Huntington Beach housing will have considerably less economic opportunity due to the limited transit job access. As a result, low-income residents moving to Huntington Beach are likely to face significant impediments to socioeconomic advancement.

The higher allocation to Huntington Beach will undermine the intraregional relationship between jobs and housing because transit access is so limited. Conversely, the interregional relationship between jobs and housing would be promoted by allocating a smaller number of units to Huntington Beach.

Consistent with trends already evident in research prepared for SCAG (below⁶), the limited transit job access from Huntington Beach is likely to create incentives to workers to purchase cars. More often than not, this is likely to mean solo commuting by car and higher commuting expenses..

The longer transit commutes could significantly reduce the incentive for some potential workers to seek employment.

The Importance of Short Transit Commutes: Relatively short commute times are crucial for transit to maintain its market share. In the United States, the average drive alone time is less than 30 minutes and is 26.8 minutes in Orange County. By comparison, transit commute times average 53.6 minutes⁷ in Orange County, nearly double the drive alone time.

Around the country, a 30-minute standard is increasingly being used to evaluate transit and automobile commuting. SCAG uses a 30-minute standard for auto trips, though uses 45-minutes for transit trips in its RHNA allocation. The Puget Sound Regional Council (Seattle area) uses a 30-minute standard for both auto and transit trips. The Center for Neighborhood Technology (CNT) publishes comprehensive 30-minute transit commute data within many metropolitan areas, including estimates from virtually any address (below). The University of Minnesota Accessibility Observatory publishes 30-minute transit and car job access estimates for 50 of the nation’s largest metropolitan areas (below).

As the data below indicates, access to jobs by transit tends to be considerably less than by driving alone. For RHNA to encourage transit commuting rather than driving alone, affordable housing needs to be built in jobs-rich areas, where transit can be more competitive with the auto.

However, the transit trends in the SCAG region are working against any such policy objective. Low-income workers are buying cars, and they are abandoning transit.

A SCAG sponsored research report noted:⁸

“Driving is relatively easy, while moving around by means other than driving is not. These circumstances give people strong economic and social incentives to acquire cars, and — once they have cars — to drive more and ride transit less.”

With its below average transit job access, residents of the allocated housing are likely to have cars or will have significant incentive to obtain vehicles improve to their employment prospects and standards of living.

⁶Michael Manville, Bryan Taylor and Evelyn Blumenberg, “Falling Transit Ridership: California and Southern California,” January 2018. https://www.scag.ca.gov/Documents/ITS_SCAG_Transit_Ridership.pdf.

⁷ Derived from American Community Survey, 2013/2017.

⁸Michael Manville, Bryan Taylor and Evelyn Blumenberg, “Falling Transit Ridership: California and Southern California,” January 2018. https://www.scag.ca.gov/Documents/ITS_SCAG_Transit_Ridership.pdf.

Assertions

The following facts are asserted in support of the appeal request:

(1) Lower Income Worker Transit Commuting is Declining

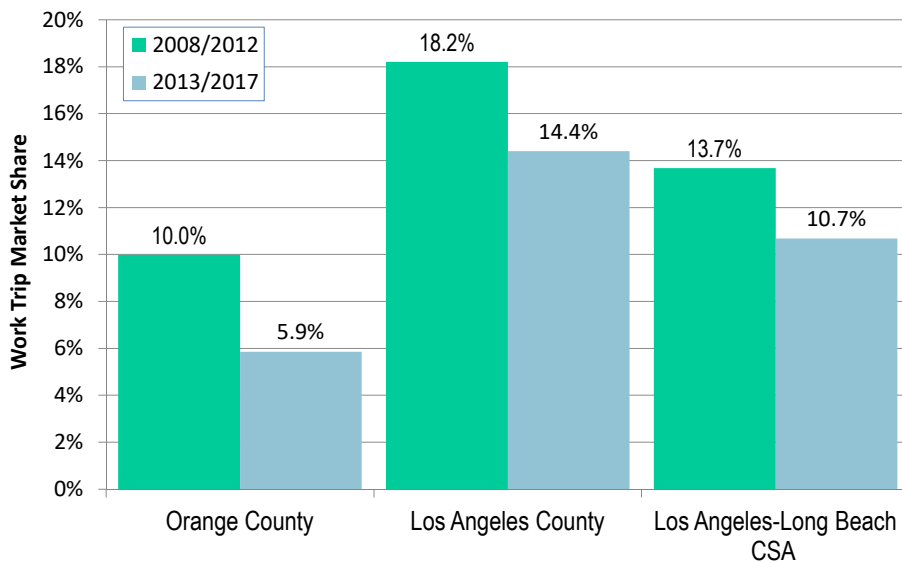
Low income residents are far more likely to drive alone than to commute by transit and this is becoming increasingly so. In Orange County, workers with earnings below the poverty line are 12 times as likely to drive alone than to commute by transit. In the last seven years (2006/2010 to 2013/2017) transit commuting by workers below the poverty line has decreased by 41%. By comparison, in Los Angeles County, below poverty line commuters are only four times as likely to drive alone, while in the 5-county CSA workers below the poverty line are six times as likely to drive alone (Table 1-2). A similar downward trend in low-income commuting is evident in both Los Angeles County and the CSA (Figure 1-1).

The very demographic that is the primary target of affordable housing under RHNA drives alone at a rate similar to that of all workers and is increasingly abandoning transit.

	Drive Alone Share	Transit Share	Drive Alone per Transit Ratio
Los Angeles County	58.8%	14.4%	4
Orange County	68.2%	5.9%	12
Los Angeles-Long Beach CSA	62.2%	10.7%	6

Derived from American Community Survey, 2013/2017

Below Poverty Line Transit Commuting 2008/2012 TO 2013/2017



Derived from American Community Survey

Figure 1-1

(2) Huntington Beach residents are far more likely to drive alone than to use transit.

Among Huntington Beach residents, driving alone accounts for 80% of commuting, while transit’s market share (1.1%) is less than one half that of Orange County (2.3%). About 75 times (7,500%) as many workers from Huntington Beach drive alone as use transit. This is more than twice the rate of Orange County (36) and more than six times the rate of Los Angeles County (12). The drive alone to transit ratio in Huntington Beach is also and well above that of the five-county CSA average of 57 times (Table 1-3).

	Drive Alone	Transit	Drive Alone times Transit
Huntington Beach	79.7%	1.1%	75
Los Angeles County	73.7%	6.3%	12
Orange County	78.6%	2.2%	36
Los Angeles-Long Beach CSA	77.2%	1.3%	57

Derived from American Community Survey, 2013/2017

Further, bus ridership is declining in Orange County. Orange County Transportation Authority bus ridership dropped 46 percent, from 68.9 million in 2008 to 37.3 million in 2019.⁹ The COVID-19 pandemic has led to even greater ridership losses and uncertainty with respect to when or even if, ridership will return to previous levels. It is inconceivable that there will be a sufficient increase in Huntington Beach transit service to attract a materially larger share of workers.

(2) 30-minute transit access to jobs from Huntington Beach is materially less than the CSA, Los Angeles County and Orange County.

Estimates of 30-minute transit jobs access are reported by the Alltransit.cnt.org website, sponsored by the Center for Neighborhood Technology (CNT). Estimates are provided at the metropolitan, county, and city levels for much of the United States and specific street addresses inquiries are available.

Alltransit.cnt.org data indicates that transit employment access from Huntington Beach is far below that of Orange County, Los Angeles County and a number of constituent jurisdictions (Table 1-4).¹⁰

- Approximately 134,000 jobs, overall, can be reached by transit within 30 minutes from Huntington Beach. By comparison, 30-minute job access was 2.4 times as high in Los Angeles County (322,000) and 1.3 times as high, on average, in Orange County (173,000). On average 217,000 jobs can be reached by transit within the SCAG region, 1.6 times that of Huntington Beach.
- Approximately 40,000 jobs requiring no more than a high school education were accessible by transit in 30 minutes from Huntington Beach. By comparison, 30-minute job access was 2.4 times as high in Los Angeles County (97,000) 1.3 times as high, in Orange County (52,000) and 1.6 times as high overall in the SCAG region.

	All Jobs	Jobs Requiring High School Education or Less
Huntington Beach	133,743	39,989
Los Angeles County	321,664	96,821
Orange County	172,595	51,261
SCAG Region	216,605	65,198

Source: Alltransit.cnt.org

⁹ From American Public Transportation Association Fourth Quarter Ridership Reports (https://www.apta.com/wp-content/uploads/Resources/resources/statistics/Documents/Ridership/2008_q4_ridership_APTA.pdf and <https://www.apta.com/wp-content/uploads/2019-Q4-Ridership-APTA.pdf>).

¹⁰ Center for Neighborhood Technology, *All Transit*, <https://alltransit.cnt.org/>, Data downloaded October 11, 2019.

30-minute transit access is even less in Huntington Beach compared to jobs rich areas, especially in central Los Angeles County. Examples are indicated in Table 1-5. This is largely due to the higher population density and proximity to the most transit oriented major job center in the SCAG region (downtown Los Angeles).

- In three of the areas, near the densest employment center in the CSA, where much of the regional transit system converges (downtown Los Angeles), more than 1,000,000 jobs can be accessed in 30-minutes, This is between eight and nine times the transit access from Huntington Beach. Residents of a number of other areas have 30-minute transit access to more than 500,000 jobs, which is far greater than Huntington Beach transit access of 134,000.
- In these three areas, more than 330,000 jobs requiring a high school education or less can be accessed in 30-minutes by households, which is from 8.5 to 9.2 times the transit access from Huntington Beach. Residents of a number of other areas have 30-minute transit access to more than 150,000 jobs, which is far greater than Huntington Beach transit access of 40,000 (Table 1-5).

Table 1-5 30-Minute Transit Access to Jobs (Average Household) Huntington Beach & Jobs/Transit Rich Area Examples		
	All Jobs	Jobs Requiring High School Education or Less
Huntington Beach	133,743	39,989
Los Angeles Historic Core	1,186,787	367,904
Los Angeles Bunker Hill	1,144,474	354,787
Los Angeles Civic Center	1,100,441	338,936
Mid-Wilshire	928,498	259,051
Westlake-Dockweiler	909,290	272,787
Silver Lake	837,378	243,677
Echo Park	832,655	247,299
Hollywood	768,614	210,600
Pico-Union	767,775	229,565
Boyle Heights	682,286	221,743
Westwood	654,120	177,267
Culver City	566,368	156,318
East Los Angeles	485,477	156,809

Source: Alltransit.cnt.org

CNT does not produce similar data for driving alone.

Comparative transit and drive alone employment access data is available from the University of Minnesota Accessibility Observatory for 50 of the largest metropolitan areas. In 2017, the average resident of the Los Angeles metropolitan area (Los Angeles and Orange County) could reach 33 times (3,300%) as many jobs in 30 minutes driving alone as by transit.¹¹ The University of Minnesota does not develop estimates below the metropolitan area level, such as for counties, municipalities or specific addresses.¹²

(3) Actual transit access to jobs, measured by commuting behavior, is considerably higher than that of Huntington Beach in much of the 5-county CSA.

Among Huntington Beach commuters reaching work in less than 30 minutes, 133 times as many drive alone as use transit. This is five times the 5-county CSA rate (26), eight times the Los Angeles County rate (17) and more than double that of Orange County, at 59 (Table 1-6).

	Drive Alone Share	Transit Share	Drive Alone per Transit Ratio
Huntington Beach	45.3%	0.3%	133
Los Angeles County	40.2%	2.4%	17
Orange County	49.4%	0.8%	59
Los Angeles-Long Beach CSA	43.6%	1.7%	26

Derived from American Community Survey, 2013/2017

Transit is far more competitive than in Huntington Beach in other parts of the SCAG region. This is illustrated by ACS data for Public Use Microdata Areas (PUMAs).¹³ In the SCAG PUMA with the lowest drive alone to transit ratio, only 2.3 times as many commuters drive alone as use transit (Los Angeles County [Central]--LA City [Central/Koreatown PUMA]) Huntington Beach’s 133 drive alone to transit 30 minute commute ratio is 58 times that figure.

Among the nation’s more than 2,300 PUMAs, the Los Angeles County [Central]--LA City [Central/Koreatown PUMA] had the 27th highest population density in 2013/2017. It also has the highest transit market share (27.3%) of any PUMA in the CSA. This PUMA also contains some of the most intense transit service in the SCAG region. The region’s only station serving two fully grade separate subway lines is in the Los Angeles County [Central]--LA City [Central/Koreatown PUMA].

¹¹ Derived from data in Andrew Owen and Brendan Murphy, University of Minnesota Center for Transportation Accessibility Laboratory, *Auto Access Across America: 2017*, 2018, <http://cts-d8resmod-prd.oit.umn.edu:8080/pdf/cts-18-16.pdf> and *Transit Access Across America: 2017*, 2018, <http://cts-d8resmod-prd.oit.umn.edu:8080/pdf/cts-18-12.pdf>.

¹² CNT and the University of Minnesota use different criteria for transit access.

¹³ PUMAs are analysis zones designated by the Census Bureau that divide the United States into areas of similar population, averaging 130,000. PUMAs are especially helpful for examining somewhat smaller area data within large jurisdictions, such as the cities of Los Angeles, Anaheim and Santa Ana.

Another 17 PUMA’s have 30-minute drive alone to transit commute ratios no greater than one-tenth that of Huntington Beach (Table 1-7).

Each of these PUMAs has an urban form and transit service characteristics that reflect the underlying philosophy of Senate Bill 375, the RHNA and SCAG policies.

	Drive Alone Share	Transit Share	Drive Alone per Transit Ratio
Huntington Beach	45.3%	0.3%	133.2
Los Angeles County (Central)--LA City (Central/Koreatown) PUMA	25.3%	11.0%	2.3
Los Angeles County--LA City (East Central/Silver Lake, Echo Park & Westlake) PUMA	27.9%	11.5%	2.4
Los Angeles County (Central)--LA City (Southeast/East Vernon) PUMA	28.9%	9.5%	3.0
Los Angeles County--LA City (Central/Univ. of Southern California & Exposition Park) PUMA	22.8%	6.2%	3.7
Los Angeles County (Central)--LA City (East Central/Central City & Boyle Heights) PUMA	30.6%	7.4%	4.1
Los Angeles County (Central)--LA City (East Central/Hollywood) PUMA	31.7%	7.6%	4.2
Los Angeles County (Central)--Huntington Park City, Florence-Graham & Walnut Park PUMA	32.1%	4.4%	7.2
Los Angeles County (South Central)--LA City (South Central/Watts) PUMA	28.6%	3.8%	7.5
Los Angeles County (Central)--East Los Angeles PUMA	37.8%	4.4%	8.6
Los Angeles County (South)--Long Beach City (Southwest & Port) PUMA	36.5%	4.1%	8.8
Los Angeles County (North)--LA City (North Central/Mission Hills & Panorama City) PUMA	37.1%	4.1%	9.1
Los Angeles County--LA City (Mount Washington, Highland Park & Glassell Park) PUMA	35.3%	3.7%	9.6
Los Angeles County (Southeast)--Long Beach (Central) & Signal Hill Cities PUMA	40.5%	3.7%	11.0
Los Angeles County (South Central)--LA City (South Central/Westmont) PUMA	29.8%	2.7%	11.2
Los Angeles County (Northwest)--LA City (North Central/Van Nuys & North Sherman Oaks) PUMA	34.6%	2.9%	11.8
Los Angeles County (West Central)--LA City (West Central/Westwood & West Los Angeles) PUMA	45.5%	3.7%	12.4
Los Angeles County (West Central)--LA City (Central/Hancock Park & Mid-Wilshire) PUMA	40.7%	3.2%	12.7
Los Angeles County (Central)--LA City (Central/West Adams & Baldwin Hills) PUMA	34.2%	2.6%	13.2

Derived from American Community Survey, 2013/2017

Conclusion: The city of Huntington Beach has virtually no 30-minute transit access to the richest job centers in the CSA. This is unlikely to change materially in the foreseeable future. This is in contrast to the huge transit investments in urban rail and busways have been and are being further developed in Los Angeles County, with the intent of materially increasing transit access and creating a more compact urban form.

It is estimated that only 7.2% of the Huntington Beach population lives in HQTAs that are not appealed.¹⁴ This is a reduction from the 36.4% shown by SCAG to be in HQTA’s. This would

¹⁴ Based on a tentative analysis of census tract and city population data from the 2014-2018 American Community Survey. The estimate finds that the maximum extent of HQTAs in the city of Huntington Beach is as follows:

result in an estimated reduction of 80.3%, or 2,455 units from the Huntington Beach HQT allocation of 3,059. When adjusted for the related reduction in the residual adjustment (1,170 units), a gross reduction of 3,625 units is requested.

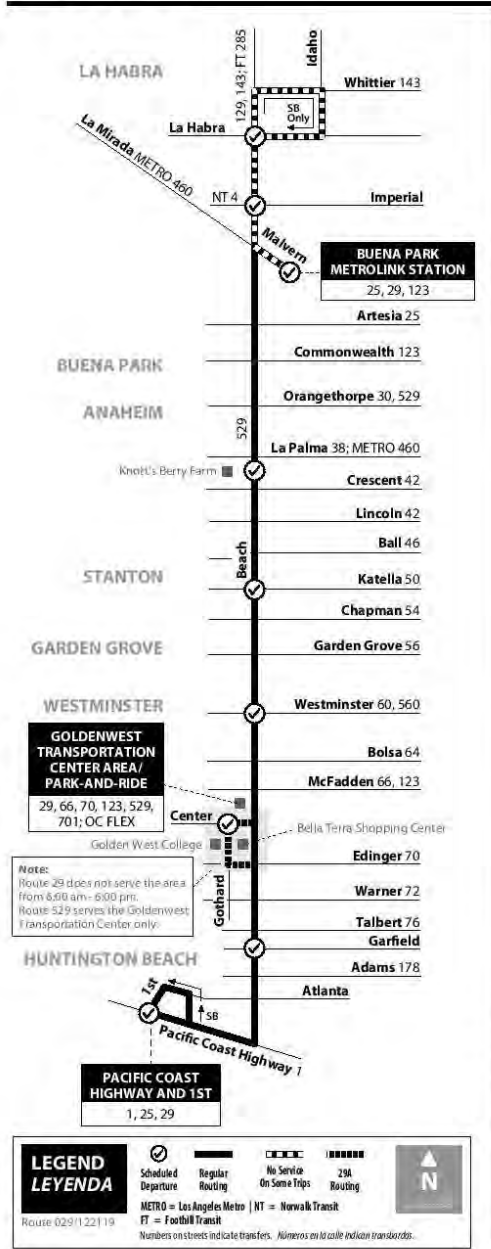
Orange County census tracts 99.406, 99.410 and 99.605 in their entirety and portions of census tracts 99.241 (20%), 99.702 (10%) and 99.703 (20%)

Exhibit Route 29 Schedule

29/A

La Habra to Huntington Beach
via Beach Blvd

NOTE: TAP card only accepted from La Palma to Malvern.
NOTA: Tarjeta TAP sólo aceptada de La Palma a Malvern.



Monday - Friday
NORTHBOUND To: La Habra

	Pacific Coast Hwy & 1st	Beach & Garfield	Center & Gothard	Beach & Westminster	Beach & Katella	Knotts Berry Farm	Buena Park Metrolink Station	Beach & Imperial	Beach & La Habra
A	4:09	4:18	.....	4:38	4:46	4:55	.....	5:11	5:17
	4:24	4:34	4:48	4:58	5:09	5:19	5:33	.....	.....
A	4:48	4:58	.....	5:18	5:29	5:39	.....	5:55	6:01
	5:03	5:13	5:28	5:38	5:49	6:00	6:14	.....	.....
A	5:30	5:40	.....	5:58	6:09	6:20	.....	6:39	6:45
	5:40	5:51	6:06	6:18	6:30	6:41	6:56	.....	.....
	6:04	6:16	.....	6:38	6:51	7:03	.....	7:24	7:30
	6:24	6:36	.....	6:58	7:11	7:23	.....	7:44	7:50
	6:44	6:56	.....	7:18	7:31	7:46	.....	8:08	8:14
	7:04	7:16	.....	7:38	7:51	8:06	.....	8:28	8:34
	7:24	7:36	.....	7:58	8:11	8:24	.....	8:46	8:52
	7:44	7:56	.....	8:18	8:31	8:44	.....	9:06	9:12
	8:01	8:13	.....	8:38	8:51	9:04	.....	9:26	9:32
	8:21	8:33	.....	8:58	9:11	9:21	.....	9:46	9:52
	8:43	8:55	.....	9:18	9:31	9:44	.....	10:06	10:12
	9:00	9:12	.....	9:37	9:50	10:03	.....	10:25	10:31
	9:16	9:31	.....	9:56	10:09	10:21	.....	10:43	10:49
	9:32	9:47	.....	10:15	10:28	10:40	.....	11:02	11:08
	9:54	10:09	.....	10:37	10:50	11:02	.....	11:24	11:30
	10:17	10:29	.....	10:57	11:10	11:22	.....	11:44	11:50
	10:37	10:50	.....	11:18	11:32	11:46	.....	12:08	12:15
	11:02	11:13	.....	11:38	11:52	12:06	.....	12:28	12:35
	11:17	11:30	.....	11:58	12:12	12:26	.....	12:48	12:55
	11:37	11:52	.....	12:20	12:34	12:48	.....	1:10	1:17
	11:57	12:12	.....	12:40	12:54	1:08	.....	1:30	1:37
	12:17	12:32	.....	1:00	1:14	1:28	.....	1:50	1:57
	12:37	12:52	.....	1:20	1:35	1:49	.....	2:10	2:19
	12:57	1:12	.....	1:40	1:55	2:09	.....	2:30	2:37
	1:15	1:33	.....	2:01	2:17	2:38	.....	3:00	3:07
	1:36	1:52	.....	2:20	2:36	2:54	.....	3:16	3:23
	1:58	2:12	.....	2:40	2:57	3:11	.....	3:33	3:40
	2:18	2:32	.....	3:01	3:18	3:33	.....	3:55	4:02
	2:38	2:52	.....	3:20	3:37	3:52	.....	4:14	4:21
	2:58	3:11	.....	3:39	3:56	4:12	.....	4:37	4:44
	3:17	3:30	.....	3:58	4:15	4:31	.....	4:56	5:03
	3:37	3:50	.....	4:18	4:35	4:51	.....	5:16	5:23
	3:57	4:10	.....	4:38	4:55	5:10	.....	5:36	5:43
	4:17	4:30	.....	4:58	5:15	5:30	.....	5:56	6:03
	4:37	4:50	.....	5:18	5:35	5:50	.....	6:14	6:21
	4:57	5:10	.....	5:38	5:55	6:10	.....	6:34	6:41
	5:17	5:30	.....	5:58	6:13	6:27	.....	6:54	7:01
	5:39	5:52	.....	6:20	6:34	6:48	.....	7:10	7:16
A	5:57	6:10	6:31	6:44	6:58	7:12	7:29	.....	.....
	6:21	6:34	.....	7:02	7:18	7:33	.....	7:53	7:59
A	6:37	6:50	7:09	7:22	7:34	7:46	8:02	.....	.....
	7:01	7:14	.....	7:42	7:54	8:06	.....	8:26	8:32
A	7:17	7:30	7:49	8:02	8:14	8:26	8:40	.....	.....
	7:41	7:54	.....	8:22	8:34	8:46	.....	9:06	9:12
A	8:00	8:13	8:32	8:45	8:57	9:09	9:23	.....	.....
	8:26	8:38	.....	9:06	9:18	9:29	.....	9:47	9:52
A	8:52	9:04	9:23	9:36	9:48	9:59	10:13	.....	.....
	9:26	9:38	.....	10:06	10:17	10:28	.....	10:44	10:49
A	9:52	10:04	10:23	10:36	10:47	10:58	11:12	.....	.....
	10:26	10:38	11:06	11:16	11:27	11:43	11:48
A	10:57	11:09	11:27	11:38	11:48	11:59	12:13
	11:32	11:44	12:12	12:22	12:33	12:49	12:54

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La Habra to Huntington Beach
via Beach Blvd

29/A

Monday - Friday
SOUTHBOUND To: Huntington Beach

	Beach & La Habra	Beach & Imperial	Buena Park Metrolink Station	Knotts Berry Farm	Beach & Katella	Beach & Westminster	Gorhard & Center	Beach & Garfield	Pacific Coast Hwy & 1st
A			4:46	5:02	5:13	5:24	5:32	5:45	5:56
A	4:54	5:04	.....	5:22	5:33	5:46	.....	6:07	6:18
A			5:27	5:43	5:53	6:06	.....	6:13	6:26
A	5:33	5:43	.....	6:01	6:13	6:26	.....	6:47	7:00
A			6:04	6:21	6:33	6:46	6:55	7:11	7:24
	6:11	6:21	.....	6:40	6:53	7:06	.....	7:27	7:41
	6:25	6:38	.....	6:58	7:13	7:31	.....	7:55	8:10
	6:45	6:58	.....	7:18	7:33	7:51	.....	8:15	8:30
	7:02	7:15	.....	7:38	7:53	8:11	.....	8:35	8:52
	7:22	7:35	.....	7:58	8:13	8:31	.....	8:56	9:13
	7:42	7:55	.....	8:18	8:33	8:51	.....	9:16	9:33
	8:04	8:17	.....	8:38	8:53	9:10	.....	9:35	9:49
	8:24	8:37	.....	8:58	9:13	9:28	.....	9:53	10:07
	8:44	8:57	.....	9:18	9:32	9:47	.....	10:12	10:26
	9:04	9:17	.....	9:38	9:52	10:07	.....	10:32	10:46
	9:24	9:37	.....	9:58	10:12	10:27	.....	10:52	11:06
	9:44	9:57	.....	10:18	10:32	10:47	.....	11:12	11:26
	10:04	10:17	.....	10:38	10:52	11:07	.....	11:32	11:46
	10:24	10:37	.....	10:58	11:12	11:27	.....	11:52	12:06
	10:43	10:56	.....	11:17	11:31	11:46	.....	12:12	12:26
	11:02	11:15	.....	11:37	11:51	12:06	.....	12:32	12:46
	11:20	11:33	.....	11:56	12:10	12:25	.....	12:51	1:05
	11:41	11:54	.....	12:16	12:30	12:45	.....	1:10	1:24
	12:02	12:15	.....	12:36	12:50	1:08	.....	1:34	1:47
	12:21	12:34	.....	12:55	1:09	1:27	.....	1:53	2:07
	12:41	12:54	.....	1:15	1:30	1:45	.....	2:11	2:26
	1:01	1:14	.....	1:35	1:50	2:05	.....	2:31	2:46
	1:21	1:34	.....	1:55	2:10	2:25	.....	2:50	3:05
	1:41	1:54	.....	2:15	2:30	2:45	.....	3:10	3:25
	2:01	2:14	.....	2:35	2:50	3:05	.....	3:30	3:45
	2:21	2:34	.....	2:55	3:10	3:25	.....	3:50	4:05
	2:37	2:50	.....	3:13	3:28	3:44	.....	4:09	4:25
	2:56	3:09	.....	3:32	3:47	4:04	.....	4:29	4:45
	3:18	3:31	.....	3:53	4:08	4:25	.....	4:50	5:06
	3:34	3:49	.....	4:12	4:28	4:45	.....	5:10	5:26
	3:57	4:10	.....	4:31	4:47	5:04	.....	5:29	5:45
	4:12	4:27	.....	4:51	5:09	5:27	.....	5:52	6:06
	4:36	4:51	.....	5:15	5:31	5:47	.....	6:12	6:26
	4:58	5:13	.....	5:35	5:52	6:08	.....	6:33	6:47
	5:15	5:32	.....	5:56	6:12	6:27	.....	6:52	7:06
	5:39	5:54	.....	6:18	6:33	6:48	.....	7:13	7:27
A			6:19	6:39	6:52	7:07	7:18	7:37	7:49
A	6:23	6:36	.....	7:00	7:13	7:28	.....	7:50	8:02
A			7:01	7:20	7:33	7:48	7:59	8:18	8:30
A	7:06	7:19	.....	7:41	7:53	8:08	.....	8:29	8:41
A			7:43	8:01	8:13	8:27	8:38	8:55	9:07
A	7:46	7:59	.....	8:21	8:33	8:48	.....	9:09	9:21
A			8:33	8:51	9:03	9:18	9:28	9:45	9:57
A	8:50	9:01	.....	9:21	9:33	9:45	.....	10:06	10:18
A			9:35	9:53	10:05	10:17	10:26	10:41	10:53
A	9:52	10:03	.....	10:23	10:35	10:47	.....	11:08	11:20
A			10:35	10:51	11:03	11:15	11:24	11:39	11:51
A	10:52	11:03	.....	11:23	11:35	11:47	.....	12:08	12:20
A	11:32	11:43	.....	12:03	12:15	12:27	.....	12:48	1:00

Saturday
NORTHBOUND To: La Habra

	Pacific Coast Hwy & 1st	Beach & Garfield	Center & Gorhard	Beach & Westminster	Beach & Katella	Knotts Berry Farm	Buena Park Metrolink Station	Beach & Imperial	Beach & La Habra
A	4:11	4:18	.....	4:35	4:45	4:54	.....	5:10	5:14
A	4:46	4:53	5:05	5:15	5:25	5:34	5:49	.....	.....
A	5:28	5:36	.....	5:55	6:06	6:18	.....	6:36	6:41
A	6:00	6:10	6:25	6:35	6:47	6:59	7:14	.....	.....
A	6:46	6:56	.....	7:15	7:27	7:39	.....	7:58	8:04
A	7:10	7:20	7:35	7:45	7:57	8:09	8:24	.....	.....
A	7:43	7:53	.....	8:15	8:28	8:41	.....	9:01	9:06
A	8:06	8:16	8:33	8:45	8:59	9:12	9:29	.....	.....
A	8:42	8:52	.....	9:15	9:29	9:42	.....	10:02	10:07
A	8:58	9:09	9:30	9:45	9:58	10:11	10:28	.....	.....
A	9:26	9:37	.....	10:05	10:18	10:31	.....	10:52	10:58
A	9:41	9:52	10:13	10:26	10:39	10:52	11:07	.....	.....
A	10:08	10:19	.....	10:45	10:58	11:11	.....	11:31	11:36
A	10:18	10:29	10:50	11:03	11:16	11:29	11:44	.....	.....
A	10:44	10:56	.....	11:23	11:36	11:50	.....	12:13	12:20
A	10:55	11:07	11:30	11:42	11:55	12:09	12:24	.....	.....
A	11:20	11:32	.....	12:01	12:16	12:30	.....	12:50	12:57
A	11:29	11:41	12:04	12:19	12:34	12:48	1:05	.....	.....
A	11:58	12:10	.....	12:39	12:54	1:08	.....	1:28	1:35
A	12:08	12:20	12:43	12:58	1:13	1:27	1:44	.....	.....
A	12:38	12:50	.....	1:19	1:34	1:48	.....	2:08	2:15
A	12:49	1:01	1:24	1:39	1:54	2:08	2:25	.....	.....
A	1:16	1:29	.....	1:59	2:14	2:28	.....	2:49	2:57
A	1:27	1:40	2:04	2:19	2:34	2:48	3:04	.....	.....
A	1:57	2:10	.....	2:40	2:55	3:09	.....	3:30	3:38
A	2:08	2:20	2:44	2:59	3:15	3:28	3:42	.....	.....
A	2:37	2:49	.....	3:19	3:35	3:48	.....	4:08	4:15
A	2:50	3:02	3:25	3:39	3:55	4:07	4:22	.....	.....
A	3:18	3:30	.....	3:59	4:15	4:27	.....	4:47	4:54
A	3:28	3:41	4:04	4:18	4:33	4:46	5:03	.....	.....
A	3:56	4:10	.....	4:37	4:52	5:04	.....	5:25	5:31
A	4:08	4:22	4:44	4:57	5:12	5:24	5:40	.....	.....
A	4:36	4:50	.....	5:17	5:32	5:44	.....	6:05	6:11
A	4:43	4:57	5:23	5:37	5:51	6:03	6:21	.....	.....
A	5:15	5:29	.....	5:57	6:11	6:23	.....	6:44	6:50
A	5:26	5:41	6:05	6:17	6:30	6:43	7:01	.....	.....
A	5:58	6:13	.....	6:39	6:52	7:04	.....	7:24	7:31
A	6:17	6:30	6:50	7:02	7:15	7:25	7:40	.....	.....
A	6:57	7:08	.....	7:33	7:46	7:56	.....	8:12	8:19
A	7:19	7:30	7:50	8:02	8:15	8:25	8:40	.....	.....
A	7:55	8:06	.....	8:31	8:44	8:54	.....	9:10	9:17
A	8:18	8:29	8:49	9:01	9:14	9:24	9:39	.....	.....
A	8:55	9:06	.....	9:31	9:44	9:54	.....	10:10	10:17
A	9:22	9:33	9:50	10:01	10:13	10:24	10:39	.....	.....
A	9:58	10:09	.....	10:31	10:43	10:54	.....	11:10	11:16
A	10:25	10:36	10:51	11:01	11:13	11:23	11:38	.....	.....
A	11:00	11:11	.....	11:31	11:43	11:53	.....	12:09	12:15
A	11:25	11:36	11:51	12:01	12:13	12:23	12:38	.....	.....
A	12:00	12:11	.....	12:31	12:43	12:53	.....	1:09	1:15

A = These trips serve the Goldenwest Transportation Center.
Estos viajes se detienen en el Centro de Transporte Goldenwest.

29/A

La Habra to Huntington Beach via Beach Blvd

Saturday SOUTHBOUND To: Huntington Beach

	Beach & La Habra	Beach & Imperial	Buena Park Metrolink Station	Knotts Berry Farm	Beach & Katella	Beach & Westminster	Gothard & Center	Beach & Garfield	Pacific Coast Hwy & 1st
A	4:30	4:39	.....	4:55	5:04	5:14	.....	5:29	5:41
			5:22	5:35	5:44	5:54	6:01	6:14	6:26
A	5:43	5:53	.....	6:11	6:22	6:34	.....	6:53	7:06
			6:37	6:51	7:02	7:14	7:23	7:38	7:51
A	6:53	7:06	.....	7:29	7:40	7:55	.....	8:16	8:30
			7:39	7:58	8:09	8:24	8:35	8:50	9:04
A	7:46	7:59	.....	8:22	8:36	8:52	.....	9:14	9:29
			8:36	8:55	9:08	9:23	9:34	9:50	10:06
A	8:46	8:59	.....	9:22	9:35	9:50	.....	10:11	10:27
			9:24	9:43	9:56	10:10	10:21	10:37	10:50
A	9:24	9:37	.....	10:01	10:15	10:30	.....	10:53	11:07
			10:01	10:21	10:35	10:50	11:01	11:20	11:34
A	10:03	10:17	.....	10:42	10:55	11:10	.....	11:36	11:52
			10:40	11:00	11:15	11:30	11:42	12:08	12:23
A	10:41	10:55	.....	11:20	11:35	11:50	.....	12:19	12:34
			11:20	11:40	11:55	12:10	12:22	12:48	1:03
A	11:21	11:35	.....	12:00	12:15	12:30	.....	12:59	1:14
			11:56	12:16	12:32	12:48	1:02	1:28	1:45
A	11:58	12:13	.....	12:40	12:55	1:10	.....	1:39	1:53
			12:37	1:00	1:14	1:30	1:42	2:05	2:20
A	12:38	12:53	.....	1:20	1:34	1:50	.....	2:17	2:32
			1:17	1:40	1:54	2:10	2:22	2:45	3:00
A	1:17	1:32	.....	1:59	2:14	2:30	.....	2:58	3:15
			1:56	2:19	2:34	2:50	3:02	3:26	3:43
A	2:00	2:14	.....	2:40	2:55	3:10	.....	3:37	3:53
			2:37	2:59	3:14	3:29	3:41	4:04	4:20
A	2:40	2:54	.....	3:20	3:33	3:48	.....	4:12	4:28
			3:18	3:39	3:52	4:07	4:18	4:38	4:54
A	3:18	3:32	.....	3:58	4:11	4:26	.....	4:50	5:06
			3:58	4:19	4:32	4:45	4:55	5:13	5:30
A	3:58	4:12	.....	4:38	4:51	5:04	.....	5:26	5:43
			4:35	4:55	5:09	5:22	5:32	5:48	6:03
A	4:37	4:50	.....	5:15	5:29	5:42	.....	6:03	6:18
			5:15	5:35	5:49	6:02	6:12	6:28	6:43
A	5:16	5:29	.....	5:55	6:09	6:22	.....	6:43	6:56
			5:57	6:15	6:29	6:42	6:52	7:09	7:22
A	5:56	6:09	.....	6:35	6:49	7:02	.....	7:23	7:36
			6:37	6:55	7:09	7:22	7:32	7:49	8:02
A	6:36	6:49	.....	7:15	7:29	7:42	.....	8:03	8:16
			7:28	7:45	7:59	8:12	8:22	8:37	8:50
A	7:38	7:51	.....	8:15	8:29	8:42	.....	9:02	9:15
			8:28	8:45	8:59	9:12	9:22	9:37	9:50
A	8:44	8:56	.....	9:18	9:30	9:42	.....	10:00	10:12
			9:31	9:48	10:00	10:12	10:21	10:35	10:47
A	9:44	9:56	.....	10:18	10:30	10:42	.....	11:00	11:12
			10:29	10:46	10:58	11:10	11:19	11:33	11:45
A	10:44	10:56	.....	11:18	11:30	11:42	.....	12:00	12:12
			11:34	11:51	12:02	12:12	12:20	12:33	12:44
A	11:51	12:02	.....	12:21	12:32	12:42	.....	12:58	1:09

Sunday & Holiday NORTHBOUND To: La Habra

	Pacific Coast Hwy & 1st	Beach & Garfield	Center & Gothard	Beach & Westminster	Beach & Katella	Knotts Berry Farm	Buena Park Metrolink Station	Beach & Imperial	Beach & La Habra
A	5:11	5:20	.....	5:37	5:47	5:58	.....	6:14	6:19
	5:45	5:54	6:08	6:17	6:27	6:38	6:52	.....	.....
A	6:30	6:40	.....	6:57	7:08	7:21	.....	7:38	7:44
	6:57	7:08	7:24	7:37	7:49	8:02	8:16	.....	.....
A	7:34	7:45	.....	8:07	8:19	8:32	.....	8:50	8:55
	8:04	8:15	8:31	8:44	8:56	9:09	9:23	.....	.....
A	8:41	8:52	.....	9:14	9:26	9:39	.....	9:57	10:02
	8:53	9:04	9:20	9:33	9:45	9:58	10:12	.....	.....
A	9:19	9:30	.....	9:52	10:04	10:17	.....	10:35	10:40
	9:29	9:41	9:58	10:11	10:24	10:36	10:51	.....	.....
A	9:48	10:00	.....	10:32	10:45	10:57	.....	11:19	11:26
	10:10	10:22	10:39	10:52	11:05	11:17	11:32	.....	.....
A	10:28	10:40	.....	11:12	11:25	11:37	.....	11:59	12:06
	10:49	11:01	11:18	11:31	11:44	11:56	12:11	.....	.....
A	11:08	11:20	.....	11:52	12:05	12:17	.....	12:39	12:46
	11:31	11:43	12:00	12:13	12:26	12:38	12:53	.....	.....
A	11:47	12:00	.....	12:32	12:45	12:57	.....	1:20	1:27
	12:05	12:18	12:37	12:51	1:04	1:16	1:34	.....	.....
A	12:27	12:40	.....	1:12	1:25	1:37	.....	2:00	2:07
	12:47	1:00	1:19	1:33	1:46	1:58	2:16	.....	.....
A	1:08	1:21	.....	1:53	2:06	2:18	.....	2:41	2:48
	1:27	1:40	1:59	2:13	2:26	2:38	2:56	.....	.....
A	1:48	2:01	.....	2:33	2:46	2:58	.....	3:21	3:28
	2:08	2:21	2:40	2:54	3:07	3:19	3:37	.....	.....
A	2:51	3:03	3:20	3:33	3:46	3:56	4:14	.....	.....
	3:09	3:21	.....	3:53	4:06	4:16	.....	4:36	4:43
A	3:31	3:43	4:00	4:13	4:26	4:36	4:54	.....	.....
	3:49	4:01	.....	4:33	4:46	4:56	.....	5:16	5:23
A	4:11	4:23	4:40	4:53	5:06	5:16	5:34	.....	.....
	4:29	4:41	.....	5:13	5:26	5:36	.....	5:56	6:03
A	4:51	5:03	5:20	5:33	5:46	5:56	6:14	.....	.....
	5:09	5:21	.....	5:53	6:06	6:16	.....	6:36	6:43
A	5:31	5:43	6:00	6:13	6:26	6:36	6:54	.....	.....
	5:49	6:01	.....	6:33	6:46	6:56	.....	7:16	7:23
A	6:11	6:23	6:40	6:53	7:06	7:16	7:34	.....	.....
	6:29	6:41	.....	7:13	7:26	7:36	.....	7:56	8:03
A	6:55	7:07	7:24	7:37	7:50	8:00	8:18	.....	.....
	7:22	7:35	.....	8:07	8:18	8:26	.....	8:46	8:53
A	7:51	8:04	8:20	8:34	8:45	8:53	9:10	.....	.....
	8:29	8:41	.....	9:01	9:13	9:23	.....	9:42	9:46
A	8:50	9:02	9:17	9:28	9:40	9:50	10:06	.....	.....
	9:25	9:37	.....	9:57	10:09	10:19	.....	10:38	10:42
A	9:50	10:02	10:17	10:28	10:40	10:50	11:06	.....	.....
	10:27	10:39	.....	10:59	11:11	11:21	.....	11:40	11:44
A	10:51	11:03	.....	11:23	11:35	11:45	.....	12:04	12:08

A = These trips serve the Goldenwest Transportation Center.
Estos viajes se detienen en el Centro de Transporte Goldenwest.

La Habra to Huntington Beach
via Beach Blvd

29/A

Sunday & Holiday
SOUTHBOUND To: Huntington Beach

	Beach & La Habra	Beach & Imperial	Buena Park Mendocino Station	Knotts Berry Farm	Beach & Katella	Beach & Westminster	Gothard & Center	Beach & Garfield	Pacific Coast Hwy & 1st
	5:12	5:21	.....	5:36	5:48	5:58	.....	6:15	6:29
A			6:02	6:17	6:29	6:39	6:47	7:01	7:15
	6:30	6:40	.....	6:58	7:10	7:21	.....	7:39	7:53
A			7:22	7:37	7:49	8:00	8:10	8:24	8:38
	7:37	7:47	.....	8:05	8:17	8:28	.....	8:46	9:00
A			8:17	8:33	8:45	8:56	9:06	9:20	9:34
	8:26	8:38	.....	8:59	9:11	9:24	.....	9:45	10:00
A			9:08	9:24	9:36	9:49	9:59	10:16	10:31
	9:11	9:23	.....	9:44	9:56	10:09	.....	10:30	10:45
A			9:48	10:04	10:16	10:29	10:39	10:56	11:11
	9:51	10:03	.....	10:24	10:36	10:49	.....	11:10	11:25
A			10:27	10:42	10:55	11:09	11:20	11:38	11:51
	10:28	10:40	.....	11:02	11:15	11:29	.....	11:51	12:04
A			11:01	11:18	11:32	11:47	11:59	12:20	12:37
	11:03	11:17	.....	11:39	11:53	12:08	.....	12:32	12:49
A			11:42	11:59	12:13	12:28	12:40	1:01	1:18
	11:43	11:57	.....	12:19	12:33	12:48	.....	1:12	1:29
A			12:22	12:39	12:53	1:08	1:20	1:41	1:58
	12:25	12:39	.....	1:01	1:15	1:30	.....	1:54	2:11
A			1:05	1:22	1:36	1:51	2:03	2:24	2:41
	1:06	1:20	.....	1:42	1:56	2:11	.....	2:35	2:52
A			1:45	2:02	2:16	2:31	2:43	3:04	3:21
	1:46	2:00	.....	2:22	2:36	2:51	.....	3:15	3:32
A			2:25	2:42	2:56	3:11	3:23	3:44	4:01
	2:26	2:40	.....	3:02	3:16	3:31	.....	3:55	4:12
A			3:05	3:22	3:36	3:51	4:03	4:24	4:41
	3:09	3:23	.....	3:45	3:58	4:11	.....	4:33	4:48
A			3:47	4:05	4:18	4:31	4:42	5:00	5:15
	3:48	4:02	.....	4:24	4:37	4:50	.....	5:12	5:27
A			4:25	4:43	4:56	5:09	5:20	5:38	5:53
	4:27	4:41	.....	5:03	5:16	5:29	.....	5:51	6:06
A			5:10	5:27	5:38	5:49	5:59	6:15	6:29
	5:14	5:27	.....	5:47	5:58	6:09	.....	6:29	6:43
A			5:49	6:06	6:17	6:28	6:38	6:54	7:08
	5:54	6:07	.....	6:27	6:38	6:49	.....	7:09	7:23
A			6:30	6:47	6:58	7:09	7:19	7:35	7:49
	6:34	6:47	.....	7:07	7:18	7:29	.....	7:49	8:03
A			7:10	7:27	7:38	7:49	7:59	8:15	8:29
	7:24	7:37	.....	7:57	8:08	8:19	.....	8:39	8:53
A			8:10	8:27	8:38	8:49	8:59	9:15	9:29
	8:26	8:37	.....	8:57	9:09	9:19	.....	9:35	9:49
A			9:12	9:27	9:39	9:49	9:58	10:10	10:24
	9:26	9:37	.....	9:57	10:09	10:19	.....	10:35	10:49
A			10:17	10:32	10:44	10:54	11:03	11:15	11:29
	10:31	10:42	.....	11:02	11:14	11:24	.....	11:40	11:54
	11:06	11:17	11:37	11:49	11:59	12:15	12:29

A = These trips serve the Goldenwest Transportation Center.
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Issue #2: Failure to Apply a Specific Huntington Beach Overcrowding Adjustment

The SCAG allocation of the regional housing need fails to account for the low rate of housing overcrowding in the city of Huntington Beach. This increases the allocation to Huntington Beach.

In 2018, the legislature required the addition of an overcrowding measure to the determination of housing need by the California Housing and Community Development Department (HCD). Approximately 34% of the resulting RHNA allocation for the SCAG region is attributable to the addition of overcrowding. However, the SCAG RNHA allocation methodology did not reflect the level of overcrowding in the city of Huntington Beach.

SCAG's failure to adjust the RHNA allocation for overcrowding in Huntington Beach undermines and does not promote SCAG's *Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy*, such as housing construction in transit rich areas (page 4), strategies that result in reduced demand for single occupancy vehicle use (page 10) and land use patterns that facilitate multimodal access to work (page 25).¹⁵

Generally, the objectives of state law and SCAG's Sustainable Communities Strategy would be served by a larger share of solo drivers being attracted from their cars to transit and other non-motorized modes. Minimization of solo driving commutes requires considerably better transit job access. State and regional policies have been adopted to seek these objectives by constructing housing units close to jobs that can be filled by nearby resident workers.

HCD describes the overcrowding adjustment as follows:

“6. Overcrowding Adjustment: In regions where overcrowding is greater than the U.S. overcrowding rate of 3.35%, HCD applies an adjustment based on the amount the region's overcrowding rate (10.11%) exceeds the U.S. overcrowding rate (3.35%) based on the 2013-2017 5-year ACS data. For SCAG that difference is 6.76%.”¹⁶

However, the SCAG allocation formula does not reflect the differences by jurisdiction in overcrowding rates. The city of Huntington Beach has a far lower overcrowding rate than the SCAG region, at 3.66, which is little more (9%) than the US overcrowding rate of 3.35%, a difference of 0.31%. SCAG's failure to specifically adjust the RHNA allocation for overcrowding effectively blanket allocation of overcrowding has the inherent effect of allocating the entire regional average of 6.76% to Huntington Beach. This is more than 20 times the Huntington Beach overcrowding rate (the regional average of 6.76% compared to the 0.31% of Huntington Beach).¹⁷

¹⁵ Page numbers refer to the Sustainable Communities Strategy within the *Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy*.

¹⁶ Calculated from data in HCD Regional Housing Need Determination Letter, August 22, 2019.

¹⁷ Note: By an alternative measure, which defines overcrowding based on multiple households occupying the same housing unit (additional households are called “subfamilies” (ACS 2013-2017 table C-11014) Huntington Beach's overcrowding rate is 19% below the national average (3.66% compared to the US average of 3.26%).

Consequences: The following factors undermine the objectives above, as follows:

The promotion of socioeconomic equity is undermined failing to apply the Huntington Beach overcrowding rate instead of the SCAG region average rate. Residents of the new Huntington Beach housing will have considerably less economic opportunity due to the limited transit job access. As a result, low-income residents moving to Huntington Beach are likely to face significant impediments to socioeconomic advancement.

The higher allocation to Huntington Beach will undermine the intraregional relationship between jobs and housing because transit access is so limited. Conversely, the interregional relationship between jobs and housing would be promoted by allocating a smaller number of units to Huntington Beach.

Consistent with trends already evident in research prepared for SCAG (below¹⁸), the limited transit job access from Huntington Beach is likely to create incentives to workers to purchase cars. More often than not, this is likely to mean solo commuting by car and higher commuting expenses.

The longer transit commutes could significantly reduce the incentive for some potential workers to seek employment.

The Importance of Short Transit Commutes: Relatively short commute times are crucial for transit to maintain its market share. In the United States, the average drive alone time is less than 30 minutes and is 26.8 minutes in Orange County. By comparison, transit commute times average 53.6 minutes¹⁹ in Orange County, nearly double the drive alone time.

Around the country, a 30-minute standard is increasingly being used to evaluate transit and automobile commuting. SCAG uses a 30-minute standard for auto trips, though uses 45-minutes for transit trips in RHNA allocations. The Puget Sound Regional Council (Seattle area) uses a 30-minute standard for both auto and transit trips. The Center for Neighborhood Technology (CNT) publishes comprehensive 30-minute transit commute data within many metropolitan areas, including estimates from virtually any address (below). The University of Minnesota Accessibility Observatory publishes 30-minute transit and car job access estimates for 50 of the nation's largest metropolitan areas (below).

As the data below indicates, access to jobs by transit tends to be considerably less than by driving alone. For RHNA to encourage transit commuting rather than driving alone, affordable housing needs to be built in jobs-rich areas, where transit can be more competitive with the auto.

However, the transit trends in the SCAG region are working against any such policy objective. Low-income workers are buying cars, and they are abandoning transit.

¹⁸Michael Manville, Bryan Taylor and Evelyn Blumenberg, "Falling Transit Ridership: California and Southern California," January 2018. https://www.scag.ca.gov/Documents/ITS_SCAG_Transit_Ridership.pdf.

¹⁹ Derived from American Community Survey, 2013/2017.

A SCAG sponsored research report noted:²⁰

“Driving is relatively easy, while moving around by means other than driving is not. These circumstances give people strong economic and social incentives to acquire cars, and — once they have cars — to drive more and ride transit less.”

With its below average transit job access, residents of the allocated housing are likely to have cars or will have significant incentive to obtain vehicles improve to their employment prospects and standards of living.

Assertions

The following facts are asserted in support of the appeal request:

(1) Lower Income Worker Transit Commuting is Declining

Low income residents are far more likely to drive alone than to commute by transit and this is becoming increasingly so. In Orange County, workers with earnings below the poverty line are 12 times as likely to drive alone than to commute by transit. In the last seven years (2006/2010 to 2013/2017) transit commuting by workers below the poverty line has decreased by 41%. By comparison, in Los Angeles County, below poverty line commuters are only four times as likely to drive alone, while in the 5-county Los Angeles-Long Beach combined statistical area (CSA).²¹ workers below the poverty line are six times as likely to drive alone (Table 2-1). A similar downward trend in low-income commuting is evident in both Los Angeles County and the CSA (Figure 2-1).

The very demographic that is the primary target of affordable housing under RHNA drives alone at a rate similar to that of all workers and is increasingly abandoning transit.

	Drive Alone Share	Transit Share	Drive Alone per Transit Ratio
Los Angeles County	58.8%	14.4%	4
Orange County	68.2%	5.9%	12
Los Angeles-Long Beach CSA	62.2%	10.7%	6

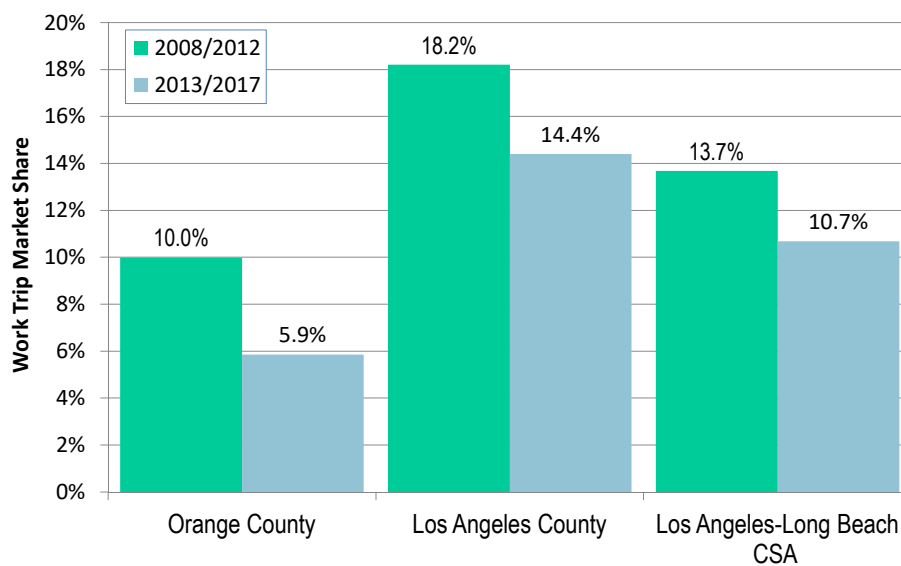
Derived from American Community Survey, 2013/2017

²⁰Michael Manville, Bryan Taylor and Evelyn Blumenberg, “Falling Transit Ridership: California and Southern California,” January 2018. https://www.scag.ca.gov/Documents/ITS_SCAG_Transit_Ridership.pdf.

²¹ This analysis uses the Los Angeles-Long Beach combined statistical area (the SCAG area, without Imperial County), which is the largest labor market definition by the U.S. Office of Management and Budget. As a labor market area, the CSA is also a housing market.

Below Poverty Line Transit Commuting

2008/2012 TO 2013/2017



Derived from American Community Survey

Figure 2-1

(2) Huntington Beach residents are far more likely to drive alone than to use transit.

Among Huntington Beach residents, driving alone accounts for 80% of commuting, while transit's market share (1.1%) is less than one half that of Orange County (2.3%). About 75 times (7,500%) as many workers from Huntington Beach drive alone as use transit. This is more than twice the rate of Orange County (36) and more than six times the rate of Los Angeles County (12). The drive alone to transit ratio in Huntington Beach is also and well above that of the five-county CSA average of 57 times (Table 2-2).

	Drive Alone	Transit	Drive Alone times Transit
Huntington Beach	79.7%	1.1%	75
Los Angeles County	73.7%	6.3%	12
Orange County	78.6%	2.2%	36
Los Angeles-Long Beach CSA	77.2%	1.3%	57

Derived from American Community Survey, 2013/2017

Further, bus ridership is declining in Orange County. Orange County Transportation Authority bus ridership dropped 46 percent, from 68.9 million in 2008 to 37.3 million in 2019.²² The COVID-19 pandemic has led to even greater ridership losses and uncertainty with respect to when or even if, ridership will return to previous levels. It is inconceivable that there will be a sufficient increase in Huntington Beach transit service to attract a materially larger share of workers.

(2) 30-minute transit access to jobs from Huntington Beach is materially less than the CSA, Los Angeles County and Orange County.

Estimates of 30-minute transit jobs access are reported by the Alltransit.cnt.org website, sponsored by the Center for Neighborhood Technology (CNT). Estimates are provided at the metropolitan, county, and city levels for much of the United States and specific street addresses inquiries are available.

Alltransit.cnt.org data indicates that transit employment access from Huntington Beach is far below that of Orange County, Los Angeles County and a number of constituent jurisdictions (Table 2-3).²³

- Approximately 134,000 jobs, overall, can be reached by transit within 30 minutes from Huntington Beach. By comparison, 30-minute job access was 2.4 times as high in Los Angeles County (322,000) and 1.3 times as high, on average, in Orange County (173,000). On average 217,000 jobs can be reached by transit within the SCAG region, 1.6 times that of Huntington Beach.
- Approximately 40,000 jobs requiring no more than a high school education were accessible by transit in 30 minutes from Huntington Beach. By comparison, 30-minute job access was 2.4 times as high in Los Angeles County (97,000) 1.3 times as high, in Orange County (52,000) and 1.6 times as high overall in the SCAG region.

	All Jobs	Jobs Requiring High School Education or Less
Huntington Beach	133,743	39,989
Los Angeles County	321,664	96,821
Orange County	172,595	51,261
SCAG Region	216,605	65,198

Source: Alltransit.cnt.org

²² From American Public Transportation Association Fourth Quarter Ridership Reports (https://www.apta.com/wp-content/uploads/Resources/resources/statistics/Documents/Ridership/2008_q4_ridership_APTA.pdf and <https://www.apta.com/wp-content/uploads/2019-Q4-Ridership-APTA.pdf>).

²³ Center for Neighborhood Technology, *All Transit*, <https://alltransit.cnt.org/>, Data downloaded October 11, 2019.

30-minute transit access is even less in Huntington Beach compared to jobs rich areas, especially in central Los Angeles County. Examples are indicated in Table 2-4. This is largely due to the higher population density and proximity to the most transit oriented major job center in the SCAG region (downtown Los Angeles).

- In three of the areas, more than 1,000,000 jobs can be accessed in 30-minutes, which is between eight and nine times the transit access from Huntington Beach. Residents of a number of other areas have 30-minute transit access to more than 500,000 jobs, which is far greater than Huntington Beach transit access of 134,000.
- In three areas near the densest employment center in the CSA (downtown Los Angeles), more than 330,000 jobs can be accessed in 30-minutes, which is from 8.5 to 9.2 times the transit access from Huntington Beach. Residents of a number of other areas have 30-minute transit access to more than 150,000 jobs, which is far greater than Huntington Beach transit access of 40,000 jobs.

	All Jobs	Jobs Requiring High School Education or Less
Huntington Beach	133,743	39,989
Los Angeles Historic Core	1,186,787	367,904
Los Angeles Bunker Hill	1,144,474	354,787
Los Angeles Civic Center	1,100,441	338,936
Mid-Wilshire	928,498	259,051
Westlake-Dockweiler	909,290	272,787
Silver Lake	837,378	243,677
Echo Park	832,655	247,299
Hollywood	768,614	210,600
Pico-Union	767,775	229,565
Boyle Heights	682,286	221,743
Westwood	654,120	177,267
Culver City	566,368	156,318
East Los Angeles	485,477	156,809

Source: Alltransit.cnt.org

CNT does not produce similar data for driving alone.

Comparative transit and drive alone employment access data is available from the University of Minnesota Accessibility Observatory for 50 of the largest metropolitan areas. In 2017, the

average resident of the Los Angeles metropolitan area (Los Angeles and Orange County) could reach 33 times (3,300%) as many jobs in 30 minutes driving alone as by transit.²⁴ The University of Minnesota does not develop estimates below the metropolitan area level, such as for counties, municipalities or street addresses.²⁵

(3) Actual transit access to jobs, measured by commuting behavior, is considerably higher than that of Huntington Beach in much of the 5-county CSA.

Among Huntington Beach commuters reaching work in less than 30 minutes, 133 times as many drive alone as use transit. This is five times the 5-county CSA rate (26), eight times the Los Angeles County rate (17) and more than double that of Orange County, at 59 (Table 2-5).

	Drive Alone Share	Transit Share	Drive Alone per Transit Ratio
Huntington Beach	45.3%	0.3%	133
Los Angeles County	40.2%	2.4%	17
Orange County	49.4%	0.8%	59
Los Angeles-Long Beach CSA	43.6%	1.7%	26

Derived from American Community Survey, 2013/2017

Transit is far more competitive than in Huntington Beach in other parts of the SCAG region. This is illustrated by ACS data for Public Use Microdata Areas (PUMAs).²⁶ In the SCAG PUMA with the lowest drive alone to transit ratio, only 2.3 times as many commuters drive alone as use transit (Los Angeles County [Central]--LA City [Central/Koreatown PUMA]) Huntington Beach’s 133 drive alone to transit 30 minute commute ratio is 58 times that figure.

Among the nation’s more than 2,300 PUMAs, the Los Angeles County [Central]--LA City [Central/Koreatown PUMA] had the 27th highest population density in 2013/2017. It also has the highest transit market share (27.3%) of any PUMA in the CSA. This PUMA also contains some of the most intense transit service in the SCAG region. The region’s only station serving two fully grade separate subway lines is in the Los Angeles County [Central]--LA City [Central/Koreatown PUMA].

²⁴ Derived from data in Andrew Owen and Brendan Murphy, University of Minnesota Center for Transportation Accessibility Laboratory, *Auto Access Across America: 2017*, 2018, <http://cts-d8resmod-prd.oit.umn.edu:8080/pdf/cts-18-16.pdf> and *Transit Access Across America: 2017*, 2018, <http://cts-d8resmod-prd.oit.umn.edu:8080/pdf/cts-18-12.pdf>.

²⁵ CNT and the University of Minnesota use different criteria for transit access.

²⁶ PUMAs are analysis zones designated by the Census Bureau that divide the United States into areas of similar population, averaging 130,000. PUMAs are especially helpful for examining somewhat smaller area data within large jurisdictions, such as the cities of Los Angeles, Anaheim and Santa Ana.

Another 17 PUMA’s have 30-minute drive alone to transit commute ratios no greater than one-tenth that of Huntington Beach (Table 2-6).

Each of these PUMAs has an urban form and transit service characteristics that reflect the underlying philosophy of Senate Bill 375, the RHNA and SCAG policies.

	Drive Alone Share	Transit Share	Drive Alone per Transit Ratio
Huntington Beach	45.3%	0.3%	133.2
Los Angeles County (Central)--LA City (Central/Koreatown) PUMA	25.3%	11.0%	2.3
Los Angeles County--LA City (East Central/Silver Lake, Echo Park & Westlake) PUMA	27.9%	11.5%	2.4
Los Angeles County (Central)--LA City (Southeast/East Vernon) PUMA	28.9%	9.5%	3.0
Los Angeles County--LA City (Central/Univ. of Southern California & Exposition Park) PUMA	22.8%	6.2%	3.7
Los Angeles County (Central)--LA City (East Central/Central City & Boyle Heights) PUMA	30.6%	7.4%	4.1
Los Angeles County (Central)--LA City (East Central/Hollywood) PUMA	31.7%	7.6%	4.2
Los Angeles County (Central)--Huntington Park City, Florence-Graham & Walnut Park PUMA	32.1%	4.4%	7.2
Los Angeles County (South Central)--LA City (South Central/Watts) PUMA	28.6%	3.8%	7.5
Los Angeles County (Central)--East Los Angeles PUMA	37.8%	4.4%	8.6
Los Angeles County (South)--Long Beach City (Southwest & Port) PUMA	36.5%	4.1%	8.8
Los Angeles County (North)--LA City (North Central/Mission Hills & Panorama City) PUMA	37.1%	4.1%	9.1
Los Angeles County--LA City (Mount Washington, Highland Park & Glassell Park) PUMA	35.3%	3.7%	9.6
Los Angeles County (Southeast)--Long Beach (Central) & Signal Hill Cities PUMA	40.5%	3.7%	11.0
Los Angeles County (South Central)--LA City (South Central/Westmont) PUMA	29.8%	2.7%	11.2
Los Angeles County (Northwest)--LA City (North Central/Van Nuys & North Sherman Oaks) PUMA	34.6%	2.9%	11.8
Los Angeles County (West Central)--LA City (West Central/Westwood & West Los Angeles) PUMA	45.5%	3.7%	12.4
Los Angeles County (West Central)--LA City (Central/Hancock Park & Mid-Wilshire) PUMA	40.7%	3.2%	12.7
Los Angeles County (Central)--LA City (Central/West Adams & Baldwin Hills) PUMA	34.2%	2.6%	13.2

Derived from American Community Survey, 2013/2017

Conclusion: The city of Huntington Beach has virtually no 30-minute transit access to the richest job centers in the CSA. This is unlikely to change materially in the foreseeable future. This is in contrast to the huge transit investments in urban rail and busways have been and are being further developed in Los Angeles County, with the intent of materially increasing transit access and creating a more compact urban form.

As noted above, the Huntington Beach overcrowding rate (relative to the national rate) is considerably less than that of the SCAG region. Approximately 34% of the overall SCAG allocation is attributable the HCD overcrowding adjustment. At this rate, the overall Huntington Beach allocation includes 4,564 units due to the blanket application of the SCAG overcrowding adjustment. The Huntington Beach RHNA allocation should reflect an overcrowding adjustment of 0.31%, rather than the SCAG overall overcrowding adjustment of 6.76%, which results in a

requested reduction of 4,354 units. When adjusted for the related residual adjustment (2,074 units), a gross reduction of 6,428 units is requested.

Issue #3: Excessive Residual Adjustment

The SCAG residual adjustment undermines and does not promote the critical objective of socioeconomic equity and placement of housing that can be reached more quickly by transit. This has resulted in a higher Huntington Beach RHNA allocation. The basis of this appeal request is that the SCAG allocation undermines and does not further the following objectives listed in subdivision (d) of Section 65584²⁷ with respect to:

- “promoting ... socioeconomic equity” (Section 65584[d2]), and
- “promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction (Section 65584[d3]).”

An objective of Subdivision (d) of Section 65584, is “Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category.” However the SCAG residual adjustment to meet this objective is so high that it materially undermines and fails to promote other objectives, which may be of greater importance given state and regional policy priorities.

In addition, SCAG’s residual method undermines and does not promote important intentions of SCAG’s *Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy*, such as housing construction in transit rich areas (page 4), strategies that result in reduced demand for single occupancy vehicle use (page 10) and land use patterns that facilitate multimodal access to work (page 25).²⁸

Generally, the objectives of state law and SCAG’s Sustainable Communities Strategy would be served by a larger share of solo drivers being attracted from their cars to transit and other non-motorized modes. Minimization of solo driving commutes requires considerably better transit job access. State and regional policies have been adopted to seek these objectives by constructing housing units close to jobs that can be filled by nearby resident workers.

Approximately one-third (32%) of the Huntington Beach RHNA allocation is attributable to the SCAG residual adjustment (redistribution methodology), comprising 4,303 of the 13,337 units.

Alone among the objectives listed in subdivision (d) of Section 65584, “socioeconomic equity” addresses fundamental human economic needs and upward mobility. By basing such a large portion of the RHNA allocation to lower “the proportion of housing need when a jurisdiction

²⁷ Government code 65584(d)(4).

²⁸ Page numbers refer to the Sustainable Communities Strategy within the *Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy*.

already has a disproportionately high share of households in that income category...” the potential to promote “socioeconomic equity” is materially diminished.

The methodology increases the RHNA allocation for Huntington Beach, which has little potential to contribute to the cited objectives in comparison with other jurisdictions.

Consequences: The following factors undermine the objectives above, as follows:

The promotion of socioeconomic equity is undermined failing to apply the Huntington Beach overcrowding rate instead of the SCAG region average rate. Residents of the new Huntington Beach housing will have considerably less economic opportunity due to the limited transit job access. As a result, low-income residents moving to Huntington Beach are likely to face significant impediments to socioeconomic advancement.

The higher allocation to Huntington Beach will undermine the intraregional relationship between jobs and housing because transit access is so limited. Conversely, the interregional relationship between jobs and housing would be promoted by allocating a smaller number of units to Huntington Beach.

Consistent with trends already evident in research prepared for SCAG (below²⁹), the limited transit job access from Huntington Beach is likely to create incentives to workers to purchase cars. More often than not, this is likely to mean solo commuting by car and higher commuting expenses.

The longer transit commutes could significantly reduce the incentive for some potential workers to seek employment.

The Importance of Short Transit Commutes: Relatively short commute times are crucial for transit to maintain its market share. In the United States, the average drive alone time is less than 30 minutes and is 26.8 minutes in Orange County. By comparison, transit commute times average 53.6 minutes³⁰ in Orange County, nearly double the drive alone time.

Around the country, a 30-minute standard is increasingly being used to evaluate transit and automobile commuting. SCAG uses a 30-minute standard for auto trips, though uses 45-minutes for transit trips in RHNA allocations. The Puget Sound Regional Council (Seattle area) uses a 30-minute standard for both auto and transit trips. The Center for Neighborhood Technology (CNT) publishes comprehensive 30-minute transit commute data within many metropolitan areas, including estimates from virtually any address (below). The University of Minnesota Accessibility Observatory publishes 30-minute transit and car job access estimates for 50 of the nation’s largest metropolitan areas (below).

²⁹Michael Manville, Bryan Taylor and Evelyn Blumenberg, “Falling Transit Ridership: California and Southern California,” January 2018. https://www.scag.ca.gov/Documents/ITS_SCAG_Transit_Ridership.pdf.

³⁰ Derived from American Community Survey, 2013/2017.

As the data below indicates, access to jobs by transit tends to be considerably less than by driving alone. For RHNA to encourage transit commuting rather than driving alone, affordable housing needs to be built in jobs-rich areas, where transit can be more competitive with the auto.

However, the transit trends in the SCAG region are working against any such policy objective. Low-income workers are buying cars, and they are abandoning transit.

A SCAG sponsored research noted:³¹

“Driving is relatively easy, while moving around by means other than driving is not. These circumstances give people strong economic and social incentives to acquire cars, and — once they have cars — to drive more and ride transit less.”

With its below average transit job access, residents of the allocated housing are likely to have cars or will have significant incentive to obtain vehicles improve to their employment prospects and standards of living.

Assertions

The following facts are asserted in support of the appeal request:

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Low income residents are far more likely to drive alone than to commute by transit and this is becoming increasingly so. In Orange County, workers with earnings below the poverty line are 12 times as likely to drive alone than to commute by transit. In the last seven years (2006/2010 to 2013/2017) transit commuting by workers below the poverty line has decreased by 41%. By comparison, in Los Angeles County, below poverty line commuters are only four times as likely to drive alone, while in the Los Angeles-Long Beach combined statistical area (CSA)³² workers below the poverty line are six times as likely to drive alone (Table 3-1). A similar downward trend in low-income commuting is evident in both Los Angeles County and the CSA (Figure 3-1).

The very demographic that is the primary target of affordable housing under RHNA drives alone at a rate similar to that of all workers and is increasingly abandoning transit.

³¹ Michael Manville, Bryan Taylor and Evelyn Blumenberg, “Falling Transit Ridership: California and Southern California,” January 2018. https://www.scag.ca.gov/Documents/ITS_SCAG_Transit_Ridership.pdf.

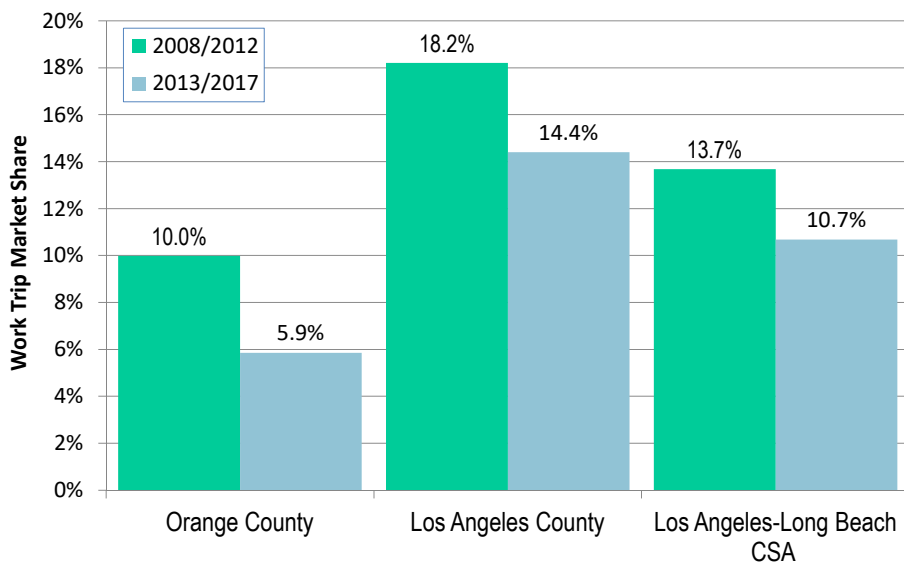
³² This analysis uses the Los Angeles-Long Beach combined statistical area (the SCAG area, without Imperial County), which is the largest labor market definition by the U.S. Office of Management and Budget. As a labor market area, the CSA is also a housing market.

Table 3-1
Commuting by Workers Earning Less than 100% of the Poverty Line

	Drive Alone Share	Transit Share	Drive Alone per Transit Ratio
Los Angeles County	58.8%	14.4%	4
Orange County	68.2%	5.9%	12
Los Angeles-Long Beach CSA	62.2%	10.7%	6

Derived from American Community Survey, 2013/2017

Below Poverty Line Transit Commuting 2008/2012 TO 2013/2017



Derived from American Community Survey

Figure 3-1

(2) Huntington Beach residents are far more likely to drive alone than to use transit.

Among Huntington Beach residents, driving alone accounts for 80% of commuting, while transit’s market share (1.1%) is less than one half that of Orange County (2.3%). About 75 times (7,500%) as many workers from Huntington Beach drive alone as use transit. This is more than twice the rate of Orange County (36). Huntington Beach also has the highest ratio of drive alone commuting to transit commuting among the larger Orange County cities (Table 3-2).

Table 3-2 Driving Alone & Transit Commuting: 2013/2017 Huntington Beach and Other Large Orange County Cities			
	Drive Alone Share	Transit Share	Drive Alone per Transit Ratio
Huntington Beach	79.7%	1.1%	75
Anaheim	76.9%	3.4%	22
Costa Mesa	77.4%	2.4%	32
Fullerton	77.9%	2.6%	31
Garden Grove	79.8%	2.3%	35
Irvine	77.2%	1.2%	62
Orange	80.3%	1.7%	46
Santa Ana	73.4%	5.8%	13

Derived from American Community Survey, 2013/2017

Further, bus ridership is declining in Orange County. Orange County Transportation Authority bus ridership dropped 46 percent, from 68.9 million in 2008 to 37.3 million in 2019.³³ The COVID-19 pandemic has led to even greater ridership losses and uncertainty with respect to when or even if, ridership will return to previous levels. It is inconceivable that there will be a sufficient increase in Huntington Beach transit service to attract a materially larger share of workers.

(3) Thirty minute transit access to jobs from Huntington Beach ranks the lowest among the eight largest cities of Orange County, and well below many other areas of the CSA, according to data from the Center for Neighborhood Technology (Table 3-3).³⁴

- Approximately 134,000 jobs, overall, can be reached by transit within 30 minutes. By comparison, the average for the other seven largest cities in Orange County (246,000) was 1.8 times that of Huntington Beach. Transit commuters could access an average of 403,000 jobs in 30 minutes from Santa Ana (403,000), a rate three times that of Huntington Beach.
- Approximately 40,000 jobs requiring no more than a high school education were accessible by transit in 30 minutes from Huntington Beach. By comparison, the average for the other seven largest cities in Orange County (79,000) was 1.8 times that of Huntington Beach. Transit commuters could access an average of 119,000 jobs in 30 minutes from Santa Ana (403,000), a rate three times that of Huntington Beach.

³³ From American Public Transportation Association Fourth Quarter Ridership Reports (https://www.apta.com/wp-content/uploads/Resources/resources/statistics/Documents/Ridership/2008_q4_ridership_APTA.pdf and <https://www.apta.com/wp-content/uploads/2019-Q4-Ridership-APTA.pdf>).

³⁴ Center for Neighborhood Technology, *All Transit*, <https://alltransit.cnt.org/>, Data downloaded October 11, 2019.

CNT does not produce similar data for driving alone. CNT does not produce similar data for driving alone.

Comparative transit and drive alone employment access data is available from the University of Minnesota Accessibility Observatory for 50 of the largest metropolitan areas. In 2017, the average resident of the Los Angeles metropolitan area (Los Angeles and Orange County) could reach 33 times (3,300%) as many jobs in 30 minutes driving alone as by transit.³⁵ The University of Minnesota does not develop estimates below the metropolitan area level, such as for counties, municipalities or specific addresses.³⁶

	All Jobs	Jobs Requiring High School Education or Less
Huntington Beach	133,743	39,989
Anaheim	219,497	69,800
Costa Mesa	292,009	82,347
Fullerton	169,809	54,339
Garden Grove	227,677	69,669
Irvine	182,345	48,139
Orange	224,776	68,781
Santa Ana	403,380	118,594

Source: Alltransit.cnt.org

(4) Actual transit access to jobs, measured by commuting behavior, is superior to that of Huntington Beach in much of Orange County.

Among Huntington Beach commuters reaching work in less than 30 minutes, 133 times as many drive alone as use transit (Table 3-4). This is more than double the Orange County average of 59 solo driving commuters per transit commuters. Huntington Beach commuters drive alone more in relation to transit commuting than in any of the other seven largest cities in Orange County. Huntington Beach commuters drive alone at 7.5 times the rate of highest ranking Santa Ana, where there are only 18 solo driving commuters per transit commuter (Table 3-4).

³⁵ Derived from data in Andrew Owen and Brendan Murphy, University of Minnesota Center for Transportation Accessibility Laboratory, *Auto Access Across America: 2017, 2018*, <http://cts-d8resmod-prd.oit.umn.edu:8080/pdf/cts-18-16.pdf> and *Transit Access Across America: 2017, 2018*, <http://cts-d8resmod-prd.oit.umn.edu:8080/pdf/cts-18-12.pdf>.

³⁶ CNT and the University of Minnesota use different criteria for transit access.

Table 3-4 Commuters Reaching Jobs in Less than 30 Minutes (of all commuters) Huntington Beach and Other Large Orange County Cities			
	Drive Alone Share	Transit Share	Drive Alone per Transit Ratio
Huntington Beach	45.3%	0.3%	133
Anaheim	45.4%	1.1%	41
Costa Mesa	59.7%	1.3%	45
Fullerton	43.2%	0.6%	67
Garden Grove	47.2%	0.7%	70
Irvine	57.6%	0.6%	92
Orange	50.9%	0.5%	93
Santa Ana	50.9%	2.9%	18

Derived from American Community Survey, 2013/2017

Conclusion: A more modest residual adjustment would better promote far more socioeconomic equity, while still easing the challenges faced by disadvantaged cities. For example, a residual adjustment to 20% of the current method to jurisdictions with richer transit and jobs environments could benefit a large number of households by placing housing where the opportunities for upward mobility are better, while moderating the allocations for disadvantaged cities.

Based on the above, a reduction in the Huntington Beach RHNA residual adjustment of 3,442 units is appropriate (4,303 units reduced by 80%).

APPENDIX: CALCULATION OF ESTIMATES

Issue #1: Over-Estimation of HQTAs Allocation

1 Huntington Beach RHNA Allocation (Table: HQTAs Population Share)		3,059
2 Basis of Requested Revision		
3 Population in HQTAs (SCAG): 2045	75,832	
4 Our Estimate: 2045	14,963	
5 Reduction in HQTAs Population	-80.3%	
6 Requested Reduction in Units Based on HQTAs Population		(2,455)
7 Impact of Reduction on Residual Allocation		(1,170)
8 Total Reduction in Units		(3,625)

Issue #2: Failure to Apply a Specific Huntington Beach Overcrowding Adjustment

1 Huntington Beach RHNA Allocation (Table: Total RHNA)		13,337
2 Basis of Requested Revision		
3 HCD RHNA Allocation: SCAG Region	1,341,827	
4 HCD RHNA Overcrowding Allocation: SCAG Region	459,134	
5 HCD: SCAG Region Allocation Attributable to Overcrowding	34.22%	
6 Portion of Huntington Beach Allocation Attributable to Overcrowding		4,564
7 HCD SCAG Region Overcrowding Factor	6.760%	
8 Huntington Beach Overcrowding Factor	0.310%	
9 Huntington Beach Factor Compared to SCAG	-95.414%	
10 Requested Reduction in Units Based on Overcrowding		(4,354)
11 Impact of Reduction on Residual Allocation		(2,074)
12 Total Reduction in Units		(6,428)

Line 1: From Table: RHNA Allocation inputs for Huntington Beach city: "TOTAL RHNA FOR ..."

Line 6: Line 5 (*) Line 4

Line 7: Excess SCAG Overcrowding Rate Compared to National (ACS 2013-2017)

Line 8: Excess Huntington Beach Overcrowding Rate Compared to National (ACS 2013-2017)

Line 9: Line 8 reduction from Line 7

Line 10: Line 6 (x) Line 9

Line 12: Line 10 (+) Line 12

Issue #3: Excessive Residual Adjustment

Huntington Beach RHNA Allocation (Table: Residual Factor)		4,303
Basis of Allocation		
Proposed Reduction in Units	-80.0%	
Requested Reduction in Units		(3,442)

RHNA Allocation inputs for Huntington Beach city		
Forecasted household (HH) growth, RHNA period:	427	
Vacancy Adjustment	13	
Replacement Need	2	
TOTAL PROJECTED NEED:	441	
Existing need due to job accessibility (50%)	5534	
Existing need due to HQTAs pop. share (50%)	3059	
Net residual factor for existing need^	4303	
TOTAL EXISTING NEED	12896	
TOTAL RHNA FOR HUNTINGTON BEACH CITY	13337	<i>Pct of total</i>
Very-low income (<50% of AMI)	3651	27.4%
Low income (50-80% of AMI)	2179	16.3%
Moderate income (80-120% of AMI)	2303	17.3%
Above moderate income (>120% of AMI)	5204	39.0%

^Negative values represent a lower-resourced community with good job and/or transit access having its allocation capped. Positive values represent this amount being redistributed to higher-resourced communities based on their job and/or transit access.



CITY OF HUNTINGTON BEACH

2000 MAIN STREET, HUNTINGTON BEACH, CALIFORNIA 92648-2702

OFFICE OF THE INTERIM CITY MANAGER
DAVE KIFF

September 12, 2019

Mr. Kome Ajise
Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Submitted via U.S. Mail and email to: housing@scag.ca.gov

RE: CITY OF HUNTINGTON BEACH DRAFT RHNA METHODOLOGY COMMENT LETTER

Dear Mr. Ajise,

The City of Huntington Beach ("City") would like to thank SCAG staff as well as the RHNA subcommittee, the [Community, Economic and Human Development Committee](#) (CEHD) and the Regional Council for the opportunity to comment on the 6th cycle Regional Housing Needs Allocation (RHNA) methodology and for all the hard work that has been done to date, including expanded stakeholder engagement in the process.

General Comments

Since the beginning of the 5th RHNA cycle through 2018, the City has issued almost 3,000 permits for housing units, placing Huntington Beach among the top 10 housing producers for the entire SCAG region¹. The City has exceeded its above moderate allocation, met all of the moderate income RHNA target (mostly through deed restricted units) and has issued permits for nearly 100 very low and low income units with another 50 extremely low and low income units currently in the planning process. Huntington Beach continues to be one of the more affordable coastal communities to live in Orange County.

While the City acknowledges SCAG's willingness to develop the 6th cycle RHNA methodology in a way that it believes will result in a more fair and equitable allocation to the jurisdictions, the City objects to the arbitrary and capricious RHNA process as a whole as and its applicability to Charter Cities. While we are optimistic that the final RHNA allocation will reflect the State's stated objective to build more housing, this is not

¹ Based on a comparison of the City of Huntington Beach building permit data with the SCAG jurisdictions in the HCD 5th Cycle Annual Progress Report Permit Summary (dated 6/25/19) <http://www.hcd.ca.gov/community-development/housing-element/index.shtml>

the way to go about it. The City (as we are confident most cities will agree) will insist that SCAG will ensure that the methodology adopted for the 6th cycle will not result in the lopsided jurisdictional allocations that we experienced during the 5th cycle. For example, in 2012, the four cities immediately surrounding Huntington Beach, with a collective population of approximately 323,000, were allocated a combined 11 total RHNA units. The City of Huntington Beach, with a current population of approximately 200,000, was allocated 1,353 units.

In addition, with the recent changes to state housing element law, such as AB 1397, jurisdictions are tasked with identifying eligible RHNA sites and obtaining housing element certification from the California Housing and Community Development Department (HCD) under more stringent site criteria and site analysis requirements. Under new laws such as SB 166, jurisdictions will be challenged with zoning additional sites throughout the planning period if market demand results in a development that does not yield the maximum number of units allowed on a property. Increasing the number of units (in each income category) that cities receive as part of the RHNA process will ultimately create a situation where many cities are unable to comply with the law and ultimately, have their Housing Elements decertified by HCD and/or face draconian State law consequences, including losing the ability to control how and where housing is built within a jurisdiction. With this in mind, input from the local jurisdictions as the primary data source is crucial in determining realistic RHNA numbers as this would provide the most accurate reflection of future growth and need for the 6th cycle.

Local input is critical to the accuracy and legitimacy of the RHNA process. SCAG has acknowledged the importance of using local input in the RHNA process since the beginning of the 6th cycle RHNA process. It was not until 2017, when SCAG consulted with all 197 jurisdictions over the course of a year and a half to collect input on population, housing and employment growth as well as review parcel level data that identified General Plan, zoning, vacant land, potential infill parcels and permanent open space areas. This consultation was critical because the data maps prepared by SCAG for Huntington Beach incorrectly identified private streets within existing multi-family residential areas, open space, developed industrial properties, existing businesses, and existing mobile home parks **as vacant land** available for potential redevelopment. Through SCAG's new Bottom Up Local Input process, the City identified these areas of discrepancy and provided correct GIS data to SCAG.

It should be noted that certain comment letters erroneously suggested that local input should not be used in the methodology. These comment letters appear to be based on faulty assumptions that local input relies on **existing** zoning only. To the contrary, the City based its review on realistic growth potential including possible land use changes if sufficient information was available at the time to make this assumption. The City provided this input as a conservative growth projection to ensure that regional planning efforts are able to adequately plan for improvements to the region's transportation system.

In addition to the comments contained in this letter, the City supports and, by reference, incorporates the comments submitted by the Orange County Council of Governments (OCCOG) and the Center for Demographic Research (CDR) at California State University at Fullerton (CSUF).

Option 1

The City opposes the use of Option 1 as it is currently proposed. To ensure that the most accurate data is utilized, the City recommends that SCAG allow each jurisdiction to review and correct the datasets utilized in this option, if necessary, including verification of land acreage, density calculations and building permit data.

Existing Need

The City opposed the use of a separate existing need calculation as it does not include any local input. Similar to Option 2, existing need is based almost entirely on existing population, which does not meet statutory requirements, and utilizes a one-size-fits-all approach to housing need. RHNA is a response to a statewide housing issue which is implemented on a regional level. The success of the SCAG region depends on the ability of the cities and counties within SCAG to implement their respective RHNA allocation. A one-size fits all approach to housing need that does not include local input will not enable SCAG cities and counties to comply with State law to the extent required, and nor will it successfully produce housing consistent with RHNA targets.

Building Permit Data

The building permit data aspect of Option 1 as currently proposed is flawed and does not logically facilitate developing an accurate RHNA methodology.

For example, using population as the only factor without considering size in land area and capacity appears to create faulty numbers. Using the time period 2006 – 2018 and not including the 4th cycle again appears a faulty methodology. The dates currently proposed include the “Great Recession” years. During the Great Recession, housing production was stagnant in most cities regardless of population. The limited housing unit production during the Great Recession years will have a greater impact on jurisdictions with larger populations when compared to the regional average and result in skewed RHNA outcomes. The 5th cycle should be the only date range used in this calculation and including land area as an additional factor. Without a more detailed analysis and rationale by SCAG, this approach in the methodology is fundamentally flawed.

Redistribution of Above Moderate Category

The City opposes the redistribution of the above moderate income category. Huntington Beach has had inclusionary housing policies in place for 25 years. As a coastal city, land costs can be significantly greater than inland areas. The development

community must be able to build market rate housing in the City to offset additional costs resulting from the provision of affordable inclusionary units. In addition, as identified in the OCCOG letter, the redistribution of the above moderate income category to the three lower income categories would result in unreasonable allocations of lower income RHNA targets to those jurisdictions that already have higher concentrations of very-low income units and those that are already receiving higher allocations of lower-income units due to the social equity adjustments. Further, this approach is not consistent with the State law RHNA objectives, including increasing affordability within each region in an equitable manner and allocating a lower proportion of housing need in income categories in jurisdictions that have a disproportionately high share in comparison to the county distribution.

High Quality Transit Areas (HQTAs)

The City objects to the use of HQTAs as part of the RHNA methodology. The data and assumptions are flawed and terms are not defined, making the use of this factor arbitrary and unreliable.

The most recent RHNA Subcommittee staff report defines a HQTA as “corridors that have at least a fifteen-minute headway (time in between the next scheduled service) during peak hours for bus service.” According to SCAG reference maps, all of Beach Boulevard within Huntington Beach is defined as a HQTA.

Based on the June 19, 2019 Orange County Transportation Authority Bus Schedule, there are no bus stops on Beach Boulevard within the City of Huntington Beach with headway times of 15 minutes or less. The shortest headway time during peak hours for bus service is on the Route 29 stop at PCH/1st Street traveling Southbound with an average headway time of 18.23 minutes during the PM peak hours. Most stops have an average peak hour headway time of approximately 19-25 minutes. Some stops, such as the Beach Boulevard/Talbert Avenue stop, have peak hour headway times of 40-49 minutes. One stop (Beach Boulevard/Atlanta Avenue) did not list any stop times as part of any route for this stop.

The Goldenwest Transportation Center (GWTC) is also identified by SCAG as a HQTA. Most of the routes commuting into/out of Huntington Beach here have 15 minutes or less headway during peak hours. However, some of the routes at GWTC do not have stop times that provide service throughout the entirety of the assumed peak commute hours. If bus service ends midway through the peak commute hours, would that meet SCAG’s criteria to be considered High Quality Transit? It must also be noted that, starting in October 2019, OCTA will eliminate Route 211, which services Huntington Beach to Irvine (a major Orange County job center), due to low ridership.

If HQTAs is part of any proposed RHNA methodology, SCAG must look at the practical application of HQTAs as they operate - not based on flawed assumptions and data. Otherwise the use of HQTAs to implement the RHNA statute objectives (including promoting an improved intraregional relationship between jobs and housing) is just an

arbitrary factor to be exploited in calculating RHNA allocations. HQTAs must accurately reflect data regarding actual bus service in these areas. Based on SCAG's definition of a HQTA, the entire length of Beach Boulevard in Huntington Beach would not qualify as a HQTA and should be adjusted accordingly.

Local Profile/CIRB Data

In April 2019, the City asked SCAG staff whether the Construction Industry Research Board (CIRB) housing permit data in the SCAG Local Profiles would be utilized in the RHNA methodology. The City was unfamiliar with this data source and unable to verify the accuracy of the data as shown in the Local Profile. SCAG staff confirmed to the City that the CIRB data **would not** be utilized for RHNA purposes. Therefore, the City objects to the use of the CIRB data in the RHNA methodology unless all jurisdictions are given an opportunity to review the raw data and confirm or correct the data as necessary.

Option 2

The City objects to any use of Option 2. Option 2 bases RHNA allocation solely on existing population without incorporating any local input or weighing local planning factors as required by State law (Government Code §65584.04[f]). As such, Option 2 should be rejected in its entirety from any further consideration.

However, if this option continues to be explored, a detailed explanation as to how existing population is directly linked to future housing need without consideration for other factors such as geographic area and availability of land must be provided. Additionally, the resulting RHNA allocation² under Option 2 would exceed the planned residential growth of our General Plan, which was comprehensively updated in 2017.

Therefore, if Option 2 were utilized, the City's General Plan as well as a recent Environmental Impact Report (EIR) would no longer be valid. Option 2, or any option that is selected cannot require numbers that exceed growth planned in a jurisdiction's General Plan and/or associated infrastructure plans (e.g. – Water Master Plan, Arterial Highway Plan). In addition, if RHNA growth exceeds planned residential growth of a jurisdiction's General Plan, Housing Elements will be out of compliance with state law.

Option 3

Of the three options presented for consideration, Option 3 appears to be the most rational because it relies primarily on local input. However, as discussed, household growth, not population growth, more accurately reflects housing need and is more consistent with the direction provided by the CEHD and Regional Council in their June 6th actions.

² Based on the SCAG RHNA Methodology tool using the HCD Final Determination and the low and high SCAG proposed alternative determination

RHNA Methodology Tool

The City appreciates SCAG's efforts to create a RHNA methodology tool to assist jurisdictions in understanding how the data and methodology approaches relate in calculating realistic potential RHNA allocations for each jurisdiction. Utilization of the tool to obtain the various RHNA allocations for each option based on the HCD Final Determination and the SCAG-proposed alternative determination resulted in a wide variety of potential RHNA allocations for our City as well as for most of the other regional jurisdictions.

The disparity among the potential RHNA allocations highlights how arbitrary the State law that mandates allocating jurisdictional RHNA requirements can be. The process is clearly flawed. As an example, during the current 5th RHNA cycle, the City issued more permits for new housing units in 2016 (a year after State HCD decertified the City's Housing Element based on allegations of the City not meeting its RHNA numbers) than we did in any other year during the planning period. In order for the RHNA process to be truly effective in facilitating the production of housing for all economic segments, we respectfully advise SCAG and its regional members to work together in advocating for RHNA reform at the State level.

Once again, thank you for the opportunity to comment on the draft 6th cycle RHNA methodology options. The City appreciates SCAG's commitment to a fair and transparent process and will continue to be an active participant during this 6th cycle RHNA process.

Sincerely,



Dave Kiff
Interim City Manager
City of Huntington Beach, California

cc: Members of the Huntington Beach City Council



City of Huntington Beach

2000 MAIN STREET

CALIFORNIA 92648

DEPARTMENT OF COMMUNITY DEVELOPMENT

Planning Division

714.536.5271

Code Enforcement Division

714.375.5155

Building Division

714.536.5241

November 5, 2019

Honorable Bill Jahn
Regional Council President
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Submitted via email to: housing@scag.ca.gov

RE: NOVEMBER 7, 2019 AGENDA ITEM NO. 4 – DRAFT RHNA METHODOLOGY

Dear President Jahn,

The City of Huntington Beach would like to comment in writing on the proposed RHNA methodology that will be considered at the November 7, 2019 meeting. While we appreciate the opportunity to participate in the process, the City cannot emphasize enough the potential disastrous ramifications including unnecessary legal action that may result in the RHNA allocation process contemplated by the State and its sub-regions.

Action taken by the Regional Council on November 7th will be the final step in determining a RHNA methodology that, short of litigation, all member jurisdictions may be required to implement over the next eight years. With the recent changes to state housing element law, such as AB 1397 and SB 166, general law cities are tasked with identifying eligible RHNA sites and obtaining housing element certification from the California Housing and Community Development Department (HCD) under more stringent site criteria and site analysis requirements. While the State continues to assert these laws apply to charter cities, the City of Huntington Beach continues to disagree and we are amid litigation over the very issue. With this in mind, the City of Huntington Beach implores the Regional Council to adopt a methodology that utilizes local input as a primary factor.

The City acknowledges SCAG's objective to develop the 6th cycle RHNA methodology in a way that will result in a more fair and equitable allocation to the jurisdictions and we are optimistic that the final RHNA allocation will reflect this goal. However, local input is critical to the accuracy and legitimacy of the RHNA process.

Oppose Alternative Methodologies

The City of Huntington Beach requests that the Regional Council reject alternative methodologies that have been submitted (very late in the process.) These methodologies do not comply with State Law Government Code Title 7, and in addition, largely remove local input from the process.

Support OCCOG 11/5/19 Letter Regarding HCD Regional Determination

The City of Huntington Beach agrees and joins with OCCOG in its letter of November 5, 2019 which correctly asserts that HCD ignored State Law in determining the final regional housing need. The City will support any legal action taken by SCAG to address this blatant violation of state law in order to prevent further and more damaging overreach by HCD.

The City appreciates SCAG's commitment to a fair and transparent process and will continue to be an active participant during this 6th cycle RHNA process. The City thanks SCAG staff as well as the RHNA subcommittee, Community, Economic and Human Development Committee (CEHD) and Regional Council for all of the hard work that has been done as part of the 6th cycle RHNA process.

Sincerely,



Oliver Chi
City Manager



**CITY OF HUNTINGTON BEACH
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Re: ***SCAG's November 7th Illegal Action to Apportion Excessive, Arbitrary & Capricious RHNA to the City of Huntington Beach for the 6th Planning Cycle***

Dear Messrs. Metcalf, Gilhooley, Ikhata, and Hon. Viegas-Walker,

We are writing to place into the record an objection to the illegal and blatantly unfair vote that took place at the November 7, 2019, Southern California Association of Governments ("SCAG") Regional Council Meeting. As you know, in a substitute motion, in a 43-19 vote, SCAG took action to approve an "alternative" Regional Housing Needs Allocation ("RHNA") distribution method proposed by, and promoted by, Riverside Mayor Rusty Bailey.

To be abundantly clear, this violates the law both procedurally and substantively.

First, the City of Huntington Beach *did not receive proper or adequate* notice that SCAG would entertain such a vote on such an “alternative” and legally unsupported methodology. It was not clearly part of the advance agenda and there was only a brief, vague letter sent by email two days prior to Huntington Beach that this “alternative” methodology was being contemplated. To the contrary, prior to this meeting, SCAG had consistently and repeatedly set forth certain methodologies upon which the City of Huntington Beach relied.

In addition to the lack of adequate notice of the “alternative” RHNA distribution method that ultimately occurred, the City of Huntington Beach was not allowed to provide any meaningful input, or place any objections on the record at the meeting before the vote. In a blatant disregard of controlling parliamentary rules, the Mayor Pro Tem of Huntington Beach, Lyn Semeta’s request to speak to the members was categorically denied – depriving her and the City of Huntington Beach any opportunity to voice an objection to, or provide any input to, the voting members before the vote was taken. Again, a blatant denial to Huntington Beach to participate in the SCAG RHNA process.

Moreover, this illegal vote resulted in a massive shift of RHNA for the 6th Cycle to coastal cities. Prior to the November 7th vote, the City of Huntington Beach had been informed by SCAG to anticipate a RHNA distribution for the 6th Cycle of 3,612 units. After the November 7th vote by SCAG, the City of Huntington Beach has learned that the RHNA distribution will be 13,300 – a nearly 370% increase to the City of Huntington Beach.

This massive shift of RHNA to beach cities, like Huntington Beach, squarely undermines SCAG’s long and historical defense of the legality of the RHNA methodology. The City of Huntington Beach on the other hand has long held, and has repeatedly voiced, that the methodology for RHNA determinations has been flawed, wrought with political manipulation, and not based on objective, verifiable real-world empirical data, this latest vote on November 7th proves the very point that Huntington Beach has argued all along, i.e., that there is no rational methodology *at all*.

In fact, peeling back the veil of false pretense, we now see these RHNAs amount to nothing more than an arbitrary and capricious assignment of a zoning/development burdens imposed on cities by a political majority from outside those cities.

SCAG Denied the City of Huntington Beach a Voice, Participation in the Process

For the past year, the SCAG RHNA subcommittee and the City of Huntington Beach have been meeting monthly, parsing through complicated formulas in an effort to determine a reasonable methodology that complies with RHNA statutory law. These formulas appear to provide unbridled discretion regarding options like proximity to jobs, access to transportation, available land to build on and projected household growth when determining RHNA distribution. As the process evolved, many public meetings were held throughout the SCAG region to discuss and obtain public comment on the methodology. All of this input also included the opportunity for individual

jurisdictions to use estimation calculator tools provided by SCAG to ascertain impacts of various proposed methodologies on their city. The jurisdictions each had the opportunity to provide suggestions for changing the proposed formulas and many cities, like Huntington Beach, did provide suggestions.

At the end of this year-long process, SCAG staff proposed a final methodology to be voted on at the November 7th Regional Council Meeting. Although we continue to object to the 1.3 million regional allocation, Huntington Beach and the other Orange County cities were prepared to vote in favor of the SCAG staff-recommended methodology as it appeared to be a fair, equitable formula for distribution based on reasonable factors, i.e., factors set forth by State law. Bear in mind, with each change to the proposed methodology options throughout the process, SCAG staff spent considerable time crunching the numbers, applying the different factors so that at the time the Regional Council voted on the final proposal, the methodology had been thoroughly vetted and analyzed for its impacts and rationale as a "reasonable" methodology.

Unfortunately, at the 11th hour, after ignoring earlier multiple opportunities to give input as to why an alternate formula should be proposed, the elected officials of Riverside and Los Angeles, in an apparent backroom deal, sprung new, "alternative" (irrational) methodology that capriciously and baselessly shifted a massive portion of the RHNA distribution onto Orange County, targeting, specifically, beach cities.

Notably, the day of the meeting, eleven of the fourteen Los Angeles City Council Members, who are all able to cast votes due to their city's size, decided to attend the SCAG's meeting to vote against smaller Orange County. It appears that many of these Council Members never attended prior SCAG meetings. San Bernardino County voted in support of the deal because it benefitted them as well. As a result of the massive, 11th hour, "overnight" shift of RHNA to Orange County pursuant to the vote, Riverside's RHNA went from 235,131 units to 165,696; San Bernardino's was reduced, 181,774 to 135,047; and Orange County's increased dramatically from 107,978 units to 182,194.

It appears that the Los Angeles, Riverside contingent orchestrated the 11th hour vote ahead of time and therefore had time to line up multiple comment letters and multiple public comment speakers in advance to come to the Regional Council Meeting to speak and support the alternative methodology. Orange County, kept in the dark until the last minute, did not.

Setting aside for a moment the procedural violations, the new/alternative methodology was not fully analyzed for impacts by SCAG staff before the vote – in square violation of substantive provisions of State law. This methodology was not previously supported by SCAG staff. The new/alternative method fails to follow applicable State law in part by removing local input and growth forecast data. The time staff from all jurisdictions spent analyzing and providing data regarding the realities of our own individual jurisdictions, in terms of cities' ability to build housing, was completely and illegally disregarded. The current methodology ignores the very real constraints that coastal cities must cope with

such as obtaining Coastal Commission approvals for zoning and development, and the scarcity and lack of available land and other environmental constraints – including Huntington Beach's particular interest in preserving the only large undeveloped and natural portion of the City – its beautiful and highly valued Wetlands.

SCAG Not Adhering to State Law, Prescribed Methodology

The Department of Housing and Community Development (HCD) through Council of Governments (COG) and/or Southern California Association of Governments (SCAG) purports to identify certain existing and projected regional housing needs for alleged projected State population and household growth. (Government Code § 65584, *et seq.*) SCAG covers the six-county Southern California region counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura. The COG develops a Regional Housing Need Allocation Plan (RHNA-Plan) allocating the region's share of the Statewide need to cities and counties within the region." The typical scenario is that HCD, in consultation with each COG, such as SCAG, determines the existing and projected housing needs for each region. (Government Code § 65584.01 (describing the manner in which the needs determination shall be made).)

The RHNA plan must be consistent with the following objectives: (1) increasing the housing supply and the mix of housing types, tenure, and affordability within the region in an equitable manner, which must result in each jurisdiction receiving an allocation for low- and very low-income units; (2) promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, and the encouragement of efficient development patterns; (3) promoting an improved intraregional relationship between jobs and housing; and (4) allocating a lower proportion of housing needs to an income category when a jurisdiction already has a disproportionately high share of households in that category. (Government Code § 65584(d).)

According to HCD, "the RHNA-Plan process requires local governments to be accountable for ensuring that projected housing needs can be accommodated and provides a benchmark for evaluating the adequacy of local zoning and regulatory actions to ensure each local government is providing sufficient appropriately designated land and opportunities for housing development to address population growth and job generation." The November 7th vote is in direct violation of State Housing law. Moreover, there is no evidence that the State conducted an adequate constraints analysis such that projects built to accommodate the City's additional RHNA numbers would be in conflict with the new State law and regulation regarding water conservation. (Government Code Section 65584.04 (d)(2).)

In apparent contravention to the above State law authorities, it appears that SCAG is unilaterally determining each jurisdiction's share of RHNA through an arbitrary, capricious, and clearly politically motivated approach that is in contravention to State law. What this does, especially for the 13,300 RHNA assigned to Huntington Beach, in combination with the unconstitutional State mandates under SB 35, SB 166, SB 1333, and AB 101, is create a situation where Huntington Beach and many other cities will

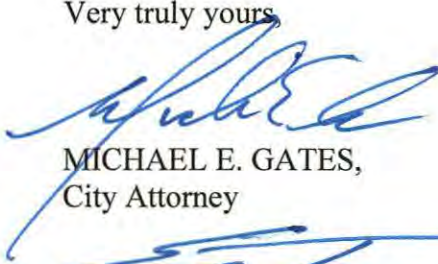
automatically be in violation of the newly passed State Housing laws. Such non-compliance will immediately result, according to recent State laws, in massive monetary damages to the City through the operation AB 101.

A scheme of laws that create an impossible situation for individuals and cities are illegal, unconstitutional, and cannot stand. Clearly, the City of Huntington Beach's concerns with this new proposed RHNA distribution are various, many of which have to do with what this excessive RHNA figure means in the context of the recently-passed untenable, unworkable, impractical, and unconstitutionally overreaching State Housing laws. Those are not the complaints here. However, highlighting what excessive RHNA does to a city in light of these laws is quite illuminating – and quite frankly demonstrates the punitive and destructive nature of the State's grand housing proliferation scheme toward cities.

Based upon the foregoing and as a result of this illegal vote (if fully implemented), the City of Huntington Beach will sustain real, appreciable damages. The November 7th vote by SCAG, which resulted in a massive shift of distribution of RHNA to Huntington Beach in the amount of 13,300 for the 6th Cycle, procedurally and substantively violates State Housing law.

As a result, SCAG must reconsider the November 7th vote in a manner that complies with State law.

Very truly yours,



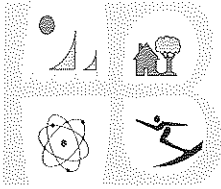
MICHAEL E. GATES,
City Attorney



ERIK PETERSON,
Mayor



LYN SEMETA,
Mayor Pro Tem
Southern California Association of Governments
Regional Council Member, District 64



City of Huntington Beach

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January 23, 2020

Draft Connect SoCal PEIR Comments

Attn: Roland Ok

Southern California Association of Governments

900 Wilshire Blvd., Ste. 1700

Los Angeles, CA 90017

Submitted via email to: 2020PEIR@scag.ca.gov

RE: CITY OF HUNTINGTON BEACH DRAFT CONNECT SOCIAL AND PEIR COMMENT LETTER

Dear Mr. Ok,

Thank you for the opportunity to submit comments on the Draft Connect SoCal plan and Program EIR. The City of Huntington Beach appreciates SCAG's public outreach efforts for this process and offers the following comments and concerns for your consideration.

High Quality Transit Areas (HQTAs)

HQTAs are defined as "corridors that have at least a fifteen minute headway (time in between the next scheduled service) during peak hours bus service." According to RTP/SCS maps, all of Beach Boulevard within the City of Huntington Beach is defined as a HQTAs. However, based on the October 13, 2019 Orange County Transportation Authority (OCTA) Bus Schedule¹, there are no bus stops on Beach Boulevard within the City of Huntington Beach with headway times of 15 minutes or less. Route 29 services Beach Boulevard from the City of La Habra to PCH in Huntington Beach. The shortest headway time during peak hours for bus service is on the Route 29 stop at PCH/1st Street (not a stop on Beach Boulevard) traveling southbound with an average headway time of 18.23 minutes during the PM peak hours. Most stops have an average peak hour headway time of approximately 19-25 minutes. Some stops, such as the Beach Boulevard/Talbert Avenue stop, have peak hour headway times of 40-49 minutes. One stop (Beach Boulevard/Atlanta Avenue) did not list any stop times as part of any route for this stop. It must also be noted that OCTA eliminated Route 211 in October 2019, which serviced Huntington Beach to Irvine (a major Orange County job center) due to low ridership.

¹ OCTA Bus Book <http://www.octa.net/ebusbook/CompleteBusBook.pdf>

Further, OCTA's 2018 Long Range Transportation Plan (LRTP)² includes Figure 4.1 – *Local, Community, and Bravo! Final Route Recommendations*. This figure recommends that Route 29 receive a reduction in frequency of service. This will add further delay to the 19-25 minute average peak hour headway service times on Beach Boulevard.

The Connect SoCal Plan and PEIR must utilize practical application of HQTAs as they operate and are planned for in order to implement the statute objectives of the RTP/SCS, including promoting an improved intraregional relationship between jobs and housing. The City of Huntington Beach recommends revising the HQTAs throughout Connect SoCal and the PEIR to accurately reflect available data regarding actual bus service and planned bus service on Beach Boulevard. Based on SCAG's definition of a HQTA, the entire length of Beach Boulevard in Huntington Beach does not qualify as a HQTA and must be adjusted accordingly.

The Connect SoCal Plan and PEIR also include other transportation related errors in Orange County, as identified by comments made by OCTA. The City of Huntington Beach expresses support for OCTA's comments as they pertain to errors and inconsistencies between the existing and planned Orange County transportation network and the RTP/SCS and PEIR. For example, the OCTA Board has not approved conversion from HOV to tolled express lane for SR-55, SR-73, I-605, or north of I-605 on I-405 as depicted in the proposed regional express lanes network. The potential regional express lane network is currently subject to further study to evaluate right-of-way impacts, community issues, and overall feasibility. Additionally, Connect SoCal regional strategies rely on improvements beyond the projects submitted by OCTA, and implementation of the strategies is subject to availability of new revenue sources, necessary project development, and review processes by the implementing agencies.

RHNA Growth Exceeds General Plan Growth

Section 3.14 – Population and Housing of the Connect SoCal PEIR includes four guiding principles related to Growth Forecasts approved by SCAG's Regional Council on August 1, 2019:

Principle #1: The draft plan forecast for Connect SoCal shall be adopted by the Regional Council at the jurisdictional level, thus directly reflecting the employment, population and household growth projections derived from local input and previously reviewed and approved by SCAG's local jurisdictions. The draft plan growth forecast maintains these projected jurisdictional growth totals, **meaning further growth is not reallocated from one local jurisdiction to another.**

Principle #2: The draft plan forecast at the Transportation Analysis Zone (TAZ) level is **controlled to be within the density ranges of local general plans or input received from local jurisdictional** in this most recent round of review.

² OCTA Long Range Transportation Plan, Figure 4.1 <http://www.octa.net/pdf/OCTALRTP111618FINAL.pdf>

Principle #3: For the purpose of determining consistency for California Environmental Quality Act (CEQA) streamlining, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the Plan.

Principle #4: TAZ level data or any data at a geography smaller than the jurisdiction is included in the draft plan forecast only to conduct the required modeling analytical work and is therefore, only advisory and non-binding as SCAG's sub-jurisdictional forecasts are not formally adopted as part of the Plan.

The SCAG RHNA methodology is inconsistent with Principle #1 and #2. The currently proposed draft 6th Cycle RHNA methodology reallocates "residual" existing need across jurisdictions within the same county. The reallocation is assigned to jurisdictions based on transit accessibility (50%) and job accessibility (50%), and excludes Disadvantaged Community jurisdictions which have over 50% of their populations in very low resource areas using California Tax Credit Allocation Committee (TCAC)/HCD Opportunity Indices.

Further, the cumulative impacts of the reallocation, projected need, and existing need result in a total RHNA that exceeds 1.0368 times planned household growth from the SCAG region³. While 1.0368 is the overall exceeded household growth in the region, each jurisdiction may be given a RHNA allocation that exceeds their General Plan growth even further as a result of the reallocated "residual" existing need calculation.

The PEIR also states that although the existing housing need portion of the 6th cycle RHNA is not included in the SCS growth forecast, the existing need portion will be allocated in a manner to support the goals of Connect SoCal through the RHNA process. The PEIR does not provide any meaningful analysis or supporting evidence to demonstrate how this will be accomplished. The currently proposed draft 6th Cycle RHNA methodology which includes reallocated "residual" need and growth exceeding SCAG local jurisdiction General Plan forecasts is not consistent with the goals of Connect SoCal, including the following:

Goal 2: Improve mobility, accessibility, reliability, and travel safety for people and goods

Goal 4. Increase person and goods movement and travel choices within the transportation system

Goal 9: Encourage development of diverse housing types in areas that are supported by multiple transportation options.

The City of Huntington Beach is unable to accommodate any reallocated growth due to a lack of transportation options, which is not consistent with Connect SoCal Goals 2, 4, or 9. As a result, the SCAG RHNA methodology is wholly inconsistent with Connect SoCal and the PEIR must address this information.

³ SCAG 6th Cycle RHNA Draft Allocation Methodology November 7, 2019
<http://www.scag.ca.gov/programs/Documents/RHNA/RHNA-Draft-Methodology.pdf>

Support for Comments and Recommendations Submitted by Other Groups

The City of Huntington Beach expresses support for comments made by OCTA as they pertain to errors and inconsistencies between the existing and planned Orange County transportation network and the RTP/SCS and PEIR, as noted above. The City also expresses support for comments made by the Center for Demographic Research (CDR) and the Orange County Council of Governments (OCCOG). The City would like to highlight the following comments from CDR and OCCOG that are of the highest level of concern:

1. SCAG must utilize the 2018 Orange County Projections (OCP-2018) dataset provided to SCAG during its Bottom-Up Local Input and Envisioning Process to ensure that general plan capacities are not exceeded and all open space and entitlements are properly reflected for the RTP/SCS and PEIR.
2. CDR PEIR comments #33, #35, and #54 to add the following text: "SB 375 requires the determination to be based upon population projections by the Department of Finance and regional population forecasts used in preparing the regional transportation plan. If the total regional population forecasted and used in the regional transportation plan is within a range of 1.5 percent of the regional population forecast completed by the Department of Finance for the same planning period, then the population forecast developed by the regional agency and used in the regional transportation plan shall be the basis for the determination. If the difference is greater than 1.5 percent, then the two agencies shall meet to discuss variances in methodology and seek agreement on a population projection for the region to use as the basis for the RHNA determination. If no agreement is reached, then the basis for the RHNA determination shall be the regional population projection created by the Department of Finance. Though SCAG's total regional population projections from the regional transportation plan were within 1.5 percent of the Department of Finance projections, HCD rejected the use of SCAG's population projections."
3. CDR RTP/SCS and OCCOG comments which revise text to maintain an objective/unbiased tone, delete sensationalized language, and include meaningful evidence to support generalized claims about the SCAG region.
4. OCCOG comments to revise the definition of a HQTAs used in the RTP/SCS and RHNA to be consistent with the definition of a HQTAs in SB 375 and the Strategic Growth Council. This is necessary to ensure the SCAG region is able to compete for available funds related to transit-oriented housing.
5. OCCOG comments opposing any alternative in the PEIR that does not utilize local input, including the intensified land use alternative. The RHNA must be consistent with the RTP/SCS as required by Government Code Section 65080(b)(2)(B) and Section 65584.04(m).
6. OCCOG PEIR comments regarding the usage of "can and should" in mitigation measures. Revise all mitigation measures to be "considered where applicable and feasible" to clarify that these mitigation measures are a menu of options and not

requirements. Further, any mitigation measure that includes a new fee or tax to be adopted at the jurisdictional level must be revised to clarify that it is an option for implementation and not a requirement. Also clarify whether the assumed revenue from the suggested new fees were included in the financial plan or economic analysis of the RTP/SCS.

Conclusion

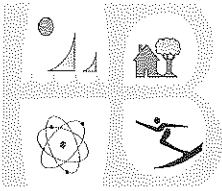
Thank you for the opportunity to comment on the Draft Connect SoCal plan and Program EIR. The City of Huntington Beach appreciates SCAG's commitment to a fair and transparent process and will continue to be an active participant during the RTP/SCS update and 6th cycle RHNA process.

Sincerely,



Nicolle Aube, AICP
Associate Planner

Cc: Ursula Luna-Reynosa, Director of Community Development
Jennifer Villasenor, Deputy Director of Community Development
Jane James, Planning Manager



City of Huntington Beach

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Building Division

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February 10, 2020

Southern California Association of Governments

900 Wilshire Blvd., Ste. 1700

Los Angeles, CA 90017

Submitted via email to: housing@scag.ca.gov

RE: CITY OF HUNTINGTON BEACH DRAFT RHNA APPEALS PROCEDURES COMMENT LETTER

To whom it may concern,

Thank you for the opportunity to submit comments on the Draft RHNA Appeals Procedures. The City of Huntington Beach requests that the draft appeals procedures be amended to address the following questions and comments.

Section IB. Form of Appeal

- Does this section apply to appeals filed by HCD? If not, what is the process for HCD?

Section IC. Bases for Appeal

- Does this section apply to appeals filed by HCD? If not, what is the process for HCD?

Section IE. Comments on Appeals

- When will jurisdictions be notified if an appeal (not filed by their own jurisdiction) is filed against their RHNA?
- The City of Huntington Beach requests that jurisdictions that are the subject of an appeal not filed by their own jurisdiction receive a copy of the appeal within one business day of SCAG's receipt of the appeal. At a minimum, notification that an appeal has been filed against their RHNA should be provided to the jurisdiction within one business day.

Section IF. Hearing Body

- Is SCAG going to allow ex-officio RHNA subcommittee members to participate in the appeal discussion, hearing, and deliberations?

Section IG. Appeal Hearing

- Section G states: "Notice shall be provided to the appealing jurisdictions, commenting jurisdictions, and HCD at least 21 days in advance of the hearing." Will notice also be provided to the jurisdictions for which an appeal was filed against their RHNA by another jurisdiction and HCD? The City of Huntington Beach requests that this notice also include the jurisdiction whose RHNA is being appealed.
- Section G states: "The hearing(s) shall be conducted to provide the appealing jurisdiction (or HCD) with the opportunity to make its case regarding a change in its draft regional housing need allocation or another jurisdiction's allocation..." Will there be a time limit? How much time will be provided to each appealing jurisdiction to present its case?
- Will all appeals be heard back to back and then the public hearing opened for one set of public comments on all appeals? Or, will the public hearing be opened after each appeal to receive all testimony related to that appeal? How much time will be provided for public testimony?
- How far in advance of the public hearing will the SCAG staff report and recommendation be made available to the public?

Section IH. Determination of Appeal

- How long after the public hearing will the Appeals Board issue the final written determination?

Section II Post Appeal Reallocation of Regional Housing Need

- Will jurisdictions with successful appeals be excluded from receiving reallocation of those units (i.e. – getting their own units reallocated back to them)?

General Comments

- If comments/questions on the draft appeals procedures result in substantial changes to the procedures, SCAG should allow for additional time to review the changes.

Sincerely,



Nicolle Aube, AICP
Associate Planner

Cc: Ursula Luna-Reynosa, Director of Community Development
Jennifer Villasenor, Deputy Director of Community Development
Jane James, Planning Manager



CITY OF HUNTINGTON BEACH

2000 MAIN STREET, HUNTINGTON BEACH, CALIFORNIA 92648-2702

OFFICE OF THE CITY MANAGER
OLIVER CHI

February 20, 2020

Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

RE: Request to the Southern California Association of Governments (SCAG) to Amend the Regional Housing Needs Assessment (RHNA) Methodology for the 6th Cycle

Dear Mr. Ajise:

This letter is submitted for the administrative record of the February 24, 2020 SCAG RHNA Subcommittee meeting. City of Huntington Beach has and continues to object to the arbitrary and capricious process being followed by the State in determining and allocating RHNA for Orange County and specifically the City of Huntington Beach. (Including Mayor Semeta being denied the right to speak at the November 7, 2019 Regional Council meeting.)

The City of Huntington Beach incorporates all of its prior arguments both orally and in writing and again additionally requests that SCAG amend the Final RHNA methodology to reinstate local input (a critical) factor in determining actual existing need. The local input/household growth projections are a critical factor because it takes into consideration the unique growth characteristics of each jurisdiction.

Moreover, the local input growth projections were provided to SCAG to be used globally to show growth development patterns supporting the Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS) Connect SoCal as required by state law. The City of Cerritos recently submitted a proposal dated February 4, 2020, which recommends that household growth forecasts be reintroduced back into the calculations for the existing need as follows: household growth (33.3%), job accessibility (33.3%), and population within high quality transit areas (33.3%). While this doesn't address all concerns the City has with the methodology process, we believe it provides a better and more accurate methodology.

Finally, as stated in the SCAG staff-recommended RHNA methodology staff report for the November 7, 2019, Regional Council meeting, the reintroduction of household growth into the existing need would further the five objectives of state housing law.

The City submitted comments regarding the Draft RHNA Appeals Procedure to SCAG on February 10, 2020. However, as of the date of this letter, the City's Appeals Procedures letter has not been posted on SCAG's website or included in the list of comments received during the 6th Cycle in the February 24, 2020 RHNA Subcommittee agenda.

The City advises that SCAG object again to the Department of Housing and Community Development (HCD) because the regional determination did not follow state law [see Government Code Section 65584.01(a)], and mount a legal challenge to this illegal determination.

Finally, the Department of Finance's recently updated population projections show a significant population *decrease* since their previous forecast. Governor Newsom has also stated that his commitment to building 3.5 million homes by 2025 was a "stretch goal" and that the state would soon be releasing a more pragmatic estimate of the housing needs by region. The regional determination of 1.34 million housing units combined with an inequitable RHNA methodology adopted through questionable actions and political maneuvering during the November 7, 2019, Regional Council meeting, are legally flawed, following no apparent rational basis and setting up local jurisdictions for failure to comply with state housing law and based on inaccurate data assumptions. As the City has said, the data regarding the assignment of High Quality Transit Areas (HQTA) along Beach Boulevard within the City of Huntington Beach is inaccurate. The existing and 2045 planned bus service does not meet the definition of a HQTA.

We request that the RHNA Subcommittee, CEHD Policy Committee, and Regional Council consider all of the legal and factual arguments made by the City of Huntington Beach including the two above referenced recommendations prior to the adoption of the RHNA. The Regional Housing Needs Allocation will have significant impacts on the City of Huntington Beach over the next decade and thoughtful policy decisions, and more importantly the LAW cannot be abandoned in favor of an irrational attempt to solve a complicated problem. It is imperative that the RHNA be finalized in a way that is LEGAL, equitable and attainable in responding to state housing mandates.

Sincerely,



Oliver Chi
City Manager



CITY OF HUNTINGTON BEACH

2000 MAIN STREET, HUNTINGTON BEACH, CALIFORNIA 92648-2702

OFFICE OF THE CITY MANAGER
OLIVER CHI

March 4, 2020

Hon. Bill Jahn, President
Regional Council
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

RE: Request to the Southern California Association of Governments (SCAG) to Amend the Regional Housing Needs Assessment (RHNA) Methodology for the 6th Cycle

Dear President Jahn:

This letter is submitted for the administrative record of the March 5, 2020 SCAG Regional Council meeting. The City of Huntington Beach has and continues to object to the arbitrary and capricious process being followed by the State in determining and allocating RHNA for Orange County and specifically the City of Huntington Beach. (Including Mayor Semeta being denied the right to speak at the November 7, 2019 Regional Council meeting.)

Final RHNA Methodology

The City of Huntington Beach incorporates all of its prior arguments both orally and in writing and again additionally requests that SCAG amend the Final RHNA methodology to reinstate local input (a critical) factor in determining actual existing need. The local input/household growth projections are a critical factor because it takes into consideration the unique growth characteristics of each jurisdiction. In addition, SCAG staff has previously stated (refer to the November 7, 2019, Regional Council staff report on the original SCAG staff-recommended RHNA methodology) that the reintroduction of household growth into the existing need would further the five objectives of state housing law. Moreover, the local input growth projections were provided to SCAG to be used globally to show growth development patterns supporting the Regional Transportation Plan/Sustainable Community Strategy (RTP/SCS) Connect SoCal as required by state law.

Prior to the February 24, 2020 SCAG RHNA Subcommittee meeting, the City of Cerritos submitted an alternate methodology dated February 4, 2020, which recommends that household growth forecasts be reintroduced back into the calculations for the existing need as follows: household growth (33.3%), job accessibility (33.3%), and population within high quality transit areas (33.3%). While this does not address all concerns the City has with the methodology process, we believe it provides a better and more accurate methodology than the staff recommended Final RHNA methodology.

At the February 24, 2020 SCAG RHNA Subcommittee meeting, the Subcommittee voted to have SCAG staff include an analysis of the Cerritos methodology in the March 5, 2020 staff report. The "analysis" of the Cerritos methodology in the staff report consists of a single dismissive paragraph, which concludes that the Cerritos methodology would "perform more poorly" against the staff recommended methodology, would require additional HCD review, and jeopardize SCAG's ability to meet arbitrary state mandated deadlines. However, the staff report fails to mention that the Cerritos

methodology does in fact further the five RHNA objectives of state housing element law and that the Regional Council can make the findings to adopt this methodology even if HCD, upon review, does not.

Finally, the City would be more supportive of any methodology that utilizes a larger proportion of local input reflecting a more accurate and equitable RHNA allocation over the staff recommended Final RHNA methodology.

Regional Determination

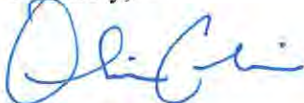
The City advises that SCAG object again to the Department of Housing and Community Development (HCD) because the regional determination did not follow state law [see Government Code Section 65584.01(a)], and mount a legal challenge to this illegal determination. During the February 20, 2020 RHNA symposium in Anaheim, SCAG Executive Director Kome Ajise stated that SCAG would not file a legal challenge against HCD because the state has more money and lawyers to fight a lawsuit. This reason is not acceptable to the City of Huntington Beach and should not be acceptable to any member of the Regional Council. HCD has violated state law and should be held accountable.

Moreover, the Department of Finance's recently updated population projections show a significant population decrease since their previous forecast. Governor Newsom has also stated that his commitment to building 3.5 million homes by 2025 was a "stretch goal" and that the state would soon be releasing a more pragmatic estimate of the housing needs by region...suspiciously in time for the Governor's home region (ABAG) to begin its Housing Element/RHNA process.

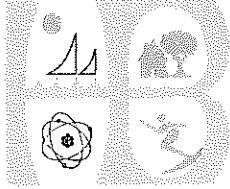
The regional determination of 1.34 million housing units combined with an inequitable RHNA methodology adopted through questionable actions and political maneuvering during the November 7, 2019, Regional Council meeting, are legally flawed, following no apparent rational basis and setting up local jurisdictions for failure to comply with state housing law and based on inaccurate data assumptions. As the City has said, the data regarding the assignment of High Quality Transit Areas (HQTA) along Beach Boulevard within the City of Huntington Beach is inaccurate. The existing and 2045 planned bus service does not meet the definition of a HQTA.

We request that the Regional Council consider all of the legal and factual arguments made by the City of Huntington Beach including the two above referenced recommendations prior to the adoption of the RHNA. The Regional Housing Needs Allocation will have significant impacts on the City of Huntington Beach over the next decade and thoughtful policy decisions, and more importantly, the LAW cannot be abandoned in favor of an irrational attempt to solve a complicated problem. It is imperative that the RHNA be finalized in a way that is LEGAL, equitable and attainable in responding to state housing mandates.

Sincerely,



Oliver Chi
City Manager



City of Huntington Beach

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September 2, 2020

Kome Ajise
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
Submitted via email to: ajise@scag.ca.gov

Re: CITY OF HUNTINGTON BEACH COMMENT LETTER - SCAG FINAL ADOPTION OF CONNECT SOCAL AND PROGRAM EIR

Dear Mr. Ajise,

The City of Huntington Beach appreciates SCAG's public outreach efforts for the Connect SoCal and RHNA process. The following comments and concerns are offered for your consideration in response to SCAG's 120 day Connect SoCal delay to conduct additional public outreach.

SCAG Disregards Coastal Issues in Connect SoCal and RHNA Methodology

Through its various administrative agencies, the State of California has declared that the impact of sea level rise and planning for coastal inundation is of great concern. The State's Ocean Protection Council (OPC) adopted its first sea level rise guidance document in March 2013. The California Coastal Commission (CCC) has adopted multiple guidance documents since 2015 regarding climate change, sea level rise, and coastal inundation utilizing the best available data. At their May 13, 2020 meeting, the CCC adopted a document titled, "Making California's Coast Resilient to Sea Level Rise: Principles for Aligned State Action." CCC said that the document is a tool for aligned, consistent state agency action in planning and preparing for a minimum baseline 3.5 feet of sea level rise statewide. The principles outlined in the document are intended to guide unified, effective action towards sea level rise resilience for California's coastal communities, ecosystems, and economies across state agencies in order to improve effectiveness in addressing this immediate challenge.

Despite the declaration by State agencies concerning sea level rise, it is notable that the OPC and the CCC have not been engaged in the public review process. The CCC and the OPC are key stakeholders for jurisdictions in the coastal zone across the State. Development proposals in the coastal zone are subject to final approval of the CCC even if the jurisdiction has a certified Local Coastal Program. The CCC has the ability to appeal a City's approval of any project within

the coastal zone and conduct their own review of the project, which may ultimately result in project disapproval beyond control of the City. Rezoning and associated land use changes required to adequately plan for the current RHNA methodology allocations will necessitate a Local Coastal Program Amendment for all jurisdictions with certified Local Coastal Programs. Coastal jurisdictions may adopt land use changes to comply with RHNA requirements, but there is no guarantee that those changes will be approved by the CCC.

SCAG's Connect SoCal and RHNA methodology have not addressed the impact of sea level rise (SLR), coastal inundation, and other coastal issues or the ability of coastal jurisdictions to plan for their RHNA. SCAG's 2017 RTP Data Map Book for Huntington Beach includes an exhibit depicting "Sea Level Rise Impacted Areas (2 feet) 2040 Scenario in Orange County¹." Nearly all of the lowest lying land in Orange County is within Huntington Beach and its annexation of Sunset Beach; a small portion affects Newport Beach and Seal Beach. The data from the Map Book does not utilize the best available science/data as the State has since revised SLR analysis to plan for a baseline of 3.5 feet of SLR statewide. It must also be noted that the Map Book contains these exhibits and information regarding SLR but SCAG does not utilize them for any analysis within Connect SoCal or RHNA.

SCAG fails to address this critical information from the CCC. Coastal cities are explicitly unable to accommodate any new development (especially residential development) in the Coastal Zone and adjacent areas, as it is specifically vulnerable and unable to adapt to managed retreat within areas of sea level rise. The CCC expects all LCPs to recognize that public lands adjacent to the Pacific Ocean and harbors will extend inward as a direct result of sea level rise². This information alone indicates that coastal cities will lose land available for development (and land that is currently developed) to the public trust boundary. The CCC also recommends that coastal cities purchase land within areas of sea level rise to remove all associated structures and conserve the land as open space.

The development challenges faced by coastal cities due to sea level rise appear to be completely ignored by SCAG throughout the RHNA and Connect SoCal process and replaced with the politics from other areas of the SCAG region to keep RHNA numbers and housing out of their jurisdictions.

Connect SoCal, including the associated Program EIR, characterize coastal cities as resistant to new development due to "community resistance to new housing, especially medium and high density projects." It appears that SCAG purposefully does not acknowledge any relevant information regarding the significant negative environmental impacts and CCC policies on development other than protected open space within areas subject to sea level rise, including SCAG's own Data Map Book exhibits produced in 2017. Excluding this pertinent analysis from the RHNA and RTP/SCS process enables Connect SoCal and RHNA to arbitrarily and capriciously achieve Governor Newsom's admitted "stretch goal" to construct 3.5 million units in California by 2025.

¹ <http://scagrtpscs.net/Documents/DataMapBooks/HuntingtonBeach.pdf>

² California Coastal Commission Sea Level Rise Policy Guidance
https://documents.coastal.ca.gov/assets/slr/guidance/2018/0_Full_2018AdoptedSLRGuidanceUpdate.pdf

All lands within the state of California that are subject to sea level rise, including those within the SCAG region such as Huntington Beach, must be accurately identified in Connect SoCal and the PEIR, removed from the model scenarios in each, and also excluded from the RHNA calculation (including but not limited to job accessibility, HQTAs proximity, reallocated residual need, and additional social equity adjustments) in order for Connect SoCal and RHNA to be consistent (Government Code Section 65080(b)(2)(B) and Section 65584.04(m)).

High Quality Transit Areas (HQTAs)/High Quality Transit Corridors (HQTC)

As noted in multiple public comments from the City of Huntington Beach, the portion of Beach Boulevard within the City is incorrectly identified as HQTAs. Public Resources Code Section 21155 (b) defines a high-quality transit corridor as "a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours." It must be emphasized that Public Resources Code Section 21155 (b) does not include planned HQTC within the definition. Further, Government Code Section 65584.04 (e)(3) requires the RHNA methodology to include "the distribution of household growth assumed for purposes of a comparable period of regional transportation plans and opportunities to maximize the use of public transportation and existing transportation infrastructure." SCAG's Final RHNA Allocation Methodology³ explains that HQTAs "are based on state statutory definitions of high-quality transit corridors (HQTCs) and major transit stops." However, SCAG's application of HQTC is incorrect. Public Resources Code Section 21155 (b) does not include planned HQTC within its definition. SCAG's RHNA methodology creates its own definition of HQTC as inclusive of planned HQTC which conflicts with the statutory definition. The Public Resources Code identified above does not include future planned facilities in the definition of HQTC. This new definition is illegal and cannot be used in calculation of RHNA.

Again, SCAG's RHNA Methodology to determine a jurisdiction's existing housing need "assigns 50 percent of regional existing need based on a jurisdiction's share of region's population within the high quality transit areas (HQTAs) based on future 2045 HQTAs." This does not adhere to state statutory definitions of high-quality transit corridors and must be revised to accurately reflect Public Resources Code Section 21155 (b).

To correctly calculate RHNA numbers, SCAG must engage OCTA and other transit operators in the region amid the pandemic to discuss the post COVID-19 feasibility of implementing planned public transit improvements due to budget, cleaning, liability, and health/safety issues.

During his August 24, 2020 COVID-19 press conference, Governor Newsom stated the following regarding the new tiered color system for public health:

"We don't put up green because we don't believe that there is a green light that just says go back to the way things were or back to the pre-pandemic mindset."

³ <http://www.scaq.ca.gov/programs/Documents/RHNA/SCAG-Final-RHNA-Methodology-030520.pdf>

Based on statements made by the Governor, the State of California does not anticipate life in California returning to pre-pandemic conditions through the 6th Cycle planning period.

Despite this, SCAG maintains throughout the September 3, 2020 Regional Council meeting staff report that it has no information regarding the effects of the pandemic. This is misleading and untrue. In addition to the Governors statements, and a host of empirical data regarding COVID-19 and its effects on society, the September 2, 2020 SCAG Executive Administration Committee meeting agenda includes findings and conclusions regarding a SCAG commissioned Housing Production Study that provides updated information regarding the impacts of the pandemic on the region. Despite this new data concerning COVID-19, the State desires to proceed forward with a "pre-pandemic" plan. SCAG should not adopt Connect SoCal until it adequately analyzes the effects of COVID-19 on housing needs in the State. In part, adoption of the pre-pandemic plan in the wake of unprecedented COVID-19 economic downturn and drop in public transit use will not enable the SCAG region to achieve SB 375 reduced GHG emissions goals.

Further, the City of Huntington Beach has engaged the Orange County Transportation Authority (OCTA) regarding implementation of their 2018 Long Range Transportation Plan, including the Final Beach Boulevard Corridor Feasibility Study (Study). OCTA emphasizes the Study is designed to be flexible and adapt to each jurisdiction for their respective needs. The Study lays the foundation for the Beach Blvd. Corridor, but is not used as a rigid implementation arm of the OCTA LRTP. The suggested improvement elements within the Study are conceptual and are not developed into any specific project to be implemented on any specific timeline. It is at the discretion of the local jurisdiction to coordinate implementation and infrastructure improvements with all relevant agencies, such as CalTrans. For example, if Bus Rapid Transit (BRT) to achieve service at 15 minute intervals is hypothetically chosen to be implemented for a portion of Beach Boulevard, a subsequent specific BRT study is required to determine potential alignments, project limits, and other details. There is no requirement upon any City within the Study or OCTA to implement any recommendation of the OCTA LRTP.

Additionally, the OCTA Board of Directors wrote a letter dated March 23, 2020 to Governor Newsom discussing the impact of COVID-19 on their operations. The following excerpt describes the change in circumstances which has created a specific strain on the ability of OCTA to provide transit service:

"The COVID19 response has fundamentally changed the way people interact, and the resulting collapse of nonessential economic activity will have a dramatic impact on the availability of federal, state, and local funding. Short-term revenue decreases will cause extraordinary budgetary constraints. OCTA collects approximately \$48 million annually in transit fares, which partially fund bus operations that help our agency maintain ridership. Transit fare are expected to decrease significantly as a result of our current ridership decline. OCTA will also see a severe decline in revenues from Orange County's half-cent sales tax dedicated to transportation improvements, Measure M2. During the Great Recession, OCTA saw a 20 percent decrease in sales tax revenue and ridership levels never fully recovered. If the impacts are similar from COVID-19, long-lasting impacts will be felt systemwide. Similarly, gas tax revenues are likely to

fall as people across the country heed social distancing guidance, which will only exacerbate the Highway Trust Fund's on-going structural revenue deficit. Given the likelihood of long-term revenue instability, OCTA is planning for an uncertain future while maintaining our long-standing commitment to fiscal responsibility."

SCAG must engage OCTA and all other transportation agencies in response to a public health pandemic that has truly shifted mobility methods, transit patterns, and the way people utilize public transportation within the region. Decreased OCTA funding and reduced on-time performance reliability⁴ indicates that the identification of HQTAs within the SCAG region, including in Huntington Beach, must be reevaluated as part of the RTP/SCS and RHNA process. If the approved RHNA methodology and associated HQTAs is implemented, GHG emissions will be increased severely as 1.3 million housing units will be constructed without HQTAs service as defined by PRC 21155 (b).

Conclusion

Based upon the foregoing analysis, real and appreciable damages will be sustained by the City of Huntington Beach and current/future Californians if the RHNA and RTP/SCS process do not acknowledge and analyze this information and modify the proposed RHNA numbers. SCAG and HCD must reconsider RHNA and RTP/SCS process in compliance with state law.

Sincerely,



Oliver Chi
City Manager

Cc: Lyn Semeta, Mayor
Michael Gates, City Attorney
Mike Vigliotta, Chief Assistant City Attorney
Ursula Luna-Reynosa, Director of Community Development
Jennifer Villasenor, Deputy Director of Community Development
Nicolle Aube, Associate Planner

⁴ OCTA June 22, 2020 Board Agenda Packet - Item 22: Bus Operations Performance Measurement
<https://octa.legistar.com/View.ashx?M=E1&ID=749492&GUID=340A1A00-DE29-4B85-845E-B1697E8B9FB7>



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Transportation
Cheryl Viegas-Walker, El Centro

MEETING OF THE

TECHNICAL
WORKING GROUP

Thursday, October 17, 2019
10:00 a.m. – 12:00 p.m.

SCAG OFFICES

**900 Wilshire Blvd., Ste. 1700
Room Policy B
Los Angeles, CA 90017
(213) 236-1800**

HOW TO PARTICIPATE IN MEETING
ON NEXT PAGE

If members of the public wish to review the attachments or have any questions on any of the agenda items, please contact John Asuncion at (213) 236-1936 or via email at asuncion@scag.ca.gov. Agendas & Minutes for the Technical Working Group are also available at: www.scag.ca.gov/committees

SCAG, in accordance with the Americans with Disabilities Act (ADA), will accommodate persons who require a modification of accommodation in order to participate in this meeting. SCAG is also committed to helping people with limited proficiency in the English language access the agency's essential public information and services. You can request such assistance by calling (213) 236-1908. We request at least 72 hours (three days) notice to provide reasonable accommodations and will make every effort to arrange for assistance as soon as possible.



How to Participate

In Person

SCAG Downtown Office Policy B
900 Wilshire Blvd., 17th Floor
Los Angeles 90017
213-236-1800

Videoconference

San Bernardino County

1170 West 3rd Street, Suite 140
San Bernardino, CA 92410
Telephone: (909) 806-3556

Imperial County

1405 North Imperial Ave, Suite 1
El Centro, CA 92443
Telephone: (760) 353-7800

Ventura County

4001 Mission Oaks Blvd., Ste. L
Camarillo, CA 93012
Telephone: (805) 642-2800

Web Meeting

Join from PC, Mac, Linux, iOS or Android:

<https://scag.zoom.us/j/142774637>

Teleconference

Telephone:

Dial: 1-669 900 6833

Meeting ID: 142 774 637



Technical Working Group

September 19, 2019

Attendees Los Angeles Office

Lori Huddleston

Deborah Diep

Warren Whiteaker

Stephanie Cadena

Miles Mitchell

Marika Poynter

Gail Shiomoto-Lohr

Mathew Steig

LA Metro

Center for Demographic Research, California State University Fullerton

OCTA

Gateway Cities COG

City of Los Angeles

City of Irvine

Mission Viejo

Mission Viejo

Attendees Web Meeting/Teleconference

Marnie Primmer

Susan Kim

Caitlin Brooks

Joenne Hwang

Nate Farnsworth

Demi Espinoza

Josh Lee

Ariana Briski

Ben Cacatian

Soyeon Choi

Steve Smith

Marisa Creter

Caitlin Sims

OCCOG

City of Anaheim

VCTC

Anaheim

Yorba Linda

Safe Routes to School

SBCOG/SBCTA

City of Los Angeles

VCAPCD

Los Angeles County

SBCTA

SBGCOG

SGVCOG



Technical Working Group

October 17, 2019
10:00 a.m. – 12:00 p.m.

SCAG Downtown Office – Policy Room B
900 Wilshire Blvd., 17th Floor
Los Angeles 90017

Agenda

Introductions

Discussion Items

- | | | |
|--|-------------------------|---------|
| 1. RHNA Methodology Technical Clarification & Tool Demo | | |
| a. Introduction and Objectives | Ping Chang | |
| b. Estimate Tool Demo on RHNA Data | Kevin Kane | |
| c. Job Accessibility Measure | Kevin Kane & KiHong Kim | |
| d. Transit Accessibility Measure | Philip Law & Jung Seo | 40 mins |
| 2. Connect SoCal Growth Vision Roll-Out to Local Jurisdictions | Kimberly Clark | 10 mins |
| 3. Local Input Base Case GHG Impact Estimation | Kimberly Clark | 15 mins |
| 4. Connect SoCal Draft Plan Performance Outcomes | Michael Gainor | 15 mins |

How to Unmute Phone

Press *6 to unmute your phone and speak

To return to mute *6



Technical Working Group

Agenda Item 1 d.

The following will be included in the forthcoming Connect SoCal, Draft 2020 RTP/SCS Transit Technical Appendix.

HIGH QUALITY TRANSIT CORRIDORS AND MAJOR TRANSIT STOPS

BACKGROUND

The Sustainable Communities and Climate Protection Act of 2008, Senate Bill (SB) 375, requires that Metropolitan Planning Organizations (MPOs) develop a Sustainable Communities Strategy (SCS) to reduce per capita greenhouse gas emissions through integrated transportation, land use, housing and environmental planning. SB 375 creates incentives for residential or mixed-use residential projects that may be exempt from, or subject to a limited review of, the California Environmental Quality Act (CEQA), provided they are consistent with the MPO's adopted SCS. These "transit priority projects" must, among other criteria, be located within one-half mile of a major transit stop or high-quality transit corridor (HQTC).

SB 743, signed into law in 2013, provides further opportunities for CEQA exemption and streamlining to facilitate transit oriented development (TOD). Specifically, certain types of projects within "transit priority areas" (TPAs) can benefit from a CEQA exemption if they are consistent with an adopted specific plan and the SCS. A TPA is an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Federal Transportation Improvement Program (FTIP).

STATUTORY DEFINITIONS

California statute defines [major transit stop](#) and [high quality transit corridor](#) as follows.

CA Pub. Res. Code § 21155(b)

For purposes of this chapter, a transit priority project shall (1) contain at least 50 percent residential use, based on total building square footage and, if the project contains between 26 percent and 50 percent nonresidential uses, a floor area ratio of not less than 0.75; (2) provide a minimum net density of at least 20 dwelling units per acre; and (3) be within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan. A [major transit stop](#) is as defined in Section 21064.3, except that, for purposes of this section, it also includes major transit stops that are included in the applicable regional transportation plan. For purposes of this section, a [high-quality transit corridor](#) means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. A project shall be considered to be within one-half mile of a major transit stop or high-quality transit corridor if all parcels within the project have no more than 25 percent of their area farther than one-half mile from the stop or corridor and if not more than 10

percent of the residential units or 100 units, whichever is less, in the project are farther than one-half mile from the stop or corridor.

CA Pub. Res. Code § 21064.3

"Major transit stop" means a site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods.

METHODOLOGY

For planning and SCS purposes, SCAG identifies a “high quality transit area” as generally a walkable transit village or corridor that is within one-half mile of a major transit stop or HQTC as defined in statute. SCAG’s technical methodology for identifying HQTCs and major transit stops is based on input from the Regional Transit Technical Advisory Committee (RTTAC), as well as consultation with local agencies, other large MPOs in California, and the Governor’s Office of Planning and Research. The methodology and assumptions are discussed below. This methodology may be periodically updated to incorporate revisions or clarifications. Questions should be directed to Steve Fox, at fox@scag.ca.gov, or Philip Law, at law@scag.ca.gov.

SCAG maps and data depicting HQTCs and major transit stops are intended for planning purposes only. SCAG shall incur no responsibility or liability as to the completeness, currentness, or accuracy of this information. SCAG assumes no responsibility arising from use of this information by individuals, businesses, or other public entities. The information is provided with no warranty of any kind, expressed or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose.

Existing HQTCs and Major Transit Stops

SCAG updates its inventory of existing major transit stops and HQTCs with the adoption of a new Regional Transportation Plan (RTP) and SCS, once every four years. Data for the existing (“base year”) condition for the RTP/SCS are typically obtained several years before plan adoption. The base year transit network for *Connect SoCal*, the 2020 RTP/SCS, is based primarily on data for 2016. This inventory of existing major transit stops and HQTCs is therefore only a snapshot in time as of 2016, and does not reflect the existing levels of transit service for any other timeframe.

<insert map of 2016 Base Year “existing” major transit stops and high quality transit corridors>

Transit agencies make adjustments to bus service on a regular basis. Therefore, given the limitations of the RTP/SCS base year transit network, local jurisdictions should consult with the

appropriate transit provider(s) to obtain the latest information on existing transit routes, stop locations, and service intervals before making determinations regarding CEQA exemption or streamlining. It is the responsibility of the lead agency under CEQA to determine if a project meets statutory requirements.

Stop-Based Analysis

SCAG calculates peak commute bus service intervals at the stop level using schedule data published by transit agencies in the General Transit Feed Specification (GTFS) format (see for example, www.transitfeeds.com). An HQTC therefore comprises or is determined by the qualifying stops on an individual bus route.

Peak Period Bus Service Interval (Frequency)

To determine whether the peak commute bus service interval (also called frequency) meets the statutory threshold of 15 minutes or less, SCAG uses the peak period defined in its regional travel demand model. The morning peak is defined as 6am to 9am and the afternoon peak is defined as 3pm to 7pm. A transit operator may have a different, board-adopted or de facto peak period; in such cases SCAG will accept requests to use operator-specific peak-hour periods on a case-by-case basis.

SCAG uses the total population of bus trips during the combined seven-hour morning and afternoon peak periods to determine the peak frequency at a bus stop. This is done for each bus route, by direction. The peak frequency is calculated by dividing 420 minutes (the seven-hour peak converted to minutes) by the total peak bus trips. This average frequency should be 15 minutes or less in order to qualify. The threshold is strict, at 15.0 minutes.

Directional Frequency

A bus route must only meet the 15-minute service interval threshold in one direction to qualify as an HQTC. This is based on RTTAC feedback that transit agencies often operate very peak-directional service or operate predominantly one-way service on a corridor.

Corridors with Multiple Overlapping Bus Routes

Separate but overlapping bus routes that do not individually meet the 15-minute threshold may not be combined in order to qualify as an HQTC. However, based on RTTAC feedback, there are certain corridors where overlapping “line families” or local/bus rapid transit (BRT) lines are intended to function as one bus route. On these corridors, transit riders typically board the first bus available, whether it be a local, express, or BRT line. For these line families or local/BRT corridors, SCAG uses the combined routes to calculate the frequency.

Route Alignment

The entire alignment of a bus route, based on the stops that meet the 15-minute peak frequency threshold, is considered an HQTC. This would include, for example, express bus services that operate along freeways where there are no stops along the freeway right-of-way.

Major Transit Stops and Intersecting Service Transfer Zones

As defined in statute, major transit stops include the intersection of two or more HQTCs. For purposes of transferring between intersecting service, SCAG uses a 500-foot buffer to determine a major transit stop. In other words, two intersecting HQTCs must have stops that are within 500 feet of each other to qualify as a major transit stop. A 500-foot buffer is assumed to be a reasonable limit to the distance that a transit patron would walk to transfer between bus routes. It is also consistent with the Metro Transfers Design Guide definition of a transfer zone.

Amtrak Stations and Ferry Stations

Amtrak intercity passenger rail stations with only limited long-distance service are not automatically included as a major transit stop unless requested by a local agency. Similarly, ferry stations with seasonal and/or non-commuter based service (and that are served by bus or rail transit) are not automatically included as a major transit stop unless requested by a local agency.

Planned HQTCs and Major Transit Stops

Planned HQTCs and major transit stops are future improvements that are expected to be implemented by transit agencies by the RTP/SCS horizon year of 2045. These are assumed by definition to meet the statutory requirements of an HQTC or major transit stop. SCAG updates its inventory of planned major transit stops and HQTCs with the adoption of a new RTP/SCS, once every four years. However, transit planning studies may be completed by transit agencies on a more frequent basis than the RTP/SCS is updated by SCAG. Local jurisdictions should consult with the appropriate transit provider(s) to obtain the latest information on planned transit routes, stop locations, and service intervals/frequencies before making determinations regarding CEQA exemption or streamlining.

<insert map of planned (2045) major transit stops and high quality transit corridors>



Technical Working Group

Agenda Item 4



Draft Connect SoCal Performance Assessment & Monitoring

Technical Working Group
October 17, 2019

Mike Gainor
Compliance & Performance Monitoring

www.scag.ca.gov



Connect SoCal Performance Management



Connect SoCal is a Performance-Based Plan

- **Regional Goals:** More sustainable, location-efficient communities; improved public health & safety; enhanced mobility & accessibility; better quality of life.
- **Federal Requirements:** MAP-21/FAST Act performance measures & targets; Environmental Justice; transportation/air quality conformity.
- **State Mandates:** Regional greenhouse gas (GHG) reduction targets (ARB)

Connect SoCal Performance Analysis

8 performance outcome categories were designated for evaluating Connect SoCal:

- Location Efficiency
- Mobility & Accessibility
- Safety & Public Health
- Environmental Quality
- Economic Opportunity
- Investment Effectiveness
- Transportation System Sustainability
- Environmental Justice



Connect SoCal Performance Results



Connect SoCal will serve to improve travel conditions and air quality throughout the SCAG region, while ensuring an equitable distribution of benefits among our various communities.

Location Efficiency

Share of Regional Household
Growth in HQTAs: +10%

Share of Regional Employment
Growth in HQTAs: +24%

Rural Lands Converted to Urban
Use: -36%

Daily VMT per capita: -4%

Mobility & Accessibility

Person Delay per capita: -23%

Person Delay (HOV): -70%

Person Delay (Arterials): -19%

Truck Delay (Freeways): -21%

Truck Delay (Arterials): -25%

Connect SoCal Performance Results



Safety & Public Health

Air Pollution Related Health Incidents: -4%

Air Pollution Related Health Costs: -4%

Active Transportation Mode Share: +2%

Daily Driving Time per capita: -7%

Environmental Quality

GHG Emissions Reduction (2020): -8%

GHG Emissions Reduction (2020): -19%

PM 2.5 Daily Emissions: -4%

Carbon Monoxide (CO) Daily Emissions: -5%

Economic Opportunity

Annual New Jobs Generated Due to Improved Economic Competitiveness: 195,000+

Annual New Jobs Generated Due to Connect SoCal Investments: 167,000+

Connect SoCal Performance Results



Investment Effectiveness

Connect SoCal Benefit/Cost Ratio:
\$1.00 Investment = \$1.54 Benefit

Transportation System Sustainability

Annual Cost per capita to Maintain System
in State of Good Repair: \$556 (\$1.50 daily)

Environmental Justice

SCAG conducted a comprehensive EJ stakeholder outreach & technical analysis process to ensure that Connect SoCal does not disproportionately impact minority or low income communities & its benefits are equitably distributed



Connect SoCal Co-Benefits



Benefit Category	Comparative Benefit Performance			
	2045 Baseline	Connect SoCal	Savings	% Savings
Local Infrastructure & Services Costs: Capital, operations, & maintenance costs to support new growth: 2016-2045	\$39.9 billion	\$36.1 billion	\$3.8 billion	9.5%
Household Costs: Annual transportation & home energy/water use: 2045	\$13,758	\$13,225	\$533	3.9%
Land Consumption: New (greenfield) land consumed to accommodate new growth: 2016-2045	101 square miles	65 square miles	36 square miles	35.6%
Building Energy Use: Residential & commercial buildings: Cumulative 2016-2045 (British Thermal Units)	15,670 trillion	15,464 trillion	206 trillion	1.3%
Building Energy Costs: Residential & commercial buildings: Cumulative 2016-2045	\$678 billion	\$670 billion	\$8 billion	1.2%
Building Water Use: Residential & commercial buildings: Cumulative 2016-2045 (Acre Feet)	85.7 million	84.7 million	1.0 million	1.2%
Building Water Costs: Residential & commercial buildings: Cumulative 2016-2045	\$117.1 billion	\$115.7 billion	\$1.4 billion	1.2%
Total Annual Vehicle Miles Traveled (VMT): 2045	485.2 million	465.1 million	20.1 million	4.1%



Thank you!



Mike Gainor
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(213) 236-1822
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Monday - Friday NORTHBOUND To: La Habra

	Pacific Coast Hwy K/Lt	Stanch & Garfield	Center & Garfield	Beach & Westminster	Stanch & Katella	Knots Berry Farm	Beach & Imperial	Beach & La Habra	Goldenwest MetroLink Station
A	4:34	4:38	4:48	4:58	4:46	4:55	5:11	5:17	5:33
A	4:29	4:34	4:48	4:58	5:09	5:19	5:30	5:55	6:11
A	4:48	4:58	5:18	5:38	5:48	6:00	6:15	6:41	6:54
A	5:03	5:13	5:38	5:58	6:08	6:20	6:35	6:61	6:74
A	5:30	5:40	5:58	6:08	6:20	6:30	6:45	6:71	6:84
A	5:40	5:51	6:06	6:18	6:30	6:41	6:56	7:22	7:35
A	6:04	6:16	6:38	6:51	7:03	7:24	7:36	7:62	7:75
A	6:24	6:36	6:58	7:11	7:23	7:44	7:56	8:22	8:35
A	6:44	6:56	7:18	7:31	7:46	8:08	8:14	8:40	8:53
A	7:04	7:16	7:38	7:51	8:06	8:28	8:34	9:00	9:13
A	7:24	7:36	7:58	8:11	8:24	8:46	8:52	9:18	9:31
A	7:44	7:56	8:18	8:31	8:44	9:06	9:12	9:38	9:51
A	8:01	8:13	8:38	8:51	9:04	9:26	9:32	10:00	10:13
A	8:21	8:33	8:58	9:11	9:21	9:46	9:52	10:20	10:33
A	8:43	8:55	9:18	9:31	9:44	10:06	10:12	10:40	10:53
A	9:00	9:12	9:37	9:50	10:03	10:25	10:31	11:00	11:13
A	9:16	9:31	9:56	10:09	10:21	10:43	10:49	11:18	11:31
A	9:32	9:47	10:15	10:28	10:40	11:02	11:08	11:38	11:51
A	9:54	10:09	10:37	10:50	11:02	11:24	11:30	12:00	12:13
A	10:17	10:33	10:57	11:10	11:22	11:44	11:50	12:20	12:33
A	10:37	10:53	11:18	11:30	11:46	12:08	12:15	12:45	12:58
A	11:02	11:15	11:38	11:53	12:06	12:28	12:35	13:05	13:18
A	11:27	11:30	11:58	12:12	12:26	12:48	12:55	13:25	13:38
A	11:57	12:00	12:28	12:34	12:48	13:10	13:17	13:47	13:60
A	12:17	12:12	12:40	12:54	1:08	1:30	1:37	1:40	1:53
A	12:37	12:32	1:00	1:14	1:28	1:50	1:57	2:00	2:13
A	12:57	12:52	1:20	1:35	1:49	2:10	2:17	2:20	2:33
A	1:15	1:12	1:40	1:55	2:09	2:30	2:37	2:40	2:53
A	1:35	1:33	2:01	2:17	2:38	3:00	3:07	3:10	3:23
A	1:56	1:52	2:20	2:36	2:54	3:16	3:23	3:26	3:39
A	1:58	2:12	2:40	2:57	3:11	3:33	3:40	3:43	3:56
A	2:18	2:32	3:01	3:18	3:33	3:55	4:02	4:05	4:18
A	2:38	2:52	3:20	3:37	3:52	4:14	4:21	4:24	4:37
A	2:58	3:11	3:39	3:56	4:12	4:37	4:44	4:47	4:60
A	3:17	3:30	3:58	4:15	4:31	4:56	5:03	5:06	5:19
A	3:37	3:50	4:18	4:35	4:51	5:16	5:23	5:26	5:39
A	3:57	4:10	4:38	4:55	5:10	5:36	5:43	5:46	5:59
A	4:17	4:30	4:58	5:15	5:30	5:56	6:03	6:06	6:19
A	4:37	4:50	5:18	5:35	5:50	6:14	6:21	6:24	6:37
A	4:57	5:10	5:38	5:55	6:10	6:34	6:41	6:44	6:57
A	5:17	5:30	5:58	6:13	6:27	6:54	7:01	7:04	7:17
A	5:39	5:52	6:20	6:34	6:48	7:10	7:16	7:19	7:32
A	6:21	6:34	6:31	6:44	6:58	7:12	7:19	7:26	7:39
A	6:37	6:50	7:09	7:22	7:34	7:46	7:53	8:00	8:13
A	7:01	7:14	7:42	7:54	8:06	8:26	8:32	8:39	8:52
A	7:17	7:30	7:49	8:02	8:14	8:26	8:32	8:39	8:52
A	7:41	7:54	8:22	8:34	8:46	9:06	9:12	9:19	9:32
A	8:08	8:13	8:42	8:45	8:57	9:09	9:15	9:22	9:35
A	8:26	8:38	9:06	9:18	9:29	9:47	9:52	9:59	10:12
A	8:52	9:04	9:23	9:36	9:48	9:59	10:05	10:12	10:25
A	9:26	9:38	10:06	10:17	10:28	10:44	10:49	10:56	11:09
A	9:52	10:04	10:23	10:36	10:47	10:58	11:04	11:11	11:24
A	10:24	10:38	11:06	11:16	11:27	11:43	11:48	11:55	12:08
A	10:57	11:09	11:28	11:38	11:48	11:59	12:05	12:12	12:25
A	11:32	11:44	12:12	12:22	12:33	12:49	12:54	13:01	13:14

Monday - Friday SOUTHBOUND To: Huntington Beach

	Beach & La Habra	Beach & Imperial	Buena Park MetroLink Station	Knots Berry Farm	Beach & Katella	Beach & Westminster	Coitwood & Center	Beach & Garfield	Pacific Coast Hwy K/Lt
A	4:46	5:00	5:15	5:24	5:32	5:45	5:56	6:06	6:19
A	4:54	5:04	5:22	5:35	5:46	5:57	6:08	6:18	6:31
A	5:27	5:41	5:53	6:06	6:17	6:28	6:36	6:46	6:59
A	6:01	6:15	6:26	6:37	6:47	6:57	7:09	7:19	7:32
A	6:04	6:21	6:33	6:44	6:55	7:11	7:22	7:32	7:45
A	6:40	6:53	7:06	7:17	7:27	7:43	7:54	8:04	8:17
A	6:58	7:11	7:21	7:35	7:45	8:10	8:21	8:31	8:44
A	7:18	7:31	7:41	7:55	8:05	8:30	8:41	8:51	9:04
A	7:39	7:53	8:11	8:25	8:35	8:52	9:03	9:13	9:26
A	7:58	8:15	8:31	8:45	8:56	9:13	9:24	9:34	9:47
A	8:18	8:35	8:51	9:05	9:16	9:33	9:44	9:54	10:07
A	8:38	8:55	9:10	9:25	9:36	9:53	10:04	10:14	10:27
A	8:58	9:15	9:28	9:43	9:54	10:11	10:22	10:32	10:45
A	9:18	9:32	9:47	9:58	10:09	10:26	10:37	10:47	10:60
A	9:38	9:52	10:07	10:18	10:29	10:46	10:57	11:07	11:20
A	9:58	10:12	10:27	10:38	10:49	10:52	11:06	11:16	11:29
A	10:18	10:32	10:47	10:58	11:09	11:12	11:26	11:36	11:49
A	10:38	10:52	11:07	11:18	11:29	11:32	11:46	11:56	12:09
A	10:58	11:07	11:20	11:32	11:43	11:55	12:09	12:19	12:32
A	11:20	11:32	12:01	12:16	12:30	12:45	12:50	13:00	13:13
A	11:29	11:41	12:04	12:19	12:34	12:48	13:03	13:13	13:26
A	11:50	12:01	12:15	12:29	12:54	13:08	13:13	13:23	13:36
A	12:08	12:20	12:43	12:58	13:11	13:27	13:44	13:54	14:07
A	12:38	12:50	13:19	13:34	13:48	14:04	14:19	14:29	14:42
A	12:49	1:01	1:24	1:39	1:54	2:08	2:25	2:35	2:48
A	1:16	1:29	1:59	2:14	2:28	2:42	2:59	3:09	3:22
A	1:27	1:40	2:04	2:19	2:34	2:48	3:04	3:14	3:27
A	1:57	2:10	2:40	2:55	3:09	3:23	3:39	3:49	3:62
A	2:08	2:20	2:44	2:59	3:13	3:28	3:42	3:52	4:05
A	2:37	2:49	3:19	3:35	3:48	4:02	4:18	4:28	4:41
A	2:50	3:02	3:25	3:39	3:55	4:07	4:22	4:32	4:45
A	3:18	3:30	3:59	4:15	4:27	4:41	4:57	5:07	5:20
A	3:28	3:41	4:04	4:18	4:33	4:46	5:03	5:13	5:26
A	3:56	4:10	4:37	4:52	5:04	5:20	5:40	5:50	6:03
A	4:08	4:22	4:44	4:57	5:12	5:24	5:40	5:50	6:03
A	4:36	4:50	5:17	5:32	5:44	6:00	6:19	6:29	6:42
A	4:43	4:57	5:23	5:37	5:51	6:03	6:21	6:31	6:44
A	5:15	5:29	5:57	6:11	6:23	6:37	6:51	7:01	7:14
A	5:26	5:41	6:00	6:17	6:30	6:43	7:01	7:11	7:24
A	5:58	6:13	6:39	6:52	7:04	7:17	7:31	7:41	7:54
A	6:17	6:30	6:58	7:02	7:15	7:25	7:40	7:50	8:03
A	6:57	7:08	7:33	7:46	7:56	8:10	8:24	8:34	8:47
A	7:19	7:30	7:50	8:02	8:15	8:25	8:40	8:50	9:03
A	7:55	8:06	8:31	8:44	8:54	9:04	9:14	9:24	9:34
A	8:18	8:29	8:49	9:01	9:14	9:24	9:39	9:49	10:04
A	8:55	9:06	9:31	9:44	9:54	10:04	10:14	10:24	10:34
A	9:22	9:33	9:50	10:01	10:13	10:24	10:39	10:49	11:04
A	9:58	10:09	10:31	10:43	10:54	11:04	11:19	11:29	11:44
A	10:25	10:36	10:51	11:01	11:13	11:23	11:38	11:48	12:03
A	11:00	11:11	11:31	11:43	11:53	12:09	12:15	12:30	12:36
A	11:25	11:36	11:51	12:01	12:13	12:23	12:38	12:48	13:03
A	12:00	12:11	12:31	12:43	12:53	13:09	13:15	13:30	13:36

Saturday NORTHBOUND To: La Habra

	Pacific Coast Hwy K/Lt	Beach & Garfield	Center & Garfield	Beach & Westminster	Beach & Katella	Knots Berry Farm	Buena Park MetroLink Station	Beach & Imperial	Beach & La Habra
A	4:41	4:18	4:35	4:45	4:45	4:54	5:14	5:10	5:14
A	4:46	4:53	5:05	5:15	5:25	5:34	5:49	5:45	5:49
A	5:20	5:36	5:55	6:05	6:06	6:18	6:38	6:34	6:41
A	6:00	6:10	6:23	6:35	6:47	6:59	7:14	7:10	7:14
A	6:46	6:56	7:14	7:24	7:37	7:50	8:04	8:00	8:04
A	7:41	7:53	8:13	8:23	8:41	8:51	9:01	9:06	9:10
A	8:09	8:18	8:33	8:48	8:59	9:12	9:29	9:25	9:29
A	8:42	8:52	9:13	9:29	9:42	9:52	10:02	10:07	10:11
A	9:39	9:59	9:30	9:45	9:58	10:11	10:26	10:22	10:26
A	9:26	9:37	10:05	10:18	10:31	10:44	10:59	11:05	11:09
A	9:41	9:52	10:13	10:26	10:39	10:52	11:07	11:13	11:17
A	10:08	10:19	10:45	10:58	11:11	11:24	11:39	11:45	11:49
A	10:18	10:29	10:50	11:03	11:16	11:29	11:44	11:50	11:54
A	10:44	10:56	11:23	11:36	11:50	12:03	12:18		

Saturday
SOUTHBOUND To: Huntington Beach

	Beach & La Habra	Beach & Imperial	Sierra Park Metrolink Station	From Berry Farm	Beach & Knolls	Beach & Westminster	Goldard & Center	Beach & Garden	Pacific Coast Hwy At Lu	
A	4:31	4:31			4:53	5:04	5:14		5:29	5:41
			5:22	5:35	5:44	5:54	6:01	6:14	6:26	
A	5:43	5:53		6:11	6:22	6:34		6:53	7:06	
			6:37	6:51	7:02	7:14	7:23	7:36	7:51	
A	6:53	7:06		7:29	7:40	7:55		8:16	8:30	
			7:59	7:58	8:08	8:24	8:35	8:50	9:04	
A	7:46	7:59		8:22	8:36	8:52		9:14	9:29	
			8:56	8:55	9:08	9:23	9:34	9:50	10:06	
A	8:46	8:59		9:22	9:35	9:50		10:11	10:27	
			9:24	9:45	9:56	10:10	10:21	10:37	10:56	
A	9:24	9:37		10:01	10:15	10:30		10:53	11:07	
			10:01	10:21	10:35	10:50	11:01	11:20	11:34	
A	10:53	10:17		10:42	10:55	11:10		11:36	11:52	
			10:40	11:00	11:15	11:30	11:42	12:08	12:23	
A	10:51	10:55		11:20	11:35	11:50		12:19	12:34	
			11:20	11:40	11:55	12:10	12:22	12:48	13:03	
A	11:21	11:35		12:00	12:15	12:30		12:59	13:14	
			11:56	12:16	12:32	12:48	13:02	13:28	13:45	
A	11:58	12:13		12:40	12:55	13:10		13:39	13:53	
			12:37	13:00	13:14	13:30	13:42	20:5	20:0	
A	12:38	12:53		13:10	13:34	13:50		21:7	23:2	
			1:17	1:40	1:54	2:10	2:22	2:45	2:50	
A	1:17	1:32		1:59	2:14	2:30		2:58	3:15	
			1:54	2:19	2:34	2:50	3:02	3:26	3:49	
A	2:00	2:14		2:40	2:55	3:10		3:37	3:55	
			2:37	2:59	3:14	3:29	3:41	4:04	4:20	
A	2:40	2:54		3:20	3:33	3:46		4:12	4:28	
			3:18	3:39	3:52	4:07	4:18	4:38	4:54	
A	3:18	3:32		3:58	4:11	4:26		4:50	5:06	
			3:58	4:19	4:32	4:45	4:55	5:13	5:30	
A	3:58	4:12		4:38	4:51	5:04		5:26	5:43	
			4:35	4:45	5:09	5:22	5:32	5:48	6:03	
A	4:37	4:50		5:15	5:29	5:42		6:03	6:18	
			5:15	5:33	5:48	6:02	6:12	6:28	6:43	
A	5:16	5:29		5:53	6:09	6:23		6:43	6:56	
			5:57	6:15	6:29	6:42	6:54	7:09	7:22	
A	5:56	6:09		6:35	6:49	7:02		7:23	7:36	
			6:37	6:55	7:09	7:22	7:32	7:49	8:02	
A	6:36	6:49		7:15	7:29	7:42		8:03	8:16	
			7:28	7:45	7:59	8:12	8:22	8:37	8:50	
A	7:38	7:51		8:15	8:29	8:42		9:02	9:15	
			8:28	8:45	8:59	9:12	9:22	9:37	9:50	
A	8:44	8:56		9:18	9:30	9:42		10:00	10:12	
			9:31	9:48	10:00	10:12	10:21	10:35	10:47	
A	9:44	9:56		10:18	10:30	10:42		11:00	11:12	
			10:29	10:46	10:58	11:10	11:19	11:33	11:45	
A	10:44	10:56		11:18	11:30	11:42		12:00	12:12	
			11:34	11:51	12:02	12:12	12:20	12:33	12:44	
A	11:51	12:02		12:21	12:32	12:42		12:58	1:00	

Sunday & Holiday
NORTHBOUND To: La Habra

	Pacific Coast Hwy At Lu	Beach & Garden	Center & Goldard	Beach & Westminster	Beach & Knolls	From Berry Farm	Beach & Imperial	Beach & La Habra	Sierra Park Metrolink Station	
A	5:11	5:20		5:37	5:47	5:56	6:14	6:19		
			6:08	6:17	6:27	6:38			6:52	
A	6:30	6:40		6:57	7:08	7:21	7:38	7:44		
			7:08	7:24	7:37	7:49	8:02		8:16	
A	7:34	7:45		8:07	8:19	8:32	8:50	8:55		
			8:31	8:44	8:56	9:09			9:23	
A	8:41	8:52		9:14	9:26	9:39	9:57	10:02		
			9:31	9:45	9:58				10:12	
A	9:50	9:30		9:52	10:04	10:17	10:35	10:40		
			9:29	9:41	9:54	10:24	10:36		10:51	
A	9:48	10:00		10:32	10:45	10:57	11:19	11:26		
			10:10	10:22	10:39	11:05	11:17		11:32	
A	10:28	10:40		11:12	11:25	11:37	11:59	12:06		
			10:49	11:01	11:18	11:31	11:44	11:56		12:11
A	11:08	11:20		11:52	12:05	12:17	12:39	12:46		
			11:31	11:43	12:00	12:13	12:26	12:38		12:53
A	11:47	12:00		12:32	12:45	12:57	1:20	1:27		
			12:05	12:18	12:37	12:51	1:04	1:16		1:34
A	12:27	12:40		1:12	1:25	1:37	2:00	2:07		
			12:47	1:00	1:19	1:33	1:46	1:58		2:18
A	1:08	1:21		1:50	2:06	2:18	2:41	2:48		
			1:27	1:40	1:59	2:13	2:36	2:38		2:54
A	1:48	2:01		2:30	2:46	2:58	3:21	3:28		
			2:08	2:21	2:40	2:54	3:07	3:19		3:37
A	2:28	2:41		3:13	3:28	3:38	4:01	4:08		4:14
			2:51	3:03	3:20	3:33	3:46	3:56		
A	3:09	3:21		3:55	4:06	4:16	4:36	4:43		4:54
			3:31	3:43	4:00	4:13	4:26	4:36		
A	3:49	4:01		4:33	4:46	4:56	5:16	5:23		5:34
			4:11	4:23	4:40	4:53	5:06	5:16		
A	4:29	4:41		5:13	5:26	5:36	5:56	6:03		6:14
			4:51	5:03	5:20	5:33	5:46	5:56		
A	5:09	5:21		5:53	6:06	6:16	6:36	6:43		6:54
			5:31	5:43	6:00	6:13	6:26	6:36		6:44
A	5:49	6:01		6:33	6:46	6:56	7:16	7:23		7:34
			6:11	6:23	6:40	6:53	7:06	7:16		
A	6:29	6:41		7:13	7:26	7:36	7:56	8:03		8:18
			6:55	7:07	7:24	7:37	7:50	8:00		
A	7:22	7:35		8:07	8:18	8:26	8:46	8:53		9:10
			7:51	8:04	8:20	8:34	8:45	8:53		
A	8:29	8:41		9:01	9:13	9:23	9:42	9:46		10:06
			8:50	9:02	9:17	9:28	9:40	9:50		
A	9:25	9:37		9:57	10:09	10:19	10:38	10:42		11:06
			9:50	10:02	10:17	10:28	10:40	10:50		
A	10:27	10:39		10:58	11:11	11:21	11:40	11:44		12:08
			10:51	11:03		11:23	11:35	11:45	12:04	12:08

A = These trips serve the Goldenwest Transportation Center.
Estos viajes se detienen en el Centro de Transporte Goldenwest.

Sunday & Holiday
SOUTHBOUND To: Huntington Beach

	Beach & La Habra	Beach & Imperial	Sierra Park Metrolink Station	From Berry Farm	Beach & Knolls	Beach & Westminster	Goldard & Center	Beach & Garden	Pacific Coast Hwy At Lu
A	5:12	5:21		5:36	5:46	5:55		6:15	6:29
			6:02	6:17	6:29	6:39	6:47	7:01	7:15
A	6:30	6:40		6:58	7:10	7:21		7:39	7:53
			7:22	7:37	7:49	8:00	8:10	8:24	8:38
A	7:37	7:47		8:05	8:17	8:28		8:46	9:00
			8:17	8:33	8:45	8:56	9:06	9:20	9:34
A	8:26	8:38		8:59	9:11	9:24		9:45	10:00
			9:08	9:24	9:36	9:49	9:59	10:16	10:31
A	9:11	9:23		9:44	9:56	10:09		10:30	10:45
			9:48	10:04	10:16	10:29	10:39	10:56	11:11
A	10:10	10:23		10:24	10:36	10:49		11:10	11:25
			10:27	10:42	10:53	11:09	11:20	11:38	11:51
A	10:28	10:40		11:02	11:13	11:29		11:51	12:04
			11:01	11:18	11:32	11:47	11:59	12:20	12:37
A	11:03	11:17		11:28	11:33	12:08		12:32	12:45
			11:42	11:59	12:13	12:28	12:40	13:01	13:18
A	11:43	11:57		12:19	12:33	12:48		13:12	13:29
			12:22	12:39	12:53	1:08	1:20	1:41	1:58
A	12:25	12:39		1:01	1:15	1:30		1:54	2:11
			1:05	1:22	1:36	1:51	2:03	2:24	2:41
A	1:06	1:20		1:42	1:56	2:11		2:35	2:52
			1:45	2:02	2:16	2:31	2:43	3:04	3:21
A	1:46	2:00		2:22	2:36	2:51		3:15	3:32
			2:25	2:42	2:56	3:11	3:23	3:44	4:01
A	2:26	2:40		3:02	3:16	3:31		3:55	4:12
			3:05	3:22	3:36	3:51	4:03	4:24	4:41
A	3:09	3:23		3:45	3:58	4:11		4:33	4:48
			3:47	4:05	4:18	4:31	4:42	5:00	5:15
A	3:48	4:02		4:24	4:37	4:50		5:12	5:27
			4:25	4:43	4:56	5:09	5:20	5:38	5:53
A	4:27	4:41		5:03	5:16	5:29		5:51	6:06
			5:10	5:27	5:38	5:49	5:59	6:15	6:29
A	5:14	5:27		5:47	5:58	6:09		6:29	6:43
			5:49	6:06	6:17	6:28	6:38	6:54	7:08
A	5:54	6:07		6:27	6:38	6:49		7:09	7:23
			6:30	6:47	6:58	7:09	7:19	7:35	7:49
A	6:34	6:47		7:07	7:18	7:29		7:49	8:03
			7:10	7:27	7:38	7:49	7:59	8:15	8:29
A	7:24	7:37		7:57	8:08	8:19		8:39	8:53
			8:10	8:27	8:38	8:49	8:59	9:15	9:29
A	8:26	8:37		8:57	9:09	9:19</			



October 11, 2020

e BUS BOOK

EFFECTIVE THROUGH FEBRUARY 14,
EFFECTIVO HASTA EL 14 DE FEBRERO

ROUTES MINOR SCHEDULE UPDATE COVID-19 UPDATES



PART OF THE
NATIONAL PLEDGE
FOR SAFETY

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

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FARES

OC Bus offers you a variety of ways to pay for your trip, including:

1. CASH FARE
2. PREPAID PASSES
3. OC BUS MOBILE APP

GO MOBILE.
No cash? No problem.
Download today and ride cashless!



PAYING YOUR FARE

- Please have your exact fare, pass, or OC Bus app ready when boarding the bus.
- Exact change is required when paying by cash. Fareboxes do not make change, and drivers do not carry cash or make change.
- OC Bus fareboxes accept all coins (except pennies) and bills \$10 and under.

REDUCED FARES

- Reduced fares are available for Seniors (age 60+) and Disabled Persons (including Medicare card holders)¹. Reduced fares are also available for youth (age 6 through 18).
- If paying a senior or disabled reduced fare, you must show identification each time you purchase a pass and when you board a bus (see page 5).
- Up to three young children (age 5 and under) may ride FREE with each fare-paying customer.

CASH FARES	LOCAL (1-499, 529, 543, 560 & 862)	OC EXPRESS (206 & 213)	EXPRESS (701, 721, 794)
REGULAR Additional fare if using valid OC Bus pass or transfer	\$2.00	\$4.00 \$2.00	\$7.00 \$5.00
SENIOR AND DISABLED¹ Additional fare if using valid OC Bus pass or transfer	\$0.75	\$3.50 \$2.75	\$6.00 \$5.25
ACCESS ELIGIBLE FIXED-ROUTE (OCTA ACCESS ID Card required)	\$0.25	NA	NA

Cost per boarding. No transfers issued. For more information on transfers see page 9.

ONE DAY PASSES	LOCAL (1-499, 529, 543, 560 & 862)	OC EXPRESS (206 & 213)	EXPRESS (701, 721, 794)
REGULAR	\$5.00	\$8.00	\$14.00
SENIOR AND DISABLED¹	\$1.50	\$7.00	\$12.00

Bus riders may purchase a one-day pass from the bus driver, using cash. The passes are valid until 2:59 AM on the following date of purchase.

PREPAID PASSES		Prepaid passes are available at over one hundred local retailers plus local Ralphs, Vons, Pavilions and Northgate Markets. Visit ocbus.com/buyapass to purchase prepaid bus passes online, or to find a retailer where you can buy a pass. Passes may also be purchased via phone at 714-560-5932, weekdays between 8:00 am to 2:00 pm.
ONE-DAY PASS		<p>(1) Must show proof of age, disability or medicare card to operator. Senior citizens (age 60 & older) must show a valid driver's license, California DMV ID card, Medicare card or OCTA Senior Reduced Fare ID card as proof of age. Persons with disabilities see page 5 for a list of accepted Reduced Fare ID Cards.</p> <p>Fares and policies are subject to change. Some restrictions apply. Passes are non-refundable, non-transferable and subject to OCTA's Schedule of Tariffs.</p>
Regular	\$4.50	
Senior and Disabled ¹	\$1.35	
30-DAY PASS		
Regular	\$69.00	
Senior and Disabled ¹	\$22.25	
Youth (ages 6-18)	\$40.00	
Youth Summer Pass (ages 6-18) Valid June 1 - August 31	\$20.00	
OC Express (206, 211, 213 only)		
Regular	\$120.00	
Senior & Disabled ¹	\$105.00	
Express (Routes 701, 721, 794)		
Regular	\$210.00	
Senior & Disabled ¹	\$180.00	

REDUCED FARES

Customers paying a Senior or Disabled bus fare, and customers using a Senior or Disabled bus pass, must show identification each time they purchase and board a bus. Please be prepared to show one of the accepted forms of identification listed on this page or the bottom of page 4. For more information, call the Reduced Fare ID section at 714-560-5596.

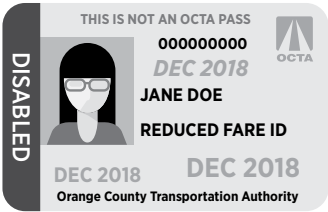
ACCEPTABLE ID CARDS

The following Reduced Fare ID cards are ACCEPTED by Coach Operators when boarding the bus. OCTA Coach Operators will also accept other valid transit agencies' persons with disabilities cards or DMV Disabled Person Placard customer receipt copy.

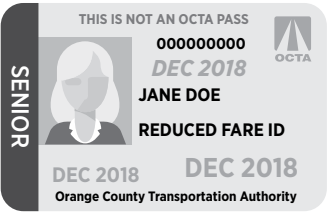
ACCESS ELIGIBLE FIXED-ROUTE REDUCED FARES

The local fare for OC ACCESS eligible riders and Personal Care Assistants (PCAs) while assisting OC ACCESS eligible customers riding the local fixed-route service is \$0.25 per boarding. PCA's traveling without OC ACCESS eligible riders pay full fare. This does not apply to the purchase of a day pass. The price of a Senior or Disabled Day Pass is \$1.50 (see page 4). For more information, please call the OC ACCESS Eligibility Department at 714-560-5956. All buses are accessible to persons with disabilities.

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)



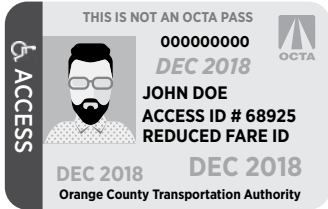
OCTA Reduced Fare ID Card



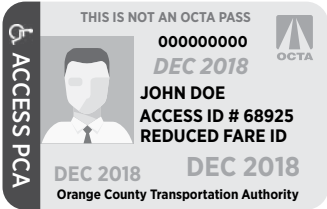
OCTA Senior Reduced Fare ID Card



Service Connected Veteran ID Card



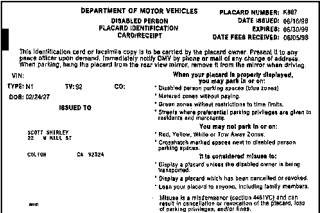
OCTA ACCESS Reduced Fare ID Card



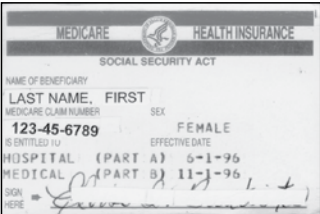
OCTA ACCESS PCA Reduced Fare ID Card



Braille Institute ID Card



DMV Placard Receipt



Medicare Card

BUS RIDING TIPS

TIMES ARE ESTIMATED

Please arrive at the bus stop at least 10 minutes early. Bus schedules can change. Watch for brightly colored Riders' Alerts in schedule racks on buses.

HAVE EXACT FARE READY

Fareboxes accept all coins except pennies and all bills \$10 and under. Fareboxes do not make change. Use quarters instead of smaller coins to avoid delays. Flatten out bills, including corners. You may instead swipe your pass, it's easier to use and saves you money, too. Also show proper ID if using a Senior or Disabled Pass each time you board a bus.

LAUNCH YOUR MOBILE APP

Launch your OC Bus mobile app before boarding and have the pass ready to scan.

PREPARE BEFORE YOU BOARD

- Wait for the bus to stop completely before approaching to board or when exiting.
- Never run after a moving bus.
- Always stay in plain view of the bus operator while using the bike racks; and remove all items from your bike.
- Bring all your items with you when you board. Passengers are not permitted to get on/off the bus multiple times to load personal belongings.
- Have strollers and carts folded and ready to board before the bus approaches. Strollers and carts may not block the aisle and must remain folded until you exit the bus.

BOARD THROUGH FRONT DOORS

When the bus stops, board from the front. All buses are accessible to persons with disabilities.

RIDE SAFELY

- The bus may move before you are seated, always hold on and be prepared.
- When a seat is available, sit; do not remain standing. If standing, always hold on.
- Do not stand near or lean against the back door.
- Always remain behind the yellow or white line near the front of the bus.
- If using a wheelchair, always allow the bus operator to secure your wheelchair.

EXITING AT YOUR STOP

As your bus stop approaches, signal the driver to stop by ringing the chime or pulling the signal cord. When exiting the bus, go to the rear and press and release the yellow strips on the doors. Once the doors open, exit quickly, allowing children to go first.

USING THE BIKE RACK

All OCTA buses are equipped with bike racks. Each bike rack holds two bikes. Racks are available on a first-come, first-served basis. If the rack is full, bikes are not permitted inside buses, except for the last trip of the day, unless it presents a safety concern. Acceptable bicycle specifications:

Wheel Size

20 – 29 inches in diameter

Wheelbase

44 inches maximum axle to axle

Tire Width

No more than 2.35 inches maximum

BUS RIDING COURTESY

Help make bus travel pleasant for everyone by riding smart.

- 1 No smoking or eating** on the bus. Electronic smoking devices, such as electronic cigarettes, are prohibited on any OC Bus.
- 2 Bringing drinks.** Drinks must be in a spill proof or covered container. No alcohol allowed.
- 3 No combustible materials.** No gas powered bicycles, scooters, car batteries, fireworks or other combustible materials are allowed on the bus.
- 4 Strollers** must be folded prior to boarding the bus.
- 5 Surfboards** are permitted as long as they do not exceed 6 feet, 6 inches in length.
- 6 Service animals** are allowed to accompany persons with disabilities. That person is responsible for the actions of the animal while aboard the bus. Service animals cannot occupy seats and must remain on the floor at all times, making sure not to block the aisle, path of travel, access doors, or lift.
- 7 Devices with speakers.** All radios, mp3 players, cd players, and cell phones must be used with headphones.
- 8 No soliciting.** Handing out any written material, solicitation or advertisement is not allowed.
- 9 Front seats.** Please keep front seats available for disabled persons and senior citizens.
- 10 Your bus driver.** Do not talk to or distract the bus operator while a bus is moving.

OC BUS MOBILE APP

OC BUS MOBILE APP: EVERYTHING YOU NEED TO RIDE, RIGHT ON YOUR PHONE!

Join the growing number of OC Bus riders using their smartphone, and our convenient mobile ticketing app, to plan, pay and ride. Our app offers riders many security features, payment options, plus an intuitive interface. You'll have access to current bus route information and planning tools that will help you navigate the OC by bus.

To get started simply download from the Apple App Store or Google Play.

KEY FEATURES

- Purchase using Google Pay or Apple Pay
- Make repeat purchases quickly
- Use Touch ID or Face ID security
- Enjoy simplified multi-rider tickets
- Transfer tickets easily when upgrading phones
- Navigate faster with large, simple interface
- Board quickly using full-screen ticket

TYPES OF PASSES AVAILABLE

The OC Bus Mobile App lets you purchase the following passes:

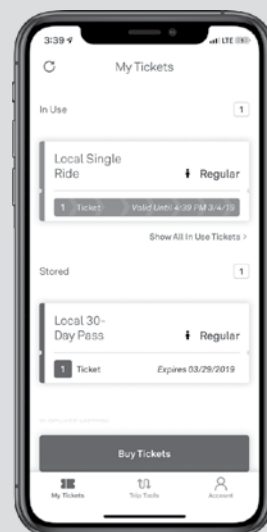
- Local Single Ride
- Local Day Pass
- Local 30-Day Pass
- Youth 30-Day Pass
- Express Single Ride
- Express Day Pass
- Express 30-Day Pass
- OC Express Single Ride
- OC Express Day Pass
- OC Express 30-Day Pass

REDUCED FARES AVAILABLE TOO!

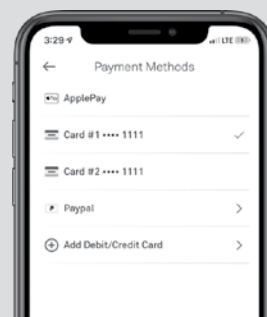
You can purchase reduced college, senior and disabled fares on the OC Bus Mobile Ticketing app. You must have an OCTA issued College, Senior or Disabled Reduced Fare ID Card or electronic mobile number to access the reduced fares.

Need more details?

For information on how to use the OC Bus Mobile App including many frequently asked questions, visit OCBus.com/mobile



Use the My Tickets section to keep your tickets and day passes organized.



Enjoy many payment options including Apple Pay, Google Pay, multiple credit cards and debit cards.



Take advantage of your smartphones Touch ID or Face ID security feature to purchase and use tickets.

READING A SCHEDULE

A
42/A

Seal Beach to Orange

via Seal Beach Blvd / Los Alamitos Blvd / Lincoln Ave **B**

C
Saturday, Sunday & Holiday

D WESTBOUND To: Seal Beach **E**

	The Village at Orange	Lincoln & State College	Lincoln & Harbor	Lincoln & Euclid	Lincoln & Magnolia	Braille Institute	Lincoln & Valley View	Carson & Norwalk	Norwalk & Civic Center	Los Alamitos & Katella	Leisure World	Electric & Main
	5:36	5:54	6:02	6:08	6:16	.....	6:30	.....	G 6:40	6:46	6:53	7:03
	6:26	6:44	6:52	6:58	7:06	.....	7:20	.....	7:30	7:36	7:43	7:53
A	7:11	7:29	7:37	7:43	7:51	7:55	8:10	.....	8:20	8:26	8:33	8:43
A	7:46	8:05	8:16	8:23	8:32	8:36	8:51	.....	9:02	9:10	9:19	9:31
	8:26	8:45	8:56	9:03	9:12	.....	9:27	9:41				
A	8:54	9:13	9:24	9:31	9:40	9:44	10:01	.....	10:12	10:20	10:29	10:41

- A** Bus route numbers are identified as:
 - 1-99 Local bus routes
 - 100-199 Community routes
 - 200-299 Intra-county express routes.
 - 400-499 StationLink routes
 - 500-599 Bravo routes
 - 700-799 Inter-county express routes
- B** City destinations and major streets along the route.
- C** Days the schedule is in effect. Holiday schedules only apply to:
 - New Year's Day
 - Memorial Day
 - Fourth of July
 - Labor Day
 - Thanksgiving Day
 - Christmas Day
- D** Direction of travel.
- E** City or landmark where this route ends its trip. If two cities or landmarks are listed, this indicates the route operates short turn trips. See part H for description of short turn trips.

- F** Scheduled departures are from major bus stops listed. The bus departs at the time specified in the schedule. Between major bus stops there are additional designated bus stops where you may board the bus. The stops are located one to three blocks apart. OC Bus stops are identified by a bus stop sign with information on the route(s) stopping there. You'll need to estimate arrival times for these bus stops. Departures from the non-scheduled bus stops may vary. Schedules may change due to unforeseen circumstances (traffic conditions, detours, weather, emergencies or labor issues), but we will do our best to provide bus service as planned.

Below each scheduled departure you'll see a listing of arrival times. By reading the schedule from left to right, you can follow the movement of the bus as it travels along its route. In the example above, if you board Route 42/A at The Village at Orange at 5:36 a.m., you'd arrive at Leisure World at 6:53 a.m.

Note: p.m. times are in bold print.

- G** When you see ellipses (.....), please note that NO SERVICE IS PROVIDED to that stop on that particular trip. In the example shown, Route 42 does not serve the Braille Institute until 7:55 a.m., even though there are earlier trips at other scheduled departure points.
- H** When you see , please note that this particular trip is operating as a short turn trip and does not offer service along the entire length of the route. Short turn trips either do not start at the beginning of the route or do not go to the end of the route.

TRANSFERRING TO CONNECTING TRANSIT SYSTEMS

OC Bus passes are accepted by most connecting transit systems. For more information call 511, an automated phone system that allows you to connect to over 40 local bus, rail, rideshare, highway and other transportation agencies, including OCTA.

Transferring to

Anaheim Resort Transit (ART)

- ART accepts OC Bus passes on routes: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20 at bus stops where ART buses directly connect with OC Bus.

Transferring to Long Beach Transit

- Long Beach Transit accepts OC Bus One-Day passes for one transfer only on connecting routes.
- OC Bus One-Day Passes are not accepted on return trips originating on Long Beach Transit.

Transferring to Los Angeles Metro

- Metro accepts OC Bus One-Day and 30-Day passes on Metro bus routes 62 and 460 that travel into Orange County or connect with OC Bus. An additional fare may be required to travel on some Metro bus routes.
- Metro Rail lines will not honor OC Bus passes as a transfer.

TRANSFERRING TO OC BUS FROM CONNECTING TRANSIT SYSTEMS

OC Bus accepts valid transfers from connecting transit systems at all transfer points. These transfers are valid for one boarding only and have no value towards the purchase of a day pass. The driver will keep your transfer upon boarding an OC Bus.

Additional fare when transferring to Express routes 701, 721, and 794

- Routes 701, 721 and 794 require an additional \$5.00 fare for regular, or \$5.25 fare for seniors and persons with disabilities, with proper identification.

Additional fare when transferring to OC Express routes 206 and 213

- Routes 206 and 213 require an additional \$2.00 fare for regular, or \$2.75 fare for seniors and persons with disabilities, with proper identification.

Transferring from

Anaheim Resort Transit (ART)

- ART fare media is accepted on OC Bus routes 29, 30, 33, 35, 37, 38, 42, 43, 46, 47, 50, 53, 54, 56, 57, 71, 83, 167, 453 and 543 (all stops where OC Bus directly connect with ART buses).

Transferring from

Long Beach Transit

- Long Beach Transit day passes are accepted on connecting OC Bus routes only.

Transferring from

Los Angeles Metro

- Metro day passes cannot be used on OC Bus, only monthly passes will be accepted. The Los Angeles County Regional EZ Pass is NOT part of this program.
- OC Bus will honor Metro monthly bus passes, MTA TAP and MTA TAP cards with EZ sticker at all bus stops along the line on the nine OC Bus routes that serve Los Angeles County (1, 30, 38, 42, 46, 50, 60, 701 and 721) or at bus stops where OC Bus directly connect with Metro buses. **NOTE: TAP cards are not accepted as transfers on Bravo Route 529 or 560.**

- For MTA 460 transferring customers OC Bus will honor Metro monthly bus passes, MTA TAP cards, or Interagency Transfers for one boarding at the following locations
 - Fullerton Park-N-Ride: Routes 25, 26, 33 and 35
 - La Palma Ave. stops between Magnolia Ave. and Beach Blvd. on Routes 29, 33, 38
 - Disneyland East Shuttle Area (on Harbor Blvd.): Routes 43, 83 and 543
 - Beach Blvd. stops between La Palma Ave. and La Mirada Blvd. on Routes 25, 29, 30, 38, 12:
 - Magnolia Ave. stops between Orangethorpe Ave. and La Palma Ave. on Routes 33, 38

Transferring from

Riverside Transit Agency

- OC Bus will honor RTA one-day and 31-day passes on OC Bus directly connecting with RTA routes 200 and 205.

METROLINK AND AMTRAK TRAIN TRANSFERS

OC Bus routes that **directly connect** with Metrolink and Amtrak Pacific Surfliner trains at or near rail stations will honor valid Metrolink and Amtrak tickets and passes.

OC Bus routes 1, 25, 26, 29, 38, 43, 47, 50, 53, 54, 56, 57, 59, 70, 71, 83, 85, 86, 90, 91, 123, 143, 153, 453, 463, 472, 473, 480, 543, 560, 862 accept valid Metrolink tickets as full fare for travel to and from stations. Passengers must show a valid Metrolink or Amtrak pass or ticket, swipe a valid OC Bus pass (additional fare may be required for express routes), or pay the cash fare to board. Metrolink tickets provide a \$2.00 fare value towards express and OC Express fares.

INFORMATION

QUESTIONS AND HOURS OF OPERATION

OC Bus is here to help. If you have questions or concerns you can always call the OC Bus Customer Information Center at 714-636-RIDE (7433). Bilingual operators are available to help. Hours of operation are noted to the right.

Trip Planning
Customer Service
Pass Sales

Mon-Fri	Sat/Sun	Holidays
7-7	8-6	8-5
8-5	Closed	Closed
8-2	Closed	Closed

CONTACTING US

If you have comments, concerns, or suggestions about OC Bus service, contact Customer Relations by:

E-mail: customers@octa.net

Web: octa.net/comment

Phone: Monday – Friday
 from 8am to 5pm
 714, 949 or 800-636-RIDE
 (7433), extension 2

Mail: P.O. Box 14184
 Orange, CA 92863

CUSTOMER CONDUCT POLICY

Violent, illegal or disruptive conduct will not be tolerated on board the vehicle. Violators will be prosecuted to the fullest extent of the law in accordance with:

- Penal Code Sections 171.7, 594, 640, 640.5 and 16590
- Public Utilities Code Sections 99155 and 99170
- Vehicle Code Section 407.5

For more information, please visit ocbus.com/customerconduct

CUSTOMER SERVICE POLICY

OCTA is committed to providing safe, reliable, courteous, accessible and user-friendly services to its customers. To ensure quality and fairness, OCTA will make reasonable modifications to its policies, practices, and procedures, where necessary, to avoid discrimination on the basis of disability or where the individual with a disability would otherwise be unable to use OCTA services, programs or activities. For additional information about reasonable modification requests, please visit ocbus.com/reasonablemodification.

ACCESS SERVICE

ACCESS service is OCTA's paratransit service for persons with a disability resulting in functional limitations that prevent them from using the regular bus system. In order to use the service, you must schedule an ACCESS in-person assessment, please call ACCESS Eligibility at 714-560-5956 Ext. 2, and meet the Americans with Disabilities Act (ADA) criteria.

Reserving ACCESS

To reserve or cancel an ACCESS trip, check on the status of a ride, or for general ACCESS information, call ACCESS at:

877-OCTA-ADA (628-2232)

TDD phone for the hearing impaired
 800-564-4ADA (4232)

ACCESS Information is also available at ocbus.com.

ACCESS Phone Hours

Monday through Friday
 7:00 a.m. – 5:00 p.m.

Saturday, Sunday and Holidays
 8:00 a.m. – 5:00 p.m.

For information about older adult programs and services, contact the Office on Aging Information and Assistance Call Center at 800-510-2020 or 714-567-7500. Or visit their website at officeonaging.ocgov.com

CALIFORNIA SERVICE DOG FRAUD LAW

If someone attempts to pose a regular pet as a **service dog**, the maximum **penalty** is a \$1,000 fine and up to six months in jail.

- Penal code 365.7

NOTIFICATION OF TITLE VI PROTECTION

Title VI of the Civil Rights Act of 1964 provides that “no person in the United States shall, on the grounds of race, color or nation of origin, be excluded from participation in, be denied the benefits of or be subjected to discrimination under any program or activity receiving federal financial assistance.”

Any person who believes that he or she, individually, or as a member of any specific class of persons, has been subjected to discrimination on the basis of race, color, national origin or other protected-class interests may file a written complaint with the Orange County Transportation Authority (OCTA), the Federal Transit Administration (FTA) or the Secretary of Transportation. Further, OCTA prohibits intimidation, coercion, or engagement in other discriminatory conduct against anyone because he or she has filed a complaint to secure rights protected by Title VI.

To file a complaint in writing or to request more information contact:

E-mail:
 TitleVI-Inquiries@octa.net

Customer Relations:
 714-636-RIDE (7433)

Web:
 octa.net

Hearing Impaired:
 714-636-HEAR (4327) TDD

OCTA LOST & FOUND

Address:
 11903 Woodbury Road
 Garden Grove, CA 92843
 Phone: (714) 560-5934
 Hours:
 Mon – Thurs: 8:00 a.m. – 12:30 p.m. &
 1:30 p.m. – 4:00 p.m.
 Friday Pickup by appointment only

CARRY ON RESTRICTIONS

GUIDELINES FOR SAFE TRANSPORTATION OF CARTS, STROLLERS, CARGO AND PACKAGES ON OC BUS

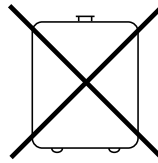
- Riders are limited to two small carry-on items that must fit on their lap or under the seat.
- Carts cannot exceed 30" tall, 18" wide and 18" deep (not including wheels and handle).
- Carts cannot contain loads that exceed the height or capacity of the cart.
- Carry-on items cannot hang off the exterior of carts or wheelchairs.
- Carts, strollers, and carry-ons cannot block aisles, any doors or take seats.
- Carts, strollers, and carry-ons must be loaded in a single trip without assistance.
- No items that are wet, leaking, or considered hazardous will be allowed.
- No large bags of recycled cans or other materials will be allowed.
- Carts, strollers, and carry-ons must be attended and held firmly at all times.
- Carry-on items must stay off wheel wells unless attended and held at all times.
- Passengers with strollers must remove child, collapse the stroller and stay seated with children in their laps at all times.

APPROVED

NOT APPROVED



Smaller than 30" high, 18" wide, 18" deep



Larger than 30" high, 18" wide, 18" deep



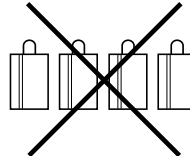
Can be loaded in a single trip



Cannot be loaded in a single trip



No more than two carry-on items



More than two carry-on items



Load does not exceed capacity



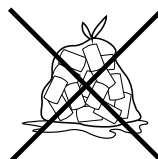
Load exceeds capacity



Does not block aisle



Blocks aisle



Bags of cans or plastic bottles/
leaking items

TARIFAS

OC Bus ofrece a los clientes una variedad de formas de pagar su viaje en autobús, incluyendo:

1. TARIFAS EN EFECTIVO
2. PASES PREPAGADOS
3. OC BUS MOBILE APP

VAYA MÓVIL.
¿Sin efectivo?
¡No hay problema!
¡Descarga hoy la APP
y viaja sin efectivo!



PAGANDO SU TARIFA

- Por favor, tenga su tarifa exacta, pase, o OC bus App listo cuando embarque en el autobús.
- El cambio exacto es requerido cuando se paga en efectivo. Las cajas de pago no dan cambio, y los conductores no llevan efectivo o hacen el cambio.
- Las cajas de pago del OC Bus aceptan todas las monedas (excepto los centavos) y billetes de \$10 o menos.

TARIFAS REDUCIDAS

Tarifas reducidas están disponibles para personas mayores (edad 60) o incapacitadas¹. Las tarifas reducidas también están disponibles para los jóvenes (de 6 a 18 años).

- Si desea pagar las tarifas reducidas para personas mayores (60 años) o incapacitadas, deberá mostrarle al conductor del autobús su identificación cada vez que aborde. (consulte la página 12).
- Pueden viajar GRATIS hasta tres niños de cinco años o menores, si están acompañados por un adulto que haya pagado su tarifa.

TARIFAS EN EFECTIVO	LOCALES (1-499, 529, 543, 560 y 862)	OC EXPRESS (206 y 213)	EXPRESS (701, 721, 794)
TARIFA REGULAR Tarifa adicional cuando se combina con cualquier pase de autobús válido de OCTA o transferencia válida	\$2.00	\$4.00	\$7.00
PERSONAS MAYORES Y INCAPACITADAS¹ Tarifa adicional cuando se combina con cualquier pase de autobús válido de OCTA o transferencia válida	\$0.75	\$3.50	\$6.00
ACCESS ELEGIBLE PARA LA RUTA FIJA (Necesaria tarjeta de ID de OCTA ACCESS)	\$0.25	NA	NA

Costo por viaje: OCTA no emite transbordos. Para obtener más información sobre las transferencias, consulte la página 9.

PASE DE UN DÍA	LOCALES (1-499, 529, 543, 560 y 862)	OC EXPRESS (206 y 213)	EXPRESS (701, 721, 794)
TARIFA REGULAR	\$5.00	\$8.00	\$14.00
PERSONAS MAYORES Y INCAPACITADAS¹	\$1.50	\$7.00	\$12.00

Los pasajeros en autobús pueden comprar un pase de un día del conductor del autobús, en efectivo. Los pases son válidos hasta 2:59 AM del siguiente día.

PASES PREPAGADOS		Puede comprar los pases prepagados de autobús en las sucursales locales de los mercados Ralphs, Vons, Pavilions, y Northgate, así como también en más de 100 tiendas minoristas locales. Para comprar su pase por Internet o recibir una lista de sucursales de venta de pases, visite www.octa.net/buyapass o ordene por teléfono al 714-560-5932 de 8:00 a.m. a 2:00 p.m. Lunes a viernes.
PASE DE UN DÍA		
Regular	\$4.50	
Personas mayores y incapacitadas ¹		
PASE DE 30 DÍAS		
Regular	\$69.00	
Personas mayores y incapacitadas ¹	\$22.25	
Jóvenes (años 6-18)	\$40.00	
Pase de verano para jóvenes (años 6-18) (Válido del 1 de junio al 31 de agosto)	\$20.00	
OC Express (Rutas 206, 211, 213)		
Regular	\$120.00	
Personas mayores y incapacitadas ¹	\$105.00	
Express (Rutas 701, 721, 794)		
Regular	\$210.00	
Personas mayores y incapacitadas ¹	\$180.00	

TARIFAS REDUCIDAS

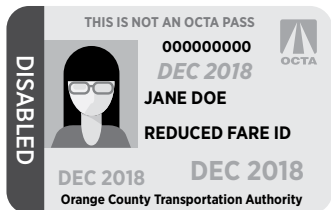
Aquellos clientes que deseen pagar el pasaje de autobús para personas de edad avanzada o discapacitadas, así como aquellos que tengan un pase para personas de edad avanzada o discapacitadas, deberán mostrar identificación cada vez que compran un pase y viaje en el autobús. Favor de estar preparado a mostrar uno de los medios aceptados para la identificación que se detallan en esta página o al pie de página 11. Para obtener más información, llame a la sección de ID de Tarifa Reducida al número 714-560-5596.

TARJETAS DE IDENTIFICACION ACEPTADAS PARA TARIFAS REDUCIDAS

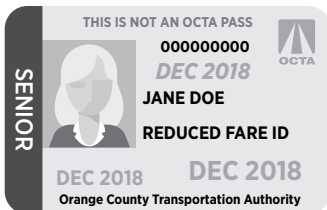
Las siguientes tarjetas de identificación para tarifas reducidas que son ACEPTADAS por el conductor al abordar el autobús. Los conductores de la OCTA también aceptarán las tarjetas de otras entidades de tránsito de personas discapacitadas o el recibo de la placa de DMV para personas discapacitadas.

TARIFAS REDUCIDAS PARA EL SERVICIO DE RUTA FIJA PARA PASAJEROS OCTA ELEGIBLES DE ACCESS:

La tarifa local del servicio de ruta fija para los pasajeros elegibles de ACCESS y asistente personal (PCA) ayudando a los clientes elegibles de ACCESS es \$0.25 por cada trayecto. Esto no aplica a la compra de un Pase Diario. El precio de un Pase Diario para personas de edad avanzada y persona discapacitadas es \$1.50 (vea la página 11). Para obtener más información, llame al Departamento de Elegibilidad al número 714-560-5956. Todos los autobuses son accesibles para personas discapacitadas.



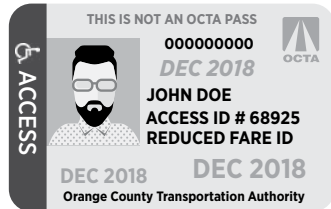
OCTA tarjeta de identificación de tarifa reducida



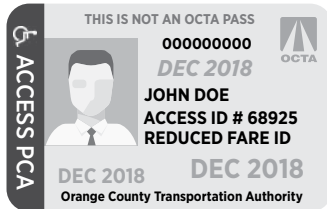
OCTA tarjeta de identificación de tarifa reducida para personas mayores



Tarjeta de identificación de veterano con servicio conectado



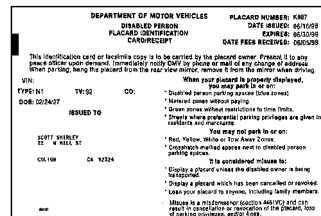
OCTA ACCESS tarjeta de identificación de tarifa reducida



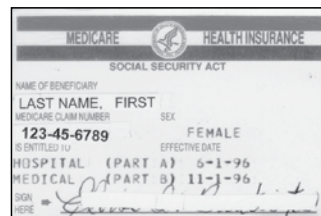
OCTA ACCESS tarjeta de identificación de tarifa reducida



Tarjeta de identificación del Instituto Braille



Recibo del cartel del DMV



Tarjeta de Medicare

CONSEJOS DE VIAJAR EN AUTOBUS

LOS TIEMPOS DE LLEGADA SON ESTIMADOS.

Por favor llegue a la parada con 10 minutos de anticipación por lo menos. Los horarios de autobuses pueden cambiar. Esté atento a las Alertas al Pasajero (Riders' Alerts) de colores vivos en los porta-horarios de los autobuses.

TENGA A LA MANO EL CAMBIO EXACTO.

Las cajas de pago aceptan todas monedas excepto monedas de un centavo y billetes de \$10 o menos, pero no regresan cambio. Utilice monedas de 25 centavos en lugar de monedas de menor denominación para evitar demoras. Alise los billetes, incluyendo las esquinas. También puede deslizar su Pase. Los pases son más fáciles de usar, y le ahorran dinero. Si utiliza un Pase para Personas de Edad Avanzada o Incapacitadas, deberá mostrar identificación adecuada cada vez que suba al autobús.

INICIE SU APLICACIÓN MÓVIL

Inicie su aplicación de OC bus móvil antes de abordar y tenga el pase listo para escanear.

PREPÁRESE ANTES DE ABORDAR

- Espere que el autobús se detenga por completo antes de acercarte para subir o bajar.
- Nunca corra tras un autobús en movimiento.
- Siempre permanezca a la vista del conductor del autobús al usar el portabicicletas; retira todos tus artículos de la bicicleta.
- Asegúrese de llevar todas sus pertenencias cuando suba al autobús. No se permite a los pasajeros que suban/bajen del autobús varias veces para cargar sus pertenencias.
- Las carroelas para bebés y los carritos del mandado deben estar cerrados y listos para subir antes de que se acerque el autobús.

ENTRAR POR LAS PUERTAS DELANTERAS

Cuando el autobús se detenga, súbase por las puertas delanteras. Todos los autobuses son accesibles a personas con incapacidad.

VIAJE SEGURAMENTE

- El autobús puede moverse antes de que tomes asiento. Siempre sujétese y este preparado.
- Cuando hay un asiento disponible, siéntese; no se quede parado. Si está de pie, siempre sostengas.
- No se pare cerca de la puerta trasera ni se apoye en ella.
- Siempre quédese detrás de la línea amarilla o blanca cerca de la parte delantera del autobús.
- Si usa silla de ruedas, siempre permita que el conductor asegure su silla.

SALIR EN SU PARADA

Al acercarse a su parada, indíquele al conductor que se detenga, tocando el timbre o jalando la señal. Para salir del autobús, diríjase a la puerta trasera, y presione y suelte las tiras amarillas sobre las puertas. Al abrirse las puertas, salga rápidamente, permitiendo que los niños salgan primero..

UTILIZANDO REJILLAS PARA BICICLETAS

Todos los autobuses de la OCTA estan equipados con rejillas para bicicletas. Cada rejilla puede alojar dos bicicletas. Si las rejillas estan ocupadas, las bicicletas no están permitidas en los autobuses, excepto en el último viaje del día, cuando es seguro. Especificaciones aceptables de bicicletas:

Tamaño de la rueda

20 a 29 pulgadas de diámetro

Distancia entre ejes

44 pulgadas máxima por eje a eje

Ancho de neumáticos

No más de 2.35 pulgadas máximo

CORTESIA CUANDO VIAJA EN EL AUTOBÚS

Help make bus travel pleasant for everyone by riding smart.

- 1 No fumar o comer** en el autobús. Dispositivos electrónicos de fumar, tales como cigarrillos electrónicos, están prohibidos en cualquier autobús de OCTA.
- 2 Viajando con bebidas.** Las bebidas deben tener un contenedor cubierto o anti derrames. No se permiten bebidas alcohólicas.
- 3** Bicicletas motorizadas, patinetas motorizadas, baterías de automóviles, fuegos artificiales u otros materiales combustibles no son permitidos en el autobús.
- 4** Los carritos de bebé se deben plegar antes de abordar
- 5** Se permiten las tablas de surf siempre y cuando no excedan 6 pies, y 6 pulgadas de largo.
- 6** Se les permite a personas con incapacidad ser acompañadas por animales que les prestan servicio. Dicha persona se responsabiliz por las acciones del animal mientras esté a bordo del autobús. Los animales guía no pueden ocupar asientos y deben permanecer en el piso en todo momento, asegurando que no bloqueen el pasillo, la trayectoria del viaje, las puertas de acceso, o los elevadores.
- 7** Todos los radios, reproductores de mp3, cd's y teléfonos celulares deben usarse con audífonos.
- 8 No se permite solicitar.** No está permitida la distribución de material escrito, solicitud, o propaganda comercial.
- 9 Asientos delantero** Favor de dejar los asientos delanteros disponibles para personas incapacitadas o de edad avanzada.
- 10 Su conductor del autobús.** No hable con el conductor ni lo distraiga mientras el autobús está emovimiento.

APLICACIÓN MÓVIL OC BUS

APLICACIÓN MÓVIL OC BUS: ¡TODO LO QUE NECESITAS PARA VIAJAR, EN SU CELULAR!

Únase al sinnúmero usuarios de OC Bus usando su teléfono inteligente y nuestra aplicación móvil conveniente para planificar, pagar y viajar. Nuestra aplicación les ofrece a nuestros usuarios muchas opciones de pago, funciones de protección, más un interfaz intuitivo. Tendrá acceso a información actual de las rutas de autobús y herramientas para planificar que le ayudara viajar a través del condado de Orange por autobús.

Para comenzar, simplemente descargue la aplicación a través del Apple store o Google Play.

ASPECTOS DESTACADOS

- Compra usando Pago por Google o Pago por Apple
- Repetición fácil de compras
- Uso de sistema de seguridad de huella digital y reconocimiento facial
- Disfruta pases simplificados para múltiples viajeros
- Transfiere boletos fácilmente cuando actualice su teléfono
- Navega rápidamente con un interfaz grande y simple
- Aborde rápidamente escaneando su pase usando la pantalla de su teléfono

TIPOS DE PASES DISPONIBLES

La aplicación móvil de OC Bus le permite comprar los siguientes pases:

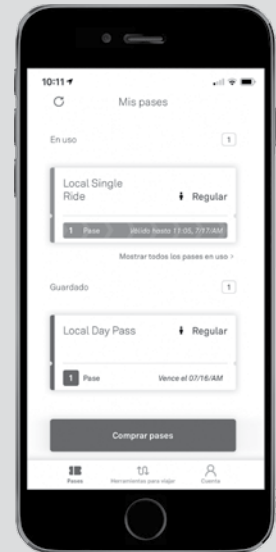
- Pases de un viaje
- Pases de un día
- Pases de 30 días
- Pases de 30 días para jóvenes
- Pases expresos de un viaje
- Pases expresos de un día
- Pases expresos de 30 días
- Pases expresos OC de un viaje
- Pases expresos de OC de un día
- Pases expresos de OC de 30 días

¡TARIFAS A PRECIO REDUCIDO DISPONIBLES TAMBIÉN!

Puede comprar tarifas reducidas de universitario, envejeciente, y discapacitado en la aplicación de OC Bus. Tendrá que tener su tarjeta de identificación de tarifa reducida para universitarios, envejecientes y discapacitados de OCTA o un numero electrónico móvil para acezar la tarifa reducida.

¿Necesita más detalles?

Para más información de cómo usar su aplicación móvil de OC Bus incluyendo una lista de las preguntas más frecuentes (FAQ's), visite OCBus.com/movil



Use the My Tickets section to keep your tickets and day passes organized.



Enjoy many payment options including Apple Pay, Google Pay, multiple credit cards and debit cards.



Take advantage of your smartphones Touch ID or Face ID security feature to purchase and use tickets.

LEYENDO EL HORARIO

42/A

Seal Beach to Orange

via Seal Beach Blvd / Los Alamitos Blvd / Lincoln Ave

Saturday, Sunday & Holiday

WESTBOUND To: Seal Beach

	The Village at Orange	Lincoln & State College	Lincoln & Harbor	Lincoln & Euclid	Lincoln & Magnolia	Braille Institute	Lincoln & Valley View	Carson & Norwalk	Norwalk & Civic Center	Los Alamitos & Katella	Leisure World	Electric & Main
	5:36	5:54	6:02	6:08	6:16	.....	6:30	.....	6:40	6:46	6:53	7:03
	6:26	6:44	6:52	6:58	7:06	.....	7:20	.....	7:30	7:36	7:43	7:53
A	7:11	7:29	7:37	7:43	7:51	7:55	8:10	.....	8:20	8:26	8:33	8:43
A	7:46	8:05	8:16	8:23	8:32	8:36	8:51	.....	9:02	9:10	9:19	9:31
	8:26	8:45	8:56	9:03	9:12	.....	9:27	9:41				
A	8:54	9:13	9:24	9:31	9:40	9:44	10:01	.....	10:12	10:20	10:29	10:41

- A** Números de ruta de autobús:
- 1-99 rutas locales
 - 100-199 rutas comunitarias
 - 200-299 rutas expresas dentro del condado
 - 400-499 rutas del StationLink
 - 500-599 rutas del Bravo
 - 700-799 rutas expresas entre condados

- B** Destinos urbanos y calles principales a lo largo de la ruta.

- C** Días en que el horario aplica. Los horarios de días feriados sólo son valido:
- Año Nuevo
 - Memorial Day
 - Cuatro de Julio
 - Día del Trabajo
 - Día de Acción de Gracias
 - Día de Navidad

- D** Dirección del recorrido.

- E** Ciudad o punto de referencia en que esta ruta termina su recorrido. Si aparecen en el listado dos ciudades o puntos de referencia, esto indica que la ruta opera viajes de recorrido corto (short turn trips). Vea la sección H para una descripción de viajes de recorrido corto.

- F** Las salidas programadas son paradas principales de autobús. El autobús sale a la hora especificada en el horario. Se aconseja a los pasajeros deben llegar a la parada de autobús 10 minutos antes de las horas de salida programadas. Entre cada parada principal de autobús hay paradas adicionales donde puede abordar el autobús, ubicadas cada una a tres cuadras. Las paradas de autobuses de la OCTA se identifican por una señal de parada de autobús indicando qué rutas se paran ahí. Los pasajeros tendrán que calcular las horas de llegada estimadas para estas paradas de autobús. También se recomienda a los usuarios que lleguen a todas las paradas de autobús no programadas, como mínimo, a la hora programada de la anterior parada principal. Las salidas de las paradas de autobús no programadas pueden variar. Los horarios pueden variar debido a circunstancias imprevistas (condiciones del tráfico, desvíos, meteorología, emergencias o trabajos en curso), pero haremos todo lo que esté en nuestra mano para proporcionar los servicios de autobús programados.

Debajo de cada salida programada en el horario vera un listado de las horas a las que el autobús estad en esa ubicación. Leyendo el horario de izquierda a derecha, puede seguir el movimiento del autobús a medida que recorre su ruta. En el ejemplo anterior, si usted aborda la ruta 42/A en Village at Orange a las 5:36 a.m., debería llegar a Leisure World a las 6:53 am. **Nota:** el horario de las tardes aparece en negrillas.

- G** Cuando vea puntos suspensivos (.....), quiere decir que NO SE DARÁ SERVICIO en esa parada de autobús en ese viaje en específico. En el ejemplo anterior, la Ruta 42 no cubre Braille Institute sino hasta las 7:55 a.m., aún cuando haya viajes más temprano en otros puntos de salida programados.
- H** Cuando vea, [] quiere decir que este viaje específico opera como un viaje de recorrido corto, y que no cubre la trayectoria completa de la ruta. Los viajes de recorrido corto pueden no empezar al inicio de la ruta o no llegar al final de la misma.

TRANSBORDO A OTROS SISTEMAS DE TRANSITO

Los pases de OC Bus son aceptados por la mayoría de sistemas de conexiones de tránsito. Para más información llame al 511, un sistema telefónico automatizado que le permite conectarse a 40 autobuses locales, trenes, viajes compartidos, carreteras y otras agencias de transportación, incluyendo la OCTA.

Transbordo a Anaheim Resort Transit (ART)

- ART aceptará los pases de autobús de OC Bus en las rutas: 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 20 en las paradas de los autobuses ART que conectan directamente con OC Bus.

Trasferencia a Long Beach Transit

- Long Beach Transit aceptará el pase de un día de OC Bus para una transferencia solamente en rutas de conexión.
- Pases de un día de OC Bus no será aceptado en los viajes de vuelta que se origina en Long Beach Transit.

Transbordo a Los Angeles Metro

- METRO acepta pases de OC Bus de 30-días y de un-día en las rutas de autobús METRO 62 y 460 que viajan al condado de Orange o conectan con OC Bus. Una tarifa adicional puede ser necesaria para viajar en algunas rutas de autobús de METRO.
- Las líneas de tren de METRO no acepta n pases de la OC Bus como transbordo.

TRANSBORDO A AUTOBUSES DE LA OCTA DESDE OTROS SISTEMAS DE TRÁNSITO DE CONEXIÓN

OC Bus aceptará transbordos validos de otros sistemas de tránsito de conexión en todos los puntos de transbordo. Estos transbordos serán válidos para abordar una sola vez y no se pueden aplicar a la compra de un Pase Diario. El conductor se quedará con su boleto de transbordo al subirse usted a un OC Bus.

Tarifa adicional para transbordos a Expresos rutas 701, 721 y 794

- Las rutas 701, 721 y 794 requieren una tarifa de \$5.00 adicionales para regular, o \$5.25 para personas mayores de 60 o personas discapacitadas que muestren la apropiada identificación.

Tarifa adicional para transbordos a OC Expresos rutas 206 y 213

- Las rutas 206 y 213 requieren una tarifa de \$2.00 adicionales para regular, o \$2.75 para personas mayores de 60 o personas discapacitadas que muestren la apropiada identificación.

Transbordo desde Anaheim Resort Transit (ART)

- Los pases de autobús de ART se aceptaran en las rutas de OC Bus 29, 30, 33, 35, 37, 38, 42, 43, 46, 47, 50, 53, 54, 56, 57, 71, 83, 167, 453 y 543 (en las paradas de OC Bus que conectan directamente con los autobuses de ART).

Transbordo desde Long Beach Transit

- El pase de un día de Long Beach Transit sera aceptado en rutas con conexión de OC Bus.

Transbordo desde Los Angeles Metro

- Los pases diarios de Metro no son válidos en OC Bus, sólo pases mensuales serán aceptados. Los Angeles County Regional EZ Pass no es parte de este programa.
- OC Bus aceptará los pases mensuales de Metro, las tarjetas MTA TAP y tarjetas MTA TAP con etiqueta EZ en las nueve rutas que prestan servicio al Condado de Los Angeles (1, 30, 38, 42, 46, 50, 60, 701, y 721), o en paradas del autobús donde OC Bus se conectan directamente con autobuses de Metro. **NOTA: Las tarjetas TAP no se aceptan como transbordos en la Ruta Bravo 529 o 560.**

- Los clientes que se trasladan de la Ruta 460 MTA pueden presentar un pase mensual de MTA, la Tarjeta TAF o una transferencia interinstitucional, para un embarqu en las siguientes ubicaciones:
 - Fullerton Park-N-Ride: Rutas 25, 26, 33 y 35
 - La Palma Ave. paradas entre Magnolia Ave. y Beach Blvd. solamente en Rutas 29, 33, 38
 - Disneyland East Shuttle Area (on Harbor Blvd.): Rutas 43, 83 y 543
 - Beach Blvd. paradas entre La Palma Ave. y La Mirada Blvd. solamente en Rutas 25, 29, 30, 38, 123
 - Magnolia Ave. paradas entre Orangethorpe Ave. y La Palma Ave. solamente en Rutas 33, 38

Transbordo desde Riverside Transit Agency

- OC Bus honorará RTA pases de un día y de 31 días en OC Bus que conectan directamente con la rutas 200 y 205 de RTA.

TRANSBORDOS A METROLINK Y AMTRAK

OC Bus rutas que se **conecten directamente** con la estación en o cerca de Metrolink y Amtrak Pacific Surfliner aceptaran los tickets y pases de Metrolink y Amtrak.

Los rutas 1, 25, 26, 29, 38, 43, 47/A, 50, 53, 54, 56, 57, 59, 70, 71, 83, 85, 86, 90, 91, 123, 143, 153, 453, 463, 472, 473, 480, 543, 560, 862 de OC Bus, aceptaran boletos válidos de Metrolink para viajar desde o a las estaciones. Los pasajeros deben mostrar un pase de Metrolink o Amtrak válido o boleto deslizar un pase válido de OC Bus (la tarifa adicional puede ser requerida para las rutas expresas), o pagar la tarifa en efectivo a bordar. Los boletos de Metrolink ofrecen un valor \$2 hacia las tarifas express y OC Express.

INFORMACIÓN

PREGUNTAS Y HORAS DE OPERACIÓN

OC Bus está aquí para ayudarle. Si usted tiene preguntas o preocupaciones, usted siempre puede llamar a la OC Bus Centro de Información al Cliente al 714-636-Ride (7433). Los operadores bilingües están disponibles para contestar sus preguntas. Las horas de operación se observan a la derecha.

Planificación de viaje
Servicio de atención al cliente del pase
Ventas del pase

Mon-Fri	Sat/Sun	Holidays
7-7	8-6	8-5
8-5	cerrado	cerrado
8-2	cerrado	cerrado

CONTACTE CON NOSOTROS

Si tiene comentarios, algun problema o sugerencia acerca de nuestro servicio, póngase en contacto con El Departamento de relaciones con los clientes por:

Correo Electrónico:
customers@octa.net

La Web: octa.net/comment

Telefono:

Lunes - Viernes de 8am a 5pm
714, 949 or 800-636-RIDE (7433),
extension 2

Correo: P.O. Box 14184
Orange, CA 92863

POLÍTICA DE CONDUCTA DEL CLIENTE

La conducta violenta, ilegal o disyuntiva no será tolerada a bordo del vehículo. Los infractores serán perseguidos con todo el rigor de la ley, de acuerdo con:

- Código Penal Secciones 171.7, 594, 640, 640.5 y 16.590
- Código de Servicios Públicos de las Secciones 99155 y 99170
- Código de Vehículos de la Sección 407.5

Para obtener más información, visite ocbus.com/customerconduct

PÓLIZA DE SERVICIO AL CLIENTE

La Autoridad de Transporte del Condado de Orange (OCTA) se compromete a proporcionar servicios seguros, fiables, amables, accesibles y fáciles de usar para sus clientes. Para garantizar la calidad y la equidad, la OCTA hará modificaciones razonables a sus políticas, prácticas y procedimientos, cuando sea necesario, para evitar la discriminación por motivos de discapacidad o cuando la persona con discapacidad, de otro modo no podrá utilizar los servicios de OCTA, programas o actividades.

Para obtener información adicional acerca de las solicitudes de modificación

razonables, por favor visite: ocbus.com/reasonablemodification.

SERVICIO ACCESS

El servicio ACCESS es el servicio de paratransito de OCTA para personas con una incapacidad (debido a limitaciones funcionales) que no pueden usar el sistema regular del autobús. Para poder utilizar este servicio, deberá hacer una cita de evaluación en persona con ACCESS, favor de llamar a la línea de elegibilidad de ACCESS al 714-560-5956 Ext. 2, y cumplir los criterios del Acta de Americanos Discapacitados (ADA, Americans with Disabilities Act).

Reservado con ACCESS

Para reservar o cancelar un viaje ACCESS, comprobar el estado del viaje, para obtener información general sobre ACCESS, llame a ACCESS al número: 877-OCTA-ADA (628-2232)

Teléfono TDD para los discapacitados auditivos: 800-564-4ADA (4232)

Solicitudes también disponibles en www.octa.net

Información y Horas de Reservación

Lunes a Viernes 7:00 a.m. – 5:00 p.m.

Sábados, Domingos y Días Feriados
8:00 a.m. – 5:00 p.m.

Para consultar la información sobre servicios y programas para adultos mayores, póngase en contacto con la Oficina de Información y Asistencia para Adultos Mayores (Office on Aging Information and Assistance) al 800-510-2020 ó 714-567-7500. Puede también visitar su sitio web en www.officeonaging.ocgov.com

NOTIFICACIÓN DE PROTECCIÓN BAJO EL TÍTULO VI

El Título VI del Acta de Derechos Civiles de 1964 estipula que “ninguna persona en los Estados Unidos debe, por motivo de su raza, color, origen o nacionalidad, ser excluida de participar, recibir beneficios, o estar sujeta a la discriminación de cualquier programa o

actividad que reciba asistencia financiera federal.”

Cualquier persona que cree que él o ella, individualmente o como miembro de una clase específica de personas, ha sido objeto de discriminación por motivos de raza, color, origen nacional u otros intereses protegidos puede presentar una queja por escrito al Orange County Transportation Authority (OCTA), la Administración Federal del Tránsito (FTA) o la Secretaría de Transporte. Además, OCTA prohíbe la intimidación, la coerción o la participación en una conducta discriminatoria en contra de cualquiera persona porque él o ella ha presentado una denuncia para garantizar los derechos protegidos por el Título VI.

Para presentar una denuncia por escrito o solicitar más información, contactar a:

Correo Electrónico:
TitleVI-Inquiries@octa.net

Customer Relations:
714-636-RIDE (7433)

La Web:
octa.net

Personas con problemas auditivos:
714-636-HEAR (4327) TDD

EL FRAUDE DE PERROS DE SERVICIO
Según la ley de California, falsear que un perro es un animal de servicio entrenado es un delito punible con hasta seis meses de prisión y lo una multa de hasta \$1000.
• Código Penal 365.7

OBJETOS PERDIDOS DE OCTA

Dirección:
11903 Woodbury Road
Garden Grove, CA 92843
Teléfono: (714) 560-5934
Horas:
Lunes a jueves: 8:00 a.m. - 12:30 p.m. y 1:30p.m. - 4:00p.m.
Viernes: Se puede recoger pero solo con cita

RESTRICCIONES DE ARTÍCULOS PERSONALES

INFORMACIÓN PARA EL TRANSPORTE DE CARREOLAS, CARRETAS, PAQUETES Y EFECTOS EN AUTOBUSES DE OCTA.

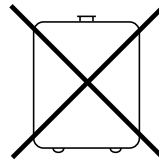
- Pasajeros únicamente tiene permitido llevar dos piezas chicas de equipaje de mano que deben caber debajo del asiento o en sus manos.
- Carritos no son permitidos sobrepasar 30" de altura, 18" de ancho y 18" de grueso (no incluye las llantas y agarradera).
- Carritos no son permitidos contener carga que sobrepasa la altura o capacidad del carrito.
- Equipaje de mano no es permitido contener carga que sobrepase la altura o capacidad del carrito.
- Equipaje de mano no es permitido colgar del exterior de los carritos o silla de ruedas.
- Carritos, carriolas, y equipaje de mano no es permitido bloquear los pasillos o las puertas.
- Carritos, carreolas, y equipaje de mano debe cargarse en un solo viaje asin ayuda.
- No se permitirá equipaje que esté mojado, goteando, o es considerado peligroso.
- No se permitirán bolsas grandes de latas u otros materiales reciclables.
- Carritos, carreolas, y equipaje de mano deben estar asegurados firmemente y cuidados a durante el viaje.
- Equipaje de mano no debe ser colocado en las llantas a menos que vaya asegurada y cuidada.
- Los pasajeros con carriolas deben bajar los niños, doblar la carreola, y permanecer sentados con sus hijos durante el viaje.

APPROVED

NOT APPROVED



Menos de 30" de alto, 18" de ancho, 18" de grueso



Mayor de 30" de alto, 18" de ancho, 18" de grueso



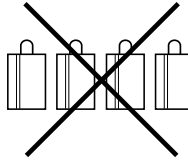
Se puede cargar en un solo viaje



No se puede cargar en un solo viaje



No mas que dos piezas de equipaje de mano



Más que dos piezas de equipaje de mano



Catgo no sobrepasa de capacidad



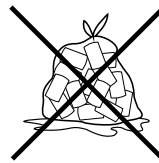
Cargo sobrepasa de capacidad



No obstruye el pasillo



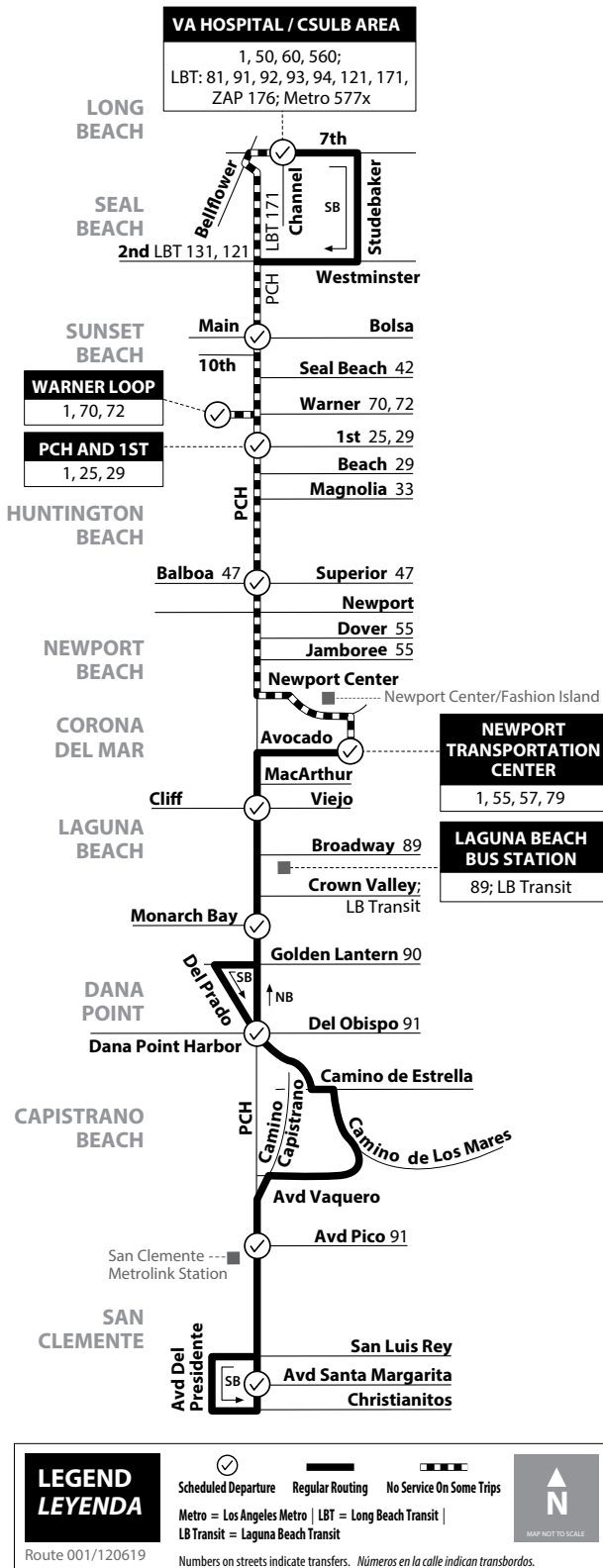
Obstruye el pasillo



Bolsa de latas o botellas de plástico/ objetos goteando

1 Long Beach to San Clemente

via Pacific Coast Hwy



All Days NORTHBOUND To: Long Beach

El Camino & Santa Margarita	El Camino Real & Avd Pico	Pacific Coast Hwy & Del Obispo	Pacific Coast Hwy & Crown Valley	Pacific Coast Hwy & Viejo	Newport Transportation Center	Pacific Coast Hwy & Superior	Coast Highway & Huntington	Warner & Pacific Coast Hwy	Pacific Coast Hwy & Bolsa	7th & Channel
5:37	5:49	6:03	6:12	6:25	6:43	6:56	7:09	7:21	7:30	7:43
6:37	6:49	7:03	7:12	7:25	7:43	7:56	8:09	8:21	8:30	8:43
7:25	7:39	7:54	8:06	8:26	8:43	8:59	9:13	9:27	9:37	9:50
8:25	8:39	8:54	9:06	9:26	9:43	9:59	10:13	10:27	10:37	10:50
9:25	9:39	9:54	10:06	10:26	10:43	10:59	11:13	11:27	11:37	11:50
10:25	10:39	10:54	11:06	11:26	11:43	11:59	12:13	12:27	12:37	12:50
11:16	11:31	11:47	12:00	12:24	12:43	12:58	1:12	1:26	1:38	1:51
12:16	12:31	12:47	1:00	1:24	1:43	1:58	2:12	2:26	2:38	2:51
1:16	1:31	1:47	2:00	2:24	2:43	2:58	3:12	3:26	3:38	3:51
2:16	2:31	2:47	3:00	3:24	3:43	3:58	4:12	4:26	4:38	4:51
3:17	3:32	3:48	4:00	4:22	4:43	4:59	5:11	5:24	5:36	5:49
4:17	4:32	4:48	5:00	5:22	5:43	5:59	6:11	6:24	6:36	6:49
5:17	5:32	5:48	6:00	6:22	6:43	6:59	7:11	7:24	7:36	7:49
6:17	6:32	6:48	7:00	7:22	7:43	7:59	8:11	8:24	8:36	8:49
7:26	7:39	7:54	8:06	8:23	8:44					

SERVICE TO / SERVICIO A	
Long Beach - VA Hospital - Cal State Long Beach	Corona del Mar - Emerald Bay
Seal Beach - Seal Beach City Hall	Laguna Beach - Laguna Beach High School - Laguna Beach Civic Center
Sunset Beach - Mission Hospital	Dana Point - Salt Creek Beach - Dana Point Harbor
Huntington Beach - Ethel Dwyer Middle School - Huntington Beach Pier	Capistrano Beach - Shorecliffs Middle School - San Clemente High School - San Clemente (Metrolink Station)
Newport Beach - Horace Ensign Intermediate School - Newport Harbor High School - Newport Center/Fashion Island - Newport Transportation Center - Newport Civic Center and Park - Hoag Hospital	

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Long Beach to San Clemente

via Pacific Coast Hwy

1

Monday-Friday SOUTHBOUND To: San Clemente

7th & Channel	Pacific Coast Hwy & 10th	Warner & Pacific Coast Hwy	Pacific Coast Hwy & 1st	Pacific Coast Hwy & Balboa-Nwpt Bch	Newport Transportation Center	Pacific Coast Hwy & Cliff	Pacific Coast Hwy & Monarch Bay	Pacific Coast Hwy & Dana Point Harbor	El Camino Real & Avd Pico	El Camino & Santa Margarita
5:19	5:28	5:38	5:49	5:59	6:15	6:32	6:47	6:59	7:13	7:31
					6:55	7:17	7:32	7:42		
6:19	6:28	6:38	6:49	6:59	7:15	7:32	7:47	7:59	8:13	8:31
7:19	7:28	7:38	7:49	7:59	8:15	8:32	8:47	8:59	9:13	9:31
8:14	8:25	8:35	8:49	9:01	9:15	9:36	9:54	10:06	10:20	10:41
9:14	9:25	9:35	9:49	10:01	10:15	10:36	10:54	11:06	11:20	11:41
10:14	10:25	10:35	10:49	11:01	11:15	11:36	11:54	12:06	12:20	12:41
11:11	11:22	11:31	11:47	11:59	12:15	12:36	12:55	1:09	1:24	1:44
12:11	12:22	12:31	12:47	12:59	1:15	1:36	1:55	2:09	2:24	2:44
1:11	1:22	1:31	1:47	1:59	2:15	2:36	2:55	3:09	3:24	3:44
2:05	2:17	2:27	2:43	2:56	3:15	3:40	4:00	4:13	4:27	4:46
3:05	3:17	3:27	3:43	3:56	4:15	4:40	5:00	5:13	5:27	5:46
4:05	4:17	4:27	4:43	4:56	5:15	5:40	6:00	6:13	6:27	6:46
5:13	5:25	5:34	5:49	5:59	6:15	6:33	6:48	6:58	7:11	7:28
6:13	6:25	6:34	6:49	6:59	7:15	7:33	7:48	7:58	8:11	8:28
7:13	7:25	7:34	7:49	7:59	8:15	8:33	8:48	8:58	9:11	9:28

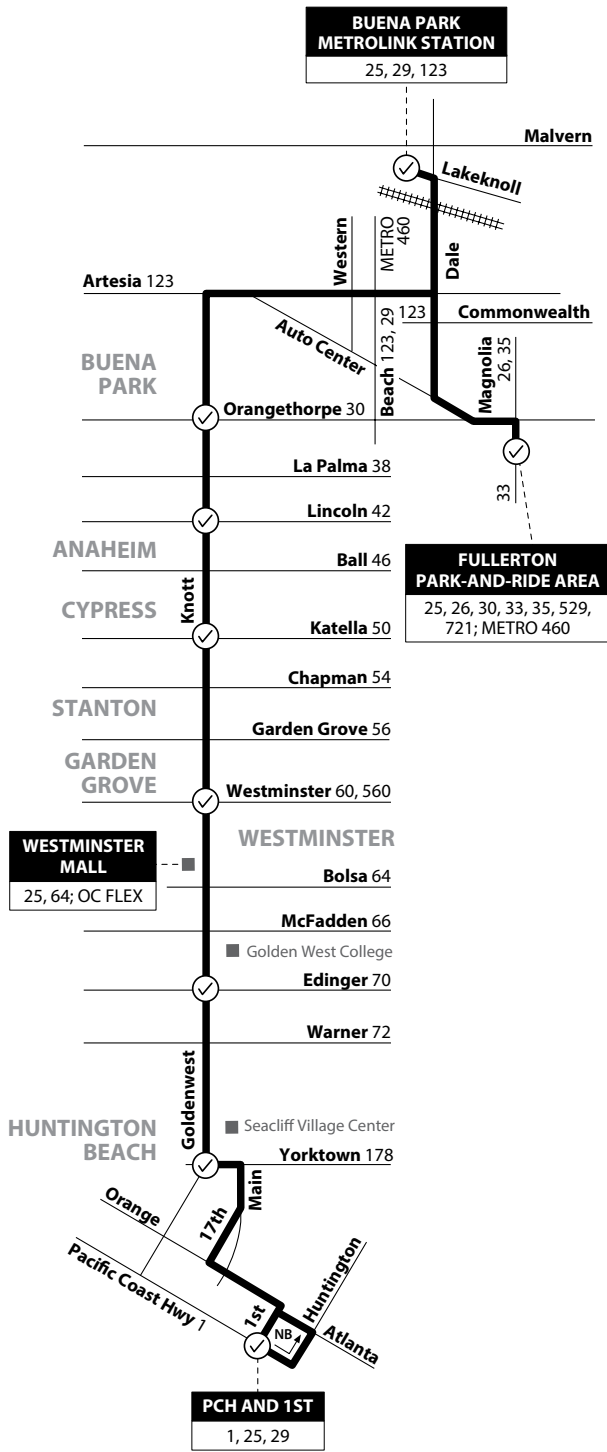
Saturday, Sunday & Holiday SOUTHBOUND To: San Clemente

7th & Channel	Pacific Coast Hwy & 10th	Warner & Pacific Coast Hwy	Pacific Coast Hwy & 1st	Pacific Coast Hwy & Balboa-Nwpt Bch	Newport Transportation Center	Pacific Coast Highway & Cliff	Pacific Coast Highway & Monarch Bay	Pacific Coast Hwy & Dana Point Harbor	El Camino Real & Avd Pico	El Camino & Santa Margarita
5:19	5:28	5:38	5:49	5:59	6:15	6:32	6:47	6:59	7:13	7:31
6:19	6:28	6:38	6:49	6:59	7:15	7:32	7:47	7:59	8:13	8:31
7:19	7:28	7:38	7:49	7:59	8:15	8:32	8:47	8:59	9:13	9:31
8:14	8:25	8:35	8:49	9:01	9:15	9:36	9:54	10:06	10:20	10:41
9:14	9:25	9:35	9:49	10:01	10:15	10:36	10:54	11:06	11:20	11:41
10:14	10:25	10:35	10:49	11:01	11:15	11:36	11:54	12:06	12:20	12:41
11:11	11:22	11:31	11:47	11:59	12:15	12:36	12:55	1:09	1:24	1:44
12:11	12:22	12:31	12:47	12:59	1:15	1:36	1:55	2:09	2:24	2:44
1:11	1:22	1:31	1:47	1:59	2:15	2:36	2:55	3:09	3:24	3:44
2:05	2:17	2:27	2:43	2:56	3:15	3:40	4:00	4:13	4:27	4:46
3:05	3:17	3:27	3:43	3:56	4:15	4:40	5:00	5:13	5:27	5:46
4:05	4:17	4:27	4:43	4:56	5:15	5:40	6:00	6:13	6:27	6:46
5:13	5:25	5:34	5:49	5:59	6:15	6:33	6:48	6:58	7:11	7:28
6:13	6:25	6:34	6:49	6:59	7:15	7:33	7:48	7:58	8:11	8:28
7:13	7:25	7:34	7:49	7:59	8:15	8:33	8:48	8:58	9:11	9:28

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

25

Fullerton to Huntington Beach via Knott Ave / Goldenwest St



All Days NORTHBOUND To: Fullerton

Pacific Coast Hwy & 1st	Goldenwest & Yorktown	Goldenwest & Edinger	Goldenwest & Westminster	Knott & Katella	Knott & Lincoln	Knott & Orangethorpe	Buena Park Metrolink Station	Fullerton Park-and-Ride
7:45	7:57	8:06	8:14	8:26	8:35	8:43	8:55	9:04
8:50	9:02	9:11	9:19	9:31	9:40	9:48	10:00	10:09
9:47	9:59	10:12	10:24	10:37	10:46	10:55	11:07	11:15
10:52	11:04	11:17	11:29	11:42	11:51	12:00	12:12	12:20
11:57	12:09	12:22	12:34	12:47	12:56	1:05	1:17	1:25
1:01	1:16	1:28	1:39	1:53	2:04	2:13	2:26	2:35
2:06	2:21	2:33	2:44	2:58	3:09	3:18	3:31	3:40
3:11	3:26	3:38	3:49	4:03	4:14	4:23	4:36	4:45
4:16	4:31	4:45	4:54	5:09	5:18	5:27	5:40	5:48
5:21	5:36	5:50	5:59	6:14	6:23	6:32	6:45	6:53
6:30	6:46	6:56	7:04	7:15	7:22	7:30	7:41	7:48

All Days SOUTHBOUND To: Huntington Beach

Fullerton Park-and-Ride	Buena Park Metrolink Station	Knott & Orangethorpe	Knott & Lincoln	Knott & Katella	Goldenwest & Westminster	Goldenwest & Edinger	Goldenwest & Yorktown	Pacific Coast Hwy & 1st
7:15	7:21	7:31	7:38	7:47	8:01	8:10	8:23	8:30
8:20	8:26	8:36	8:43	8:52	9:06	9:15	9:28	9:35
9:16	9:23	9:34	9:42	9:52	10:06	10:16	10:30	10:42
10:21	10:28	10:39	10:47	10:57	11:11	11:21	11:35	11:47
11:25	11:32	11:43	11:51	12:01	12:15	12:25	12:39	12:51
12:30	12:37	12:48	12:56	1:06	1:20	1:30	1:44	1:56
1:39	1:46	1:58	2:05	2:14	2:28	2:36	2:47	3:00
2:45	2:52	3:04	3:11	3:20	3:34	3:42	3:53	4:06
3:50	3:57	4:09	4:16	4:25	4:39	4:47	4:58	5:11
4:59	5:07	5:17	5:25	5:35	5:46	5:53	6:04	6:16
6:04	6:12	6:22	6:30	6:40	6:51	6:58	7:09	7:21
7:14	7:20	7:29	7:36	7:45	7:56	8:04	8:15	8:24

SERVICE TO / SERVICIO A

- | | |
|---|--|
| Fullerton
- Fullerton Park-and-Ride
Buena Park
- Buena Park High School
- Buena Park Junior High School
- Buena Park (Metrolink Station)
Anaheim
- Western High School
- Orangeview Junior High School
Cypress
Stanton
Garden Grove
- Pacifica High School | Westminister
- Westminister High School
- Westminister Mall
Huntington Beach
- Golden West College
- Ocean View High School
- Mesa View Middle School
- Seaciff Village Center
- Huntington Beach High School
- Ethel Dwyer Middle School
- Huntington Beach Civic Center
- Huntington Beach Pier |
|---|--|

LEGEND LEYENDA

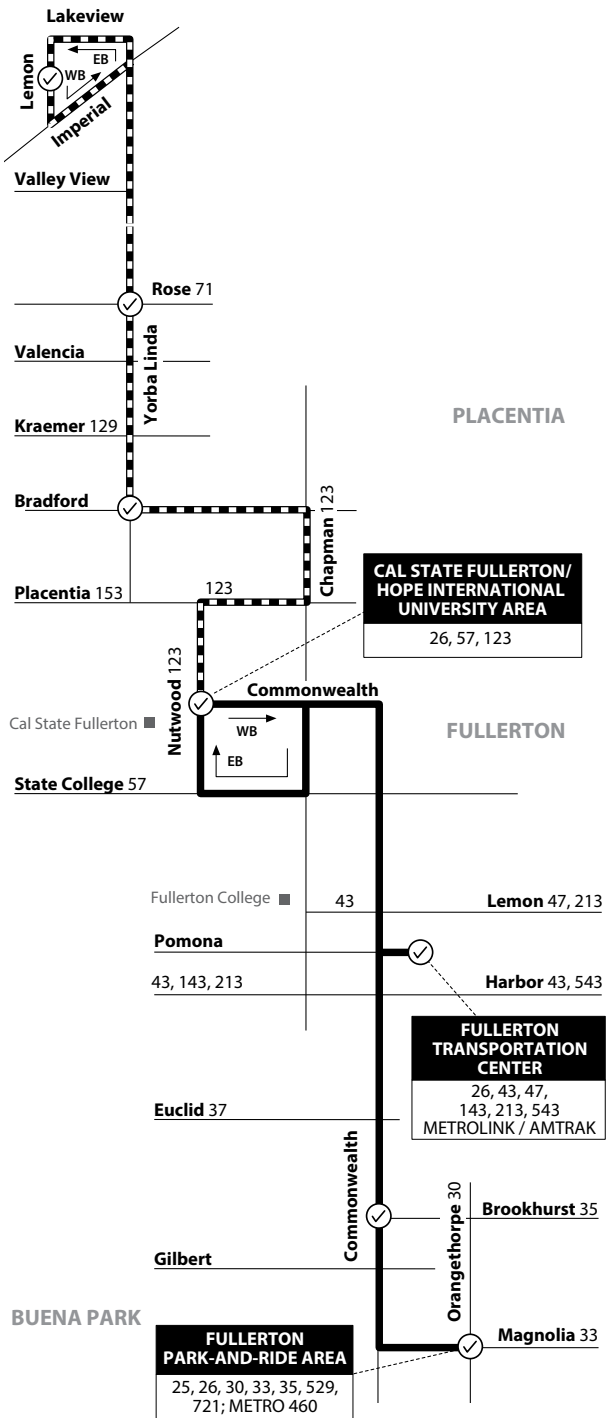
Scheduled Departure
 Regular Routing

METRO = Los Angeles Metro

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*



Route 025/111519



LEGEND
LEYENDA

Scheduled Departure
 Regular Routing
 No Service On Some Trips

METRO = Los Angeles Metro

Route 026/122119

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

All Days
EASTBOUND To: Yorba Linda

Fullerton Park-and-Ride	Commonwealth & Brookhurst	Fullerton Transportation Center	Nutwood & Commonwealth	Bradford & Yorba Linda	Lemon & Lakeview
8:16	8:25	8:34	8:43	8:53	9:10
9:03	9:11	9:19	9:28	9:37	9:54
9:48	9:56	10:04	10:13	10:22	10:39
10:32	10:40	10:48	10:58	11:07	11:24
11:17	11:25	11:33	11:43	11:52	12:09
12:02	12:10	12:18	12:28	12:37	12:54
12:47	12:55	1:03	1:13	1:22	1:39
1:30	1:39	1:48	1:58	2:08	2:25
2:15	2:24	2:33	2:43	2:53	3:10
3:00	3:09	3:18	3:28	3:38	3:55
3:45	3:54	4:03	4:13	4:23	4:40
4:31	4:39	4:48	4:58	5:07	5:24
5:16	5:24	5:33	5:43	5:52	6:09
6:01	6:09	6:18	6:28	6:37	6:54
6:46	6:54	7:03	7:13	7:22	7:39

All Days
WESTBOUND To: Fullerton

Lemon & Lakeview	Bradford & Yorba Linda	Commonwealth & Nutwood	Fullerton Transportation Center	Commonwealth & Brookhurst	Fullerton Park-and-Ride
7:09	7:26	7:34	7:45	7:53	8:01
7:54	8:11	8:19	8:30	8:38	8:46
8:39	8:56	9:04	9:15	9:23	9:31
9:24	9:41	9:49	10:00	10:08	10:16
10:07	10:24	10:34	10:46	10:55	11:05
10:52	11:09	11:19	11:31	11:40	11:50
11:37	11:54	12:04	12:16	12:25	12:35
12:22	12:39	12:49	1:01	1:10	1:20
1:07	1:24	1:34	1:47	1:56	2:05
1:52	2:09	2:19	2:32	2:41	2:50
2:37	2:54	3:04	3:17	3:26	3:35
3:22	3:39	3:49	4:02	4:11	4:20
4:09	4:26	4:34	4:44	4:53	5:02
4:54	5:11	5:19	5:29	5:38	5:47
5:39	5:56	6:04	6:14	6:23	6:32

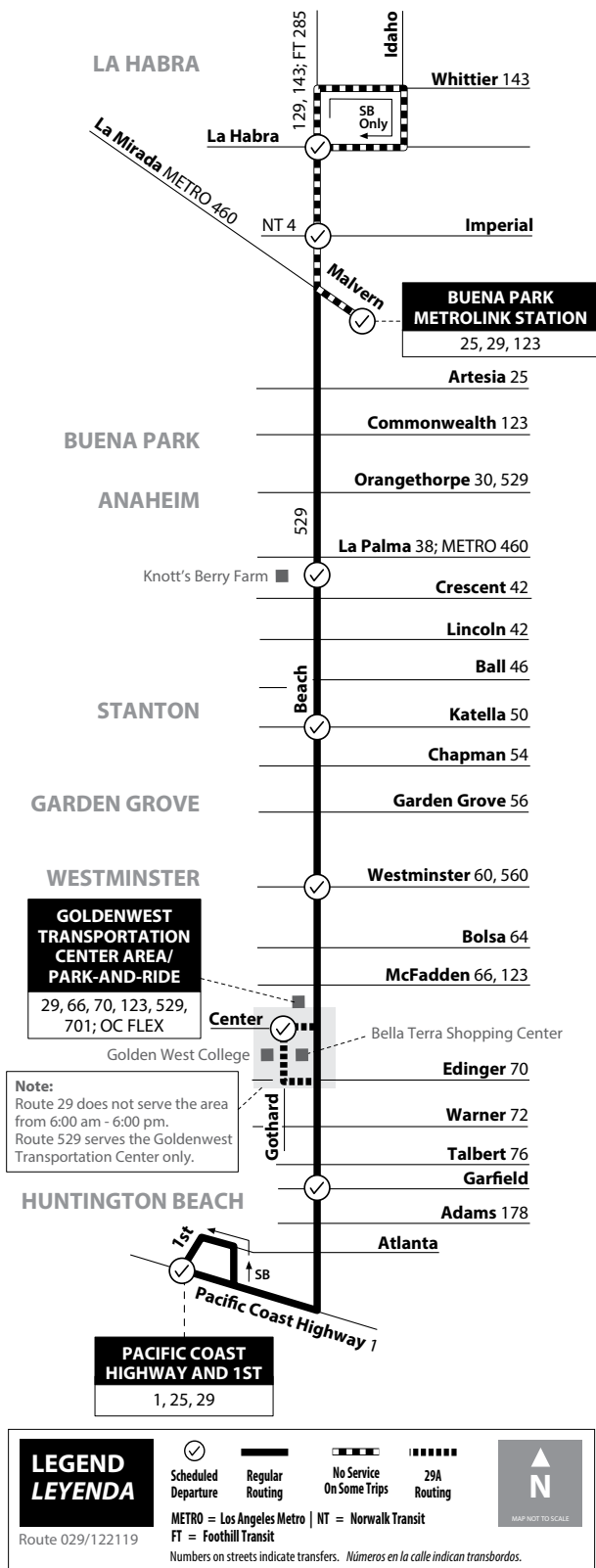
- SERVICE TO / SERVICIO A**
- | | |
|---|---|
| <p>Buena Park</p> <ul style="list-style-type: none"> - Buena Park High School <p>Fullerton</p> <ul style="list-style-type: none"> - Fullerton Park-and-Ride - Fullerton College - Cal State Fullerton - Fullerton Union High School - La Vista High School - Ladera Vista Junior High School - Troy High School - Fullerton Transportation Center (Metrolink/Amtrak) - Fullerton Civic Center - Crossroads Shopping Center | <p>Placentia</p> <ul style="list-style-type: none"> - Valencia High School - Kraemer Middle School - El Dorado High School <p>Yorba Linda</p> <ul style="list-style-type: none"> - Yorba Linda Middle School - Richard Nixon Library - Yorba Linda Civic Center - Bernardo Yorba Middle School - Placentia-Yorba Linda Unified School District - Yorba Linda High School |
|---|---|

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

29/A

La Habra to Huntington Beach via Beach Blvd

NOTE: TAP card only accepted from La Palma to Malvern.
NOTA: Tarjeta TAP sólo aceptada de La Palma a Malvern.



Monday-Friday NORTHBOUND To: La Habra

	Pacific Coast Hwy & 1st	Beach & Garfield	Center & Gothard	Beach & Westminster	Beach & Katella	Knotts Berry Farm	Buena Park Metrolink Station	Beach & Imperial	Beach & La Habra
A	4:11	4:18	.....	4:35	4:45	4:54	.....	5:10	5:14
A	4:46	4:53	5:05	5:15	5:25	5:34	5:49	.....	.....
A	5:28	5:36	.....	5:55	6:06	6:18	.....	6:36	6:41
A	5:42	5:53	6:08	6:15	6:26	6:39	6:54	.....	.....
A	6:00	6:10	6:25	6:35	6:47	6:59	7:14	.....	.....
A	6:20	6:30	6:45	6:55	7:07	7:19	7:34	.....	.....
A	6:46	6:56	.....	7:15	7:27	7:39	.....	7:58	8:04
A	7:10	7:20	7:35	7:45	7:57	8:09	8:24	.....	.....
A	7:43	7:53	.....	8:15	8:28	8:41	.....	9:01	9:06
A	8:06	8:16	8:33	8:45	8:59	9:12	9:29	.....	.....
A	8:42	8:52	.....	9:15	9:29	9:42	.....	10:02	10:07
A	8:58	9:09	9:30	9:45	9:58	10:11	10:28	.....	.....
A	9:26	9:37	.....	10:05	10:18	10:31	.....	10:52	10:58
A	9:41	9:52	10:13	10:26	10:39	10:52	11:07	.....	.....
A	10:08	10:19	.....	10:45	10:58	11:11	.....	11:31	11:36
A	10:18	10:29	10:50	11:03	11:16	11:29	11:44	.....	.....
A	10:44	10:56	.....	11:23	11:36	11:50	.....	12:13	12:20
A	10:55	11:07	11:30	11:42	11:55	12:09	12:24	.....	.....
A	11:20	11:32	.....	12:01	12:16	12:30	.....	12:50	12:57
A	11:29	11:41	12:04	12:19	12:34	12:48	1:05	.....	.....
A	11:58	12:10	.....	12:39	12:54	1:08	.....	1:28	1:35
A	12:08	12:20	12:43	12:58	1:13	1:27	1:44	.....	.....
A	12:38	12:50	.....	1:19	1:34	1:48	.....	2:08	2:15
A	12:49	1:01	1:24	1:39	1:54	2:08	2:25	.....	.....
A	1:16	1:29	.....	1:59	2:14	2:28	.....	2:49	2:57
A	1:27	1:40	2:04	2:19	2:34	2:48	3:04	.....	.....
A	1:57	2:10	.....	2:40	2:55	3:09	.....	3:30	3:38
A	2:08	2:20	2:44	2:59	3:15	3:28	3:42	.....	.....
A	2:37	2:49	.....	3:19	3:35	3:48	.....	4:08	4:15
A	2:50	3:02	3:25	3:39	3:55	4:07	4:22	.....	.....
A	3:18	3:30	.....	3:59	4:15	4:27	.....	4:47	4:54
A	3:28	3:41	4:04	4:18	4:33	4:46	5:03	.....	.....
A	3:56	4:10	.....	4:37	4:52	5:04	.....	5:25	5:31
A	4:02	4:12	4:34	4:47	5:02	5:14	5:30	.....	.....
A	4:08	4:22	4:44	4:57	5:12	5:24	5:40	.....	.....
A	4:17	4:31	4:53	5:07	5:22	5:34	5:50	.....	.....
A	4:36	4:50	.....	5:17	5:32	5:44	.....	6:05	6:11
A	4:43	4:57	5:23	5:37	5:51	6:03	6:21	.....	.....
A	5:15	5:29	.....	5:57	6:11	6:23	.....	6:44	6:50
A	5:26	5:41	6:05	6:17	6:30	6:43	7:01	.....	.....
A	5:58	6:13	.....	6:39	6:52	7:04	.....	7:24	7:31
A	6:17	6:30	6:50	7:02	7:15	7:25	7:40	.....	.....
A	6:57	7:08	.....	7:33	7:46	7:56	.....	8:12	8:19
A	7:19	7:30	7:50	8:02	8:15	8:25	8:40	.....	.....
A	7:55	8:06	.....	8:31	8:44	8:54	.....	9:10	9:17
A	8:18	8:29	8:49	9:01	9:14	9:24	9:39	.....	.....
A	8:55	9:06	.....	9:31	9:44	9:54	.....	10:10	10:17
A	9:22	9:33	9:50	10:01	10:13	10:24	10:39	.....	.....
A	9:58	10:09	.....	10:31	10:43	10:54	.....	11:10	11:16
A	10:25	10:36	10:51	11:01	11:13	11:23	11:38	.....	.....
A	11:00	11:11	.....	11:31	11:43	11:53	.....	12:09	12:15
A	11:25	11:36	11:51	12:01	12:13	12:23	12:38	.....	.....
A	12:00	12:11	.....	12:31	12:43	12:53	.....	1:09	1:15

A = These trips serve the Goldenwest Transportation Center.
Estos viajes se detienen en el Centro de Transporte Goldenwest.

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Monday-Friday
SOUTHBOUND To: Huntington Beach

	Buena Park Metrolink Station	Beach & La Habra	Beach & Imperial	Knotts Berry Farm	Beach & Katella	Beach & Westminster	Gothard & Center	Beach & Garfield	Pacific Coast Hwy & 1st
A		4:30	4:39	4:55	5:04	5:14	.....	5:29	5:41
A	5:22	.....	.....	5:35	5:44	5:54	6:01	6:14	6:26
A	5:43	.....	5:53	6:11	6:22	6:34	.....	6:53	7:06
A	6:17	.....	.....	6:31	6:42	6:54	7:03	7:18	7:31
A	6:37	.....	.....	6:51	7:02	7:14	7:23	7:38	7:51
A	6:49	.....	.....	7:10	7:21	7:34	7:43	7:58	8:11
A	7:39	.....	.....	7:58	8:09	8:24	8:35	8:50	9:04
A	7:46	.....	.....	8:22	8:36	8:52	.....	9:14	9:29
A	8:36	.....	.....	8:55	9:08	9:23	9:34	9:50	10:06
A	8:46	.....	8:59	9:22	9:35	9:50	.....	10:11	10:27
A	9:24	.....	.....	9:43	9:56	10:10	10:21	10:37	10:50
A	9:24	.....	9:37	10:01	10:15	10:30	.....	10:53	11:07
A	10:01	.....	.....	10:21	10:35	10:50	11:01	11:20	11:34
A	10:03	.....	10:17	10:42	10:55	11:10	.....	11:36	11:52
A	10:40	.....	.....	11:00	11:15	11:30	11:42	12:08	12:23
A	10:41	.....	10:55	11:20	11:35	11:50	.....	12:19	12:34
A	11:20	.....	.....	11:40	11:55	12:10	12:22	12:48	1:03
A	11:21	.....	11:35	12:00	12:15	12:30	.....	12:59	1:14
A	11:56	.....	.....	12:16	12:32	12:48	1:02	1:28	1:45
A	11:58	.....	12:13	12:40	12:55	1:10	.....	1:39	1:53
A	12:37	.....	.....	1:00	1:14	1:30	1:42	2:05	2:20
A	12:38	.....	12:53	1:20	1:34	1:50	.....	2:17	2:32
A	1:17	.....	.....	1:40	1:54	2:10	2:22	2:45	3:00
A	1:17	.....	1:32	1:59	2:14	2:30	.....	2:58	3:15
A	1:56	.....	.....	2:19	2:34	2:50	3:02	3:26	3:43
A	2:00	.....	2:14	2:40	2:55	3:10	.....	3:37	3:53
A	2:37	.....	.....	2:59	3:14	3:29	3:41	4:04	4:20
A	2:40	.....	2:54	3:20	3:33	3:48	.....	4:12	4:28
A	3:08	.....	.....	3:29	3:42	3:57	4:08	4:28	4:44
A	3:18	.....	.....	3:39	3:52	4:07	4:18	4:38	4:54
A	3:28	.....	.....	3:49	4:02	4:17	4:28	4:48	5:04
A	3:18	.....	3:32	3:58	4:11	4:26	.....	4:50	5:06
A	3:58	.....	.....	4:19	4:32	4:45	4:55	5:13	5:30
A	3:58	.....	4:12	4:38	4:51	5:04	.....	5:26	5:43
A	4:35	.....	.....	4:55	5:09	5:22	5:32	5:48	6:03
A	4:37	.....	4:50	5:15	5:29	5:42	.....	6:03	6:18
A	5:15	.....	.....	5:35	5:49	6:02	6:12	6:28	6:43
A	5:16	.....	5:29	5:55	6:09	6:22	.....	6:43	6:56
A	5:57	.....	.....	6:15	6:29	6:42	6:52	7:09	7:22
A	5:56	.....	6:09	6:35	6:49	7:02	.....	7:23	7:36
A	6:37	.....	.....	6:55	7:09	7:22	7:32	7:49	8:02
A	6:36	.....	6:49	7:15	7:29	7:42	.....	8:03	8:16
A	7:28	.....	.....	7:45	7:59	8:12	8:22	8:37	8:50
A	7:38	.....	7:51	8:15	8:29	8:42	.....	9:02	9:15
A	8:28	.....	.....	8:45	8:59	9:12	9:22	9:37	9:50
A	8:44	.....	8:56	9:18	9:30	9:42	.....	10:00	10:12
A	9:31	.....	.....	9:48	10:00	10:12	10:21	10:35	10:47
A	9:44	.....	9:56	10:18	10:30	10:42	.....	11:00	11:12
A	10:29	.....	.....	10:46	10:58	11:10	11:19	11:33	11:45
A	10:44	.....	10:56	11:18	11:30	11:42	.....	12:00	12:12
A	11:34	.....	.....	11:51	12:02	12:12	12:20	12:33	12:44
A	11:51	.....	12:02	12:21	12:32	12:42	.....	12:58	1:09

Saturday
NORTHBOUND To: La Habra

	Pacific Coast Hwy & 1st	Beach & Garfield	Center & Gothard	Beach & Westminster	Beach & Katella	Knotts Berry Farm	Buena Park Metrolink Station	Beach & Imperial	Beach & La Habra
A	4:11	4:18	.....	4:35	4:45	4:54	.....	5:10	5:14
A	4:46	4:53	5:05	5:15	5:25	5:34	5:49	.....	.....
A	5:28	5:36	.....	5:55	6:06	6:18	.....	6:36	6:41
A	6:00	6:10	6:25	6:35	6:47	6:59	7:14	.....	.....
A	6:46	6:56	.....	7:15	7:27	7:39	.....	7:58	8:04
A	7:10	7:20	7:35	7:45	7:57	8:09	8:24	.....	.....
A	7:43	7:53	.....	8:15	8:28	8:41	.....	9:01	9:06
A	8:06	8:16	8:33	8:45	8:59	9:12	9:29	.....	.....
A	8:42	8:52	.....	9:15	9:29	9:42	.....	10:02	10:07
A	8:58	9:09	9:30	9:45	9:58	10:11	10:28	.....	.....
A	9:26	9:37	.....	10:05	10:18	10:31	.....	10:52	10:58
A	9:41	9:52	10:13	10:26	10:39	10:52	11:07	.....	.....
A	10:08	10:19	.....	10:45	10:58	11:11	.....	11:31	11:36
A	10:18	10:29	10:50	11:03	11:16	11:29	11:44	.....	.....
A	10:44	10:56	.....	11:23	11:36	11:50	.....	12:13	12:20
A	10:55	11:07	11:30	11:42	11:55	12:09	12:24	.....	.....
A	11:20	11:32	.....	12:01	12:16	12:30	.....	12:50	12:57
A	11:29	11:41	12:04	12:19	12:34	12:48	1:05	.....	.....
A	11:58	12:10	.....	12:39	12:54	1:08	.....	1:28	1:35
A	12:08	12:20	12:43	12:58	1:13	1:27	1:44	.....	.....
A	12:38	12:50	.....	1:19	1:34	1:48	.....	2:08	2:15
A	12:49	1:01	1:24	1:39	1:54	2:08	2:25	.....	.....
A	1:16	1:29	.....	1:59	2:14	2:28	.....	2:49	2:57
A	1:27	1:40	2:04	2:19	2:34	2:48	3:04	.....	.....
A	1:57	2:10	.....	2:40	2:55	3:09	.....	3:30	3:38
A	2:08	2:20	2:44	2:59	3:15	3:28	3:42	.....	.....
A	2:37	2:49	.....	3:19	3:35	3:48	.....	4:08	4:15
A	2:50	3:02	3:25	3:39	3:55	4:07	4:22	.....	.....
A	3:18	3:30	.....	3:59	4:15	4:27	.....	4:47	4:54
A	3:28	3:41	4:04	4:18	4:33	4:46	5:03	.....	.....
A	3:56	4:10	.....	4:37	4:52	5:04	.....	5:25	5:31
A	4:08	4:22	4:44	4:57	5:12	5:24	5:40	.....	.....
A	4:36	4:50	.....	5:17	5:32	5:44	.....	6:05	6:11
A	4:43	4:57	5:23	5:37	5:51	6:03	6:21	.....	.....
A	5:15	5:29	.....	5:57	6:11	6:23	.....	6:44	6:50
A	5:26	5:41	6:05	6:17	6:30	6:43	7:01	.....	.....
A	5:58	6:13	.....	6:39	6:52	7:04	.....	7:24	7:31
A	6:17	6:30	6:50	7:02	7:15	7:25	7:40	.....	.....
A	6:57	7:08	.....	7:33	7:46	7:56	.....	8:12	8:19
A	7:19	7:30	7:50	8:02	8:15	8:25	8:40	.....	.....
A	7:55	8:06	.....	8:31	8:44	8:54	.....	9:10	9:17
A	8:18	8:29	8:49	9:01	9:14	9:24	9:39	.....	.....
A	8:55	9:06	.....	9:31	9:44	9:54	.....	10:10	10:17
A	9:22	9:33	9:50	10:01	10:13	10:24	10:39	.....	.....
A	9:58	10:09	.....	10:31	10:43	10:54	.....	11:10	11:16
A	10:25	10:36	10:51	11:01	11:13	11:23	11:38	.....	.....
A	11:00	11:11	.....	11:31	11:43	11:53	.....	12:09	12:15
A	11:25	11:36	11:51	12:01	12:13	12:23	12:38	.....	.....
A	12:00	12:11	.....	12:31	12:43	12:53	.....	1:09	1:15

A = These trips serve the Goldenwest Transportation Center.
Estos viajes se detienen en el Centro de Transporte Goldenwest.

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Saturday SOUTHBOUND To: Huntington Beach

	Beach & La Habra	Beach & Imperial	Buena Park Metrolink Station	Knotts Berry Farm	Beach & Katella	Beach & Westminster	Gothard & Center	Beach & Garfield	Pacific Coast Hwy & 1st
A	4:30	4:39	.....	4:55	5:04	5:14	.....	5:29	5:41
			5:22	5:35	5:44	5:54	6:01	6:14	6:26
A	5:43	5:53	.....	6:11	6:22	6:34	.....	6:53	7:06
			6:37	6:51	7:02	7:14	7:23	7:38	7:51
A	6:53	7:06	.....	7:29	7:40	7:55	.....	8:16	8:30
			7:39	7:58	8:09	8:24	8:35	8:50	9:04
A	7:46	7:59	.....	8:22	8:36	8:52	.....	9:14	9:29
			8:36	8:55	9:08	9:23	9:34	9:50	10:06
A	8:46	8:59	.....	9:22	9:35	9:50	.....	10:11	10:27
			9:24	9:43	9:56	10:10	10:21	10:37	10:50
A	9:24	9:37	.....	10:01	10:15	10:30	.....	10:53	11:07
			10:01	10:21	10:35	10:50	11:01	11:20	11:34
A	10:03	10:17	.....	10:42	10:55	11:10	.....	11:36	11:52
			10:40	11:00	11:15	11:30	11:42	12:08	12:23
A	10:41	10:55	.....	11:20	11:35	11:50	.....	12:19	12:34
			11:20	11:40	11:55	12:10	12:22	12:48	1:03
A	11:21	11:35	.....	12:00	12:15	12:30	.....	12:59	1:14
			11:56	12:16	12:32	12:48	1:02	1:28	1:45
A	11:58	12:13	.....	12:40	12:55	1:10	.....	1:39	1:53
			12:37	1:00	1:14	1:30	1:42	2:05	2:20
A	12:38	12:53	.....	1:20	1:34	1:50	.....	2:17	2:32
			1:17	1:40	1:54	2:10	2:22	2:45	3:00
A	1:17	1:32	.....	1:59	2:14	2:30	.....	2:58	3:15
			1:56	2:19	2:34	2:50	3:02	3:26	3:43
A	2:00	2:14	.....	2:40	2:55	3:10	.....	3:37	3:53
			2:37	2:59	3:14	3:29	3:41	4:04	4:20
A	2:40	2:54	.....	3:20	3:33	3:48	.....	4:12	4:28
			3:18	3:39	3:52	4:07	4:18	4:38	4:54
A	3:18	3:32	.....	3:58	4:11	4:26	.....	4:50	5:06
			3:58	4:19	4:32	4:45	4:55	5:13	5:30
A	3:58	4:12	.....	4:38	4:51	5:04	.....	5:26	5:43
			4:35	4:55	5:09	5:22	5:32	5:48	6:03
A	4:37	4:50	.....	5:15	5:29	5:42	.....	6:03	6:18
			5:15	5:35	5:49	6:02	6:12	6:28	6:43
A	5:16	5:29	.....	5:55	6:09	6:22	.....	6:43	6:56
			5:57	6:15	6:29	6:42	6:52	7:09	7:22
A	5:56	6:09	.....	6:35	6:49	7:02	.....	7:23	7:36
			6:37	6:55	7:09	7:22	7:32	7:49	8:02
A	6:36	6:49	.....	7:15	7:29	7:42	.....	8:03	8:16
			7:28	7:45	7:59	8:12	8:22	8:37	8:50
A	7:38	7:51	.....	8:15	8:29	8:42	.....	9:02	9:15
			8:28	8:45	8:59	9:12	9:22	9:37	9:50
A	8:44	8:56	.....	9:18	9:30	9:42	.....	10:00	10:12
			9:31	9:48	10:00	10:12	10:21	10:35	10:47
A	9:44	9:56	.....	10:18	10:30	10:42	.....	11:00	11:12
			10:29	10:46	10:58	11:10	11:19	11:33	11:45
A	10:44	10:56	.....	11:18	11:30	11:42	.....	12:00	12:12
			11:34	11:51	12:02	12:12	12:20	12:33	12:44
A	11:51	12:02	.....	12:21	12:32	12:42	.....	12:58	1:09

Sunday & Holiday NORTHBOUND To: La Habra

	Pacific Coast Hwy & 1st	Beach & Garfield	Center & Gothard	Beach & Westminster	Beach & Katella	Knotts Berry Farm	Buena Park Metrolink Station	Beach & Imperial	Beach & La Habra
A	5:11	5:20	.....	5:37	5:47	5:58	.....	6:14	6:19
	5:45	5:54	6:08	6:17	6:27	6:38	6:52	7:38	7:44
A	6:30	6:40	.....	6:57	7:08	7:21	.....	8:50	8:55
	6:57	7:08	7:24	7:37	7:49	8:02	8:16	9:57	10:02
A	7:34	7:45	.....	8:07	8:19	8:32	.....	10:35	10:40
	8:04	8:15	8:31	8:44	8:56	9:09	9:23	11:19	11:26
A	8:41	8:52	.....	9:14	9:26	9:39	.....	11:59	12:06
	8:53	9:04	9:20	9:33	9:45	9:58	10:12	12:39	12:46
A	9:19	9:30	.....	9:52	10:04	10:17	.....	12:53	1:27
	9:29	9:41	9:58	10:11	10:24	10:36	10:51	2:00	2:07
A	9:48	10:00	.....	10:32	10:45	10:57	.....	2:41	2:48
	10:10	10:22	10:39	10:52	11:05	11:17	11:32	3:21	3:28
A	10:28	10:40	.....	11:12	11:25	11:37	.....	4:01	4:08
	10:49	11:01	11:18	11:31	11:44	11:56	12:11	4:36	4:43
A	11:08	11:20	.....	11:52	12:05	12:17	.....	5:16	5:23
	11:31	11:43	12:00	12:13	12:26	12:38	12:53	5:56	6:03
A	11:47	12:00	.....	12:32	12:45	12:57	.....	6:36	6:43
	12:05	12:18	12:37	12:51	1:04	1:16	1:34	7:16	7:23
A	12:27	12:40	.....	1:12	1:25	1:37	.....	7:56	8:03
	12:47	1:00	1:19	1:33	1:46	1:58	2:16	8:46	8:53
A	1:08	1:21	.....	1:53	2:06	2:18	.....	9:42	9:46
	1:27	1:40	1:59	2:13	2:26	2:38	2:56	10:38	10:42
A	1:48	2:01	.....	2:33	2:46	2:58	.....	11:40	11:44
	2:08	2:21	2:40	2:54	3:07	3:19	3:37	12:04	12:08
A	2:28	2:41	.....	3:13	3:26	3:38	.....	
	2:51	3:03	3:20	3:33	3:46	3:56	4:14		
A	3:09	3:21	.....	3:53	4:06	4:16	.....	
	3:31	3:43	4:00	4:13	4:26	4:36	4:54		
A	3:49	4:01	.....	4:33	4:46	4:56	.....	
	4:11	4:23	4:40	4:53	5:06	5:16	5:34		
A	4:29	4:41	.....	5:13	5:26	5:36	.....	
	4:51	5:03	5:20	5:33	5:46	5:56	6:14		
A	5:09	5:21	.....	5:53	6:06	6:16	.....	
	5:31	5:43	6:00	6:13	6:26	6:36	6:54		
A	5:49	6:01	.....	6:33	6:46	6:56	.....	
	6:11	6:23	6:40	6:53	7:06	7:16	7:34		
A	6:29	6:41	.....	7:13	7:26	7:36	.....	
	6:55	7:07	7:24	7:37	7:50	8:00	8:18		
A	7:22	7:35	.....	8:07	8:18	8:26	.....	
	7:51	8:04	8:20	8:34	8:45	8:53	9:10		
A	8:29	8:41	.....	9:01	9:13	9:23	.....	
	8:50	9:02	9:17	9:28	9:40	9:50	10:06		
A	9:25	9:37	.....	9:57	10:09	10:19	.....	
	9:50	10:02	10:17	10:28	10:40	10:50	11:06		
A	10:27	10:39	.....	10:59	11:11	11:21	.....	
	10:51	11:03	.....	11:23	11:35	11:45	.....	

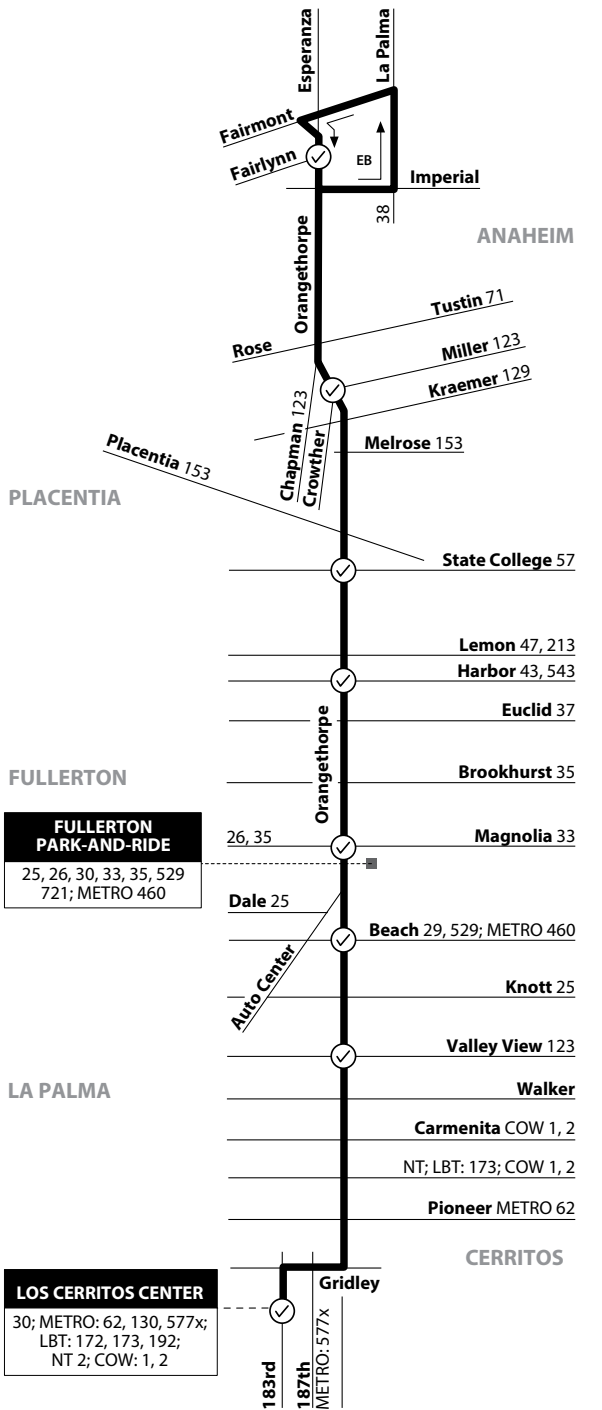
A = These trips serve the Goldenwest Transportation Center.
Estos viajes se detienen en el Centro de Transporte Goldenwest.

Sunday & Holiday

SOUTHBOUND To: Huntington Beach

	Beach & La Habra	Beach & Imperial	Buena Park Metrolink Station	Knotts Berry Farm	Beach & Katella	Beach & Westminster	Gothard & Center	Beach & Garfield	Pacific Coast Hwy & 1st
A	5:12	5:21	.....	5:36	5:48	5:58	.....	6:15	6:29
A			6:02	6:17	6:29	6:39	6:47	7:01	7:15
A	6:30	6:40	.....	6:58	7:10	7:21	.....	7:39	7:53
A			7:22	7:37	7:49	8:00	8:10	8:24	8:38
A	7:37	7:47	.....	8:05	8:17	8:28	.....	8:46	9:00
A			8:17	8:33	8:45	8:56	9:06	9:20	9:34
A	8:26	8:38	.....	8:59	9:11	9:24	.....	9:45	10:00
A			9:08	9:24	9:36	9:49	9:59	10:16	10:31
A	9:11	9:23	.....	9:44	9:56	10:09	.....	10:30	10:45
A			9:48	10:04	10:16	10:29	10:39	10:56	11:11
A	9:51	10:03	.....	10:24	10:36	10:49	.....	11:10	11:25
A			10:27	10:42	10:55	11:09	11:20	11:38	11:51
A	10:28	10:40	.....	11:02	11:15	11:29	.....	11:51	12:04
A			11:01	11:18	11:32	11:47	11:59	12:20	12:37
A	11:03	11:17	.....	11:39	11:53	12:08	.....	12:32	12:49
A			11:42	11:59	12:13	12:28	12:40	1:01	1:18
A	11:43	11:57	.....	12:19	12:33	12:48	.....	1:12	1:29
A			12:22	12:39	12:53	1:08	1:20	1:41	1:58
A	12:25	12:39	.....	1:01	1:15	1:30	.....	1:54	2:11
A			1:05	1:22	1:36	1:51	2:03	2:24	2:41
A	1:06	1:20	.....	1:42	1:56	2:11	.....	2:35	2:52
A			1:45	2:02	2:16	2:31	2:43	3:04	3:21
A	1:46	2:00	.....	2:22	2:36	2:51	.....	3:15	3:32
A			2:25	2:42	2:56	3:11	3:23	3:44	4:01
A	2:26	2:40	.....	3:02	3:16	3:31	.....	3:55	4:12
A			3:05	3:22	3:36	3:51	4:03	4:24	4:41
A	3:09	3:23	.....	3:45	3:58	4:11	.....	4:33	4:48
A			3:47	4:05	4:18	4:31	4:42	5:00	5:15
A	3:48	4:02	.....	4:24	4:37	4:50	.....	5:12	5:27
A			4:25	4:43	4:56	5:09	5:20	5:38	5:53
A	4:27	4:41	.....	5:03	5:16	5:29	.....	5:51	6:06
A			5:10	5:27	5:38	5:49	5:59	6:15	6:29
A	5:14	5:27	.....	5:47	5:58	6:09	.....	6:29	6:43
A			5:49	6:06	6:17	6:28	6:38	6:54	7:08
A	5:54	6:07	.....	6:27	6:38	6:49	.....	7:09	7:23
A			6:30	6:47	6:58	7:09	7:19	7:35	7:49
A	6:34	6:47	.....	7:07	7:18	7:29	.....	7:49	8:03
A			7:10	7:27	7:38	7:49	7:59	8:15	8:29
A	7:24	7:37	.....	7:57	8:08	8:19	.....	8:39	8:53
A			8:10	8:27	8:38	8:49	8:59	9:15	9:29
A	8:26	8:37	.....	8:57	9:09	9:19	.....	9:35	9:49
A			9:12	9:27	9:39	9:49	9:58	10:10	10:24
A	9:26	9:37	.....	9:57	10:09	10:19	.....	10:35	10:49
A			10:17	10:32	10:44	10:54	11:03	11:15	11:29
A	10:31	10:42	.....	11:02	11:14	11:24	.....	11:40	11:54
A	11:06	11:17	.....	11:37	11:49	11:59	.....	12:15	12:29

A = These trips serve the Goldenwest Transportation Center.
 Estos viajes se detienen en el Centro de Transporte Goldenwest.



FULLERTON PARK-AND-RIDE
25, 26, 30, 33, 35, 529
721; METRO 460

LOS CERRITOS CENTER
30; METRO: 62, 130, 577x;
LBT: 172, 173, 192;
NT 2; COW: 1, 2

**LEGEND
LEYENDA**

Scheduled Departure Regular Routing
 COW = Cerritos On Wheels | LBT = Long Beach Transit |
 NT = Norwalk Transit | METRO = Los Angeles Metro
 Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

**Monday-Friday
EASTBOUND To: Anaheim**

Los Cerritos Center	Orangethorpe & Valley View	Orangethorpe & Beach	Orangethorpe & Magnolia	Orangethorpe & Harbor	Orangethorpe & State College	Orangethorpe & Crowther	Esperanza & Fairlynn
6:50	7:06	7:13	7:19	7:32	7:40	7:49	8:12
6:51	7:08	7:15	7:19	7:32	7:40	7:47	8:04
7:51	8:08	8:15	8:19	8:32	8:40	8:47	9:04
8:51	9:08	9:15	9:19	9:32	9:40	9:47	10:04
9:48	10:07	10:13	10:17	10:32	10:41	10:49	11:07
10:48	11:07	11:13	11:17	11:32	11:41	11:49	12:07
11:48	12:07	12:13	12:17	12:32	12:41	12:49	1:07
12:45	1:06	1:14	1:19	1:32	1:41	1:48	2:06
1:45	2:06	2:14	2:19	2:32	2:41	2:48	3:06
2:45	3:06	3:14	3:19	3:32	3:41	3:48	4:06
3:45	4:06	4:14	4:19	4:32	4:41	4:48	5:06
4:45	5:06	5:14	5:19	5:32	5:41	5:48	6:06
5:45	6:06	6:14	6:19	6:32	6:41	6:48	7:06
6:47	7:08	7:15	7:19	7:32	7:40	7:47	8:03
7:47	8:08	8:15	8:19	8:32	8:40	8:47	9:03

**Monday-Friday
WESTBOUND To: Cerritos**

Esperanza & Fairlynn	Orangethorpe & Crowther	Orangethorpe & State College	Orangethorpe & Harbor	Orangethorpe & Magnolia	Orangethorpe & Beach	Orangethorpe & Valley View	Los Cerritos Center
6:19	6:29	6:37	6:44	6:55	7:00	7:07	7:23
7:19	7:29	7:37	7:44	7:55	8:00	8:07	8:23
8:18	8:28	8:36	8:44	8:55	9:00	9:07	9:29
9:18	9:28	9:36	9:44	9:55	10:00	10:07	10:29
10:18	10:28	10:36	10:44	10:55	11:00	11:07	11:29
11:17	11:29	11:36	11:44	11:58	12:04	12:12	12:37
12:17	12:29	12:36	12:44	12:58	1:04	1:12	1:37
1:18	1:29	1:36	1:44	1:57	2:02	2:09	2:33
2:18	2:29	2:36	2:44	2:57	3:02	3:09	3:33
2:42	2:55	3:05	3:14	3:28	3:33	3:42	4:04
3:18	3:29	3:36	3:44	3:57	4:02	4:09	4:33
3:42	3:55	4:05	4:14	4:28	4:33	4:42	5:04
4:18	4:29	4:36	4:44	4:57	5:02	5:09	5:33
4:37	4:52	5:03	5:14	5:28	5:34	5:43	6:05
5:18	5:29	5:36	5:44	5:57	6:02	6:09	6:33
6:18	6:29	6:36	6:44	6:57	7:02	7:09	7:33
7:20	7:32	7:38	7:44	7:56	8:01	8:08	8:27

SERVICE TO / SERVICIO A

Anaheim - Esperanza High School - Anaheim Canyon Business Center	Buena Park - Buena Park High School - Buena Park Junior High School
Placentia - El Camino Real High School	La Palma
Fullerton - Orangefair Mall - Fullerton Park-and-Ride - Nicolas Junior High School	Cerritos - Los Cerritos Center

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Saturday, Sunday & Holiday EASTBOUND To: Anaheim

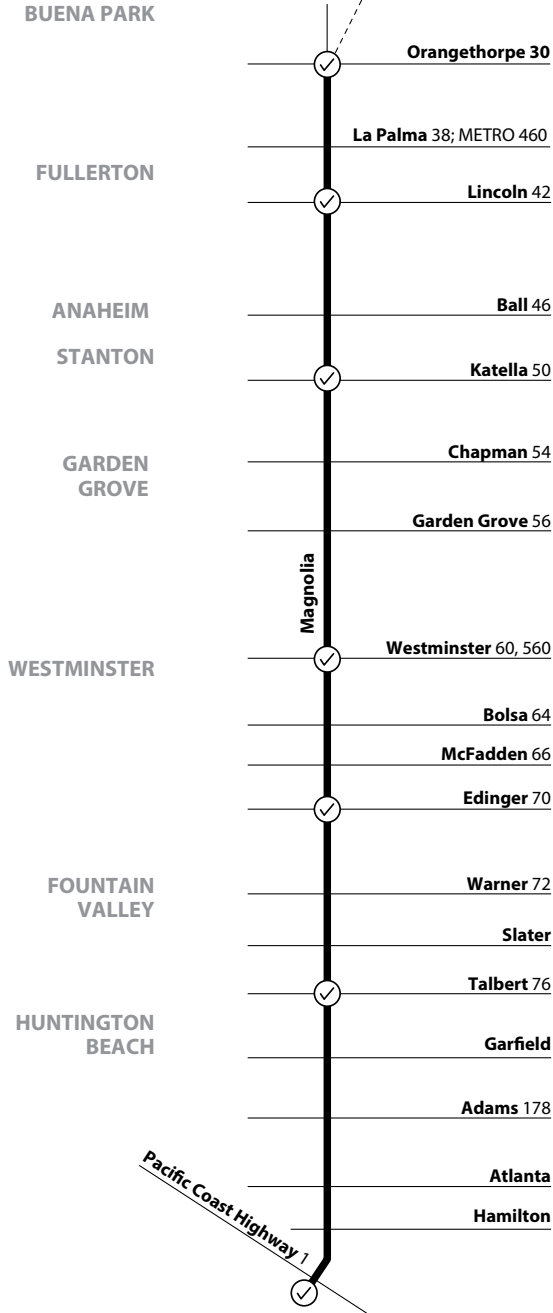
Los Cerritos Center	Orangethorpe & Valley View	Orangethorpe & Beach	Orangethorpe & Magnolia	Orangethorpe & Harbor	Orangethorpe & State College	Orangethorpe & Crowther	Esperanza & Fairlynn
6:51	7:08	7:15	7:19	7:32	7:40	7:47	8:04
7:51	8:08	8:15	8:19	8:32	8:40	8:47	9:04
8:51	9:08	9:15	9:19	9:32	9:40	9:47	10:04
9:48	10:07	10:13	10:17	10:32	10:41	10:49	11:07
10:48	11:07	11:13	11:17	11:32	11:41	11:49	12:07
11:48	12:07	12:13	12:17	12:32	12:41	12:49	1:07
12:45	1:06	1:14	1:19	1:32	1:41	1:48	2:06
1:45	2:06	2:14	2:19	2:32	2:41	2:48	3:06
2:45	3:06	3:14	3:19	3:32	3:41	3:48	4:06
3:45	4:06	4:14	4:19	4:32	4:41	4:48	5:06
4:45	5:06	5:14	5:19	5:32	5:41	5:48	6:06
5:45	6:06	6:14	6:19	6:32	6:41	6:48	7:06
6:47	7:08	7:15	7:19	7:32	7:40	7:47	8:03
7:47	8:08	8:15	8:19	8:32	8:40	8:47	9:03

Saturday, Sunday & Holiday WESTBOUND To: Cerritos

Esperanza & Fairlynn	Orangethorpe & Crowther	Orangethorpe & State College	Orangethorpe & Harbor	Orangethorpe & Magnolia	Orangethorpe & Beach	Orangethorpe & Valley View	Los Cerritos Center
6:19	6:29	6:37	6:44	6:55	7:00	7:07	7:23
7:19	7:29	7:37	7:44	7:55	8:00	8:07	8:23
8:18	8:28	8:36	8:44	8:55	9:00	9:07	9:29
9:18	9:28	9:36	9:44	9:55	10:00	10:07	10:29
10:18	10:28	10:36	10:44	10:55	11:00	11:07	11:29
11:17	11:29	11:36	11:44	11:58	12:04	12:12	12:37
12:17	12:29	12:36	12:44	12:58	1:04	1:12	1:37
1:18	1:29	1:36	1:44	1:57	2:02	2:09	2:33
2:18	2:29	2:36	2:44	2:57	3:02	3:09	3:33
3:18	3:29	3:36	3:44	3:57	4:02	4:09	4:33
4:18	4:29	4:36	4:44	4:57	5:02	5:09	5:33
5:18	5:29	5:36	5:44	5:57	6:02	6:09	6:33
6:18	6:29	6:36	6:44	6:57	7:02	7:09	7:33
7:20	7:32	7:38	7:44	7:56	8:01	8:08	8:27

Note: This route may experience intermittent delays due to the I-405 Improvement Project.
Tenga en cuenta: Esta ruta puede tener retrasos intermitentes debido al I-405 Proyecto de Mejora

FULLERTON PARK-AND-RIDE
25, 26, 30, 33, 35, 529
721; METRO 460



All Days
NORTHBOUND To: Fullerton

Pacific Coast Hwy & 1st	Magnolia & Talbert	Magnolia & Edinger	Magnolia & Westminster	Magnolia & Katella	Magnolia & Lincoln	Fullerton Park-and-Ride
8:30	8:44	8:51	8:59	9:11	9:20	9:29
9:44	9:58	10:04	10:14	10:27	10:37	10:46
10:59	11:13	11:19	11:29	11:42	11:52	12:01
12:14	12:28	12:34	12:44	12:57	1:07	1:16
1:28	1:43	1:49	1:59	2:13	2:23	2:34
2:43	2:58	3:04	3:14	3:28	3:38	3:49
3:58	4:13	4:19	4:29	4:43	4:53	5:04
5:13	5:28	5:35	5:44	5:57	6:06	6:13
6:31	6:44	6:50	6:59	7:11	7:20	7:27

All Days
SOUTHBOUND To: Huntington Beach

Fullerton Park-and-Ride	Magnolia & Lincoln	Magnolia & Katella	Magnolia & Westminster	Magnolia & Edinger	Magnolia & Talbert	Pacific Coast Hwy & 1st
7:18	7:27	7:35	7:47	7:55	8:02	8:16
8:33	8:42	8:50	9:02	9:10	9:17	9:31
9:45	9:55	10:04	10:17	10:26	10:34	10:48
11:00	11:10	11:19	11:32	11:41	11:49	12:03
12:15	12:25	12:34	12:47	12:56	1:04	1:18
1:30	1:40	1:49	2:02	2:11	2:19	2:33
2:45	2:55	3:04	3:17	3:26	3:34	3:48
4:00	4:10	4:19	4:32	4:41	4:49	5:03
5:18	5:27	5:35	5:47	5:55	6:02	6:15

Route 33 Provides Service To / Ruta 33 Proporciona Servicio A

- | | |
|--|--|
| <p>Buena Park
- Buena Park High School</p> <p>Fullerton
- Fullerton Park-and-Ride</p> <p>Anaheim
- Dale Junior High School
- Savanna High School
- Magnolia High School</p> <p>Stanton
Garden Grove
- Marie Hare Continuation School
- Bolsa Grande High School</p> | <p>Westminster
- Little Saigon</p> <p>Fountain Valley
- Vista View Middle School
- Hisamatsu Tamura Elementary School
- Harry C. Fulton Middle School</p> <p>Huntington Beach
- Talbert (Samuel E.) Middle School
- Isaac L. Sowers Middle School
- Edison High School
- Huntington State Beach</p> |
|--|--|

LEGEND
LEYENDA

☑ Scheduled Departure
— Regular Routing

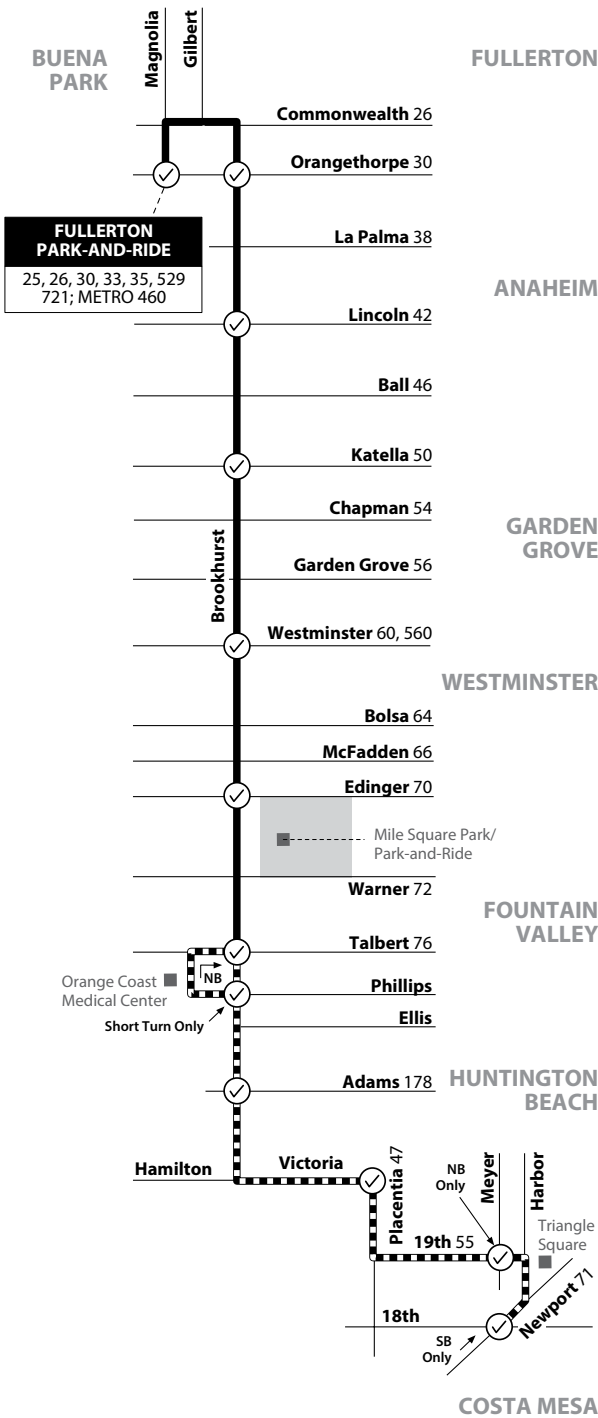
METRO = Los Angeles Metro

Numbers on streets indicate transfers. Números en la calle indican transbordos.



Route 033/010419

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)



**Monday-Saturday
NORTHBOUND To: Fullerton**

19th & Meyer	Victoria & Placentia	Brookhurst & Adams	Brookhurst & Talbert	Brookhurst & Edinger	Brookhurst & Westminster	Brookhurst & Katella	Brookhurst & Lincoln	Brookhurst & Orangethorpe	Fullerton Park-and-Ride
4:43	4:47	4:53	4:59	5:05	5:14	5:25	5:35	5:44	5:54
5:28	5:32	5:38	5:44	5:50	5:59	6:10	6:20	6:29	6:39
6:10	6:15	6:22	6:29	6:36	6:46	6:58	7:07	7:15	7:26
6:55	7:00	7:07	7:14	7:21	7:31	7:43	7:52	8:00	8:11
7:40	7:45	7:52	7:59	8:06	8:16	8:28	8:37	8:45	8:56
8:23	8:28	8:36	8:44	8:52	9:05	9:20	9:30	9:40	9:51
9:08	9:13	9:21	9:29	9:37	9:50	10:05	10:15	10:25	10:36
9:53	9:58	10:06	10:14	10:22	10:35	10:50	11:00	11:10	11:21
10:33	10:38	10:47	10:56	11:06	11:20	11:36	11:47	11:56	12:08
11:18	11:23	11:32	11:41	11:51	12:05	12:21	12:32	12:41	12:53
12:03	12:08	12:17	12:26	12:36	12:50	1:06	1:17	1:26	1:38
12:48	12:53	1:02	1:11	1:21	1:35	1:51	2:02	2:11	2:23
1:33	1:38	1:47	1:56	2:06	2:20	2:36	2:47	2:56	3:08
2:18	2:23	2:32	2:41	2:51	3:05	3:21	3:32	3:41	3:53
3:03	3:08	3:17	3:26	3:35	3:48	4:03	4:15	4:26	4:38
3:48	3:53	4:02	4:11	4:20	4:33	4:48	5:00	5:11	5:23
4:29	4:34	4:43	4:52	5:01	5:14	5:29	5:41	5:52	6:04
5:33	5:39	5:48	5:57	6:05	6:17	6:31	6:41	6:49	7:00
6:53	6:59	7:08	7:17	7:25	7:37	7:51	8:01	8:09	8:20

**Monday-Saturday
SOUTHBOUND To: Costa Mesa**

Fullerton Park-and-Ride	Brookhurst & Orangethorpe	Brookhurst & Lincoln	Brookhurst & Katella	Brookhurst & Westminster	Brookhurst & Edinger	Brookhurst & Talbert	Brookhurst & Adams	Placentia & Victoria	Newport & 18th
5:19	5:32	5:40	5:48	6:01	6:09	6:16	6:24	6:32	6:39
6:04	6:17	6:25	6:33	6:46	6:54	7:01	7:09	7:17	7:24
6:49	7:02	7:10	7:18	7:31	7:39	7:46	7:54	8:02	8:09
7:29	7:42	7:50	7:58	8:11	8:19	8:26	8:34	8:42	8:49
8:02	8:15	8:24	8:33	8:51	9:01	9:09	9:17	9:26	9:35
8:42	8:55	9:04	9:13	9:31	9:41	9:49	9:57	10:06	10:15
9:23	9:37	9:46	9:58	10:16	10:28	10:37	10:46	10:55	11:04
10:08	10:22	10:31	10:43	11:01	11:13	11:22	11:31	11:40	11:49
10:52	11:05	11:14	11:25	11:46	11:57	12:06	12:15	12:24	12:33
11:37	11:50	11:59	12:10	12:31	12:42	12:51	1:00	1:09	1:18
12:22	12:35	12:44	12:55	1:16	1:27	1:36	1:45	1:54	2:03
1:11	1:23	1:32	1:43	2:01	2:12	2:21	2:30	2:38	2:48
1:56	2:08	2:17	2:28	2:46	2:57	3:06	3:15	3:23	3:33
2:38	2:50	2:59	3:10	3:28	3:39	3:48	3:57	4:05	4:15
3:23	3:35	3:44	3:55	4:13	4:24	4:33	4:42	4:50	5:00
4:08	4:20	4:29	4:40	4:58	5:09	5:18	5:27	5:35	5:45
5:13	5:25	5:34	5:43	5:58	6:08	6:16	6:23	6:31	6:37
6:13	6:25	6:34	6:43	6:58	7:08	7:16	7:23	7:31	7:37
7:13	7:25	7:34	7:43	7:58	8:08	8:16	8:23	8:31	8:37

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Sunday & Holiday

NORTHBOUND To: Fullerton

19th & Meyer	Victoria & Placentia	Brookhurst & Adams	Brookhurst & Talbert	Brookhurst & Edinger	Brookhurst & Westminster	Brookhurst & Katella	Brookhurst & Lincoln	Brookhurst & Orangethorpe	Fullerton Park-and-Ride
5:38	5:44	5:50	5:56	6:01	6:09	6:19	6:26	6:33	6:43
6:24	6:30	6:37	6:44	6:51	6:59	7:10	7:18	7:25	7:35
7:07	7:12	7:20	7:29	7:37	7:49	8:03	8:12	8:22	8:33
7:52	7:57	8:05	8:14	8:22	8:34	8:48	8:57	9:07	9:18
8:44	8:49	8:57	9:06	9:14	9:26	9:40	9:49	9:59	10:10
9:36	9:41	9:49	9:58	10:06	10:18	10:32	10:41	10:51	11:02
10:26	10:31	10:39	10:48	10:56	11:08	11:22	11:31	11:41	11:52
11:13	11:18	11:26	11:35	11:44	11:57	12:12	12:23	12:33	12:45
12:07	12:12	12:20	12:29	12:38	12:51	1:06	1:17	1:27	1:39
1:01	1:06	1:14	1:23	1:32	1:45	2:00	2:11	2:21	2:33
1:57	2:02	2:10	2:19	2:28	2:41	2:56	3:07	3:17	3:29
2:45	2:50	2:58	3:07	3:16	3:29	3:44	3:55	4:05	4:17
3:39	3:44	3:51	4:00	4:08	4:20	4:34	4:43	4:53	5:04
4:30	4:35	4:42	4:51	4:59	5:11	5:25	5:34	5:44	5:55
5:25	5:30	5:37	5:46	5:54	6:06	6:20	6:29	6:39	6:50
6:15	6:20	6:27	6:36	6:44	6:56	7:10	7:19	7:29	7:40

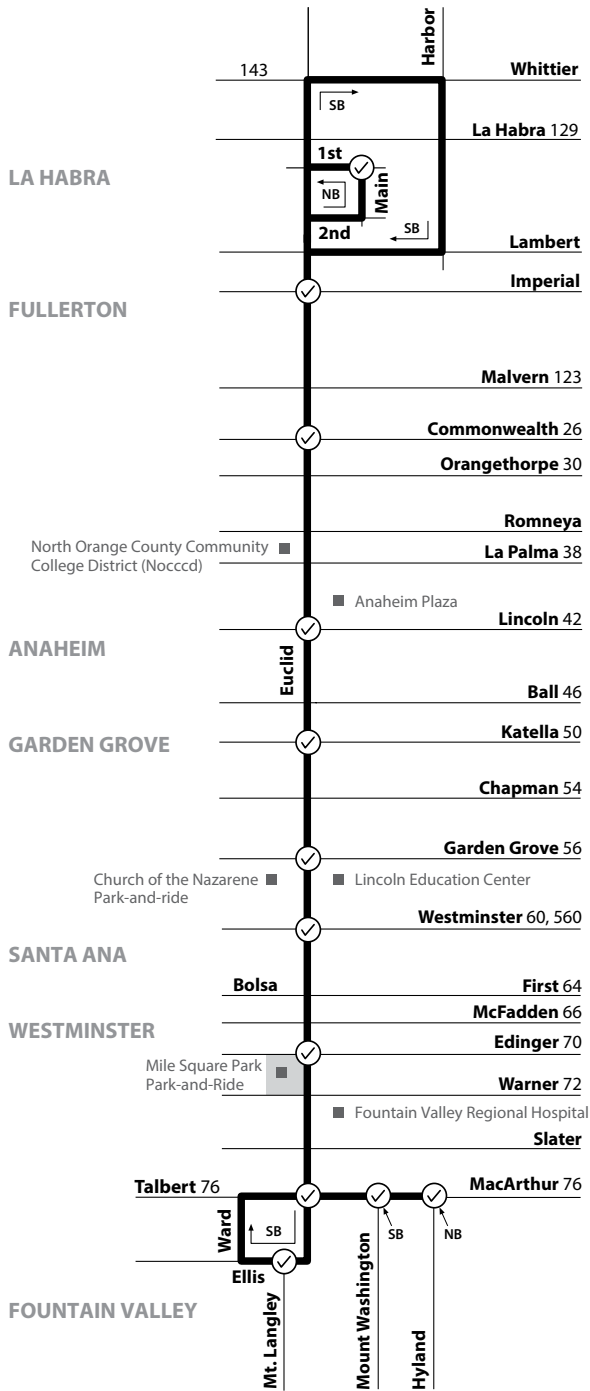
Sunday & Holiday

SOUTHBOUND To: Costa Mesa

Fullerton Park-and-Ride	Brookhurst & Orangethorpe	Brookhurst & Lincoln	Brookhurst & Katella	Brookhurst & Westminster	Brookhurst & Edinger	Brookhurst & Talbert	Brookhurst & Adams	Placentia & Victoria	Newport & 18th
5:35	5:45	5:52	5:59	6:11	6:19	6:26	6:33	6:41	6:48
6:17	6:29	6:37	6:45	6:57	7:05	7:12	7:19	7:27	7:35
7:07	7:19	7:27	7:35	7:47	7:55	8:02	8:09	8:17	8:25
7:53	8:05	8:14	8:24	8:39	8:49	8:56	9:04	9:12	9:20
8:43	8:55	9:04	9:14	9:29	9:39	9:46	9:54	10:02	10:10
9:28	9:41	9:50	10:01	10:17	10:27	10:34	10:42	10:50	10:59
10:21	10:34	10:43	10:54	11:10	11:20	11:27	11:35	11:43	11:52
11:12	11:25	11:34	11:45	12:01	12:11	12:18	12:26	12:34	12:43
12:03	12:15	12:24	12:34	12:52	1:03	1:12	1:21	1:29	1:39
12:55	1:07	1:16	1:26	1:44	1:55	2:04	2:13	2:21	2:31
1:51	2:03	2:12	2:22	2:37	2:47	2:55	3:04	3:12	3:21
2:43	2:55	3:04	3:14	3:29	3:39	3:47	3:56	4:04	4:13
3:39	3:51	4:00	4:10	4:25	4:35	4:43	4:52	5:00	5:09
4:27	4:39	4:48	4:58	5:13	5:23	5:31	5:40	5:48	5:57
5:15	5:27	5:36	5:46	6:01	6:11	6:19	6:28	6:36	6:45
6:08	6:19	6:26	6:34	6:47	6:56	7:02	7:08	7:16	7:23
7:03	7:14	7:21	7:29	7:42	7:51	7:57	8:03	8:11	8:18

Route 35 Provides Service To / Ruta 35 Proporciona Servicio A

Buena Park - Buena Park High School	Westminster - Warner Middle School
Fullerton - Fullerton Park-and-Ride	- Sarah McGarvin Intermediate School
Anaheim - Brookhurst Junior High School	- La Quinta High School
- Savanna High School	Fountain Valley - Fountain Valley Civic Center
- Magnolia High School	- Mile Square Park and Park-and-Ride
Garden Grove - Donald S. Jordan Intermediate School	- Fountain Valley High School
- Garden Grove Promenade	- Talbert Medical Center
- Korea Town	Costa Mesa - Triangle Square



LEGEND
LEYENDA

Scheduled Departure
 Regular Routing

Route 037/111519 Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

Monday-Friday
NORTHBOUND To: La Habra

MacArthur & Hyland	Euclid & Talbert	Euclid & Edinger	Euclid & Westminister	Euclid & Garden Grove	Euclid & Katella	Euclid & Lincoln	Euclid & Commonwealth	Euclid & Imperial (F)	1st & Main
5:18	5:21	5:30	5:37	5:41	5:49	5:56	6:08	6:19	6:22
6:13	6:16	6:25	6:32	6:36	6:44	6:51	7:03	7:14	7:18
6:56	6:59	7:08	7:15	7:19	7:27	7:34	7:46	7:57	8:01
7:13	7:17	7:26	7:35	7:39	7:49	7:58	8:11	8:22	8:27
7:36	7:40	7:49	7:58	8:02	8:12	8:21	8:34	8:45	8:50
8:24	8:28	8:37	8:46	8:50	9:00	9:09	9:22	9:33	9:38
8:59	9:04	9:14	9:23	9:28	9:38	9:48	10:02	10:14	10:19
9:21	9:26	9:36	9:45	9:50	10:00	10:10	10:24	10:36	10:41
9:44	9:49	9:59	10:08	10:13	10:23	10:33	10:47	10:59	11:04
10:07	10:12	10:22	10:31	10:36	10:46	10:56	11:10	11:22	11:27
10:29	10:34	10:44	10:53	10:58	11:08	11:18	11:32	11:44	11:49
11:14	11:19	11:29	11:38	11:43	11:53	12:03	12:17	12:29	12:34
11:59	12:04	12:14	12:23	12:28	12:38	12:48	1:02	1:14	1:19
12:47	12:52	1:02	1:11	1:16	1:26	1:36	1:50	2:02	2:07
1:28	1:33	1:43	1:54	2:00	2:11	2:19	2:31	2:46	2:51
2:13	2:18	2:28	2:39	2:45	2:56	3:04	3:16	3:31	3:36
2:55	3:00	3:10	3:21	3:27	3:38	3:46	3:58	4:13	4:18
3:43	3:47	3:55	4:03	4:08	4:18	4:28	4:41	4:52	4:57
4:03	4:07	4:15	4:23	4:28	4:38	4:48	5:01	5:12	5:17
4:23	4:27	4:35	4:43	4:48	4:58	5:08	5:21	5:32	5:37
5:08	5:12	5:20	5:28	5:33	5:43	5:53	6:06	6:17	6:22
5:30	5:34	5:42	5:50	5:55	6:05	6:15	6:28	6:39	6:44
5:53	5:57	6:05	6:13	6:18	6:28	6:38	6:51	7:02	7:07
6:33	6:37	6:45	6:53	6:58	7:08	7:18	7:31	7:42	7:47
7:13	7:17	7:25	7:33	7:38	7:48	7:58	8:11	8:22	8:27

Monday-Friday
SOUTHBOUND To: Fountain Valley

1st & Main	Euclid & Imperial	Euclid & Commonwealth	Euclid & Lincoln	Euclid & Katella	Euclid & Garden Grove	Euclid & Westminister	Euclid & Edinger	Ellis & Mt. Langley	Talbert & Mt. Washington
5:53	6:06	6:18	6:29	6:38	6:45	6:50	6:58	7:07	7:10
6:43	6:56	7:08	7:21	7:30	7:38	7:43	7:52	8:03	8:07
7:12	7:25	7:37	7:50	7:59	8:07	8:12	8:21	8:32	8:36
7:42	7:55	8:07	8:20	8:29	8:37	8:42	8:51	9:02	9:06
8:32	8:45	8:57	9:10	9:19	9:27	9:32	9:41	9:52	9:56
9:18	9:33	9:45	9:59	10:09	10:18	10:24	10:33	10:46	10:51
9:42	9:57	10:09	10:23	10:33	10:42	10:48	10:57	11:10	11:15
10:05	10:20	10:32	10:46	10:56	11:05	11:11	11:20	11:33	11:38
10:50	11:05	11:17	11:31	11:41	11:50	11:56	12:05	12:18	12:23
11:35	11:51	12:02	12:16	12:26	12:35	12:43	12:52	1:04	1:09
11:57	12:13	12:24	12:38	12:48	12:57	1:05	1:14	1:26	1:31
12:19	12:35	12:46	1:00	1:10	1:19	1:27	1:36	1:48	1:53
1:03	1:19	1:30	1:44	1:54	2:03	2:11	2:20	2:32	2:37
1:49	2:05	2:16	2:29	2:39	2:47	2:52	3:01	3:12	3:17
2:11	2:27	2:38	2:51	3:01	3:09	3:14	3:23	3:34	3:39
2:33	2:49	3:00	3:13	3:23	3:31	3:36	3:45	3:56	4:01
2:55	3:11	3:22	3:35	3:45	3:53	3:58	4:07	4:18	4:23
3:18	3:34	3:45	3:58	4:08	4:16	4:21	4:30	4:41	4:46
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4:23	4:39	4:50	5:03	5:13	5:21	5:26	5:35	5:46	5:51
4:47	5:01	5:12	5:26	5:36	5:44	5:48	5:56	6:05	6:09
5:10	5:24	5:35	5:49	5:59	6:07	6:11	6:19	6:28	6:33
5:33	5:47	5:58	6:12	6:22	6:30	6:34	6:42	6:51	6:55
6:13	6:27	6:38	6:52	7:02	7:10	7:14	7:22	7:31	7:35
6:53	7:07	7:18	7:32	7:42	7:50	7:54	8:02	8:11	8:15
7:33	7:47	7:58	8:12	8:22	8:30	8:34	8:42	8:51	8:55
8:13	8:27	8:38	8:52	9:02	9:10	9:14	9:22	9:31	9:35

F = Times are approximate/Los horarios son aproximados.

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Saturday

NORTHBOUND To: La Habra

MacArthur & Hyland	Euclid & Talbert	Euclid & Edinger	Euclid & Westminster	Euclid & Garden Grove	Euclid & Katella	Euclid & Lincoln	Euclid & Commonwealth	Euclid & Imperial (F)	1st & Main
5:18	5:21	5:30	5:37	5:41	5:49	5:56	6:08	6:19	6:23
6:13	6:16	6:25	6:32	6:36	6:44	6:51	7:03	7:14	7:18
6:56	6:59	7:08	7:15	7:19	7:27	7:34	7:46	7:57	8:01
7:36	7:40	7:49	7:58	8:02	8:12	8:21	8:34	8:45	8:50
8:24	8:28	8:37	8:46	8:50	9:00	9:09	9:22	9:33	9:38
8:59	9:04	9:14	9:23	9:28	9:38	9:48	10:02	10:14	10:19
9:44	9:49	9:59	10:08	10:13	10:23	10:33	10:47	10:59	11:04
10:29	10:34	10:44	10:53	10:58	11:08	11:18	11:32	11:44	11:49
11:14	11:19	11:29	11:38	11:43	11:53	12:03	12:17	12:29	12:34
11:59	12:04	12:14	12:23	12:28	12:38	12:48	1:02	1:14	1:19
12:47	12:52	1:02	1:11	1:16	1:26	1:36	1:50	2:02	2:07
1:28	1:33	1:43	1:54	2:00	2:11	2:19	2:31	2:46	2:51
2:13	2:18	2:28	2:39	2:45	2:56	3:04	3:16	3:31	3:36
2:55	3:00	3:10	3:21	3:27	3:38	3:46	3:58	4:13	4:18
3:43	3:47	3:55	4:03	4:08	4:18	4:28	4:41	4:52	4:56
4:23	4:27	4:35	4:43	4:48	4:58	5:08	5:21	5:32	5:36
5:08	5:12	5:20	5:28	5:33	5:43	5:53	6:06	6:17	6:21
5:53	5:57	6:05	6:13	6:18	6:28	6:38	6:51	7:02	7:06
6:33	6:37	6:45	6:53	6:58	7:08	7:18	7:31	7:42	7:46
7:13	7:17	7:25	7:33	7:38	7:48	7:58	8:11	8:22	8:26

Saturday

SOUTHBOUND To: Fountain Valley

1st & Main	Euclid & Imperial	Euclid & Commonwealth	Euclid & Lincoln	Euclid & Katella	Euclid & Garden Grove	Euclid & Westminster	Euclid & Edinger	Ellis & Mt. Langley	Talbert & Mt Washington
5:53	6:06	6:18	6:29	6:38	6:45	6:50	6:58	7:07	7:10
6:43	6:56	7:08	7:21	7:30	7:38	7:43	7:52	8:03	8:07
7:42	7:55	8:07	8:20	8:29	8:37	8:42	8:51	9:02	9:06
8:32	8:45	8:57	9:10	9:19	9:27	9:32	9:41	9:52	9:56
9:18	9:33	9:45	9:59	10:09	10:18	10:24	10:33	10:46	10:51
10:05	10:20	10:32	10:46	10:56	11:05	11:11	11:20	11:33	11:38
10:50	11:05	11:17	11:31	11:41	11:50	11:56	12:05	12:18	12:23
11:35	11:51	12:02	12:16	12:26	12:35	12:43	12:52	1:04	1:09
12:19	12:35	12:46	1:00	1:10	1:19	1:27	1:36	1:48	1:53
1:03	1:19	1:30	1:44	1:54	2:03	2:11	2:20	2:32	2:37
1:49	2:05	2:16	2:29	2:39	2:47	2:52	3:01	3:12	3:17
2:33	2:49	3:00	3:13	3:23	3:31	3:36	3:45	3:56	4:01
3:18	3:34	3:45	3:58	4:08	4:16	4:21	4:30	4:41	4:46
4:01	4:17	4:28	4:41	4:51	4:59	5:04	5:13	5:24	5:29
4:47	5:01	5:12	5:26	5:36	5:44	5:48	5:56	6:05	6:09
5:33	5:47	5:58	6:12	6:22	6:30	6:34	6:42	6:51	6:55
6:13	6:27	6:38	6:52	7:02	7:10	7:14	7:22	7:31	7:35
6:53	7:07	7:18	7:32	7:42	7:50	7:54	8:02	8:11	8:15
7:33	7:47	7:58	8:12	8:22	8:30	8:34	8:42	8:51	8:55
8:13	8:27	8:38	8:52	9:02	9:10	9:14	9:22	9:31	9:35

Sunday & Holiday

SOUTHBOUND To: Fountain Valley

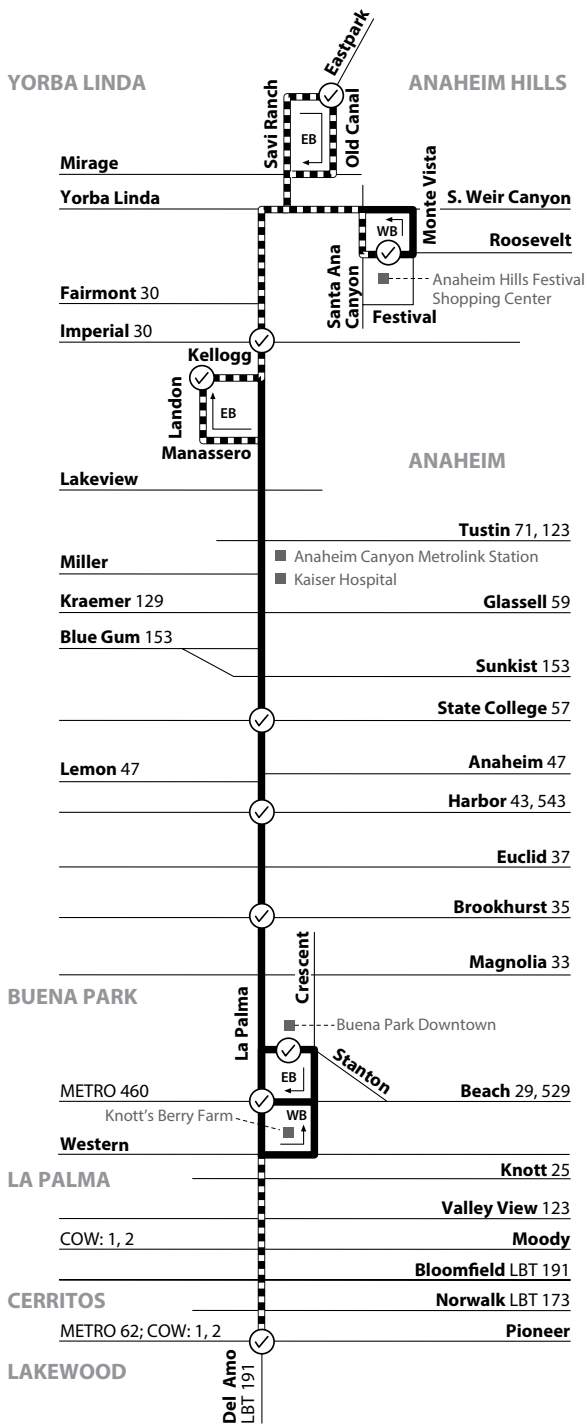
1st & Main	Euclid & Imperial	Euclid & Commonwealth	Euclid & Lincoln	Euclid & Katella	Euclid & Garden Grove	Euclid & Westminster	Euclid & Edinger	Ellis & Mt. Langley	Talbert & Mt Washington
6:55	7:07	7:17	7:29	7:38	7:47	7:51	7:59	8:08	8:12
7:45	7:57	8:07	8:19	8:28	8:37	8:41	8:49	8:58	9:02
8:35	8:47	8:57	9:09	9:18	9:27	9:31	9:39	9:48	9:52
9:25	9:37	9:47	9:59	10:08	10:17	10:21	10:29	10:38	10:42
10:13	10:26	10:36	10:49	10:58	11:07	11:13	11:21	11:31	11:36
11:03	11:16	11:26	11:39	11:48	11:57	12:03	12:11	12:21	12:26
11:53	12:06	12:16	12:29	12:38	12:47	12:53	1:01	1:11	1:16
12:40	12:55	1:06	1:19	1:28	1:37	1:42	1:49	2:01	2:06
1:30	1:45	1:56	2:09	2:18	2:27	2:32	2:39	2:51	2:56
2:20	2:35	2:46	2:59	3:08	3:17	3:22	3:29	3:41	3:46
3:11	3:25	3:35	3:49	3:58	4:07	4:12	4:20	4:29	4:34
4:01	4:15	4:25	4:39	4:48	4:57	5:02	5:10	5:19	5:24
4:51	5:05	5:15	5:29	5:38	5:47	5:52	6:00	6:09	6:14
5:44	5:57	6:07	6:19	6:28	6:36	6:40	6:47	6:56	7:00
6:34	6:47	6:57	7:09	7:18	7:26	7:30	7:37	7:46	7:50
7:24	7:37	7:47	7:59	8:08	8:16	8:20	8:27	8:36	8:40

Sunday & Holiday

NORTHBOUND To: La Habra

MacArthur & Hyland	Euclid & Talbert	Euclid & Edinger	Euclid & Westminster	Euclid & Garden Grove	Euclid & Katella	Euclid & Lincoln	Euclid & Commonwealth	Euclid & Imperial (F)	1st & Main
6:59	7:01	7:10	7:18	7:22	7:30	7:39	7:50	7:59	8:04
7:49	7:51	8:00	8:08	8:12	8:20	8:29	8:40	8:49	8:54
8:39	8:41	8:50	8:58	9:02	9:10	9:19	9:30	9:39	9:44
9:27	9:29	9:37	9:46	9:51	10:00	10:10	10:21	10:30	10:35
10:17	10:19	10:27	10:36	10:41	10:50	11:00	11:11	11:20	11:25
11:07	11:10	11:18	11:27	11:31	11:40	11:50	12:02	12:11	12:16
11:57	12:00	12:08	12:17	12:21	12:30	12:40	12:52	1:01	1:06
12:47	12:50	12:58	1:07	1:11	1:20	1:30	1:42	1:51	1:56
1:37	1:40	1:48	1:56	2:01	2:10	2:20	2:32	2:41	2:47
2:27	2:30	2:38	2:46	2:51	3:00	3:10	3:22	3:31	3:37
3:17	3:20	3:28	3:36	3:41	3:50	4:00	4:12	4:21	4:27
4:07	4:10	4:18	4:26	4:31	4:40	4:50	5:02	5:11	5:17
4:57	5:00	5:08	5:16	5:21	5:30	5:40	5:52	6:01	6:07
5:47	5:50	5:58	6:06	6:11	6:20	6:29	6:41	6:52	6:57
6:37	6:40	6:48	6:56	7:01	7:10	7:19	7:31	7:42	7:47

F = Times are approximate/Los horarios son aproximados.



LEGEND
LEYENDA

Route 038/111519

METRO = Los Angeles Metro | COW = Cerritos On Wheels |
LBT = Long Beach Transit

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Scheduled Departure
 Regular Routing
 No Service On Some Weekday Trips

MAP NOT TO SCALE

Monday-Friday

EASTBOUND To: Anaheim Hills /Yorba Linda

Del Amo & Pioneer	La Palma & Beach	La Palma & Brookhurst	La Palma & Harbor	La Palma & State College	La Palma & Imperial	Anaheim Hills Festival
5:14	5:31	5:39	5:48	5:57	6:16	6:26
5:35	5:56	6:04	6:13	6:22	6:41	6:51
6:00	6:21	6:29	6:38	6:47	7:06	7:16
6:25	6:46	6:54	7:03	7:12	7:31	7:41
6:50	7:11	7:19	7:28	7:37	7:56	8:06
7:15	7:36	7:44	7:53	8:02	8:21	8:31
7:37	7:58	8:08	8:18	8:29	8:48	8:58
8:02	8:23	8:33	8:43	8:54	9:13	9:23
8:27	8:48	8:58	9:08	9:19	9:38	9:48
9:17	9:38	9:48	9:58	10:09	10:28	10:39
10:07	10:28	10:38	10:48	10:59	11:18	11:29
10:32	10:53	11:03	11:13	11:24	11:43	11:54
10:55	11:17	11:29	11:38	11:49	12:08	12:19
11:20	11:42	11:54	12:03	12:14	12:33	12:44
11:45	12:07	12:19	12:28	12:39	12:58	1:09
12:10	12:32	12:44	12:53	1:04	1:23	1:34
12:35	12:57	1:09	1:18	1:29	1:48	1:59
1:25	1:47	1:59	2:08	2:19	2:38	2:49
2:16	2:37	2:49	2:58	3:09	3:28	3:39
3:06	3:27	3:39	3:48	3:59	4:18	4:29
3:56	4:17	4:29	4:38	4:49	5:08	5:18
4:21	4:42	4:54	5:03	5:14	5:33	5:43
4:46	5:07	5:19	5:28	5:39	5:58	6:08
5:38	5:58	6:09	6:18	6:29	6:48	6:57
6:28	6:48	6:59	7:08	7:19	7:38	7:47
7:20	7:40	7:50	7:58	8:06	8:23	8:32
8:10	8:30	8:40	8:48	8:56	9:13	9:22

Monday-Friday

WESTBOUND To: Lakewood

Anaheim Hills Festival	La Palma & Imperial	La Palma & State College	La Palma & Harbor	La Palma & Brookhurst	La Palma & Beach	Del Amo & Pioneer
6:00	6:13	6:31	6:40	6:48	6:57	7:11
6:44	6:59	7:20	7:30	7:40	7:51	8:09
7:34	7:49	8:10	8:20	8:30	8:41	8:59
8:24	8:39	9:00	9:10	9:20	9:31	9:49
9:14	9:29	9:50	10:00	10:10	10:21	10:39
10:03	10:18	10:39	10:50	11:01	11:15	11:33
10:51	11:07	11:29	11:40	11:50	12:02	12:20
11:41	11:57	12:19	12:30	12:40	12:52	1:10
12:04	12:21	12:44	12:55	1:05	1:17	1:35
12:29	12:46	1:09	1:20	1:30	1:42	2:00
12:54	1:11	1:34	1:45	1:55	2:07	2:25
1:19	1:36	1:59	2:10	2:20	2:32	2:50
1:46	2:01	2:24	2:35	2:45	2:57	3:15
2:11	2:26	2:49	3:00	3:10	3:22	3:40
2:36	2:51	3:14	3:25	3:35	3:47	4:05
3:01	3:16	3:39	3:50	4:00	4:12	4:30
3:26	3:41	4:04	4:15	4:25	4:37	4:55
3:51	4:06	4:29	4:40	4:50	5:02	5:20
4:16	4:31	4:54	5:05	5:15	5:27	5:45
4:46	5:00	5:20	5:30	5:39	5:51	6:09
5:11	5:25	5:45	5:55	6:04	6:16	6:34
5:36	5:50	6:10	6:20	6:29	6:40	6:58
6:28	6:41	7:00	7:10	7:19	7:30	7:46
7:28	7:41	8:00	8:10	8:19	8:30	8:46

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Saturday

EASTBOUND To: Anaheim Hills /Yorba Linda

Del Amo & Pioneer	La Palma & Beach	La Palma & Brookhurst	La Palma & Harbor	La Palma & State College	La Palma & Imperial	Anaheim Hills Festival
5:14	5:31	5:39	5:48	5:57	6:16	6:26
6:00	6:21	6:29	6:38	6:47	7:06	7:16
6:50	7:11	7:19	7:28	7:37	7:56	8:06
7:37	7:58	8:08	8:18	8:29	8:48	8:58
8:27	8:48	8:58	9:08	9:19	9:38	9:48
9:17	9:38	9:48	9:58	10:09	10:28	10:39
10:07	10:28	10:38	10:48	10:59	11:18	11:29
10:55	11:17	11:29	11:38	11:49	12:08	12:19
11:45	12:07	12:19	12:28	12:39	12:58	1:09
12:35	12:57	1:09	1:18	1:29	1:48	1:59
1:25	1:47	1:59	2:08	2:19	2:38	2:49
2:16	2:37	2:49	2:58	3:09	3:28	3:39
3:06	3:27	3:39	3:48	3:59	4:18	4:29
3:56	4:17	4:29	4:38	4:49	5:08	5:18
4:46	5:07	5:19	5:28	5:39	5:58	6:08
5:38	5:58	6:09	6:18	6:29	6:48	6:57
6:28	6:48	6:59	7:08	7:19	7:38	7:47
7:20	7:40	7:50	7:58	8:06	8:23	8:32
8:10	8:30	8:40	8:48	8:56	9:13	9:22

Sunday & Holiday

EASTBOUND To: Anaheim Hills /Yorba Linda

Del Amo & Pioneer	La Palma & Beach	La Palma & Brookhurst	La Palma & Harbor	La Palma & State College	La Palma & Imperial	Anaheim Hills Festival
5:15	5:32	5:40	5:49	5:59	6:17	6:27
6:00	6:17	6:25	6:34	6:44	7:02	7:12
6:45	7:02	7:10	7:19	7:29	7:47	7:57
7:30	7:47	7:55	8:04	8:14	8:32	8:42
8:11	8:30	8:39	8:49	8:59	9:17	9:27
8:56	9:15	9:24	9:34	9:44	10:02	10:12
9:40	10:01	10:12	10:21	10:31	10:50	11:01
10:25	10:46	10:57	11:06	11:16	11:35	11:46
11:10	11:31	11:42	11:51	12:01	12:20	12:31
11:55	12:16	12:27	12:36	12:46	1:05	1:16
12:45	1:06	1:17	1:26	1:36	1:55	2:06
1:30	1:51	2:02	2:11	2:21	2:40	2:51
2:15	2:36	2:47	2:56	3:06	3:25	3:36
3:01	3:21	3:32	3:41	3:51	4:09	4:20
3:47	4:07	4:18	4:27	4:37	4:55	5:05
4:33	4:53	5:04	5:13	5:23	5:41	5:51
5:19	5:39	5:50	5:59	6:09	6:27	6:37
6:04	6:24	6:35	6:44	6:54	7:12	7:22
6:49	7:09	7:20	7:29	7:39	7:57	8:07
7:35	7:51	8:01	8:09	8:17	8:33	8:44
8:15	8:31	8:41	8:49	8:57	9:13	9:24

Saturday

WESTBOUND To: Lakewood

Anaheim Hills Festival	La Palma & Imperial	La Palma & State College	La Palma & Harbor	La Palma & Brookhurst	La Palma & Beach	Del Amo & Pioneer
6:00	6:13	6:31	6:40	6:48	6:57	7:11
6:44	6:59	7:20	7:30	7:40	7:51	8:09
7:34	7:49	8:10	8:20	8:30	8:41	8:59
8:24	8:39	9:00	9:10	9:20	9:31	9:49
9:14	9:29	9:50	10:00	10:10	10:21	10:39
10:03	10:18	10:39	10:50	11:01	11:15	11:33
10:51	11:07	11:29	11:40	11:50	12:02	12:20
11:41	11:57	12:19	12:30	12:40	12:52	1:10
12:29	12:46	1:09	1:20	1:30	1:42	2:00
1:19	1:36	1:59	2:10	2:20	2:32	2:50
2:11	2:26	2:49	3:00	3:10	3:22	3:40
3:01	3:16	3:39	3:50	4:00	4:12	4:30
3:51	4:06	4:29	4:40	4:50	5:02	5:20
4:46	5:00	5:20	5:30	5:39	5:51	6:09
5:36	5:50	6:10	6:20	6:29	6:40	6:58
6:28	6:41	7:00	7:10	7:19	7:30	7:46
7:28	7:41	8:00	8:10	8:19	8:30	8:46

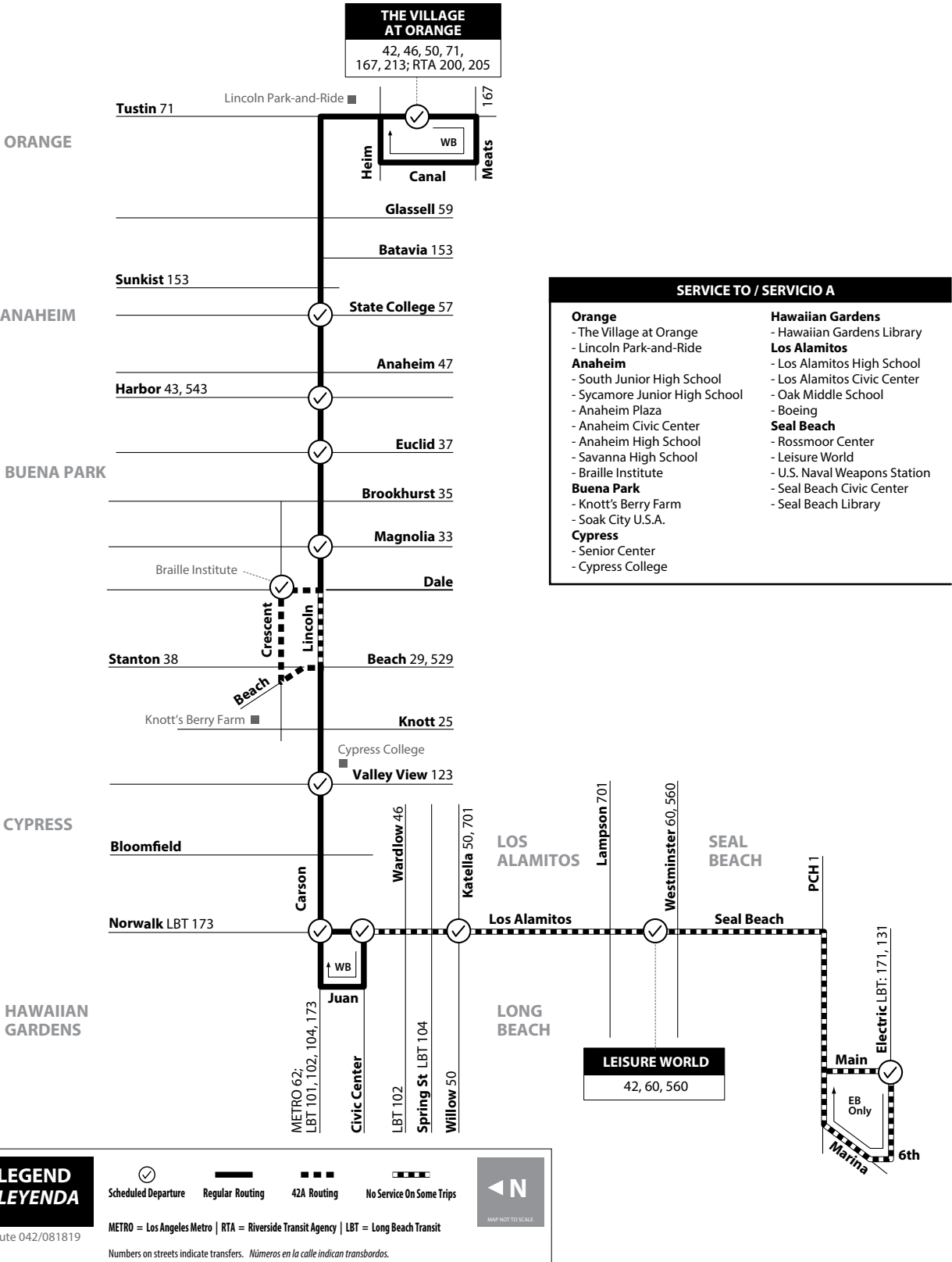
Sunday & Holiday

WESTBOUND To: Lakewood

Anaheim Hills Festival	La Palma & Imperial	La Palma & State College	La Palma & Harbor	La Palma & Brookhurst	La Palma & Beach	Del Amo & Pioneer
6:00	6:11	6:29	6:37	6:44	6:51	7:05
6:38	6:53	7:13	7:22	7:31	7:39	7:56
7:21	7:37	7:57	8:07	8:16	8:28	8:46
8:06	8:22	8:42	8:52	9:01	9:13	9:31
8:51	9:07	9:27	9:37	9:46	9:58	10:16
9:36	9:52	10:12	10:22	10:31	10:43	11:01
10:21	10:37	10:57	11:07	11:16	11:28	11:46
11:11	11:27	11:47	11:57	12:06	12:18	12:36
11:56	12:12	12:32	12:42	12:51	1:03	1:21
12:40	12:57	1:20	1:29	1:37	1:48	2:04
1:26	1:43	2:06	2:15	2:23	2:34	2:50
2:15	2:32	2:50	3:00	3:08	3:18	3:34
3:00	3:17	3:35	3:45	3:53	4:03	4:19
3:45	4:02	4:20	4:30	4:38	4:48	5:04
4:30	4:47	5:05	5:15	5:23	5:33	5:49
5:15	5:32	5:50	6:00	6:08	6:18	6:34
6:03	6:17	6:35	6:45	6:53	7:03	7:19
6:50	7:04	7:20	7:27	7:36	7:47	8:03
7:32	7:44	8:00	8:07	8:16	8:27	8:43

Seal Beach to Orange
via Seal Beach Blvd / Los Alamitos Blvd / Lincoln Ave

42/A



Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Seal Beach to Orange

via Seal Beach Blvd / Los Alamitos Blvd / Lincoln Ave

Monday-Friday
EASTBOUND To: Orange

Electric & Main	Leisure World	Los Alamitos & Katella	Carson & Norwalk	Lincoln & Valley View	Braille Institute	Lincoln & Magnolia	Lincoln & Euclid	Lincoln & Harbor	Lincoln & State College	Village at Orange Zone 5
			5:45	5:54	.....	6:07	6:15	6:21	6:29	6:46
			5:48	5:55	.....	6:07	6:15	6:20	6:27	6:40
5:59	6:09	6:18	6:25	6:35	.....	6:47	6:55	7:00	7:07	7:20
6:36	6:47	6:56	7:02	7:12	.....	7:26	7:35	7:41	7:50	8:04
7:12	7:23	7:32	7:38	7:48	8:01	8:06	8:15	8:21	8:30	8:44
7:42	7:53	8:02	8:08	8:18	8:31	8:36	8:45	8:51	9:00	9:14
8:05	8:18	8:27	8:35	8:47	9:00	9:05	9:15	9:22	9:32	9:46
			9:10	9:21	.....	9:35	9:45	9:52	10:02	10:16
9:00	9:13	9:22	9:30	9:42	9:55	10:00	10:10	10:17	10:27	10:41
			9:57	10:08	.....	10:25	10:35	10:42	10:52	11:08
9:47	9:59	10:09	10:17	10:29	10:44	10:50	11:00	11:07	11:17	11:33
			10:47	10:58	.....	11:15	11:25	11:32	11:42	11:58
			11:12	11:23	.....	11:40	11:50	11:57	12:07	12:23
11:01	11:13	11:24	11:31	11:44	11:59	12:05	12:15	12:23	12:36	12:52
			11:59	12:12	.....	12:30	12:40	12:48	1:01	1:17
11:51	12:03	12:14	12:21	12:34	12:50	12:55	1:05	1:13	1:26	1:42
			12:49	1:02	.....	1:20	1:30	1:38	1:51	2:07
12:36	12:49	1:01	1:10	1:23	1:39	1:44	1:55	2:02	2:13	2:28
			1:40	1:53	.....	2:09	2:20	2:27	2:38	2:53
1:26	1:39	1:51	2:00	2:13	2:29	2:34	2:45	2:52	3:03	3:18
			2:31	2:43	.....	2:59	3:10	3:17	3:28	3:43
2:16	2:29	2:41	2:50	3:03	3:19	3:24	3:35	3:42	3:53	4:08
			3:22	3:34	.....	3:50	4:00	4:06	4:16	4:32
3:09	3:21	3:32	3:42	3:54	4:10	4:15	4:25	4:31	4:41	4:57
			4:12	4:24	.....	4:40	4:50	4:56	5:06	5:22
3:57	4:09	4:20	4:30	4:42	4:59	5:05	5:15	5:21	5:31	5:47
			4:55	5:07	5:24	5:30	5:40	5:46	5:56	6:12
4:56	5:08	5:18	5:25	5:37	5:54	6:00	6:10	6:16	6:25	6:39
5:35	5:47	5:57	6:04	6:16	.....	6:30	6:40	6:46	6:55	7:09
6:25	6:37	6:47	6:54	7:06	.....	7:20	7:30	7:36	7:45	7:59
7:40	7:52	8:02	8:09	8:21	.....	8:35	8:45	8:51	9:00	9:14

Monday-Friday
WESTBOUND To: Seal Beach

Village at Orange Zone 5	Lincoln & State College	Lincoln & Harbor	Lincoln & Euclid	Lincoln & Magnolia	Braille Institute	Lincoln & Valley View	Carson & Norwalk	Norwalk & Civic Center	Los Alamitos & Katella	Leisure World	Electric & Main
5:36	5:54	6:02	6:08	6:16	.....	6:30	.....	6:40	6:46	6:53	7:03
5:42	5:57	6:03	6:08	6:15	.....	6:26	.....	6:34	6:43	6:50	7:02
6:26	6:44	6:52	6:58	7:06	.....	7:20	.....	7:30	7:36	7:43	7:53
7:11	7:29	7:37	7:43	7:51	7:55	8:10	.....	8:20	8:26	8:33	8:43
7:46	8:05	8:16	8:23	8:32	8:36	8:51	.....	9:02	9:10	9:19	9:31
8:26	8:45	8:56	9:03	9:12	.....	9:27	9:41				
8:54	9:13	9:24	9:31	9:40	9:44	10:01	.....	10:12	10:20	10:29	10:41
9:16	9:35	9:46	9:53	10:02	.....	10:17	10:31				
9:40	10:00	10:10	10:18	10:28	10:32	10:49	.....	11:01	11:08	11:18	11:30
10:05	10:25	10:35	10:43	10:53	.....	11:08	11:22				
10:30	10:50	11:00	11:08	11:18	11:22	11:39	.....	11:51	11:58	12:08	12:20
10:57	11:17	11:26	11:33	11:42	.....	11:57	12:11				
11:22	11:42	11:51	11:58	12:07	12:11	12:28	.....	12:40	12:48	12:58	1:10
11:47	12:07	12:16	12:23	12:32	.....	12:47	1:01				
12:12	12:32	12:41	12:48	12:57	1:01	1:18	.....	1:30	1:38	1:48	2:00
12:38	12:58	1:07	1:13	1:22	.....	1:37	1:54				
1:03	1:23	1:32	1:38	1:47	1:51	2:09	.....	2:20	2:28	2:37	2:50
1:28	1:48	1:57	2:03	2:12	.....	2:27	2:44				
1:53	2:13	2:22	2:28	2:37	2:41	2:59	.....	3:10	3:18	3:27	3:40
2:17	2:37	2:46	2:53	3:02	.....	3:16	3:31				
2:42	3:02	3:11	3:18	3:27	3:31	3:49	.....	4:00	4:07	4:17	4:26
3:07	3:27	3:36	3:43	3:52	.....	4:06	4:21				
3:32	3:52	4:01	4:08	4:17	4:21	4:37	.....	4:48	4:55	5:05	5:14
3:57	4:18	4:27	4:33	4:41	.....	4:54	5:08				
4:22	4:43	4:52	4:58	5:06	5:10	5:26	.....	5:37	5:44	5:53	6:04
4:30	4:53	5:03	5:10	5:20	.....	5:35	5:48				
4:47	5:08	5:17	5:23	5:31	.....	5:44	5:58				
5:12	5:33	5:42	5:48	5:56	6:00	6:16	.....	6:27	6:34	6:43	6:54
5:37	5:58	6:07	6:13	6:21	6:25	6:41	.....	6:52	6:59	7:08	7:19
6:03	6:24	6:32	6:38	6:47	.....	7:00	.....	7:09	7:15	7:22	7:32
7:08	7:29	7:37	7:43	7:52	.....	8:05	.....	8:14	8:20	8:27	8:37
8:13	8:34	8:42	8:48	8:57	.....	9:10	9:24				

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Seal Beach to Orange

via Seal Beach Blvd / Los Alamitos Blvd / Lincoln Ave

Saturday, Sunday & Holiday EASTBOUND To: Orange

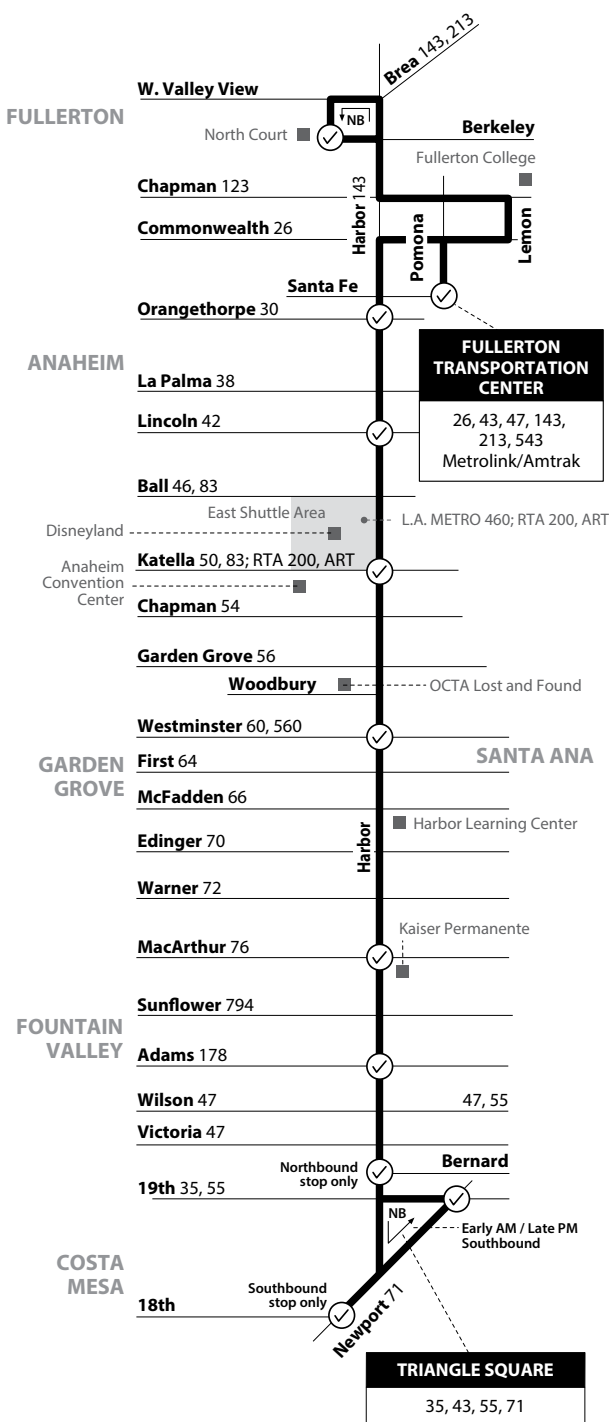
	Electric & Main	Leisure World	Los Alamitos & Katella	Carson & Norwalk	Lincoln & Valley View	Braille Institute	Lincoln & Magnolia	Lincoln & Euclid	Lincoln & Harbor	Lincoln & State College	Village At Orange
				5:48	5:55	.....	6:07	6:15	6:20	6:27	6:40
	5:59	6:09	6:18	6:25	6:35	.....	6:47	6:55	7:00	7:07	7:20
	6:36	6:47	6:56	7:02	7:12	.....	7:26	7:35	7:41	7:50	8:04
A	7:12	7:23	7:32	7:38	7:48	8:01	8:06	8:15	8:21	8:30	8:44
A	7:42	7:53	8:02	8:08	8:18	8:31	8:36	8:45	8:51	9:00	9:14
A	8:05	8:18	8:27	8:35	8:47	9:00	9:05	9:15	9:22	9:32	9:46
				9:10	9:21	.....	9:35	9:45	9:52	10:02	10:16
A	9:00	9:13	9:22	9:30	9:42	9:55	10:00	10:10	10:17	10:27	10:41
				9:57	10:08	.....	10:25	10:35	10:42	10:52	11:08
A	9:47	9:59	10:09	10:17	10:29	10:44	10:50	11:00	11:07	11:17	11:33
				10:47	10:58	.....	11:15	11:25	11:32	11:42	11:58
				11:12	11:23	.....	11:40	11:50	11:57	12:07	12:23
A	11:01	11:13	11:24	11:31	11:44	11:59	12:05	12:15	12:23	12:36	12:52
				11:59	12:12	.....	12:30	12:40	12:48	1:01	1:17
A	11:51	12:03	12:14	12:21	12:34	12:50	12:55	1:05	1:13	1:26	1:42
				12:49	1:02	.....	1:20	1:30	1:38	1:51	2:07
A	12:36	12:49	1:01	1:10	1:23	1:39	1:44	1:55	2:02	2:13	2:28
				1:40	1:53	.....	2:09	2:20	2:27	2:38	2:53
A	1:26	1:39	1:51	2:00	2:13	2:29	2:34	2:45	2:52	3:03	3:18
				2:31	2:43	.....	2:59	3:10	3:17	3:28	3:43
A	2:16	2:29	2:41	2:50	3:03	3:19	3:24	3:35	3:42	3:53	4:08
				3:22	3:34	.....	3:50	4:00	4:06	4:16	4:32
A	3:09	3:21	3:32	3:42	3:54	4:10	4:15	4:25	4:31	4:41	4:57
				4:12	4:24	.....	4:40	4:50	4:56	5:06	5:22
A	3:57	4:09	4:20	4:30	4:42	4:59	5:05	5:15	5:21	5:31	5:47
A				4:55	5:07	5:24	5:30	5:40	5:46	5:56	6:12
A	4:56	5:08	5:18	5:25	5:37	5:54	6:00	6:10	6:16	6:25	6:39
	5:35	5:47	5:57	6:04	6:16	.....	6:30	6:40	6:46	6:55	7:09
	6:25	6:37	6:47	6:54	7:06	.....	7:20	7:30	7:36	7:45	7:59
	7:40	7:52	8:02	8:09	8:21	.....	8:35	8:45	8:51	9:00	9:14

A = Operates alternate routing serving the Braille Institute/Opera la ruta alternativa que atiende al Braille Institute.

Saturday, Sunday & Holiday
WESTBOUND To: Seal Beach

	Village At Orange	Lincoln & State College	Lincoln & Harbor	Lincoln & Euclid	Lincoln & Magnolia	Braille Institute	Lincoln & Valley View	Carson & Norwalk	Norwalk & Civic Center	Los Alamitos & Katella	Leisure World	Electric & Main
	5:36	5:54	6:02	6:08	6:16	.....	6:30	.....	6:40	6:46	6:53	7:03
	6:26	6:44	6:52	6:58	7:06	.....	7:20	.....	7:30	7:36	7:43	7:53
A	7:11	7:29	7:37	7:43	7:51	7:55	8:10	.....	8:20	8:26	8:33	8:43
A	7:46	8:05	8:16	8:23	8:32	8:36	8:51	.....	9:02	9:10	9:19	9:31
	8:26	8:45	8:56	9:03	9:12	.....	9:27	9:41				
A	8:54	9:13	9:24	9:31	9:40	9:44	10:01	.....	10:12	10:20	10:29	10:41
	9:16	9:35	9:46	9:53	10:02	.....	10:17	10:31				
A	9:40	10:00	10:10	10:18	10:28	10:32	10:49	.....	11:01	11:08	11:18	11:30
	10:05	10:25	10:35	10:43	10:53	.....	11:08	11:22				
A	10:30	10:50	11:00	11:08	11:18	11:22	11:39	.....	11:51	11:58	12:08	12:20
	10:57	11:17	11:26	11:33	11:42	.....	11:57	12:11				
A	11:22	11:42	11:51	11:58	12:07	12:11	12:28	.....	12:40	12:48	12:58	1:10
	11:47	12:07	12:16	12:23	12:32	.....	12:47	1:01				
A	12:12	12:32	12:41	12:48	12:57	1:01	1:18	.....	1:30	1:38	1:48	2:00
	12:38	12:58	1:07	1:13	1:22	.....	1:37	1:54				
A	1:03	1:23	1:32	1:38	1:47	1:51	2:09	.....	2:20	2:28	2:37	2:50
	1:28	1:48	1:57	2:03	2:12	.....	2:27	2:44				
A	1:53	2:13	2:22	2:28	2:37	2:41	2:59	.....	3:10	3:18	3:27	3:40
	2:17	2:37	2:46	2:53	3:02	.....	3:16	3:31				
A	2:42	3:02	3:11	3:18	3:27	3:31	3:49	.....	4:00	4:07	4:17	4:26
	3:07	3:27	3:36	3:43	3:52	.....	4:06	4:21				
A	3:32	3:52	4:01	4:08	4:17	4:21	4:37	.....	4:48	4:55	5:05	5:14
	3:57	4:18	4:27	4:33	4:41	.....	4:54	5:08				
A	4:22	4:43	4:52	4:58	5:06	5:10	5:26	.....	5:37	5:44	5:53	6:04
	4:47	5:08	5:17	5:23	5:31	.....	5:44	5:58				
A	5:12	5:33	5:42	5:48	5:56	6:00	6:16	.....	6:27	6:34	6:43	6:54
A	5:37	5:58	6:07	6:13	6:21	6:25	6:41	.....	6:52	6:59	7:08	7:19
	6:03	6:24	6:32	6:38	6:47	.....	7:00	.....	7:09	7:15	7:22	7:32
	7:08	7:29	7:37	7:43	7:52	.....	8:05	.....	8:14	8:20	8:27	8:37
	8:13	8:34	8:42	8:48	8:57	.....	9:10	9:24				

A = Operates alternate routing serving the Braille Institute/Opera la ruta alternativa que atiende al Braille Institute.



LEGEND LEYENDA

Scheduled Departure
 Regular Routing

METRO = Los Angeles Metro | RTA = Riverside Transit Agency

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*



MAP NOT TO SCALE

Route 043/111519

Monday-Friday NORTHBOUND To: Fullerton

19th & Newport	Harbor & Bernard	Harbor & Adams	Harbor & MacArthur	Harbor & Westminster	Harbor & Katella	Harbor & Lincoln	Harbor & Orangethorpe	Fullerton Transportation Center	Berkeley & West Valley View
4:30	4:31	4:40	4:45	4:57	5:10	5:18	5:25	5:28	5:35
	4:51	5:00	5:05	5:17	5:30	5:38	5:45	5:48	5:55
	5:11	5:20	5:25	5:37	5:50	5:58	6:05	6:08	6:15
	5:31	5:40	5:45	5:57	6:10	6:18	6:25	6:28	6:35
	5:50	6:00	6:05	6:19	6:35	6:43	6:51	6:55	7:04
	6:10	6:20	6:25	6:39	6:55	7:03	7:11	7:15	7:24
	6:29	6:39	6:44	6:58	7:14	7:22	7:30	7:34	7:43
	6:46	6:56	7:02	7:18	7:35	7:45	7:54	7:58	8:07
	7:12	7:22	7:28	7:44	8:01	8:11	8:20	8:24	8:33
	7:38	7:48	7:54	8:10	8:27	8:37	8:46	8:50	8:59
	8:00	8:12	8:20	8:36	8:57	9:09	9:18	9:22	9:32
	8:26	8:38	8:46	9:02	9:23	9:35	9:44	9:48	9:58
	8:52	9:04	9:12	9:28	9:49	10:01	10:10	10:14	10:24
	9:18	9:30	9:38	9:54	10:15	10:27	10:36	10:40	10:50
	9:44	9:56	10:04	10:20	10:41	10:53	11:02	11:06	11:16
	10:10	10:22	10:30	10:46	11:07	11:19	11:28	11:32	11:42
	10:27	10:41	10:51	11:11	11:33	11:45	11:55	11:59	12:09
	10:53	11:07	11:17	11:37	11:59	12:11	12:21	12:25	12:35
	11:19	11:33	11:43	12:03	12:25	12:37	12:47	12:51	1:01
	11:45	11:59	12:09	12:29	12:51	1:03	1:13	1:17	1:27
	12:11	12:25	12:35	12:55	1:17	1:29	1:39	1:43	1:53
	12:37	12:51	1:01	1:21	1:43	1:55	2:05	2:09	2:19
	12:51	1:05	1:15	1:35	1:57	2:09	2:19	2:23	2:33
	1:06	1:20	1:30	1:50	2:12	2:24	2:34	2:38	2:48
	1:19	1:33	1:43	2:03	2:25	2:37	2:47	2:51	3:01
	1:32	1:46	1:56	2:16	2:38	2:50	3:00	3:04	3:14
	1:58	2:12	2:22	2:42	3:04	3:16	3:26	3:30	3:40
	2:24	2:38	2:48	3:08	3:30	3:42	3:52	3:56	4:06
	2:50	3:04	3:14	3:34	3:56	4:08	4:18	4:22	4:32
	3:03	3:17	3:27	3:47	4:09	4:21	4:31	4:35	4:45
	3:16	3:30	3:40	4:00	4:22	4:34	4:44	4:48	4:58
	3:29	3:43	3:53	4:13	4:35	4:47	4:57	5:01	5:11
	3:42	3:56	4:06	4:26	4:48	5:00	5:10	5:14	5:24
	4:08	4:22	4:32	4:52	5:14	5:26	5:36	5:40	5:50
	4:36	4:49	4:58	5:16	5:37	5:49	5:59	6:03	6:13
	5:02	5:15	5:24	5:42	6:03	6:15	6:25	6:29	6:39
	5:28	5:41	5:50	6:08	6:29	6:41	6:51	6:55	7:05
	5:54	6:07	6:16	6:34	6:55	7:07	7:17	7:21	7:31
	6:20	6:33	6:42	7:00	7:21	7:33	7:43	7:47	7:57
	6:48	7:01	7:09	7:26	7:47	7:58	8:07	8:11	8:20
	7:18	7:31	7:39	7:56	8:17	8:28	8:37	8:41	8:50
	7:48	8:01	8:09	8:26	8:47	8:58	9:07	9:11	9:20
	8:20	8:33	8:41	8:58	9:19	9:30	9:39	9:43	9:52
	8:48	9:01	9:09	9:26	9:47	9:58	10:07	10:11	10:20
	9:18	9:31	9:39	9:56	10:17	10:28	10:37	10:41	10:50
	9:57	10:09	10:16	10:30	10:48	10:59	11:07	11:11	11:19
10:26	10:27	10:39	10:46	11:00	11:18	11:27	11:34	11:38	11:45
11:26	11:27	11:39	11:46	12:00	12:18	12:27	12:34	12:38	12:45
12:26	12:27	12:39	12:46	1:00	1:18	1:27	1:34	1:38	1:45

Monday-Friday
SOUTHBOUND To: Costa Mesa

Berkeley & West Valley View	Fullerton Transportation Center	Harbor & Orangethorpe	Harbor & Lincoln	Harbor & Katella	Harbor & Westminster	Harbor & MacArthur	Harbor & Adams	Newport & 18th	19th & Newport
3:59	4:05	4:09	4:16	4:25	4:37	4:50	4:56	5:05	
4:09	4:15	4:19	4:26	4:35	4:47	5:00	5:06	5:15	
4:19	4:25	4:29	4:36	4:45	4:57	5:10	5:16	5:25	
4:39	4:45	4:49	4:56	5:05	5:17	5:30	5:36	5:45	
4:49	4:55	4:59	5:06	5:15	5:27	5:40	5:46	5:55	
4:59	5:05	5:09	5:16	5:25	5:37	5:50	5:56	6:05	
5:19	5:25	5:29	5:36	5:45	5:57	6:10	6:16	6:25	
5:29	5:35	5:39	5:46	5:55	6:07	6:20	6:26	6:35	
5:39	5:45	5:49	5:56	6:05	6:17	6:30	6:36	6:45	
5:50	5:56	6:01	6:08	6:20	6:37	6:53	7:01	7:11	
6:00	6:06	6:11	6:18	6:30	6:47	7:03	7:11	7:21	
6:10	6:16	6:21	6:28	6:40	6:57	7:13	7:21	7:31	
6:23	6:29	6:34	6:41	6:53	7:10	7:26	7:34	7:44	
6:36	6:42	6:47	6:54	7:06	7:23	7:39	7:47	7:57	
6:49	6:55	7:00	7:07	7:19	7:36	7:52	8:00	8:10	
7:02	7:08	7:13	7:20	7:32	7:49	8:05	8:13	8:23	
7:28	7:34	7:39	7:46	7:58	8:15	8:31	8:39	8:49	
7:54	8:00	8:05	8:12	8:24	8:41	8:57	9:05	9:15	
8:14	8:20	8:26	8:34	8:48	9:07	9:23	9:32	9:45	
8:38	8:44	8:50	8:58	9:12	9:33	9:51	10:01	10:14	
9:04	9:10	9:16	9:24	9:38	9:59	10:17	10:27	10:40	
9:30	9:36	9:42	9:50	10:04	10:25	10:43	10:53	11:06	
9:56	10:02	10:08	10:16	10:30	10:51	11:09	11:19	11:32	
10:22	10:28	10:34	10:42	10:56	11:17	11:35	11:45	11:58	
10:48	10:54	11:00	11:08	11:22	11:43	12:01	12:11	12:24	
11:07	11:15	11:22	11:31	11:46	12:09	12:29	12:39	12:53	
11:33	11:41	11:48	11:57	12:12	12:35	12:55	1:05	1:19	
11:59	12:07	12:14	12:23	12:38	1:01	1:21	1:31	1:45	
12:25	12:33	12:40	12:49	1:04	1:27	1:47	1:57	2:11	
12:38	12:46	12:53	1:02	1:17	1:40	2:00	2:10	2:24	
12:51	12:59	1:06	1:15	1:30	1:53	2:13	2:23	2:37	
1:17	1:25	1:32	1:41	1:56	2:19	2:39	2:49	3:03	
1:30	1:38	1:45	1:54	2:09	2:32	2:52	3:02	3:16	
1:43	1:51	1:58	2:07	2:22	2:45	3:05	3:15	3:29	
2:09	2:17	2:24	2:33	2:48	3:11	3:31	3:41	3:55	
2:35	2:43	2:50	2:59	3:14	3:37	3:57	4:07	4:21	
3:01	3:09	3:16	3:25	3:40	4:03	4:23	4:33	4:47	
3:27	3:35	3:42	3:51	4:06	4:29	4:49	4:59	5:13	
3:53	4:01	4:08	4:17	4:32	4:55	5:15	5:25	5:39	
4:23	4:31	4:38	4:47	5:01	5:21	5:38	5:46	5:58	
4:49	4:57	5:04	5:13	5:27	5:47	6:04	6:12	6:24	
5:15	5:23	5:30	5:39	5:53	6:13	6:30	6:38	6:50	
5:45	5:52	5:58	6:06	6:20	6:39	6:54	7:03	7:15	
6:11	6:18	6:24	6:32	6:46	7:05	7:20	7:29	7:41	
6:37	6:44	6:50	6:58	7:12	7:31	7:46	7:55	8:07	
7:01	7:08	7:14	7:22	7:36	7:55	8:10	8:19	8:31	
7:31	7:38	7:44	7:52	8:06	8:25	8:40	8:49	9:01	
7:48	7:55	8:01	8:09	8:23	8:40	8:54	9:02	9:13	
8:03	8:10	8:16	8:24	8:38	8:55	9:09	9:17	9:28	
8:33	8:40	8:46	8:54	9:08	9:25	9:39	9:47	....	9:55
9:03	9:10	9:16	9:24	9:38	9:55	10:09	10:17	....	10:25
9:38	9:45	9:51	9:59	10:13	10:30	10:44	10:52	....	11:00
10:08	10:15	10:21	10:29	10:43	11:00	11:14	11:22	....	11:30
11:15	11:21	11:27	11:34	11:47	12:00	12:13	12:21	....	12:29
12:15	12:21	12:27	12:34	12:47	1:00	1:13	1:21	....	1:29

Saturday
NORTHBOUND To: Fullerton

19th & Newport	Harbor & Bernard	Harbor & Adams	Harbor & MacArthur	Harbor & Westminster	Harbor & Katella	Harbor & Lincoln	Harbor & Orangethorpe	Fullerton Transportation Center	Berkeley & West Valley View
4:30	4:31	4:40	4:45	4:57	5:10	5:18	5:25	5:28	5:35
	4:51	5:00	5:05	5:17	5:30	5:38	5:45	5:48	5:55
	5:11	5:20	5:25	5:37	5:50	5:58	6:05	6:08	6:15
	5:31	5:40	5:45	5:57	6:10	6:18	6:25	6:28	6:35
	5:50	6:00	6:05	6:19	6:35	6:43	6:51	6:55	7:04
	6:10	6:20	6:25	6:39	6:55	7:03	7:11	7:15	7:24
	6:29	6:39	6:44	6:58	7:14	7:22	7:30	7:34	7:43
	6:46	6:56	7:02	7:18	7:35	7:45	7:54	7:58	8:07
	7:12	7:22	7:28	7:44	8:01	8:11	8:20	8:24	8:33
	7:38	7:48	7:54	8:10	8:27	8:37	8:46	8:50	8:59
	8:00	8:12	8:20	8:36	8:57	9:09	9:18	9:22	9:32
	8:26	8:38	8:46	9:02	9:23	9:35	9:44	9:48	9:58
	8:52	9:04	9:12	9:28	9:49	10:01	10:10	10:14	10:24
	9:18	9:30	9:38	9:54	10:15	10:27	10:36	10:40	10:50
	9:44	9:56	10:04	10:20	10:41	10:53	11:02	11:06	11:16
	10:10	10:22	10:30	10:46	11:07	11:19	11:28	11:32	11:42
	10:27	10:41	10:51	11:11	11:33	11:45	11:55	11:59	12:09
	10:53	11:07	11:17	11:37	11:59	12:11	12:21	12:25	12:35
	11:19	11:33	11:43	12:03	12:25	12:37	12:47	12:51	1:01
	11:45	11:59	12:09	12:29	12:51	1:03	1:13	1:17	1:27
	12:11	12:25	12:35	12:55	1:17	1:29	1:39	1:43	1:53
	12:37	12:51	1:01	1:21	1:43	1:55	2:05	2:09	2:19
	1:06	1:20	1:30	1:50	2:12	2:24	2:34	2:38	2:48
	1:32	1:46	1:56	2:16	2:38	2:50	3:00	3:04	3:14
	1:58	2:12	2:22	2:42	3:04	3:16	3:26	3:30	3:40
	2:24	2:38	2:48	3:08	3:30	3:42	3:52	3:56	4:06
	2:50	3:04	3:14	3:34	3:56	4:08	4:18	4:22	4:32
	3:16	3:30	3:40	4:00	4:22	4:34	4:44	4:48	4:58
	3:42	3:56	4:06	4:26	4:48	5:00	5:10	5:14	5:24
	4:08	4:22	4:32	4:52	5:14	5:26	5:36	5:40	5:50
	4:36	4:49	4:58	5:16	5:37	5:49	5:59	6:03	6:13
	5:02	5:15	5:24	5:42	6:03	6:15	6:25	6:29	6:39
	5:28	5:41	5:50	6:08	6:29	6:41	6:51	6:55	7:05
	5:54	6:07	6:16	6:34	6:55	7:07	7:17	7:21	7:31
	6:20	6:33	6:42	7:00	7:21	7:33	7:43	7:47	7:57
	6:48	7:01	7:09	7:26	7:47	7:58	8:07	8:11	8:20
	7:18	7:31	7:39	7:56	8:17	8:28	8:37	8:41	8:50
	7:48	8:01	8:09	8:26	8:47	8:58	9:07	9:11	9:20
	8:20	8:33	8:41	8:58	9:19	9:30	9:39	9:43	9:52
	8:48	9:01	9:09	9:26	9:47	9:58	10:07	10:11	10:20
	9:18	9:31	9:39	9:56	10:17	10:28	10:37	10:41	10:50
	9:57	10:09	10:16	10:30	10:48	10:59	11:07	11:11	11:19
10:26	10:27	10:39	10:46	11:00	11:18	11:27	11:34	11:38	11:45
11:26	11:27	11:39	11:46	12:00	12:18	12:27	12:34	12:38	12:45
12:26	12:27	12:39	12:46	1:00	1:18	1:27	1:34	1:38	1:45

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

43

Fullerton to Costa Mesa via Harbor Blvd

Saturday SOUTHBOUND To: Costa Mesa

Berkeley & West Valley View	Fullerton Transportation Center	Harbor & Orangethorpe	Harbor & Lincoln	Harbor & Katella	Harbor & Westminster	Harbor & MacArthur	Harbor & Adams	Newport & 18th	19th & Newport
3:59	4:05	4:09	4:16	4:25	4:37	4:50	4:56	5:05	
4:19	4:25	4:29	4:36	4:45	4:57	5:10	5:16	5:25	
4:39	4:45	4:49	4:56	5:05	5:17	5:30	5:36	5:45	
4:59	5:05	5:09	5:16	5:25	5:37	5:50	5:56	6:05	
5:19	5:25	5:29	5:36	5:45	5:57	6:10	6:16	6:25	
5:39	5:45	5:49	5:56	6:05	6:17	6:30	6:36	6:45	
5:50	5:56	6:01	6:08	6:20	6:37	6:53	7:01	7:11	
6:10	6:16	6:21	6:28	6:40	6:57	7:13	7:21	7:31	
6:36	6:42	6:47	6:54	7:06	7:23	7:39	7:47	7:57	
7:02	7:08	7:13	7:20	7:32	7:49	8:05	8:13	8:23	
7:28	7:34	7:39	7:46	7:58	8:15	8:31	8:39	8:49	
7:54	8:00	8:05	8:12	8:24	8:41	8:57	9:05	9:15	
8:14	8:20	8:26	8:34	8:48	9:07	9:23	9:32	9:45	
8:38	8:44	8:50	8:58	9:12	9:33	9:51	10:01	10:14	
9:04	9:10	9:16	9:24	9:38	9:59	10:17	10:27	10:40	
9:30	9:36	9:42	9:50	10:04	10:25	10:43	10:53	11:06	
9:56	10:02	10:08	10:16	10:30	10:51	11:09	11:19	11:32	
10:22	10:28	10:34	10:42	10:56	11:17	11:35	11:45	11:58	
10:48	10:54	11:00	11:08	11:22	11:43	12:01	12:11	12:24	
11:07	11:15	11:22	11:31	11:46	12:09	12:29	12:39	12:53	
11:33	11:41	11:48	11:57	12:12	12:35	12:55	1:05	1:19	
11:59	12:07	12:14	12:23	12:38	1:01	1:21	1:31	1:45	
12:25	12:33	12:40	12:49	1:04	1:27	1:47	1:57	2:11	
12:51	12:59	1:06	1:15	1:30	1:53	2:13	2:23	2:37	
1:17	1:25	1:32	1:41	1:56	2:19	2:39	2:49	3:03	
1:43	1:51	1:58	2:07	2:22	2:45	3:05	3:15	3:29	
2:09	2:17	2:24	2:33	2:48	3:11	3:31	3:41	3:55	
2:35	2:43	2:50	2:59	3:14	3:37	3:57	4:07	4:21	
3:01	3:09	3:16	3:25	3:40	4:03	4:23	4:33	4:47	
3:27	3:35	3:42	3:51	4:06	4:29	4:49	4:59	5:13	
3:53	4:01	4:08	4:17	4:32	4:55	5:15	5:25	5:39	
4:23	4:31	4:38	4:47	5:01	5:21	5:38	5:46	5:58	
4:49	4:57	5:04	5:13	5:27	5:47	6:04	6:12	6:24	
5:15	5:23	5:30	5:39	5:53	6:13	6:30	6:38	6:50	
5:45	5:52	5:58	6:06	6:20	6:39	6:54	7:03	7:15	
6:11	6:18	6:24	6:32	6:46	7:05	7:20	7:29	7:41	
6:37	6:44	6:50	6:58	7:12	7:31	7:46	7:55	8:07	
7:01	7:08	7:14	7:22	7:36	7:55	8:10	8:19	8:31	
7:31	7:38	7:44	7:52	8:06	8:25	8:40	8:49	9:01	
8:03	8:10	8:16	8:24	8:38	8:55	9:09	9:17	9:28	
8:33	8:40	8:46	8:54	9:08	9:25	9:39	9:47	.....	9:55
9:03	9:10	9:16	9:24	9:38	9:55	10:09	10:17	.....	10:25
9:38	9:45	9:51	9:59	10:13	10:30	10:44	10:52	.....	11:00
10:08	10:15	10:21	10:29	10:43	11:00	11:14	11:22	.....	11:30
11:15	11:21	11:27	11:34	11:47	12:00	12:13	12:21	.....	12:29
12:15	12:21	12:27	12:34	12:47	1:00	1:13	1:21	.....	1:29

Sunday & Holiday NORTHBOUND To: Fullerton

19th & Newport	Harbor & Bernard	Harbor & Adams	Harbor & MacArthur	Harbor & Westminster	Harbor & Katella	Harbor & Lincoln	Harbor & Orangethorpe	Fullerton Transportation Center	Berkeley & West Valley View
	4:31	4:38	4:44	4:57	5:11	5:19	5:26	5:29	5:37
	5:00	5:07	5:13	5:26	5:40	5:48	5:55	5:58	6:06
	5:30	5:37	5:43	5:56	6:10	6:18	6:25	6:28	6:36
	6:00	6:07	6:13	6:26	6:40	6:48	6:55	6:58	7:06
	6:27	6:35	6:41	6:54	7:08	7:16	7:23	7:27	7:35
	6:39	6:49	6:56	7:12	7:31	7:42	7:51	7:56	8:04
	7:07	7:17	7:24	7:40	7:59	8:10	8:19	8:24	8:32
	7:33	7:43	7:50	8:06	8:25	8:36	8:45	8:50	8:58
	7:59	8:09	8:16	8:32	8:51	9:02	9:11	9:16	9:24
	8:25	8:35	8:42	8:58	9:17	9:28	9:37	9:42	9:50
	8:51	9:01	9:08	9:24	9:43	9:54	10:03	10:08	10:16
	9:17	9:27	9:34	9:50	10:09	10:20	10:29	10:34	10:42
	9:41	9:51	9:59	10:18	10:38	10:50	11:00	11:05	11:14
	10:07	10:17	10:25	10:44	11:04	11:16	11:26	11:31	11:40
	10:33	10:43	10:51	11:10	11:30	11:42	11:52	11:57	12:06
	10:59	11:09	11:17	11:36	11:56	12:08	12:18	12:23	12:32
	11:27	11:37	11:45	12:04	12:24	12:36	12:46	12:51	1:00
	11:51	12:02	12:11	12:30	12:50	1:02	1:12	1:17	1:26
	12:17	12:28	12:37	12:56	1:16	1:28	1:38	1:43	1:52
	12:43	12:54	1:03	1:22	1:42	1:54	2:04	2:09	2:18
	1:09	1:20	1:29	1:48	2:08	2:20	2:30	2:35	2:44
	1:35	1:46	1:55	2:14	2:34	2:46	2:56	3:01	3:10
	2:01	2:12	2:21	2:40	3:00	3:12	3:22	3:27	3:36
	2:27	2:38	2:47	3:06	3:26	3:38	3:48	3:53	4:02
	2:55	3:05	3:13	3:32	3:53	4:05	4:14	4:18	4:27
	3:21	3:31	3:39	3:58	4:19	4:31	4:40	4:44	4:53
	3:48	3:58	4:06	4:24	4:44	4:56	5:05	5:09	5:17
	4:10	4:20	4:28	4:46	5:06	5:18	5:27	5:31	5:39
	4:36	4:46	4:54	5:12	5:32	5:44	5:53	5:57	6:05
	5:06	5:16	5:24	5:42	6:02	6:14	6:23	6:27	6:35
	5:28	5:38	5:46	6:04	6:24	6:36	6:45	6:49	6:57
	6:03	6:13	6:21	6:37	6:54	7:05	7:14	7:18	7:26
	6:30	6:40	6:48	7:04	7:21	7:32	7:41	7:45	7:53
	7:00	7:10	7:18	7:34	7:51	8:02	8:11	8:15	8:23
	7:31	7:41	7:49	8:05	8:22	8:33	8:42	8:46	8:54
	8:00	8:10	8:18	8:34	8:51	9:02	9:11	9:15	9:23
	8:30	8:40	8:48	9:04	9:21	9:32	9:41	9:45	9:53
	9:00	9:10	9:18	9:34	9:51	10:02	10:11	10:15	10:23
	9:34	9:44	9:51	10:04	10:21	10:31	10:40	10:44	10:52
10:29	10:30	10:40	10:47	11:00	11:17	11:27	11:36	11:40	11:48
11:36	11:37	11:45	11:50	12:02	12:14	12:22	12:28	12:32	12:39
12:38	12:39	12:47	12:52	1:04	1:16	1:24	1:30	1:34	1:41

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

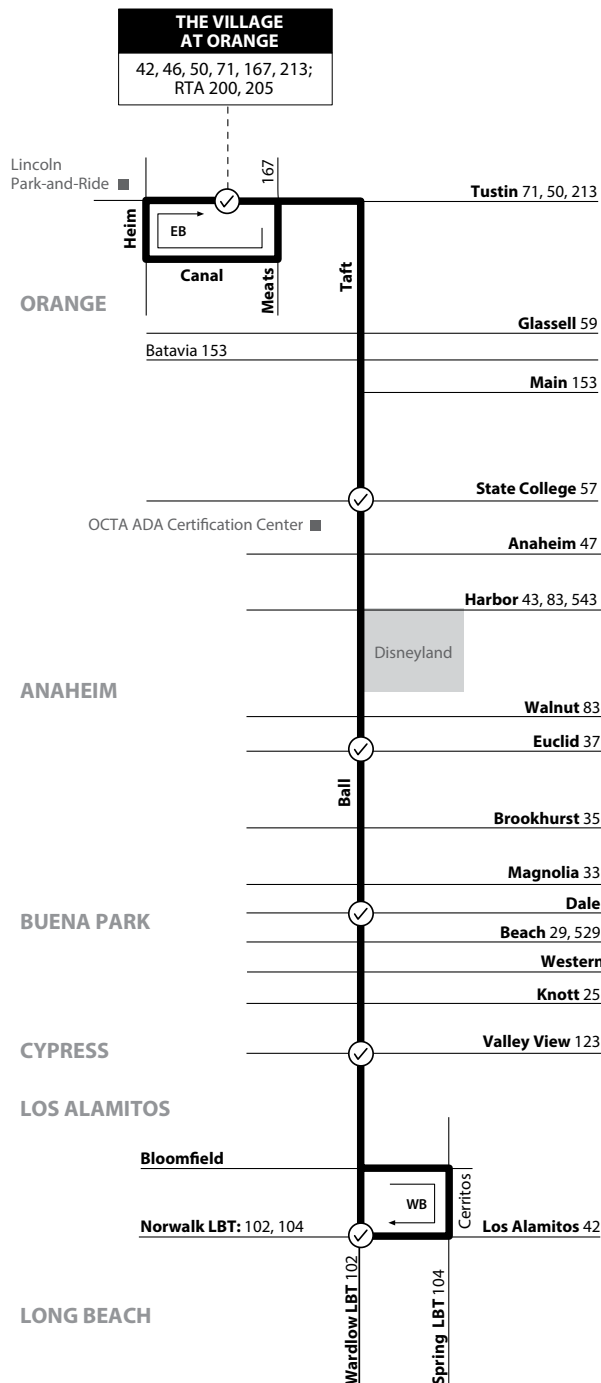
Sunday & Holiday
SOUTHBOUND To: Costa Mesa

Berkely & West Valley View	Fullerton Transportation Center	Harbor & Orangethorpe	Harbor & Lincoln	Harbor & Katella	Harbor & Westminster	Harbor & MacArthur	Harbor & Adams	Newport & 18th	19th & Newport
4:11	4:16	4:20	4:26	4:35	4:49	5:02	5:08	5:17	
4:47	4:52	4:56	5:02	5:11	5:25	5:38	5:44	5:53	
5:11	5:16	5:20	5:26	5:35	5:49	6:02	6:08	6:17	
5:47	5:52	5:56	6:02	6:11	6:25	6:38	6:44	6:53	
6:04	6:09	6:14	6:22	6:34	6:52	7:07	7:14	7:24	
6:37	6:42	6:47	6:55	7:07	7:25	7:40	7:47	7:57	
7:03	7:08	7:13	7:21	7:33	7:51	8:06	8:13	8:23	
7:29	7:34	7:39	7:47	7:59	8:17	8:32	8:39	8:49	
7:45	7:52	7:57	8:05	8:19	8:38	8:55	9:04	9:16	
8:16	8:23	8:28	8:36	8:50	9:09	9:26	9:35	9:47	
8:42	8:49	8:54	9:02	9:16	9:35	9:52	10:01	10:13	
9:08	9:15	9:20	9:28	9:42	10:01	10:18	10:27	10:39	
9:34	9:41	9:46	9:54	10:08	10:27	10:44	10:53	11:05	
10:00	10:07	10:12	10:20	10:34	10:53	11:10	11:19	11:31	
10:26	10:33	10:38	10:46	11:00	11:19	11:36	11:45	11:57	
10:52	10:59	11:04	11:12	11:26	11:45	12:02	12:11	12:23	
11:18	11:25	11:30	11:38	11:52	12:11	12:28	12:37	12:49	
11:44	11:51	11:56	12:04	12:18	12:37	12:54	1:03	1:15	
12:09	12:15	12:21	12:30	12:44	1:03	1:19	1:28	1:40	
12:35	12:41	12:47	12:56	1:10	1:29	1:45	1:54	2:06	
1:01	1:07	1:13	1:22	1:36	1:55	2:11	2:20	2:32	
1:27	1:33	1:39	1:48	2:02	2:21	2:37	2:46	2:58	
1:53	1:59	2:05	2:14	2:28	2:47	3:03	3:12	3:24	
2:19	2:25	2:31	2:40	2:54	3:13	3:29	3:38	3:50	
2:45	2:51	2:57	3:06	3:20	3:39	3:55	4:04	4:16	
3:11	3:17	3:23	3:32	3:46	4:05	4:21	4:30	4:42	
3:37	3:43	3:49	3:58	4:12	4:31	4:47	4:56	5:08	
4:03	4:09	4:15	4:24	4:38	4:57	5:13	5:22	5:34	
4:26	4:32	4:38	4:47	5:01	5:20	5:36	5:45	5:57	
4:54	5:00	5:06	5:15	5:29	5:48	6:04	6:13	6:25	
5:21	5:27	5:33	5:42	5:56	6:15	6:31	6:40	6:52	
5:49	5:56	6:01	6:09	6:22	6:41	6:57	7:06	7:18	
6:15	6:22	6:27	6:35	6:48	7:07	7:23	7:32	7:44	
6:45	6:52	6:57	7:05	7:18	7:37	7:53	8:02	8:14	
7:15	7:22	7:27	7:35	7:48	8:07	8:23	8:32	8:44	
7:45	7:52	7:57	8:05	8:18	8:37	8:53	9:02	9:14	
8:12	8:19	8:24	8:32	8:45	9:04	9:20	9:29	.....	9:37
8:42	8:49	8:54	9:02	9:15	9:34	9:50	9:59	.....	10:07
9:13	9:21	9:26	9:33	9:45	10:00	10:15	10:22	.....	10:30
10:09	10:17	10:22	10:29	10:41	10:56	11:11	11:18	.....	11:26
11:20	11:25	11:29	11:34	11:45	12:00	12:13	12:20	.....	12:28
12:20	12:25	12:29	12:34	12:45	1:00	1:13	1:20	.....	1:28

46

Long Beach to Orange

via Ball Rd / Taft Ave



LEGEND
LEYENDA

Scheduled Departure
 Regular Routing

LBT = Long Beach Transit | RTA = Riverside Transit Agency

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

All Days EASTBOUND To: Orange

Norwalk & Wardlow	Ball & Valley View	Ball & Dale	Ball & Euclid	Ball & State College	Village At Orange
6:32	6:40	6:49	7:00	7:16	7:33
7:23	7:32	7:42	7:55	8:12	8:30
8:18	8:27	8:37	8:50	9:07	9:25
9:13	9:22	9:32	9:45	10:02	10:20
10:05	10:15	10:26	10:40	10:58	11:19
11:03	11:12	11:22	11:35	11:53	12:14
11:58	12:07	12:17	12:30	12:48	1:09
12:53	1:02	1:12	1:25	1:43	2:04
1:48	1:57	2:07	2:20	2:38	2:59
2:42	2:51	3:01	3:14	3:32	3:53
3:38	3:47	3:57	4:10	4:28	4:49
4:34	4:43	4:53	5:06	5:24	5:45
5:28	5:37	5:47	6:00	6:18	6:39
6:23	6:33	6:43	6:55	7:12	7:31
7:22	7:30	7:39	7:50	8:06	8:24
8:17	8:25	8:34	8:45	9:01	9:19
9:13	9:21	9:30	9:40	9:55	10:11
10:08	10:16	10:25	10:35	10:50	11:06

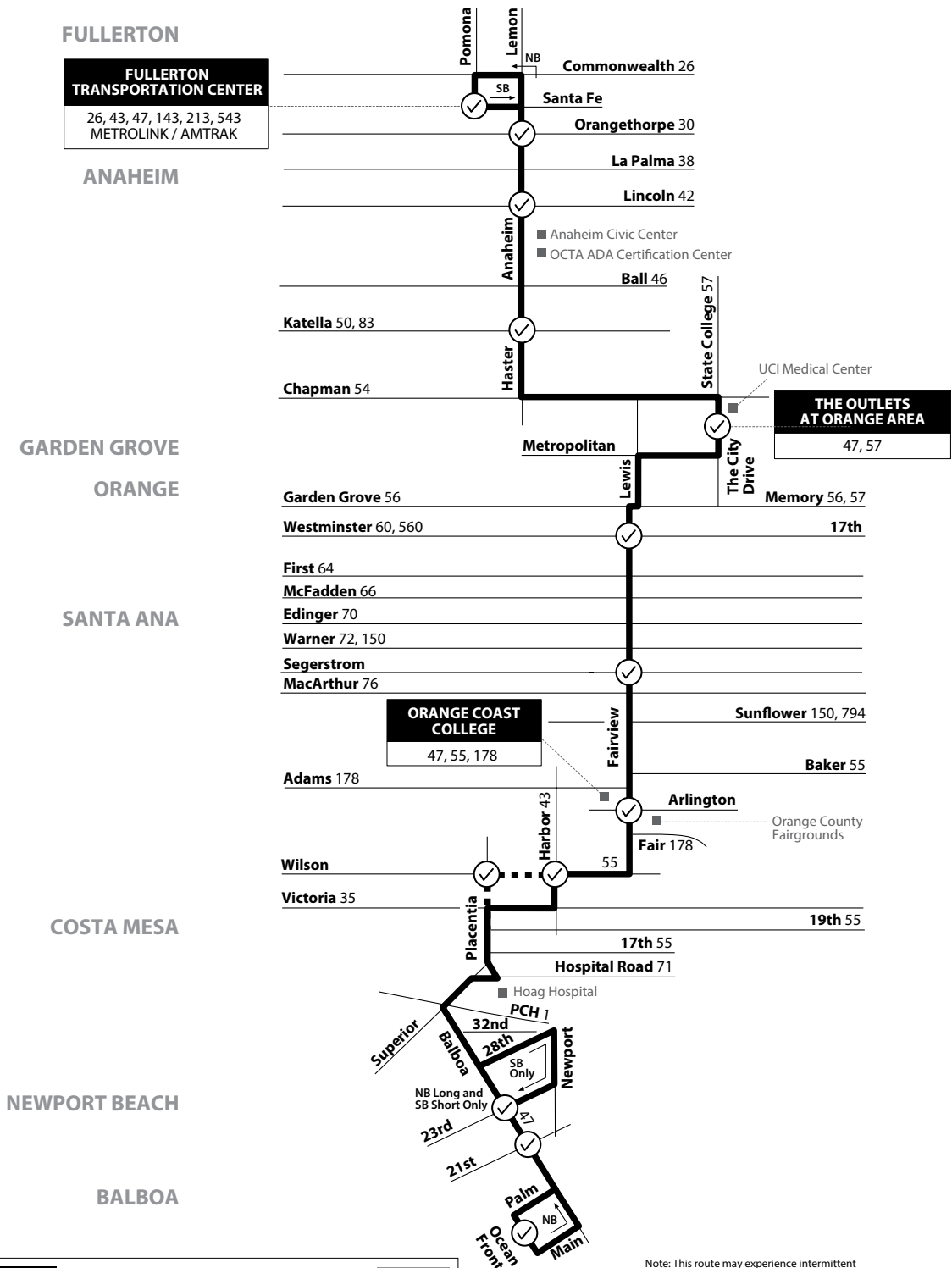
All Days WESTBOUND To: Long Beach

Village At Orange	Ball & State College	Ball & Euclid	Ball & Dale	Ball & Valley View	Norwalk & Wardlow
7:02	7:16	7:29	7:40	7:50	8:01
7:57	8:11	8:24	8:35	8:45	8:56
8:49	9:04	9:19	9:31	9:42	9:53
9:44	9:59	10:14	10:26	10:37	10:48
10:39	10:54	11:09	11:21	11:32	11:43
11:34	11:49	12:04	12:16	12:27	12:38
12:25	12:42	12:59	1:11	1:21	1:32
1:20	1:37	1:54	2:06	2:16	2:27
2:16	2:32	2:49	3:00	3:10	3:20
3:10	3:27	3:44	3:56	4:06	4:17
4:05	4:22	4:39	4:51	5:01	5:12
5:01	5:17	5:34	5:46	5:56	6:07
5:56	6:12	6:29	6:41	6:51	7:02
6:51	7:07	7:24	7:36	7:46	7:57
7:51	8:05	8:19	8:29	8:38	8:49
8:46	9:00	9:14	9:24	9:33	9:44
9:42	9:56	10:09	10:18	10:27	10:37

SERVICE TO / SERVICIO A

<p>Orange</p> <ul style="list-style-type: none"> - The Village at Orange - Lincoln Park-and-Ride - Orange Library <p>Anaheim</p> <ul style="list-style-type: none"> - OCTA ADA Certification Center - Disneyland - Ball Junior High School - Trident Continuation High School - Loara High School - Magnolia High School - Anaheim General Hospital - Western Medical Center-Anaheim - Dale Junior High School - Western High School 	<p>Cypress</p> <ul style="list-style-type: none"> - Cypress High School - Cypress Plaza East - Oxford Academy - Lexington Junior High School <p>Los Alamitos</p> <ul style="list-style-type: none"> - Continuation High School - Los Alamitos High School - McAuliffe Middle School - Oak Middle School <p>Long Beach</p>
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Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)



LEGEND
LEYENDA

Scheduled Departure
 Regular Routing
 47A Routing
 N
MAP NOT TO SCALE

Route 047/081819
 Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Note: This route may experience intermittent delays due to the I-405 Improvement Project.
 Tenga en cuenta: Esta ruta puede tener retrasos intermitentes debido al I-405 Proyecto de Mejora

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

47/A

Fullerton to Balboa via Anaheim Blvd / Fairview St

Monday-Friday NORTHBOUND To: Fullerton

	Ocean Front & Palm	Balboa & 23rd	Wilson & Placentia	Wilson & Harbor	Fairview & Arlington	Fairview & Segerstrom	Fairview & Westminster	The Outlets At Orange	Anaheim & Katella	Anaheim & Lincoln	Lemon & Orangeflour	Fullerton Transportation Center
A	4:57	5:05	.....	5:20	5:25	5:33	5:47	5:54	6:04	6:13	6:18	6:22
A		5:05	.....	5:20	5:25	5:33	5:47	5:54	6:04	6:13	6:18	6:22
A	6:10	6:18	.....	6:33	6:37	6:46	7:01	7:09	7:19	7:30	7:36	7:41
A		6:44	6:57	7:01	7:06	7:16	7:30	7:39	7:49	8:02	8:09	8:14
A	7:06	7:15	.....	7:31	7:36	7:46	8:00	8:09	8:19	8:32	8:39	8:44
A		7:41	7:55	7:59	8:04	8:15	8:30	8:39	8:50	9:02	9:08	9:13
A	8:01	8:10	.....	8:29	8:34	8:45	9:00	9:09	9:20	9:32	9:38	9:43
A		8:29	8:45	8:49	8:56	9:07	9:23	9:32	9:44	9:56	10:03	10:08
A		8:50	.....	9:09	9:16	9:27	9:43	9:52	10:04	10:16	10:23	10:28
A	9:01	9:10	.....	9:29	9:36	9:47	10:03	10:12	10:24	10:36	10:43	10:48
A		9:29	9:45	9:49	9:56	10:07	10:23	10:32	10:44	10:56	11:03	11:08
A		9:50	.....	10:09	10:16	10:27	10:43	10:52	11:04	11:16	11:23	11:28
A	9:58	10:07	.....	10:28	10:35	10:47	11:02	11:12	11:26	11:39	11:46	11:51
A		10:28	10:43	10:48	10:55	11:07	11:22	11:32	11:46	11:59	12:06	12:11
A		10:47	.....	11:08	11:15	11:27	11:42	11:52	12:06	12:19	12:26	12:31
A	10:53	11:05	.....	11:26	11:33	11:45	12:01	12:12	12:25	12:38	12:46	12:51
A		11:25	11:42	11:46	11:53	12:05	12:21	12:32	12:45	12:58	1:06	1:11
A		11:45	.....	12:06	12:13	12:25	12:41	12:52	1:05	1:18	1:26	1:31
A	11:53	12:05	.....	12:26	12:33	12:45	1:01	1:12	1:25	1:38	1:46	1:51
A		12:28	12:45	12:49	12:56	1:08	1:24	1:35	1:48	2:01	2:09	2:14
A	12:46	12:58	.....	1:19	1:26	1:38	1:54	2:05	2:18	2:31	2:39	2:44
A		1:28	1:45	1:49	1:56	2:08	2:24	2:35	2:48	3:01	3:09	3:14
A		1:43	.....	2:04	2:11	2:23	3:09	3:20	3:33	3:46	3:54	4:01
A		1:46	.....	2:19	2:26	2:38	2:54	3:05	3:18	3:31	3:39	3:44
A		2:15	.....	2:34	2:41	2:53	3:39	3:50	4:03	4:16	4:24	4:31
A		2:28	2:45	2:49	2:56	3:08	3:24	3:35	3:48	4:01	4:09	4:14
A	2:46	2:58	.....	3:19	3:26	3:38	3:54	4:05	4:18	4:31	4:39	4:44
A		3:10	.....	3:31	3:31	3:43	4:09	4:20	4:33	4:46	4:54	4:59
A		3:28	3:45	3:49	3:56	4:08	4:24	4:35	4:48	5:01	5:09	5:14
A	3:46	3:58	.....	4:19	4:26	4:38	4:54	5:05	5:18	5:31	5:39	5:44
A		4:24	4:39	4:44	4:51	5:02	5:19	5:30	5:41	5:54	6:02	6:06
A		4:36	.....	5:09	5:16	5:27	5:44	5:55	6:06	6:19	6:27	6:31
A		5:17	5:32	5:37	5:43	5:54	6:09	6:20	6:31	6:43	6:49	6:53
A	5:32	5:41	.....	6:02	6:08	6:19	6:34	6:45	6:56	7:08	7:14	7:18
A		6:10	6:25	6:29	6:35	6:46	7:01	7:10	7:22	7:33	7:39	7:43
A	6:32	6:40	.....	7:00	7:06	7:16	7:31	7:40	7:51	8:01	8:07	8:10
A		7:10	.....	7:30	7:36	7:46	8:01	8:10	8:21	8:31	8:37	8:40
A		7:32	.....	8:00	8:06	8:16	8:31	8:40	8:51	9:01	9:07	9:10
A		8:10	.....	8:30	8:36	8:46	9:01	9:10	9:21	9:31	9:37	9:40
A	8:32	8:40	.....	9:00	9:06	9:16	9:31	9:40	9:51	10:01	10:07	10:10
A		9:27	.....	9:46	9:52	10:01	10:16	10:25	10:35	10:44	10:50	10:54

A = Operates routing via Fairview, Wilson, and Placentia/Opera la ruta por Fairview, Wilson y Placentia.

Monday-Friday SOUTHBOUND To: Balboa

	Fullerton Transportation Center	Lemon & Freedom	Anaheim & Lincoln	Haster & Katella	The Outlets At Orange	Fairview & Westminster	Fairview & Segerstrom	Fairview & Arlington	Harbor & Wilson	Placentia & Wilson	Balboa & 23rd	Balboa & 21st	Ocean Front & Palm
A	4:55	4:57	5:03	5:11	5:18	5:27	5:41	5:49	5:55	5:57	6:13		
A	4:55	4:57	5:03	5:11	5:18	5:27	5:41	5:49	5:55	5:57	6:13		
A	5:10	5:12	5:18	5:26	5:33	5:42	5:56	6:04	6:15	.....	6:28		
A	5:25	5:27	5:33	5:41	5:48	5:57	6:11	6:19	6:25	6:27	.....	6:43	6:50
A	5:40	5:42	5:48	5:56	6:03	6:12	6:26	6:34	6:42	.....	6:59		
A	5:51	5:53	6:01	6:09	6:18	6:28	6:42	6:50	6:57	.....	7:14		
A	6:18	6:20	6:28	6:36	6:45	6:55	7:09	7:17	7:23	7:25	.....	7:42	7:49
A	6:45	6:47	6:55	7:03	7:12	7:22	7:36	7:44	7:51	.....	8:08		
A	7:07	7:10	7:18	7:29	7:38	7:49	8:04	8:14	8:21	8:24	.....	8:40	8:47
A	7:30	7:33	7:43	7:54	8:04	8:16	8:31	8:42	8:50	.....	9:10		
A	7:57	8:00	8:10	8:21	8:31	8:43	8:58	9:09	9:17	9:20	.....	9:37	9:46
A	8:24	8:27	8:37	8:48	8:58	9:10	9:25	9:36	9:44	.....	10:04		
A	8:53	8:56	9:05	9:16	9:26	9:37	9:52	10:03	10:10	10:13	.....	10:30	10:39
A	9:23	9:26	9:35	9:46	9:56	10:07	10:22	10:33	10:41	.....	11:01		
A	9:53	9:56	10:05	10:16	10:26	10:37	10:52	11:03	11:10	11:13	.....	11:30	11:39
A	10:22	10:25	10:34	10:46	10:56	11:08	11:22	11:33	11:42	.....	12:03		
A	10:42	10:45	10:54	11:06	11:16	11:28	11:42	11:53	12:02	.....	.....	12:23	12:32
A	11:02	11:05	11:14	11:26	11:36	11:48	12:02	12:13	12:21	12:24	.....	.....	.....
A	11:22	11:25	11:34	11:46	11:56	12:08	12:22	12:33	12:42	.....	1:03		
A	11:42	11:45	11:54	12:06	12:16	12:28	12:42	12:53	1:02	.....	.....	1:23	1:32
A	12:02	12:05	12:14	12:26	12:36	12:48	1:02	1:13	1:21	1:24	1:42		
A	12:22	12:26	12:35	12:46	12:56	1:08	1:22	1:33	1:40	.....	2:00		
A	12:42	12:46	12:55	1:06	1:16	1:28	1:42	1:53	2:00	.....	.....	2:20	2:29
A	1:00	1:03	1:14	1:26	1:36	1:49	2:03	2:14	2:21	2:24	2:41		
A	1:20	1:23	1:34	1:46	1:56	2:09	2:23	2:34	2:42	.....	3:03		
A	1:40	1:43	1:54	2:06	2:16	2:29	2:43	2:54	3:02	.....	.....	3:23	3:32
A	2:00	2:03	2:14	2:26	2:36	2:49	3:03	3:14	3:21	3:24	3:41		
A	2:30	2:33	2:44	2:56	3:06	3:19	3:33	3:44	3:52	.....	.....	4:13	4:22
A	2:45	2:48	2:59	3:11	3:21	3:34	3:48	3:59	4:07	.....	4:29		
A	3:00	3:03	3:14	3:26	3:36	3:49	4:03	4:14	4:21	4:24	4:41		
A	3:30	3:33	3:44	3:56	4:06	4:19	4:33	4:44	4:52	.....	.....	5:13	5:22
A	4:00	4:03	4:13	4:25	4:36	4:48	5:02	5:12	5:18	5:21	5:39		
A	4:30	4:33	4:43	4:55	5:06	5:18	5:32	5:42	5:50	.....	.....	6:10	6:19
A	5:00	5:03	5:13	5:25	5:36	5:48	6:02	6:12	6:18	6:21	6:39		
A	5:30	5:33	5:43	5:55	6:06	6:18	6:32	6:42	6:50	.....	.....	7:10	7:19
A	6:02	6:05	6:14	6:25	6:36	6:47	7:01	7:11	7:18	.....	7:37		
A	6:32	6:35	6:44	6:55	7:06	7:17	7:31	7:41	7:48	.....	.....	8:07	8:16
A	7:02	7:05	7:14	7:25	7:36	7:47	8:01	8:11	8:18	.....	8:37		
A	7:34	7:36	7:45	7:56	8:06	8:17	8:29	8:37	8:45	.....	.....	9:03	9:11
A	8:20	8:22	8:30	8:41	8:51	9:02	9:15	9:23	9:30	.....	.....	9:46	9:54
A	9:00	9:02	9:10	9:21	9:31	9:42	9:55	10:03	10:10	.....	10:26		

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Saturday, Sunday & Holiday
NORTHBOUND To: Fullerton

	Ocean Front & Palm	Balboa & 23rd	Wilson & Placentia	Wilson & Harbor	Fairview & Arlington	Fairview & Segerstrom	Fairview & Westminster	The Outlets At Orange	Anaheim & Katella	Anaheim & Lincoln	Lemon & Orangeflorpe	Fullerton Transportation Center
A	4:57	5:05	.....	5:20	5:25	5:33	5:47	5:54	6:04	6:13	6:18	6:22
A		5:50	6:02	6:05	6:10	6:18	6:32	6:39	6:49	6:58	7:03	7:07
A	6:10	6:18	.....	6:33	6:37	6:46	7:01	7:09	7:19	7:30	7:36	7:41
A		6:44	6:57	7:01	7:06	7:16	7:30	7:39	7:49	8:02	8:09	8:14
A	7:06	7:15	.....	7:31	7:36	7:46	8:00	8:09	8:19	8:32	8:39	8:44
A		7:41	7:55	7:59	8:04	8:15	8:30	8:39	8:50	9:02	9:08	9:13
A	8:01	8:10	.....	8:29	8:34	8:45	9:00	9:09	9:20	9:32	9:38	9:43
A		8:29	8:45	8:49	8:56	9:07	9:23	9:32	9:44	9:56	10:03	10:08
A		8:50	.....	9:09	9:16	9:27	9:43	9:52	10:04	10:16	10:23	10:28
A	9:01	9:10	.....	9:29	9:36	9:47	10:03	10:12	10:24	10:36	10:43	10:48
A		9:29	9:45	9:49	9:56	10:07	10:23	10:32	10:44	10:56	11:03	11:08
A		9:50	.....	10:09	10:16	10:27	10:43	10:52	11:04	11:16	11:23	11:28
A	9:58	10:07	.....	10:28	10:35	10:47	11:02	11:12	11:26	11:39	11:46	11:51
A		10:28	10:43	10:48	10:55	11:07	11:22	11:32	11:46	11:59	12:06	12:11
A		10:47	.....	11:08	11:15	11:27	11:42	11:52	12:06	12:19	12:26	12:31
A	10:53	11:05	.....	11:26	11:33	11:45	12:01	12:12	12:25	12:38	12:46	12:51
A		11:25	11:42	11:46	11:53	12:05	12:21	12:32	12:45	12:58	1:06	1:11
A		11:45	.....	12:06	12:13	12:25	12:41	12:52	1:05	1:18	1:26	1:31
A	11:53	12:05	.....	12:26	12:33	12:45	1:01	1:12	1:25	1:38	1:46	1:51
A		12:28	12:45	12:49	12:56	1:08	1:24	1:35	1:48	2:01	2:09	2:14
A	12:46	12:58	.....	1:19	1:26	1:38	1:54	2:05	2:18	2:31	2:39	2:44
A		1:28	1:45	1:49	1:56	2:08	2:24	2:35	2:48	3:01	3:09	3:14
A		1:46	.....	2:19	2:26	2:38	2:54	3:05	3:18	3:31	3:39	3:44
A		2:28	2:45	2:49	2:56	3:08	3:24	3:35	3:48	4:01	4:09	4:14
A	2:46	2:58	.....	3:19	3:26	3:38	3:54	4:05	4:18	4:31	4:39	4:44
A		3:28	3:45	3:49	3:56	4:08	4:24	4:35	4:48	5:01	5:09	5:14
A	3:46	3:58	.....	4:19	4:26	4:38	4:54	5:05	5:18	5:31	5:39	5:44
A		4:24	4:39	4:44	4:51	5:02	5:19	5:30	5:41	5:54	6:02	6:06
A	4:36	4:48	.....	5:09	5:16	5:27	5:44	5:55	6:06	6:19	6:27	6:31
A		5:17	5:32	5:37	5:43	5:54	6:09	6:20	6:31	6:43	6:49	6:53
A	5:32	5:41	.....	6:02	6:08	6:19	6:34	6:45	6:56	7:08	7:14	7:18
A		6:10	6:25	6:29	6:35	6:46	7:01	7:10	7:22	7:33	7:39	7:43
A		6:32	6:40	.....	7:00	7:06	7:16	7:31	7:40	7:51	8:01	8:10
A			7:10	.....	7:30	7:36	7:46	8:01	8:10	8:21	8:31	8:40
A		7:32	7:40	.....	8:00	8:06	8:16	8:31	8:40	8:51	9:01	9:10
A		8:10	.....	8:30	8:36	8:46	9:01	9:10	9:21	9:31	9:37	9:40
A	8:32	8:40	.....	9:00	9:06	9:16	9:31	9:40	9:51	10:01	10:07	10:10
A		9:27	.....	9:46	9:52	10:01	10:16	10:25	10:35	10:44	10:50	10:54

Saturday, Sunday & Holiday
SOUTHBOUND To: Balboa

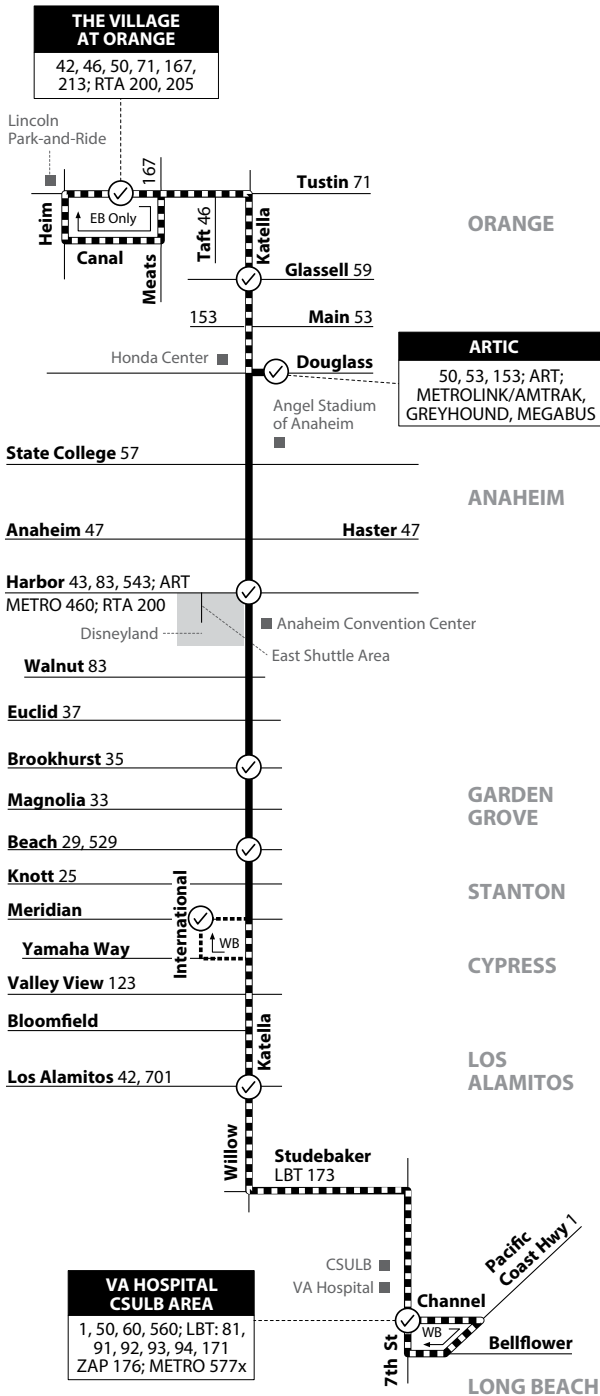
	Fullerton Transportation Center	Lemon & Freedom	Anaheim & Lincoln	Haster & Katella	The Outlets At Orange	Fairview & Westminster	Fairview & Segerstrom	Fairview & Arlington	Harbor & Wilson	Placentia & Wilson	Balboa & 23rd	Balboa & 21st	Ocean Front & Palm
A	4:55	4:57	5:03	5:11	5:18	5:27	5:41	5:49	.....	5:57	6:13		
A	5:25	5:27	5:33	5:41	5:48	5:57	6:11	6:19	.....	6:27	.....	6:43	6:51
A	5:51	5:53	6:01	6:09	6:18	6:28	6:42	6:50	6:57	.....	7:14		
A	6:18	6:20	6:28	6:36	6:45	6:55	7:09	7:17	.....	7:25	.....	7:42	7:49
A	6:45	6:47	6:55	7:03	7:12	7:22	7:36	7:44	7:51	.....	8:08		
A	7:07	7:10	7:18	7:29	7:38	7:49	8:04	8:14	.....	8:24	.....	8:40	8:47
A	7:30	7:33	7:43	7:54	8:04	8:16	8:31	8:42	8:50	.....	9:10		
A	7:57	8:00	8:10	8:21	8:31	8:43	8:58	9:09	.....	9:20	.....	9:37	9:44
A	8:24	8:27	8:37	8:48	8:58	9:10	9:25	9:36	9:44	.....	10:04		
A	8:53	8:56	9:05	9:16	9:26	9:37	9:52	10:03	.....	10:13	.....	10:30	10:37
A	9:23	9:26	9:35	9:46	9:56	10:07	10:22	10:33	10:41	.....	11:01		
A	9:53	9:56	10:05	10:16	10:26	10:37	10:52	11:03	.....	11:13	.....	11:30	11:37
A	10:22	10:25	10:34	10:46	10:56	11:08	11:22	11:33	11:42	.....	12:03		
A	10:42	10:45	10:54	11:06	11:16	11:28	11:42	11:53	12:02	.....	.....	12:23	12:30
A	11:02	11:05	11:14	11:26	11:36	11:48	12:02	12:13	.....	12:24	12:42		
A	11:22	11:25	11:34	11:46	11:56	12:08	12:22	12:33	12:42	.....	1:03		
A	11:42	11:45	11:54	12:06	12:16	12:28	12:42	12:53	1:02	.....	.....	1:23	1:30
A	12:02	12:05	12:14	12:26	12:36	12:48	1:02	1:13	.....	1:24	1:42		
A	12:22	12:26	12:35	12:46	12:56	1:08	1:22	1:33	1:40	.....	2:00		
A	12:42	12:46	12:55	1:06	1:16	1:28	1:42	1:53	2:00	.....	.....	2:20	2:25
A	1:00	1:03	1:14	1:26	1:36	1:49	2:03	2:14	.....	2:24	2:41		
A	1:20	1:23	1:34	1:46	1:56	2:09	2:23	2:34	2:42	.....	3:03		
A	1:40	1:43	1:54	2:06	2:16	2:29	2:43	2:54	3:02	.....	.....	3:23	3:30
A	2:00	2:03	2:14	2:26	2:36	2:49	3:03	3:14	.....	3:24	3:41		
A	2:30	2:33	2:44	2:56	3:06	3:19	3:33	3:44	3:52	.....	.....	4:13	4:22
A	3:00	3:03	3:14	3:26	3:36	3:49	4:03	4:14	.....	4:24	4:41		
A	3:30	3:33	3:44	3:56	4:06	4:19	4:33	4:44	4:52	.....	.....	5:13	5:22
A	4:00	4:03	4:13	4:25	4:36	4:48	5:02	5:12	.....	5:21	5:39		
A	4:30	4:33	4:43	4:55	5:06	5:18	5:32	5:42	5:50	.....	.....	6:10	6:19
A	5:00	5:03	5:13	5:25	5:36	5:48	6:02	6:12	.....	6:21	6:39		
A	5:30	5:33	5:43	5:55	6:06	6:18	6:32	6:42	6:50	.....	.....	7:10	7:19
A	6:02	6:05	6:14	6:25	6:36	6:47	7:01	7:11	7:18	.....	7:37		
A	6:32	6:35	6:44	6:55	7:06	7:17	7:31	7:41	7:48	.....	.....	8:07	8:14
A	7:02	7:05	7:14	7:25	7:36	7:47	8:01	8:11	8:18	.....	8:37		
A	7:34	7:36	7:45	7:56	8:06	8:17	8:29	8:37	8:45	.....	.....	9:03	9:11
A	8:20	8:22	8:30	8:41	8:51	9:02	9:15	9:23	9:30	.....	.....	9:46	9:54
A	9:00	9:02	9:10	9:21	9:31	9:42	9:55	10:03	10:10	.....	10:26		

A = Operates routing via Fairview, Wilson, and Placentia/Opera la ruta por Fairview, Wilson y Placentia.

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50

Long Beach to Orange via Katella Ave



LEGEND LEYENDA

Scheduled Departure
 Regular Routing
 No Service On Some Trips
 Short Turn Only

METRO = Los Angeles Metro | **RTA** = Riverside Transit Agency
LBT = Long Beach Transit | **ART** = Anaheim Resort Transit

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Monday-Friday EASTBOUND To: Orange

7th & Channel	Katella & Los Alamitos	Katella & Beach	Katella & Brookhurst	Katella & Harbor	Anaheim Regional Transportation Intermodal Center (ARTIC)	Katella & Glassell	Village at Orange Zone 2
4:05	4:15	4:28	4:34	4:44	4:56	5:03	5:14
4:25	4:35	4:48	4:54	5:04	5:16	5:23	5:34
4:45	4:55	5:08	5:14	5:24	5:36	5:43	5:54
5:05	5:15	5:28	5:34	5:44	5:56	6:03	6:14
5:16	5:28	5:43	5:51	6:04	6:16	6:25	6:38
5:36	5:48	6:03	6:11	6:24	6:36	6:45	6:58
5:56	6:08	6:23	6:31	6:44	6:56	7:05	7:18
6:16	6:28	6:43	6:51	7:04	7:16	7:25	7:38
6:36	6:48	7:03	7:11	7:24	7:36	7:45	7:58
6:56	7:08	7:23	7:31	7:44	7:56	8:05	8:18
7:11	7:24	7:40	7:49	8:04	8:18	8:27	8:41
7:31	7:44	8:00	8:09	8:24	8:38	8:47	9:01
7:51	8:04	8:20	8:29	8:44	8:58	9:07	9:21
8:31	8:44	9:00	9:09	9:24	9:38	9:47	10:01
9:11	9:24	9:40	9:49	10:04	10:18	10:27	10:41
9:50	10:03	10:20	10:29	10:44	10:58	11:08	11:25
10:10	10:23	10:40	10:49	11:04	11:18	11:28	11:45
10:30	10:43	11:00	11:09	11:24	11:38	11:48	12:05
11:10	11:23	11:40	11:49	12:04	12:18	12:28	12:45
11:47	12:00	12:19	12:28	12:44	12:58	1:08	1:24
12:27	12:40	12:59	1:08	1:24	1:38	1:48	2:04
1:07	1:20	1:39	1:48	2:04	2:18	2:28	2:44
1:47	2:00	2:19	2:28	2:44	2:58	3:08	3:24
2:07	2:20	2:39	2:48	3:04	3:18	3:28	3:44
2:27	2:40	2:59	3:08	3:24	3:38	3:48	4:04
2:47	3:00	3:19	3:28	3:44	3:58	4:08	4:24
3:07	3:20	3:39	3:48	4:04	4:18	4:28	4:44
3:27	3:40	3:59	4:08	4:24	4:38	4:48	5:04
3:47	4:00	4:19	4:28	4:44	4:58	5:08	5:24
4:11	4:23	4:40	4:49	5:04	5:19	5:28	5:42
4:31	4:43	5:00	5:09	5:24	5:39	5:48	6:02
4:53	5:05	5:22	5:30	5:44	5:57	6:06	6:20
5:13	5:25	5:42	5:50	6:04	6:17	6:26	6:40
5:53	6:05	6:22	6:30	6:44	6:57	7:06	7:20
6:38	6:50	7:07	7:15	7:29	7:42	7:51	8:05
7:26	7:38	7:55	8:03	8:17	8:30	8:39	8:53
8:06	8:18	8:32	8:38	8:50	9:03	9:10	9:22
8:40	8:52	9:06	9:12	9:24	9:37	9:44	9:56
9:42	9:54	10:08	10:14	10:26	10:39	10:46	10:58
10:45	10:55	11:08	11:14	11:24	11:36	11:43	11:54
11:45	11:55	12:08	12:14	12:24	12:36	12:43	12:54
12:45	12:55	1:08	1:14	1:24	1:36	1:43	1:54

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Monday-Friday
WESTBOUND To: Long Beach

Village at Orange Zone 2	Katella & Glassell	Anaheim Regional Transportation Intermodal Center (ARTIC)	Katella & Harbor	Katella & Brookhurst	Katella & Beach	Katella & Los Alamitos	7th & Channel
4:45	4:53	5:03	5:13	5:22	5:29	5:43	5:58
5:25	5:33	5:43	5:53	6:02	6:09	6:23	6:38
5:59	6:09	6:20	6:33	6:44	6:52	7:08	7:26
6:39	6:49	7:00	7:13	7:24	7:32	7:48	8:06
7:19	7:29	7:40	7:53	8:04	8:12	8:28	8:46
7:59	8:09	8:20	8:33	8:44	8:52	9:08	9:26
8:37	8:49	9:00	9:13	9:24	9:32	9:50	10:10
9:17	9:29	9:40	9:53	10:04	10:12	10:30	10:50
9:57	10:09	10:20	10:33	10:44	10:52	11:10	11:30
10:37	10:49	11:00	11:13	11:24	11:32	11:50	12:10
11:11	11:26	11:39	11:53	12:05	12:14	12:32	12:52
11:51	12:06	12:19	12:33	12:45	12:54	1:12	1:32
12:11	12:26	12:39	12:53	1:05	1:14	1:32	1:52
12:31	12:46	12:59	1:13	1:25	1:34	1:52	2:12
12:51	1:06	1:19	1:33	1:45	1:54	2:12	2:32
1:14	1:27	1:38	1:53	2:06	2:15	2:34	2:52
1:34	1:47	1:58	2:13	2:26	2:35	2:54	3:12
1:54	2:07	2:18	2:33	2:46	2:55	3:14	3:32
2:14	2:27	2:38	2:53	3:06	3:15	3:34	3:52
2:34	2:47	2:58	3:13	3:26	3:35	3:54	4:12
2:54	3:07	3:18	3:33	3:46	3:55	4:14	4:32
3:14	3:27	3:38	3:53	4:06	4:15	4:34	4:52
3:34	3:47	3:58	4:13	4:26	4:35	4:54	5:12
3:54	4:07	4:18	4:33	4:46	4:55	5:14	5:32
4:14	4:27	4:38	4:53	5:06	5:15	5:34	5:52
4:34	4:47	4:58	5:13	5:26	5:35	5:54	6:12
4:54	5:07	5:18	5:33	5:46	5:55	6:14	6:32
5:14	5:27	5:38	5:53	6:06	6:15	6:34	6:52
5:34	5:47	5:58	6:13	6:26	6:35	6:54	7:12
5:54	6:07	6:18	6:33	6:46	6:55	7:14	7:32
6:35	6:46	6:58	7:13	7:25	7:33	7:49	8:05
7:15	7:26	7:38	7:53	8:05	8:13	8:29	8:45
7:55	8:06	8:18	8:33	8:45	8:53	9:09	9:25
8:35	8:46	8:58	9:13	9:25	9:33	9:49	10:05
9:15	9:26	9:38	9:53	10:05	10:13	10:29	10:45
10:25	10:33	10:41	10:53	11:01	11:06	11:20	11:33
11:25	11:33	11:41	11:53	12:01	12:06	12:20	12:33
12:19	12:27	12:36	12:47	12:56	1:02	1:14	1:27

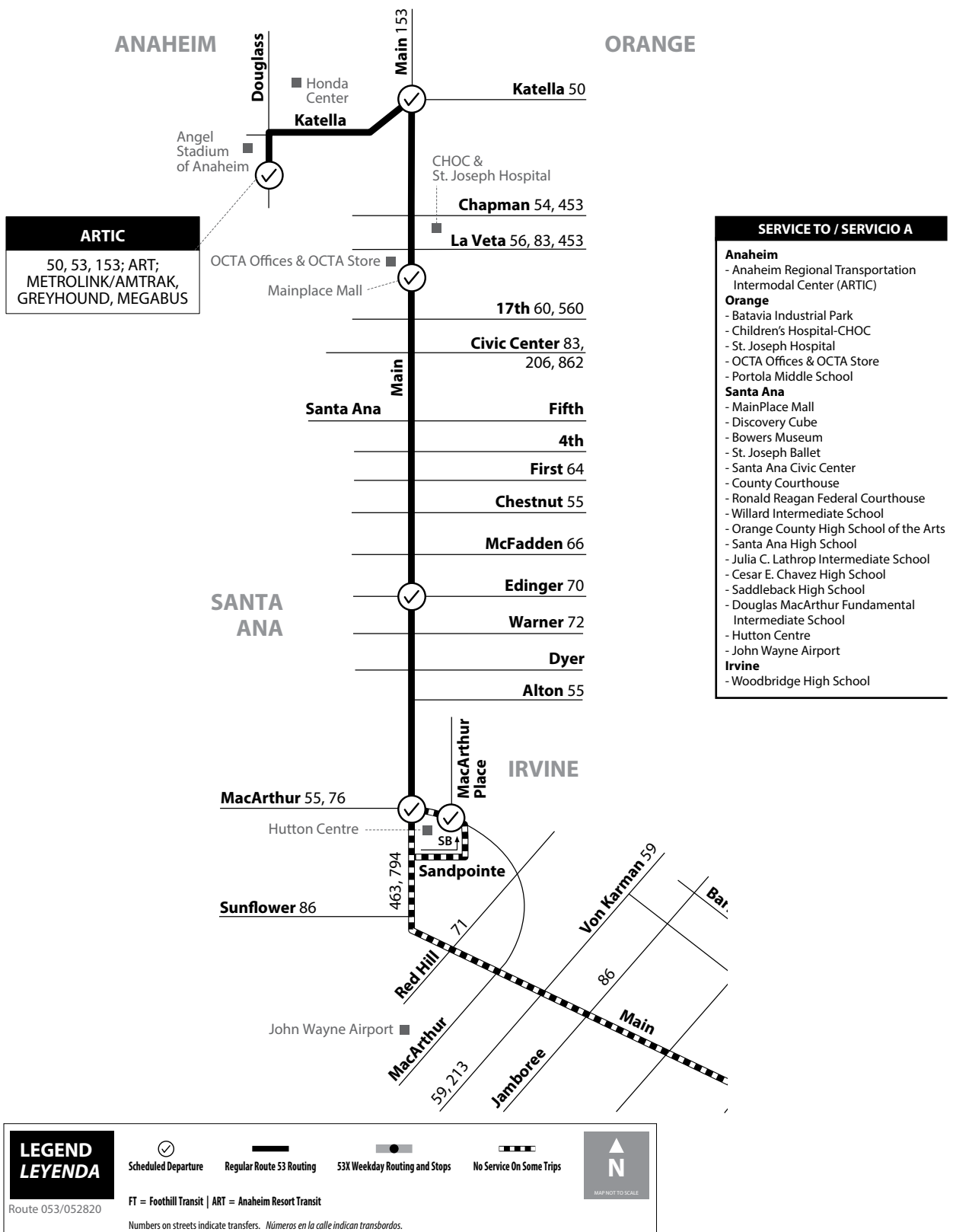
Saturday, Sunday & Holiday
EASTBOUND To: Orange

7th & Channel	Katella & Los Alamitos	Katella & Beach	Katella & Brookhurst	Katella & Harbor	Anaheim Regional Transportation Intermodal Center (ARTIC)	Katella & Glassell	Village At Orange
4:05	4:15	4:28	4:34	4:44	4:56	5:03	5:14
4:45	4:55	5:08	5:14	5:24	5:36	5:43	5:54
5:16	5:28	5:43	5:51	6:04	6:16	6:25	6:38
5:56	6:08	6:23	6:31	6:44	6:56	7:05	7:18
6:36	6:48	7:03	7:11	7:24	7:36	7:45	7:58
7:11	7:24	7:40	7:49	8:04	8:18	8:27	8:41
7:51	8:04	8:20	8:29	8:44	8:58	9:07	9:21
8:31	8:44	9:00	9:09	9:24	9:38	9:47	10:01
9:11	9:24	9:40	9:49	10:04	10:18	10:27	10:41
9:50	10:03	10:20	10:29	10:44	10:58	11:08	11:25
10:30	10:43	11:00	11:09	11:24	11:38	11:48	12:05
11:10	11:23	11:40	11:49	12:04	12:18	12:28	12:45
11:47	12:00	12:19	12:28	12:44	12:58	1:08	1:24
12:27	12:40	12:59	1:08	1:24	1:38	1:48	2:04
1:07	1:20	1:39	1:48	2:04	2:18	2:28	2:44
1:47	2:00	2:19	2:28	2:44	2:58	3:08	3:24
2:27	2:40	2:59	3:08	3:24	3:38	3:48	4:04
3:07	3:20	3:39	3:48	4:04	4:18	4:28	4:44
3:47	4:00	4:19	4:28	4:44	4:58	5:08	5:24
4:31	4:43	5:00	5:09	5:24	5:39	5:48	6:02
5:13	5:25	5:42	5:50	6:04	6:17	6:26	6:40
5:53	6:05	6:22	6:30	6:44	6:57	7:06	7:20
6:38	6:50	7:07	7:15	7:29	7:42	7:51	8:05
7:26	7:38	7:55	8:03	8:17	8:30	8:39	8:53
8:06	8:18	8:32	8:38	8:50	9:03	9:10	9:22
8:40	8:52	9:06	9:12	9:24	9:37	9:44	9:56
9:42	9:54	10:08	10:14	10:26	10:39	10:46	10:58
10:45	10:55	11:08	11:14	11:24	11:36	11:43	11:54
11:45	11:55	12:08	12:14	12:24	12:36	12:43	12:54
12:45	12:55	1:08	1:14	1:24	1:36	1:43	1:54

Operates Saturday Only.
Unicamente los sabados.

Saturday, Sunday & Holiday
WESTBOUND To: Long Beach

Village at Orange Zone 2	Katella & Glassell	Anaheim Regional Transportation Intermodal Center (ARTIC)	Katella & Harbor	Katella & Brookhurst	Katella & Beach	Katella & Los Alamitos	7th & Channel
4:45	4:53	5:03	5:13	5:22	5:29	5:43	5:58
5:25	5:33	5:43	5:53	6:02	6:09	6:23	6:38
5:59	6:09	6:20	6:33	6:44	6:52	7:08	7:26
6:39	6:49	7:00	7:13	7:24	7:32	7:48	8:06
7:19	7:29	7:40	7:53	8:04	8:12	8:28	8:46
7:59	8:09	8:20	8:33	8:44	8:52	9:08	9:26
8:37	8:49	9:00	9:13	9:24	9:32	9:50	10:10
9:17	9:29	9:40	9:53	10:04	10:12	10:30	10:50
9:57	10:09	10:20	10:33	10:44	10:52	11:10	11:30
10:37	10:49	11:00	11:13	11:24	11:32	11:50	12:10
11:11	11:26	11:39	11:53	12:05	12:14	12:32	12:52
11:51	12:06	12:19	12:33	12:45	12:54	1:12	1:32
12:31	12:46	12:59	1:13	1:25	1:34	1:52	2:12
1:14	1:27	1:38	1:53	2:06	2:15	2:34	2:52
1:54	2:07	2:18	2:33	2:46	2:55	3:14	3:32
2:34	2:47	2:58	3:13	3:26	3:35	3:54	4:12
3:14	3:27	3:38	3:53	4:06	4:15	4:34	4:52
3:54	4:07	4:18	4:33	4:46	4:55	5:14	5:32
4:34	4:47	4:58	5:13	5:26	5:35	5:54	6:12
5:14	5:27	5:38	5:53	6:06	6:15	6:34	6:52
5:54	6:07	6:18	6:33	6:46	6:55	7:14	7:32
6:35	6:46	6:58	7:13	7:25	7:33	7:49	8:05
7:15	7:26	7:38	7:53	8:05	8:13	8:29	8:45
7:55	8:06	8:18	8:33	8:45	8:53	9:09	9:25
8:35	8:46	8:58	9:13	9:25	9:33	9:49	10:05
9:15	9:26	9:38	9:53	10:05	10:13	10:29	10:45
10:25	10:33	10:41	10:53	11:01	11:06	11:20	11:33
11:25	11:33	11:41	11:53	12:01	12:06	12:20	12:33
12:19	12:27	12:36	12:47	12:56	1:02	1:14	1:27



Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Monday-Friday

NORTHBOUND To: Anaheim

Yale Loop & Alton	MacArthur Blvd & MacArthur Pl	Main & MacArthur (Santa Ana)	Main & Edinger	Santa Ana Mainplace	Katella & Main	Anaheim Regional Transportation Intermodal Center (ARTIC)
5:20	.....	5:33	5:42	5:59	6:09	6:14
	5:47	5:48	5:57	6:14	6:24	6:29
	6:02	6:03	6:12	6:29	6:39	6:44
6:05	.....	6:18	6:27	6:44	6:54	6:59
	6:32	6:33	6:42	6:59	7:09	7:14
	6:45	6:46	6:55	7:12	7:22	7:27
	6:58	6:59	7:08	7:25	7:35	7:40
6:59	.....	7:12	7:21	7:38	7:48	7:53
	7:24	7:25	7:35	7:55	8:04	8:09
	7:39	7:40	7:50	8:10	8:19	8:24
7:39	.....	7:54	8:04	8:24	8:33	8:38
	8:08	8:09	8:19	8:39	8:48	8:53
	8:23	8:24	8:34	8:54	9:03	9:08
8:24	.....	8:39	8:49	9:09	9:18	9:23
	8:53	8:54	9:04	9:24	9:33	9:38
	9:08	9:09	9:19	9:39	9:48	9:53
9:09	.....	9:24	9:34	9:54	10:03	10:08
	9:36	9:37	9:47	10:09	10:22	10:27
	9:51	9:52	10:02	10:24	10:37	10:42
9:52	.....	10:07	10:17	10:39	10:52	10:57
	10:22	10:23	10:33	10:55	11:08	11:13
	10:38	10:39	10:49	11:12	11:23	11:28
10:34	.....	10:54	11:04	11:27	11:38	11:43
	11:08	11:09	11:19	11:42	11:53	11:58
	11:23	11:24	11:34	11:57	12:08	12:13
11:19	.....	11:39	11:49	12:12	12:23	12:28
	11:53	11:54	12:04	12:27	12:38	12:43
	12:08	12:09	12:19	12:42	12:53	12:58
12:04	.....	12:24	12:34	12:57	1:08	1:13
	12:38	12:39	12:49	1:12	1:23	1:28
	12:52	12:53	1:03	1:26	1:37	1:42
12:47	.....	1:07	1:17	1:40	1:51	1:56
	1:20	1:21	1:31	1:54	2:05	2:10
	1:34	1:35	1:45	2:08	2:19	2:24
1:29	.....	1:49	1:59	2:22	2:33	2:38
	2:00	2:01	2:11	2:34	2:45	2:50
	2:12	2:13	2:23	2:46	2:57	3:02
	2:25	2:26	2:36	2:59	3:10	3:15
2:19	.....	2:40	2:50	3:14	3:25	3:30
	2:53	2:54	3:04	3:28	3:39	3:44
	3:07	3:08	3:18	3:42	3:53	3:58
	3:21	3:22	3:32	3:56	4:07	4:12
3:14	.....	3:35	3:45	4:09	4:20	4:25
	3:47	3:48	3:58	4:22	4:33	4:38
	4:00	4:01	4:12	4:32	4:42	4:47
3:53	.....	4:14	4:25	4:45	4:55	5:00
	4:28	4:29	4:40	5:00	5:10	5:15
	4:43	4:44	4:55	5:15	5:25	5:30
4:31	.....	4:52	5:03	5:23	5:33	5:38
4:39	.....	5:00	5:11	5:31	5:41	5:46
	5:14	5:15	5:26	5:46	5:56	6:01
	5:26	5:27	5:38	5:58	6:08	6:13
	5:38	5:39	5:50	6:10	6:20	6:25
5:33	.....	5:54	6:05	6:25	6:35	6:40
	6:08	6:09	6:20	6:40	6:50	6:55
	6:23	6:24	6:35	6:55	7:05	7:10
6:26	.....	6:43	6:51	7:10	7:20	7:25
	6:56	6:57	7:05	7:24	7:34	7:39
	7:11	7:12	7:20	7:39	7:49	7:54
7:09	.....	7:26	7:34	7:53	8:03	8:08
	7:38	7:39	7:47	8:06	8:16	8:21
	7:51	7:52	8:00	8:19	8:29	8:34
7:50	.....	8:07	8:15	8:34	8:44	8:49
	8:36	8:37	8:45	9:04	9:14	9:19
8:50	.....	9:07	9:15	9:34	9:44	9:49
	9:36	9:37	9:45	10:04	10:14	10:19
9:50	.....	10:07	10:15	10:34	10:44	10:49
	10:36	10:37	10:45	11:04	11:14	11:19
10:50	.....	11:07	11:15	11:34	11:44	11:49
	11:36	11:37	11:45	12:04	12:14	12:19

Monday-Friday

SOUTHBOUND To: Irvine

Anaheim Regional Transportation Intermodal Center (ARTIC)	Main & Katella	Santa Ana Mainplace	Main & Edinger	Main & MacArthur (Santa Ana)	MacArthur Blvd & MacArthur Pl	Yale Loop & Alton
5:43	5:47	5:56	6:11	6:20	.....	6:41
6:03	6:07	6:16	6:31	6:40	6:43	
6:18	6:22	6:31	6:46	6:55	6:58	
6:31	6:35	6:44	6:59	7:08	.....	7:29
6:42	6:46	6:55	7:13	7:23	7:26	
6:56	7:00	7:09	7:27	7:37	7:40	
7:10	7:14	7:23	7:41	7:51	.....	8:12
7:24	7:28	7:37	7:55	8:05	8:08	
7:39	7:43	7:52	8:10	8:20	8:23	
7:54	7:58	8:07	8:25	8:35	.....	8:56
8:09	8:13	8:22	8:40	8:50	8:53	
8:24	8:28	8:37	8:55	9:05	9:08	
8:39	8:43	8:52	9:10	9:20	.....	9:41
8:54	8:58	9:07	9:25	9:35	9:38	
9:09	9:13	9:22	9:40	9:50	9:53	
9:23	9:27	9:36	9:54	10:04	.....	10:25
9:37	9:41	9:50	10:08	10:18	10:21	
9:52	9:56	10:05	10:23	10:33	10:36	
10:07	10:11	10:20	10:38	10:48	.....	11:09
10:22	10:26	10:35	10:53	11:03	11:06	
10:37	10:41	10:50	11:08	11:18	11:21	
10:52	10:56	11:05	11:23	11:33	.....	11:54
11:07	11:11	11:20	11:38	11:48	11:51	
11:22	11:26	11:35	11:53	12:03	12:06	
11:29	11:33	11:45	12:06	12:17	.....	12:37
11:40	11:44	11:56	12:17	12:28	12:31	
11:57	12:01	12:13	12:34	12:45	12:48	
12:11	12:15	12:27	12:48	12:59	.....	1:19
12:25	12:29	12:41	1:02	1:13	1:16	
12:40	12:44	12:56	1:17	1:28	1:31	
12:55	12:59	1:11	1:32	1:43	.....	2:03
1:10	1:14	1:26	1:47	1:58	2:01	
1:24	1:28	1:40	2:01	2:12	2:15	
1:38	1:42	1:54	2:15	2:26	.....	2:46
1:52	1:56	2:08	2:29	2:40	2:43	
2:06	2:10	2:22	2:43	2:54	2:57	
2:20	2:24	2:36	2:57	3:08	3:11	
2:35	2:39	2:50	3:09	3:19	.....	3:39
2:48	2:52	3:03	3:22	3:32	3:36	
3:01	3:05	3:16	3:35	3:45	3:49	
3:13	3:17	3:28	3:47	3:57	4:01	
3:25	3:29	3:40	3:59	4:09	.....	4:29
3:40	3:44	3:55	4:14	4:24	4:28	
3:55	3:59	4:10	4:29	4:39	4:43	
4:10	4:14	4:25	4:44	4:54	.....	5:14
4:24	4:28	4:39	4:58	5:08	5:12	
4:39	4:43	4:54	5:13	5:23	5:27	
4:54	4:58	5:09	5:29	5:39	.....	5:57
5:09	5:13	5:24	5:44	5:54	5:57	
5:25	5:29	5:40	6:00	6:10	6:13	
5:40	5:44	5:55	6:15	6:25	.....	6:43
5:56	6:00	6:11	6:31	6:41	6:44	
6:11	6:15	6:26	6:46	6:56	6:59	
6:23	6:27	6:38	6:58	7:08	7:11	
6:37	6:41	6:52	7:12	7:22	.....	7:40
6:50	6:54	7:05	7:26	7:35	7:38	
7:05	7:09	7:20	7:41	7:50	7:53	
7:20	7:24	7:35	7:56	8:05	.....	8:24
7:35	7:39	7:50	8:11	8:20	8:23	
8:05	8:09	8:20	8:41	8:50	8:53	
8:40	8:44	8:54	9:11	9:19	.....	9:38
9:10	9:14	9:24	9:41	9:49	9:52	
9:40	9:44	9:54	10:11	10:19	.....	10:38
10:10	10:14	10:24	10:41	10:49	10:52	
10:40	10:44	10:54	11:11	11:19	.....	11:38
11:10	11:14	11:24	11:41	11:49	11:52	

F = Times are approximate/Los horarios son aproximados.

Saturday
NORTHBOUND To: Anaheim

West Yale Loop & Alton	MacArthur Blvd & MacArthur Pl	Main & MacArthur (Santa Ana)	Main & Edinger	Santa Ana MainPlace	Katella & Main (F)	Anaheim Regional Intermodal Transportation Center (ARTIC)
	5:47	5:48	5:57	6:14	6:24	6:29
	6:02	6:03	6:12	6:29	6:39	6:44
6:05	6:32	6:33	6:42	6:59	7:09	7:14
	6:45	6:46	6:55	7:12	7:22	7:27
6:59	6:58	6:59	7:08	7:25	7:35	7:40
	7:24	7:25	7:35	7:55	8:04	8:09
	7:39	7:40	7:50	8:10	8:19	8:24
7:39	8:08	8:09	8:19	8:39	8:48	8:53
	8:23	8:24	8:34	8:54	9:03	9:08
8:24	8:53	8:54	9:04	9:24	9:33	9:38
	9:08	9:09	9:19	9:39	9:48	9:53
9:09	9:36	9:37	9:47	10:09	10:22	10:27
	9:51	9:52	10:02	10:24	10:37	10:42
9:52	10:22	10:23	10:33	10:55	11:08	11:13
	10:38	10:39	10:49	11:12	11:23	11:28
10:34	11:08	11:09	11:19	11:42	11:53	11:58
	11:23	11:24	11:34	11:57	12:08	12:13
11:19	11:53	11:54	12:04	12:27	12:38	12:43
	12:08	12:09	12:19	12:42	12:53	12:58
12:04	12:38	12:39	12:49	1:12	1:23	1:28
	12:52	12:53	1:03	1:26	1:37	1:42
12:47	1:20	1:21	1:31	1:54	2:05	2:10
	1:34	1:35	1:45	2:08	2:19	2:24
1:29	2:00	2:01	2:11	2:34	2:45	2:50
	2:12	2:13	2:23	2:46	2:57	3:02
	2:25	2:26	2:36	2:59	3:10	3:15
2:19	3:07	3:08	3:18	3:42	3:53	3:58
	3:21	3:22	3:32	3:56	4:07	4:12
3:14	3:47	3:48	3:58	4:22	4:33	4:38
	4:00	4:01	4:12	4:32	4:42	4:47
3:53	4:28	4:29	4:40	5:00	5:10	5:15
	4:43	4:44	4:55	5:15	5:25	5:30
4:39	5:14	5:15	5:26	5:46	5:56	6:01
	5:26	5:27	5:38	5:58	6:08	6:13
	5:38	5:39	5:50	6:10	6:20	6:25
5:33	6:08	6:09	6:20	6:40	6:50	6:55
	6:23	6:24	6:35	6:55	7:05	7:10
6:26	6:56	6:57	7:05	7:24	7:34	7:39
	7:11	7:12	7:20	7:39	7:49	7:54
7:09	7:38	7:39	7:47	8:06	8:16	8:21
	7:51	7:52	8:00	8:19	8:29	8:34
7:50	8:36	8:37	8:45	9:04	9:14	9:19
	9:07	9:07	9:15	9:34	9:44	9:49
8:50	9:36	9:37	9:45	10:04	10:14	10:19
	10:07	10:07	10:15	10:34	10:44	10:49
9:50	10:36	10:37	10:45	11:04	11:14	11:19
	11:07	11:07	11:15	11:34	11:44	11:49
10:50	11:36	11:37	11:45	12:04	12:14	12:19

Saturday
SOUTHBOUND To: Irvine

Anaheim Regional Intermodal Transportation Center (ARTIC)	Main & Katella	Santa Ana MainPlace	Main & Edinger	Main & MacArthur (Santa Ana) (F)	MacArthur Blvd & MacArthur Pl	West Yale Loop & Alton
5:43	5:47	5:56	6:11	6:20	6:23	
6:03	6:07	6:16	6:31	6:40	6:43	
6:18	6:22	6:31	6:46	6:55	6:58	
6:31	6:35	6:44	6:59	7:08	7:11	7:29
6:42	6:46	6:55	7:13	7:23	7:26	
6:56	7:00	7:09	7:27	7:37	7:40	
7:10	7:14	7:23	7:41	7:51	7:54	8:12
7:24	7:28	7:37	7:55	8:05	8:08	
7:39	7:43	7:52	8:10	8:20	8:23	
7:54	7:58	8:07	8:25	8:35	8:38	8:56
8:09	8:13	8:22	8:40	8:50	8:53	
8:24	8:28	8:37	8:55	9:05	9:08	
8:39	8:43	8:52	9:10	9:20	9:23	9:41
8:54	8:58	9:07	9:25	9:35	9:38	
9:09	9:13	9:22	9:40	9:50	9:53	
9:23	9:27	9:36	9:54	10:04	10:07	10:25
9:37	9:41	9:50	10:08	10:18	10:21	
9:52	9:56	10:05	10:23	10:33	10:36	
10:07	10:11	10:20	10:38	10:48	10:51	11:09
10:22	10:26	10:35	10:53	11:03	11:06	
10:37	10:41	10:50	11:08	11:18	11:21	
10:52	10:56	11:05	11:23	11:33	11:36	11:54
11:07	11:11	11:20	11:38	11:48	11:51	
11:22	11:26	11:35	11:53	12:03	12:06	
11:29	11:33	11:45	12:06	12:17	12:20	12:37
11:40	11:44	11:56	12:17	12:28	12:31	
11:57	12:01	12:13	12:34	12:45	12:48	
12:11	12:15	12:27	12:48	12:59	13:02	1:19
12:25	12:29	12:41	1:02	1:13	1:16	
12:40	12:44	12:56	1:17	1:28	1:31	
12:55	12:59	1:11	1:32	1:43	1:46	2:03
1:10	1:14	1:26	1:47	1:58	2:01	
1:24	1:28	1:40	2:01	2:12	2:15	
1:38	1:42	1:54	2:15	2:26	2:29	2:46
1:52	1:56	2:08	2:29	2:40	2:43	
2:06	2:10	2:22	2:43	2:54	2:57	
2:20	2:24	2:36	2:57	3:08	3:11	
2:35	2:39	2:50	3:09	3:19	3:22	3:39
2:48	2:52	3:03	3:22	3:32	3:35	
3:01	3:05	3:16	3:35	3:45	3:48	
3:13	3:17	3:28	3:47	3:57	4:00	
3:25	3:29	3:40	3:59	4:09	4:12	4:29
3:40	3:44	3:55	4:14	4:24	4:27	
3:55	3:59	4:10	4:29	4:39	4:42	
4:10	4:14	4:25	4:44	4:54	4:57	5:14
4:24	4:28	4:39	4:58	5:08	5:11	
4:39	4:43	4:54	5:13	5:23	5:26	
4:54	4:58	5:09	5:29	5:39	5:42	5:57
5:09	5:13	5:24	5:44	5:54	5:57	
5:25	5:29	5:40	6:00	6:10	6:13	
5:40	5:44	5:55	6:15	6:25	6:28	6:43
5:56	6:00	6:11	6:31	6:41	6:44	
6:11	6:15	6:26	6:46	6:56	6:59	
6:23	6:27	6:38	6:58	7:08	7:11	
6:37	6:41	6:52	7:12	7:22	7:25	7:40
6:50	6:54	7:05	7:26	7:35	7:38	
7:05	7:09	7:20	7:41	7:50	7:53	
7:20	7:24	7:35	7:56	8:05	8:08	8:24
7:35	7:39	7:50	8:11	8:20	8:23	
8:05	8:09	8:20	8:41	8:50	8:53	
8:40	8:44	8:54	9:11	9:19	9:22	9:38
9:10	9:14	9:24	9:41	9:49	9:52	
9:40	9:44	9:54	10:11	10:19	10:22	10:38
10:10	10:14	10:24	10:41	10:49	10:52	
10:40	10:44	10:54	11:11	11:19	11:22	11:38
11:10	11:14	11:24	11:41	11:49	11:52	

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

F = Times are approximate/Los horarios son aproximados.

Sunday & Holiday NORTHBOUND To: Anaheim

West Yale Loop & Alton	MacArthur Blvd & MacArthur Pl	Main & MacArthur (Santa Ana)	Main & Edinger	Santa Ana MainPlace	Katella & Main (F)	Anaheim Regional Transportation Intermodal Center (ARTIC)
5:37	.....	5:51	5:59	6:11	6:20	6:25
	6:11	6:12	6:20	6:33	6:43	6:48
	6:27	6:28	6:36	6:49	6:59	7:04
6:36	.....	6:51	6:59	7:12	7:22	7:27
	7:10	7:11	7:19	7:32	7:42	7:47
	7:30	7:31	7:39	7:52	8:02	8:07
7:36	.....	7:51	7:59	8:12	8:22	8:27
	8:08	8:09	8:18	8:33	8:42	8:47
	8:30	8:31	8:40	8:55	9:04	9:09
8:33	.....	8:51	9:00	9:15	9:24	9:29
	9:10	9:11	9:20	9:35	9:44	9:49
	9:29	9:30	9:39	9:54	10:03	10:08
9:29	.....	9:47	9:56	10:14	10:24	10:29
	10:04	10:05	10:14	10:32	10:42	10:47
	10:14	10:15	10:24	10:42	10:52	10:57
	10:29	10:30	10:39	10:57	11:07	11:12
10:33	.....	10:51	11:00	11:18	11:28	11:33
	11:06	11:07	11:16	11:34	11:44	11:49
	11:22	11:23	11:32	11:50	12:00	12:05
	11:35	11:36	11:45	12:03	12:13	12:18
11:33	.....	11:51	12:00	12:18	12:28	12:33
	12:05	12:06	12:15	12:33	12:43	12:48
	12:20	12:21	12:30	12:48	12:58	1:03
	12:35	12:36	12:45	1:03	1:13	1:18
12:33	.....	12:51	1:00	1:18	1:28	1:33
	1:06	1:07	1:16	1:34	1:44	1:49
	1:21	1:22	1:31	1:49	1:59	2:04
	1:35	1:36	1:45	2:03	2:13	2:18
1:33	.....	1:51	2:00	2:18	2:28	2:33
	2:05	2:06	2:15	2:33	2:43	2:48
	2:20	2:21	2:30	2:48	2:58	3:03
	2:31	2:32	2:41	2:59	3:09	3:14
2:29	.....	2:47	2:56	3:14	3:24	3:29
	3:02	3:03	3:12	3:30	3:40	3:45
	3:17	3:18	3:27	3:45	3:55	4:00
	3:32	3:33	3:42	4:00	4:10	4:15
3:30	.....	3:48	3:57	4:15	4:25	4:30
	4:02	4:03	4:12	4:30	4:40	4:45
	4:17	4:18	4:27	4:45	4:55	5:00
	4:34	4:35	4:44	5:00	5:10	5:15
4:33	.....	4:50	4:59	5:15	5:25	5:30
	5:04	5:05	5:14	5:30	5:40	5:45
	5:19	5:20	5:29	5:45	5:55	6:00
	5:34	5:35	5:44	6:00	6:10	6:15
5:35	.....	5:53	6:01	6:15	6:25	6:30
	6:06	6:07	6:15	6:29	6:39	6:44
	6:21	6:22	6:30	6:44	6:54	6:59
	6:36	6:37	6:45	6:59	7:09	7:14
6:34	.....	6:52	7:00	7:14	7:24	7:29
	7:06	7:07	7:15	7:29	7:39	7:44
	7:21	7:22	7:30	7:44	7:54	7:59
	7:34	7:35	7:43	7:57	8:07	8:12
7:34	.....	7:52	8:00	8:14	8:24	8:29
	8:12	8:13	8:21	8:35	8:45	8:50
	8:31	8:32	8:40	8:52	9:01	9:06
8:35	.....	8:52	9:00	9:12	9:21	9:26
	9:21	9:22	9:30	9:42	9:51	9:56
9:35	.....	9:52	10:00	10:12	10:21	10:26
	10:21	10:22	10:30	10:42	10:51	10:56
	11:21	11:22	11:30	11:42	11:51	11:56

Sunday & Holiday SOUTHBOUND To: Irvine

Anaheim Regional Transportation Intermodal Center (ARTIC)	Main & Katella	Santa Ana MainPlace	Main & Edinger	Main & MacArthur (Santa Ana) (F)	MacArthur Blvd & MacArthur Pl	West Yale Loop & Alton
5:59	6:03	6:11	6:25	6:32	.....	6:51
6:19	6:23	6:31	6:45	6:52	6:56	
6:39	6:43	6:51	7:05	7:12	7:16	
6:59	7:03	7:11	7:25	7:32	.....	7:51
7:14	7:18	7:26	7:42	7:50	7:54	
7:37	7:41	7:49	8:05	8:13	8:17	
7:57	8:01	8:09	8:25	8:33	.....	8:52
8:17	8:21	8:29	8:45	8:53	8:57	
8:37	8:41	8:49	9:05	9:13	9:17	
8:57	9:01	9:09	9:25	9:33	.....	9:52
9:09	9:13	9:22	9:40	9:50	9:55	
9:33	9:37	9:46	10:04	10:14	10:19	
9:54	9:58	10:07	10:25	10:35	.....	10:55
10:15	10:19	10:27	10:43	10:51	10:56	
10:31	10:35	10:43	10:59	11:07	11:12	
10:42	10:46	10:54	11:10	11:18	11:23	
10:57	11:01	11:09	11:25	11:33	.....	11:52
11:07	11:11	11:20	11:37	11:46	11:51	
11:22	11:26	11:36	11:54	12:04	12:09	
11:32	11:36	11:46	12:04	12:14	12:19	
11:52	11:56	12:06	12:24	12:34	.....	12:54
12:13	12:17	12:26	12:42	12:51	12:56	
12:28	12:32	12:41	12:57	1:06	1:11	
12:41	12:45	12:54	1:10	1:19	1:24	
12:56	1:00	1:09	1:25	1:34	.....	1:54
1:07	1:11	1:21	1:39	1:49	1:53	
1:19	1:23	1:33	1:51	2:01	2:05	
1:35	1:39	1:49	2:07	2:17	2:21	
1:53	1:57	2:07	2:25	2:35	.....	2:53
2:06	2:10	2:20	2:38	2:48	2:52	
2:21	2:25	2:35	2:53	3:03	3:07	
2:36	2:40	2:50	3:08	3:18	3:22	
2:53	2:57	3:07	3:25	3:35	.....	3:53
3:09	3:13	3:22	3:39	3:48	3:52	
3:24	3:28	3:37	3:54	4:03	4:07	
3:41	3:45	3:54	4:11	4:20	4:24	
3:55	3:59	4:08	4:25	4:34	.....	4:52
4:10	4:14	4:23	4:40	4:49	4:53	
4:25	4:29	4:38	4:55	5:04	5:08	
4:40	4:44	4:53	5:10	5:19	5:23	
4:55	4:59	5:08	5:25	5:34	.....	5:52
5:10	5:14	5:23	5:40	5:49	5:53	
5:25	5:29	5:38	5:55	6:04	6:08	
5:40	5:44	5:53	6:10	6:19	6:23	
5:55	5:59	6:08	6:25	6:34	.....	6:52
6:10	6:14	6:23	6:40	6:49	6:53	
6:25	6:29	6:38	6:55	7:04	7:08	
6:40	6:44	6:53	7:10	7:19	7:23	
6:57	7:01	7:10	7:27	7:36	.....	7:54
7:16	7:20	7:28	7:44	7:51	7:56	
7:27	7:31	7:39	7:55	8:02	8:07	
7:42	7:46	7:54	8:10	8:17	.....	8:35
8:02	8:06	8:14	8:30	8:37	8:42	
8:22	8:26	8:34	8:50	8:57	9:02	
8:42	8:46	8:54	9:10	9:17	.....	9:35
9:20	9:24	9:31	9:44	9:51	9:56	
9:46	9:50	9:57	10:10	10:17	.....	10:35
10:16	10:20	10:27	10:40	10:47	10:52	
11:16	11:20	11:27	11:40	11:47	11:52	

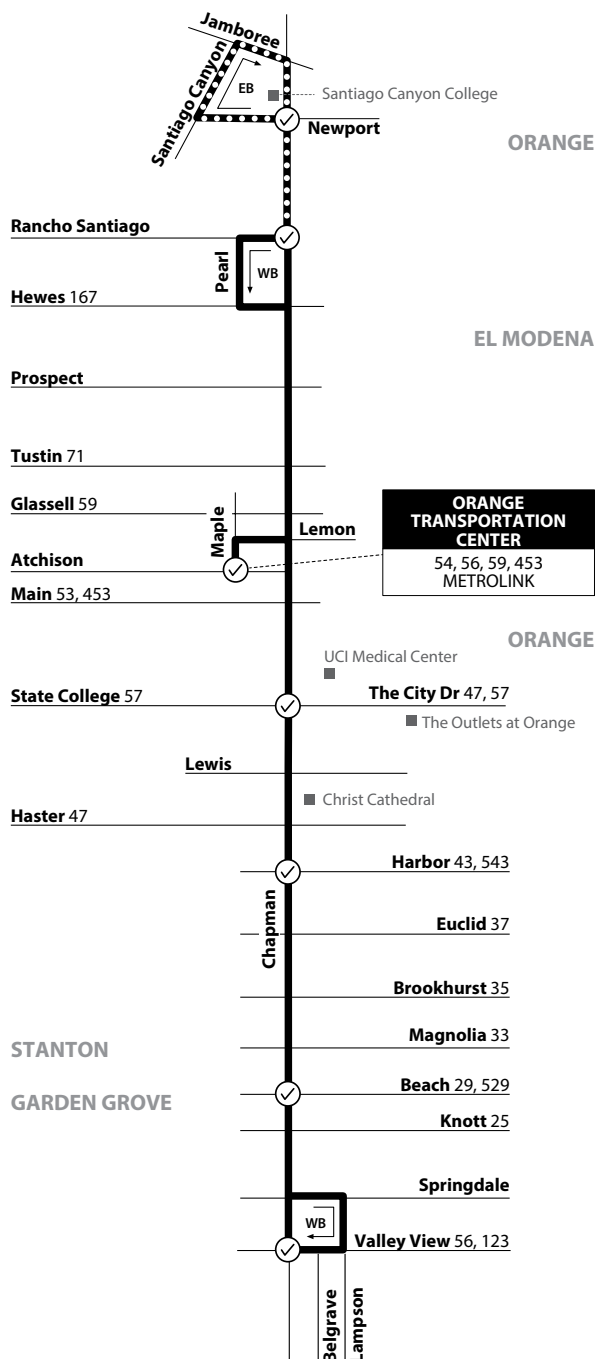
F = Times are approximate/Los horarios son aproximados.

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

NOTE: This route does not operate east of Rancho Santiago St. on Sundays.
 NOTA: Esta ruta no opera al este de Rancho Santiago St. los domingos.

Garden Grove to Orange
 via Chapman Ave

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Monday-Friday
EASTBOUND To: Orange

Chapman & Valley View	Chapman & Beach	Chapman & Brookhurst	Chapman & Harbor	Chapman & City Drive	Orange Transportation Center	Chapman & Rancho Santiago	Santiago Canyon College
6:15	6:22	6:30	6:39	6:46	6:57	7:13	7:23
6:45	6:52	7:00	7:09	7:16	7:27	7:43	7:53
7:15	7:22	7:30	7:39	7:46	7:57	8:13	8:23
7:45	7:52	8:00	8:09	8:16	8:27	8:43	8:53
8:15	8:22	8:30	8:39	8:46	8:57	9:13	9:23
8:45	8:52	9:00	9:09	9:16	9:27	9:43	9:53
9:14	9:21	9:29	9:39	9:46	9:59	10:16	10:26
9:44	9:51	9:59	10:09	10:16	10:29	10:46	10:56
10:11	10:19	10:27	10:39	10:47	10:59	11:16	11:26
10:41	10:49	10:57	11:09	11:17	11:29	11:46	11:56
11:11	11:19	11:27	11:39	11:47	11:59	12:16	12:26
11:41	11:49	11:57	12:09	12:17	12:29	12:46	12:56
12:11	12:19	12:27	12:39	12:47	12:59	1:16	1:26
12:40	12:49	12:58	1:09	1:17	1:29	1:48	1:58
1:10	1:19	1:28	1:39	1:47	1:59	2:18	2:28
1:40	1:49	1:58	2:09	2:17	2:29	2:48	2:58
2:10	2:19	2:28	2:39	2:47	2:59	3:18	3:28
2:40	2:49	2:58	3:09	3:17	3:29	3:48	3:58
			3:25	3:33	3:46		
3:10	3:19	3:28	3:39	3:47	3:59	4:18	4:28
			3:55	4:03	4:16		
3:40	3:49	3:58	4:09	4:17	4:29	4:48	4:58
4:11	4:20	4:28	4:39	4:47	4:57	5:14	5:24
			4:44	4:52	5:04		
4:41	4:50	4:58	5:09	5:17	5:27	5:44	5:54
5:12	5:20	5:28	5:39	5:47	5:58	6:15	6:24
5:42	5:50	5:58	6:09	6:17	6:28	6:45	6:54
6:12	6:20	6:28	6:39	6:47	6:58	7:15	7:24
6:45	6:52	6:59	7:09	7:16	7:27	7:42	7:50
7:15	7:22	7:29	7:39	7:46	7:57	8:12	8:20
7:45	7:52	7:59	8:09	8:16	8:27	8:42	8:50
8:15	8:22	8:29	8:39	8:46	8:57	9:12	9:20
9:00	9:07	9:14	9:24	9:31	9:42	9:57	10:05

LEGEND
LEYENDA

Scheduled Departure
 Regular Routing
 Monday-Saturday Only

METRO = Los Angeles Metro | RTA = Riverside Transit Agency
 LBT = Long Beach Transit | ART = Anaheim Resort Transit
 Numbers on streets indicate transfers. Números en la calle indican transbordos.

SERVICE TO / SERVICIO A

<p>El Modena</p> <p>Orange</p> <ul style="list-style-type: none"> - El Modena High School - Santiago Canyon College - Orange Public Library - Orange Civic Center - Orange Transportation Center (Metrolink) - The Plaza - The Outlets at Orange - UCI Medical Center - Lamoreaux Justice Center - Portola Middle School 	<p>Stanton</p> <p>Garden Grove</p> <ul style="list-style-type: none"> - Christ Cathedral - Garden Grove Resort District - Izaak Walton Intermediate School - Dr. Walter C. Ralston Intermediate School - Alaminos Intermediate School - Garden Grove Promenade - Chapman Library - Garden Grove West Library - Pacifica High School - Hilton D. Bell Intermediate School
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NOTE: This route does not operate east of Rancho Santiago St. on Sundays.
 NOTA: Esta ruta no opera al este de Rancho Santiago St. los domingos.

Monday-Friday

WESTBOUND To: Garden Grove

Santiago Canyon College	Chapman & Rancho Santiago	Orange Transportation Center	Chapman & City Drive	Chapman & Harbor	Chapman & Brookhurst	Chapman & Beach	Chapman & Valley View
6:00	6:05	6:22	6:32	6:38	6:45	6:51	7:00
6:16	6:22	6:40	6:51	6:58	7:08	7:16	7:27
6:46	6:52	7:10	7:21	7:28	7:38	7:46	7:57
7:16	7:22	7:40	7:51	7:58	8:08	8:16	8:27
7:46	7:52	8:10	8:21	8:28	8:38	8:46	8:57
8:16	8:22	8:40	8:51	8:58	9:08	9:16	9:27
8:46	8:52	9:10	9:21	9:28	9:38	9:46	9:57
9:12	9:18	9:38	9:50	9:58	10:08	10:17	10:28
9:42	9:48	10:08	10:20	10:28	10:38	10:47	10:58
10:12	10:18	10:38	10:50	10:58	11:08	11:17	11:28
10:42	10:48	11:08	11:20	11:28	11:38	11:47	11:58
11:12	11:18	11:38	11:50	11:58	12:08	12:17	12:28
11:42	11:48	12:08	12:20	12:28	12:38	12:47	12:58
12:12	12:18	12:38	12:50	12:58	1:08	1:17	1:28
12:41	12:47	1:07	1:19	1:28	1:38	1:48	1:59
1:11	1:17	1:37	1:49	1:58	2:08	2:18	2:29
1:41	1:47	2:07	2:19	2:28	2:38	2:48	2:59
2:11	2:17	2:37	2:49	2:58	3:08	3:18	3:29
2:41	2:47	3:07	3:19	3:28	3:38	3:48	3:59
3:10	3:17	3:36	3:49	3:58	4:09	4:18	4:28
3:40	3:47	4:06	4:19	4:28	4:39	4:48	4:58
4:10	4:17	4:36	4:49	4:58	5:09	5:18	5:28
4:40	4:47	5:06	5:19	5:28	5:39	5:48	5:58
5:10	5:17	5:36	5:49	5:58	6:09	6:18	6:28
5:45	5:51	6:09	6:21	6:28	6:38	6:47	6:57
6:15	6:21	6:39	6:51	6:58	7:08	7:17	7:27
6:45	6:51	7:09	7:21	7:28	7:38	7:47	7:57
7:15	7:21	7:39	7:51	7:58	8:08	8:17	8:27
7:45	7:51	8:09	8:21	8:28	8:38	8:47	8:57
8:30	8:36	8:54	9:06	9:13	9:23	9:32	9:42

Saturday

EASTBOUND To: Orange

Chapman & Valley View	Chapman & Beach	Chapman & Brookhurst	Chapman & Harbor	Chapman & City Drive	Orange Transportation Center	Chapman & Rancho Santiago	Santiago Canyon College
6:15	6:22	6:30	6:39	6:46	6:57	7:13	7:23
6:45	6:52	7:00	7:09	7:16	7:27	7:43	7:53
7:15	7:22	7:30	7:39	7:46	7:57	8:13	8:23
7:45	7:52	8:00	8:09	8:16	8:27	8:43	8:53
8:15	8:22	8:30	8:39	8:46	8:57	9:13	9:23
8:45	8:52	9:00	9:09	9:16	9:27	9:43	9:53
9:14	9:21	9:29	9:39	9:46	9:59	10:16	10:26
9:44	9:51	9:59	10:09	10:16	10:29	10:46	10:56
10:11	10:19	10:27	10:39	10:47	10:59	11:16	11:26
10:41	10:49	10:57	11:09	11:17	11:29	11:46	11:56
11:11	11:19	11:27	11:39	11:47	11:59	12:16	12:26
11:41	11:49	11:57	12:09	12:17	12:29	12:46	12:56
12:11	12:19	12:27	12:39	12:47	12:59	1:16	1:26
12:40	12:49	12:58	1:09	1:17	1:29	1:48	1:58
1:10	1:19	1:28	1:39	1:47	1:59	2:18	2:28
1:40	1:49	1:58	2:09	2:17	2:29	2:48	2:58
2:10	2:19	2:28	2:39	2:47	2:59	3:18	3:28
2:40	2:49	2:58	3:09	3:17	3:29	3:48	3:58
3:10	3:19	3:28	3:39	3:47	3:59	4:18	4:28
3:40	3:49	3:58	4:09	4:17	4:29	4:48	4:58
4:11	4:20	4:28	4:39	4:47	4:57	5:14	5:24
4:41	4:50	4:58	5:09	5:17	5:27	5:44	5:54
5:12	5:20	5:28	5:39	5:47	5:58	6:15	6:24
5:42	5:50	5:58	6:09	6:17	6:28	6:45	6:54
6:12	6:20	6:28	6:39	6:47	6:58	7:15	7:24
6:45	6:52	6:59	7:09	7:16	7:27	7:42	7:50
7:15	7:22	7:29	7:39	7:46	7:57	8:12	8:20
7:45	7:52	7:59	8:09	8:16	8:27	8:42	8:50
8:15	8:22	8:29	8:39	8:46	8:57	9:12	9:20
9:00	9:07	9:14	9:24	9:31	9:42	9:57	10:05

NOTE: This route does not operate east of Rancho Santiago St. on Sundays.
 NOTA: Esta ruta no opera al este de Rancho Santiago St. los domingos.

Garden Grove to Orange
 via Chapman Ave

54

Saturday

WESTBOUND To: Garden Grove

Santiago Canyon College	Chapman & Rancho Santiago	Orange Transportation Center	Chapman & City Drive	Chapman & Harbor	Chapman & Brookhurst	Chapman & Beach	Chapman & Valley View
6:00	6:05	6:22	6:32	6:38	6:45	6:51	7:00
6:16	6:22	6:40	6:51	6:58	7:08	7:16	7:27
6:46	6:52	7:10	7:21	7:28	7:38	7:46	7:57
7:16	7:22	7:40	7:51	7:58	8:08	8:16	8:27
7:46	7:52	8:10	8:21	8:28	8:38	8:46	8:57
8:16	8:22	8:40	8:51	8:58	9:08	9:16	9:27
8:46	8:52	9:10	9:21	9:28	9:38	9:46	9:57
9:12	9:18	9:38	9:50	9:58	10:08	10:17	10:28
9:42	9:48	10:08	10:20	10:28	10:38	10:47	10:58
10:12	10:18	10:38	10:50	10:58	11:08	11:17	11:28
10:42	10:48	11:08	11:20	11:28	11:38	11:47	11:58
11:12	11:18	11:38	11:50	11:58	12:08	12:17	12:28
11:42	11:48	12:08	12:20	12:28	12:38	12:47	12:58
12:12	12:18	12:38	12:50	12:58	1:08	1:17	1:28
12:41	12:47	1:07	1:19	1:28	1:38	1:48	1:59
1:11	1:17	1:37	1:49	1:58	2:08	2:18	2:29
1:41	1:47	2:07	2:19	2:28	2:38	2:48	2:59
2:11	2:17	2:37	2:49	2:58	3:08	3:18	3:29
2:41	2:47	3:07	3:19	3:28	3:38	3:48	3:59
3:10	3:17	3:36	3:49	3:58	4:09	4:18	4:28
3:40	3:47	4:06	4:19	4:28	4:39	4:48	4:58
4:10	4:17	4:36	4:49	4:58	5:09	5:18	5:28
4:40	4:47	5:06	5:19	5:28	5:39	5:48	5:58
5:10	5:17	5:36	5:49	5:58	6:09	6:18	6:28
5:45	5:51	6:09	6:21	6:28	6:38	6:47	6:57
6:15	6:21	6:39	6:51	6:58	7:08	7:17	7:27
6:45	6:51	7:09	7:21	7:28	7:38	7:47	7:57
7:15	7:21	7:39	7:51	7:58	8:08	8:17	8:27
7:45	7:51	8:09	8:21	8:28	8:38	8:47	8:57
8:30	8:36	8:54	9:06	9:13	9:23	9:32	9:42

Sunday & Holiday

EASTBOUND To: Orange

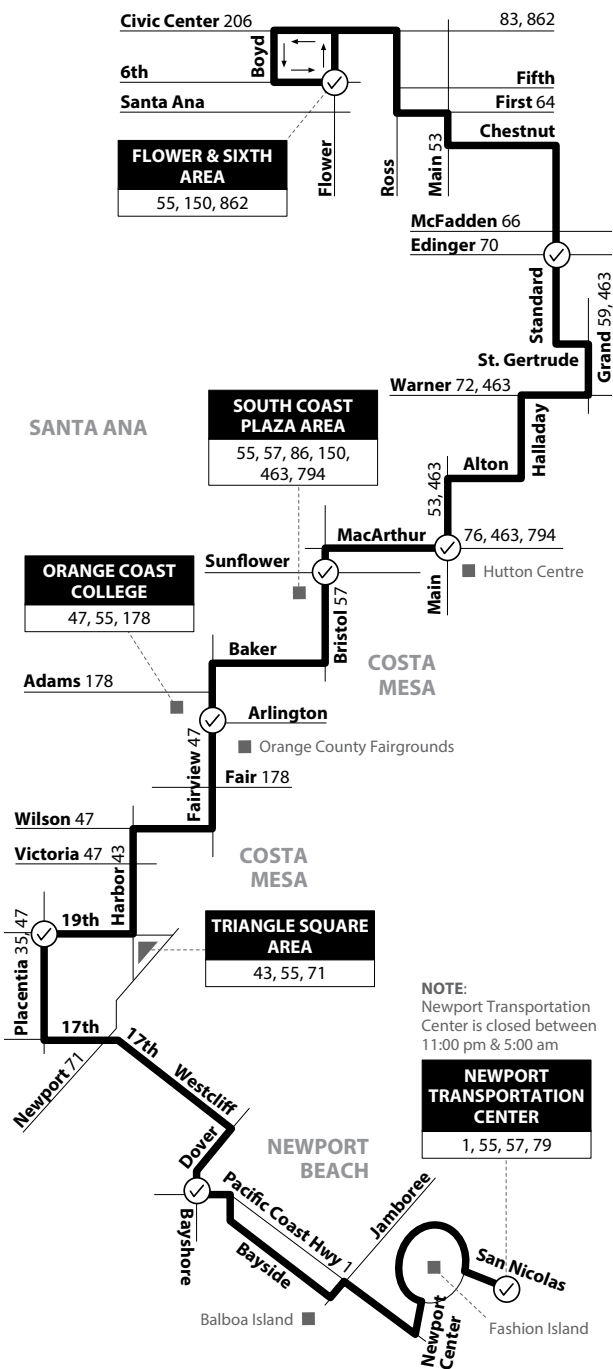
Chapman & Valley View	Chapman & Beach	Chapman & Brookhurst	Chapman & Harbor	Chapman & City Drive	Orange Transportation Center	Rancho Santiago & Chapman
6:57	7:04	7:11	7:21	7:28	7:39	7:51
7:28	7:35	7:42	7:52	7:59	8:10	8:22
7:59	8:06	8:13	8:23	8:30	8:41	8:53
8:23	8:32	8:42	8:54	9:02	9:14	9:28
8:54	9:03	9:13	9:25	9:33	9:45	9:59
9:26	9:35	9:45	9:57	10:05	10:17	10:31
9:57	10:06	10:16	10:28	10:36	10:48	11:02
10:30	10:38	10:47	10:59	11:07	11:19	11:33
11:03	11:11	11:20	11:32	11:40	11:52	12:09
11:34	11:42	11:51	12:03	12:11	12:23	12:40
12:06	12:14	12:23	12:35	12:43	12:55	1:12
12:41	12:49	12:57	1:08	1:16	1:28	1:45
1:10	1:18	1:26	1:37	1:45	1:57	2:14
1:43	1:51	1:59	2:10	2:18	2:30	2:47
2:17	2:25	2:33	2:44	2:52	3:04	3:21
2:49	2:57	3:05	3:16	3:24	3:36	3:52
3:22	3:30	3:38	3:48	3:56	4:07	4:23
3:51	3:59	4:07	4:17	4:25	4:36	4:52
4:24	4:32	4:40	4:50	4:58	5:09	5:25
4:58	5:06	5:14	5:24	5:32	5:43	5:59
5:28	5:35	5:43	5:53	6:00	6:11	6:24
5:59	6:06	6:14	6:24	6:31	6:42	6:55
6:27	6:34	6:42	6:52	6:59	7:10	7:23
6:57	7:04	7:12	7:22	7:29	7:40	7:53
7:31	7:38	7:46	7:56	8:03	8:14	8:27
8:31	8:38	8:46	8:56	9:03	9:14	9:27
9:31	9:38	9:46	9:56	10:03	10:14	10:27

Sunday & Holiday

WESTBOUND To: Garden Grove

Rancho Santiago & Chapman	Orange Transportation Center	Chapman & City Drive	Chapman & Harbor	Chapman & Brookhurst	Chapman & Beach	Chapman & Valley View
6:29	6:45	6:55	7:02	7:10	7:17	7:26
7:06	7:22	7:34	7:42	7:52	8:01	8:11
7:36	7:52	8:04	8:12	8:22	8:31	8:41
8:06	8:22	8:34	8:42	8:52	9:01	9:11
8:37	8:53	9:05	9:13	9:23	9:32	9:42
9:08	9:24	9:36	9:44	9:54	10:03	10:13
9:43	9:59	10:11	10:19	10:29	10:38	10:48
10:14	10:30	10:42	10:50	11:00	11:09	11:19
10:44	11:02	11:14	11:22	11:32	11:41	11:51
11:17	11:35	11:47	11:55	12:05	12:14	12:24
11:48	12:06	12:18	12:26	12:36	12:45	12:55
12:21	12:39	12:51	12:59	1:09	1:18	1:28
12:55	1:13	1:25	1:33	1:43	1:52	2:02
1:28	1:45	1:57	2:05	2:15	2:24	2:34
2:00	2:17	2:29	2:37	2:47	2:57	3:07
2:29	2:46	2:58	3:06	3:16	3:26	3:36
3:02	3:19	3:31	3:39	3:49	3:59	4:09
3:37	3:53	4:05	4:13	4:23	4:32	4:42
4:08	4:24	4:36	4:44	4:54	5:03	5:13
4:39	4:55	5:07	5:15	5:25	5:34	5:44
5:08	5:23	5:35	5:43	5:52	6:01	6:10
5:40	5:55	6:07	6:15	6:24	6:33	6:42
6:14	6:29	6:41	6:49	6:58	7:07	7:16
6:39	6:54	7:06	7:14	7:23	7:32	7:41
7:10	7:25	7:37	7:45	7:54	8:03	8:12
7:38	7:53	8:05	8:13	8:22	8:31	8:40
8:38	8:53	9:05	9:13	9:22	9:31	9:40
9:38	9:53	10:05	10:13	10:22	10:31	10:40

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)



NOTE:
Newport Transportation Center is closed between 11:00 pm & 5:00 am

Monday-Friday NORTHBOUND To: Santa Ana

Newport Transportation Center	Dover & Pacific Coast Hwy	Placentia & 19th	Fairview & Arlington	Bristol & Sunflower	Main & MacArthur (Santa Ana)	Standard & Edinger	Flower & 6th
			5:40	5:50	5:55	6:07	6:23
			6:10	6:20	6:25	6:37	6:53
5:56	6:06	6:18	6:36	6:50	6:56	7:09	7:27
6:26	6:36	6:48	7:06	7:20	7:26	7:39	7:57
6:56	7:06	7:18	7:36	7:50	7:56	8:09	8:27
7:26	7:36	7:48	8:06	8:20	8:26	8:39	8:57
7:56	8:06	8:18	8:36	8:50	8:56	9:09	9:27
8:21	8:34	8:47	9:05	9:20	9:28	9:42	10:01
8:51	9:04	9:17	9:35	9:50	9:58	10:12	10:31
9:21	9:34	9:47	10:05	10:20	10:28	10:42	11:01
9:51	10:04	10:17	10:35	10:50	10:58	11:12	11:31
10:21	10:34	10:47	11:05	11:20	11:28	11:42	12:01
10:51	11:04	11:17	11:35	11:50	11:58	12:12	12:31
11:21	11:34	11:47	12:05	12:20	12:28	12:42	1:01
11:51	12:04	12:17	12:35	12:50	12:58	1:12	1:31
12:21	12:34	12:47	1:05	1:20	1:28	1:42	2:01
12:51	1:04	1:17	1:35	1:50	1:58	2:12	2:31
1:21	1:34	1:47	2:05	2:20	2:28	2:42	3:01
1:51	2:04	2:17	2:35	2:50	2:58	3:12	3:31
2:21	2:34	2:47	3:05	3:20	3:28	3:42	4:01
2:51	3:04	3:17	3:35	3:50	3:58	4:12	4:31
3:21	3:34	3:47	4:05	4:20	4:28	4:42	5:01
3:51	4:04	4:17	4:35	4:50	4:58	5:12	5:31
4:21	4:34	4:47	5:05	5:20	5:28	5:42	6:01
4:58	5:10	5:21	5:37	5:50	5:58	6:09	6:25
5:28	5:40	5:51	6:07	6:20	6:28	6:39	6:55
6:03	6:15	6:26	6:42	6:55	7:03	7:14	7:30
6:38	6:50	7:01	7:17	7:30	7:38	7:49	8:05
7:13	7:25	7:36	7:52	8:05	8:13	8:24	8:40
7:47	7:59	8:10	8:24	8:35	8:42	8:54	9:10
8:17	8:29	8:40	8:54	9:05	9:12	9:24	9:40
8:47	8:59	9:10	9:24	9:35	9:42	9:54	10:10
9:17	9:29	9:40	9:54	10:05	10:12	10:24	10:40
9:47	9:59	10:10	10:24	10:35	10:42	10:54	11:10

LEGEND LEYENDA

Scheduled Departure
 Regular Routing



Route 055/120619 Numbers on streets indicate transfers. Números en la calle indican transbordos.

Monday-Friday

SOUTHBOUND To: Newport Beach

Flower & 6th	Edinger & Standard	MacArthur & Main, S.A.	Bristol & Sunflower	Fairview & Arlington	Placentia & 19th	Pacific Coast Hwy & Bay Shore	Newport Transportation Center
4:20	4:36	4:48	4:53	5:01	5:13	5:23	5:32
4:49	5:06	5:18	5:23	5:32	5:45	5:56	6:08
5:11	5:28	5:40	5:45	5:54	6:07	6:18	6:30
5:26	5:43	5:55	6:00	6:09	6:22	6:33	6:45
5:56	6:13	6:25	6:30	6:39	6:52	7:03	7:15
6:26	6:43	6:54	7:00	7:10	7:23	7:37	7:52
6:56	7:13	7:24	7:30	7:40	7:53	8:07	8:22
7:25	7:42	7:54	8:00	8:12	8:28	8:41	8:57
7:55	8:12	8:24	8:30	8:42	8:58	9:11	9:27
8:25	8:42	8:54	9:00	9:12	9:28	9:41	9:57
8:55	9:12	9:24	9:30	9:42	9:58	10:11	10:27
9:23	9:41	9:53	10:00	10:16	10:33	10:47	11:03
9:53	10:11	10:23	10:30	10:46	11:03	11:17	11:33
10:23	10:41	10:53	11:00	11:16	11:33	11:47	12:03
10:53	11:11	11:23	11:30	11:46	12:03	12:17	12:33
11:23	11:41	11:53	12:00	12:16	12:33	12:47	1:03
11:53	12:11	12:23	12:30	12:46	1:03	1:17	1:33
12:23	12:41	12:53	1:00	1:16	1:33	1:47	2:03
12:53	1:11	1:23	1:30	1:46	2:03	2:17	2:33
1:23	1:41	1:53	2:00	2:16	2:33	2:47	3:03
1:53	2:11	2:23	2:30	2:46	3:03	3:17	3:33
2:23	2:41	2:53	3:00	3:16	3:33	3:47	4:03
2:53	3:11	3:23	3:30	3:46	4:03	4:17	4:33
3:23	3:41	3:53	4:00	4:16	4:33	4:47	5:03
3:53	4:11	4:23	4:30	4:46	5:03	5:17	5:33
4:23	4:41	4:53	5:00	5:16	5:33	5:47	6:03
4:53	5:11	5:23	5:30	5:46	6:03	6:17	6:33
5:23	5:41	5:53	6:00	6:16	6:33	6:47	7:03
5:53	6:11	6:23	6:30	6:46	7:03	7:17	7:33
6:24	6:41	6:53	7:00	7:13	7:28	7:40	7:55
6:54	7:11	7:23	7:30	7:43	7:58	8:10	8:25
7:24	7:41	7:53	8:00	8:13	8:28	8:40	8:55
7:54	8:11	8:23	8:30	8:43	8:58	9:10	9:25
8:24	8:41	8:53	9:00	9:13	9:28	9:40	9:55
8:56	9:12	9:24	9:30	9:41	9:55	10:06	10:20

Saturday

NORTHBOUND To: Santa Ana

Newport Transportation Center	Dover & Pacific Coast Hwy	Placentia & 19th	Fairview & Arlington	Bristol & Sunflower	Main & MacArthur (Santa Ana)	Standard & Edinger	Flower & 6th
			5:40	5:50	5:55	6:07	6:23
			6:10	6:20	6:25	6:37	6:53
5:56	6:06	6:18	6:36	6:50	6:56	7:09	7:27
6:26	6:36	6:48	7:06	7:20	7:26	7:39	7:57
6:56	7:06	7:18	7:36	7:50	7:56	8:09	8:27
7:26	7:36	7:48	8:06	8:20	8:26	8:39	8:57
7:56	8:06	8:18	8:36	8:50	8:56	9:09	9:27
8:21	8:34	8:47	9:05	9:20	9:28	9:42	10:01
8:51	9:04	9:17	9:35	9:50	9:58	10:12	10:31
9:21	9:34	9:47	10:05	10:20	10:28	10:42	11:01
9:51	10:04	10:17	10:35	10:50	10:58	11:12	11:31
10:21	10:34	10:47	11:05	11:20	11:28	11:42	12:01
10:51	11:04	11:17	11:35	11:50	11:58	12:12	12:31
11:21	11:34	11:47	12:05	12:20	12:28	12:42	1:01
11:51	12:04	12:17	12:35	12:50	12:58	1:12	1:31
12:21	12:34	12:47	1:05	1:20	1:28	1:42	2:01
12:51	1:04	1:17	1:35	1:50	1:58	2:12	2:31
1:21	1:34	1:47	2:05	2:20	2:28	2:42	3:01
1:51	2:04	2:17	2:35	2:50	2:58	3:12	3:31
2:21	2:34	2:47	3:05	3:20	3:28	3:42	4:01
2:51	3:04	3:17	3:35	3:50	3:58	4:12	4:31
3:21	3:34	3:47	4:05	4:20	4:28	4:42	5:01
3:51	4:04	4:17	4:35	4:50	4:58	5:12	5:31
4:21	4:34	4:47	5:05	5:20	5:28	5:42	6:01
4:58	5:10	5:21	5:37	5:50	5:58	6:09	6:25
5:28	5:40	5:51	6:07	6:20	6:28	6:39	6:55
6:03	6:15	6:26	6:42	6:55	7:03	7:14	7:30
6:38	6:50	7:01	7:17	7:30	7:38	7:49	8:05
7:13	7:25	7:36	7:52	8:05	8:13	8:24	8:40
7:47	7:59	8:10	8:24	8:35	8:42	8:54	9:10
8:17	8:29	8:40	8:54	9:05	9:12	9:24	9:40
8:47	8:59	9:10	9:24	9:35	9:42	9:54	10:10
9:17	9:29	9:40	9:54	10:05	10:12	10:24	10:40
9:47	9:59	10:10	10:24	10:35	10:42	10:54	11:10

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)



Santa Ana to Newport Beach

via Standard Ave / Bristol St / Fairview St / 17th St

Saturday

SOUTHBOUND To: Newport Beach

Flower & 6th	Standard & Edinger	MacArthur & Main, S.A.	Bristol & Sunflower	Fairview & Arlington	Placentia & 19th	Pacific Coast Hwy & Bay Shore	Newport Transportation Center
4:56	5:13	5:25	5:30	5:39	5:52	6:03	6:15
5:26	5:43	5:55	6:00	6:09	6:22	6:33	6:45
5:56	6:13	6:25	6:30	6:39	6:52	7:03	7:15
6:26	6:43	6:54	7:00	7:10	7:23	7:37	7:52
6:56	7:13	7:24	7:30	7:40	7:53	8:07	8:22
7:25	7:42	7:54	8:00	8:12	8:28	8:41	8:57
7:55	8:12	8:24	8:30	8:42	8:58	9:11	9:27
8:25	8:42	8:54	9:00	9:12	9:28	9:41	9:57
8:55	9:12	9:24	9:30	9:42	9:58	10:11	10:27
9:23	9:41	9:53	10:00	10:16	10:33	10:47	11:03
9:53	10:11	10:23	10:30	10:46	11:03	11:17	11:33
10:23	10:41	10:53	11:00	11:16	11:33	11:47	12:03
10:53	11:11	11:23	11:30	11:46	12:03	12:17	12:33
11:23	11:41	11:53	12:00	12:16	12:33	12:47	1:03
11:53	12:11	12:23	12:30	12:46	1:03	1:17	1:33
12:23	12:41	12:53	1:00	1:16	1:33	1:47	2:03
12:53	1:11	1:23	1:30	1:46	2:03	2:17	2:33
1:23	1:41	1:53	2:00	2:16	2:33	2:47	3:03
1:53	2:11	2:23	2:30	2:46	3:03	3:17	3:33
2:23	2:41	2:53	3:00	3:16	3:33	3:47	4:03
2:53	3:11	3:23	3:30	3:46	4:03	4:17	4:33
3:23	3:41	3:53	4:00	4:16	4:33	4:47	5:03
3:53	4:11	4:23	4:30	4:46	5:03	5:17	5:33
4:23	4:41	4:53	5:00	5:16	5:33	5:47	6:03
4:53	5:11	5:23	5:30	5:46	6:03	6:17	6:33
5:23	5:41	5:53	6:00	6:16	6:33	6:47	7:03
5:53	6:11	6:23	6:30	6:46	7:03	7:17	7:33
6:24	6:41	6:53	7:00	7:13	7:28	7:40	7:55
6:54	7:11	7:23	7:30	7:43	7:58	8:10	8:25
7:24	7:41	7:53	8:00	8:13	8:28	8:40	8:55
7:54	8:11	8:23	8:30	8:43	8:58	9:10	9:25
8:24	8:41	8:53	9:00	9:13	9:28	9:40	9:55
8:56	9:12	9:24	9:30	9:41	9:55	10:06	10:20

Sunday & Holiday

NORTHBOUND To: Santa Ana

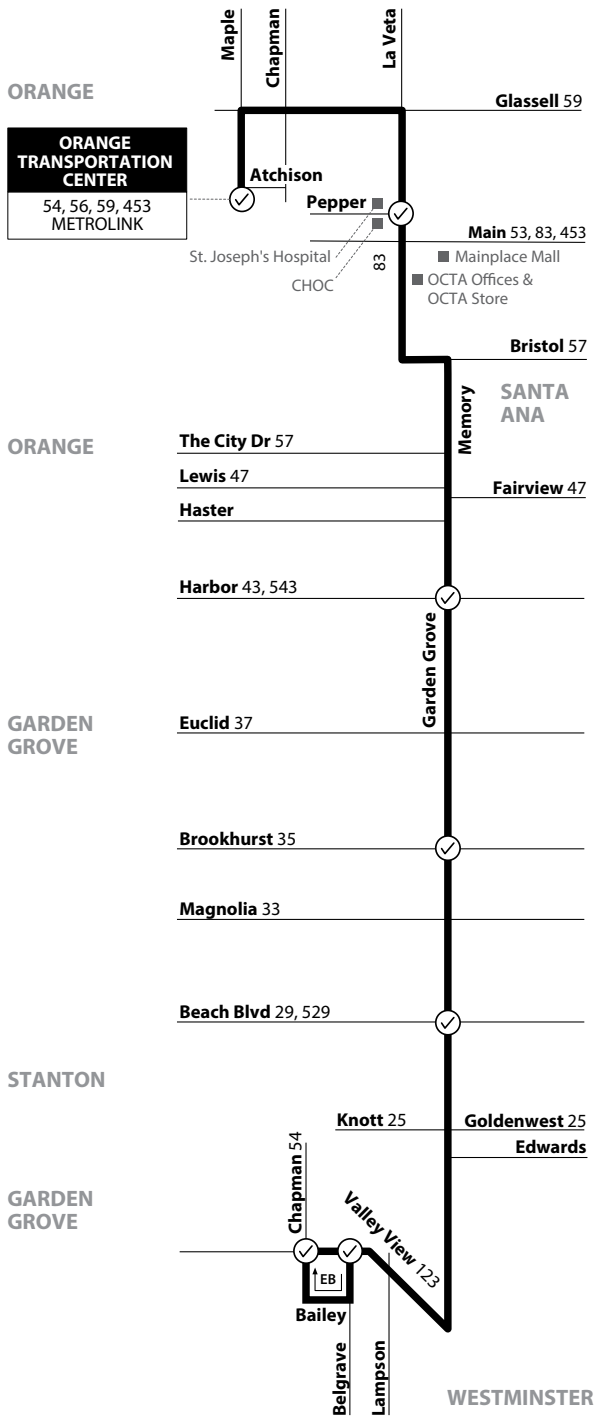
Newport Transportation Center	Dover & Pacific Coast Hwy	Placentia & 19th	Fairview & Arlington	Bristol & Sunflower	Main & MacArthur (Santa Ana)	Standard & Edinger	Flower & 6th
6:04	6:13	6:24	6:38	6:50	6:56	7:08	7:25
6:38	6:47	6:58	7:12	7:24	7:30	7:42	7:59
7:12	7:21	7:32	7:46	7:58	8:04	8:16	8:33
7:36	7:49	8:01	8:19	8:34	8:41	8:54	9:14
8:12	8:25	8:37	8:55	9:10	9:17	9:30	9:50
8:42	8:55	9:07	9:25	9:40	9:47	10:00	10:20
9:12	9:25	9:37	9:55	10:10	10:17	10:30	10:50
9:42	9:55	10:07	10:25	10:40	10:47	11:00	11:20
10:12	10:25	10:37	10:55	11:10	11:17	11:30	11:50
10:42	10:55	11:07	11:25	11:40	11:47	12:00	12:20
11:12	11:25	11:37	11:55	12:10	12:17	12:30	12:50
11:42	11:55	12:07	12:25	12:40	12:47	1:00	1:20
12:12	12:25	12:37	12:55	1:10	1:17	1:30	1:50
12:42	12:55	1:07	1:25	1:40	1:47	2:00	2:20
1:12	1:25	1:37	1:55	2:10	2:17	2:30	2:50
1:42	1:55	2:07	2:25	2:40	2:47	3:00	3:20
2:12	2:25	2:37	2:55	3:10	3:17	3:30	3:50
2:42	2:55	3:07	3:25	3:40	3:47	4:00	4:20
3:12	3:25	3:37	3:55	4:10	4:17	4:30	4:50
3:42	3:55	4:07	4:25	4:40	4:47	5:00	5:20
4:12	4:25	4:37	4:55	5:10	5:17	5:30	5:50
4:42	4:55	5:07	5:25	5:40	5:47	6:00	6:20
5:12	5:25	5:37	5:55	6:10	6:17	6:30	6:50
5:42	5:55	6:07	6:25	6:40	6:47	7:00	7:20
6:12	6:29	6:41	6:56	7:10	7:17	7:28	7:45
6:42	6:59	7:11	7:26	7:40	7:47	7:58	8:15
7:12	7:29	7:41	7:56	8:10	8:17	8:28	8:45
7:42	7:59	8:11	8:26	8:40	8:47	8:58	9:15
8:12	8:29	8:41	8:56	9:10	9:17	9:28	9:45

Sunday & Holiday

SOUTHBOUND To: Newport Beach

Flower & 6th	Standard & Edinger	MacArthur & Main, S.A.	Bristol & Sunflower	Fairview & Arlington	Placentia & 19th	Pacific Coast Highway & Bay Shore	Newport Transportation Center
4:56	5:12	5:24	5:30	5:39	5:51	6:01	6:13
5:32	5:48	5:59	6:05	6:15	6:29	6:39	6:53
6:06	6:23	6:34	6:40	6:50	7:05	7:18	7:33
6:41	6:58	7:09	7:15	7:25	7:40	7:53	8:08
7:11	7:28	7:39	7:45	7:55	8:10	8:23	8:38
7:41	7:58	8:09	8:15	8:25	8:40	8:53	9:08
8:12	8:29	8:40	8:46	8:56	9:11	9:24	9:39
8:43	9:00	9:11	9:17	9:27	9:42	9:55	10:10
9:11	9:28	9:39	9:46	10:01	10:18	10:32	10:47
9:40	9:57	10:08	10:15	10:30	10:47	11:01	11:16
10:10	10:27	10:38	10:45	11:00	11:17	11:31	11:46
10:40	10:57	11:08	11:15	11:30	11:47	12:01	12:16
11:10	11:27	11:38	11:45	12:00	12:17	12:31	12:46
11:40	11:57	12:08	12:15	12:30	12:47	1:01	1:16
12:10	12:27	12:38	12:45	1:00	1:17	1:31	1:46
12:40	12:57	1:08	1:15	1:30	1:47	2:01	2:16
1:10	1:27	1:38	1:45	2:00	2:17	2:31	2:46
1:37	1:54	2:05	2:12	2:27	2:44	2:58	3:13
2:10	2:27	2:38	2:45	3:00	3:17	3:31	3:46
2:40	2:57	3:08	3:15	3:30	3:47	4:01	4:16
3:10	3:27	3:38	3:45	4:00	4:17	4:31	4:46
3:40	3:57	4:08	4:15	4:30	4:47	5:01	5:16
4:10	4:27	4:38	4:45	5:00	5:17	5:31	5:46
4:40	4:57	5:08	5:15	5:30	5:47	6:01	6:16
5:10	5:27	5:38	5:45	6:00	6:17	6:31	6:46
5:40	5:57	6:08	6:15	6:30	6:47	7:01	7:16
6:10	6:27	6:38	6:45	7:00	7:17	7:31	7:46
6:41	6:57	7:08	7:15	7:27	7:42	7:55	8:08
7:08	7:24	7:35	7:42	7:54	8:09	8:22	8:35
7:38	7:54	8:05	8:12	8:24	8:39	8:52	9:05
8:08	8:24	8:35	8:42	8:54	9:09	9:22	9:35

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)



LEGEND
LEYENDA

Scheduled Departure

Regular Routing

Route 056/111519

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

All Days
EASTBOUND To: Orange

Chapman & Valley View	Belgrave & Valley View	Garden Grove & Beach	Garden Grove & Brookhurst	Garden Grove & Harbor	La Veta & Pepper	Orange Transportation Center
7:03	.....	7:19	7:31	7:40	7:54	8:01
7:48	.....	8:04	8:16	8:25	8:39	8:46
	8:33	8:49	9:01	9:10	9:24	9:31
	9:16	9:33	9:45	9:55	10:10	10:18
	10:01	10:18	10:30	10:40	10:55	11:03
	10:46	11:03	11:15	11:25	11:40	11:48
	11:27	11:46	11:58	12:10	12:26	12:35
	12:12	12:31	12:43	12:55	1:11	1:20
	12:57	1:16	1:28	1:40	1:56	2:05
	2:29	2:47	2:58	3:10	3:24	3:33
	3:14	3:32	3:43	3:55	4:09	4:18
	3:58	4:18	4:29	4:40	4:52	5:02
	4:43	5:03	5:14	5:25	5:37	5:47
	5:28	5:49	6:01	6:10	6:24	6:32
6:18	.....	6:37	6:48	6:55	7:08	7:15
7:03	.....	7:22	7:33	7:40	7:53	8:00

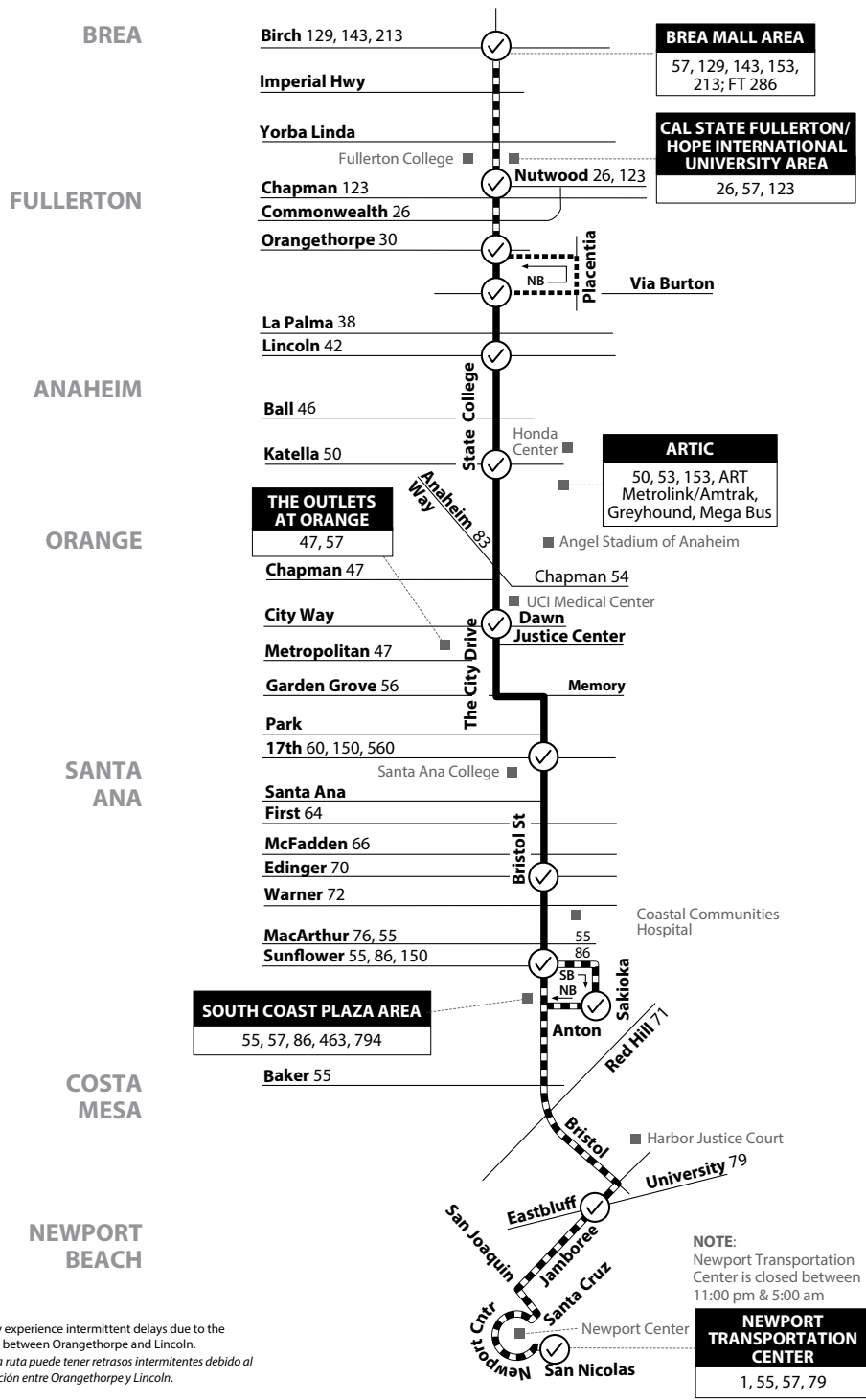
All Days
WESTBOUND To: Garden Grove

Orange Transportation Center	La Veta & Pepper	Garden Grove & Harbor	Garden Grove & Brookhurst	Garden Grove & Beach	Belgrave & Valley View	Chapman & Valley View
6:50	6:56	7:09	7:19	7:27	.....	7:38
7:33	7:39	7:54	8:03	8:13	8:26	
8:18	8:24	8:39	8:48	8:58	9:11	
9:03	9:09	9:24	9:33	9:43	9:56	
9:48	9:54	10:09	10:18	10:28	10:41	
10:32	10:40	10:54	11:05	11:16	11:30	
11:17	11:25	11:39	11:50	12:01	12:15	
12:02	12:10	12:24	12:35	12:46	1:00	
12:46	12:54	1:09	1:19	1:30	1:43	
1:31	1:39	1:54	2:04	2:15	2:28	
2:16	2:24	2:39	2:49	3:00	3:13	
3:01	3:09	3:24	3:34	3:45	3:56	
3:48	3:55	4:09	4:20	4:30	4:43	
4:33	4:40	4:54	5:05	5:15	.....	5:28
5:18	5:24	5:39	5:49	6:00	.....	6:13
6:03	6:09	6:24	6:34	6:45	.....	6:58
6:48	6:54	7:09	7:19	7:30	.....	7:43
7:33	7:39	7:54	8:04	8:15	.....	8:28

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

57

Brea to Newport Beach via State College Blvd / Bristol St



Note: This route may experience intermittent delays due to the construction project between Orangethorpe and Lincoln.
Tenga en cuenta: Esta ruta puede tener retrasos intermitentes debido al proyecto de construcción entre Orangethorpe y Lincoln.

LEGEND
LEYENDA

Route 057/052820

 Scheduled Departure	 Regular Route 57 Routing	 57X Weekday Routing and Stops	 57X Weekday Southbound Only Stops	 57X Weekday Northbound Only Stops
 FT = Foothill Transit	 Turn Around For Short Turn Only	 No Service On Some Trips		

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

N
MAP NOT TO SCALE

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Monday-Saturday
NORTHBOUND To: Brea

Newport Transportation Center	Jamboree University	Anton & Sakioka	Bristol & Sunflower	Bristol & Edinger	Bristol & 17th	The Outlets At Orange	State College & Katella	State College & Lincoln	State College & Orangethorpe	State College & Via Burton	State College & Nutwood	Brea Mall
4:00	4:09	.....	4:20	4:29	4:39	4:46	4:53	5:02	.....	5:07	5:16	5:30
4:22	4:31	.....	4:42	4:51	5:01	5:08	5:15	5:24	.....	5:29	5:38	5:52
4:44	4:53	.....	5:04	5:13	5:23	5:30	5:37	5:46	.....	5:51	6:00	6:14
5:06	5:15	.....	5:26	5:35	5:45	5:52	5:59	6:08	.....	6:13	6:22	6:36
5:28	5:37	.....	5:48	5:57	6:07	6:14	6:21	6:30	.....	6:35	6:44	6:58
5:48	5:57	.....	6:08	6:17	6:27	6:34	6:41	6:50	.....	6:55	7:04	7:18
6:05	6:14	.....	6:26	6:36	6:47	6:54	7:01	7:11	.....	7:17	7:26	7:40
6:25	6:34	.....	6:46	6:56	7:07	7:14	7:21	7:31	.....	7:37	7:46	8:00
6:45	6:54	.....	7:06	7:16	7:27	7:34	7:41	7:51	.....	7:57	8:06	8:20
7:00	7:11	.....	7:23	7:35	7:47	7:54	8:02	8:12	.....	8:18	8:27	8:40
7:20	7:31	.....	7:43	7:55	8:07	8:14	8:22	8:32	.....	8:38	8:47	9:00
7:40	7:51	.....	8:03	8:15	8:27	8:34	8:42	8:52	.....	8:58	9:07	9:20
8:00	8:11	.....	8:23	8:35	8:47	8:54	9:02	9:12	.....	9:18	9:27	9:40
8:20	8:31	.....	8:43	8:55	9:07	9:14	9:22	9:32	.....	9:38	9:47	10:00
		8:56	8:59	9:11	9:23	9:30	9:38	9:48	10:02			
8:48	8:59	.....	9:13	9:26	9:38	9:46	9:54	10:05	.....	10:12	10:22	10:36
		9:26	9:29	9:42	9:54	10:02	10:10	10:21	10:35			
9:20	9:31	.....	9:45	9:58	10:10	10:18	10:26	10:37	.....	10:44	10:54	11:08
		9:58	10:01	10:14	10:26	10:34	10:42	10:53	11:07			
9:52	10:03	.....	10:17	10:30	10:42	10:50	10:58	11:09	.....	11:16	11:26	11:40
		10:30	10:33	10:46	10:58	11:06	11:14	11:25	11:39			
10:24	10:35	.....	10:49	11:02	11:14	11:22	11:30	11:41	.....	11:48	11:58	12:12
		11:02	11:05	11:18	11:30	11:38	11:46	11:57	12:11			
10:56	11:07	.....	11:21	11:34	11:46	11:54	12:02	12:13	.....	12:20	12:30	12:44
		11:34	11:37	11:50	12:02	12:10	12:18	12:29	12:43			
11:28	11:39	.....	11:53	12:06	12:18	12:26	12:34	12:45	.....	12:52	1:02	1:16
		12:00	12:04	12:20	12:34	12:42	12:50	1:02	1:16			
11:54	12:06	.....	12:20	12:36	12:50	12:58	1:06	1:18	.....	1:25	1:34	1:49
		12:32	12:36	12:52	1:06	1:14	1:22	1:34	1:47			
12:26	12:38	.....	12:52	1:08	1:22	1:30	1:38	1:50	.....	1:57	2:06	2:21
		1:04	1:08	1:24	1:38	1:46	1:54	2:06	2:19			

Continued on next page.

Monday-Saturday

NORTHBOUND To: Brea (cont)

Newport Transportation Center	Jamboree University	Anton & Sakioka	Bristol & Sunflower	Bristol & Edinger	Bristol & 17th	The Outlets At Orange	State College & Katella	State College & Lincoln	State College & Orangethorpe	State College & Via Burton	State College & Nutwood	Brea Mall
12:58	1:10	.....	1:24	1:40	1:54	2:02	2:10	2:22	.....	2:29	2:38	2:53
		1:36	1:40	1:56	2:10	2:18	2:26	2:38	2:51			
1:30	1:42	.....	1:56	2:12	2:26	2:34	2:42	2:54	.....	3:01	3:10	3:25
		2:08	2:12	2:28	2:42	2:50	2:58	3:10	3:23			
2:02	2:14	.....	2:28	2:44	2:58	3:06	3:14	3:26	.....	3:33	3:42	3:57
		2:40	2:44	3:00	3:14	3:22	3:30	3:42	3:55			
2:34	2:46	.....	3:00	3:16	3:30	3:38	3:46	3:58	.....	4:05	4:14	4:29
		3:12	3:16	3:32	3:46	3:54	4:02	4:14	4:27			
3:06	3:18	.....	3:32	3:48	4:02	4:10	4:18	4:30	.....	4:37	4:46	5:01
		3:44	3:48	4:04	4:18	4:26	4:34	4:46	4:59			
3:38	3:50	.....	4:04	4:20	4:34	4:42	4:50	5:02	.....	5:09	5:18	5:33
		4:16	4:20	4:36	4:50	4:58	5:06	5:18	5:31			
4:10	4:22	.....	4:36	4:52	5:06	5:14	5:22	5:34	.....	5:41	5:50	6:05
		4:45	4:49	5:05	5:20	5:30	5:38	5:51	6:03			
4:43	4:55	.....	5:09	5:24	5:38	5:46	5:55	6:04	.....	6:10	6:19	6:34
		5:21	5:25	5:40	5:54	6:02	6:11	6:20	6:32			
5:18	5:29	.....	5:44	5:58	6:10	6:18	6:26	6:35	.....	6:41	6:50	7:03
		5:56	6:00	6:14	6:26	6:34	6:42	6:51	7:03			
5:50	6:01	.....	6:16	6:30	6:42	6:50	6:58	7:07	.....	7:13	7:22	7:35
		6:28	6:32	6:46	6:58	7:06	7:14	7:23	7:35			
6:22	6:33	.....	6:48	7:02	7:14	7:22	7:30	7:39	.....	7:45	7:54	8:07
		7:04	7:08	7:22	7:34	7:42	7:50	7:59	8:11			
7:08	7:19	.....	7:34	7:45	7:55	8:02	8:09	8:18	.....	8:23	8:31	8:44
		7:50	7:54	8:05	8:15	8:22	8:29	8:38	8:50			
7:58	8:09	.....	8:24	8:35	8:45	8:52	8:59	9:08	.....	9:13	9:21	9:34
		8:50	8:54	9:05	9:15	9:22	9:29	9:38	9:50			
8:58	9:09	.....	9:24	9:35	9:45	9:52	9:59	10:08	.....	10:13	10:21	10:34
		9:58	10:02	10:13	10:23	10:30	10:37	10:46	10:58			
10:26	10:36	.....	10:48	10:59	11:09	11:16	11:23	11:31	.....	11:36	11:45	11:59
11:34	11:45	.....	11:56	12:05	12:14	12:22	12:28	12:36	.....	12:40	12:48	1:01
12:35	12:46	.....	12:57	1:06	1:15	1:23	1:29	1:37	.....	1:41	1:49	2:02

Monday-Saturday
SOUTHBOUND To: Newport Beach

Brea Mall	State College & Nutwood	State College & Via Burron	State College & Lincoln	State College & Katella	The Outlets At Orange	Bristol & 17th	Bristol & Edinger	Bristol & Sunflower	Anton & Sakioka	Jamboree & Eastbluff	Newport Transportation Center
3:57	4:06	4:14	4:18	4:26	4:31	4:38	4:48	4:58	.....	5:10	5:21
		4:37	4:40	4:48	4:53	5:00	5:10	5:20	.....	5:32	5:43
4:41	4:50	4:58	5:02	5:10	5:15	5:22	5:32	5:42	.....	5:54	6:05
		5:21	5:24	5:32	5:37	5:44	5:54	6:04	.....	6:16	6:27
5:17	5:28	5:37	5:42	5:51	5:57	6:05	6:17	6:27	.....	6:40	6:52
5:37	5:48	5:57	6:02	6:11	6:17	6:25	6:37	6:47	.....	7:00	7:12
5:57	6:08	6:17	6:22	6:31	6:37	6:45	6:57	7:07	.....	7:20	7:32
6:17	6:28	6:37	6:42	6:51	6:57	7:05	7:17	7:27	.....	7:40	7:52
6:37	6:48	6:57	7:02	7:11	7:17	7:25	7:37	7:47	.....	8:00	8:12
6:57	7:08	7:17	7:22	7:31	7:37	7:45	7:57	8:07	.....	8:20	8:32
7:17	7:28	7:37	7:42	7:51	7:57	8:05	8:17	8:27	.....	8:40	8:52
7:37	7:48	7:57	8:02	8:11	8:17	8:25	8:37	8:47	.....	9:00	9:12
7:57	8:08	8:17	8:22	8:31	8:37	8:45	8:57	9:07	.....	9:20	9:32
		8:39	8:42	8:51	8:57	9:06	9:20	.....	9:35		
8:30	8:41	8:50	8:58	9:07	9:13	9:22	9:36	9:48	.....	10:02	10:14
		9:11	9:14	9:23	9:29	9:38	9:52	.....	10:10		
9:02	9:13	9:22	9:30	9:39	9:45	9:54	10:08	10:20	.....	10:34	10:46
		9:39	9:44	9:54	10:01	10:09	10:24	.....	10:42		
9:32	9:44	9:53	10:00	10:10	10:17	10:25	10:40	10:56	.....	11:11	11:23
		10:11	10:16	10:26	10:33	10:41	10:56	.....	11:14		
10:04	10:16	10:25	10:32	10:42	10:49	10:57	11:12	11:28	.....	11:43	11:55
		10:43	10:48	10:58	11:05	11:13	11:28	.....	11:46		
10:36	10:48	10:57	11:04	11:14	11:21	11:29	11:44	12:00	.....	12:15	12:27
		11:15	11:20	11:30	11:37	11:45	12:00	.....	12:18		
11:08	11:20	11:29	11:36	11:46	11:53	12:01	12:16	12:32	.....	12:47	12:59
		11:47	11:52	12:02	12:09	12:17	12:32	.....	12:50		
11:39	11:52	12:01	12:07	12:18	12:25	12:35	12:50	1:04	.....	1:20	1:34
		12:18	12:23	12:34	12:41	12:51	1:06	.....	1:24		
12:11	12:24	12:33	12:39	12:50	12:57	1:07	1:22	1:36	.....	1:52	2:06
		12:50	12:55	1:06	1:13	1:23	1:38	.....	1:56		
12:43	12:56	1:05	1:11	1:22	1:29	1:39	1:54	2:08	.....	2:24	2:38
		1:22	1:27	1:38	1:45	1:55	2:10	.....	2:28		
1:15	1:28	1:37	1:43	1:54	2:01	2:11	2:26	2:40	.....	2:56	3:10
		1:54	1:59	2:10	2:17	2:27	2:42	.....	3:00		
1:47	2:00	2:09	2:15	2:26	2:33	2:43	2:58	3:12	.....	3:28	3:42
		2:26	2:31	2:42	2:49	2:59	3:14	.....	3:32		
2:19	2:32	2:41	2:47	2:58	3:05	3:15	3:30	3:44	.....	4:00	4:14
		2:58	3:03	3:14	3:21	3:31	3:46	.....	4:04		
2:51	3:04	3:13	3:20	3:30	3:37	3:48	4:02	4:15	.....	4:31	4:43
		3:31	3:36	3:46	3:53	4:04	4:18	.....	4:36		
3:23	3:36	3:45	3:52	4:02	4:09	4:20	4:34	4:47	.....	5:03	5:15
		4:03	4:08	4:18	4:25	4:36	4:50	.....	5:08		
3:55	4:08	4:17	4:24	4:34	4:41	4:52	5:06	5:19	.....	5:35	5:47
		4:35	4:40	4:50	4:57	5:08	5:22	.....	5:40		
4:27	4:40	4:49	4:56	5:06	5:13	5:24	5:38	5:51	.....	6:07	6:19
		5:07	5:12	5:22	5:29	5:40	5:54	.....	6:12		
4:59	5:12	5:21	5:28	5:38	5:45	5:56	6:10	6:23	.....	6:39	6:51
		5:39	5:44	5:54	6:01	6:12	6:26	.....	6:40		
5:31	5:44	5:53	6:00	6:10	6:17	6:28	6:42	6:55	.....	7:11	7:23
		6:10	6:15	6:26	6:33	6:43	6:59	.....	7:13		
6:02	6:15	6:24	6:31	6:42	6:49	6:59	7:15	7:26	.....	7:39	7:49
		6:47	6:52	7:03	7:10	7:20	7:36	.....	7:50		
7:00	7:11	7:19	7:26	7:34	7:40	7:48	7:58	8:06	.....	8:17	8:27
		7:51	7:56	8:04	8:10	8:18	8:28	.....	8:42		
8:00	8:11	8:19	8:26	8:34	8:40	8:48	8:58	9:06	.....	9:17	9:27
		8:47	8:52	9:00	9:06	9:14	9:24	.....	9:38		
8:46	8:57	9:05	9:12	9:20	9:26	9:34	9:44	9:52	.....	10:03	10:13
9:24	9:35	9:43	9:50	9:58	10:04	10:12	10:22	10:30	.....	10:41	10:51
9:56	10:07	10:15	10:22	10:30	10:36	10:44	10:54	11:02	.....	11:13	11:23
11:10	11:19	11:26	11:30	11:38	11:43	11:51	11:58	12:04	.....	12:14	12:22
12:10	12:19	12:26	12:30	12:38	12:43	12:51	12:58	1:04	.....	1:14	1:22

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Sunday & Holiday
NORTHBOUND To: Brea

Newport Transportation Center	Jamboree & University	Anton & Sakioka	Bristol & Sunflower	Bristol & Edinger	Bristol & 17th	The Outlets At Orange	State College & Katella	State College & Lincoln	State College & Orangethorpe	State College & Via Burton	State College & Nutwood	Brea Mall
4:00	4:09	.....	4:19	4:28	4:37	4:45	4:50	4:58	.....	5:02	5:10	5:24
		4:42	4:46	4:56	5:06	5:14	5:20	5:29	5:39			
4:59	5:08	.....	5:18	5:28	5:38	5:46	5:52	6:01	.....	6:06	6:14	6:28
		5:46	5:50	6:00	6:10	6:18	6:24	6:33	6:43			
6:01	6:10	.....	6:20	6:30	6:40	6:48	6:54	7:03	.....	7:08	7:16	7:30
6:26	6:35	.....	6:45	6:55	7:05	7:13	7:19	7:28	.....	7:33	7:41	7:55
6:51	7:00	.....	7:10	7:20	7:30	7:38	7:44	7:53	.....	7:58	8:06	8:20
7:16	7:25	.....	7:35	7:45	7:55	8:03	8:09	8:18	.....	8:23	8:31	8:45
7:41	7:50	.....	8:00	8:10	8:20	8:28	8:34	8:43	.....	8:48	8:56	9:10
8:06	8:15	.....	8:25	8:35	8:45	8:53	8:59	9:08	.....	9:13	9:21	9:35
8:24	8:34	.....	8:47	8:58	9:10	9:18	9:24	9:34	.....	9:40	9:48	10:02
8:49	8:59	.....	9:12	9:23	9:35	9:43	9:49	9:59	.....	10:05	10:13	10:27
9:11	9:21	.....	9:34	9:45	9:57	10:05	10:11	10:21	.....	10:27	10:35	10:49
		9:46	9:50	10:01	10:13	10:21	10:27	10:37	10:49			
9:43	9:53	.....	10:06	10:17	10:29	10:37	10:43	10:53	.....	10:59	11:07	11:21
		10:18	10:22	10:33	10:45	10:53	10:59	11:09	11:21			
10:13	10:23	.....	10:35	10:48	11:00	11:09	11:17	11:29	.....	11:36	11:44	12:00
		10:47	10:51	11:04	11:16	11:25	11:33	11:45	11:57			
10:45	10:55	.....	11:07	11:20	11:32	11:41	11:49	12:01	.....	12:08	12:16	12:32
		11:19	11:23	11:36	11:48	11:57	12:05	12:17	12:29			
11:17	11:27	.....	11:39	11:52	12:04	12:13	12:21	12:33	.....	12:40	12:48	1:04
		11:51	11:55	12:08	12:20	12:29	12:37	12:49	1:01			
11:52	12:02	.....	12:14	12:26	12:37	12:45	12:53	1:04	.....	1:11	1:21	1:34
		12:26	12:30	12:42	12:53	1:01	1:09	1:20	1:32			
12:24	12:34	.....	12:46	12:58	1:09	1:17	1:25	1:36	.....	1:43	1:53	2:06
		12:58	1:02	1:14	1:25	1:33	1:41	1:52	2:04			
12:46	12:58	1:13	1:27	1:40	1:49	1:56	2:07	2:13	2:22	2:36
		1:25	1:29	1:43	1:56	2:05	2:12	2:23	2:35			
1:18	1:30	1:45	1:59	2:12	2:21	2:28	2:39	2:45	2:54	3:08

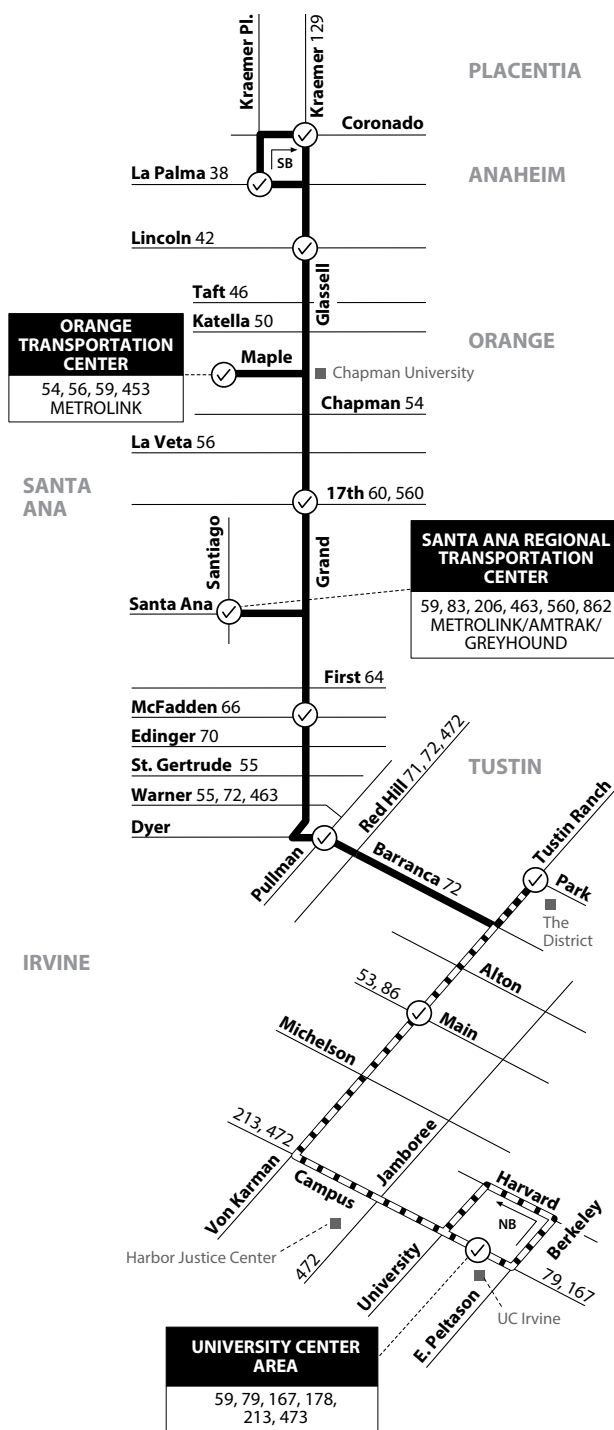
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Sunday & Holiday
NORTHBOUND To: Brea (cont)

Newport Transportation Center	Jamboree & University	Anton & Sakioka	Bristol & Sunflower	Bristol & Edinger	Bristol & 17th	The Outlets At Orange	State College & Katella	State College & Lincoln	State College & Orangethorpe	State College & Via Burton	State College & Nutwood	Brea Mall
		1:57	2:01	2:15	2:28	2:37	2:44	2:55	3:07			
1:50	2:02	.....	2:17	2:31	2:44	2:53	3:00	3:11	.....	3:17	3:26	3:40
		2:29	2:33	2:47	3:00	3:09	3:16	3:27	3:39			
2:22	2:34	.....	2:49	3:03	3:16	3:25	3:32	3:43	.....	3:49	3:58	4:12
		3:01	3:05	3:19	3:32	3:41	3:48	3:59	4:11			
2:54	3:06	.....	3:21	3:35	3:48	3:57	4:04	4:15	.....	4:21	4:30	4:44
		3:33	3:37	3:51	4:04	4:13	4:20	4:31	4:43			
3:26	3:38	.....	3:53	4:07	4:20	4:29	4:36	4:47	.....	4:53	5:02	5:16
		4:05	4:09	4:23	4:36	4:45	4:52	5:03	5:15			
4:01	4:13	.....	4:28	4:42	4:54	5:01	5:08	5:18	.....	5:23	5:31	5:45
		4:40	4:44	4:58	5:10	5:17	5:24	5:34	5:44			
4:33	4:45	.....	5:00	5:14	5:26	5:33	5:40	5:50	.....	5:55	6:03	6:17
		5:12	5:16	5:30	5:42	5:49	5:56	6:06	6:16			
5:05	5:17	.....	5:32	5:46	5:58	6:05	6:12	6:22	.....	6:27	6:35	6:49
		5:49	5:52	6:03	6:13	6:21	6:27	6:36	6:46			
5:42	5:55	.....	6:08	6:19	6:29	6:37	6:43	6:52	.....	6:59	7:07	7:21
		6:21	6:24	6:35	6:45	6:53	6:59	7:08	7:18			
6:14	6:27	.....	6:40	6:51	7:01	7:09	7:15	7:24	.....	7:31	7:39	7:53
		6:53	6:56	7:07	7:17	7:25	7:31	7:40	7:50			
6:45	6:58	.....	7:11	7:22	7:32	7:40	7:46	7:55	.....	8:02	8:10	8:24
7:15	7:28	.....	7:41	7:52	8:02	8:10	8:16	8:25	.....	8:32	8:40	8:54
7:45	7:58	.....	8:11	8:22	8:32	8:40	8:46	8:55	.....	9:02	9:10	9:24
8:15	8:28	.....	8:41	8:52	9:02	9:10	9:16	9:25	.....	9:32	9:40	9:54
8:45	8:58	.....	9:11	9:22	9:32	9:40	9:46	9:55	.....	10:02	10:10	10:24
9:27	9:38	.....	9:49	9:58	10:07	10:15	10:21	10:29	.....	10:33	10:41	10:54
10:01	10:12	.....	10:23	10:32	10:41	10:49	10:55	11:03	.....	11:07	11:15	11:28
10:29	10:40	.....	10:51	11:00	11:08	11:17	11:23	11:31	.....	11:35	11:43	11:56
11:34	11:45	.....	11:56	12:05	12:15	12:22	12:28	12:36	.....	12:40	12:48	1:01
12:35	12:46	.....	12:57	1:06	1:15	1:23	1:29	1:37	.....	1:41	1:49	2:02

Sunday & Holiday SOUTHBOUND To: Newport Beach

Brea Mall	State College & Nutwood	State College Via Burton	State College & Lincoln	State College & Katella	The Outlets At Orange	Bristol & 17th	Bristol & Edinger	Bristol & Sunflower	Anton & Sakioka	Jamboree & Eastbluff	Newport Transportation Center
3:57	4:06	4:15	4:20	4:29	4:33	4:39	4:48	4:56	.....	5:07	5:18
		4:50	4:53	5:02	5:06	5:12	5:21	5:29	.....	5:40	5:51
5:01	5:11	5:20	5:25	5:33	5:38	5:46	5:57	6:08	.....	6:21	6:34
		5:51	5:57	6:05	6:10	6:18	6:29	6:40	.....	6:53	7:06
6:00	6:10	6:19	6:24	6:32	6:37	6:45	6:56	7:07	.....	7:20	7:33
		6:48	6:54	7:02	7:07	7:15	7:26	7:37	.....	7:50	8:03
7:00	7:10	7:19	7:24	7:32	7:37	7:45	7:56	8:07	.....	8:20	8:33
		7:34	7:40	7:48	7:53	8:01	8:12	8:23	.....	8:36	8:49
7:26	7:38	7:47	7:54	8:03	8:09	8:18	8:31	8:42	.....	8:55	9:07
		8:04	8:10	8:19	8:25	8:34	8:47	8:58	.....	9:11	9:23
7:58	8:10	8:19	8:26	8:35	8:41	8:50	9:03	9:14	.....	9:27	9:39
		8:36	8:42	8:51	8:57	9:06	9:19	.....	9:35		
8:30	8:42	8:51	8:58	9:07	9:13	9:22	9:35	9:46	.....	9:59	10:11
		9:08	9:14	9:23	9:29	9:38	9:51	.....	10:07		
9:02	9:14	9:23	9:30	9:39	9:45	9:54	10:07	10:18	.....	10:31	10:43
		9:40	9:46	9:55	10:01	10:10	10:23	.....	10:39		
9:34	9:46	9:55	10:02	10:11	10:17	10:26	10:39	10:50	.....	11:03	11:15
		10:12	10:18	10:27	10:33	10:42	10:55	.....	11:11		
10:04	10:16	10:25	10:32	10:42	10:49	10:58	11:12	11:24	.....	11:39	11:52
		10:42	10:48	10:58	11:05	11:14	11:28	.....	11:44		
10:36	10:48	10:57	11:04	11:14	11:21	11:30	11:44	11:56	.....	12:11	12:24
		11:14	11:20	11:30	11:37	11:46	12:00	.....	12:16		
11:08	11:20	11:29	11:36	11:46	11:53	12:02	12:16	12:28	.....	12:43	12:56
		11:46	11:52	12:02	12:09	12:18	12:32	.....	12:48		
11:40	11:52	12:01	12:08	12:18	12:25	12:34	12:48	1:00	.....	1:15	1:28
		12:18	12:24	12:34	12:41	12:50	1:04	.....	1:20		
12:12	12:24	12:33	12:40	12:50	12:57	1:06	1:20	1:32	.....	1:47	2:00
		12:50	12:56	1:06	1:13	1:22	1:36	.....	1:52		
12:44	12:56	1:05	1:12	1:22	1:29	1:38	1:52	2:04	.....	2:19	2:32
		1:22	1:28	1:38	1:45	1:54	2:08	.....	2:24		
1:15	1:28	1:38	1:44	1:54	2:01	2:11	2:25	2:38	.....	2:52	3:05
		1:54	2:00	2:10	2:17	2:27	2:41	.....	2:57		
1:47	2:00	2:10	2:16	2:26	2:33	2:43	2:57	3:10	.....	3:24	3:37
		2:26	2:32	2:42	2:49	2:59	3:13	.....	3:29		
2:19	2:32	2:42	2:48	2:58	3:05	3:15	3:29	3:42	.....	3:56	4:09
		2:58	3:04	3:14	3:21	3:31	3:45	.....	4:01		
2:51	3:04	3:14	3:20	3:30	3:37	3:47	4:01	4:14	.....	4:28	4:41
		3:30	3:36	3:46	3:53	4:03	4:17	.....	4:33		
3:23	3:36	3:46	3:52	4:02	4:09	4:19	4:33	4:46	.....	5:00	5:13
		4:02	4:08	4:18	4:25	4:35	4:49	.....	5:05		
3:56	4:09	4:18	4:26	4:35	4:41	4:51	5:02	5:13	.....	5:26	5:37
		4:36	4:42	4:51	4:57	5:07	5:18	.....	5:34		
4:28	4:41	4:50	4:58	5:07	5:13	5:23	5:34	5:45	.....	5:58	6:09
		5:08	5:14	5:23	5:29	5:39	5:50	.....	6:06		
5:00	5:13	5:22	5:30	5:39	5:45	5:55	6:06	6:17	.....	6:30	6:41
		5:40	5:46	5:55	6:01	6:11	6:22	.....	6:38		
5:32	5:45	5:54	6:02	6:11	6:17	6:27	6:38	6:49	.....	7:02	7:13
		6:09	6:17	6:26	6:32	6:42	6:53	7:04	.....	7:17	7:28
6:02	6:15	6:24	6:32	6:41	6:47	6:57	7:08	7:19	.....	7:32	7:43
		6:40	6:49	6:57	7:06	7:12	7:22	7:33	.....	7:44	7:57
6:58	7:11	7:20	7:28	7:36	7:42	7:50	8:01	8:12	.....	8:23	8:34
		7:28	7:34	7:44	7:50	8:00	8:11	8:22	.....	8:33	8:44
7:28	7:41	7:50	7:58	8:06	8:12	8:20	8:31	8:42	.....	8:53	9:04
		8:14	8:20	8:30	8:36	8:46	8:57	9:08	.....	9:19	9:30
8:14	8:27	8:36	8:44	8:52	8:58	9:06	9:17	9:28	.....	9:39	9:50
		9:15	9:20	9:28	9:33	9:41	9:50	9:59	.....	10:09	10:19
8:54	9:07	9:15	9:20	9:28	9:33	9:41	9:50	9:59	.....	10:09	10:19
		10:20	10:25	10:33	10:38	10:45	10:55	11:04	.....	11:14	11:24
9:59	10:12	10:20	10:25	10:33	10:38	10:45	10:55	11:04	.....	11:14	11:24
		11:10	11:15	11:23	11:28	11:35	11:45	11:54	.....	12:04	12:14
11:10	11:19	11:27	11:31	11:39	11:43	11:52	11:58	12:05	.....	12:15	12:24
		12:32	12:36	12:44	12:48	12:57	1:03	1:10	.....	1:20	1:30



LEGEND
LEYENDA

Scheduled Departure
 Regular Routing
 No Service On Some Trips
 No Service On Weekends Monday-Friday Only

Route 059/111519 MAP NOT TO SCALE

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Monday-Friday
NORTHBOUND To: Anaheim

Tustin Ranch & Park	Dyer & Pullman	Grand & Mc Fadden	Santa Ana Regional Transportation Intermodal Center (ARTIC)	Grand & 17th	Orange Transportation Center	Glassell & Lincoln	La Palma & Kraemer
4:50	5:00	5:06	5:16	5:20	5:28	5:39	5:43
5:51	6:00	6:12	6:21	6:25	6:34	6:46	6:49
6:47	6:56	7:08	7:17	7:21	7:30	7:42	7:45
7:51	8:00	8:12	8:21	8:25	8:34	8:46	8:49
8:51	9:00	9:11	9:22	9:27	9:38	9:50	9:54
9:49	10:01	10:14	10:25	10:30	10:41	10:53	10:57
10:42	10:54	11:09	11:20	11:27	11:39	11:52	11:56
11:40	11:53	12:06	12:17	12:24	12:36	12:49	12:53
1:26	1:39	1:52	2:03	2:10	2:22	2:35	2:39
2:21	2:34	2:47	2:58	3:05	3:17	3:30	3:34
3:16	3:29	3:42	3:53	4:00	4:12	4:25	4:29
4:11	4:24	4:37	4:48	4:55	5:07	5:20	5:24
5:06	5:19	5:32	5:43	5:50	6:02	6:15	6:19
6:01	6:14	6:27	6:38	6:45	6:57	7:10	7:14
7:02	7:12	7:22	7:31	7:36	7:46	7:57	7:59
7:50	8:00	8:10	8:19	8:24	8:34	8:45	8:47
8:25	8:35	8:45	8:54	8:59	9:09	9:20	9:22

Monday-Friday
SOUTHBOUND To: Irvine

Kraemer & Coronado	Glassell & Lincoln	Orange Transportation Center	Grand & 17th	Santa Ana Regional Transportation Intermodal Center (ARTIC)	Grand & Mc Fadden	Dyer & Pullman	Tustin Ranch & Park
5:56	6:02	6:14	6:23	6:29	6:39	6:47	6:55
6:56	7:00	7:13	7:23	7:29	7:38	7:51	7:59
7:55	7:59	8:12	8:22	8:28	8:37	8:50	8:58
8:54	8:58	9:11	9:21	9:27	9:36	9:49	9:57
9:53	9:57	10:11	10:23	10:29	10:38	10:50	11:01
10:43	10:47	11:01	11:13	11:19	11:28	11:40	11:51
11:33	11:37	11:51	12:03	12:09	12:18	12:30	12:41
12:28	12:32	12:46	12:58	1:04	1:13	1:25	1:36
1:23	1:27	1:41	1:53	1:59	2:08	2:20	2:31
2:18	2:22	2:36	2:48	2:54	3:03	3:15	3:26
3:13	3:17	3:31	3:43	3:49	3:58	4:10	4:21
4:08	4:12	4:26	4:38	4:44	4:53	5:05	5:16
5:03	5:07	5:21	5:33	5:39	5:48	6:00	6:11
5:58	6:02	6:16	6:28	6:34	6:43	6:55	7:06
6:53	6:56	7:08	7:17	7:22	7:31	7:41	7:51
7:48	7:51	8:03	8:12	8:17	8:26	8:36	8:46
8:38	8:41	8:53	9:02	9:07	9:16	9:26	9:36
9:34	9:37	9:49	9:58	10:03	10:12	10:22	10:32

TRANSFER NOTE / LA TRANSFERENCIA DE LA NOTA

Passengers transferring between OCTA Routes 59 and 129 should transfer at Kraemer & Coronado. To connect from the 59 northbound to the 129 eastbound passengers need to walk from La Palma & Kraemer to Kraemer & Coronado.

Pasajeros transbordando entre las Rutas 59 y 129 de OCTA deben ir a Kraemer y Coronado. Para conectar del 59 hacia el Norte al 129 hacia el Este, pasajeros deben caminar de La Palma y Kraemer a Kraemer y Coronado.

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

59

Anaheim to Irvine

via Kraemer Blvd / Glassell St / Grand Ave / Von Karman Ave

Saturday

NORTHBOUND To: Anaheim

Tustin Ranch & Park	Dyer & Pullman	Grand & Mc Fadden	Santa Ana Regional Transportation Intermodal Center (ARTIC)	Grand & 17th	Orange Transportation Center	Glassell & Lincoln	La Palma & Kraemer
5:51	6:00	6:12	6:21	6:25	6:34	6:46	6:49
6:47	6:56	7:08	7:17	7:21	7:30	7:42	7:45
7:51	8:00	8:12	8:21	8:25	8:34	8:46	8:49
8:51	9:00	9:11	9:22	9:27	9:38	9:50	9:54
9:49	10:01	10:14	10:25	10:30	10:41	10:53	10:57
10:42	10:54	11:09	11:20	11:27	11:39	11:52	11:56
11:40	11:53	12:06	12:17	12:24	12:36	12:49	12:53
12:31	12:44	12:57	1:08	1:15	1:27	1:40	1:44
1:26	1:39	1:52	2:03	2:10	2:22	2:35	2:39
2:21	2:34	2:47	2:58	3:05	3:17	3:30	3:34
3:16	3:29	3:42	3:53	4:00	4:12	4:25	4:29
4:11	4:24	4:37	4:48	4:55	5:07	5:20	5:24
5:06	5:19	5:32	5:43	5:50	6:02	6:15	6:19
6:01	6:14	6:27	6:38	6:45	6:57	7:10	7:14
7:02	7:12	7:22	7:31	7:36	7:46	7:57	7:59
7:50	8:00	8:10	8:19	8:24	8:34	8:45	8:47
8:25	8:35	8:45	8:54	8:59	9:09	9:20	9:22

Saturday

SOUTHBOUND To: Irvine

Kraemer & Coronado	Glassell & Lincoln	Orange Transportation Center	Grand & 17th	Santa Ana Regional Transportation Intermodal Center (ARTIC)	Grand & Mc Fadden	Dyer & Pullman	Tustin Ranch & Park
6:56	7:00	7:13	7:23	7:29	7:38	7:51	7:59
7:55	7:59	8:12	8:22	8:28	8:37	8:50	8:58
8:54	8:58	9:11	9:21	9:27	9:36	9:49	9:57
9:53	9:57	10:11	10:23	10:29	10:38	10:50	11:01
10:43	10:47	11:01	11:13	11:19	11:28	11:40	11:51
11:33	11:37	11:51	12:03	12:09	12:18	12:30	12:41
12:28	12:32	12:46	12:58	1:04	1:13	1:25	1:36
1:23	1:27	1:41	1:53	1:59	2:08	2:20	2:31
2:18	2:22	2:36	2:48	2:54	3:03	3:15	3:26
3:13	3:17	3:31	3:43	3:49	3:58	4:10	4:21
4:08	4:12	4:26	4:38	4:44	4:53	5:05	5:16
5:03	5:07	5:21	5:33	5:39	5:48	6:00	6:11
5:58	6:02	6:16	6:28	6:34	6:43	6:55	7:06
6:53	6:56	7:08	7:17	7:22	7:31	7:41	7:51
7:48	7:51	8:03	8:12	8:17	8:26	8:36	8:46
8:38	8:41	8:53	9:02	9:07	9:16	9:26	9:36
9:34	9:37	9:49	9:58	10:03	10:12	10:22	10:32

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

**Sunday & Holiday
NORTHBOUND To: Anaheim**

Tustin Ranch & Park	Dyer & Pullman	Grand & Mc Fadden	Santa Ana Regional Transportation Intermodal Center (ARTIC)	Grand & 17th	Orange Transportation Center	Glassell & Lincoln	La Palma & Kraemer
8:51	9:00	9:11	9:22	9:27	9:38	9:50	9:54
9:49	10:01	10:14	10:25	10:30	10:41	10:53	10:57
10:42	10:54	11:09	11:20	11:27	11:39	11:52	11:56
11:40	11:53	12:06	12:17	12:24	12:36	12:49	12:53
12:31	12:44	12:57	1:08	1:15	1:27	1:40	1:44
1:26	1:39	1:52	2:03	2:10	2:22	2:35	2:39
2:21	2:34	2:47	2:58	3:05	3:17	3:30	3:34
3:16	3:29	3:42	3:53	4:00	4:12	4:25	4:29
4:11	4:24	4:37	4:48	4:55	5:07	5:20	5:24
5:06	5:19	5:32	5:43	5:50	6:02	6:15	6:19
6:01	6:14	6:27	6:38	6:45	6:57	7:10	7:14
7:02	7:12	7:22	7:31	7:36	7:46	7:57	7:59
7:50	8:00	8:10	8:19	8:24	8:34	8:45	8:47

**Sunday & Holiday
SOUTHBOUND To: Irvine**

Kraemer & Coronado	Glassell & Lincoln	Orange Transportation Center	Grand & 17th	Santa Ana Regional Transportation Intermodal Center (ARTIC)	Grand & Mc Fadden	Dyer & Pullman	Tustin Ranch & Park
8:54	8:58	9:11	9:21	9:27	9:36	9:49	9:57
9:53	9:57	10:11	10:23	10:29	10:38	10:50	11:01
10:43	10:47	11:01	11:13	11:19	11:28	11:40	11:51
11:33	11:37	11:51	12:03	12:09	12:18	12:30	12:41
12:28	12:32	12:46	12:58	1:04	1:13	1:25	1:36
1:23	1:27	1:41	1:53	1:59	2:08	2:20	2:31
2:18	2:22	2:36	2:48	2:54	3:03	3:15	3:26
3:13	3:17	3:31	3:43	3:49	3:58	4:10	4:21
4:08	4:12	4:26	4:38	4:44	4:53	5:05	5:16
5:03	5:07	5:21	5:33	5:39	5:48	6:00	6:11
5:58	6:02	6:16	6:28	6:34	6:43	6:55	7:06
6:53	6:56	7:08	7:17	7:22	7:31	7:41	7:51
7:48	7:51	8:03	8:12	8:17	8:26	8:36	8:46
8:38	8:41	8:53	9:02	9:07	9:16	9:26	9:36
9:34	9:37	9:49	9:58	10:03	10:12	10:22	10:32

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)



System Map

- 1 — Routes offering 15 minutes (or less) Weekday rush hour frequency
- 1 — Local Routes (1-99)
- 100 — Community Routes (100-199)
- 200 — OC Express Routes (200-299) Weekday Rush Hour Only
- 400 — Metrolink Stationlink Routes (400-499) Weekday Rush Hour Only
- 500 — Bravo Limited Stop Service (500-599)
- 700 — Express Service (700-799) Weekday Rush Hour Only
- 800 — City Shuttle
- Rail Stations
- OC Bus Transit Centers

OC Flex Zones
 Unlimited rides only \$5 a day!
 Zones serving parts of Huntington Beach/
 Westminster and Aliso Viejo/Laguna Niguel/
 Mission Viejo.
 Learn more on page 158.



Effective October 11, 2020

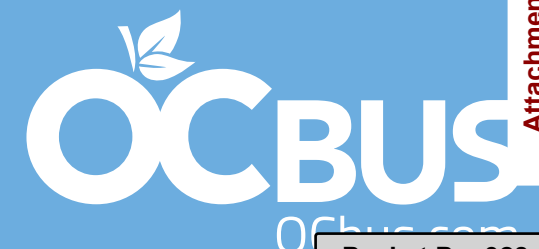
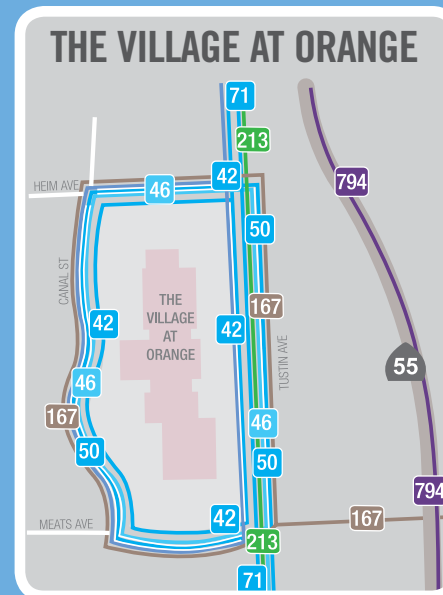
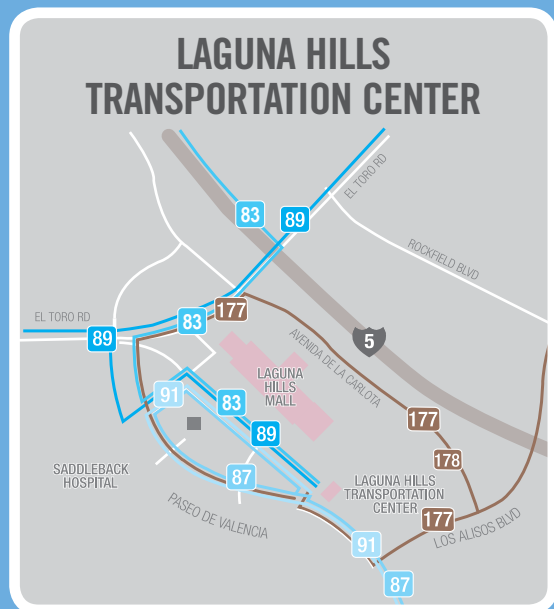
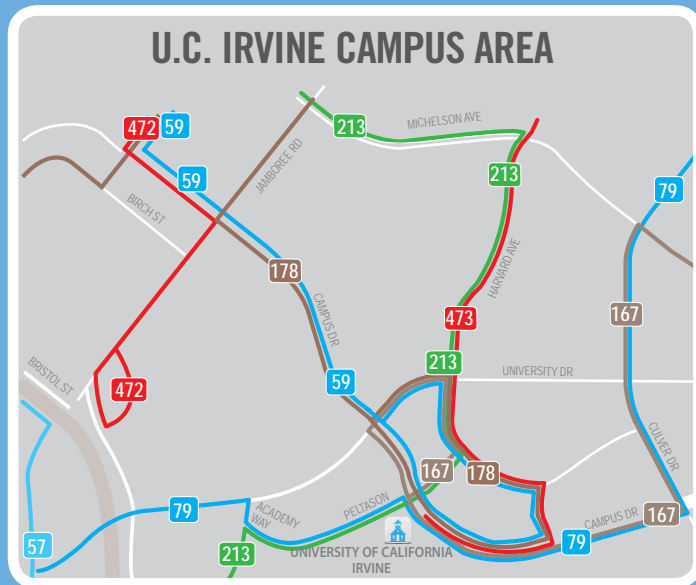
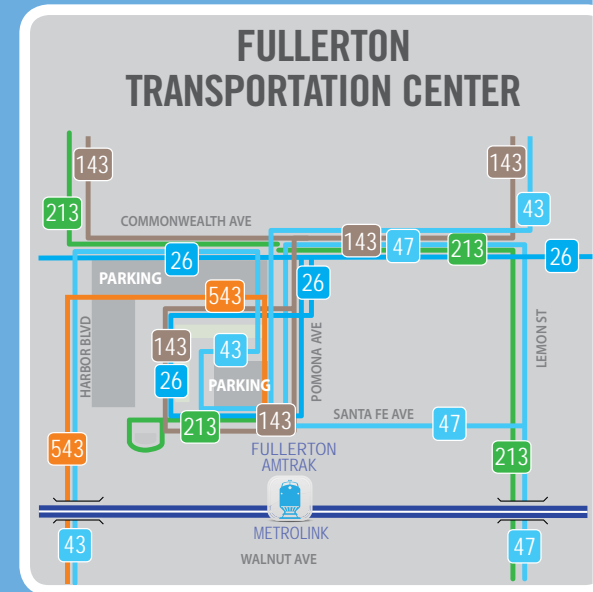
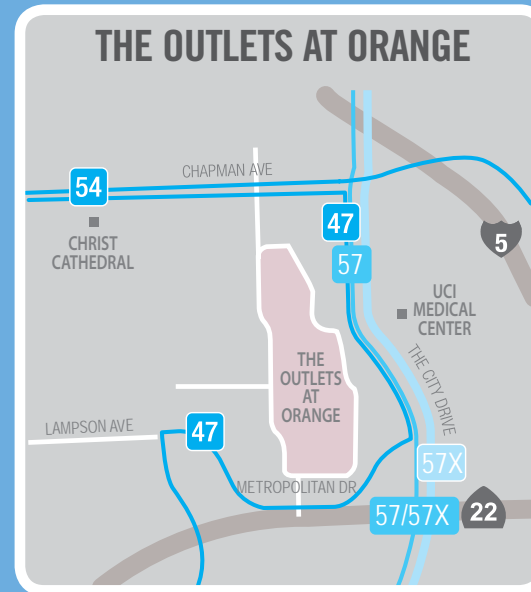
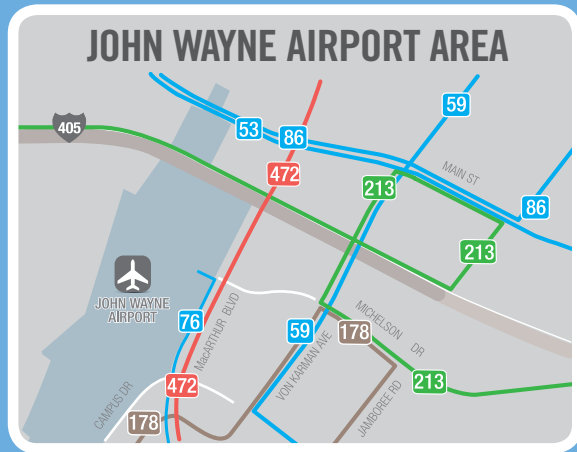
North
 Map not to scale



Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

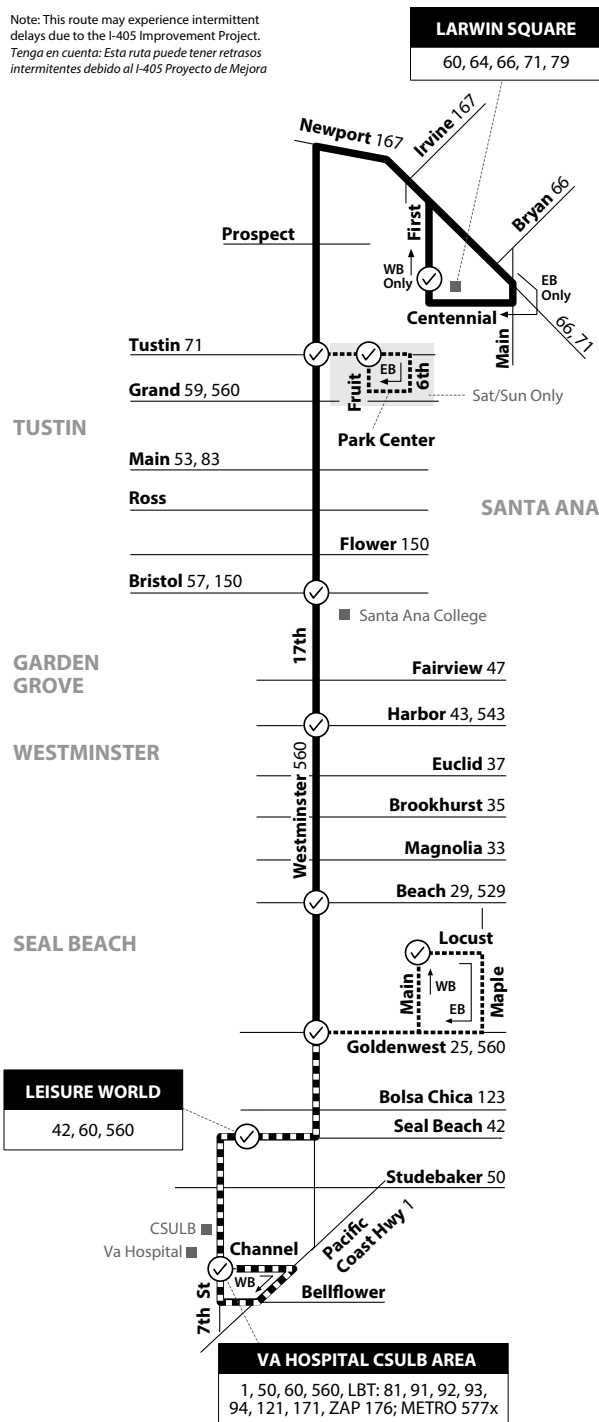
major bus transfer areas (central and south county)

major bus transfer areas (central and north county)



Long Beach to Tustin via Westminster Ave / 17th

Note: This route may experience intermittent delays due to the I-405 Improvement Project.
Tenga en cuenta: Esta ruta puede tener retrasos intermitentes debido al I-405 Proyecto de Mejora



LEGEND LEYENDA

- Scheduled Departure
- Regular Routing
- Short Turn Only
- No Service On Some Trips

METRO = Los Angeles Metro | LBT = Long Beach Transit

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Monday-Friday EASTBOUND To: Tustin

7th & Channel	Leisure World	Main & Locust	Westminster & Golden West	Westminster & Beach	Westminster & Harbor	17th & Bristol	17th & Tustin (F)	Fruit & Tustin	Larwin Square
3:55	4:00	.....	4:12	4:15	4:25	4:29	4:38	.....	4:49
4:25	4:30	.....	4:42	4:45	4:55	4:59	5:08	.....	5:19
4:52	4:57	.....	5:08	5:12	5:25	5:32	5:42	.....	5:57
5:22	5:27	.....	5:38	5:42	5:55	6:02	6:12	.....	6:27
5:47	5:52	.....	6:03	6:07	6:20	6:27	6:37	.....	6:52
6:12	6:18	.....	6:30	6:36	6:50	7:02	7:14	.....	7:27
6:27	6:33	.....	6:45	6:51	7:05	7:17	7:29	.....	7:42
6:42	6:48	.....	7:00	7:06	7:20	7:32	7:44	.....	7:57
7:03	7:08	.....	7:23	7:29	7:50	8:02	8:15	.....	8:27
7:23	7:28	.....	7:43	7:49	8:10	8:22	8:35	.....	8:47
7:43	7:48	.....	8:03	8:09	8:30	8:42	8:55	.....	9:07
8:03	8:08	.....	8:23	8:29	8:50	9:02	9:15	.....	9:27
8:43	8:48	8:39	8:43	8:49	9:10	9:22	9:35	9:38	.....
.....	.....	.....	9:03	9:09	9:30	9:42	9:55	.....	10:07
.....	.....	9:19	9:23	9:29	9:50	10:02	10:15	10:18	.....
9:24	9:30	.....	9:45	9:51	10:11	10:23	10:37	.....	10:56
.....	.....	9:56	10:00	10:06	10:26	10:38	10:52	10:55	.....
9:54	10:00	.....	10:15	10:21	10:41	10:53	11:07	.....	11:26
.....	.....	10:26	10:30	10:36	10:56	11:08	11:22	11:25	.....
10:24	10:30	.....	10:45	10:51	11:11	11:23	11:37	.....	11:56
.....	.....	10:56	11:00	11:06	11:26	11:38	11:52	11:55	.....
10:54	11:00	.....	11:15	11:21	11:41	11:53	12:07	.....	12:26
.....	.....	11:26	11:30	11:36	11:56	12:08	12:22	12:25	.....
11:24	11:30	.....	11:45	11:51	12:11	12:23	12:37	.....	12:56
.....	.....	11:56	12:00	12:06	12:26	12:38	12:52	12:55	.....
11:54	12:00	.....	12:15	12:21	12:41	12:53	1:07	.....	1:26
.....	.....	12:26	12:30	12:36	12:56	1:08	1:22	1:25	.....
12:24	12:30	.....	12:45	12:51	1:11	1:23	1:37	.....	1:56
.....	.....	12:56	1:00	1:06	1:26	1:38	1:52	1:55	.....
12:54	1:00	.....	1:15	1:21	1:41	1:53	2:07	.....	2:26
.....	.....	1:26	1:30	1:36	1:56	2:08	2:22	2:25	.....
1:24	1:30	.....	1:45	1:51	2:11	2:23	2:37	.....	2:56
.....	.....	1:57	2:01	2:07	2:26	2:37	2:49	2:52	.....
1:56	2:02	.....	2:16	2:22	2:41	2:52	3:04	.....	3:22
.....	.....	2:27	2:31	2:37	2:56	3:07	3:19	3:22	.....
2:26	2:32	.....	2:46	2:52	3:11	3:22	3:34	.....	3:52
.....	.....	2:57	3:01	3:07	3:26	3:37	3:49	3:52	.....
2:56	3:02	.....	3:16	3:22	3:41	3:52	4:04	.....	4:22
.....	.....	3:27	3:31	3:37	3:56	4:07	4:19	4:22	.....
3:26	3:32	.....	3:46	3:52	4:11	4:22	4:34	.....	4:52
.....	.....	3:57	4:01	4:07	4:26	4:37	4:49	4:52	.....
3:56	4:02	.....	4:16	4:22	4:41	4:52	5:04	.....	5:22
.....	.....	4:27	4:31	4:37	4:56	5:07	5:19	5:22	.....
4:26	4:32	.....	4:46	4:52	5:11	5:22	5:34	.....	5:52
.....	.....	4:57	5:01	5:07	5:26	5:37	5:49	5:52	.....
4:56	5:02	.....	5:16	5:22	5:41	5:52	6:04	.....	6:22
.....	.....	5:31	5:35	5:41	6:00	6:11	6:23	6:26	.....
5:45	5:51	.....	6:05	6:11	6:30	6:41	6:53	.....	7:11
6:15	6:21	.....	6:35	6:41	7:00	7:11	7:23	.....	7:41
6:45	6:51	.....	7:05	7:11	7:30	7:41	7:53	.....	8:11
7:15	7:21	.....	7:35	7:41	8:00	8:11	8:23	.....	8:41
7:45	7:51	.....	8:05	8:11	8:30	8:41	8:53	.....	9:11
8:15	8:21	.....	8:35	8:41	9:00	9:11	9:23	.....	9:41
8:50	8:56	.....	9:09	9:14	9:30	9:39	9:50	.....	10:02
9:20	9:26	.....	9:39	9:44	10:00	10:09	10:20	.....	10:32
9:50	9:56	.....	10:09	10:14	10:30	10:39	10:50	.....	11:02
10:20	10:26	.....	10:39	10:44	11:00	11:09	11:20	.....	11:32
11:27	11:32	.....	11:43	11:48	12:00	12:06	12:18	.....	12:30
12:27	12:32	.....	12:43	12:48	1:00	1:06	1:18	.....	1:30

F = Times are approximate for trips terminating at Fruit & Tustin or Main & Locust.
= Los horarios son aproximados para los viajes que terminan en Fruit & Tustin o Main & Locust

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Monday-Friday

WESTBOUND To: Long Beach

Larwin Square	Fruit & Tustin	17th & Tustin	17th & Bristol	Westminster & Harbor	Westminster & Beach	Westminster & Goldenwest (F)	Leisure World	7th & Channel
3:59	4:08	4:13	4:22	4:33	4:37	4:49	4:58
4:27	4:35	4:43	4:52	5:04	5:07	5:21	5:30
4:47	4:55	5:03	5:12	5:24	5:27	5:41	5:50
5:17	5:25	5:33	5:42	5:54	5:57	6:11	6:20
5:38	5:49	6:00	6:12	6:30	6:36	6:49	7:02
6:08	6:19	6:30	6:42	7:00	7:06	7:19	7:32
6:18	6:29	6:40	6:52	7:10	7:16	7:29	7:42
6:28	6:39	6:50	7:02	7:20	7:26	7:39	7:52
6:38	6:49	7:00	7:12	7:30	7:36	7:49	8:02
6:48	6:59	7:10	7:22	7:40	7:46	7:59	8:12
7:08	7:19	7:30	7:42	8:00	8:06	8:19	8:32
7:28	7:39	7:50	8:02	8:20	8:26	8:39	8:52
7:48	7:59	8:10	8:22	8:40	8:46	8:59	9:12
8:08	8:19	8:30	8:42	9:00	9:06	9:19	9:32
8:36	8:36	8:39	8:50	9:02	9:20	9:26		
8:48	8:59	9:10	9:22	9:40	9:46	9:59	10:12
9:12	9:15	9:29	9:42	10:01	10:07		
9:21	9:34	9:48	10:01	10:20	10:26	10:40	10:56
9:46	9:49	10:03	10:16	10:35	10:41		
9:51	10:04	10:18	10:31	10:50	10:56	11:10	11:26
10:16	10:19	10:33	10:46	11:05	11:11		
10:21	10:34	10:48	11:01	11:20	11:26	11:40	11:56
10:45	10:48	11:02	11:15	11:34	11:40		
10:50	11:03	11:17	11:30	11:49	11:55	12:09	12:25
11:15	11:18	11:32	11:45	12:04	12:10		
11:20	11:33	11:47	12:00	12:19	12:25	12:39	12:55
11:45	11:48	12:02	12:15	12:34	12:40		
11:50	12:03	12:17	12:30	12:49	12:55	1:09	1:25
12:15	12:15	12:18	12:32	12:45	1:04	1:10		
12:20	12:33	12:47	1:00	1:19	1:25	1:39	1:55
12:45	12:45	12:48	1:02	1:15	1:34	1:40		
12:50	1:03	1:17	1:30	1:49	1:55	2:09	2:25
1:15	1:15	1:18	1:32	1:45	2:04	2:10		
1:20	1:33	1:47	2:00	2:19	2:25	2:39	2:55
1:38	1:41	1:55	2:08	2:27	2:33		
1:45	1:45	1:48	2:02	2:15	2:34	2:40		
1:50	2:03	2:17	2:30	2:49	2:55	3:09	3:25
2:15	2:18	2:32	2:45	3:04	3:09		
2:20	2:33	2:47	3:00	3:19	3:25	3:39	3:55
2:45	2:45	2:48	3:02	3:15	3:34	3:39		
2:50	3:03	3:17	3:30	3:49	3:55	4:09	4:25
3:08	3:11	3:25	3:38	3:57	4:02		
3:15	3:18	3:32	3:45	4:04	4:09		
3:20	3:33	3:47	4:00	4:19	4:25	4:39	4:55
3:45	3:45	3:48	4:02	4:15	4:34	4:39		
3:50	4:03	4:17	4:30	4:49	4:55	5:09	5:25
4:08	4:11	4:25	4:38	4:57	5:02		
4:15	4:18	4:32	4:45	5:04	5:09		
4:22	4:35	4:48	5:00	5:18	5:24	5:38	5:51
4:47	4:50	5:03	5:15	5:33	5:38		
4:52	5:05	5:18	5:30	5:48	5:54	6:08	6:21
5:17	5:20	5:33	5:45	6:03	6:08		
5:22	5:35	5:48	6:00	6:18	6:24	6:38	6:51
5:37	5:50	6:03	6:15	6:33	6:39	6:53	7:06
6:02	6:05	6:18	6:30	6:48	6:53		
6:07	6:20	6:33	6:45	7:03	7:09	7:23	7:36
6:22	6:35	6:48	7:00	7:18	7:24	7:38	7:51
6:52	7:05	7:18	7:30	7:48	7:54	8:08	8:21
7:22	7:35	7:48	8:00	8:18	8:24	8:38	8:51
7:52	8:05	8:18	8:30	8:48	8:54	9:08	9:21
8:25	8:37	8:47	9:00	9:17	9:21	9:32	9:42
8:55	9:07	9:17	9:30	9:47	9:51	10:02	10:12
9:28	9:37	9:47	10:00	10:15	10:19	10:31	10:41
9:58	10:07	10:17	10:30	10:45	10:49	11:01	11:11
10:28	10:37	10:47	11:00	11:15	11:19	11:31	11:41
11:27	11:36	11:46	11:59	12:14	12:18	12:30	12:40
12:35	12:44	12:50	1:00	1:11	1:14	1:24	1:34

Saturday

EASTBOUND To: Tustin

7th & Channel	Leisure World	Main & Locust	Westminster & Goldenwest	Westminster & Beach	Westminster & Harbor	17th & Bristol	17th & Tustin (F)	Fruit & Tustin	Larwin Square
3:55	4:00	.....	4:12	4:15	4:25	4:29	4:38	.....	4:49
4:52	4:57	.....	5:08	5:12	5:25	5:32	5:42	.....	5:57
5:22	5:27	.....	5:38	5:42	5:55	6:02	6:12	.....	6:27
5:47	5:52	.....	6:03	6:07	6:20	6:27	6:37	.....	6:52
6:12	6:18	.....	6:30	6:36	6:50	7:02	7:14	.....	7:27
6:42	6:48	.....	7:00	7:06	7:20	7:32	7:44	.....	7:57
7:03	7:08	.....	7:23	7:29	7:50	8:02	8:15	.....	8:27
7:23	7:28	.....	7:43	7:49	8:10	8:22	8:35	.....	8:47
7:43	7:48	.....	8:03	8:09	8:30	8:42	8:55	.....	9:07
8:03	8:08	.....	8:23	8:29	8:50	9:02	9:15	.....	9:27
8:39	8:43	8:39	8:43	8:49	9:10	9:22	9:35	9:38	
8:43	8:48	.....	9:03	9:09	9:30	9:42	9:55	.....	10:07
9:19	9:23	9:19	9:23	9:29	9:50	10:02	10:15	10:18	
9:24	9:30	.....	9:45	9:51	10:11	10:23	10:37	.....	10:56
9:54	10:00	.....	10:15	10:21	10:41	10:53	11:07	.....	11:26
10:24	10:30	.....	10:30	10:36	10:56	11:08	11:22	11:25	
10:54	11:00	.....	10:45	10:51	11:11	11:23	11:37	.....	11:56
11:24	11:30	.....	11:15	11:21	11:41	11:53	12:07	.....	12:26
11:54	12:00	.....	11:30	11:36	11:56	12:08	12:22	12:25	
12:24	12:30	.....	11:45	11:51	12:11	12:23	12:37	.....	12:56
12:54	1:00	.....	11:56	12:00	12:06	12:26	12:52	12:55	
1:24	1:30	.....	12:25	12:31	12:41	12:53	1:07	.....	1:26
1:56	2:02	.....	12:26	12:30	12:36	12:56	1:08	1:22	
2:26	2:32	.....	12:45	12:51	1:11	1:23	1:37	.....	1:56
2:56	3:02	.....	1:00	1:06	1:26	1:38	1:52	.....	1:55
3:26	3:32	.....	1:15	1:21	1:41	1:53	2:07	.....	2:26
3:56	4:02	.....	1:30	1:36	1:56	2:08	2:22	2:25	
4:26	4:32	.....	1:45	1:51	2:11	2:23	2:37	.....	2:56
4:56	5:02	.....	1:57	2:01	2:07	2:26	2:37	2:49	
5:45	5:51	.....	2:16	2:22	2:41	2:52	3:04	.....	3:22
6:15	6:21	.....	2:27	2:31	2:37	2:56	3:07	3:19	
6:45	6:51	.....	2:46	2:52	3:11	3:22	3:34	.....	3:52
7:15	7:21	.....	2:57	3:01	3:07	3:26	3:37	3:49	
7:45	7:51	.....	3:16	3:22	3:41	3:52	4:04	.....	4:22
8:15	8:21	.....	3:27	3:31	3:37	3:56	4:07	4:19	
8:50	8:56	.....	3:46	3:52	4:11	4:22	4:34	.....	4:52
9:20	9:26	.....	3:57	4:01	4:07	4:26	4:37	4:49	
9:50	9:56	.....	4:16	4:22	4:41	4:52	5:04	.....	5:22
10:20	10:26	.....	4:27	4:31	4:37	4:56	5:07	5:19	
11:27	11:32	.....	4:46	4:52	5:11	5:22	5:34	.....	5:52
12:27	12:32	.....	4:57	5:01	5:07	5:26	5:37	5:49	
.....	.....	.....	5:16	5:22	5:41	5:52	6:04	.....	6:22
.....	.....	.....	5:31	5:35	5:41	6:00	6:11	6:23	
.....	.....	.....	6:05	6:11	6:30	6:41	6:53	.....	7:11
.....	.....	.....	6:35	6:41	7:00	7:11	7:23	.....	7:41
.....	.....	.....	7:05	7:11	7:30	7:41	7:53	.....	8:11
.....	.....	.....	7:35	7:41	8:00	8:11	8:23	.....	8:41
.....	.....	.....	8:05	8:11	8:30	8:41	8:53	.....	9:11
.....	.....	.....	8:35	8:41	9:00	9:11	9:23	.....	9:41
.....	.....	.....	9:09	9:14	9:30	9:39	9:50	.....	10:02
.....	.....	.....	9:39	9:44	10:00	10:09	10:20	.....	10:32
.....	.....	.....	10:09	10:14	10:30	10:39	10:50	.....	11:02
.....	.....	.....	10:39	10:44	11:00	11:09	11:20	.....	11:32
.....	.....	.....	11:43	11:48	12:00	12:06	12:18	.....	12:30
.....	.....	.....	12:43	12:48	1:00	1:06	1:18	.....	1:30

F = Times are approximate for trips terminating at Fruit & Tustin or Main & Locust.
= Los horarios son aproximados para los viajes que terminan en Fruit & Tustin o Main & Locust

60

Long Beach to Tustin via Westminster Ave / 17th

Saturday

WESTBOUND To: Long Beach

Larwin Square	Fruit & Tustin	17th & Tustin	17th & Bristol	Westminster & Harbor	Westminster & Beach	Westminster & Goldenwest (F)	Main & Locust	Leisure World	7th & Channel
3:59	.....	4:08	4:13	4:22	4:33	4:37	.....	4:49	4:58
4:47	.....	4:55	5:03	5:12	5:24	5:27	.....	5:41	5:50
5:17	.....	5:25	5:33	5:42	5:54	5:57	.....	6:11	6:20
5:38	.....	5:49	6:00	6:12	6:30	6:36	.....	6:49	7:02
6:08	.....	6:19	6:30	6:42	7:00	7:06	.....	7:19	7:32
6:28	.....	6:39	6:50	7:02	7:20	7:26	.....	7:39	7:52
6:48	.....	6:59	7:10	7:22	7:40	7:46	.....	7:59	8:12
7:08	.....	7:19	7:30	7:42	8:00	8:06	.....	8:19	8:32
7:28	.....	7:39	7:50	8:02	8:20	8:26	.....	8:39	8:52
7:48	.....	7:59	8:10	8:22	8:40	8:46	.....	8:59	9:12
8:08	.....	8:19	8:30	8:42	9:00	9:06	.....	9:19	9:32
	8:36	8:39	8:50	9:02	9:20	9:26	9:29		
8:48	.....	8:59	9:10	9:22	9:40	9:46	.....	9:59	10:12
	9:12	9:15	9:29	9:42	10:01	10:07	10:10		
9:21	.....	9:34	9:48	10:01	10:20	10:26	.....	10:40	10:56
	9:46	9:49	10:03	10:16	10:35	10:41	10:44		
9:51	.....	10:04	10:18	10:31	10:50	10:56	.....	11:10	11:26
	10:16	10:19	10:33	10:46	11:05	11:11	11:14		
10:21	.....	10:34	10:48	11:01	11:20	11:26	.....	11:40	11:56
	10:45	10:48	11:02	11:15	11:34	11:40	11:43		
10:50	.....	11:03	11:17	11:30	11:49	11:55	.....	12:09	12:25
	11:15	11:18	11:32	11:45	12:04	12:10	12:13		
11:20	.....	11:33	11:47	12:00	12:19	12:25	.....	12:39	12:55
	11:45	11:48	12:02	12:15	12:34	12:40	12:43		
11:50	.....	12:03	12:17	12:30	12:49	12:55	.....	1:09	1:25
	12:15	12:18	12:32	12:45	1:04	1:10	1:13		
12:20	.....	12:33	12:47	1:00	1:19	1:25	.....	1:39	1:55
	12:45	12:48	1:02	1:15	1:34	1:40	1:43		
12:50	.....	1:03	1:17	1:30	1:49	1:55	.....	2:09	2:25
	1:15	1:18	1:32	1:45	2:04	2:10	2:13		
1:20	.....	1:33	1:47	2:00	2:19	2:25	.....	2:39	2:55
	1:45	1:48	2:02	2:15	2:34	2:40	2:43		
1:50	.....	2:03	2:17	2:30	2:49	2:55	.....	3:09	3:25
	2:15	2:18	2:32	2:45	3:04	3:09	3:12		
2:20	.....	2:33	2:47	3:00	3:19	3:25	.....	3:39	3:55
	2:45	2:48	3:02	3:15	3:34	3:39	3:42		
2:50	.....	3:03	3:17	3:30	3:49	3:55	.....	4:09	4:25
	3:15	3:18	3:32	3:45	4:04	4:09	4:12		
3:20	.....	3:33	3:47	4:00	4:19	4:25	.....	4:39	4:55
	3:45	3:48	4:02	4:15	4:34	4:39	4:42		
3:50	.....	4:03	4:17	4:30	4:49	4:55	.....	5:09	5:25
	4:15	4:18	4:32	4:45	5:04	5:09	5:12		
4:22	.....	4:35	4:48	5:00	5:18	5:24	.....	5:38	5:51
	4:47	4:50	5:03	5:15	5:33	5:38	5:41		
4:52	.....	5:05	5:18	5:30	5:48	5:54	.....	6:08	6:21
	5:17	5:20	5:33	5:45	6:03	6:08	6:11		
5:22	.....	5:35	5:48	6:00	6:18	6:24	.....	6:38	6:51
	6:02	6:05	6:18	6:30	6:48	6:53	6:56		
6:22	.....	6:35	6:48	7:00	7:18	7:24	.....	7:38	7:51
6:52	.....	7:05	7:18	7:30	7:48	7:54	.....	8:08	8:21
7:22	.....	7:35	7:48	8:00	8:18	8:24	.....	8:38	8:51
	7:52	8:05	8:18	8:30	8:48	8:54	.....	9:08	9:21
8:25	.....	8:37	8:47	9:00	9:17	9:21	.....	9:32	9:42
8:55	.....	9:07	9:17	9:30	9:47	9:51	.....	10:02	10:12
9:28	.....	9:37	9:47	10:00	10:15	10:19	.....	10:31	10:41
9:58	.....	10:07	10:17	10:30	10:45	10:49	.....	11:01	11:11
10:28	.....	10:37	10:47	11:00	11:15	11:19	.....	11:31	11:41
11:27	.....	11:36	11:46	11:59	12:14	12:18	.....	12:30	12:40
12:35	.....	12:44	12:50	1:00	1:11	1:14	.....	1:24	1:34

Sunday & Holiday

EASTBOUND To: Tustin

7th & Channel	Leisure World	Main & Locust	Westminster & Goldenwest	Westminster & Beach	Westminster & Harbor	17th & Bristol	17th & Tustin (F)	Fruit & Tustin	Larwin Square
4:27	4:33	.....	4:45	4:48	4:59	5:05	5:14	.....	5:23
4:57	5:03	.....	5:15	5:18	5:29	5:35	5:44	.....	5:53
5:27	5:33	.....	5:45	5:48	5:59	6:05	6:14	.....	6:23
5:52	5:58	.....	6:11	6:17	6:32	6:40	6:50	.....	7:02
6:22	6:28	.....	6:41	6:47	7:02	7:10	7:20	.....	7:32
6:48	6:54	.....	7:08	7:13	7:32	7:41	7:54	.....	8:09
7:18	7:24	.....	7:38	7:43	8:02	8:11	8:24	.....	8:39
7:48	7:54	.....	8:08	8:13	8:32	8:41	8:54	.....	9:09
8:18	8:24	.....	8:38	8:43	9:02	9:11	9:24	.....	9:39
8:48	8:54	.....	9:08	9:13	9:32	9:41	9:54	.....	10:09
		9:20	9:23	9:28	9:47	9:56	10:09	10:15	
9:18	9:24	.....	9:38	9:43	10:02	10:11	10:24	.....	10:39
		9:50	9:53	9:58	10:17	10:26	10:39	10:45	
9:48	9:54	.....	10:08	10:13	10:32	10:41	10:54	.....	11:09
		10:20	10:23	10:28	10:47	10:56	11:09	11:15	
10:18	10:24	.....	10:38	10:43	11:02	11:11	11:24	.....	11:39
		10:50	10:53	10:58	11:17	11:26	11:39	11:45	
10:48	10:54	.....	11:08	11:13	11:32	11:41	11:54	.....	12:09
		11:20	11:23	11:28	11:47	11:56	12:09	12:15	
11:18	11:24	.....	11:38	11:43	12:02	12:11	12:24	.....	12:39
		11:50	11:53	11:58	12:17	12:26	12:39	12:45	
11:48	11:54	.....	12:08	12:13	12:32	12:41	12:54	.....	1:09
		12:20	12:23	12:28	12:47	12:56	1:09	1:15	
12:18	12:24	.....	12:38	12:43	1:02	1:11	1:24	.....	1:39
		12:50	12:53	12:58	1:17	1:26	1:39	1:44	
12:48	12:54	.....	1:08	1:13	1:32	1:41	1:54	.....	2:09
		1:20	1:23	1:28	1:47	1:56	2:09	2:14	
1:16	1:22	.....	1:37	1:42	2:02	2:11	2:25	.....	2:40
		1:49	1:52	1:57	2:17	2:26	2:40	2:45	
1:46	1:52	.....	2:07	2:12	2:32	2:41	2:55	.....	3:10
		2:19	2:22	2:27	2:47	2:56	3:10	3:15	
2:16	2:22	.....	2:37	2:42	3:02	3:11	3:25	.....	3:40
		2:49	2:52	2:57	3:17	3:26	3:40	3:45	
2:46	2:52	.....	3:07	3:12	3:32	3:41	3:55	.....	4:10
		3:19	3:22	3:27	3:47	3:56	4:10	4:15	
3:16	3:22	.....	3:37	3:42	4:02	4:11	4:25	.....	4:40
		3:49	3:52	3:57	4:17	4:26	4:40	4:45	
3:46	3:52	.....	4:07	4:12	4:32	4:41	4:55	.....	5:10
		4:19	4:22	4:27	4:47	4:56	5:10	5:15	
4:16	4:22	.....	4:37	4:42	5:02	5:11	5:25	.....	5:40
		4:49	4:52	4:57	5:17	5:26	5:40	5:45	
4:45	4:52	.....	5:07	5:12	5:31	5:38	5:51	.....	6:05
		5:19	5:22	5:27	5:46	5:53	6:06	6:11	
5:14	5:21	.....	5:36	5:41	6:00	6:07	6:20	.....	6:34
		5:48	5:51	5:56	6:15	6:22	6:35	6:40	
5:46	5:53	.....	6:08	6:13	6:32	6:39	6:52	.....	7:06
6:16	6:23	.....	6:38	6:43	7:02	7:09	7:22	.....	7:36
6:46	6:53	.....	7:08	7:13	7:32	7:39	7:52	.....	8:06
7:26	7:31	.....	7:44	7:47	8:02	8:09	8:21	.....	8:35
7:56	8:01	.....	8:14	8:17	8:32	8:39	8:51	.....	9:05
8:26	8:31	.....	8:44	8:47	9:02	9:09	9:21	.....	9:35
8:56	9:01	.....	9:14	9:17	9:32	9:39	9:51	.....	10:05
9:26	9:31	.....	9:44	9:47	10:02	10:09	10:21	.....	10:35
9:54	9:59	.....	10:12	10:15	10:30	10:37	10:49	.....	11:03
10:30	10:35	.....	10:45	10:48	11:00	11:08	11:16	.....	11:29
11:30	11:35	.....	11:45	11:48	12:00	12:08	12:16	.....	12:29
12:30	12:35	.....	12:45	12:48	1:00	1:08	1:16	.....	1:29

F = Times are approximate for trips terminating at Fruit & Tustin or Main & Locust.
 = Los horarios son aproximados para los viajes que terminan en Fruit & Tustin o Main & Locust

Sunday & Holiday
WESTBOUND To: Long Beach

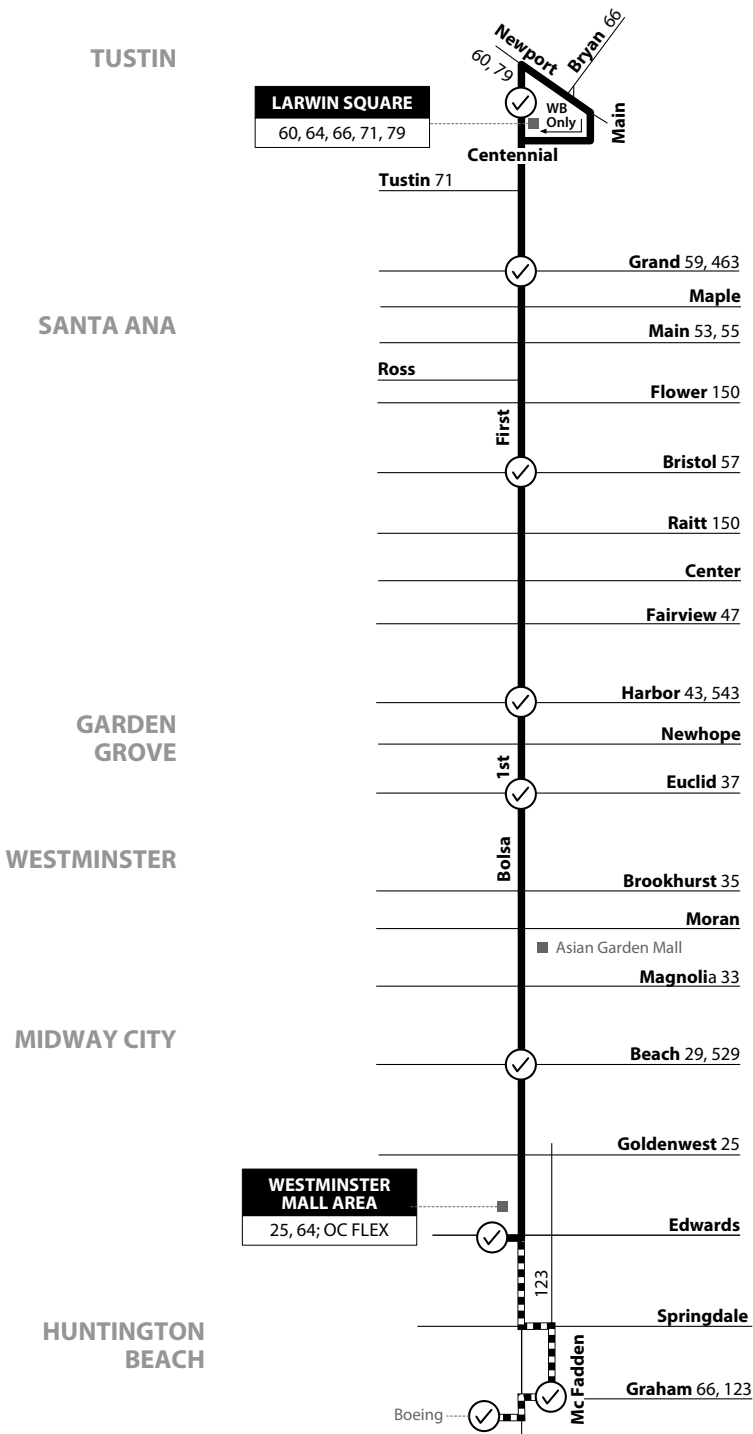
Larwin Square	Fruit & Tustin	17th & Tustin	17th & Bristol	Westminster & Harbor	Westminster & Beach	Westminster & Goldenwest (F)	Main & Locust	Leisure World	7th & Channel
4:03	.....	4:12	4:20	4:32	4:46	4:51	.....	5:03	5:12
4:34	.....	4:43	4:51	5:03	5:17	5:22	.....	5:34	5:43
5:04	.....	5:13	5:21	5:33	5:47	5:52	.....	6:04	6:13
5:34	.....	5:43	5:51	6:03	6:17	6:22	.....	6:34	6:43
6:04	.....	6:13	6:21	6:33	6:47	6:52	.....	7:04	7:13
6:34	.....	6:43	6:51	7:03	7:17	7:22	.....	7:34	7:43
6:59	.....	7:08	7:16	7:28	7:42	7:47	.....	7:59	8:08
7:28	.....	7:40	7:51	8:03	8:21	8:26	.....	8:39	8:53
8:05	7:59	8:02	8:13	8:25	8:43	8:48	8:50		
	.....	8:17	8:28	8:40	8:58	9:03	.....	9:16	9:30
	8:29	8:32	8:43	8:55	9:13	9:18	9:20		
8:35	.....	8:47	8:58	9:10	9:28	9:33	.....	9:46	10:00
	8:59	9:02	9:13	9:25	9:43	9:48	9:50		
9:05	.....	9:17	9:28	9:40	9:58	10:03	.....	10:16	10:30
	9:29	9:32	9:43	9:55	10:13	10:18	10:20		
9:35	.....	9:47	9:58	10:10	10:28	10:33	.....	10:46	11:00
	9:59	10:02	10:13	10:25	10:43	10:48	10:50		
10:05	.....	10:17	10:28	10:40	10:58	11:03	.....	11:16	11:30
	10:29	10:32	10:43	10:55	11:13	11:18	11:20		
10:35	.....	10:47	10:58	11:10	11:28	11:33	.....	11:46	12:00
	10:59	11:02	11:13	11:25	11:43	11:48	11:50		
11:01	.....	11:14	11:27	11:39	11:57	12:03	.....	12:17	12:32
	11:26	11:29	11:42	11:54	12:12	12:17	12:19		
11:30	.....	11:43	11:56	12:08	12:26	12:32	.....	12:46	1:01
	11:55	11:58	12:11	12:23	12:41	12:46	12:48		
12:00	.....	12:13	12:26	12:38	12:56	1:02	.....	1:16	1:31
	12:25	12:28	12:41	12:53	1:11	1:16	1:18		
12:30	.....	12:43	12:56	1:08	1:26	1:32	.....	1:46	2:01
	12:55	12:58	1:11	1:23	1:41	1:46	1:48		
1:00	.....	1:13	1:26	1:38	1:56	2:02	.....	2:16	2:31
	1:25	1:28	1:41	1:53	2:11	2:16	2:18		
1:30	.....	1:43	1:56	2:08	2:26	2:32	.....	2:46	3:01
	1:55	1:58	2:11	2:23	2:41	2:46	2:48		
2:00	.....	2:13	2:26	2:38	2:56	3:02	.....	3:16	3:31
	2:25	2:28	2:41	2:53	3:11	3:16	3:18		
2:34	.....	2:46	2:58	3:09	3:27	3:32	.....	3:45	4:01
	2:58	3:01	3:13	3:24	3:42	3:47	3:49		
3:03	.....	3:15	3:27	3:38	3:56	4:01	.....	4:14	4:30
	3:27	3:30	3:42	3:53	4:11	4:16	4:18		
3:32	.....	3:44	3:56	4:07	4:25	4:30	.....	4:43	4:59
	3:56	3:59	4:11	4:22	4:40	4:45	4:47		
4:04	.....	4:16	4:28	4:39	4:57	5:02	.....	5:15	5:31
	4:28	4:31	4:43	4:54	5:12	5:17	5:19		
4:34	.....	4:46	4:58	5:09	5:27	5:32	.....	5:45	6:01
	4:58	5:01	5:13	5:24	5:42	5:47	5:49		
5:04	.....	5:16	5:28	5:39	5:57	6:02	.....	6:15	6:31
5:24	.....	5:36	5:48	5:59	6:17	6:22	.....	6:35	6:51
5:44	.....	5:56	6:08	6:19	6:37	6:42	.....	6:55	7:11
6:15	.....	6:27	6:39	6:50	7:08	7:13	.....	7:26	7:42
6:44	.....	6:56	7:08	7:19	7:37	7:42	.....	7:55	8:11
7:17	.....	7:28	7:38	7:49	8:05	8:12	.....	8:22	8:37
7:47	.....	7:58	8:08	8:19	8:35	8:42	.....	8:52	9:07
8:17	.....	8:28	8:38	8:49	9:05	9:12	.....	9:22	9:37
8:47	.....	8:58	9:08	9:19	9:35	9:42	.....	9:52	10:07
9:17	.....	9:28	9:38	9:49	10:05	10:12	.....	10:22	10:37
9:51	.....	10:02	10:09	10:19	10:35	10:40	.....	10:53	11:05
10:36	.....	10:46	10:52	11:00	11:11	11:15	.....	11:24	11:34
11:36	.....	11:46	11:52	12:00	12:11	12:15	.....	12:24	12:34
12:36	.....	12:46	12:52	1:00	1:11	1:15	.....	1:24	1:34

F = Times are approximate for trips terminating at Fruit & Tustin or Main & Locust.
= Los horarios son aproximados para los viajes que terminan en Fruit & Tustin o Main & Locust

64

Huntington Beach to Tustin

via Bolsa Ave / 1st St



LEGEND
LEYENDA

Scheduled Departure

Regular Route 64 Routing

64X Weekday Routing and Stops

Service On Weekday Peak Only

Route 064/052820

MAP NOT TO SCALE

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Monday-Friday
EASTBOUND To: Tustin

Edwards & Bolsa*	Bolsa & Beach	1st & Euclid	1st & Harbor	1st & Bristol	1st & Grand	Larwin Square
5:27	5:33	5:46	5:51	5:58	6:11	6:22
5:49	5:55	6:08	6:13	6:20	6:33	6:44
6:11	6:17	6:30	6:35	6:42	6:56	7:09
6:21	6:28	6:41	6:46	6:56	7:09	7:20
6:33	6:39	6:52	6:57	7:04	7:18	7:31
6:55	7:01	7:14	7:19	7:26	7:40	7:53
7:17	7:23	7:36	7:41	7:48	8:02	8:15
7:28	7:31	7:46	7:52	8:02	8:17	8:26
7:38	7:44	7:57	8:02	8:09	8:23	8:36
7:59	8:05	8:18	8:23	8:30	8:44	8:57
8:20	8:26	8:39	8:44	8:51	9:05	9:18
8:37	8:44	8:59	9:05	9:12	9:27	9:41
8:57	9:04	9:19	9:25	9:32	9:47	10:01
9:06	9:13	9:28	9:34	9:41	9:56	10:10
9:15	9:22	9:37	9:43	9:50	10:05	10:19
9:30	9:37	9:52	9:58	10:05	10:20	10:34
9:45	9:52	10:07	10:13	10:20	10:35	10:49
10:00	10:07	10:22	10:28	10:35	10:50	11:04
10:15	10:22	10:37	10:43	10:50	11:05	11:19
10:28	10:35	10:52	10:58	11:06	11:22	11:36
10:43	10:50	11:07	11:13	11:21	11:37	11:51
10:58	11:05	11:22	11:28	11:36	11:52	12:06
11:13	11:20	11:37	11:43	11:51	12:07	12:21
11:28	11:35	11:52	11:58	12:06	12:22	12:36
11:43	11:50	12:07	12:13	12:21	12:37	12:51
11:58	12:05	12:22	12:28	12:36	12:52	1:06
12:13	12:20	12:37	12:43	12:51	1:07	1:21
12:28	12:35	12:52	12:58	1:06	1:22	1:36
12:43	12:50	1:07	1:13	1:21	1:37	1:51
12:56	1:03	1:23	1:28	1:38	1:55	2:09
1:13	1:20	1:37	1:43	1:50	2:07	2:20
1:28	1:35	1:52	1:58	2:05	2:22	2:35
1:43	1:50	2:07	2:13	2:20	2:37	2:50
1:58	2:05	2:22	2:28	2:35	2:52	3:05
2:13	2:20	2:37	2:43	2:50	3:07	3:20
2:28	2:35	2:52	2:58	3:05	3:22	3:35
2:36	2:42	3:00	3:06	3:13	3:30	3:43
2:43	2:50	3:07	3:13	3:20	3:37	3:50
2:58	3:05	3:22	3:28	3:35	3:52	4:05
3:14	3:21	3:38	3:44	3:51	4:08	4:21
3:29	3:36	3:53	3:59	4:06	4:23	4:36
3:38	3:44	4:01	4:07	4:14	4:31	4:43
3:46	3:53	4:09	4:15	4:22	4:37	4:50
3:53	4:00	4:16	4:22	4:29	4:44	4:57
4:00	4:07	4:23	4:29	4:36	4:51	5:04
4:13	4:20	4:36	4:42	4:49	5:04	5:17
4:28	4:35	4:51	4:57	5:04	5:19	5:32
4:43	4:50	5:06	5:12	5:19	5:34	5:47
4:59	5:06	5:22	5:28	5:35	5:50	6:03
5:07	5:14	5:30	5:36	5:43	5:58	6:11
5:14	5:21	5:37	5:43	5:50	6:05	6:18
5:29	5:36	5:52	5:58	6:05	6:20	6:33
5:58	6:05	6:21	6:27	6:34	6:49	7:02
6:29	6:35	6:50	6:56	7:02	7:17	7:30
6:59	7:05	7:20	7:26	7:32	7:47	8:00
7:31	7:37	7:52	7:58	8:04	8:19	8:32
8:03	8:09	8:22	8:26	8:32	8:46	8:58
8:33	8:39	8:52	8:56	9:02	9:16	9:28
9:03	9:09	9:22	9:26	9:32	9:46	9:58
10:03	10:09	10:22	10:26	10:32	10:46	10:58

Monday-Friday
WESTBOUND To: Huntington Beach

Larwin Square	1st & Grand	1st & Bristol	1st & Harbor	1st & Euclid	Bolsa & Beach	Edwards & Bolsa*
5:12	5:20	5:30	5:39	5:43	5:55	6:07
5:37	5:45	5:55	6:04	6:08	6:20	6:32
5:59	6:07	6:17	6:26	6:30	6:42	6:54
6:11	6:18	6:28	6:37	6:41	6:53	7:05
6:21	6:29	6:39	6:48	6:52	7:04	7:16
6:33	6:40	6:50	6:59	7:03	7:15	7:27
6:43	6:51	7:01	7:10	7:14	7:26	7:38
6:55	7:02	7:14	7:21	7:25	7:37	7:49
7:05	7:13	7:23	7:32	7:36	7:48	8:00
7:23	7:34	7:45	7:54	7:58	8:10	8:22
7:45	7:56	8:07	8:16	8:20	8:32	8:44
8:07	8:18	8:29	8:38	8:42	8:54	9:06
8:18	8:29	8:40	8:49	8:53	9:05	9:17
8:29	8:40	8:51	9:00	9:04	9:16	9:28
8:46	8:57	9:10	9:20	9:25	9:42	9:55
9:06	9:17	9:30	9:40	9:45	10:02	10:15
9:24	9:35	9:48	9:58	10:03	10:20	10:33
9:39	9:50	10:03	10:13	10:18	10:35	10:48
9:54	10:05	10:18	10:28	10:33	10:50	11:03
10:09	10:20	10:33	10:43	10:48	11:05	11:18
10:24	10:35	10:48	10:58	11:03	11:20	11:33
10:39	10:50	11:03	11:13	11:18	11:35	11:48
10:53	11:04	11:17	11:27	11:32	11:49	12:02
11:07	11:18	11:31	11:41	11:46	12:03	12:16
11:21	11:32	11:45	11:55	12:00	12:17	12:30
11:32	11:45	11:59	12:09	12:14	12:32	12:46
11:49	12:02	12:16	12:26	12:31	12:49	1:03
12:04	12:17	12:31	12:41	12:46	1:04	1:18
12:19	12:32	12:46	12:56	1:01	1:19	1:33
12:34	12:47	1:01	1:12	1:17	1:33	1:46
12:50	1:03	1:17	1:28	1:33	1:49	2:02
1:05	1:18	1:32	1:43	1:48	2:04	2:17
1:20	1:33	1:47	1:58	2:03	2:19	2:32
1:35	1:48	2:02	2:13	2:18	2:34	2:47
1:42	1:56	2:11	2:21	2:26	2:42	2:54
1:50	2:03	2:17	2:28	2:33	2:49	3:02
1:57	2:11	2:26	2:36	2:41	2:57	3:09
2:05	2:18	2:32	2:43	2:48	3:04	3:17
2:20	2:33	2:47	2:58	3:03	3:19	3:32
2:35	2:48	3:02	3:13	3:18	3:34	3:47
2:42	2:55	3:11	3:21	3:25	3:41	3:54
2:50	3:03	3:17	3:28	3:33	3:49	4:02
2:57	3:10	3:26	3:36	3:40	3:56	4:09
3:05	3:18	3:32	3:43	3:48	4:04	4:17
3:12	3:25	3:41	3:51	3:55	4:11	4:24
3:20	3:33	3:47	3:58	4:03	4:19	4:32
3:35	3:48	4:02	4:13	4:18	4:34	4:47
3:50	4:03	4:17	4:28	4:33	4:49	5:02
4:05	4:18	4:32	4:43	4:48	5:04	5:17
4:20	4:33	4:47	4:58	5:03	5:19	5:32
4:35	4:48	5:02	5:13	5:18	5:34	5:47
4:50	5:03	5:17	5:28	5:33	5:49	6:02
5:05	5:18	5:32	5:43	5:48	6:04	6:17
5:15	5:28	5:40	5:51	5:55	6:11	6:22
5:26	5:38	5:49	5:58	6:03	6:16	6:28
5:30	5:42	5:54	6:03	6:08	6:21	6:34
5:41	5:53	6:04	6:13	6:18	6:31	6:43
5:57	6:09	6:20	6:29	6:34	6:47	6:59
6:15	6:27	6:38	6:47	6:52	7:05	7:17
6:35	6:47	6:58	7:07	7:12	7:25	7:37
6:55	7:07	7:18	7:27	7:32	7:45	7:57
7:20	7:32	7:43	7:52	7:57	8:10	8:22
7:50	8:02	8:13	8:22	8:27	8:40	8:52
8:20	8:32	8:43	8:52	8:57	9:10	9:22
8:50	9:02	9:14	9:22	9:26	9:37	9:49
9:57	10:09	10:21	10:29	10:33	10:44	10:56

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

* This stop is 400 ft north of Bolsa on Edwards for both East and West trips.
Esta parada esta a 400 pies al norte de Bolsa en Edwards para los viajes hacia el este y oeste.

64

Huntington Beach to Tustin

via Bolsa Ave / 1st St

Saturday

EASTBOUND To: Tustin

Edwards & Bolsa*	Bolsa & Beach	1st & Euclid	1st & Harbor	1st & Bristol	1st & Grand	Larwin Square
5:27	5:33	5:46	5:51	5:58	6:11	6:22
5:49	5:55	6:08	6:13	6:20	6:33	6:44
6:11	6:17	6:30	6:35	6:42	6:56	7:09
6:33	6:39	6:52	6:57	7:04	7:18	7:31
6:55	7:01	7:14	7:19	7:26	7:40	7:53
7:17	7:23	7:36	7:41	7:48	8:02	8:15
7:38	7:44	7:57	8:02	8:09	8:23	8:36
7:59	8:05	8:18	8:23	8:30	8:44	8:57
8:20	8:26	8:39	8:44	8:51	9:05	9:18
8:37	8:44	8:59	9:05	9:12	9:27	9:41
8:57	9:04	9:19	9:25	9:32	9:47	10:01
9:15	9:22	9:37	9:43	9:50	10:05	10:19
9:30	9:37	9:52	9:58	10:05	10:20	10:34
9:45	9:52	10:07	10:13	10:20	10:35	10:49
10:00	10:07	10:22	10:28	10:35	10:50	11:04
10:15	10:22	10:37	10:43	10:50	11:05	11:19
10:28	10:35	10:50	10:58	11:06	11:22	11:36
10:43	10:50	11:07	11:13	11:21	11:37	11:51
10:58	11:05	11:22	11:28	11:36	11:52	12:06
11:13	11:20	11:37	11:43	11:51	12:07	12:21
11:28	11:35	11:52	11:58	12:06	12:22	12:36
11:43	11:50	12:07	12:13	12:21	12:37	12:51
11:58	12:05	12:22	12:28	12:36	12:52	1:06
12:13	12:20	12:37	12:43	12:51	1:07	1:21
12:28	12:35	12:52	12:58	1:06	1:22	1:36
12:43	12:50	1:07	1:13	1:21	1:37	1:51
12:56	1:03	1:23	1:28	1:38	1:55	2:09
1:13	1:20	1:37	1:43	1:50	2:07	2:20
1:28	1:35	1:52	1:58	2:05	2:22	2:35
1:43	1:50	2:07	2:13	2:20	2:37	2:50
1:58	2:05	2:22	2:28	2:35	2:52	3:05
2:13	2:20	2:37	2:43	2:50	3:07	3:20
2:28	2:35	2:52	2:58	3:05	3:22	3:35
2:43	2:50	3:07	3:13	3:20	3:37	3:50
2:58	3:05	3:22	3:28	3:35	3:52	4:05
3:14	3:21	3:38	3:44	3:51	4:08	4:21
3:29	3:36	3:53	3:59	4:06	4:23	4:36
3:46	3:53	4:09	4:15	4:22	4:37	4:50
4:00	4:07	4:23	4:29	4:36	4:51	5:04
4:13	4:20	4:36	4:42	4:49	5:04	5:17
4:28	4:35	4:51	4:57	5:04	5:19	5:32
4:43	4:50	5:06	5:12	5:19	5:34	5:47
4:59	5:06	5:22	5:28	5:35	5:50	6:03
5:14	5:21	5:37	5:43	5:50	6:05	6:18
5:29	5:36	5:52	5:58	6:05	6:20	6:33
5:58	6:05	6:21	6:27	6:34	6:49	7:02
6:29	6:35	6:50	6:56	7:02	7:17	7:30
6:59	7:05	7:20	7:26	7:32	7:47	8:00
7:31	7:37	7:52	7:58	8:04	8:19	8:32
8:03	8:09	8:22	8:26	8:32	8:46	8:58
8:33	8:39	8:52	8:56	9:02	9:16	9:28
9:03	9:09	9:22	9:26	9:32	9:46	9:58
10:03	10:09	10:22	10:26	10:32	10:46	10:58

Saturday

WESTBOUND To: Huntington Beach

Larwin Square	1st & Grand	1st & Bristol	1st & Harbor	1st & Euclid	Bolsa & Beach	Edwards & Bolsa*
5:12	5:20	5:30	5:39	5:43	5:55	6:07
5:37	5:45	5:55	6:04	6:08	6:20	6:32
5:59	6:07	6:17	6:26	6:30	6:42	6:54
6:21	6:29	6:39	6:48	6:52	7:04	7:16
6:43	6:51	7:01	7:10	7:14	7:26	7:38
7:05	7:13	7:23	7:32	7:36	7:48	8:00
7:23	7:34	7:45	7:54	7:58	8:10	8:22
7:45	7:56	8:07	8:16	8:20	8:32	8:44
8:07	8:18	8:29	8:38	8:42	8:54	9:06
8:29	8:40	8:51	9:00	9:04	9:16	9:28
8:46	8:57	9:10	9:20	9:25	9:42	9:55
9:06	9:17	9:30	9:40	9:45	10:02	10:15
9:24	9:35	9:48	9:58	10:03	10:20	10:33
9:39	9:50	10:03	10:13	10:18	10:35	10:48
9:54	10:05	10:18	10:28	10:33	10:50	11:03
10:09	10:20	10:33	10:43	10:48	11:05	11:18
10:24	10:35	10:48	10:58	11:03	11:20	11:33
10:39	10:50	11:03	11:13	11:18	11:35	11:48
10:53	11:04	11:17	11:27	11:32	11:49	12:02
11:07	11:18	11:31	11:41	11:46	12:03	12:16
11:21	11:32	11:45	11:55	12:00	12:17	12:30
11:32	11:45	11:59	12:09	12:14	12:32	12:46
11:49	12:02	12:16	12:26	12:31	12:49	1:03
12:04	12:17	12:31	12:41	12:46	1:04	1:18
12:19	12:32	12:46	12:56	1:01	1:19	1:33
12:34	12:47	1:01	1:12	1:17	1:33	1:46
12:50	1:03	1:17	1:28	1:33	1:49	2:02
1:05	1:18	1:32	1:43	1:48	2:04	2:17
1:20	1:33	1:47	1:58	2:03	2:19	2:32
1:35	1:48	2:02	2:13	2:18	2:34	2:47
1:50	2:03	2:17	2:28	2:33	2:49	3:02
2:05	2:18	2:32	2:43	2:48	3:04	3:17
2:20	2:33	2:47	2:58	3:03	3:19	3:32
2:35	2:48	3:02	3:13	3:18	3:34	3:47
2:50	3:03	3:17	3:28	3:33	3:49	4:02
3:05	3:18	3:32	3:43	3:48	4:04	4:17
3:20	3:33	3:47	3:58	4:03	4:19	4:32
3:35	3:48	4:02	4:13	4:18	4:34	4:47
3:50	4:03	4:17	4:28	4:33	4:49	5:02
4:05	4:18	4:32	4:43	4:48	5:04	5:17
4:20	4:33	4:47	4:58	5:03	5:19	5:32
4:35	4:48	5:02	5:13	5:18	5:34	5:47
4:50	5:03	5:17	5:28	5:33	5:49	6:02
5:05	5:18	5:32	5:43	5:48	6:04	6:17
5:26	5:38	5:49	5:58	6:03	6:16	6:28
5:41	5:53	6:04	6:13	6:18	6:31	6:43
5:57	6:09	6:20	6:29	6:34	6:47	6:59
6:15	6:27	6:38	6:47	6:52	7:05	7:17
6:35	6:47	6:58	7:07	7:12	7:25	7:37
6:55	7:07	7:18	7:27	7:32	7:45	7:57
7:20	7:32	7:43	7:52	7:57	8:10	8:22
7:50	8:02	8:13	8:22	8:27	8:40	8:52
8:20	8:32	8:43	8:52	8:57	9:10	9:22
8:50	9:02	9:14	9:22	9:26	9:37	9:49
9:57	10:09	10:21	10:29	10:33	10:44	10:56

* This stop is 400 ft north of Bolsa on Edwards for both East and West trips.
 Esta parada esta a 400 pies al norte de Bolsa en Edwards para los viajes hacia el este y oeste.

Sunday & Holiday
EASTBOUND To: Tustin

Edwards & Bolsa*	Bolsa & Beach	1st & Euclid	1st & Harbor	1st & Bristol	1st & Grand	Larwin Square
6:11	6:17	6:30	6:35	6:44	6:54	7:01
6:42	6:48	6:59	7:04	7:11	7:20	7:28
7:02	7:08	7:21	7:26	7:35	7:46	7:54
7:24	7:30	7:43	7:48	7:57	8:08	8:16
7:45	7:51	8:05	8:10	8:20	8:31	8:39
8:07	8:13	8:27	8:32	8:42	8:53	9:01
8:28	8:34	8:48	8:53	9:03	9:14	9:22
8:45	8:51	9:05	9:10	9:20	9:31	9:39
9:01	9:07	9:22	9:27	9:37	9:47	9:55
9:16	9:22	9:37	9:42	9:52	10:02	10:10
9:31	9:37	9:52	9:57	10:07	10:17	10:25
9:45	9:51	10:07	10:12	10:22	10:31	10:39
10:00	10:06	10:22	10:27	10:37	10:46	10:54
10:15	10:21	10:37	10:42	10:52	11:01	11:09
10:30	10:36	10:52	10:57	11:07	11:16	11:24
10:45	10:51	11:07	11:12	11:22	11:31	11:39
10:59	11:06	11:22	11:27	11:36	11:46	11:55
11:14	11:21	11:37	11:42	11:51	12:01	12:10
11:29	11:36	11:52	11:57	12:06	12:16	12:25
11:44	11:51	12:07	12:12	12:21	12:31	12:40
11:59	12:06	12:22	12:27	12:37	12:47	12:55
12:14	12:21	12:37	12:42	12:52	1:02	1:10
12:29	12:36	12:52	12:57	1:07	1:17	1:25
12:44	12:51	1:07	1:12	1:22	1:32	1:40
12:59	1:06	1:22	1:27	1:37	1:47	1:55
1:14	1:21	1:37	1:42	1:52	2:03	2:11
1:29	1:36	1:52	1:57	2:07	2:18	2:26
1:44	1:51	2:07	2:12	2:22	2:33	2:41
1:59	2:06	2:22	2:27	2:37	2:48	2:56
2:14	2:21	2:37	2:42	2:52	3:03	3:11
2:29	2:36	2:52	2:57	3:07	3:18	3:26
2:44	2:51	3:07	3:12	3:22	3:33	3:41
2:59	3:06	3:22	3:27	3:37	3:48	3:56
3:14	3:21	3:37	3:42	3:52	4:03	4:11
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3:47	3:54	4:08	4:12	4:21	4:32	4:41
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4:17	4:24	4:38	4:42	4:51	5:02	5:11
4:32	4:39	4:53	4:57	5:06	5:17	5:26
4:47	4:54	5:08	5:12	5:21	5:32	5:41
5:03	5:09	5:23	5:27	5:36	5:46	5:54
5:25	5:31	5:45	5:49	5:58	6:08	6:16
5:47	5:53	6:07	6:11	6:20	6:30	6:38
6:09	6:15	6:29	6:33	6:42	6:52	7:00
6:33	6:39	6:52	6:56	7:05	7:16	7:24
7:01	7:07	7:20	7:24	7:33	7:44	7:52
7:32	7:38	7:51	7:55	8:04	8:13	8:20
8:00	8:06	8:19	8:23	8:32	8:41	8:48
8:29	8:35	8:47	8:51	8:59	9:09	9:16
9:29	9:35	9:47	9:51	9:59	10:09	10:16

Sunday & Holiday
WESTBOUND To: Huntington Beach

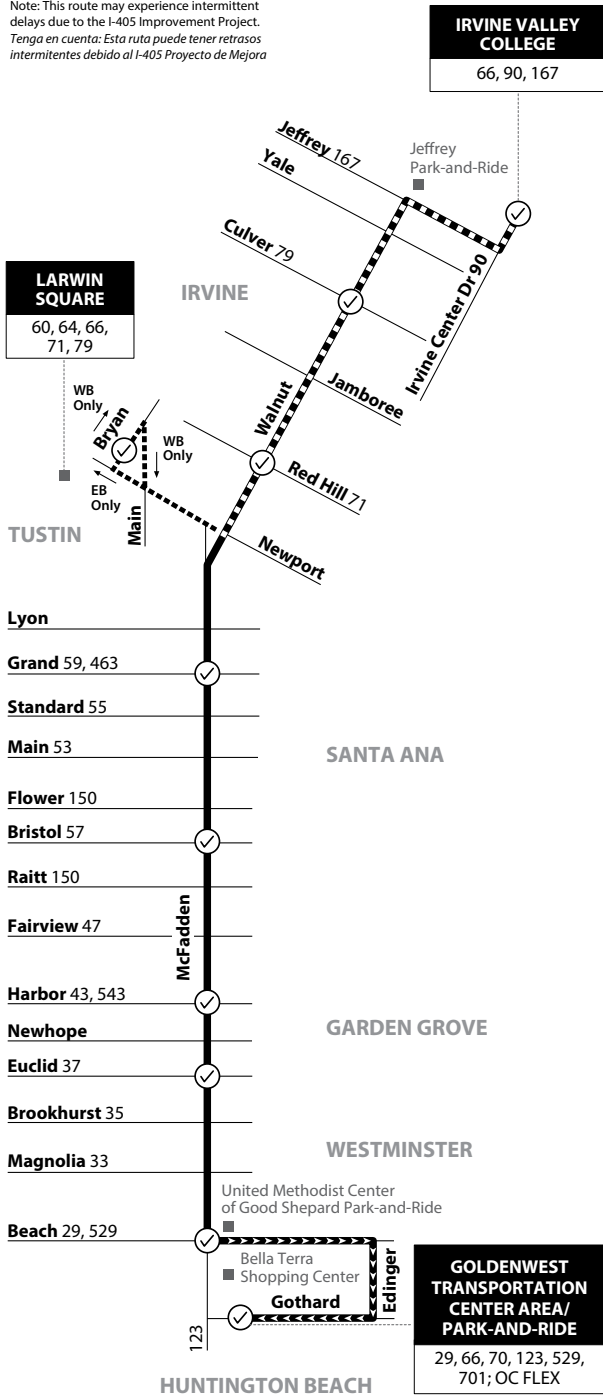
Larwin Square	1st & Grand	1st & Bristol	1st & Harbor	1st & Euclid	Bolsa & Beach	Edwards & Bolsa*
5:36	5:44	5:53	6:00	6:04	6:14	6:20
6:01	6:09	6:18	6:25	6:29	6:39	6:45
6:24	6:33	6:42	6:50	6:54	7:05	7:11
6:49	6:58	7:07	7:15	7:19	7:30	7:36
7:11	7:20	7:29	7:37	7:41	7:52	7:58
7:28	7:39	7:50	7:59	8:03	8:17	8:24
7:50	8:01	8:12	8:21	8:25	8:39	8:46
8:12	8:23	8:34	8:43	8:47	9:01	9:08
8:32	8:43	8:54	9:03	9:07	9:21	9:28
8:52	9:03	9:14	9:23	9:27	9:41	9:48
9:09	9:20	9:31	9:40	9:44	9:59	10:07
9:25	9:36	9:47	9:56	10:00	10:15	10:23
9:41	9:52	10:03	10:12	10:16	10:31	10:39
9:57	10:08	10:19	10:28	10:32	10:47	10:55
10:12	10:23	10:34	10:43	10:47	11:02	11:10
10:27	10:38	10:49	10:58	11:02	11:17	11:25
10:42	10:53	11:04	11:13	11:17	11:32	11:40
10:57	11:08	11:19	11:28	11:32	11:47	11:55
11:13	11:23	11:34	11:43	11:48	12:03	12:11
11:28	11:38	11:49	11:58	12:03	12:18	12:26
11:40	11:51	12:03	12:13	12:17	12:32	12:40
11:55	12:06	12:18	12:28	12:32	12:47	12:55
12:10	12:21	12:33	12:43	12:47	1:02	1:10
12:25	12:36	12:48	12:58	1:02	1:17	1:25
12:40	12:51	1:03	1:13	1:17	1:31	1:39
12:55	1:06	1:18	1:28	1:32	1:46	1:54
1:10	1:21	1:33	1:43	1:47	2:01	2:09
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6:07	6:18	6:29	6:38	6:43	6:55	7:02
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6:55	7:06	7:17	7:26	7:31	7:43	7:50
7:24	7:35	7:46	7:55	8:00	8:12	8:19
8:01	8:11	8:21	8:30	8:34	8:44	8:51
8:30	8:40	8:50	8:59	9:03	9:13	9:20
9:00	9:10	9:20	9:29	9:33	9:43	9:50
9:54	10:04	10:13	10:20	10:24	10:34	10:40

* This stop is 400 ft north of Bolsa on Edwards for both East and West trips.
Esta parada esta a 400 pies al norte de Bolsa en Edwards para los viajes hacia el este y oeste.

66

Huntington Beach to Irvine via McFadden Ave / Walnut Ave

Note: This route may experience intermittent delays due to the I-405 Improvement Project.
Tenga en cuenta: Esta ruta puede tener retrasos intermitentes debido al I-405 Proyecto de Mejora



Monday-Friday EASTBOUND To: Irvine

Goldenwest Transportation Center	McFadden & Beach	McFadden & Euclid	McFadden & Harbor	McFadden & Bristol	McFadden & Grand	Bryan & Newport	Walnut & Redhill	Walnut & Culver	Irvine Valley College
4:27	4:31	4:41	4:48	4:56	5:07	.....	5:16	5:25	5:35
4:45	4:54	5:04	5:11	5:19	5:30	.....	5:39	5:48	5:58
5:12	5:16	5:26	5:33	5:41	5:52	.....	6:01	6:10	6:20
5:30	5:39	5:49	5:56	6:04	6:15	.....	6:24	6:33	6:43
5:59	6:03	6:13	6:20	6:28	6:39	6:52			
6:18	6:27	6:37	6:44	6:52	7:03	7:16			
6:38	6:47	6:57	7:04	7:12	7:23	7:36			
6:53	6:57	7:07	7:14	7:22	7:33	.....	7:42	7:51	8:01
6:58	7:07	7:17	7:24	7:32	7:43	.....	7:52	8:01	8:11
7:16	7:25	7:35	7:42	7:50	8:01	8:14			
7:36	7:45	7:55	8:02	8:10	8:21	8:34			
7:58	8:07	8:17	8:24	8:32	8:43	.....	8:52	9:01	9:11
8:16	8:25	8:35	8:42	8:50	9:01	9:14			
8:36	8:45	8:55	9:01	9:12	9:24	9:37			
8:56	9:05	9:15	9:21	9:32	9:44	9:54	10:03	10:13
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9:36	9:45	9:55	10:01	10:12	10:24	10:37			
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10:36	10:45	10:55	11:01	11:12	11:24	11:37			
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12:36	12:45	12:55	1:01	1:12	1:24	1:37			
12:56	1:05	1:15	1:21	1:32	1:44	1:54	2:03	2:13
1:16	1:25	1:35	1:41	1:52	2:04	2:17			
1:36	1:45	1:55	2:01	2:12	2:24	2:37			
1:51	1:55	2:05	2:11	2:22	2:34	.....	2:44	2:53	3:03
1:56	2:05	2:15	2:21	2:32	2:44	.....	2:54	3:03	3:13
2:16	2:25	2:35	2:41	2:52	3:04	3:17			
2:31	2:35	2:45	2:51	3:02	3:14	3:27			
2:36	2:45	2:55	3:01	3:12	3:24	3:37			
2:51	2:55	3:05	3:11	3:22	3:34	.....	3:44	3:53	4:03
2:56	3:05	3:15	3:21	3:32	3:44	.....	3:54	4:03	4:13
3:11	3:15	3:25	3:31	3:42	3:54	4:07			
3:16	3:25	3:35	3:41	3:52	4:04	4:17			
3:31	3:35	3:45	3:51	4:02	4:14	4:27			
3:36	3:45	3:55	4:01	4:12	4:24	4:37			
3:51	3:55	4:05	4:11	4:22	4:34	4:47			
3:56	4:05	4:15	4:21	4:32	4:44	4:54	5:03	5:13
4:11	4:15	4:25	4:31	4:42	4:54	5:07			
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4:36	4:45	4:55	5:01	5:12	5:24	5:37			
4:51	4:55	5:05	5:11	5:22	5:34	5:47			
4:56	5:05	5:15	5:21	5:32	5:44	5:54	6:03	6:13
5:11	5:15	5:25	5:31	5:42	5:54	6:07			
5:16	5:25	5:35	5:41	5:52	6:04	6:17			
5:36	5:45	5:55	6:01	6:12	6:24	6:37			
5:56	6:05	6:15	6:21	6:32	6:44	.....	6:54	7:03	7:13
6:33	6:42	6:50	6:54	7:02	7:13	7:25			
7:03	7:12	7:20	7:24	7:32	7:43	.....	7:52	8:01	8:11
7:33	7:42	7:50	7:54	8:02	8:13	8:25			
8:03	8:12	8:20	8:24	8:32	8:43	.....	8:52	9:01	9:11
8:43	8:52	9:00	9:04	9:12	9:23	9:35			
9:23	9:32	9:40	9:44	9:52	10:03	.....	10:12	10:21	10:31

LEGEND LEYENDA

Scheduled Departure
 Regular Routing
 Short Turn Only

No Service On Some Trips
 Long-Term Detour

Route 066/111519

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Monday-Friday

WESTBOUND To: Huntington Beach

Irvine Valley College	Walnut & Culver	Walnut & Red Hill	Bryan & Newport	McFadden & Grand	McFadden & Bristol	McFadden & Harbor	McFadden & Euclid	McFadden & Beach	Goldenwest Transportation Center
			5:08	5:21	5:30	5:38	5:42	5:49	5:56
5:08	5:15	5:21	.....	5:31	5:40	5:48	5:52	5:59	6:10
			5:40	5:53	6:02	6:10	6:14	6:21	6:32
			5:59	6:12	6:21	6:29	6:33	6:40	6:47
6:08	6:15	6:21	.....	6:31	6:40	6:48	6:52	6:59	7:10
			6:53	7:06	7:15	7:23	7:27	7:34	7:45
7:02	7:12	7:18	.....	7:29	7:40	7:50	7:55	8:04	8:15
			7:41	7:54	8:05	8:15	8:20	8:29	8:40
7:50	8:00	8:06	.....	8:17	8:28	8:38	8:43	8:52	9:03
			8:24	8:37	8:48	8:58	9:03	9:12	9:23
			8:44	8:57	9:08	9:18	9:23	9:32	9:43
8:50	9:00	9:06	.....	9:17	9:28	9:38	9:43	9:52	10:03
			9:24	9:37	9:48	9:58	10:03	10:12	10:23
			9:44	9:57	10:08	10:18	10:23	10:32	10:43
9:50	10:00	10:06	.....	10:17	10:28	10:38	10:43	10:52	11:03
			10:24	10:37	10:48	10:58	11:03	11:12	11:23
			10:39	10:52	11:06	11:19	11:24	11:33	11:44
10:40	10:52	11:00	.....	11:12	11:26	11:39	11:44	11:53	12:04
			11:19	11:32	11:46	11:59	12:04	12:13	12:24
			11:39	11:52	12:06	12:19	12:24	12:33	12:44
11:40	11:52	12:00	.....	12:12	12:26	12:39	12:44	12:53	1:04
			12:19	12:32	12:46	12:59	1:04	1:13	1:24
			12:39	12:52	1:06	1:19	1:24	1:33	1:44
12:40	12:52	1:00	.....	1:12	1:26	1:39	1:44	1:53	2:04
			1:19	1:32	1:46	1:59	2:04	2:13	2:24
			1:39	1:52	2:06	2:19	2:24	2:33	2:44
1:40	1:52	2:00	.....	2:12	2:26	2:39	2:44	2:53	3:04
			2:19	2:32	2:46	2:59	3:04	3:13	3:24
			2:31	2:44	2:58	3:11	3:16	3:25	3:32
			2:42	2:55	3:08	3:20	3:25	3:33	3:44
			2:52	3:05	3:18	3:30	3:35	3:43	3:50
2:45	2:57	3:04	.....	3:15	3:28	3:40	3:45	3:53	4:04
			3:22	3:35	3:48	4:00	4:05	4:13	4:24
			3:42	3:55	4:08	4:20	4:25	4:33	4:44
			3:52	4:05	4:18	4:30	4:35	4:43	4:50
3:45	3:57	4:04	.....	4:15	4:28	4:40	4:45	4:53	5:04
			4:22	4:35	4:48	5:00	5:05	5:13	5:24
			4:42	4:55	5:08	5:20	5:25	5:33	5:44
			4:52	5:05	5:18	5:30	5:35	5:43	5:50
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			5:22	5:35	5:46	5:57	6:02	6:10	6:21
			5:34	5:47	5:58	6:09	6:14	6:22	6:29
5:30	5:40	5:47	5:57	6:08	6:19	6:24	6:32	6:43
			6:14	6:27	6:38	6:49	6:54	7:02	7:13
6:30	6:40	6:47	6:57	7:08	7:19	7:24	7:32	7:43
			7:14	7:27	7:38	7:49	7:54	8:02	8:13
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			8:12	8:25	8:36	8:47	8:52	9:00	9:11
8:36	8:46	8:53	9:03	9:14	9:25	9:30	9:38	9:49
9:12	9:22	9:29	9:39	9:50	10:01	10:06	10:14	10:25

Saturday, Sunday & Holiday

EASTBOUND To: Irvine

Goldenwest Transportation Center	McFadden & Beach	McFadden & Euclid	McFadden & Harbor	McFadden & Bristol	McFadden & Grand	Bryan & Newport	Walnut & Red Hill	Walnut & Culver	Irvine Valley College
4:45	4:54	5:04	5:11	5:19	5:30	5:39	5:48	5:56
5:30	5:39	5:49	5:56	6:04	6:15	6:24	6:33	6:42
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6:38	6:47	6:57	7:04	7:12	7:23	7:36			
6:58	7:07	7:17	7:24	7:32	7:43	7:52	8:01	8:10
7:16	7:25	7:35	7:42	7:50	8:01	8:14			
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1:36	1:45	1:55	2:01	2:12	2:24	2:37			
1:56	2:05	2:15	2:21	2:32	2:44	2:54	3:03	3:12
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3:36	3:45	3:55	4:01	4:12	4:24	4:37			
3:56	4:05	4:15	4:21	4:32	4:44	4:54	5:03	5:12
4:16	4:25	4:35	4:41	4:52	5:04	5:17			
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8:43	8:52	9:00	9:04	9:12	9:23	9:35			
9:23	9:32	9:40	9:44	9:52	10:03	10:12	10:21	10:30

Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Saturday, Sunday & Holiday
WESTBOUND To: Huntington Beach

Irvine Valley College	Walnut & Culver	Walnut & Red Hill	Bryan & Newport	McFadden & Grand	McFadden & Bristol	McFadden & Harbor	McFadden & Euclid	McFadden & Beach	Goldenwest Transportation Center
5:08	5:15	5:21	.....	5:31	5:40	5:48	5:52	5:59	6:10
			5:40	5:53	6:02	6:10	6:14	6:21	6:32
6:08	6:15	6:21	.....	6:31	6:40	6:48	6:52	6:59	7:10
			6:53	7:06	7:15	7:23	7:27	7:34	7:45
7:02	7:12	7:18	.....	7:29	7:40	7:50	7:55	8:04	8:15
			7:41	7:54	8:05	8:15	8:20	8:29	8:40
7:50	8:00	8:06	8:17	8:28	8:38	8:43	8:52	9:03
			8:24	8:37	8:48	8:58	9:03	9:12	9:23
			8:44	8:57	9:08	9:18	9:23	9:32	9:43
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			11:19	11:32	11:46	11:59	12:04	12:13	12:24
			11:39	11:52	12:06	12:19	12:24	12:33	12:44
11:40	11:52	12:00	12:12	12:26	12:39	12:44	12:53	1:04
			12:19	12:32	12:46	12:59	1:04	1:13	1:24
			12:39	12:52	1:06	1:19	1:24	1:33	1:44
12:40	12:52	1:00	.....	1:12	1:26	1:39	1:44	1:53	2:04
			1:19	1:32	1:46	1:59	2:04	2:13	2:24
			1:39	1:52	2:06	2:19	2:24	2:33	2:44
1:40	1:52	2:00	.....	2:12	2:26	2:39	2:44	2:53	3:04
			2:19	2:32	2:46	2:59	3:04	3:13	3:24
			2:42	2:55	3:08	3:20	3:25	3:33	3:44
2:45	2:57	3:04	.....	3:15	3:28	3:40	3:45	3:53	4:04
			3:22	3:35	3:48	4:00	4:05	4:13	4:24
			3:42	3:55	4:08	4:20	4:25	4:33	4:44
3:45	3:57	4:04	.....	4:15	4:28	4:40	4:45	4:53	5:04
			4:22	4:35	4:48	5:00	5:05	5:13	5:24
			4:42	4:55	5:08	5:20	5:25	5:33	5:44
4:50	5:00	5:07	.....	5:17	5:28	5:39	5:44	5:52	6:03
			5:22	5:35	5:46	5:57	6:02	6:10	6:21
5:30	5:40	5:47	.....	5:57	6:08	6:19	6:24	6:32	6:43
			6:14	6:27	6:38	6:49	6:54	7:02	7:13
6:30	6:40	6:47	.....	6:57	7:08	7:19	7:24	7:32	7:43
			7:14	7:27	7:38	7:49	7:54	8:02	8:13
7:30	7:40	7:47	.....	7:57	8:08	8:19	8:24	8:32	8:43
			8:12	8:25	8:36	8:47	8:52	9:00	9:11
8:36	8:46	8:53	.....	9:03	9:14	9:25	9:30	9:38	9:49
9:12	9:22	9:29	.....	9:39	9:50	10:01	10:06	10:14	10:25



EASY. FAST. SECURE.

Everything you've asked for. And more.

Version 2.0 of the OC Bus Mobile App offers everything you'd want from an upgrade. Here's a peek at our improvements.

- Redesigned interface
- Purchase using Google Pay or Apple Pay
- Easy repeat purchases
- Simplified multi-rider tickets
- Touch ID or Face ID security
- Easy ticket transfer when upgrading phones
- Larger buttons
- New full-screen ticket and larger QR code

Download today and enjoy all the cool new features

Sencilla. Rápida. Segura.

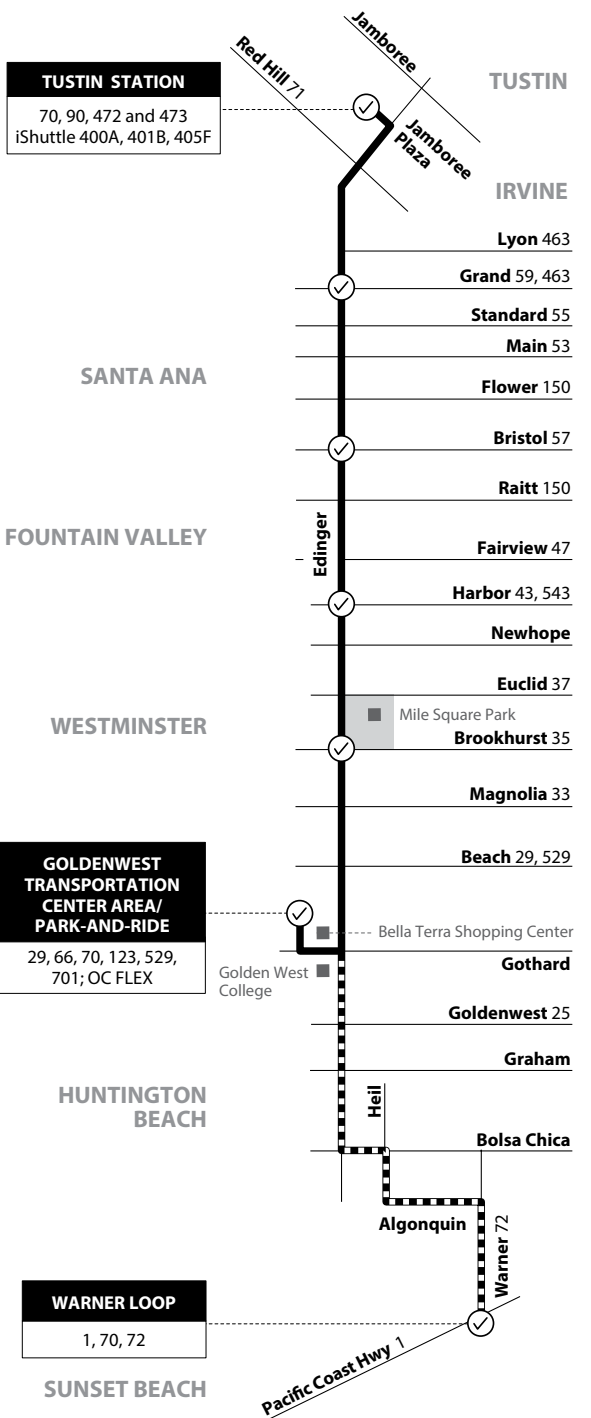
La versión 2.0 de la aplicación OC Bus Mobile ofrece todo lo que se puede desear de una actualización... y mucho más. Aquí tiene un adelanto de algunas de las mejoras.

- Rediseño de la interfaz
- Pago con Google Pay o Apple Pay
- Facilidad de compras repetidas
- Simplificación de los boletos para varios pasajeros
- Seguridad a través de identificación táctil o facial
- Fácil transferencia de boletos si cambia de teléfono
- Botones más prominentes
- Nuevo boleto a pantalla completa y código de barras más grande

Actualice la aplicación el 10 de febrero para disfrutar de todas estas nuevas y fantásticas funciones.



OCbus.com



LEGEND
LEYENDA

Scheduled Departure
 Regular Routing
 No Service On Some Trips

iShuttle = Irvine Business Complex
 Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Route 070/111519
 MAP NOT TO SCALE

Monday-Friday
EASTBOUND To: Tustin

Warner & Pacific Coast Hwy	Goldenwest Transportation Center	Edinger & Brookhurst	Edinger & Harbor	Edinger & Bristol	Edinger & Grand	Tustin Metrolink Station
	5:24	5:35	5:41	5:48	5:57	6:07
5:37	5:54	6:05	6:11	6:19	6:27	6:37
5:52	6:09	6:20	6:26	6:34	6:42	6:52
	6:24	6:35	6:41	6:48	6:57	7:07
6:24	6:40	6:51	6:56	7:02	7:11	7:21
6:39	6:55	7:06	7:11	7:17	7:26	7:36
	7:24	7:35	7:41	7:48	7:57	8:07
7:37	7:54	8:05	8:11	8:18	8:27	8:37
	8:24	8:35	8:41	8:48	8:57	9:07
8:34	8:48	9:00	9:07	9:15	9:25	9:35
	9:19	9:33	9:40	9:48	9:58	10:08
9:29	9:49	10:03	10:10	10:18	10:28	10:38
	10:23	10:35	10:41	10:48	10:57	11:06
10:32	10:53	11:05	11:11	11:18	11:27	11:36
	11:20	11:34	11:41	11:49	11:59	12:09
11:30	11:50	12:04	12:11	12:19	12:29	12:39
	12:23	12:34	12:41	12:50	1:01	1:12
12:31	12:53	1:04	1:11	1:20	1:31	1:42
	1:20	1:34	1:41	1:49	1:59	2:09
1:33	1:53	2:07	2:14	2:22	2:32	2:42
	2:19	2:33	2:41	2:49	2:58	3:09
2:30	2:50	3:04	3:12	3:20	3:29	3:40
	3:20	3:34	3:41	3:49	3:59	4:09
3:30	3:50	4:04	4:11	4:19	4:29	4:39
	4:20	4:34	4:41	4:49	4:59	5:09
4:34	4:52	5:05	5:11	5:18	5:27	5:37
	5:22	5:35	5:41	5:48	5:57	6:06
5:34	5:52	6:05	6:11	6:18	6:27	6:36
	6:19	6:34	6:41	6:49	6:58	7:07
6:28	6:49	7:04	7:11	7:19	7:28	7:37
	7:22	7:35	7:41	7:48	7:57	8:06
7:34	7:52	8:05	8:11	8:18	8:27	8:36
	8:22	8:35	8:41	8:48	8:57	9:06
8:34	8:52	9:05	9:11	9:18	9:27	9:36
	9:32	9:45	9:51	9:58	10:07	10:16

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

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Sunset Beach to Tustin via Edinger Ave

Monday-Friday

WESTBOUND To: Sunset Beach

Tustin Metrolink Station	Edinger & Grand	Edinger & Bristol	Edinger & Harbor	Edinger & Brookhurst	Goldenwest Transportation Center	Warner & Pacific Coast Hwy
4:53	5:02	5:11	5:20	5:26	5:37	5:56
5:23	5:32	5:41	5:50	5:56	6:07	
5:53	6:02	6:11	6:20	6:26	6:37	6:56
6:23	6:32	6:41	6:50	6:56	7:07	
6:53	7:02	7:11	7:20	7:26	7:37	7:56
7:23	7:32	7:41	7:50	7:56	8:07	
7:51	8:00	8:10	8:20	8:27	8:39	8:59
8:21	8:30	8:40	8:50	8:57	9:09	
8:51	9:00	9:10	9:20	9:27	9:39	9:59
9:21	9:30	9:40	9:50	9:57	10:09	
9:52	10:01	10:11	10:20	10:27	10:39	10:59
10:22	10:31	10:41	10:50	10:57	11:09	
10:52	11:01	11:11	11:20	11:27	11:39	11:59
11:22	11:31	11:41	11:50	11:57	12:09	
11:52	12:01	12:11	12:20	12:27	12:39	12:59
12:22	12:31	12:41	12:50	12:57	1:09	
12:52	1:01	1:11	1:20	1:27	1:39	1:59
1:23	1:31	1:41	1:50	1:56	2:08	
1:52	2:01	2:11	2:20	2:27	2:39	2:59
2:23	2:31	2:41	2:50	2:57	3:10	
2:52	3:01	3:11	3:20	3:27	3:39	3:59
3:22	3:31	3:41	3:50	3:57	4:09	
3:39	3:48	3:58	4:07	4:14	4:26	4:46
3:56	4:04	4:12	4:20	4:27	4:38	4:55
4:26	4:34	4:42	4:50	4:57	5:08	
4:41	4:48	4:55	5:03	5:10	5:20	5:35
4:56	5:04	5:12	5:20	5:27	5:38	5:55
5:26	5:34	5:42	5:50	5:57	6:08	
5:56	6:04	6:12	6:20	6:27	6:38	6:55
6:26	6:34	6:42	6:50	6:57	7:08	
6:56	7:04	7:12	7:20	7:27	7:38	7:55
7:26	7:34	7:42	7:50	7:57	8:08	
7:56	8:04	8:12	8:20	8:27	8:38	8:55
8:26	8:34	8:42	8:50	8:57	9:08	
8:59	9:06	9:13	9:20	9:27	9:36	9:53
9:32	9:38	9:44	9:50	9:55	10:04	
9:59	10:06	10:13	10:20	10:27	10:36	10:53

Saturday

EASTBOUND To: Tustin

Warner & Pacific Coast Hwy	Goldenwest Transportation Center	Edinger & Brookhurst	Edinger & Harbor	Edinger & Bristol	Edinger & Grand	Tustin Metrolink Station
	5:24	5:35	5:41	5:48	5:57	6:07
5:37	5:54	6:05	6:11	6:19	6:27	6:37
	6:24	6:35	6:41	6:48	6:57	7:07
6:39	6:55	7:06	7:11	7:17	7:26	7:36
	7:24	7:35	7:41	7:48	7:57	8:07
7:37	7:54	8:05	8:11	8:18	8:27	8:37
	8:24	8:35	8:41	8:48	8:57	9:07
8:34	8:48	9:00	9:07	9:15	9:25	9:35
	9:19	9:33	9:40	9:48	9:58	10:08
9:29	9:49	10:03	10:10	10:18	10:28	10:38
	10:23	10:35	10:41	10:48	10:57	11:06
10:32	10:53	11:05	11:11	11:18	11:27	11:36
	11:20	11:34	11:41	11:49	11:59	12:09
11:30	11:50	12:04	12:11	12:19	12:29	12:39
	12:23	12:34	12:41	12:50	1:01	1:12
12:31	12:53	1:04	1:11	1:20	1:31	1:42
	1:20	1:34	1:41	1:49	1:59	2:09
1:30	1:50	2:04	2:11	2:19	2:29	2:39
	2:19	2:33	2:41	2:49	2:58	3:09
2:30	2:50	3:04	3:12	3:20	3:29	3:40
	3:20	3:34	3:41	3:49	3:59	4:09
3:30	3:50	4:04	4:11	4:19	4:29	4:39
	4:20	4:34	4:41	4:49	4:59	5:09
4:34	4:52	5:05	5:11	5:18	5:27	5:37
	5:22	5:35	5:41	5:48	5:57	6:06
5:34	5:52	6:05	6:11	6:18	6:27	6:36
	6:19	6:34	6:41	6:49	6:58	7:07
6:28	6:49	7:04	7:11	7:19	7:28	7:37
	7:22	7:35	7:41	7:48	7:57	8:06
7:34	7:52	8:05	8:11	8:18	8:27	8:36
	8:22	8:35	8:41	8:48	8:57	9:06
8:34	8:52	9:05	9:11	9:18	9:27	9:36
	9:32	9:45	9:51	9:58	10:07	10:16

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Saturday
WESTBOUND To: Sunset Beach

Tustin Metrolink Station	Edinger & Grand	Edinger & Bristol	Edinger & Harbor	Edinger & Brookhurst	Goldenwest Transportation Center	Warner & Pacific Coast Hwy
4:53	5:02	5:11	5:20	5:26	5:37	5:56
5:23	5:32	5:41	5:50	5:56	6:07	
5:53	6:02	6:11	6:20	6:26	6:37	6:56
6:23	6:32	6:41	6:50	6:56	7:07	
6:53	7:02	7:11	7:20	7:26	7:37	7:56
7:23	7:32	7:41	7:50	7:56	8:07	
7:51	8:00	8:10	8:20	8:27	8:39	8:59
8:21	8:30	8:40	8:50	8:57	9:09	
8:51	9:00	9:10	9:20	9:27	9:39	9:59
9:21	9:30	9:40	9:50	9:57	10:09	
9:52	10:01	10:11	10:20	10:27	10:39	10:59
10:22	10:31	10:41	10:50	10:57	11:09	
10:52	11:01	11:11	11:20	11:27	11:39	11:59
11:22	11:31	11:41	11:50	11:57	12:09	
11:52	12:01	12:11	12:20	12:27	12:39	12:59
12:22	12:31	12:41	12:50	12:57	1:09	
12:52	1:01	1:11	1:20	1:27	1:39	1:59
1:23	1:31	1:41	1:50	1:56	2:08	
1:52	2:01	2:11	2:20	2:27	2:39	2:59
2:23	2:31	2:41	2:50	2:57	3:10	
2:52	3:01	3:11	3:20	3:27	3:39	3:59
3:22	3:31	3:41	3:50	3:57	4:09	
3:56	4:04	4:12	4:20	4:27	4:38	4:55
4:26	4:34	4:42	4:50	4:57	5:08	
4:56	5:04	5:12	5:20	5:27	5:38	5:55
5:26	5:34	5:42	5:50	5:57	6:08	
5:56	6:04	6:12	6:20	6:27	6:38	6:55
6:26	6:34	6:42	6:50	6:57	7:08	
6:56	7:04	7:12	7:20	7:27	7:38	7:55
7:26	7:34	7:42	7:50	7:57	8:08	
7:56	8:04	8:12	8:20	8:27	8:38	8:55
8:26	8:34	8:42	8:50	8:57	9:08	
8:59	9:06	9:13	9:20	9:27	9:36	9:53
9:32	9:38	9:44	9:50	9:55	10:04	
9:59	10:06	10:13	10:20	10:27	10:36	10:53

Sunday & Holiday
EASTBOUND To: Tustin

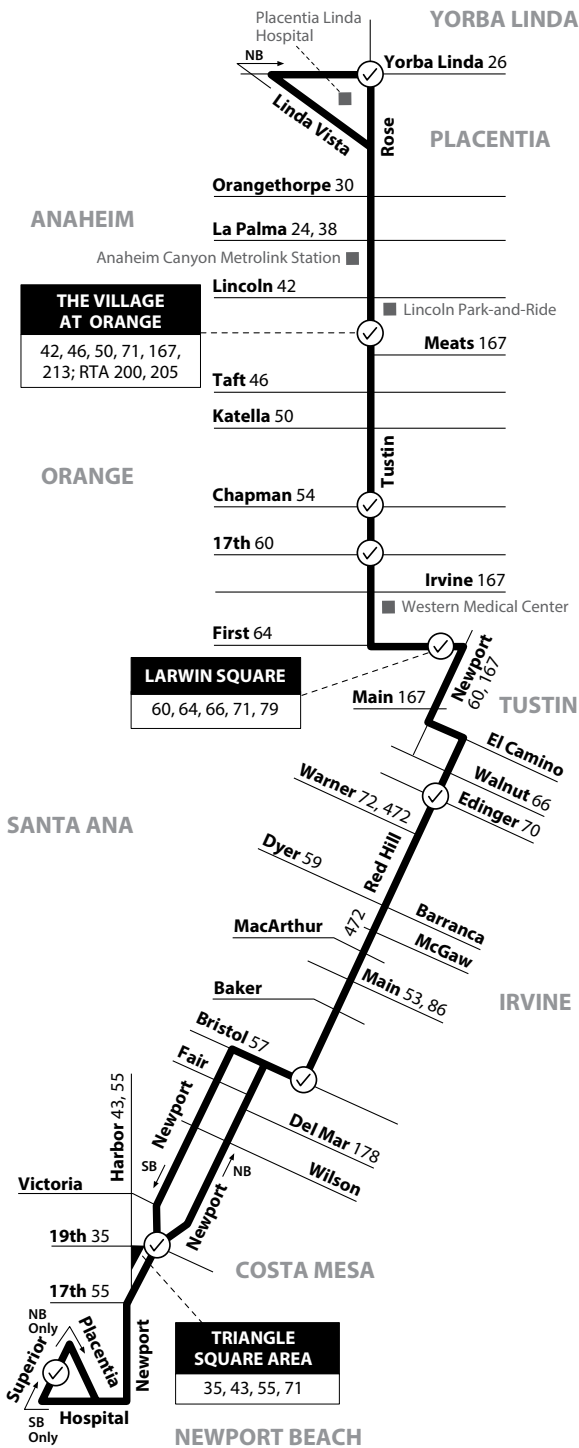
Warner & Pacific Coast Hwy	Goldenwest Transportation Center	Edinger & Brookhurst	Edinger & Harbor	Edinger & Bristol	Edinger & Grand	Tustin Metrolink Station
5:50	6:06	6:14	6:20	6:27	6:37	6:46
6:15	6:31	6:43	6:50	6:58	7:08	7:17
	7:12	7:24	7:31	7:39	7:49	7:58
7:18	7:34	7:46	7:53	8:01	8:11	8:20
	8:04	8:16	8:23	8:31	8:41	8:50
8:18	8:34	8:46	8:53	9:01	9:11	9:20
	9:04	9:16	9:23	9:31	9:41	9:50
9:27	9:45	10:00	10:07	10:15	10:25	10:34
	10:04	10:17	10:24	10:32	10:42	10:50
10:17	10:39	10:52	10:59	11:07	11:17	11:25
	11:04	11:17	11:24	11:32	11:42	11:50
11:17	11:39	11:52	11:59	12:07	12:17	12:25
	12:04	12:17	12:24	12:32	12:42	12:50
12:20	12:42	12:55	1:02	1:10	1:20	1:28
	1:04	1:17	1:24	1:32	1:42	1:50
1:21	1:43	1:56	2:03	2:11	2:21	2:29
	2:01	2:16	2:24	2:31	2:42	2:50
2:20	2:40	2:55	3:03	3:10	3:21	3:29
	3:01	3:16	3:24	3:31	3:42	3:50
3:20	3:40	3:55	4:03	4:10	4:21	4:29
	4:01	4:16	4:24	4:31	4:42	4:50
4:21	4:39	4:50	4:57	5:04	5:13	5:21
	5:09	5:20	5:27	5:34	5:43	5:50
5:21	5:39	5:50	5:57	6:04	6:13	6:20
	6:09	6:20	6:27	6:34	6:43	6:50
6:21	6:39	6:50	6:57	7:04	7:13	7:20
	7:09	7:20	7:27	7:34	7:43	7:50
7:29	7:47	7:58	8:05	8:12	8:21	8:28

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Sunday & Holiday

WESTBOUND To: Sunset Beach

Tustin Metrolink Station	Edinger & Grand	Edinger & Bristol	Edinger & Harbor	Edinger & Brookhurst	Goldenwest Transportation Center	Warner & Pacific Coast Hwy
6:20	6:28	6:36	6:45	6:52	7:03	
7:05	7:13	7:21	7:30	7:37	7:48	8:08
7:35	7:43	7:51	8:00	8:07	8:18	
8:14	8:22	8:30	8:39	8:46	8:57	9:17
8:35	8:43	8:51	9:00	9:07	9:18	
9:05	9:13	9:21	9:30	9:37	9:48	10:08
9:35	9:43	9:51	10:00	10:07	10:18	
10:05	10:13	10:21	10:30	10:37	10:48	11:08
10:44	10:52	11:05	11:14	11:21	11:32	
11:05	11:13	11:21	11:31	11:38	11:49	12:11
11:40	11:48	11:56	12:06	12:13	12:24	
12:05	12:13	12:21	12:31	12:38	12:49	1:11
12:40	12:48	12:56	1:06	1:13	1:24	
1:05	1:13	1:21	1:31	1:38	1:49	2:11
1:43	1:51	1:59	2:09	2:16	2:27	
2:05	2:13	2:21	2:31	2:38	2:49	3:11
2:44	2:52	3:00	3:10	3:17	3:28	
3:05	3:13	3:21	3:31	3:38	3:49	4:11
3:44	3:52	4:00	4:10	4:17	4:28	
4:05	4:13	4:21	4:31	4:38	4:49	5:11
4:44	4:51	5:00	5:08	5:15	5:25	
5:05	5:12	5:21	5:29	5:36	5:46	6:03
5:35	5:42	5:51	5:59	6:06	6:16	
6:05	6:12	6:21	6:29	6:36	6:46	7:03
6:35	6:42	6:51	6:59	7:06	7:16	
7:05	7:12	7:21	7:29	7:36	7:46	8:03
7:35	7:42	7:51	7:59	8:06	8:16	
8:06	8:13	8:22	8:30	8:37	8:47	9:04
8:43	8:50	8:59	9:07	9:14	9:24	



LEGEND
LEYENDA

Scheduled Departure
 Regular Routing

RTA = Riverside Transit Agency
Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

Monday-Saturday
NORTHBOUND To: Yorba Linda

Superior & Placentia	Newport & 19th	Red Hill & Bristol	Red Hill & Edinger	1st & Newport	Tustin & 17th	Tustin & Chapman	Village At Orange	Rose & Yorba Linda
6:00	6:09	6:19	6:32	6:40	6:47	6:56	7:06	7:25
6:40	6:49	7:00	7:14	7:25	7:34	7:43	7:54	8:13
7:25	7:34	7:45	7:59	8:10	8:19	8:28	8:39	8:58
8:09	8:18	8:29	8:43	8:55	9:04	9:13	9:26	9:46
8:54	9:03	9:14	9:28	9:40	9:49	9:58	10:11	10:31
9:39	9:48	9:59	10:13	10:25	10:34	10:43	10:56	11:16
10:24	10:33	10:44	10:58	11:10	11:19	11:28	11:41	12:01
11:09	11:18	11:29	11:43	11:55	12:04	12:13	12:26	12:46
11:54	12:03	12:14	12:28	12:40	12:49	12:58	1:11	1:31
12:33	12:46	12:56	1:11	1:25	1:35	1:44	1:58	2:19
1:18	1:31	1:41	1:56	2:10	2:20	2:29	2:43	3:04
2:03	2:16	2:26	2:41	2:55	3:05	3:14	3:28	3:49
2:48	3:01	3:11	3:26	3:40	3:50	3:59	4:13	4:34
3:33	3:46	3:56	4:11	4:25	4:35	4:44	4:58	5:19
4:18	4:31	4:41	4:56	5:10	5:20	5:29	5:43	6:04
5:03	5:16	5:26	5:41	5:55	6:05	6:14	6:28	6:49
5:48	6:01	6:11	6:26	6:40	6:50	6:59	7:13	7:34
6:39	6:48	6:58	7:13	7:25	7:35	7:44	7:55	8:16
7:24	7:33	7:43	7:58	8:10	8:20	8:29	8:40	9:01
8:09	8:18	8:28	8:43	8:55	9:05	9:14	9:25	9:46

SERVICE TO / SERVICIO A

<p>Yorba Linda</p> <ul style="list-style-type: none"> - Placentia Linda Hospital <p>Placentia</p> <ul style="list-style-type: none"> - Alta Vista Country Club <p>Anaheim</p> <ul style="list-style-type: none"> - Anaheim Canyon Business Center - Anaheim Canyon (Metrolink Station) <p>Orange</p> <ul style="list-style-type: none"> - Lincoln Park-and-Ride - The Village at Orange - Orange High School <p>Santa Ana</p> <ul style="list-style-type: none"> - Regional Center of Orange County - Nova Academy - Orange County Global Medical Center <p>Tustin</p> <ul style="list-style-type: none"> - Larwin Square - Tustin Civic Center - Columbus Tustin Middle School - Tustin High School - A.G. Currie Middle School - Tustin Legacy 	<p>Irvine</p> <ul style="list-style-type: none"> - Costa Mesa - Triangle Square - Pacific College - Costa Mesa High School - Orange County Department of Education - Santa Ana Country Club - Costa Mesa Civic Center - Orange County Fairgrounds - Vanguard University - College Hospital <p>Costa Mesa</p> <ul style="list-style-type: none"> - Newport Beach - Hoag Hospital
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Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

71

Yorba Linda to Newport Beach via Tustin Ave / Red Hill Ave / Newport Blvd

Monday-Saturday SOUTHBOUND To: Newport Beach

Rose & Yorba Linda	Village At Orange	Tustin & Chapman	Tustin & 17th	Newport & 1st	Red Hill & Edinger	Bristol & Red Hill	Newport & 19th	Superior & Placentia
6:17	6:35	6:46	6:53	7:02	7:12	7:25	7:35	7:43
7:05	7:23	7:34	7:41	7:50	8:00	8:13	8:23	8:31
7:45	8:04	8:17	8:26	8:35	8:45	8:58	9:08	9:17
8:30	8:49	9:02	9:11	9:20	9:30	9:43	9:53	10:02
9:15	9:34	9:47	9:56	10:05	10:15	10:28	10:38	10:47
10:00	10:19	10:32	10:41	10:50	11:00	11:13	11:23	11:32
10:41	11:02	11:17	11:26	11:35	11:48	12:03	12:14	12:23
11:26	11:47	12:02	12:11	12:20	12:33	12:48	12:59	1:08
12:11	12:32	12:47	12:56	1:05	1:18	1:33	1:44	1:53
12:56	1:17	1:32	1:41	1:50	2:03	2:18	2:29	2:38
1:41	2:02	2:17	2:26	2:35	2:48	3:03	3:14	3:23
2:26	2:47	3:02	3:11	3:20	3:33	3:48	3:59	4:08
3:11	3:32	3:47	3:56	4:05	4:18	4:33	4:44	4:53
4:02	4:19	4:32	4:40	4:50	5:02	5:18	5:29	5:39
4:47	5:04	5:17	5:25	5:35	5:47	6:03	6:14	6:24
5:32	5:49	6:02	6:10	6:20	6:32	6:48	6:59	7:09
6:17	6:34	6:47	6:55	7:05	7:17	7:33	7:44	7:54
7:04	7:21	7:35	7:42	7:50	8:01	8:14	8:22	8:30
7:49	8:06	8:20	8:27	8:35	8:46	8:59	9:07	9:15
8:34	8:51	9:05	9:12	9:20	9:31	9:44	9:52	10:00

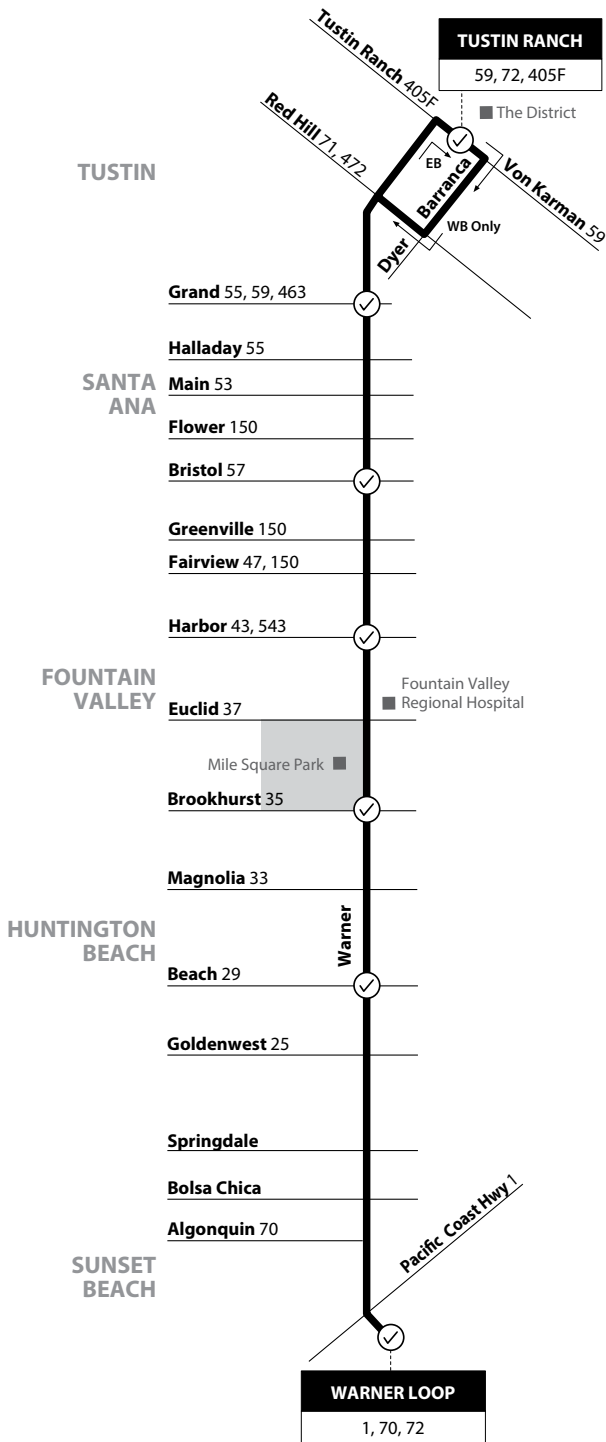
Sunday & Holiday NORTHBOUND To: Yorba Linda

Superior & Placentia	Newport & 19th	Red Hill & Bristol	Red Hill & Edinger	1st & Newport	Tustin & 17th	Tustin & Chapman	Village At Orange	Rose & Yorba Linda
5:46	5:55	6:05	6:18	6:25	6:33	6:39	6:48	7:03
6:32	6:42	6:52	7:05	7:15	7:24	7:31	7:42	7:59
7:22	7:32	7:42	7:55	8:05	8:14	8:21	8:32	8:49
8:12	8:22	8:32	8:45	8:55	9:04	9:11	9:22	9:39
9:02	9:12	9:22	9:35	9:45	9:54	10:01	10:12	10:29
9:52	10:03	10:14	10:27	10:37	10:46	10:54	11:07	11:25
10:45	10:56	11:07	11:20	11:30	11:39	11:47	12:00	12:18
11:40	11:51	12:02	12:15	12:25	12:34	12:42	12:55	1:13
12:33	12:44	12:55	1:09	1:20	1:29	1:36	1:49	2:08
1:28	1:39	1:50	2:04	2:15	2:24	2:31	2:44	3:03
2:23	2:34	2:45	2:59	3:10	3:19	3:26	3:39	3:58
3:18	3:29	3:40	3:54	4:05	4:14	4:21	4:34	4:53
4:13	4:24	4:35	4:49	5:00	5:09	5:16	5:29	5:48
5:08	5:19	5:30	5:44	5:55	6:04	6:11	6:24	6:43
6:03	6:14	6:25	6:39	6:50	6:59	7:06	7:19	7:38
6:59	7:09	7:19	7:30	7:40	7:49	7:56	8:08	8:26

Sunday & Holiday SOUTHBOUND To: Newport Beach

Rose & Yorba Linda	Village At Orange	Tustin & Chapman	Tustin & 17th	Newport & 1st	Red Hill & Edinger	Bristol & Red Hill	Newport & 19th	Superior & Placentia
6:34	6:50	7:02	7:10	7:17	7:28	7:41	7:51	8:02
7:24	7:40	7:52	8:00	8:07	8:18	8:31	8:41	8:52
8:14	8:30	8:42	8:50	8:57	9:08	9:21	9:31	9:42
9:03	9:19	9:31	9:39	9:47	9:58	10:12	10:22	10:33
9:51	10:08	10:21	10:29	10:37	10:48	11:02	11:12	11:23
10:46	11:03	11:16	11:24	11:32	11:43	11:57	12:07	12:18
11:41	11:58	12:11	12:19	12:27	12:38	12:52	1:02	1:13
12:36	12:53	1:06	1:14	1:22	1:33	1:47	1:57	2:08
1:31	1:48	2:01	2:09	2:17	2:28	2:42	2:52	3:03
2:22	2:39	2:54	3:02	3:12	3:23	3:37	3:49	4:00
3:17	3:34	3:49	3:57	4:07	4:18	4:32	4:44	4:55
4:08	4:25	4:40	4:50	5:02	5:16	5:28	5:43	5:54
5:03	5:20	5:35	5:45	5:57	6:11	6:23	6:38	6:49
5:58	6:15	6:30	6:40	6:52	7:06	7:18	7:33	7:44
6:53	7:10	7:25	7:35	7:47	8:01	8:13	8:28	8:39
7:49	8:06	8:19	8:28	8:37	8:49	9:03	9:13	9:24
8:39	8:56	9:09	9:18	9:27	9:39	9:53	10:03	10:14

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)



All Days
EASTBOUND To: Tustin

Warner & Pacific Coast Hwy	Warner & Beach	Warner & Brookhurst	Warner & Harbor	Warner & Bristol	Warner & Grand	Tustin Ranch & Legacy
6:55	7:06	7:13	7:19	7:27	7:35	7:41
7:43	7:58	8:07	8:15	8:23	8:30	8:36
8:28	8:43	8:52	9:00	9:08	9:15	9:21
9:13	9:28	9:37	9:45	9:53	10:00	10:06
9:58	10:14	10:23	10:30	10:39	10:46	10:52
10:43	10:59	11:08	11:15	11:24	11:31	11:37
11:26	11:42	11:52	12:00	12:09	12:17	12:23
12:11	12:27	12:37	12:45	12:54	1:02	1:08
12:56	1:12	1:22	1:30	1:39	1:47	1:53
1:41	1:57	2:07	2:15	2:24	2:32	2:38
2:26	2:42	2:52	3:00	3:09	3:17	3:23
3:11	3:27	3:37	3:45	3:54	4:02	4:08
3:56	4:12	4:22	4:30	4:39	4:47	4:53
4:41	4:57	5:07	5:15	5:24	5:32	5:38
5:29	5:44	5:53	6:00	6:07	6:14	6:20
6:14	6:29	6:38	6:45	6:52	6:59	7:05
6:59	7:14	7:23	7:30	7:37	7:44	7:50
7:57	8:11	8:19	8:25	8:31	8:37	8:42

Operates Weekday and Saturday.
Opera en la Semana y Sabados.

LEGEND
LEYENDA

Route 072/111519

Scheduled Departure
 Regular Routing

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

SERVICE TO / SERVICIO A	
<p>Tustin</p> <ul style="list-style-type: none"> - The District <p>Santa Ana</p> <ul style="list-style-type: none"> - Saddleback High School - Adams Park - Delhi Park - McFadden Intermediate School <p>Fountain Valley</p> <ul style="list-style-type: none"> - Coastline College - Fountain Valley Regional Hospital - Mile Square Park - Los Amigos High School - Masuda Middle School 	<p>Huntington Beach</p> <ul style="list-style-type: none"> - Ocean View High School - Meadowlark Golf Course - Spring View Middle School - Marine View Middle School <p>Sunset Beach</p>

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

All Days

WESTBOUND To: Sunset Beach

Tustin Ranch & Legacy	Warner & Grand	Warner & Bristol	Warner & Harbor	Warner & Brookhurst	Warner & Beach	Warner & Pacific Coast Hwy
6:49	6:57	7:05	7:12	7:19	7:26	7:41
7:58	8:06	8:14	8:22	8:29	8:37	8:53
8:43	8:51	8:59	9:07	9:14	9:22	9:38
9:28	9:36	9:44	9:52	9:59	10:07	10:23
10:13	10:21	10:29	10:37	10:45	10:54	11:10
10:57	11:05	11:14	11:22	11:30	11:39	11:56
11:42	11:50	11:59	12:07	12:15	12:24	12:41
12:27	12:35	12:44	12:52	1:00	1:09	1:26
1:12	1:20	1:29	1:37	1:45	1:54	2:11
1:57	2:05	2:14	2:22	2:30	2:39	2:56
2:43	2:51	2:59	3:07	3:14	3:23	3:40
3:28	3:36	3:44	3:52	3:59	4:08	4:25
4:13	4:21	4:29	4:37	4:44	4:53	5:10
4:58	5:06	5:14	5:22	5:29	5:38	5:55
5:43	5:51	5:59	6:07	6:14	6:23	6:40
6:31	6:38	6:45	6:52	6:59	7:06	7:20
7:16	7:23	7:30	7:37	7:44	7:51	8:05
8:02	8:09	8:16	8:23	8:30	8:37	8:51

**Operates Weekday and Saturday.
Opera en la Semana y Sabados.**



EASY. FAST. SECURE.

Everything you've asked for. And more.

Version 2.0 of the OC Bus Mobile App offers everything you'd want from an upgrade. Here's a peek at our improvements.

- Redesigned interface
- Purchase using Google Pay or Apple Pay
- Easy repeat purchases
- Simplified multi-rider tickets
- Touch ID or Face ID security
- Easy ticket transfer when upgrading phones
- Larger buttons
- New full-screen ticket and larger QR code

Download today and enjoy all the cool new features

Sencilla. Rápida. Segura.

La versión 2.0 de la aplicación OC Bus Mobile ofrece todo lo que se puede desear de una actualización... y mucho más. Aquí tiene un adelanto de algunas de las mejoras.

- Rediseño de la interfaz
- Pago con Google Pay o Apple Pay
- Facilidad de compras repetidas
- Simplificación de los boletos para varios pasajeros
- Seguridad a través de identificación táctil o facial
- Fácil transferencia de boletos si cambia de teléfono
- Botones más prominentes
- Nuevo boleto a pantalla completa y código de barras más grande

Actualice la aplicación el 10 de febrero para disfrutar de todas estas nuevas y fantásticas funciones.



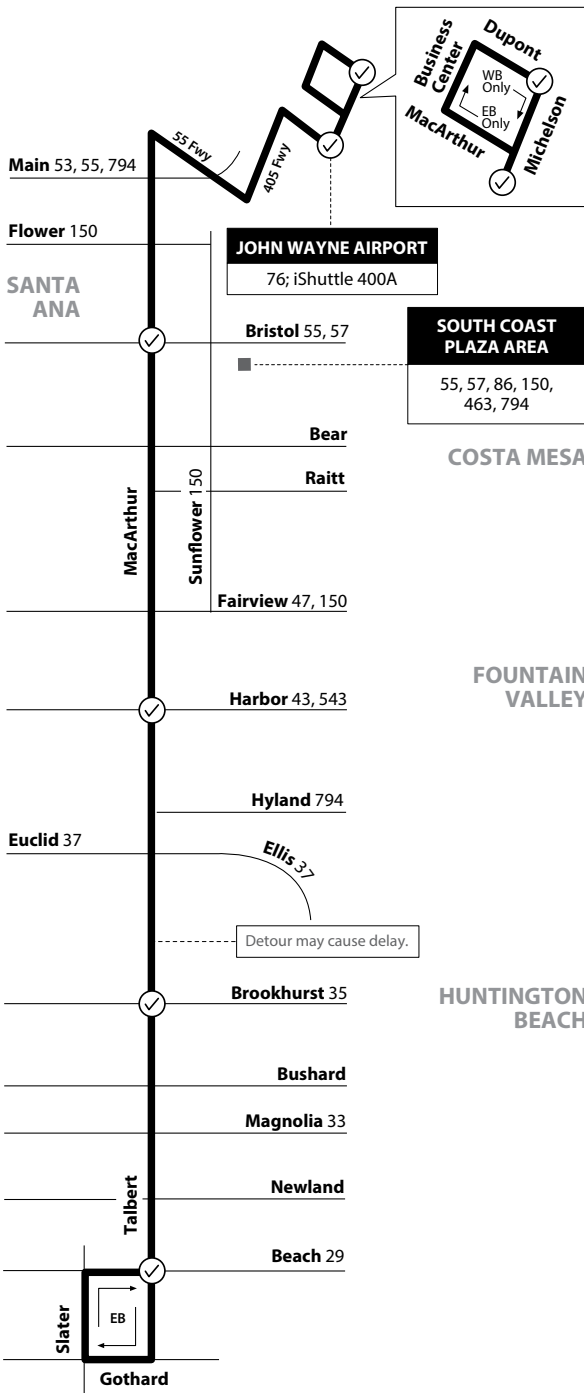
OCbus.com

NOTE: No weekend service.
 NOTA: No hay servicio los fines de semana.

Huntington Beach to John Wayne Airport

via Talbert Ave / MacArthur Blvd

76



LEGEND
LEYENDA

Route 076/122119

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Scheduled Departure

Regular Routing

MAP NOT TO SCALE

Monday - Friday EASTBOUND To: John Wayne Airport

Talbert & Beach	Talbert & Brookhurst	MacArthur & Hyland	MacArthur & Harbor	MacArthur & Bristol	John Wayne Airport	Dupont & Michelson
5:57	6:11	6:23	6:24	6:31	6:41	6:46
6:53	7:11	7:23	7:24	7:31	7:41	7:46
7:53	8:11	8:23	8:24	8:31	8:41	8:46
8:55	9:11	9:23	9:24	9:31	9:41	9:46
9:55	10:11	10:23	10:24	10:31	10:41	10:46
10:55	11:11	11:23	11:24	11:31	11:41	11:46
11:54	12:11	12:23	12:24	12:33	12:44	12:49
12:54	1:11	1:23	1:24	1:33	1:44	1:49
1:54	2:11	2:23	2:24	2:33	2:44	2:49
2:54	3:11	3:23	3:24	3:33	3:44	3:49
3:59	4:16	4:28	4:29	4:38	4:49	4:54
5:00	5:16	5:28	5:29	5:38	5:48	5:52
6:10	6:26	6:38	6:39	6:48	6:58	7:02

Monday - Friday WESTBOUND To: Huntington Beach

Dupont & Michelson	John Wayne Airport	MacArthur & Bristol	MacArthur & Harbor	MacArthur & Hyland	Talbert & Brookhurst	Talbert & Beach
6:00	6:04	6:15	6:22	6:23	6:35	6:42
6:54	6:58	7:13	7:22	7:23	7:35	7:44
7:57	8:02	8:14	8:22	8:23	8:35	8:42
8:57	9:02	9:14	9:22	9:23	9:35	9:42
9:57	10:02	10:14	10:22	10:23	10:35	10:42
10:57	11:02	11:14	11:22	11:23	11:35	11:42
11:57	12:02	12:14	12:22	12:23	12:35	12:42
12:55	1:00	1:13	1:22	1:23	1:35	1:42
1:55	2:00	2:13	2:22	2:23	2:35	2:42
2:56	3:01	3:16	3:27	3:28	3:40	3:49
3:56	4:01	4:16	4:27	4:28	4:40	4:49
5:02	5:07	5:26	5:37	5:38	5:50	6:01
6:05	6:10	6:23	6:32	6:33	6:45	6:53

SERVICE TO / SERVICIO A

Irvine

- Irvine Business Complex
- Calvary Chapel High School

Santa Ana

- Hutton Centre
- Calvary Chapel High School
- South Coast Village
- Saddleback High School
- Douglas MacArthur Fundamental Intermediate School
- Segerstrom High School
- John Wayne Airport

Costa Mesa

- South Coast Plaza

Fountain Valley

- Costco Plaza
- Fountain Valley High School
- Fulton Middle School
- Orange Coast Medical Center
- Orange Coast Memorial Medical Center

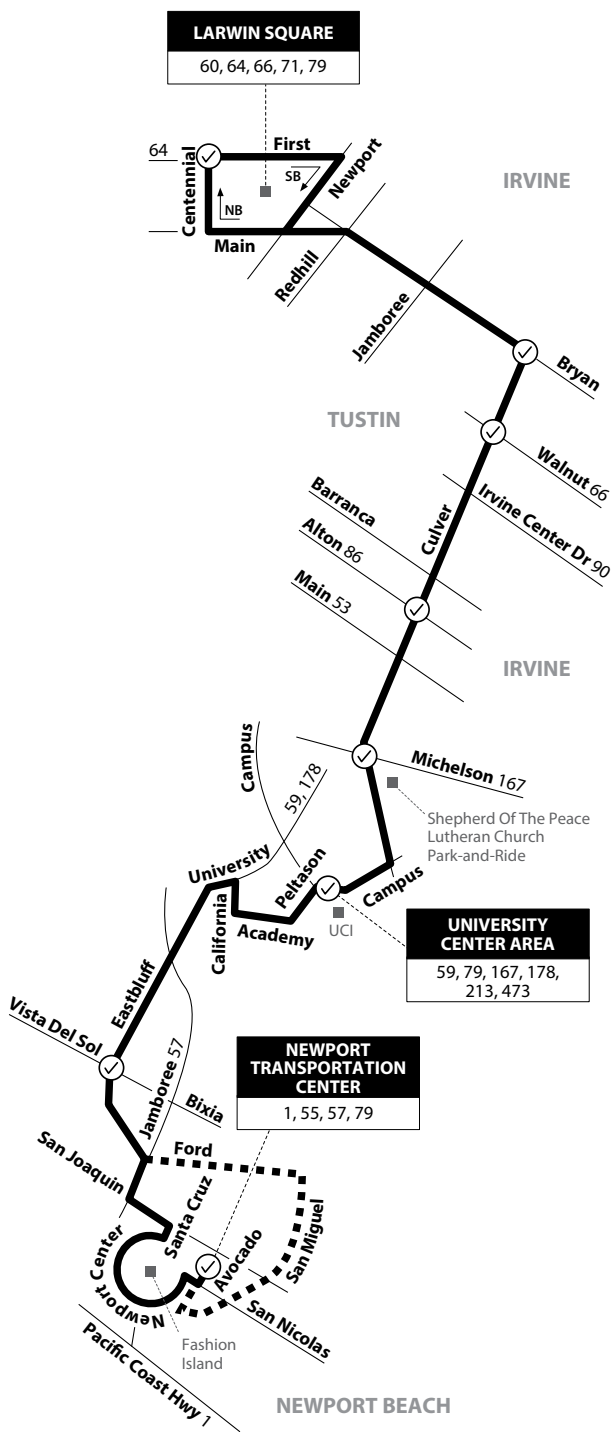
Huntington Beach

- Huntington Central Library (EB Only)
- Huntington Sports Complex (EB Only)
- Ocean View High School
- Good Shepard Cemetery

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

79/A

Tustin to Newport Beach via Bryan Ave / Culver Dr / University Ave



All Days NORTHBOUND To: Tustin

	Newport Transportation Center	Eastbluff & Bixia	University Center	Culver & Michelson	Culver & Alton	Culver & Walnut	Bryan & Culver	Larwin Square
A	6:38	6:55	7:03	7:10	7:14	7:21	7:26	7:41
	7:40	7:50	7:59	8:10	8:16	8:24	8:29	8:44
A	8:35	8:51	8:59	9:10	9:16	9:24	9:29	9:44
	9:35	9:48	9:58	10:10	10:15	10:25	10:30	10:47
A	10:30	10:49	10:58	11:10	11:15	11:25	11:30	11:47
	11:35	11:48	11:58	12:10	12:15	12:25	12:30	12:47
A	12:30	12:49	12:58	1:10	1:15	1:25	1:30	1:47
	1:35	1:48	1:58	2:10	2:15	2:25	2:30	2:47
A	2:30	2:49	2:58	3:10	3:15	3:25	3:30	3:47
	3:35	3:48	3:58	4:10	4:15	4:25	4:30	4:47
A	4:30	4:49	4:58	5:10	5:15	5:25	5:30	5:47
	5:35	5:48	5:58	6:10	6:15	6:25	6:30	6:47
A	6:30	6:49	6:58	7:10	7:15	7:25	7:30	7:47
	7:40	7:53	8:01	8:10	8:15	8:23	8:28	8:43

SERVICE TO / SERVICIO A

Tustin	Irvine	Newport Beach
- Columbus Tustin Middle School	- Arnold O. Beckman High School	- Corona Del Mar High School
- Larwin Square	- Heritage Plaza	- Newport Center/ Fashion Island
- Tustin Civic Center	- Irvine High School	- Newport Transportation Center
- Tustin High School	- Venado Middle School	- Newport Beach Civic Center and Park
- Tustin Ranch Golf Course	- Woodbridge High School	- Bonita Creek Park
	- University High School	- Newport Sport Museum
	- University Center	
	- UC Irvine	
	- Shepherd of the Peace	
	- Katie Wheeler Library	
	- Northwood Community Park	
	- Lower Peters Canyon Community Park	
	- The Crossroads	
	- Alton Athletic Park	
	- William R. Mason Regional Park	

LEGEND LEYENDA

- Scheduled Departure
- Regular Routing
- 79A Routing
- N

Route 079/081819

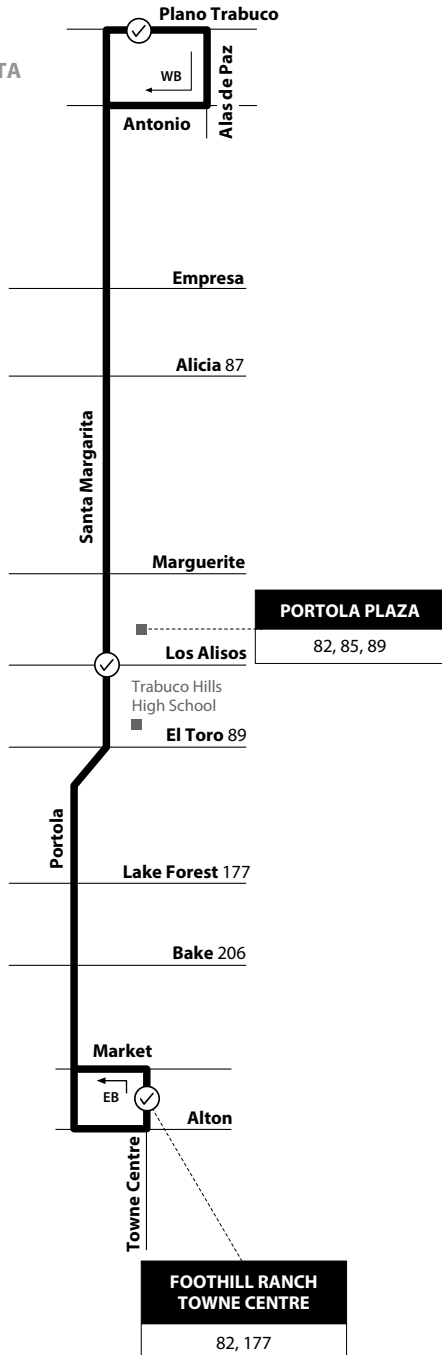
Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

All Days

SOUTHBOUND To: Newport Beach

	Larvin Square	Bryan & Culver	Culver & Walnut	Culver & Alton	Culver & Michelson	University Center	Eastbluff & Del Sol	Newport Transportation Center
	6:10	6:27	6:31	6:36	6:40	6:46	6:55	7:03
A	7:09	7:26	7:30	7:35	7:40	7:47	7:55	8:16
	8:03	8:21	8:26	8:35	8:40	8:50	9:00	9:10
A	9:03	9:21	9:26	9:35	9:40	9:50	10:00	10:20
	10:01	10:20	10:25	10:34	10:40	10:50	11:01	11:13
A	11:01	11:20	11:25	11:34	11:40	11:50	12:01	12:20
	12:01	12:20	12:25	12:34	12:40	12:50	1:01	1:13
A	1:01	1:20	1:25	1:34	1:40	1:50	2:01	2:20
	2:01	2:20	2:25	2:34	2:40	2:50	3:01	3:13
A	3:01	3:20	3:25	3:34	3:40	3:50	4:01	4:20
	4:01	4:20	4:25	4:34	4:40	4:50	5:01	5:13
A	5:02	5:20	5:25	5:34	5:40	5:48	5:58	6:18
	6:02	6:20	6:25	6:34	6:40	6:48	6:58	7:08
A	7:02	7:20	7:25	7:34	7:40	7:48	7:58	8:18
	8:10	8:27	8:31	8:37	8:40	8:47	8:56	9:06

RANCHO
SANTA
MARGARITA



Monday - Friday EASTBOUND To: Rancho Santa Margarita

Towne Centre & Alton	Santa Margarita & Los Alisos	Plano Trabuco & Alas De Paz
4:50	4:57	5:08
5:56	6:04	6:18
6:59	7:10	7:28
8:13	8:23	8:38
9:18	9:28	9:43
10:23	10:33	10:48
11:28	11:38	11:53
12:33	12:43	12:58
1:40	1:50	2:08
2:49	2:59	3:18
4:03	4:15	4:33
5:18	5:30	5:48
6:31	6:40	6:53
7:36	7:45	7:58

Monday - Friday WESTBOUND To: Foothill Ranch

Plano Trabuco & Alas De Paz	Santa Margarita & Los Alisos	Towne Centre & Alton
5:10	5:22	5:31
6:20	6:35	6:47
7:30	7:46	7:58
8:40	8:54	9:05
9:45	9:59	10:10
10:50	11:04	11:15
11:55	12:09	12:20
1:00	1:14	1:25
2:17	2:31	2:42
3:20	3:37	3:50
4:35	4:50	5:01
5:50	6:05	6:16
7:00	7:13	7:21

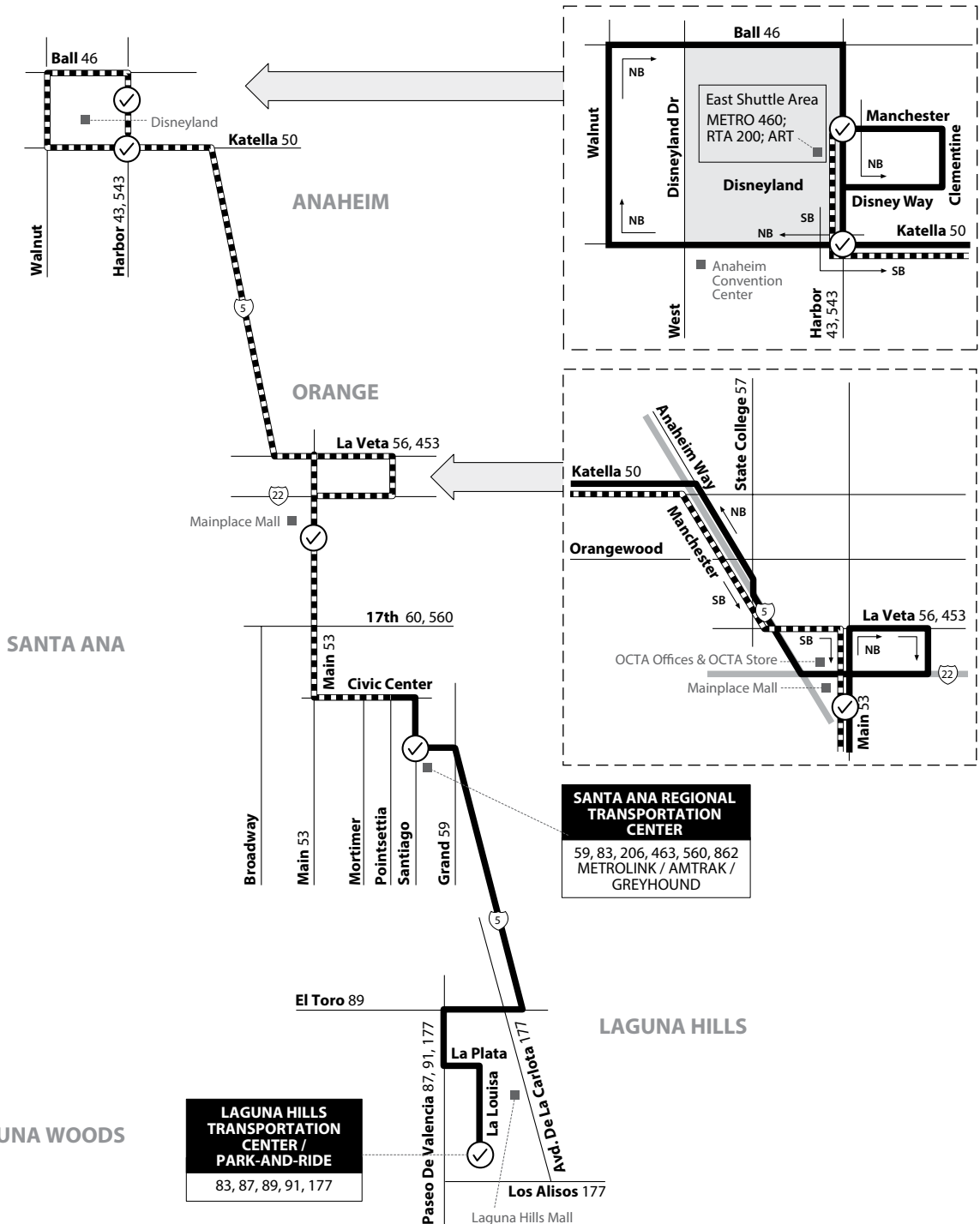
LEGEND
LEYENDA

Route 082/081819

Scheduled Departure
 Regular Routing

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE



LEGEND
LEYENDA

Scheduled Departure
 Regular Routing
 No Service On Some Trips

METRO = Los Angeles Metro

Route 083/070720

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Monday-Saturday
NORTHBOUND To: Anaheim

Laguna Hills Trans- portation Center	Santa Ana & Santiago	Santa Ana Mainplace	Katella & Harbor	Manchester & Harbor
	5:42	5:50	6:04	6:21
6:21	6:42	6:50	7:04	7:21
6:51	7:12	7:21	7:35	7:56
7:21	7:42	7:51	8:05	8:26
7:51	8:12	8:21	8:35	8:56
8:21	8:42	8:51	9:05	9:26
8:51	9:12	9:21	9:35	9:56
9:20	9:42	9:54	10:07	10:27
9:50	10:12	10:24	10:37	10:57
10:20	10:42	10:54	11:07	11:27
10:50	11:12	11:24	11:37	11:57
11:16	11:42	11:54	12:07	12:26
11:46	12:12	12:24	12:37	12:56
12:16	12:42	12:54	1:07	1:26
12:46	1:12	1:24	1:37	1:56
1:15	1:42	1:54	2:08	2:30
1:45	2:12	2:24	2:38	3:00
2:15	2:42	2:54	3:08	3:30
2:45	3:12	3:24	3:38	4:00
3:15	3:42	3:54	4:08	4:30
3:45	4:12	4:24	4:38	5:00
4:15	4:42	4:54	5:08	5:30
4:45	5:12	5:24	5:38	6:00
5:16	5:42	5:52	6:06	6:28
5:46	6:12	6:22	6:36	6:58
6:16	6:42	6:52	7:06	7:28
6:46	7:12	7:22	7:36	7:58
7:22	7:43	7:52	8:06	8:27
7:52	8:13	8:22	8:36	8:57
8:22	8:43	8:52	9:06	9:27
9:07	9:28	9:37	9:51	10:12
9:53	10:14	10:22	10:34	10:54
10:53	11:14	11:22	11:34	11:54

Monday-Saturday
SOUTHBOUND To: Laguna Hills

Manchester & Harbor	Katella & Harbor	Santa Ana Mainplace	Santa Ana & Santiago	Laguna Hills Trans- portation Center
			5:40	6:00
			6:10	6:30
			6:40	7:00
6:41	6:48	6:58	7:10	7:31
7:11	7:18	7:28	7:40	8:01
7:41	7:48	7:58	8:10	8:31
8:11	8:18	8:28	8:40	9:01
8:41	8:48	8:58	9:10	9:31
9:11	9:18	9:28	9:40	10:01
9:37	9:44	9:57	10:10	10:31
10:07	10:14	10:27	10:40	11:01
10:37	10:44	10:57	11:10	11:31
11:10	11:17	11:28	11:40	12:01
11:40	11:47	11:58	12:10	12:31
12:10	12:17	12:28	12:40	1:01
12:40	12:47	12:58	1:10	1:31
1:10	1:17	1:28	1:40	2:01
1:40	1:47	1:58	2:10	2:31
2:10	2:17	2:28	2:40	3:01
2:40	2:47	2:58	3:10	3:31
3:10	3:17	3:29	3:42	4:03
3:40	3:47	3:59	4:12	4:33
4:10	4:17	4:29	4:42	5:03
4:40	4:47	4:59	5:12	5:33
5:10	5:17	5:29	5:42	6:03
5:40	5:47	5:59	6:12	6:33
6:10	6:17	6:29	6:42	7:03
6:40	6:47	6:59	7:12	7:33
7:21	7:28	7:39	7:49	8:10
8:06	8:13	8:24	8:34	8:55
8:51	8:58	9:09	9:19	9:40
9:37	9:44	9:55	10:05	10:26
10:22	10:29	10:40	10:50	

Sunday & Holiday
NORTHBOUND To: Anaheim

Laguna Hills Trans- portation Center	Santa Ana & Santiago (F)	Santa Ana Mainplace	Katella & Harbor (F)	Manchester & Harbor
	5:33	5:40	5:52	6:08
	7:23	7:31	7:43	8:03
7:31	7:53	8:01	8:13	8:33
8:01	8:23	8:31	8:43	9:03
8:31	8:53	9:01	9:13	9:33
9:00	9:23	9:32	9:46	10:06
9:30	9:53	10:02	10:16	10:36
10:00	10:23	10:32	10:46	11:06
10:30	10:53	11:02	11:16	11:36
11:00	11:23	11:32	11:46	12:06
11:30	11:53	12:02	12:16	12:36
12:00	12:23	12:32	12:46	1:06
12:30	12:53	1:02	1:16	1:36
12:59	1:23	1:31	1:43	2:04
1:29	1:53	2:01	2:13	2:34
1:59	2:23	2:31	2:43	3:04
2:29	2:53	3:01	3:13	3:34
2:59	3:23	3:31	3:43	4:04
3:29	3:53	4:01	4:13	4:34
3:59	4:23	4:31	4:43	5:04
4:29	4:53	5:01	5:13	5:34
4:59	5:23	5:31	5:43	6:04
5:29	5:53	6:01	6:13	6:34
5:59	6:23	6:31	6:43	7:04
6:41	7:04	7:13	7:25	7:44
7:31	7:54	8:03	8:15	8:34
8:21	8:44	8:53	9:05	9:24
9:11	9:34	9:42	9:54	10:13
10:04	10:27	10:35	10:47	11:06

F = Times are approximate for trips/Los horarios son aproximados

S = Operates Monday, Tuesday, Wednesday, Thursday when OC School of the Arts is in session/Hay servicio lunes, martes, miércoles, y jueves cuando la escuela OC High School of the Arts está en sesión.

Sunday & Holiday
SOUTHBOUND To: Laguna Hills

Manchester & Harbor	Katella & Harbor	Santa Ana Mainplace	Santa Ana & Santiago	Laguna Hills Transportation Center
6:45	6:51	7:00	7:08	7:29
7:55	8:01	8:10	8:18	8:39
8:25	8:31	8:40	8:48	9:09
8:53	9:00	9:10	9:18	9:40
9:23	9:30	9:40	9:48	10:10
9:53	10:00	10:10	10:18	10:40
10:23	10:30	10:40	10:48	11:10
10:53	11:00	11:10	11:18	11:40
11:23	11:30	11:40	11:48	12:10
11:51	11:58	12:09	12:18	12:41
12:21	12:28	12:39	12:48	1:11
12:51	12:58	1:09	1:18	1:41
1:21	1:28	1:39	1:48	2:11
1:51	1:58	2:09	2:18	2:41
2:21	2:28	2:39	2:48	3:11
2:51	2:58	3:09	3:18	3:41
3:21	3:28	3:39	3:48	4:11
3:51	3:58	4:09	4:18	4:41
4:20	4:27	4:39	4:48	5:11
4:50	4:57	5:09	5:18	5:41
5:40	5:47	5:59	6:08	6:31
6:33	6:40	6:50	6:58	7:19
7:25	7:31	7:40	7:48	8:09
8:15	8:21	8:30	8:38	8:59
9:05	9:11	9:20	9:28	9:49
9:57	10:03	10:12	10:20	10:41



EASY. FAST. SECURE.

Everything you've asked for. And more.

Version 2.0 of the OC Bus Mobile App offers everything you'd want from an upgrade. Here's a peek at our improvements.

- Redesigned interface
- Purchase using Google Pay or Apple Pay
- Easy repeat purchases
- Simplified multi-rider tickets
- Touch ID or Face ID security
- Easy ticket transfer when upgrading phones
- Larger buttons
- New full-screen ticket and larger QR code

Download today and enjoy all the cool new features

Sencilla. Rápida. Segura.

La versión 2.0 de la aplicación OC Bus Mobile ofrece todo lo que se puede desear de una actualización... y mucho más. Aquí tiene un adelanto de algunas de las mejoras.

- Rediseño de la interfaz
- Pago con Google Pay o Apple Pay
- Facilidad de compras repetidas
- Simplificación de los boletos para varios pasajeros
- Seguridad a través de identificación táctil o facial
- Fácil transferencia de boletos si cambia de teléfono
- Botones más prominentes
- Nuevo boleto a pantalla completa y código de barras más grande

Actualice la aplicación el 10 de febrero para disfrutar de todas estas nuevas y fantásticas funciones.



OCbus.com

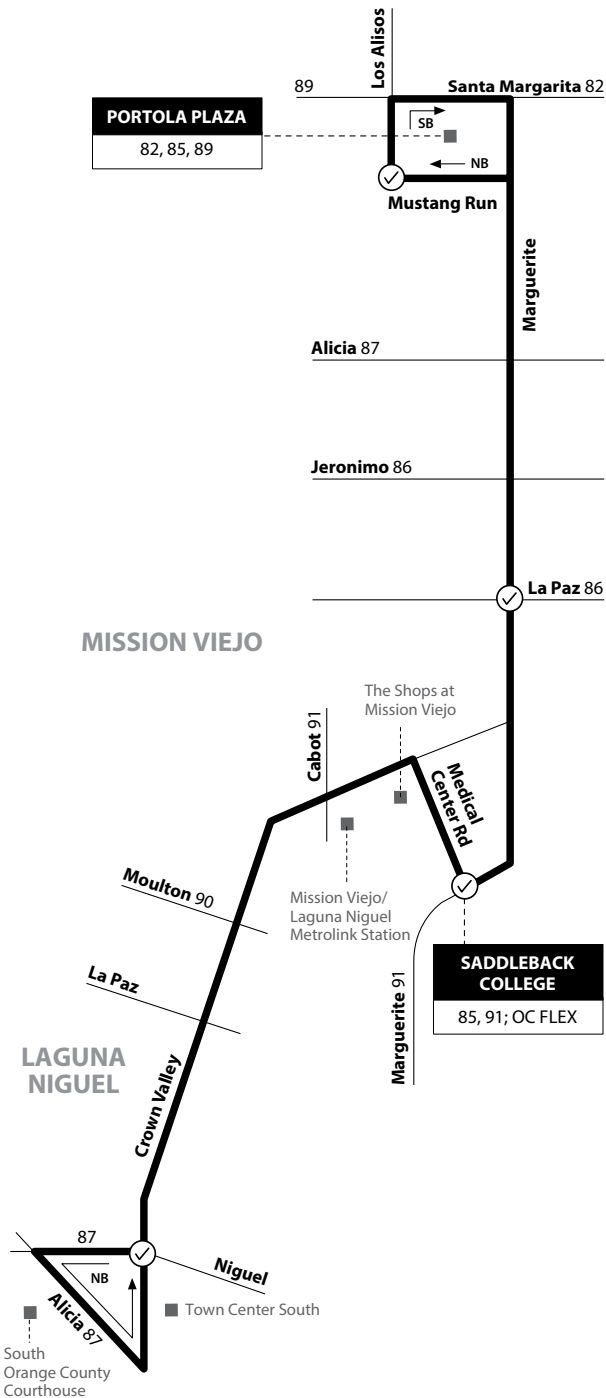
Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Monday - Friday NORTHBOUND To: Mission Viejo

Niguel & Crown Valley	Saddleback College	Marguerite & La Paz	Los Alisos & Mustang Run
6:29	6:49	7:04	7:17
7:29	7:49	8:04	8:18
8:29	8:51	9:06	9:20
9:29	9:51	10:06	10:20
10:29	10:51	11:06	11:20
11:29	11:50	12:05	12:19
12:29	12:50	1:05	1:18
1:29	1:50	2:05	2:18
2:29	2:50	3:07	3:21
3:29	3:50	4:07	4:21
4:29	4:52	5:07	5:20
5:29	5:50	6:05	6:18
6:29	6:50	7:05	7:18
7:29	7:47	8:02	8:14
8:29	8:47	8:58	9:09

Monday - Friday SOUTHBOUND To: Laguna Niguel

Los Alisos & Mustang Run	Marguerite & La Paz	Saddleback College	Niguel & Crown Valley
5:35	5:46	6:01	6:19
6:29	6:42	7:00	7:19
7:29	7:42	8:00	8:19
8:29	8:42	9:00	9:19
9:30	9:43	9:59	10:19
10:30	10:43	10:59	11:19
11:30	11:43	11:59	12:19
12:29	12:42	12:57	1:19
1:29	1:42	1:57	2:19
2:29	2:42	2:57	3:19
3:29	3:42	3:57	4:19
4:30	4:45	4:58	5:19
5:30	5:45	5:58	6:19
6:36	6:48	6:59	7:19
7:36	7:48	7:59	8:19
8:38	8:49	8:59	9:19
9:23	9:34	9:44	10:04



LEGEND
LEYENDA

Scheduled Departure Regular Routing

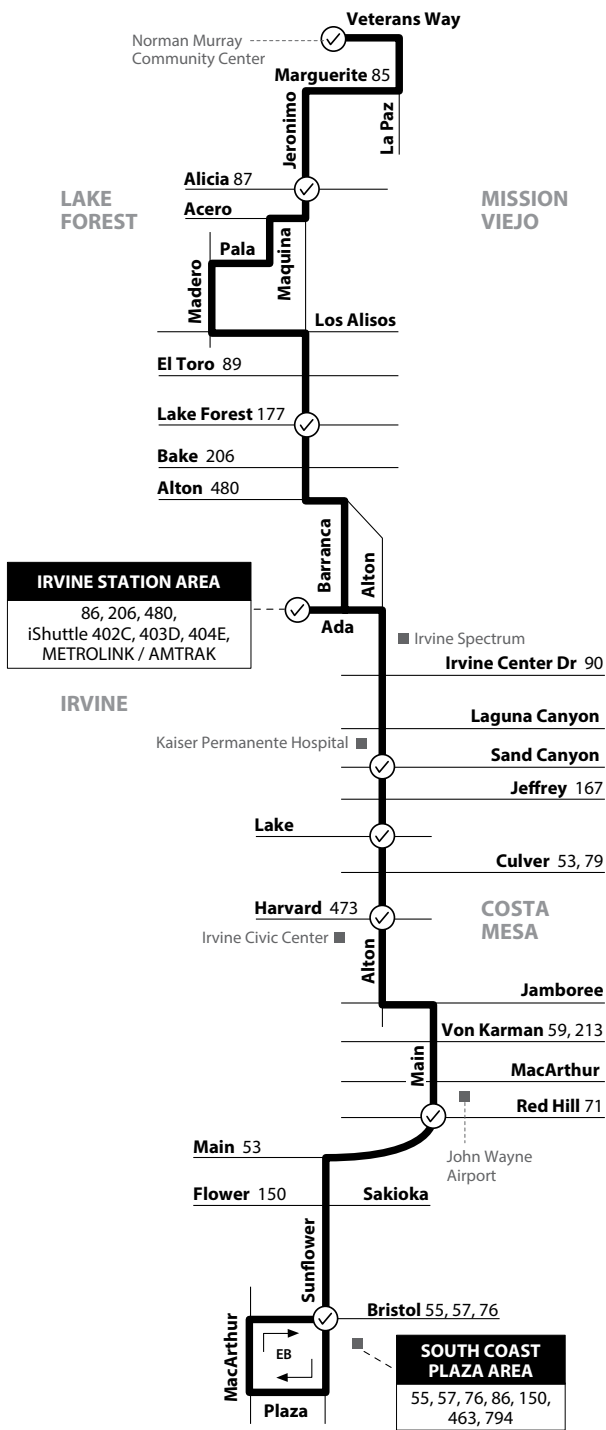
Route 085/040619 Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

NOTE: No weekend service.
 NOTA: No hay servicio los fines de semana.

Costa Mesa to Mission Viejo
 via Alton Pkwy / Jeronimo Rd

86



LEGEND
LEYENDA

Scheduled Departure
 Regular Routing

Route 086/081819

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

Monday - Friday
EASTBOUND To: Mission Viejo

Sunflower & Bristol	Main & Red Hill	Alton & Harvard	Alton & Lake	Alton & Sand Canyon	Irvine Station	Jeronimo & Lake Forest	Jeronimo & Alicia	Murray Community Center
5:42	5:51	6:01	6:07	6:15	6:25	6:36	6:47	6:56
6:35	6:47	7:00	7:06	7:15	7:29	7:40	7:57	8:06
7:35	7:49	8:02	8:09	8:18	8:32	8:43	8:56	9:04
8:37	8:51	9:04	9:11	9:20	9:34	9:44	9:57	10:06
9:47	9:59	10:12	10:19	10:28	10:42	10:52	11:06	11:14
10:47	10:58	11:11	11:17	11:23	11:36	11:46	11:59	12:09
11:45	11:56	12:09	12:15	12:23	12:36	12:46	12:59	1:09
12:53	1:05	1:18	1:24	1:34	1:47	1:56	2:12	2:22
1:52	2:04	2:17	2:23	2:30	2:42	2:52	3:06	3:16
2:51	3:03	3:16	3:22	3:29	3:41	3:51	4:05	4:15
4:04	4:16	4:28	4:35	4:45	4:58	5:09	5:22	5:32
5:07	5:19	5:31	5:38	5:48	6:01	6:12	6:25	6:35
6:11	6:25	6:36	6:44	6:52	7:02	7:11	7:21	7:31
7:11	7:25	7:36	7:44	7:52	8:02	8:11	8:21	8:31

Monday - Friday
WESTBOUND To: Costa Mesa

Murray Community Center	Jeronimo & Alicia	Jeronimo & Lake Forest	Irvine Station	Alton & Sand Canyon	Alton & Lake	Alton & Harvard	Main & Red Hill	Sunflower & Bristol
6:11	6:20	6:31	6:40	6:52	6:58	7:04	7:18	7:24
7:06	7:16	7:31	7:40	7:53	8:02	8:08	8:21	8:27
8:16	8:26	8:41	8:50	9:03	9:12	9:18	9:31	9:37
9:18	9:30	9:42	9:50	10:02	10:10	10:17	10:30	10:36
10:16	10:28	10:40	10:48	11:00	11:08	11:15	11:28	11:34
11:25	11:37	11:49	11:57	12:09	12:17	12:24	12:37	12:43
12:19	12:31	12:45	12:53	1:07	1:14	1:21	1:34	1:41
1:19	1:31	1:45	1:53	2:07	2:14	2:21	2:34	2:41
2:32	2:44	2:58	3:06	3:20	3:27	3:34	3:47	3:54
3:26	3:38	3:52	4:01	4:16	4:28	4:35	4:49	4:57
4:30	4:42	4:56	5:05	5:20	5:32	5:39	5:53	6:01
5:43	5:53	6:04	6:13	6:25	6:34	6:41	6:55	7:01
6:46	6:57	7:06	7:13	7:25	7:33	7:40	7:51	7:57
7:46	7:56	8:05	8:13	8:24	8:31	8:36	8:47	8:53

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)



Monday - Friday NORTHBOUND To: Rancho Santa Margarita

Niguel & Crown Valley	Alicia & Mkt Place Dr North	Laguna Hills Transportation Center	Alicia & Jeronimo	Empresa & Aventura
5:56	6:03	6:13	6:27	6:39
6:59	7:07	7:18	7:35	7:49
8:04	8:12	8:23	8:40	8:54
9:08	9:16	9:28	9:44	9:58
10:13	10:21	10:33	10:49	11:03
11:18	11:26	11:38	11:54	12:08
12:23	12:31	12:43	12:59	1:13
1:28	1:36	1:48	2:04	2:18
2:33	2:41	2:53	3:11	3:26
3:38	3:46	3:58	4:16	4:31
4:43	4:51	5:03	5:21	5:36
5:48	5:56	6:08	6:26	6:41
6:56	7:03	7:13	7:28	7:40

Monday - Friday SOUTHBOUND To: Laguna Niguel

Empresa & Aventura	Alicia & Jeronimo	Laguna Hills Transportation Center	Alicia & Mkt Place Dr North	Niguel & Crown Valley
5:54	6:05	6:14	6:26	6:35
6:56	7:10	7:21	7:36	7:48
8:01	8:15	8:26	8:41	8:53
9:06	9:20	9:31	9:46	9:58
10:12	10:25	10:36	10:50	11:02
11:17	11:30	11:41	11:55	12:07
12:22	12:35	12:46	1:00	1:12
1:27	1:40	1:51	2:05	2:17
2:31	2:45	2:57	3:13	3:26
3:36	3:50	4:02	4:18	4:31
4:41	4:55	5:07	5:23	5:36
5:46	6:00	6:12	6:28	6:41
6:51	7:05	7:15	7:29	7:40

SERVICE TO / SERVICIO A

- | | |
|--|--|
| Rancho Santa Margarita
- Plaza Empresa
Mission Viejo
- Lake Mission Viejo
- Los Alisos Intermediate School
Laguna Hills
- Laguna Hills Mall
- Laguna Hills Transportation Center
- Laguna Hills High School | Laguna Woods
- Leisure World
Aliso Viejo
- Aliso Viejo Middle School
- Aliso Niguel High School
Laguna Niguel
- Chet Holifield Federal Building
- Market Place at Laguna Niguel
- Town Center South |
|--|--|

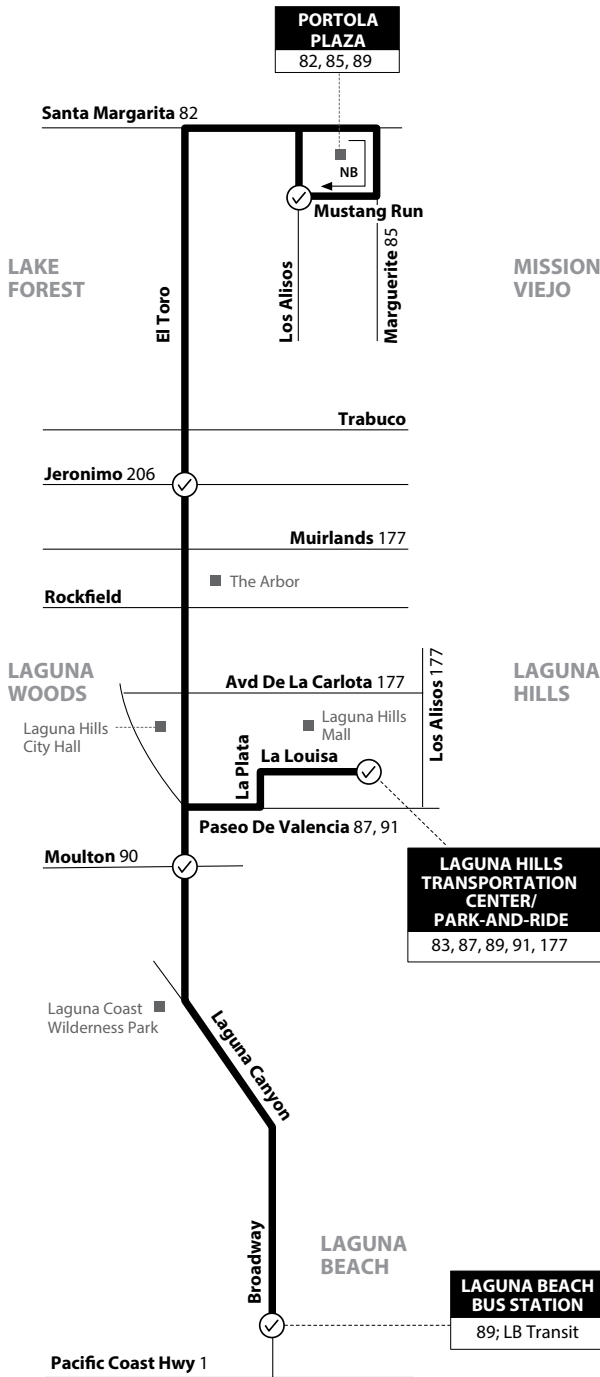
LEGEND
LEYENDA

Schedulded Departure
 Regular Routing

Route 087/082718

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE



All Days
NORTHBOUND To: Mission Viejo

Laguna Beach Bus Station	El Toro & Moulton	Laguna Hills Transportation Center	El Toro & Jeronimo	Los Alisos & Mustang Run
6:12	6:27	6:32	6:45	6:56
7:12	7:27	7:32	7:45	7:56
8:13	8:29	8:37	8:52	9:05
9:23	9:39	9:47	10:02	10:15
10:33	10:49	10:57	11:12	11:25
11:40	11:59	12:07	12:26	12:39
12:50	1:09	1:17	1:36	1:49
2:00	2:19	2:27	2:46	2:59
3:10	3:29	3:37	3:56	4:09
4:17	4:43	4:50	5:06	5:19
5:30	5:49	5:57	6:16	6:29
6:39	6:55	7:02	7:13	7:28
7:39	7:55	8:02	8:13	8:28
8:39	8:55	9:02	9:13	9:28

All Days
SOUTHBOUND To: Laguna Beach

Los Alisos & Mustang Run	El Toro & Jeronimo	Laguna Hills Transportation Center	El Toro & Moulton	Laguna Beach Bus Station
4:57	5:06	5:18	5:26	5:44
6:02	6:11	6:23	6:31	6:49
7:07	7:16	7:28	7:36	7:54
8:08	8:21	8:38	8:49	9:07
9:18	9:31	9:48	9:59	10:17
10:28	10:41	10:58	11:09	11:27
11:39	11:52	12:08	12:19	12:36
12:49	1:02	1:18	1:30	1:51
1:59	2:12	2:28	2:39	2:56
3:09	3:22	3:38	3:49	4:06
4:21	4:34	4:48	4:58	5:14
5:31	5:44	5:58	6:08	6:24
6:40	6:51	7:03	7:12	7:28
7:40	7:51	8:03	8:12	8:28

Operates Monday-Saturday Only.
Lunes a sábado solamente.

LEGEND
LEYENDA

Route 089/121118

Scheduled Departure
 Regular Routing

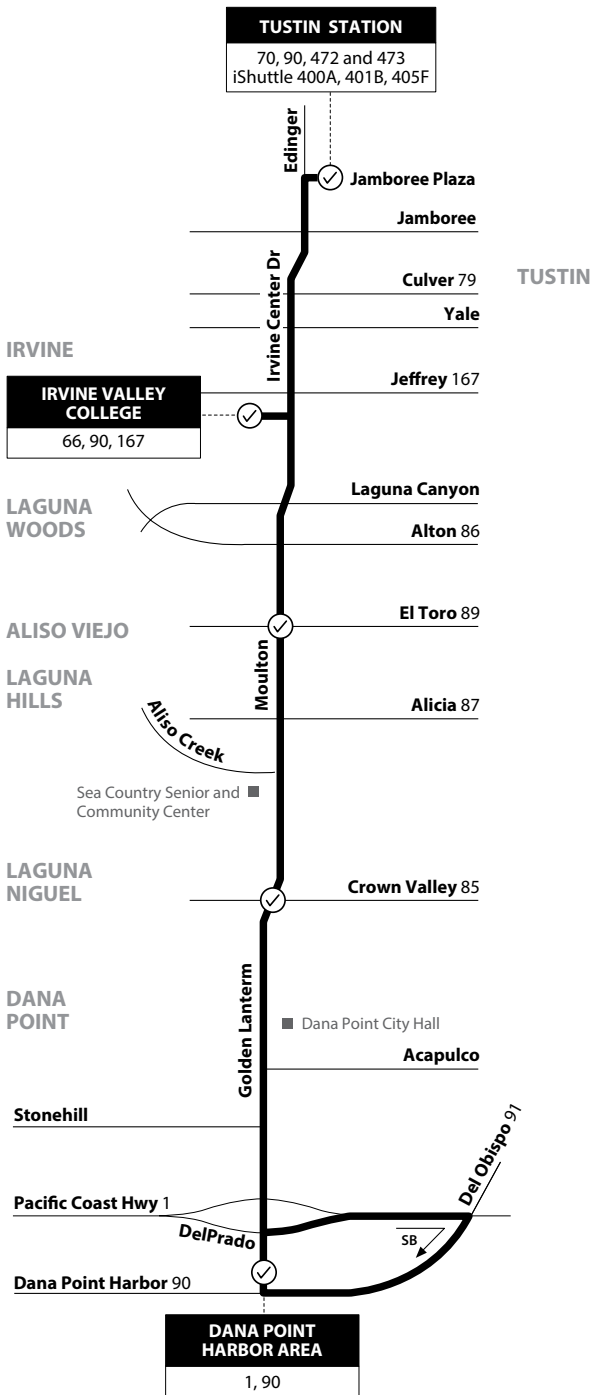
LB Transit = Laguna Beach Transit
Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Tustin to Dana Point

via Irvine Center Dr / Moulton Pkwy / Golden Lantern St



Monday-Friday NORTHBOUND To: Tustin

Golden Lantern & Dana Point Harbor	Moulton & Crown Valley	Moulton & El Toro	Irvine Valley College	Tustin Metrolink Station
5:10	5:28	5:43	6:02	6:14
6:14	6:32	6:48	7:05	7:17
7:34	7:52	8:08	8:25	8:37
8:54	9:12	9:29	9:46	9:57
10:14	10:32	10:49	11:06	11:17
11:34	11:52	12:09	12:26	12:37
12:50	1:10	1:29	1:51	2:02
2:10	2:30	2:49	3:11	3:22
3:41	4:01	4:20	4:42	4:53
5:07	5:25	5:40	5:55	6:06
6:27	6:45	7:00	7:15	7:26
7:47	8:05	8:20	8:35	8:46

Monday-Friday SOUTHBOUND To: Dana Point

Tustin Metrolink Station	Irvine Valley College	Moulton & El Toro	Moulton & Crown Valley	Golden Lantern & Dana Point Harbor
6:21	6:30	6:48	7:04	7:24
7:31	7:40	7:58	8:14	8:34
8:47	8:59	9:18	9:34	10:00
10:07	10:19	10:38	10:54	11:20
11:27	11:38	11:58	12:14	12:40
12:47	12:58	1:18	1:34	2:00
2:12	2:26	2:47	3:05	3:30
3:39	3:53	4:14	4:32	4:57
5:03	5:14	5:34	5:50	6:11
6:23	6:34	6:54	7:10	7:31
7:43	7:54	8:14	8:30	8:51
9:09	9:19	9:34	9:52	10:09

LEGEND
LEYENDA

Scheduled Departure
 Regular Routing

MAP NOT TO SCALE

Route 090/121118

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Saturday
NORTHBOUND To: Tustin

Golden Lantern & Dana Point Harbor	Moulton & Crown Valley	Moulton & El Toro	Irvine Valley College	Tustin Metrolink Station
6:14	6:32	6:48	7:05	7:17
7:34	7:52	8:08	8:25	8:37
8:54	9:12	9:29	9:46	9:57
10:14	10:32	10:49	11:06	11:17
11:34	11:52	12:09	12:26	12:37
12:50	1:10	1:29	1:51	2:02
2:10	2:30	2:49	3:11	3:22
3:41	4:01	4:20	4:42	4:53
5:07	5:25	5:40	5:55	6:06
6:27	6:45	7:00	7:15	7:26
7:47	8:05	8:20	8:35	8:46

Sunday & Holiday
NORTHBOUND To: Tustin

Golden Lantern & Dana Point Harbor	Moulton & Crown Valley	Moulton & El Toro	Irvine Valley College	Tustin Metrolink Station
6:05	6:22	6:40	6:56	7:13
7:25	7:42	8:00	8:16	8:33
8:42	9:00	9:17	9:34	9:52
10:02	10:20	10:37	10:54	11:12
11:22	11:40	11:57	12:14	12:32
12:45	1:04	1:20	1:39	1:53
2:05	2:24	2:40	2:59	3:13
3:25	3:44	4:00	4:19	4:33
4:44	5:03	5:18	5:35	5:53
6:06	6:25	6:40	6:57	7:15
7:31	7:50	8:05	8:22	8:40

Saturday
SOUTHBOUND To: Dana Point

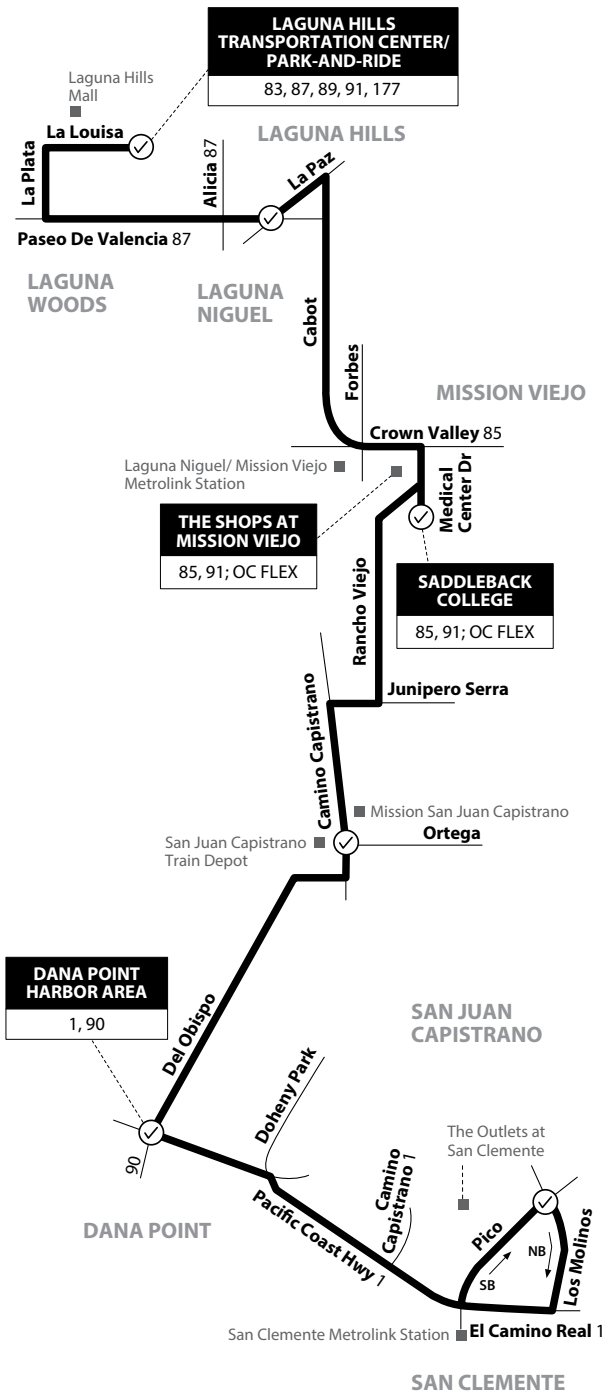
Tustin Metrolink Station	Irvine Valley College	Moulton & El Toro	Moulton & Crown Valley	Golden Lantern & Dana Point Harbor
6:21	6:30	6:48	7:04	7:24
7:31	7:40	7:58	8:14	8:34
8:47	8:59	9:18	9:34	10:00
10:07	10:19	10:38	10:54	11:20
11:27	11:38	11:58	12:14	12:40
12:47	12:58	1:18	1:34	2:00
2:12	2:26	2:47	3:05	3:30
3:39	3:53	4:14	4:32	4:57
5:03	5:14	5:34	5:50	6:11
6:23	6:34	6:54	7:10	7:31
7:43	7:54	8:14	8:30	8:51
9:09	9:19	9:34	9:52	10:09

Sunday & Holiday
SOUTHBOUND To: Dana Point

Tustin Metrolink Station	Irvine Valley College	Moulton & El Toro	Moulton & Crown Valley	Golden Lantern & Dana Point Harbor
7:26	7:34	7:53	8:09	8:31
8:46	8:54	9:13	9:29	9:51
10:02	10:13	10:33	10:47	11:09
11:22	11:33	11:53	12:07	12:29
12:42	12:53	1:13	1:27	1:49
2:03	2:15	2:33	2:49	3:11
3:23	3:35	3:53	4:09	4:31
4:43	4:55	5:13	5:29	5:51
6:07	6:16	6:33	6:49	7:08
7:41	7:50	8:07	8:23	8:42

Laguna Hills to San Clemente

via Paseo De Valencia / Camino Capistrano / Del Obispo St



LEGEND
LEYENDA

Scheduled Departure Regular Routing

Route 091/040619

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

Monday-Saturday

NORTHBOUND To: Laguna Hills

Los Molinos & Pico	Pacific Coast Hwy & Del Obispo	Camino Capistrano & Ortega	Saddleback College	Paseo De Valencia & La Paz	Laguna Hills Transportation Center
6:55	7:07	7:18	7:35	7:51	8:03
7:40	7:52	8:03	8:20	8:36	8:48
8:25	8:37	8:48	9:05	9:21	9:33
8:50	9:03	9:17	9:36	9:52	10:04
9:19	9:32	9:46	10:05	10:21	10:33
9:49	10:02	10:16	10:35	10:51	11:03
10:18	10:31	10:46	11:05	11:21	11:33
10:48	11:01	11:16	11:35	11:51	12:03
11:18	11:31	11:46	12:05	12:21	12:33
11:46	12:00	12:16	12:35	12:52	1:04
12:16	12:30	12:46	1:05	1:22	1:34
12:46	1:00	1:16	1:35	1:52	2:04
1:16	1:30	1:46	2:05	2:22	2:34
1:46	2:00	2:16	2:35	2:52	3:04
2:16	2:30	2:46	3:05	3:22	3:34
2:43	2:59	3:16	3:35	3:53	4:05
3:13	3:29	3:46	4:05	4:23	4:35
3:47	4:01	4:16	4:35	4:52	5:04
4:17	4:31	4:46	5:05	5:22	5:34
4:47	5:01	5:16	5:35	5:52	6:04
5:17	5:31	5:46	6:05	6:22	6:34
6:09	6:21	6:35	6:53	7:09	7:21
6:54	7:06	7:20	7:38	7:54	8:06

Monday-Saturday
SOUTHBOUND To: San Clemente

Laguna Hills Transportation Center	La Paz & Paseo De Valencia	Saddleback College	Camino Capistrano & Ortega	Pacific Coast Hwy & Dana Point Harbor	Los Molinos & Pico
6:49	7:00	7:15	7:32	7:44	7:54
7:32	7:45	8:00	8:17	8:29	8:40
8:16	8:29	8:45	9:02	9:15	9:27
8:46	8:59	9:15	9:32	9:45	9:57
9:16	9:29	9:45	10:02	10:15	10:27
9:46	9:59	10:15	10:32	10:45	10:57
10:14	10:27	10:45	11:04	11:20	11:32
10:44	10:57	11:15	11:34	11:50	12:02
11:14	11:27	11:45	12:04	12:20	12:32
11:44	11:57	12:15	12:35	12:50	1:03
12:14	12:27	12:45	1:05	1:20	1:33
12:44	12:57	1:15	1:35	1:50	2:03
1:14	1:27	1:45	2:05	2:20	2:33
1:44	1:57	2:15	2:35	2:50	3:03
2:14	2:27	2:45	3:05	3:20	3:33
2:45	2:58	3:15	3:33	3:47	3:59
3:15	3:28	3:45	4:03	4:17	4:29
3:45	3:58	4:15	4:33	4:47	4:59
4:15	4:28	4:45	5:03	5:17	5:29
4:45	4:58	5:15	5:33	5:47	5:59
5:16	5:29	5:45	6:02	6:15	6:26
6:01	6:14	6:30	6:47	7:00	7:11
6:46	6:59	7:15	7:32	7:45	7:56
7:31	7:44	8:00	8:17	8:30	8:41

Sunday & Holiday
NORTHBOUND To: Laguna Hills

Los Molinos & Pico	Pacific Coast Hwy & Del Obispo	Camino Capistrano & Ortega	Saddleback College	Paseo De Valencia & La Paz	Laguna Hills Transportation Center
6:50	7:01	7:12	7:27	7:42	7:54
7:38	7:49	8:00	8:15	8:30	8:42
8:17	8:28	8:41	9:00	9:15	9:29
9:02	9:13	9:26	9:45	10:00	10:14
9:47	9:58	10:11	10:30	10:45	10:59
10:30	10:44	10:58	11:15	11:31	11:44
11:15	11:29	11:43	12:00	12:16	12:29
12:00	12:14	12:28	12:45	1:01	1:14
12:45	12:59	1:13	1:30	1:46	1:59
1:30	1:44	1:58	2:15	2:31	2:44
2:17	2:29	2:43	3:00	3:15	3:29
3:02	3:14	3:28	3:45	4:00	4:14
3:47	3:59	4:13	4:30	4:45	4:59
4:32	4:44	4:58	5:15	5:30	5:44
5:17	5:29	5:43	6:00	6:15	6:29
7:01	7:13	7:27	7:44	7:59	8:13

Sunday & Holiday
SOUTHBOUND To: San Clemente

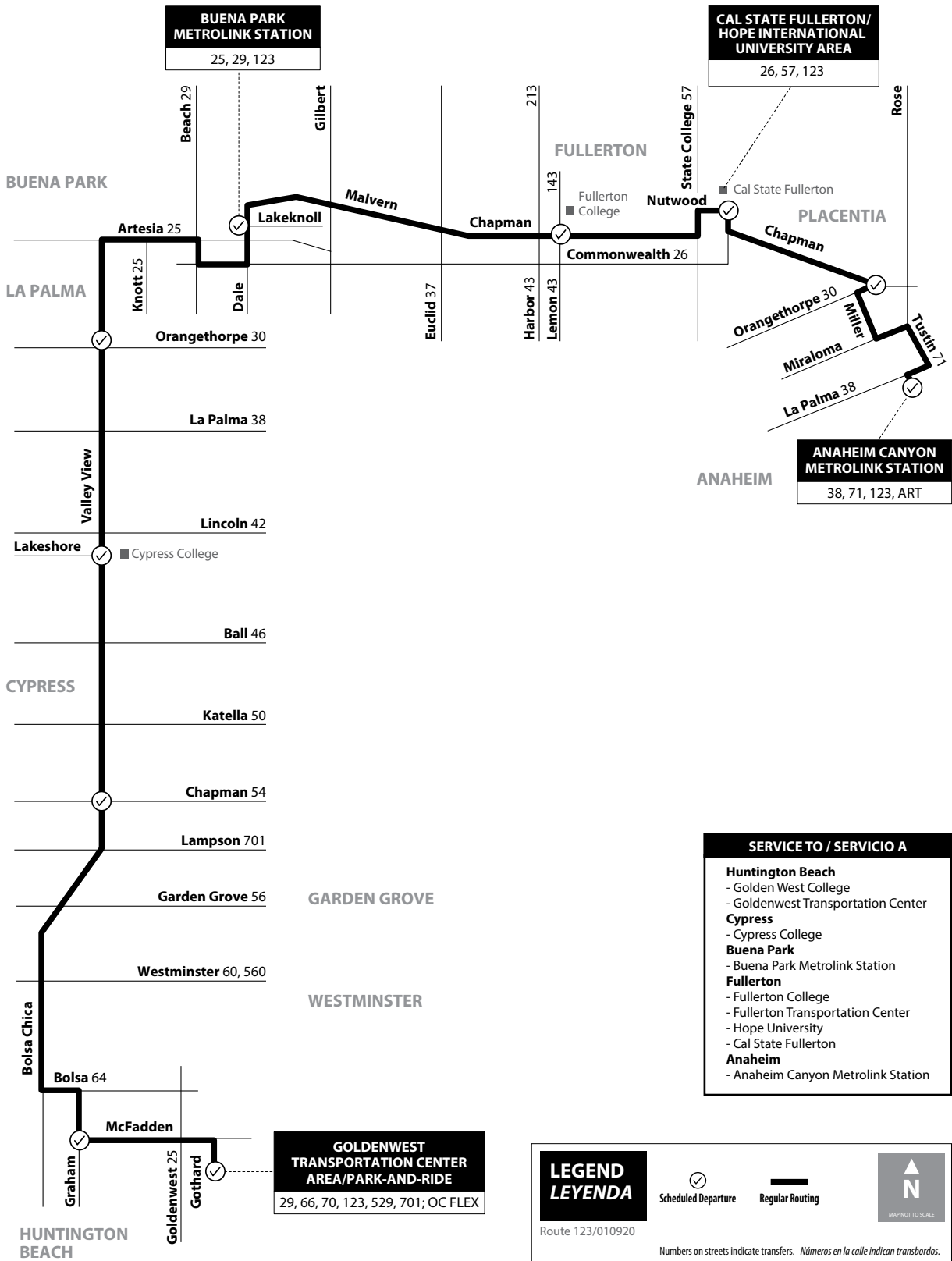
Laguna Hills Transportation Center	La Paz & Paseo De Valencia	Saddleback College	Camino Capistrano & Ortega	Pacific Coast Hwy & Dana Point Harbor	Los Molinos & Pico
6:51	7:02	7:15	7:31	7:42	7:52
7:34	7:45	8:00	8:17	8:29	8:39
8:19	8:30	8:45	9:02	9:14	9:24
9:01	9:13	9:30	9:48	10:01	10:12
9:46	9:58	10:15	10:33	10:46	10:57
10:31	10:43	11:00	11:18	11:31	11:42
11:16	11:28	11:45	12:03	12:16	12:27
12:01	12:13	12:30	12:48	1:01	1:12
12:46	12:58	1:15	1:33	1:46	1:57
1:31	1:43	2:00	2:18	2:31	2:42
2:16	2:28	2:45	3:03	3:16	3:27
3:01	3:13	3:30	3:48	4:01	4:12
3:45	3:59	4:15	4:34	4:48	4:59
4:30	4:44	5:00	5:19	5:33	5:44
5:15	5:29	5:45	6:04	6:18	6:29
7:15	7:29	7:45	8:04	8:18	8:29

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

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Anaheim to Huntington Beach

via Malvern Ave / Valley View / Bolsa Chica



Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Monday - Friday
NORTHBOUND: Anaheim

Goldenwest Transportation Center	Graham & McFadden	Valley View & Chapman	Cypress College	Valley View & Orangethorpe	Buena Park Metrolink Station	Chapman & Lemon	Nutwood & Commonwealth	Orangethorpe & Chapman	Anaheim Canyon Metrolink Station
					5:00	5:11	5:18	5:27	5:36
5:34	5:42	5:54	6:00	6:09	6:25	6:39	6:46	6:55	7:03
6:27	6:35	6:49	6:58	7:06	7:25	7:40	7:49	7:59	8:07
7:27	7:35	7:49	7:58	8:06	8:25	8:40	8:49	8:59	9:07
8:27	8:35	8:49	8:58	9:06	9:25	9:40	9:49	9:59	10:07
9:27	9:35	9:49	9:58	10:06	10:25	10:40	10:49	10:59	11:07
10:27	10:35	10:49	10:58	11:06	11:25	11:40	11:49	11:59	12:07
11:23	11:32	11:46	11:56	12:05	12:25	12:40	12:52	1:03	1:11
12:23	12:32	12:46	12:56	1:05	1:25	1:40	1:52	2:03	2:11
1:23	1:32	1:46	1:56	2:05	2:25	2:40	2:52	3:03	3:11
2:23	2:32	2:46	2:56	3:05	3:25	3:40	3:52	4:03	4:11
3:21	3:30	3:45	3:55	4:05	4:25	4:38	4:47	4:57	5:04
4:21	4:30	4:45	4:55	5:05	5:25	5:38	5:47	5:57	6:04
5:21	5:30	5:45	5:55	6:05	6:25	6:38	6:47	6:57	7:04
6:27	6:36	6:49	6:58	7:06	7:25	7:40	7:49	7:58	8:04
7:37	7:44	7:55	8:03	8:09	8:25	8:38	8:46	8:55	9:01
8:47	8:54	9:05	9:13	9:19	9:35	9:48	9:56	10:05	10:11

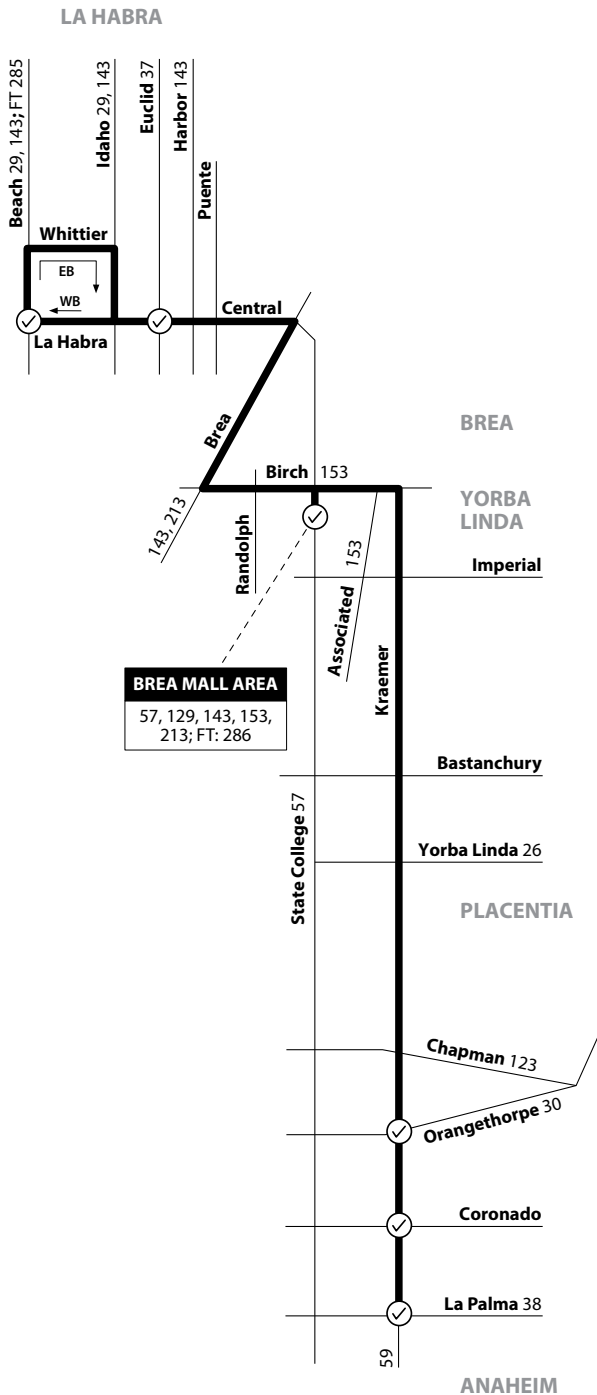
Monday - Friday
SOUTHBOUND: Huntington Beach

Anaheim Canyon Metrolink Station	Chapman & Orangethorpe	Nutwood & Commonwealth	Chapman & Lemon	Buena Park Metrolink Station	Valley View & Orangethorpe	Cypress College	Valley View & Chapman	McFadden & Graham	Goldenwest Transportation Center
				5:05	5:22	5:28	5:36	5:47	5:54
5:44	5:50	5:57	6:02	6:15	6:34	6:43	6:51	7:04	7:10
6:32	6:40	6:54	7:03	7:15	7:34	7:42	7:52	8:05	8:13
7:32	7:40	7:54	8:03	8:15	8:34	8:42	8:52	9:05	9:13
8:30	8:39	8:52	9:01	9:15	9:36	9:45	9:54	10:07	10:14
9:30	9:39	9:52	10:01	10:15	10:36	10:45	10:54	11:07	11:14
10:30	10:39	10:52	11:01	11:15	11:36	11:45	11:54	12:07	12:14
11:30	11:39	11:52	12:01	12:15	12:36	12:45	12:54	1:07	1:14
12:30	12:39	12:52	1:01	1:15	1:36	1:45	1:54	2:07	2:14
1:28	1:38	1:49	1:59	2:15	2:32	2:41	2:51	3:05	3:13
2:28	2:38	2:49	2:59	3:15	3:32	3:41	3:51	4:05	4:13
3:28	3:38	3:49	3:59	4:15	4:32	4:41	4:51	5:05	5:13
4:28	4:38	4:49	4:59	5:15	5:32	5:41	5:51	6:05	6:13
5:25	5:35	5:48	5:59	6:15	6:31	6:41	6:51	7:03	7:12
6:32	6:41	6:51	7:00	7:15	7:33	7:40	7:48	7:59	8:06
7:32	7:41	7:51	8:00	8:15	8:33	8:40	8:48	8:59	9:06
8:40	8:48	8:57	9:04	9:15					

129

La Habra to Anaheim

via La Habra Blvd / Brea Blvd / Birch St / Kraemer Blvd



All Days

EASTBOUND To: Anaheim

Beach & La Habra	La Habra & Euclid	Brea Mall	Kraemer & Orangethorpe	La Palma & Kraemer
6:02	6:09	6:25	6:41	6:44
6:54	7:03	7:22	7:40	7:43
7:53	8:02	8:21	8:39	8:42
8:52	9:01	9:20	9:38	9:41
9:38	9:46	10:12	10:28	10:31
10:28	10:38	11:02	11:18	11:21
11:23	11:33	11:57	12:13	12:16
12:18	12:28	12:52	1:08	1:11
1:13	1:23	1:47	2:03	2:06
2:09	2:15	2:39	2:58	3:01
3:04	3:10	3:34	3:53	3:56
3:59	4:05	4:29	4:48	4:51
4:54	5:00	5:24	5:43	5:46
5:44	5:50	6:14	6:33	6:36
6:38	6:44	7:03	7:19	7:22
7:33	7:39	7:58	8:14	8:17
8:31	8:37	8:56	9:12	9:15

All Days

WESTBOUND To: La Habra

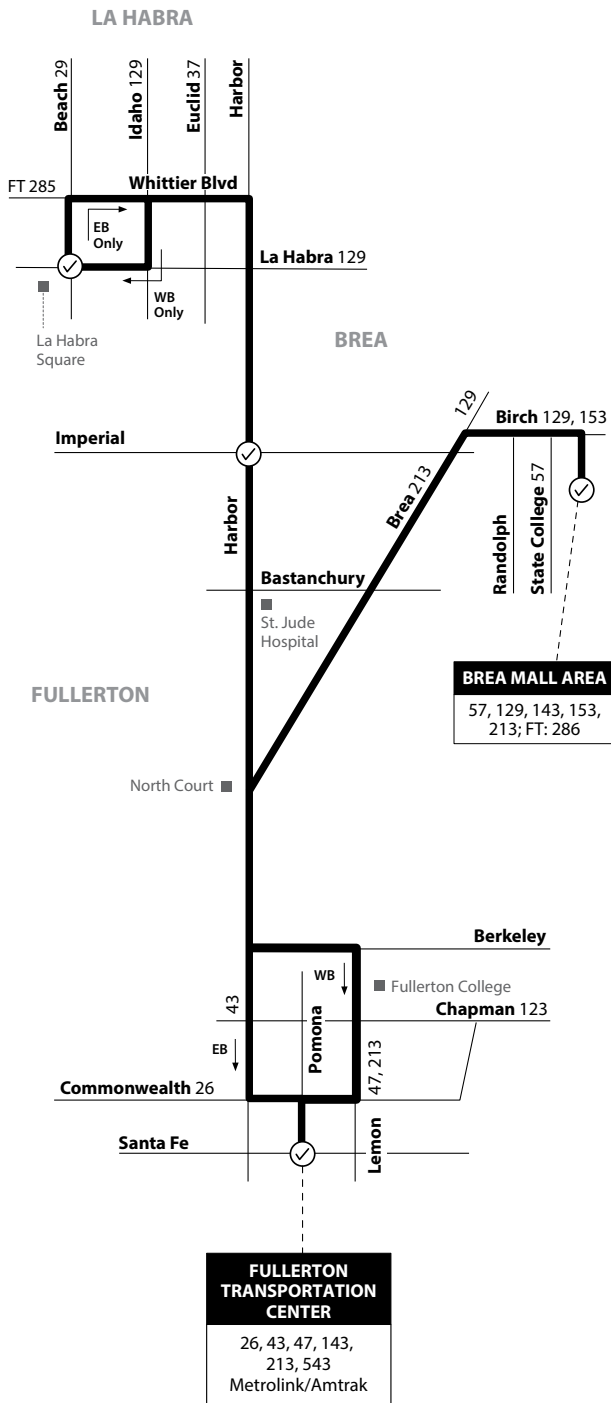
Kraemer & Coronado	Kraemer & Orangethorpe	Brea Mall	La Habra & Euclid	Beach & La Habra
7:01	7:04	7:26	7:39	7:43
7:56	7:59	8:17	8:37	8:43
9:01	9:04	9:22	9:42	9:48
10:06	10:09	10:27	10:47	10:53
11:10	11:13	11:31	11:51	11:57
12:10	12:13	12:31	12:54	1:00
1:05	1:08	1:26	1:49	1:55
2:00	2:03	2:21	2:44	2:50
2:54	2:57	3:15	3:38	3:44
3:48	3:52	4:10	4:34	4:40
4:42	4:46	5:04	5:28	5:34
5:36	5:40	5:58	6:22	6:28
6:31	6:35	6:53	7:17	7:23
7:34	7:37	7:55	8:16	8:21
8:11	8:14	8:32	8:53	8:58

Operates Monday-Saturday Only.
Lunes a sábado solamente.

TRANSFER NOTE / LA TRANSFERENCIA DE LA NOTA

Passengers transferring between OCTA Routes 59 and 129 should transfer at Kraemer & Coronado. To connect from the 59 northbound to the 129 eastbound passengers need to walk from La Palma & Kraemer to Kraemer & Coronado.

Pasajeros transbordando entre las Rutas 59 y 129 de OCTA deben ir a Kraemer y Coronado. Para conectar del 59 hacia el Norte al 129 hacia el Este, pasajeros deben caminar de La Palma y Kraemer a Kraemer y Coronado.



**Monday-Saturday
EASTBOUND To: Brea**

Beach & La Habra	Harbor & Imperial	Fullerton Transportation Center	Brea Mall Layover Zone
6:14	6:30	6:44	7:08
7:19	7:35	7:49	8:13
8:24	8:40	8:54	9:18
9:29	9:45	9:59	10:23
10:34	10:50	11:04	11:28
11:39	11:55	12:09	12:33
12:44	1:00	1:14	1:38
1:49	2:05	2:19	2:43
2:54	3:10	3:24	3:48
3:59	4:15	4:29	4:53
5:04	5:20	5:34	5:58
6:09	6:25	6:39	7:03
7:14	7:29	7:42	8:05

**Monday-Saturday
WESTBOUND To: La Habra**

Brea Mall Layover Zone	Fullerton Transportation Center	Harbor & Imperial	Beach & La Habra
6:13	6:36	6:52	7:09
7:23	7:46	8:02	8:19
8:28	8:51	9:07	9:24
9:33	9:56	10:12	10:29
10:38	11:01	11:17	11:34
11:43	12:06	12:22	12:39
12:48	1:11	1:27	1:44
1:53	2:16	2:32	2:49
2:58	3:21	3:37	3:54
4:03	4:26	4:42	4:59
5:08	5:31	5:47	6:04
6:13	6:36	6:52	7:09
7:21	7:43	7:58	8:14
8:26	8:48	9:03	9:19

**Sunday & Holiday
EASTBOUND To: Brea**

Beach & La Habra	Harbor & Imperial	Fullerton Transportation Center	Brea Mall Layover Zone
7:19	7:35	7:49	8:13
8:24	8:40	8:54	9:18
9:29	9:45	9:59	10:23
10:34	10:50	11:04	11:28
11:39	11:55	12:09	12:33
12:44	1:00	1:14	1:38
1:49	2:05	2:19	2:43
2:54	3:10	3:24	3:48
3:59	4:15	4:29	4:53
5:04	5:20	5:34	5:58
6:09	6:25	6:39	7:03

**Sunday & Holiday
WESTBOUND To: La Habra**

Brea Mall Layover Zone	Fullerton Transportation Center	Harbor & Imperial	Beach & La Habra
6:18	6:41	6:57	7:14
7:23	7:46	8:02	8:19
8:28	8:51	9:07	9:24
9:33	9:56	10:12	10:29
10:38	11:01	11:17	11:34
11:43	12:06	12:22	12:39
12:48	1:11	1:27	1:44
1:53	2:16	2:32	2:49
2:58	3:21	3:37	3:54
4:03	4:26	4:42	4:59
5:08	5:31	5:47	6:04
6:13	6:36	6:52	7:09
7:21	7:43	7:58	8:14

**LEGEND
LEYENDA**

Scheduled Departure Regular Routing

METRO = Los Angeles Metro | NT = Norwalk Transit | FT = Foothill Transit

Route 143/111519

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

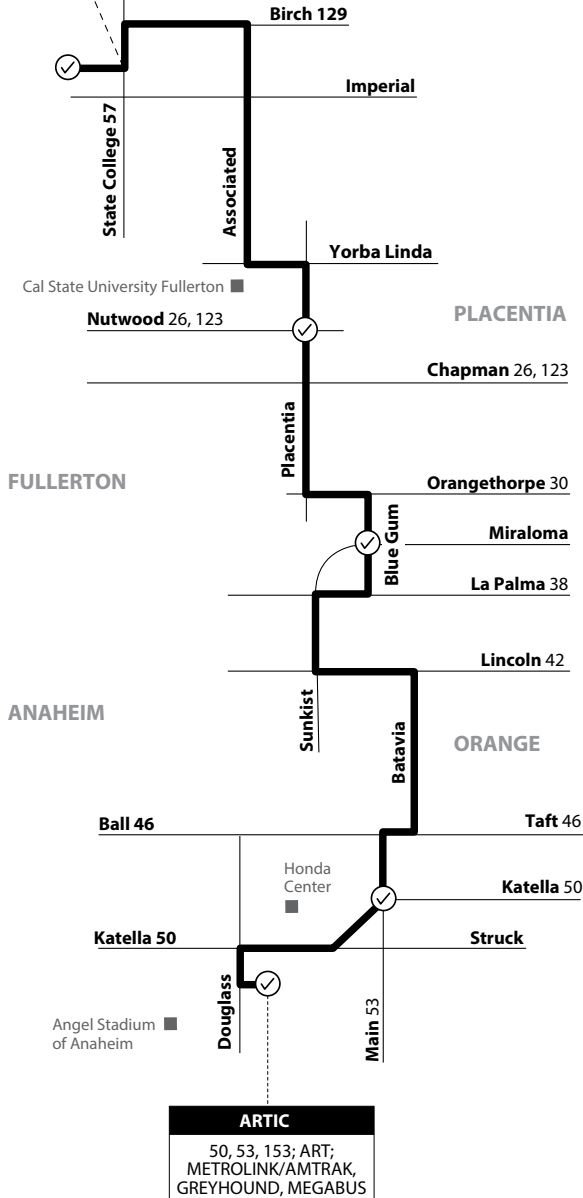
153

Brea to Anaheim via Placentia Ave

BREA

BREA MALL AREA

57, 129, 143, 153,
213; FT:286



LEGEND LEYENDA

⊙ Scheduled Departure
— Regular Routing

FT = Foothill Transit | ART = Anaheim Resort Transit

Route 153/111519

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*



All Days

NORTHBOUND To: Brea

Anaheim Regional Transportation Intermodal Center (ARTIC)	Main & Katella	Blue Gum & Miraloma	Placentia & Nutwood	Brea Mall
7:00	7:04	7:18	7:27	7:44
8:00	8:04	8:18	8:27	8:44
9:00	9:04	9:19	9:29	9:50
10:00	10:04	10:19	10:29	10:50
11:00	11:04	11:19	11:29	11:50
12:00	12:04	12:19	12:29	12:50
1:00	1:04	1:19	1:29	1:50
2:00	2:04	2:19	2:29	2:50
3:00	3:04	3:19	3:29	3:50
4:00	4:04	4:19	4:29	4:50
5:00	5:04	5:19	5:29	5:50
6:00	6:04	6:19	6:28	6:47
7:00	7:04	7:18	7:26	7:42
8:00	8:04	8:18	8:26	8:42

All Days

SOUTHBOUND To: Anaheim

Brea Mall	Placentia & Nutwood	Blue Gum & Miraloma	Katella & Main (F)	Anaheim Regional Transportation Intermodal Center (ARTIC)
6:00	6:15	6:23	6:39	6:44
7:00	7:15	7:23	7:39	7:44
8:00	8:15	8:23	8:39	8:44
9:00	9:16	9:25	9:42	9:47
10:00	10:16	10:25	10:42	10:47
11:00	11:16	11:25	11:42	11:47
12:00	12:16	12:25	12:42	12:47
1:00	1:17	1:26	1:42	1:47
2:00	2:17	2:26	2:42	2:47
3:00	3:17	3:26	3:42	3:47
4:00	4:17	4:26	4:42	4:47
5:00	5:17	5:26	5:42	5:47
6:00	6:17	6:25	6:40	6:45
7:00	7:16	7:24	7:38	7:43

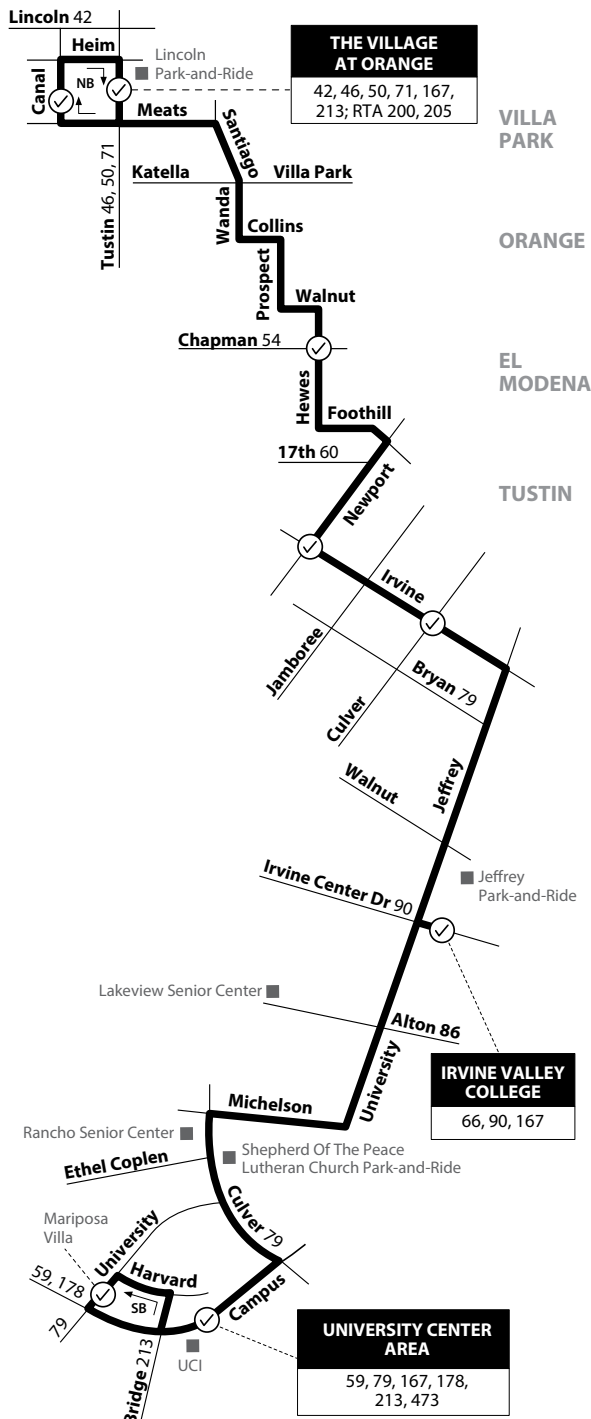
Operates Monday-Saturday Only.
Lunes a sábado solamente.

F = Times are approximate/Los horas son aproximadas.

NOTE: No weekend service.
 NOTA: No hay servicio los fines de semana.

Orange to Irvine
 via Hewes St / Irvine Blvd / Jeffrey Rd

167



LEGEND
LEYENDA

Scheduled Departure
 Regular Routing

RTA = Riverside Transit Agency

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

Monday - Friday
NORTHBOUND To: Orange

Mariposa Villa	University Center	Irvine Valley College	Irvine & Culver	Newport & Old Irvine	Hewes & Chapman	Canal & Meats
5:17	5:20	5:37	5:50	5:59	6:08	6:28
6:17	6:20	6:37	6:50	6:59	7:08	7:28
7:06	7:11	7:34	7:50	8:00	8:11	8:31
8:06	8:11	8:34	8:50	9:00	9:11	9:31
9:06	9:11	9:34	9:50	10:00	10:11	10:31
10:06	10:11	10:34	10:50	11:00	11:11	11:31
11:06	11:11	11:34	11:50	12:00	12:11	12:31
12:03	12:08	12:32	12:50	1:02	1:13	1:35
1:03	1:08	1:32	1:50	2:02	2:13	2:35
2:03	2:08	2:32	2:50	3:02	3:13	3:35
3:00	3:05	3:31	3:50	4:04	4:16	4:37
4:00	4:05	4:31	4:50	5:04	5:16	5:37
4:56	5:00	5:30	5:50	6:03	6:14	6:35
6:02	6:06	6:33	6:50	7:01	7:11	7:28
7:02	7:06	7:33	7:50	8:01	8:11	8:28

Monday - Friday
SOUTHBOUND To: Irvine

Canal & Meats	Village At Orange	Hewes & Chapman	Irvine & Newport	Irvine & Culver	Irvine Valley College	University Center	Mariposa Villa
6:06	6:10	6:25	6:36	6:45	7:00	7:21	7:26
6:55	6:59	7:17	7:33	7:45	8:05	8:35	8:45
7:54	7:58	8:19	8:32	8:45	9:01	9:24	9:31
9:01	9:05	9:21	9:34	9:45	10:00	10:26	10:32
10:01	10:05	10:21	10:34	10:45	11:00	11:26	11:32
10:59	11:03	11:19	11:33	11:45	12:02	12:32	12:37
12:00	12:04	12:21	12:34	12:45	1:00	1:24	1:29
12:55	12:59	1:18	1:33	1:45	2:03	2:30	2:40
1:55	1:59	2:18	2:33	2:45	3:03	3:30	3:40
2:55	2:59	3:18	3:33	3:45	4:03	4:30	4:40
3:55	4:00	4:19	4:33	4:45	5:03	5:31	5:38
4:55	5:00	5:19	5:33	5:45	6:03	6:31	6:38
5:59	6:04	6:20	6:34	6:45	7:01	7:25	7:30
6:59	7:04	7:20	7:34	7:45	8:01	8:25	8:30
8:02	8:07	8:21	8:35	8:45	8:59	9:20	9:25

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

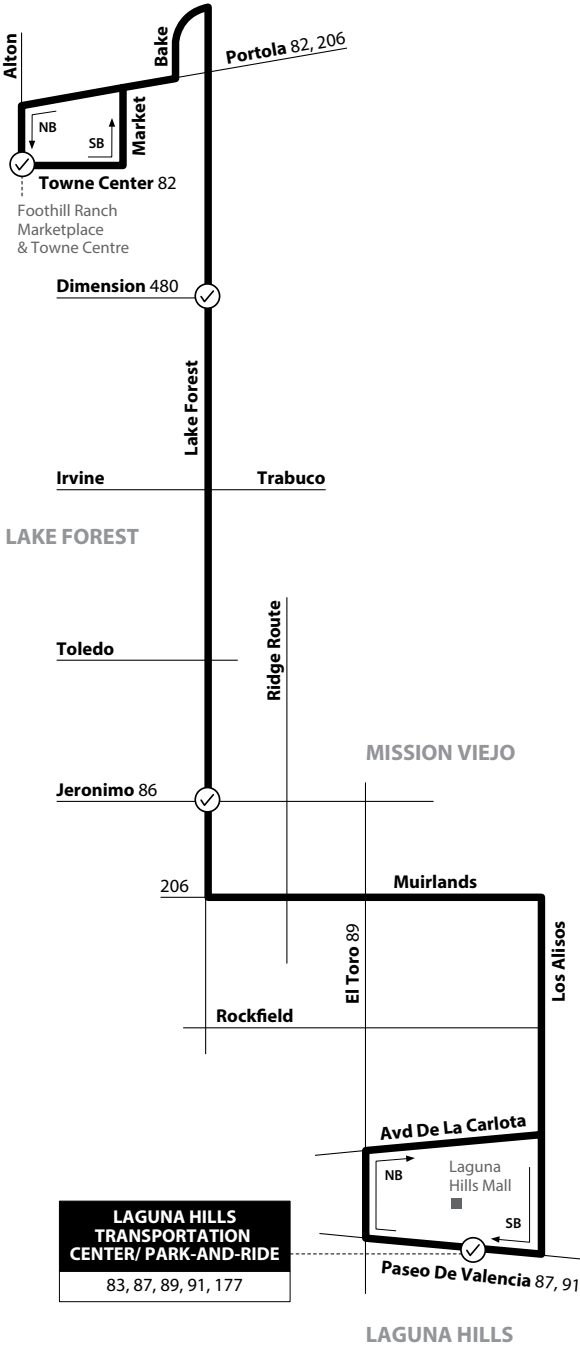
177

Foothill Ranch to Laguna Hills

via Lake Forest Dr / Muirlands Blvd / Los Alisos Blvd

NOTE: No service on Sundays.
 NOTA: No hay servicio los domingos.

FOOTHILL RANCH



Monday - Friday NORTHBOUND To: Foothill Ranch

Laguna Hills Transportation Center	Lake Forest & Jeronimo	Lake Forest & Dimension	Towne Centre & Alton
5:44	6:02	6:11	6:23
6:28	6:46	6:55	7:07
7:13	7:31	7:40	7:52
7:59	8:17	8:26	8:38
8:45	9:03	9:11	9:22
9:30	9:48	9:56	10:07
10:15	10:33	10:41	10:52
11:00	11:18	11:26	11:37
11:43	12:02	12:11	12:22
12:28	12:47	12:56	1:07
1:16	1:33	1:41	1:51
1:54	2:16	2:26	2:37
2:41	3:01	3:11	3:23
3:26	3:46	3:56	4:08
4:11	4:31	4:41	4:53
5:00	5:20	5:30	5:42
6:00	6:20	6:30	6:42

Monday - Friday SOUTHBOUND To: Laguna Hills

Towne Centre & Alton	Lake Forest & Dimension	Lake Forest & Jeronimo	Laguna Hills Transportation Center
5:47	5:54	6:01	6:13
6:32	6:39	6:46	6:58
7:09	7:20	7:32	7:49
7:54	8:05	8:17	8:34
8:42	8:51	9:01	9:14
9:27	9:36	9:46	9:59
10:12	10:21	10:31	10:44
10:57	11:06	11:16	11:29
11:42	11:51	12:01	12:14
12:27	12:36	12:46	12:59
1:11	1:23	1:31	1:45
1:56	2:08	2:16	2:30
2:41	2:53	3:01	3:15
3:26	3:38	3:46	4:00
4:11	4:23	4:31	4:45
4:56	5:08	5:16	5:30
5:47	5:58	6:06	6:19
6:45	6:56	7:04	7:17

Saturday NORTHBOUND To: Foothill Ranch

Laguna Hills Transportation Center	Lake Forest & Jeronimo	Lake Forest & Dimension	Towne Centre & Alton
8:02	8:20	8:27	8:35
9:38	9:56	10:03	10:15
10:58	11:18	11:25	11:35
12:18	12:38	12:45	12:55
1:38	1:58	2:05	2:15
2:58	3:18	3:25	3:35
4:18	4:38	4:45	4:55
5:58	6:18	6:25	6:35

Saturday SOUTHBOUND To: Laguna Hills

Towne Centre & Alton	Lake Forest & Dimension	Lake Forest & Jeronimo	Laguna Hills Transportation Center
7:25	7:34	7:40	7:52
9:05	9:14	9:20	9:32
10:25	10:34	10:40	10:52
11:45	11:54	12:00	12:12
1:05	1:15	1:22	1:35
2:25	2:35	2:42	2:55
3:45	3:55	4:02	4:15
5:05	5:15	5:22	5:35
6:45	6:55	7:02	7:15

LEGEND
LEYENDA

Scheduled Departure
 Regular Routing

MAP NOT TO SCALE

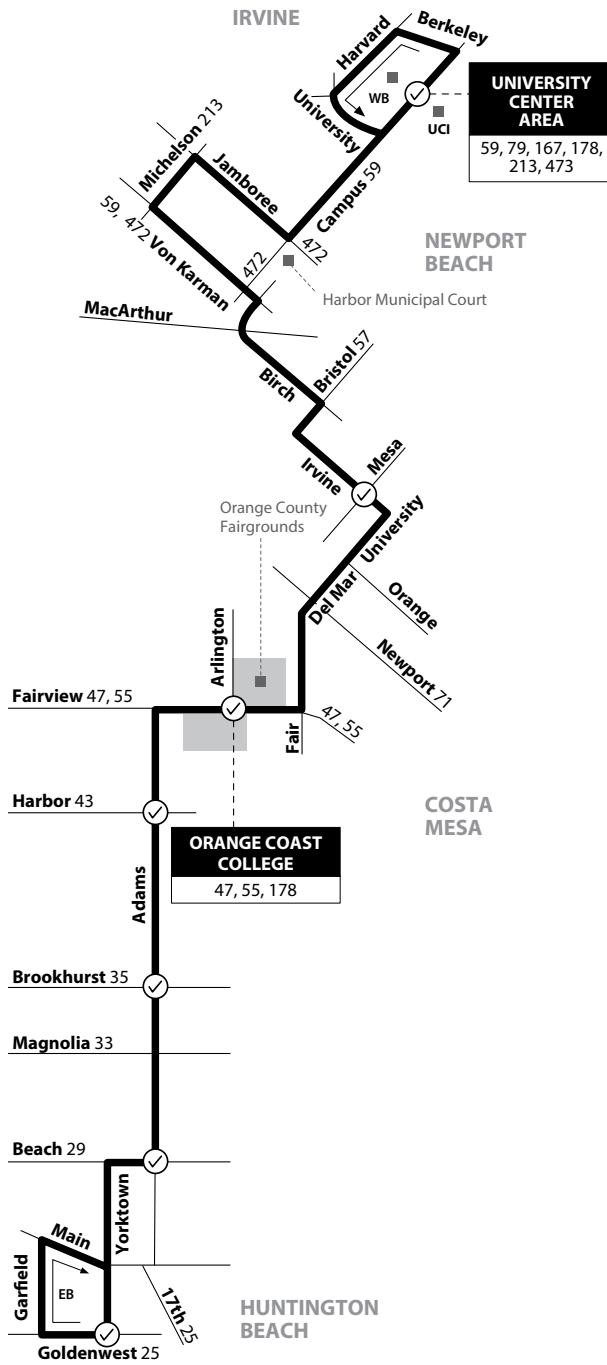
Route 177/083018 Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

NOTE: No weekend service.
 NOTA: No hay servicio los fines de semana.

Huntington Beach to Irvine
 via Adams Ave / Birch St / Campus Dr

178



LEGEND
LEYENDA

Scheduled Departure Regular Routing

Route 178/081819

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

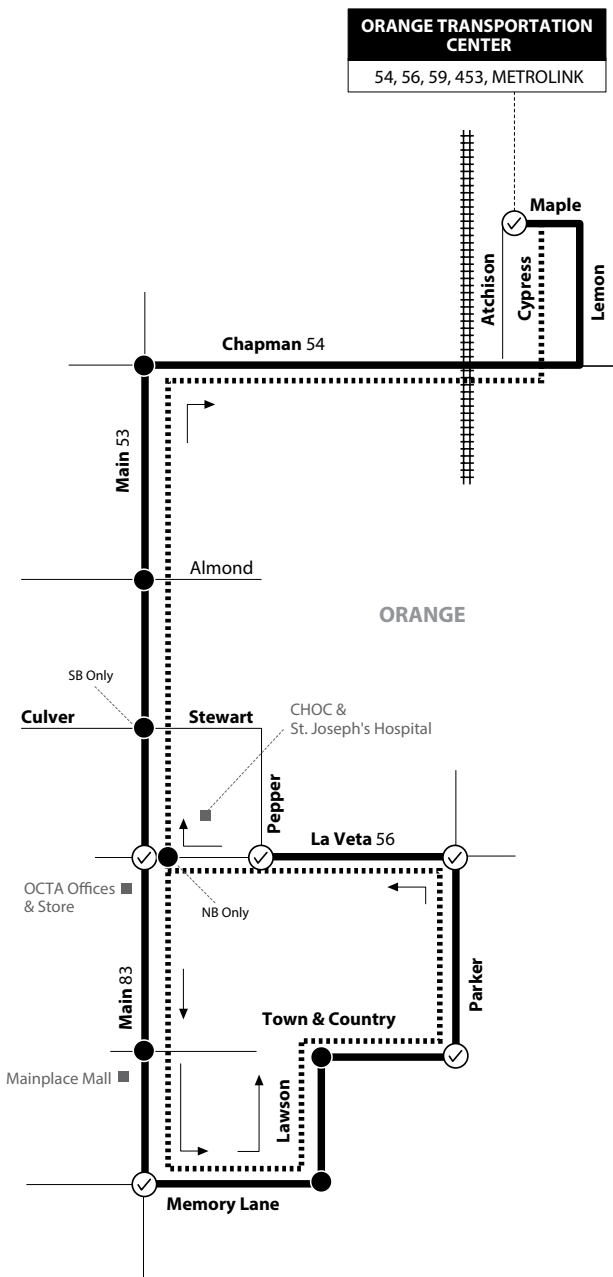
Monday - Friday
EASTBOUND To: Irvine

Yorktown & Goldenwest	Adams & Beach	Adams & Brookhurst	Adams & Harbor	Fairview & Arlington	Irvine & Mesa	University Center
5:10	5:22	5:27	5:34	5:38	5:46	6:06
6:15	6:27	6:32	6:39	6:43	6:51	7:11
7:21	7:34	7:41	7:49	7:54	8:03	8:25
8:41	8:54	9:01	9:09	9:14	9:23	9:45
9:51	10:04	10:11	10:19	10:24	10:33	10:55
11:12	11:25	11:32	11:39	11:43	11:51	12:11
12:22	12:35	12:42	12:49	12:53	1:01	1:21
1:32	1:45	1:52	1:59	2:03	2:11	2:31
2:42	2:55	3:02	3:09	3:13	3:21	3:41
3:52	4:05	4:12	4:19	4:23	4:31	4:51
5:12	5:25	5:32	5:39	5:43	5:51	6:11
6:24	6:37	6:42	6:49	6:52	7:00	7:17
7:47	7:59	8:03	8:09	8:12	8:19	8:34
9:07	9:19	9:23	9:29	9:32	9:39	9:54

Monday - Friday
WESTBOUND To: Huntington Beach

University Center	Irvine & Mesa	Fairview & Arlington	Adams & Harbor	Adams & Brookhurst	Adams & Beach	Yorktown & Goldenwest
5:07	5:24	5:31	5:35	5:41	5:48	5:53
6:17	6:34	6:41	6:45	6:51	6:58	7:03
7:27	7:52	8:00	8:05	8:12	8:18	8:25
8:37	9:02	9:10	9:15	9:22	9:28	9:35
9:56	10:21	10:30	10:35	10:42	10:50	10:57
11:06	11:31	11:40	11:45	11:52	12:00	12:07
12:21	12:46	12:55	1:00	1:07	1:15	1:22
1:31	1:56	2:05	2:10	2:17	2:25	2:32
2:41	3:06	3:15	3:20	3:27	3:35	3:42
3:51	4:23	4:32	4:38	4:47	4:55	5:03
5:01	5:33	5:42	5:48	5:57	6:05	6:13
6:22	6:46	6:55	7:00	7:06	7:12	7:19
7:32	7:56	8:05	8:10	8:16	8:22	8:29
8:57	9:19	9:26	9:30	9:36	9:41	9:47

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)



Route 453 is a limited-stop route, making stops only at time check points (circle with checkmark) and other designated stops (solid circle).

LEGEND
LEYENDA

Scheduled Departure

Southbound Routing

Northbound Only

N
MAP NOT TO SCALE

Route 453/040619 Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Monday - Friday SOUTHBOUND To: St. Joseph's Hospital

Connecting Metrolink Trains	Orange Transportation Center	Orange Transportation Center	Main & La Veta (F)	Memory Lane & Main (F)	Parker & Town & Country (F)	La Veta & Pepper (F)
ML 601, 803	5:44	5:50	5:58	6:01	6:04	6:07
ML 603, 805	6:33	6:39	6:47	6:50	6:53	6:56
ML 605, 807	7:07	7:13	7:21	7:24	7:27	7:30
ML 682, 807	7:14	7:20	7:28	7:31	7:34	7:37
ML 607, 809	7:53	7:59	8:07	8:10	8:13	8:16
ML 685, 811	8:30	8:36	8:47	8:50	8:53	8:56
ML 600, 800	8:45	8:51	9:02	9:05	9:08	9:11

AM

F = Times are approximate/Los horarios son aproximados.

Monday - Friday NORTHBOUND To: Orange Transportation Center

Main & La Veta	Memory & Main	Parker & Town & Country	La Veta & Pepper	Orange Transportation Center
3:29	3:32	3:35	3:37	3:49
3:56	3:59	4:02	4:04	4:16
4:08	4:11	4:14	4:16	4:28
4:44	4:47	4:50	4:52	5:04
5:06	5:09	5:12	5:14	5:26
5:18	5:21	5:24	5:26	5:38

PM

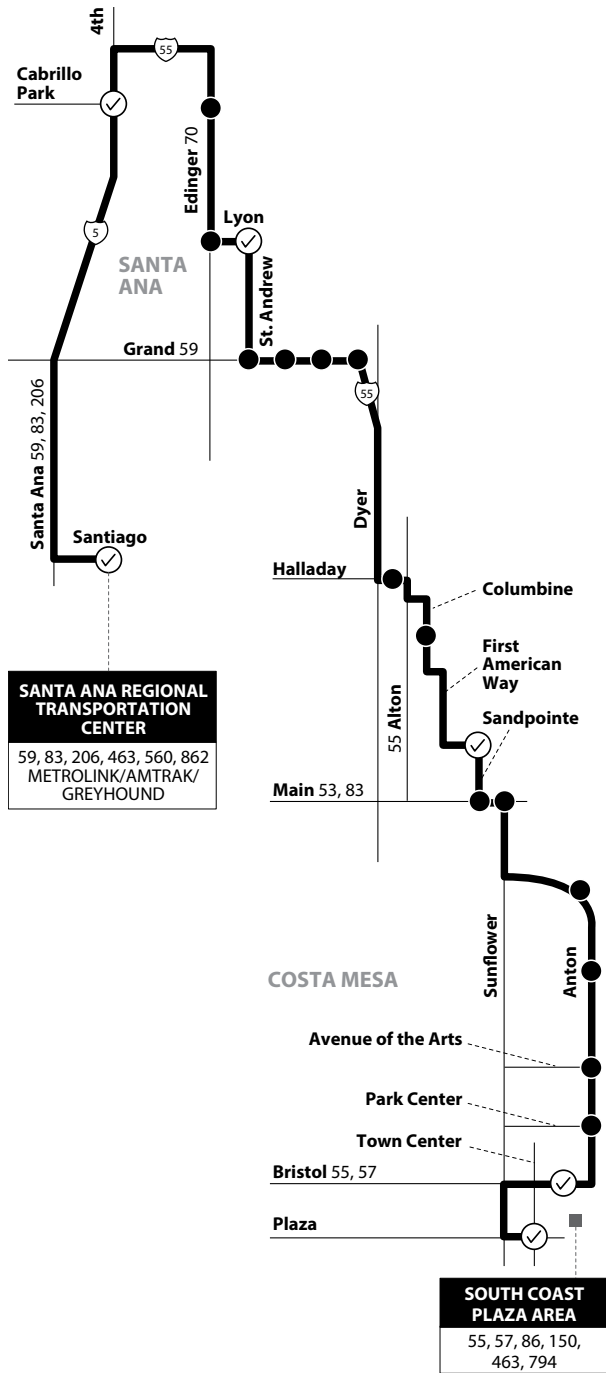
SERVICE TO / SERVICIO A	
Orange - Portola Middle School - Orange Transportation Center (Metrolink) - Children's Hospital (CHOC) - St. Joseph Hospital - OCTA Offices & Store	Santa Ana - MainPlace Mall

NOTE: Limited Stop Service. No service on weekends, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day or New Years Day. Routing and times subject to change.

Morning buses will depart the station once the train arrives and all passengers have boarded. This may be up to six minutes earlier than the time shown above. Afternoon buses are scheduled to arrive a few minutes before the departing train. Stationlink passengers must present fare media to the coach operator each time they board the bus.

NOTA: Servicio de paradas limitadas. No hay servicio los fines de semana, Día de los Caídos, Día de la Independencia, Día del Trabajador, Día de Acción de Gracias, Navidad o Año Nuevo. Rutas y horarios sujetos a cambios.

Los autobuses de la mañana saldrán de la estación cuando el tren llegue y todos los pasajeros han embarcado. Esto puede ser hasta seis minutos antes que el tiempo mostrado arriba. Por la tarde, los autobuses están programados para llegar unos minutos antes del tren que sale. Los pasajeros de Stationlink deben presentar su medio de tarifa al operador cada vez que suben al autobús.



Route 463 is a limited-stop route, making stops only at time check points (✓) and other designated stops (●).

LEGEND
LEYENDA

Scheduled Departure

Regular Routing

MAP NOT TO SCALE

Route 463/082319 Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Monday - Friday
SOUTHBOUND To: Hutton Centre

Connecting Metrolink Trains	Santa Ana Regional Transportation Center	4th & Cabrillo (F)	St. Andrew & Lyon (F)	Sandpointe & Hutton Centre (F)	Bristol & Anton
ML 601, 803	5:53	5:59	6:06	6:18	6:26
ML 603	6:16	6:22	6:29	6:44	6:52
ML 805	6:38	6:45	6:58	7:12	7:22
ML 605, 807	7:12	7:19	7:32	7:46	7:56
ML 682	7:20	7:27	7:40	7:54	8:04
ML 607, 809	7:58	8:05	8:18	8:32	8:41
ML 685, 811	8:28	8:35	8:48	9:02	9:11

AM

F = Times are approximate/Los horarios son aproximados.

Monday - Friday
NORTHBOUND To: Santa Ana Regional Transportation Center

South Coast Plaza	Bristol & Town Center	Hutton Centre & Sandpointe	Lyon & Saint andrew	4th & Cabrillo	Santa Ana Regional Transp Center
2:45	2:47	2:57	3:11	3:30	3:40
3:08	3:10	3:20	3:34	3:53	4:03
3:19	3:21	3:31	3:45	4:04	4:14
4:02	4:04	4:14	4:28	4:47	4:57
4:19	4:21	4:32	4:48	5:07	5:17
4:33	4:35	4:46	5:02	5:21	5:31

PM

NOTE: Limited Stop Service. No service on weekends, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day or New Years Day. Routing and times subject to change.

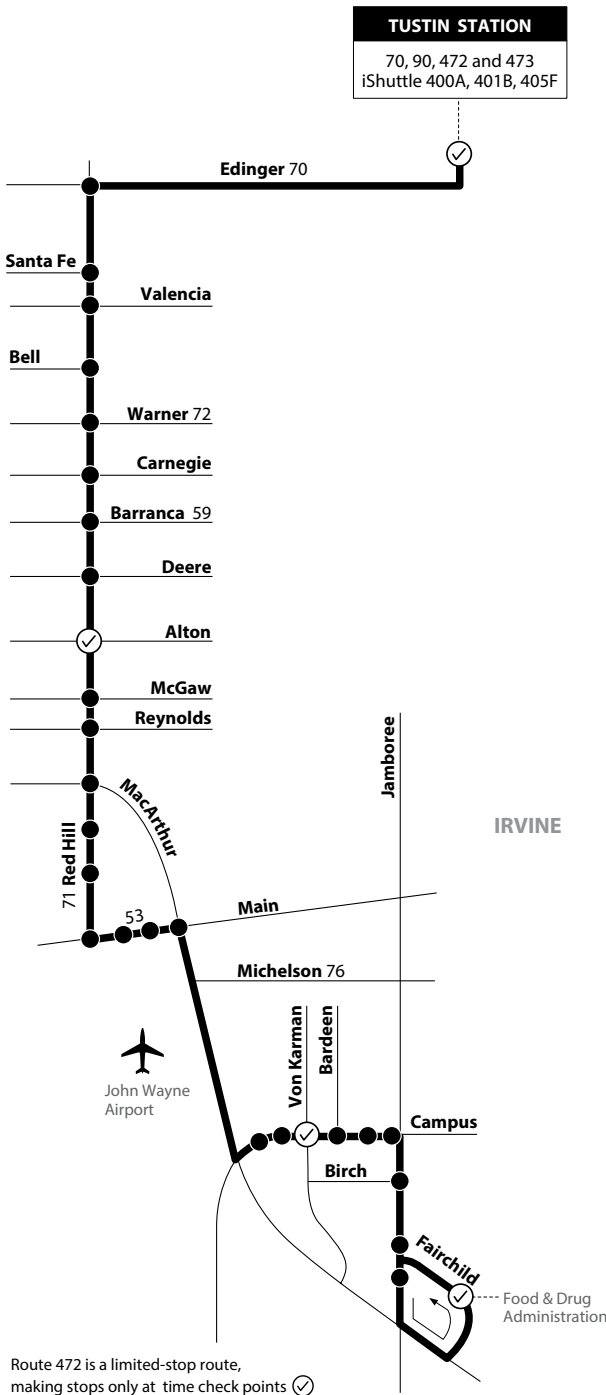
Morning buses will depart the station once the train arrives and all passengers have boarded. This may be up to six minutes earlier than the time shown above. Afternoon buses are scheduled to arrive a few minutes before the departing train. Stationlink passengers must present fare media to the coach operator each time they board the bus.

NOTA: Servicio de paradas limitadas. No hay servicio los fines de semana, Día de los Caídos, Día de la Independencia, Día del Trabajador, Día de Acción de Gracias, Navidad o Año Nuevo. Rutas y horarios sujetos a cambios.

Los autobuses de la mañana saldrán de la estación cuando el tren llegue y todos los pasajeros han embarcado. Esto puede ser hasta seis minutos antes que el tiempo mostrado arriba. Por la tarde, los autobuses están programados para llegar unos minutos antes del tren que sale. Los pasajeros de Stationlink deben presentar su medio de tarifa al operador cada vez que suben al autobús.

Tustin Metrolink Station to Irvine Business Complex

via Edinger Ave / Red Hill Ave / Campus Dr / Jamboree Rd



Route 472 is a limited-stop route, making stops only at time check points and other designated stops.

LEGEND
LEYENDA

Scheduled Departure

Regular Routing

MAP NOT TO SCALE

Route 472/081819 Numbers on streets indicate transfers. Números en la calle indican transbordos.

Monday - Friday

SOUTHBOUND To: Newport Beach

Connecting Metrolink Trains	Tustin Metrolink Station	Red Hill & Alton (F)	Campus & Von Karman (F)	Food and Drug Administration (F)	AM
ML 603, 803	6:09	6:20	6:32	6:38	
ML 605, 805	6:44	6:55	7:07	7:13	
ML 683, 807	7:18	7:30	7:44	7:50	
ML 607, 682, 807	7:28	7:40	7:54	8:00	
ML 685, 811	8:34	8:46	8:59	9:06	

F = Times are approximate/Los horarios son aproximados.

Monday - Friday

NORTHBOUND To: Tustin Metrolink Station

Food and Drug Administration	Campus & Von Karman	Red Hill & Alton	Tustin Metrolink Station	PM
3:29	3:35	3:48	4:00	
3:39	3:45	3:58	4:10	
4:03	4:09	4:24	4:34	
4:38	4:45	5:00	5:11	
4:48	4:55	5:10	5:21	

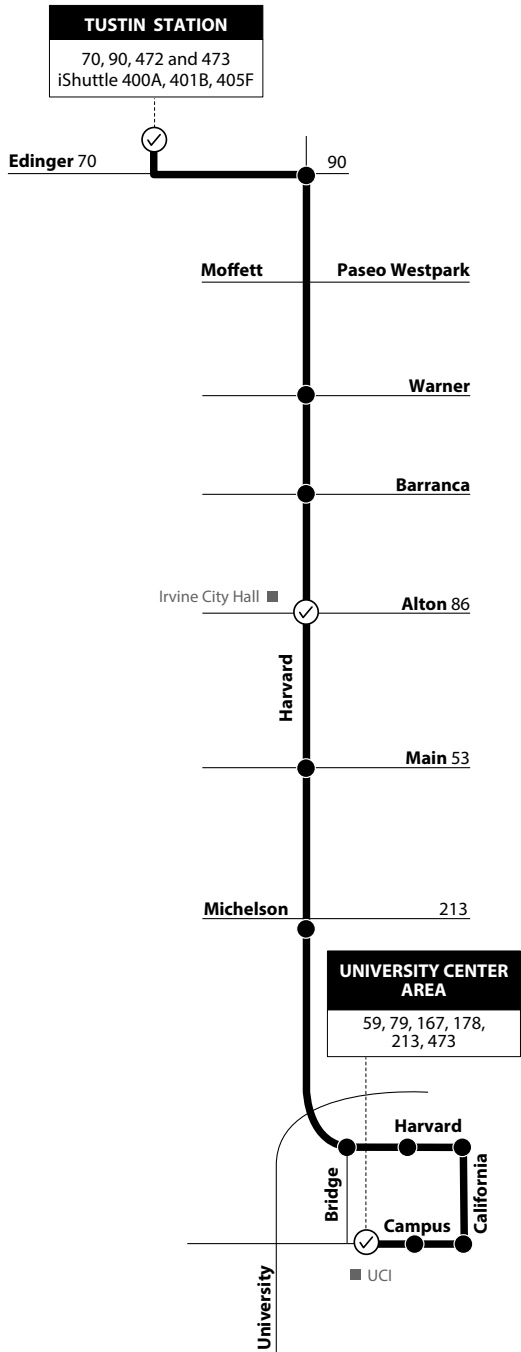
SERVICE TO / SERVICIO A	
Tustin	Irvine
- A.G. Currie Middle School	- John Wayne Airport
- Tustin Station (Metrolink)	- Food and Drug Administration

NOTE: Limited Stop Service. No service on weekends, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day or New Years Day. Routing and times subject to change.

Morning buses will depart the station once the train arrives and all passengers have boarded. This may be up to six minutes earlier than the time shown above. Afternoon buses are scheduled to arrive a few minutes before the departing train. Stationlink passengers must present fare media to the coach operator each time they board the bus.

NOTA: Servicio de paradas limitadas. No hay servicio los fines de semana, Día de los Caídos, Día de la Independencia, Día del Trabajador, Día de Acción de Gracias, Navidad o Año Nuevo. Rutas y horarios sujetos a cambios.

Los autobuses de la mañana saldrán de la estación cuando el tren llegue y todos los pasajeros han embarcado. Esto puede ser hasta seis minutos antes que el tiempo mostrado arriba. Por la tarde, los autobuses están programados para llegar unos minutos antes del tren que sale. Los pasajeros de Stationlink deben presentar su medio de tarifa al operador cada vez que suben al autobús.



Route 473 is a limited-stop route, making stops only at time check points (circle with checkmark) and other designated stops (solid circle).

LEGEND
LEYENDA

Scheduled Departure

Regular Routing

MAP NOT TO SCALE

Route 473/081819 Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Monday - Friday
SOUTHBOUND To: U.C.I.

Connecting Metrolink Trains	Tustin Metrolink Station	Harvard & Alton (F)	University Center (F)
ML 603, 803	6:09	6:15	6:24
ML 605, 805	6:44	6:53	7:04
ML 683, 807	7:18	7:27	7:38
ML 607, 682, 807	7:28	7:36	7:49
ML 607, 809	8:05	8:14	8:24
ML 685, 811	8:34	8:43	8:53
ML 687, 811	9:00	9:08	9:21

AM

F = Times are approximate/Los horarios son aproximados.

Monday - Friday
NORTHBOUND To: Tustin Metrolink Station

University Center	Harvard & Alton	Tustin Metrolink Station
3:07	3:23	3:32
3:36	3:49	4:00
4:13	4:28	4:37
4:46	5:02	5:11
4:56	5:12	5:21
6:08	6:23	6:32

PM

NOTE: Limited Stop Service. No service on weekends, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day or New Years Day. Routing and times subject to change.

Morning buses will depart the station once the train arrives and all passengers have boarded. This may be up to six minutes earlier than the time shown above. Afternoon buses are scheduled to arrive a few minutes before the departing train. Stationlink passengers must present fare media to the coach operator each time they board the bus.

NOTA: Servicio de paradas limitadas. No hay servicio los fines de semana, Día de los Caídos, Día de la Independencia, Día del Trabajador, Día de Acción de Gracias, Navidad o Año Nuevo. Rutas y horarios sujetos a cambios.

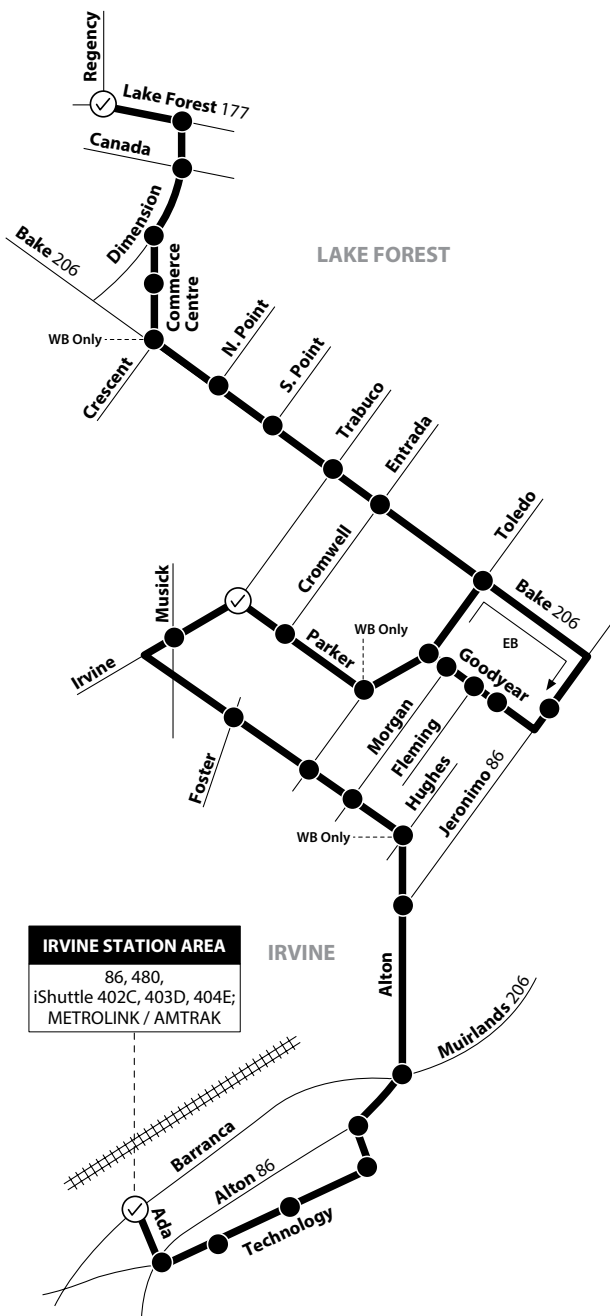
Los autobuses de la mañana saldrán de la estación cuando el tren llegue y todos los pasajeros han embarcado. Esto puede ser hasta seis minutos antes que el tiempo mostrado arriba. Por la tarde, los autobuses están programados para llegar unos minutos antes del tren que sale. Los pasajeros de Stationlink deben presentar: medio de tarifa al operador cada vez que suben al autobús.

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

480

Irvine Metrolink Station to Lake Forest

via Alton Pkwy / Bake Pkwy / Lake Forest Dr



IRVINE STATION AREA
86, 480,
iShuttle 402C, 403D, 404E;
METROLINK / AMTRAK

Route 480 is a limited-stop route, making stops only at time check points (☑) and other designated stops (●).

LEGEND
LEYENDA

☑ Scheduled Departure — Regular Routing

Route 480/081819 Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

MAP NOT TO SCALE

Monday - Friday EASTBOUND To: Lake Forest

Connecting Metrolink Trains	Irvine Station	Parker & Irvine (F)	Lake Forest & Regency (F)
ML 603, 803	6:07	6:21	6:36
ML 605	6:29	6:43	6:58
ML 805	6:55	7:11	7:27
ML 607, 807	7:26	7:42	7:58
ML 682	7:35	7:51	8:07
ML 800, 811	8:42	8:57	9:12

AM

F = Times are approximate/Los horarios son aproximados.

Monday - Friday WESTBOUND To: Irvine Metrolink Station

Lake Forest & Regency	Irvine & Parker	Irvine Station
3:25	3:39	3:56
4:11	4:27	4:45
4:47	5:02	5:18

PM

SERVICE TO / SERVICIO A

Irvine
- Irvine Spectrum
- Irvine Station Area (Metrolink/Amtrak)

Lake Forest
- Commercentre

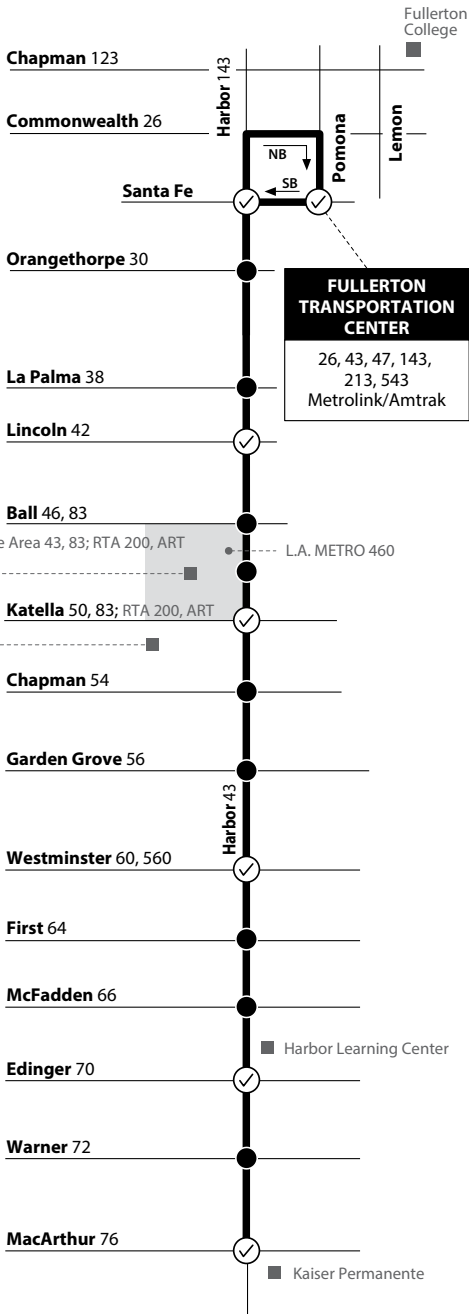
NOTE: Limited Stop Service. No service on weekends, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day or New Years Day. Routing and times subject to change.

Morning buses will depart the station once the train arrives and all passengers have boarded. This may be up to six minutes earlier than the time shown above. Afternoon buses are scheduled to arrive a few minutes before the departing train. Stationlink passengers must present fare media to the coach operator each time they board the bus.

NOTA: Servicio de paradas limitadas. No hay servicio los fines de semana, Día de los Caídos, Día de la Independencia, Día del Trabajador, Día de Acción de Gracias, Navidad o Año Nuevo. Rutas y horarios sujetos a cambios.

Los autobuses de la mañana saldrán de la estación cuando el tren llegue y todos los pasajeros han embarcado. Esto puede ser hasta seis minutos antes que el tiempo mostrado arriba. Por la tarde, los autobuses están programados para llegar unos minutos antes del tren que sale. Los pasajeros de Stationlink deben presentar su medio de tarifa al operador cada vez que suben al autobús.

FULLERTON



Route 543 is a limited-stop route, making stops only at time check points (✓) and other designated stops (●).

LEGEND
LEYENDA

Route 543/111519

Scheduled Departure
 Regular Routing

METRO = Los Angeles Metro

Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

All Days
NORTHBOUND To:
Fullerton Transportation Center

Harbor & MacArthur	Harbor & Edinger	Harbor & Westminster	Harbor & Katella	Harbor & Lincoln	Fullerton Transportation Center
6:52	6:56	7:04	7:17	7:27	7:38
7:18	7:22	7:30	7:43	7:53	8:05
7:44	7:48	7:56	8:09	8:19	8:31
8:09	8:14	8:22	8:36	8:46	9:00
8:35	8:40	8:48	9:02	9:12	9:26
9:01	9:06	9:14	9:28	9:38	9:52
9:26	9:31	9:39	9:53	10:03	10:17
9:52	9:57	10:05	10:19	10:29	10:43
10:18	10:23	10:31	10:45	10:55	11:09
10:44	10:49	10:57	11:11	11:21	11:35
11:10	11:15	11:23	11:37	11:47	12:01
11:34	11:39	11:48	12:03	12:13	12:27
12:02	12:07	12:16	12:31	12:41	12:55
12:28	12:33	12:42	12:57	1:07	1:21
12:54	12:59	1:08	1:23	1:33	1:47
1:20	1:25	1:34	1:49	1:59	2:13
1:46	1:51	2:00	2:15	2:25	2:39
2:12	2:17	2:26	2:41	2:51	3:05
2:38	2:43	2:52	3:07	3:17	3:31
3:04	3:09	3:18	3:33	3:43	3:57
3:30	3:35	3:44	3:59	4:09	4:23
3:56	4:01	4:10	4:25	4:35	4:49
4:22	4:27	4:36	4:51	5:01	5:15
4:48	4:53	5:02	5:18	5:28	5:41
5:14	5:19	5:28	5:44	5:54	6:07
5:40	5:45	5:54	6:10	6:20	6:33
6:06	6:11	6:20	6:36	6:46	6:59

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

All Days
SOUTHBOUND To:
Santa Ana

Fullerton Transportation Center	Harbor & Lincoln	Harbor & Katella	Harbor & Westminster	Harbor & Edinger	MacArthur & Harbor
7:00	7:11	7:25	7:38	7:46	7:51
7:26	7:37	7:51	8:04	8:12	8:17
7:52	8:03	8:17	8:30	8:38	8:43
8:18	8:29	8:43	8:56	9:04	9:09
8:44	8:55	9:09	9:22	9:30	9:35
9:10	9:21	9:35	9:48	9:56	10:01
9:36	9:47	10:01	10:14	10:22	10:27
10:02	10:13	10:27	10:40	10:48	10:53
10:27	10:38	10:52	11:05	11:13	11:18
10:53	11:08	11:19	11:32	11:40	11:45
11:19	11:34	11:45	11:58	12:06	12:11
11:45	12:00	12:11	12:24	12:32	12:37
12:11	12:26	12:37	12:50	12:58	1:03
12:37	12:52	1:03	1:16	1:24	1:29
1:02	1:15	1:27	1:42	1:50	1:55
1:28	1:41	1:53	2:08	2:16	2:21
1:54	2:07	2:19	2:34	2:42	2:47
2:20	2:33	2:45	3:00	3:08	3:13
2:46	2:59	3:11	3:26	3:34	3:39
3:12	3:24	3:38	3:52	4:00	4:05
3:38	3:50	4:04	4:18	4:26	4:31
4:04	4:16	4:30	4:44	4:52	4:57
4:33	4:44	4:57	5:10	5:18	5:24
4:59	5:10	5:23	5:36	5:44	5:50
5:25	5:36	5:49	6:02	6:10	6:16
5:51	6:02	6:15	6:28	6:36	6:42
6:17	6:28	6:41	6:54	7:02	7:08



EASY. FAST. SECURE.

Everything you've asked for. And more.

Version 2.0 of the OC Bus Mobile App offers everything you'd want from an upgrade. Here's a peek at our improvements.

- Redesigned interface
- Purchase using Google Pay or Apple Pay
- Easy repeat purchases
- Simplified multi-rider tickets
- Touch ID or Face ID security
- Easy ticket transfer when upgrading phones
- Larger buttons
- New full-screen ticket and larger QR code

Download today and enjoy all the cool new features

Sencilla. Rápida. Segura.

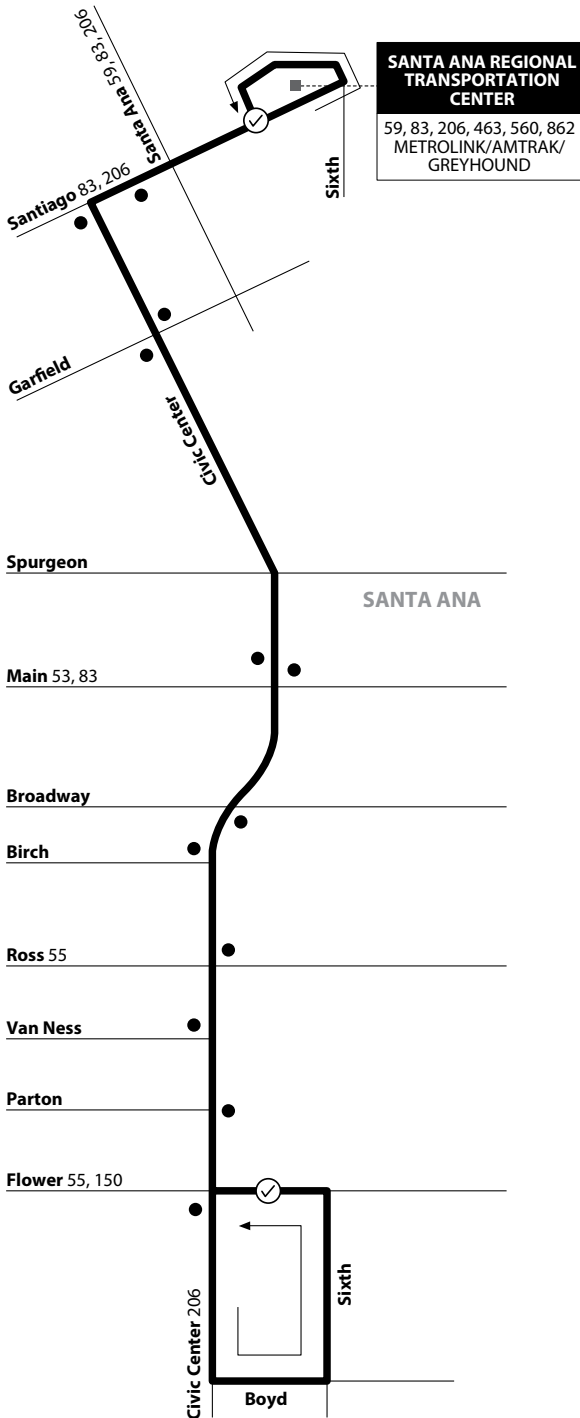
La versión 2.0 de la aplicación OC Bus Mobile ofrece todo lo que se puede desear de una actualización... y mucho más. Aquí tiene un adelanto de algunas de las mejoras.

- Rediseño de la interfaz
- Pago con Google Pay o Apple Pay
- Facilidad de compras repetidas
- Simplificación de los boletos para varios pasajeros
- Seguridad a través de identificación táctil o facial
- Fácil transferencia de boletos si cambia de teléfono
- Botones más prominentes
- Nuevo boleto a pantalla completa y código de barras más grande

Actualice la aplicación el 10 de febrero para disfrutar de todas estas nuevas y fantásticas funciones.



OCbus.com



**All Days
COUNTER-CLOCKWISE**

Santa Ana Regional Transp Center	Flower & 6th	Santa Ana Regional Transp Center
6:00	6:09	6:17
6:20	6:29	6:37
6:45	6:54	7:02
7:05	7:14	7:22
7:25	7:34	7:42
7:50	7:59	8:07
8:10	8:19	8:27
8:30	8:39	8:47
8:50	8:59	9:07
9:20	9:29	9:37
9:40	9:49	9:57
10:00	10:09	10:17
10:20	10:29	10:37
10:40	10:49	10:57
11:00	11:09	11:17
11:30	11:39	11:47
11:50	11:59	12:07
12:10	12:19	12:27
12:30	12:39	12:47
12:50	12:59	1:07
1:10	1:19	1:27
1:40	1:49	1:57
2:00	2:09	2:17
2:20	2:29	2:37
2:40	2:49	2:57
3:00	3:09	3:17
3:20	3:29	3:37
3:50	3:59	4:07
4:10	4:19	4:27
4:30	4:39	4:47
4:50	4:59	5:07
5:20	5:29	5:37
5:40	5:49	5:57
6:00	6:09	6:17
6:20	6:29	6:37
6:40	6:49	6:57
7:00	7:09	7:16
7:30	7:39	7:46
7:50	7:59	8:06
8:10	8:19	8:26
8:30	8:39	8:46
8:50	8:59	9:06
9:10	9:19	9:26
9:40	9:49	9:56
10:00	10:09	10:16
10:20	10:29	10:36
10:40	10:49	10:56
11:00	11:09	11:16
11:30	11:39	11:46
11:50	11:59	12:06

LEGEND
LEYENDA

Scheduled Departure
 Regular Routing
 Designated Stops

MAP NOT TO SCALE

Route 862/122119 Numbers on streets indicate transfers. *Números en la calle indican transbordos.*

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

FACILITIES & BOARDING DIAGRAMS

OCTA has several facilities to help ease your commute. Bus Transportation Centers are major transfer hubs that provide restroom facilities and covered shelter while you wait for your bus. Park-and-Ride facilities allow you to drive your car to the nearest transit facility where you can take a bus or train to complete your trip. Metrolink Stations provide rail and bus connections. Stationlink routes provide a link between train stations and major employment/activity centers and are designed to meet selected trains. You can find route maps and timetables inside this Bus Book.

Bus Facilities

Brea Park-and-Ride

937 E. Lambert Road
Brea, CA 92821

Fullerton Park-and-Ride

3000 W. Orangethorpe Avenue
Fullerton, CA 92833
Local Bus: 25, 26, 30, 33, 35, 529
Express Bus: 721
Metro Bus: 460

Fullerton Transportation Center

123 S. Pomona Avenue
Fullerton, CA 92833
Metrolink Service: OC Line, 91 Line
Local Bus: 26, 43, 47, 543
Community Bus: 143
OC Express Bus: 213

Goldenwest Transportation Center

7301 Center Avenue
Huntington Beach, CA 92803
Local Bus: 29, 66, 70, 123, 529
Express Bus: 701
OC Flex

Laguna Beach Transportation Center

375 Broadway Street
Laguna Beach, CA 92651
Local Bus: 89

Laguna Hills Transportation Center

24282 Calle de los Caballeros
Laguna Hills, CA 92653
Local Bus: 83, 87, 89, 91, 177

Newport Transportation Center

1550 Avocado Avenue
Newport Beach, CA 92660
Local Bus: 1, 55, 57, 79

Rail Facilities

Anaheim Regional Transportation Intermodal Center

2626 E. Katella Avenue, Anaheim, CA 92806
Metrolink Service: OC Line
Local Bus: 50, 53, 153

Anaheim Canyon Metrolink Station

1039 N. Pacificer Drive, Anaheim, CA 92806
Metrolink Service: IEOC Line
Local Bus: 38, 71, 123

Buena Park Metrolink Station

8400 Lakeknoll Drive, Buena Park, CA 90621
Metrolink Service: OC Line, 91 Line
Local Bus: 25, 29, 123

Fullerton Metrolink/Amtrak Station

120 E. Santa Fe Avenue, Fullerton, CA 92832
Metrolink Service: OC Line, 91 Line
Local Bus: 26, 43, 47, 543
Community Bus: 143
OC Express Bus: 213

Irvine Metrolink/Amtrak Station

15215 Barranca Parkway, Irvine, CA 92618
Metrolink Service: OC Line, IEOC Line
Stationlink Bus: 480
Local Bus: 86
OC Express Bus: 206
iShuttle Routes: 402C, 403D & 404E

Laguna Niguel/Mission Viejo Metrolink Station

28200 Forbes Road, Laguna Niguel, CA 92677
Metrolink Service: OC Line, IEOC Line
OC Flex

Orange Metrolink Station

194 N. Atchison Street, Orange, CA 92866
Metrolink Service: OC Line, IEOC Line
Stationlink Bus: 453
Local Bus: 54, 56, 59

San Clemente Metrolink Station

1850 Avenida Estacion, San Clemente, CA 92672
Metrolink Service: OC Line, IEOC Line
Local Bus: 1, 91

San Juan Capistrano Metrolink/Amtrak Station

26701 Verdugo Street, San Juan Capistrano, CA 92675
Metrolink Service: OC Line, IEOC Line
Local Bus: 91

Santa Ana Regional Transportation Center

1000 E. Santa Ana Blvd., Santa Ana, CA 92701
Metrolink Service: OC Line, IEOC Line
Stationlink Bus: 463
Local Bus: 59, 83, 560, 862
OC Express Bus: 206

Tustin Metrolink Station

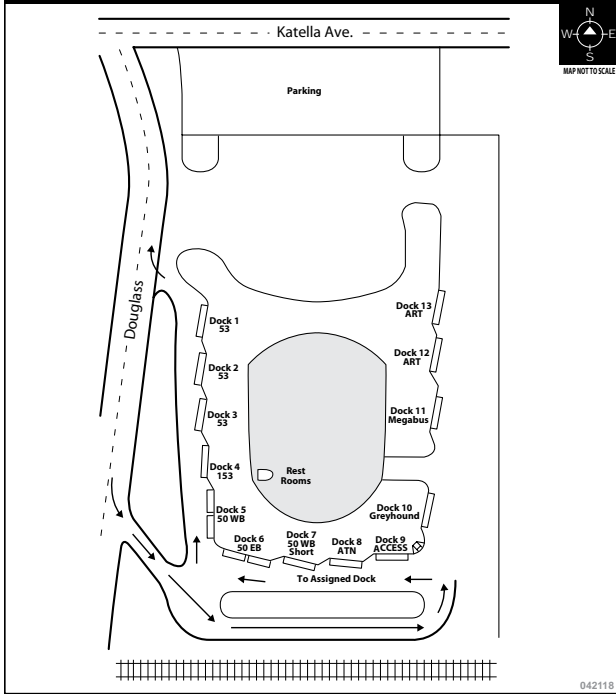
2975 Edinger Avenue, Tustin, CA 92780
Metrolink Service: OC Line, IEOC Line
Stationlink Bus: 472, 473
Local Bus: 70, 90
iShuttle Routes: 400A, 401B & 405F

Orange County Metrolink Passengers:

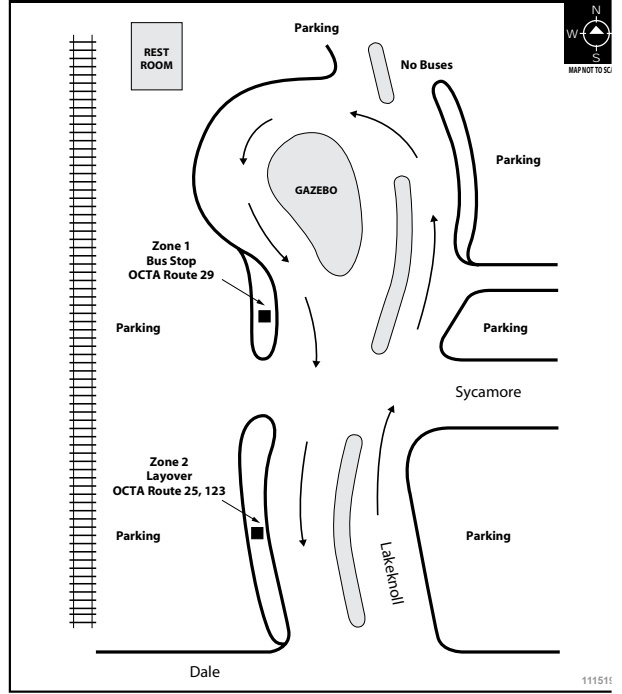
Metrolink trains will operate on a Sunday schedule for the following observed holidays: Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and New Year's Day. StationLink trips that connect with these trains will not operate on these days. For more information call (800) 371-LINK or visit Metrolinktrains.com.

BOARDING DIAGRAMS

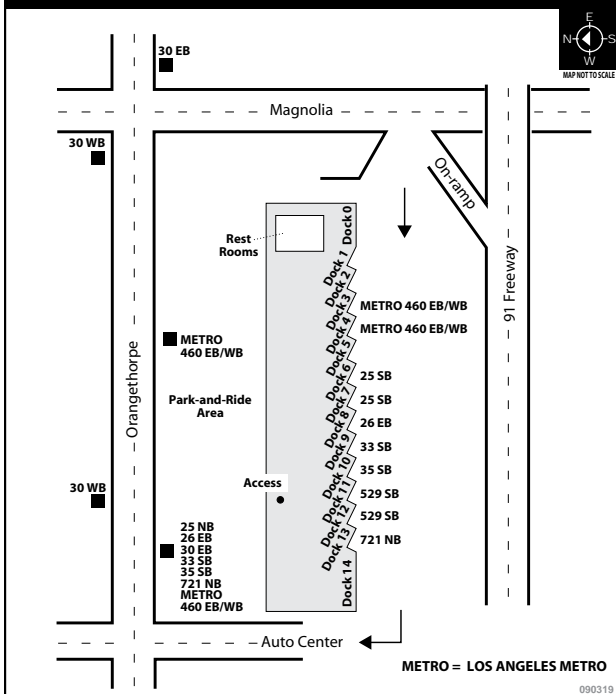
ANAHEIM REGIONAL TRANSPORTATION INTERMODAL CENTER (ARTIC)



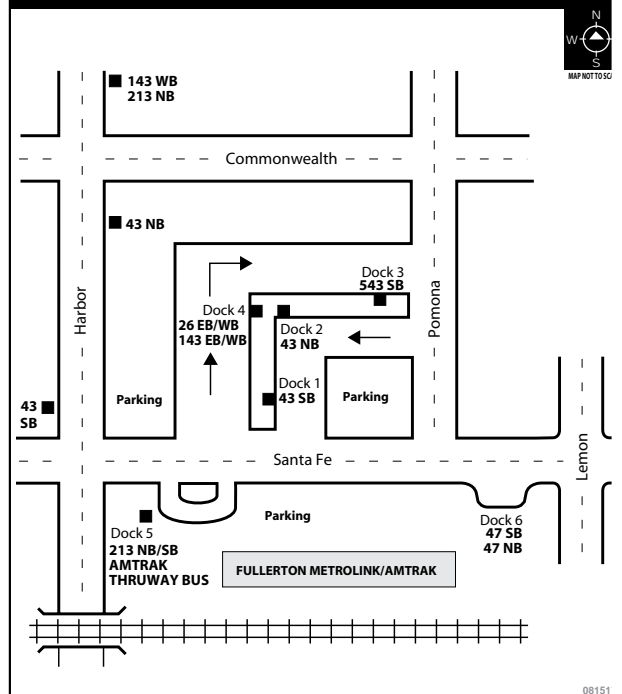
BUENA PARK METROLINK STATION



FULLERTON PARK-and-RIDE



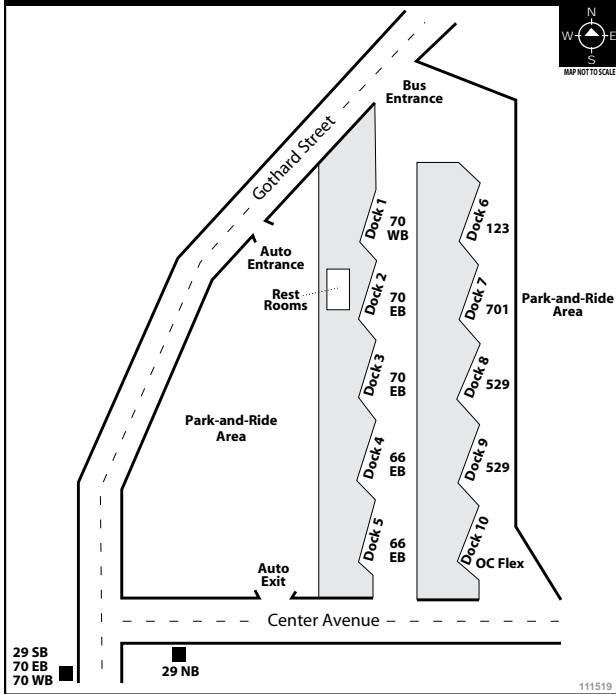
FULLERTON TRANSPORTATION CENTER



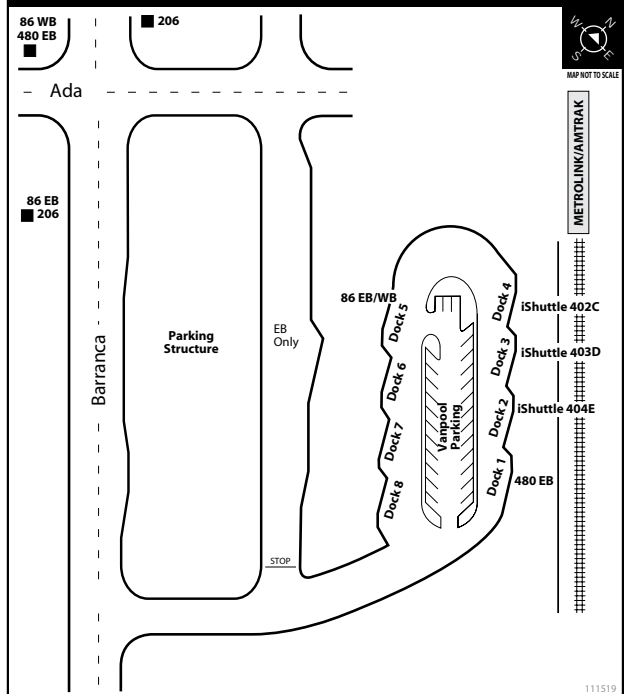
Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

BOARDING DIAGRAMS

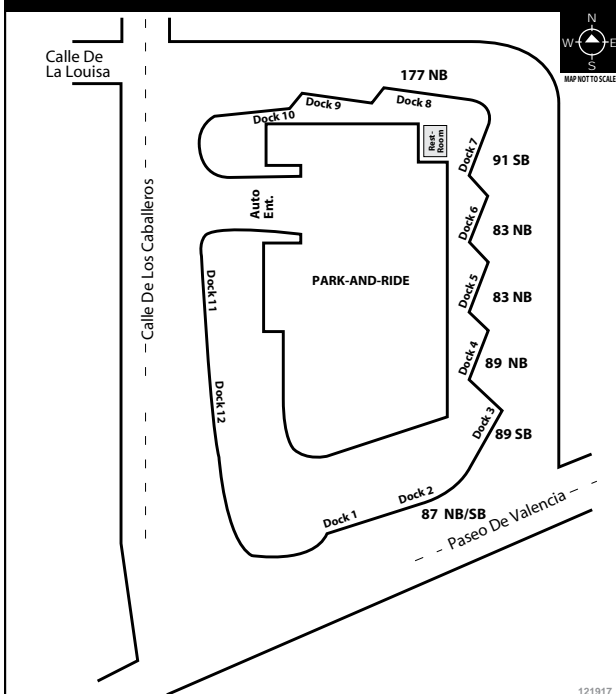
GOLDENWEST TRANSPORTATION CENTER



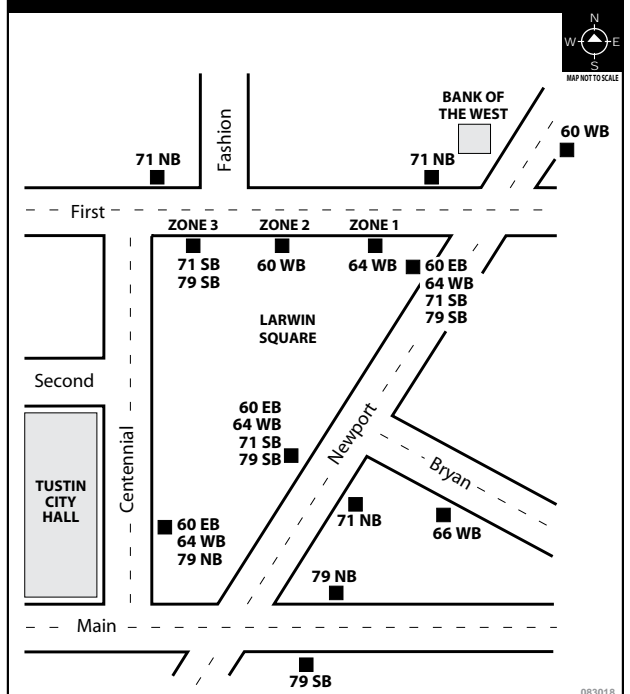
IRVINE STATION (Corner of Barranca & Ada)



LAGUNA HILLS TRANSPORTATION CENTER



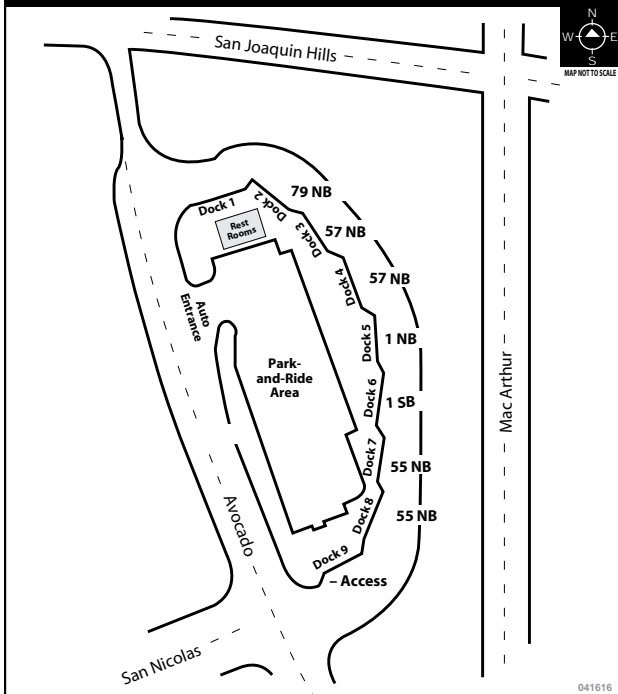
LARWIN SQUARE-TUSTIN



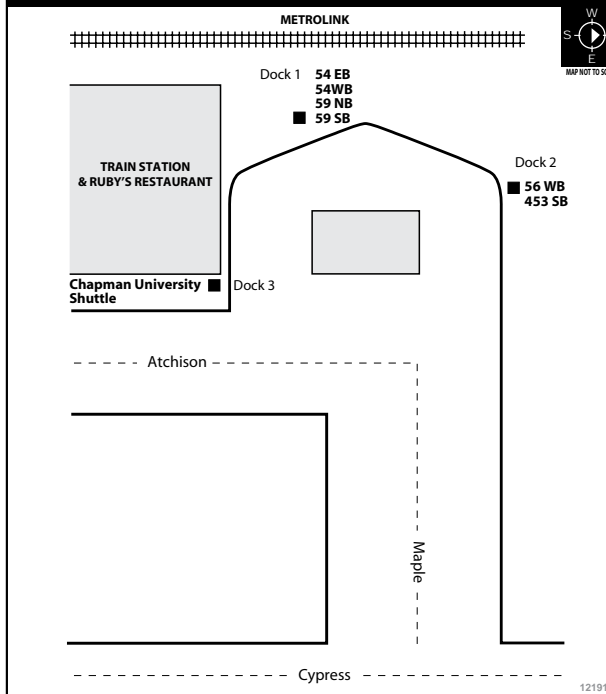
Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

BOARDING DIAGRAMS

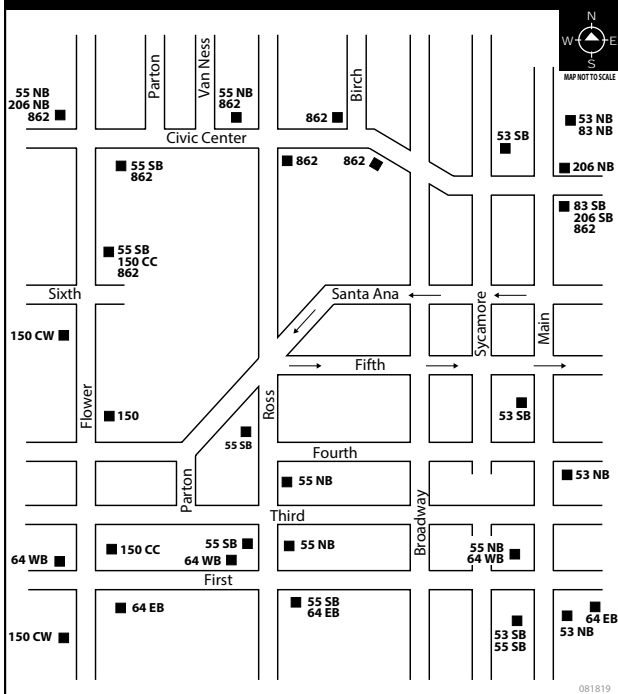
NEWPORT TRANSPORTATION CENTER



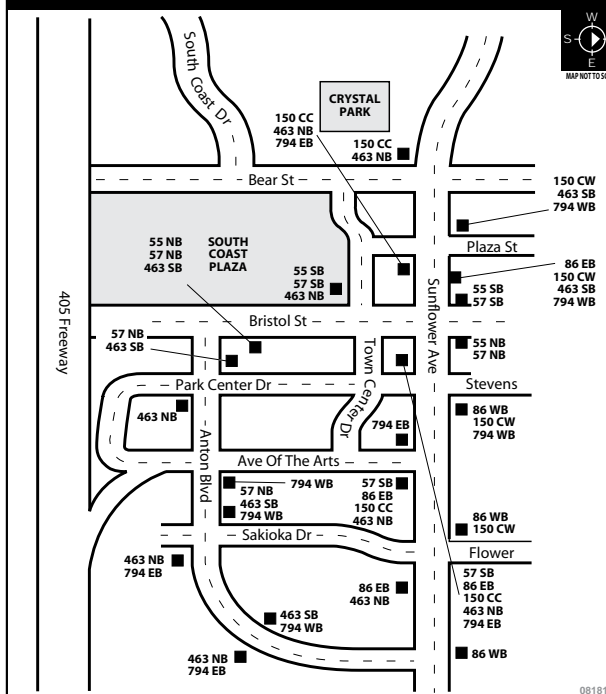
ORANGE TRANSPORTATION CENTER



SANTA ANA (DOWNTOWN AREA)



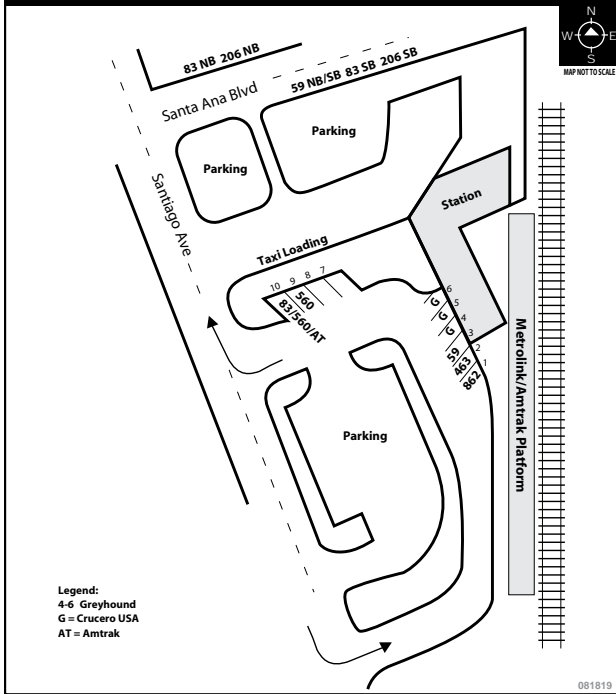
SOUTH COAST PLAZA AREA



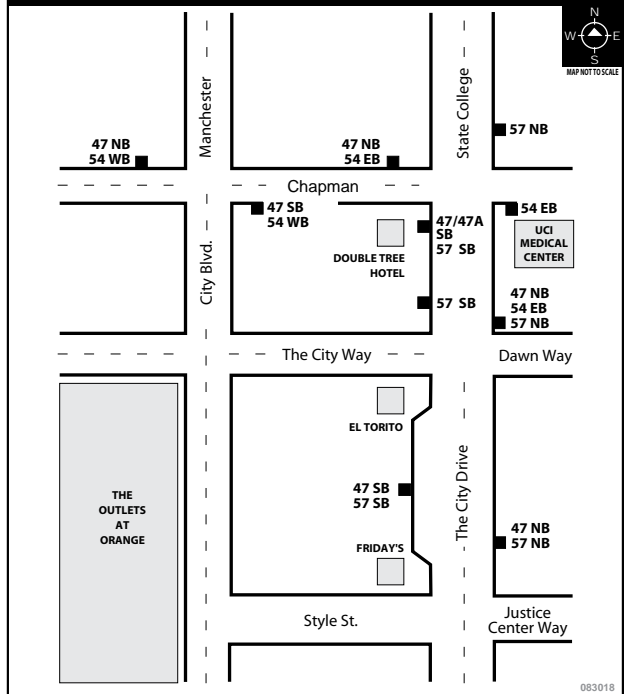
Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

BOARDING DIAGRAMS

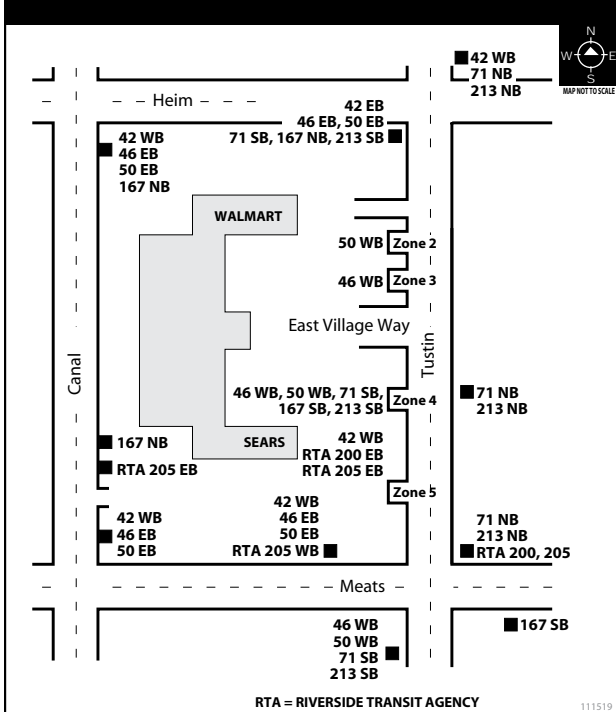
SANTA ANA REGIONAL TRANSPORTATION CENTER



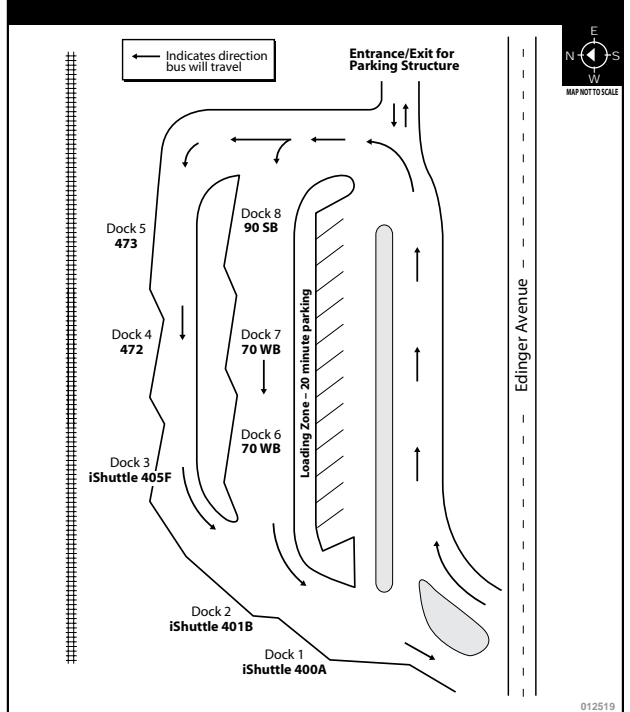
THE OUTLETS AT ORANGE



THE VILLAGE AT ORANGE



TUSTIN METROLINK STATION



Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

OTHER TRANSIT SYSTEMS / OSTROS SISTEMAS DE TRÁNSITC

Amtrak

Serves local, regional and national regions
(800) USA-RAIL (872-7245)
amtrak.com

Anaheim Resort Transit

Serves the Anaheim and Anaheim Resort area
(714) 563-5287
rideart.org

Foothill Transit (FT)

Serves La Habra, Brea, San Gabriel & Pomona Valleys in LA County
(800) 743-3463
foothilltransit.org

LA County Metropolitan Transportation Authority (Metro)

Serves greater Los Angeles County area
(323) GO-METRO
(323) 466-3876
metro.net

Laguna Beach Transit (LB Transit)

Serves Laguna Beach and Dana Point
(949) 497-0746
lagunabeachcity.net

Long Beach Transit (LBT)

Serves Long Beach, Signal Hill, Cerritos and Lakewood
(562) 591-2301
lbtransit.com

Metrolink Commuter Rail

Serves Orange, Los Angeles, Ventura, San Bernardino and Riverside Counties
(800) 371-LINK
(800) 371-5465
metrolinktrains.com

North County Transit District (NCTD)

Serves North San Diego County, connecting with OCTA in San Clemente
(760) 966-6500
gonctd.com

Norwalk Transit (NT)

Serves Norwalk, Cerritos, Bellflower, Santa Fe Springs and Whittier
(562) 929-5550
ci-norwalk.ca.us

Omnitrans (OT)

Serves the San Bernardino Valley
(800) 966-6428
omnitrans.org

Riverside Transit Agency (RTA)

Serves Riverside County and the Village at Orange
(800) 800-7821
riversidetransit.com

OC FLEX **On Demand. Unlimited Local Rides. \$5 All Day.**

OC Flex is OCTA's on-demand, curb-to-curb shuttle service serving parts of Aliso Viejo, Laguna Niguel and Mission Viejo as part of a pilot program.

Take unlimited rides within the zone to school, shopping, and fun for \$5 or less per day. Grab an early-morning coffee, run afternoon errands, and go out for a date night dinner and movie – all for one super-low fare. Use the OC Flex App to book your trip, get a day pass, and view your ride's arrival time. Pay \$4.50 when using the app or \$5 cash onboard.

OC Flex provides free rides to and from OCTA's regular bus service, Metrolink or Amtrak trains. With a regular OC Bus day pass, you can ride to and from OC Bus stops for free. With a valid Metrolink or Amtrak pass, you can ride to or from a train station for free.

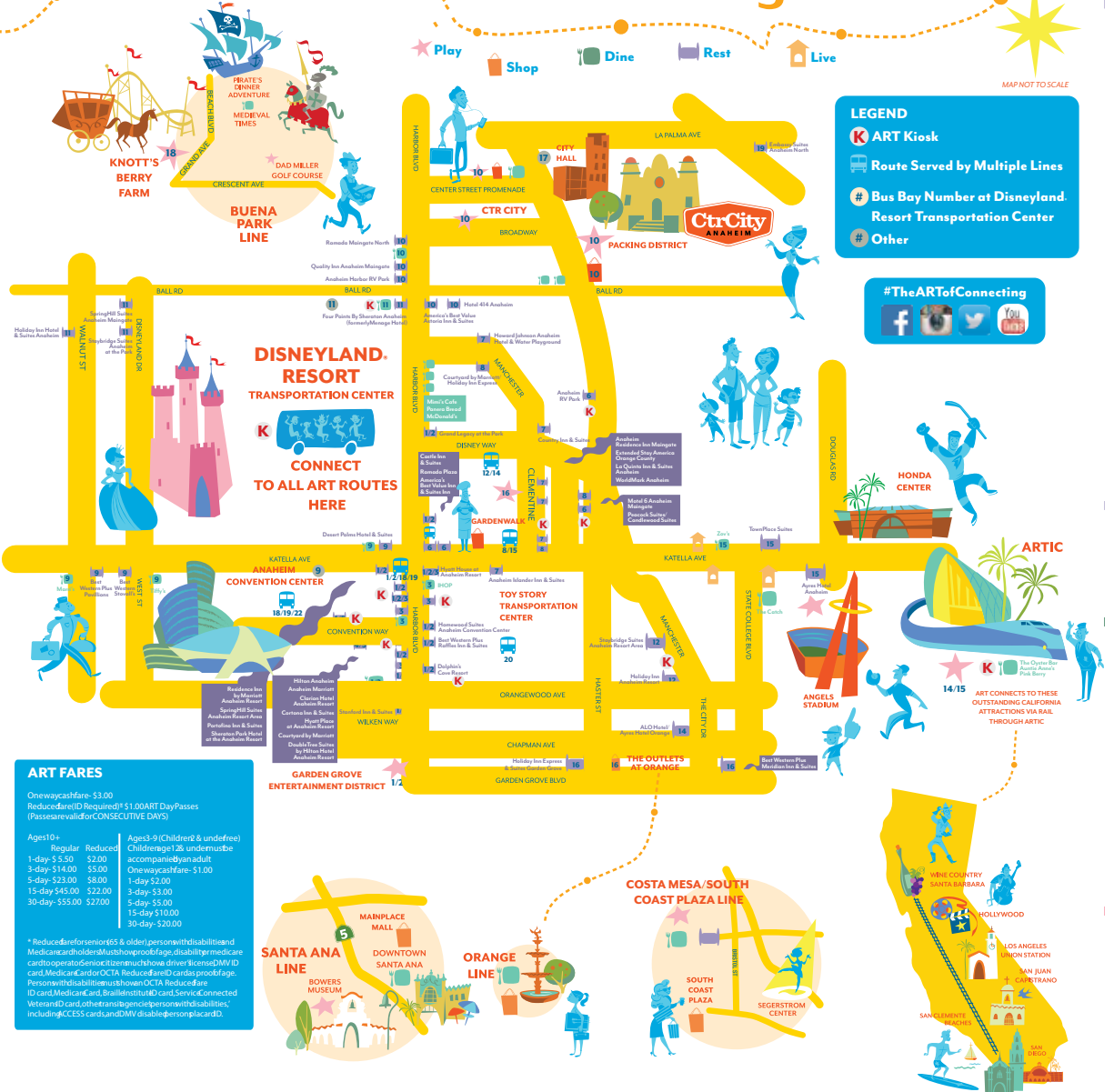
Our professional drivers have undergone rigorous background checks and safety training. You and your family will be in safe hands. And, all OC Flex vehicles are wheelchair accessible.

Learn more at ocflex.com



ANAHEIM RESORT TRANSPORTATION MAP

the ART of connecting the dots



LEGEND

- K** ART Kiosk
- Route Served by Multiple Lines
- # Bus Bay Number at Disneyland Resort Transportation Center
- # Other

#TheARTofConnecting

Facebook, Instagram, Twitter, YouTube icons

ART FARES

Oneway cash fare - \$3.00
 Reduced fare (ID Required) \$1.00 ART Day Passes (Passes are valid for CONSECUTIVE DAYS)

Ages 10+	Regular	Reduced	Ages 3-9 (Childrenr & underefr)	Childrege 12 & underefr
1-day	\$5.50	\$3.00	accompanied by an adult	
3-day	\$14.00	\$5.00	One way cash fare - \$1.00	
5-day	\$23.00	\$8.00	1-day \$2.00	
15-day	\$45.00	\$22.00	3-day \$3.00	
30-day	\$55.00	\$27.00	5-day \$5.00	
			15-day \$10.00	
			30-day \$20.00	

* Reduced fare for seniors (65 & older), persons with disabilities, and Medicare cardholders (must show proof of age, disability, Medicare card, or state of residence), and those who are disabled. Must have a valid ID card, Medicare card, or OCTA Reduced fare ID card on proof of age. Person with disability must show an OCTA Reduced fare ID card, Medicare card, or a valid state of residence ID card. Service Connected Veterans ID card, or other state-issued person with disability, including ACCESS cards, and DMV disabled person placard.

Token Transit

FOR MOBILE TICKETING:
 Text: TOKENV 1041411

To get real-time bus arrival information, use our Text2Go service. All stops on the ART line have a unique bus stop number to interact with the 2Go location. Text the stop ID, location, and the stop ID to 41411.

All lines begin and end at Disneyland Resort Transportation Center. Hour and frequency of operation may vary. Service begins 90 minutes prior to opening and concludes 30 minutes after parking closing. The Buena Park, Costa Mesa, South Coast Plaza, CTR City, ARTIC, Santa Ana, and Orange lines operate on a time schedule before to our website at rideart.org or download our app for operating schedules and additional information. Please note that some of the real-time interests have had to stop.

Take any of Anaheim Resort Transportation's lines in-and-around the Anaheim Resort® District to reach all your favorite destinations in Anaheim, Costa Mesa, Orange, Santa Ana, Garden Grove, and Buena Park!

www.rideart.org

Routing and times are subject to change. For current schedules and additional information, please visit www.rideart.org

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

ANAHEIM RESORT TRANSPORTATION INFO

AREAS OF INTEREST

Disneyland® Resort
Transportation
Center Stop
Numbers

TEXT 2 GO CODES

REST (Anaheim Area Hotels)	
14	ALO Hotel /Ayres Orange 4016
6	America's Best Value Inn & Suites - Convention Center 4013
10	America's Best Value Astoria Inn & Suites - Ball Rd. 4002
10	Anaheim Harbor RV Park 2013
7	Anaheim Islander Inn & Suites 2019
4 5	Anaheim Marriott 2008
7	Anaheim Residence Inn Maingate 2021
6	Anaheim RV Park 2018
15	Ayres Hotel Anaheim 2024
16	Best Western Plus Meridian Inn & Suites 2023
9	Best Western Plus Pavilions 5001
1 2	Best Western Plus Raffles Inn & Suites 3003
9	Best Western Plus Stovall's 5002
6	Candlewood Suites 3013
1 2	Castle Inn & Suites 3009
3	Clarion Hotel 2007
1 2	Cortona Inn & Suites 2002
7	Country Inn & Suites 6024
1 2	Courtyard by Marriott 2002
8	Courtyard by Marriott Theme Park Entrance 5016
9	Desert Palms Hotel & Suites 4001
1 2	Dolphin's Cove Resort 3003
1 2	Double Tree Suites by Hilton Hotel Anaheim Resort 2003
19	Embassy Suites Anaheim North 5019
7	Extended Stay America Orange County 2020
1 2	Grand Legacy At The Park 3012
4 5	Hilton Anaheim 3004
12	Holiday Inn Anaheim Resort 2010
16	Holiday Inn Express & Suites Garden Grove - Anaheim 2025
8	Holiday Inn Express & Suites Anaheim Resort Area 5016
11	Holiday Inn Hotel & Suites Anaheim 3008
1 2	Homewood Suites Anaheim Convention Center 2008
10	Hotel 414 Anaheim 4002
11	Hotel Menage 4005
7	Howard Johnson Anaheim Hotel and Water Playground 3011
1 2 3	Hyatt House at Anaheim Resort - Convention Center 2001
3	Hyatt Place at Anaheim Resort - Convention Center 3004
7	La Quinta Inn & Suites Anaheim 2020
8	Motel 6 Anaheim Maingate 3016
6	Peacock Suites 3013
1 2 3	Portofino Inn & Suites 2001
10	Quality Inn Maingate 2012
10	Ramada Maingate North 2012
6	Ramada Plaza 4014
3	Red Lion Hotel 3005
1 2	Residence Inn by Marriott Anaheim Resort - Convention Center 2001
3	Shearaton Park Hotel at the Anaheim Resort 2006
11	SpringHill Suites Anaheim Maingate 4003
1 2	SpringHill Suites Anaheim Resort Area - Convention Center 2001
1 2	Stanford Inn & Suites 2004
11	Staybridge Suites Anaheim at the Park 4006
12	Staybridge Suites Anaheim - Resort Area 2010
15	TownePlace Suites 4020
8	WorldMark Anaheim 3014

REST (Costa Mesa Area Hotels)	
19	Avenue of the Arts Costa Mesa, A Tribute Portfolio Hotel 6010
19	Ayres Hotel & Suites Costa Mesa 6006
19	Best Western Plus Newport Mesa Inn 6005
19	BLVD Hotel 6004
19	Costa Mesa Marriott 6009
19	Crown Plaza 6008
19	Hilton Costa Mesa 6008
19	Holiday Inn Express - Costa Mesa 6003
19	Ramada Inn & Suites - Costa Mesa 6002
19	Residence Inn by Marriott Costa Mesa 6007
19	The Westin South Coast Plaza 6011

DINE	
11	Tru Grits 4005
10	Anaheim Brewery 3007
8 15	Anaheim Garden Walk- Cheesecake Factory 3015
12	Anaheim Garden Walk- Disney Way 2009
16	Anaheim Garden Walk- Transportation Center 2031
10	Anaheim Packing House 3007
9	Coco's Restaurant 5002
1 2 3	Coffee Bean & Tea Leaf 2001
10	CTR City - Good Food Building 5005
9	Denny's Restaurant - Katella 5001
1 2	Denny's Restaurant - Harbor 3003
All Routes	Downtown Disney District 1
19	Downtown Santa Ana 2029, 2030
	4th Street Market, Playground, Eat Chow, Native Son Alehouse, Portola Coffee Lab, Yojie Japanese Fondue
1 2	IHOP 3009
9	Marri's Restaurant 5001
18	Medieval Times Dinner & Tournament 2016
1 2 3	Morton's The Steakhouse 2007
18	Pirates Dinner Adventure 2016
1 2	Roscoe's Chicken & Waffles 3003
1 2	Ruth's Chris Steakhouse 2003
10	Shakey's Pizza 2013
15	Stadium Crossings- Togo's, Fresca's, Panda Express 4017
1 2 3	Starbucks 2001
15	The Catch 4017
1 2	The Fifth 3012
9	Oasis Kitchen and Bar 4001
9	Tiffany's Restaurant 5003
15	Zov's 5018

PLAY	
8 15	Anaheim Garden Walk- Cheesecake Factory 3015
12	Anaheim Garden Walk- Disney Way 2009
16	Anaheim Garden Walk- Transportation Center 2031
10	Anaheim Packing House 3007
15	Angel Stadium of Anaheim - ARTIC 6000
15	ARTIC (Anaheim Regional Transportation Intermodal Center) 6000
19	Bowers Museum 2028
10	CTR City 5005
18	Dad Miller Golf Course 5013
All Routes	Disneyland® Resort 1
All Routes	Downtown Disney District 1
19	Downtown Santa Ana 2029, 2030
	Yost Theatre, The Frida Cinema, GCS Clothing
15	The Grove 4017
15	Honda Center - ARTIC 6000
18	Knott's Berry Farm 2000
10	Muzeo 5005
15	National Grove of Anaheim 2009
20	Toy Story Transportation Center 1100

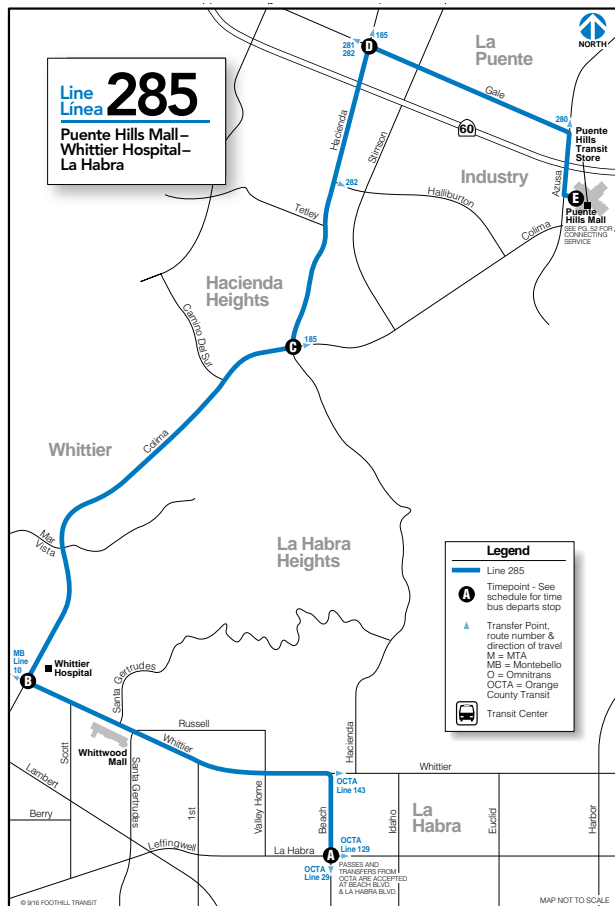
SHOP	
8 15	Anaheim Garden Walk- Cheesecake Factory 3015
12	Anaheim Garden Walk- Disney Way 2009
16	Anaheim Garden Walk- Transportation Center 2031
10	Anaheim Packing House 3007
18	Anaheim Plaza 5015
10	CTR City - Good Food Building 5005
1 2 3	CVS pharmacy 2001
19	MainPlace Mall 2026
19	South Coast Plaza 6001
16	The Outlets at Orange 2022
10	Walmart Neighborhood Market 3066
3 7	Walgreens 3005, 2019

OTHER	
17	Anaheim City Hall 2014, 3010**
9	Anaheim Convention Center ACC North 5004
1 2 3	Anaheim Convention Center - Convention Way 3004
3 4 5	Anaheim Convention Center Grand Plaza 2008
17	Anaheim Police Department 2015, 4010**
17	Canyon Metrolink Station 4012
17	Kaiser Permanente Medical Center 4007, 4011**
17	L3 Interstate Electronics 4009
17	Orange County Social Services 4019, 4018**
17	Styles for Less Corporate Offices 4021, 4022**
11	Team Disney Administration Building 4004
10	US Postal Office 5005
11	US Postal Office 4003

**PM Schedule

Routing and times are subject to change. For current schedules and additional information, please visit www.rideart.org

FOOTHILL TRANSIT BUS 285



NORTHBOUND/EN DIRECCION NORTE

LA HABRA TO INDUSTRY LA HABRA HACIA INDUSTRY

WEEKDAY
ENTRE SEMANA

A	B	C	D	E
5:35	5:50	5:58	6:04	6:14
6:35	6:50	6:58	7:04	7:14
7:35	7:50	7:58	8:06	8:16
8:35	8:50	9:00	9:12	9:23
9:35	9:50	10:00	10:12	10:23
10:35	10:50	11:00	11:12	11:23
11:35	11:50	12:00	12:12	12:23
12:35	1:00	1:00	1:12	1:23
1:35	1:50	2:00	2:12	2:23
2:35	2:50	3:00	3:12	3:23
3:35	3:50	4:00	4:12	4:23
4:35	4:50	5:00	5:12	5:23
5:35	5:50	6:00	6:12	6:23
6:35	6:50	6:58	7:06	7:19
7:35	7:48	7:56	8:05	8:15
8:35	8:48	8:56	9:05	9:15

WEEKEND/HOLIDAY
FIN DE SEMANA Y DÍA FESTIVO

A	B	C	D	E
8:13	8:25	8:33	8:41	8:50
9:10	9:24	9:32	9:40	9:49
10:10	10:23	10:31	10:39	10:49
11:10	11:23	11:31	11:39	11:49
12:10	12:23	12:31	12:40	12:50
1:10	1:24	1:33	1:42	1:52
2:10	2:24	2:33	2:41	2:51
3:10	3:24	3:33	3:41	3:51
4:10	4:24	4:33	4:41	4:54
5:10	5:24	5:32	5:40	5:50
6:10	6:24	6:32	6:40	6:50
7:10	7:24	7:32	7:40	7:50

SOUTHBOUND/EN DIRECCION SUR

INDUSTRY TO LA HABRA INDUSTRY HACIA LA HABRA

WEEKDAY
ENTRE SEMANA

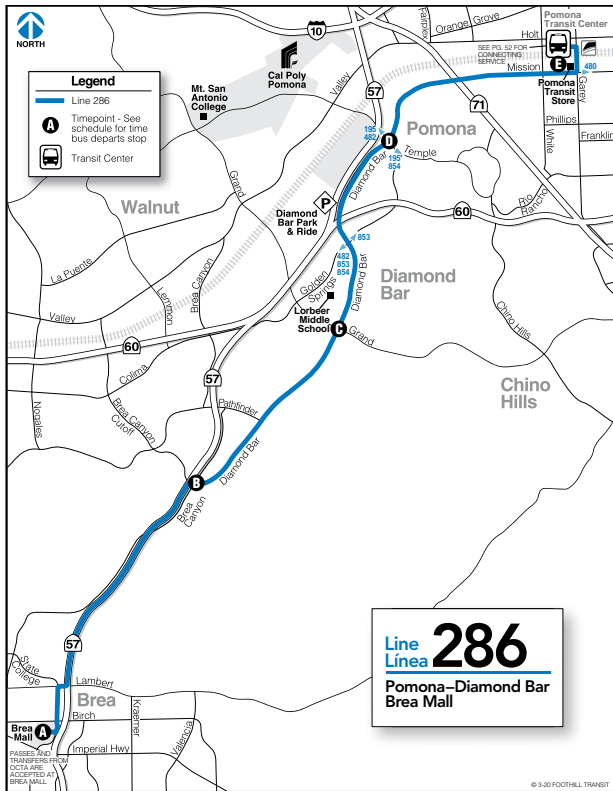
E	D	C	B	A
5:35	5:44	5:52	6:00	6:12
6:35	6:44	6:52	7:00	7:12
7:35	7:45	7:54	8:02	8:14
8:35	8:45	8:57	9:08	9:20
9:35	9:47	9:59	10:10	10:22
10:35	10:47	10:59	11:10	11:22
11:35	11:47	11:59	12:10	12:23
12:35	12:47	12:59	1:10	1:23
1:35	1:47	1:59	2:10	2:23
2:35	2:47	2:59	3:10	3:23
3:35	3:47	3:59	4:10	4:23
4:35	4:47	4:59	5:10	5:23
5:35	5:47	5:59	6:10	6:23
6:35	6:46	6:56	7:06	7:18
7:35	7:45	7:53	8:01	8:11
8:35	8:45	8:53	9:01	9:11

WEEKEND/HOLIDAY
FIN DE SEMANA Y DÍA FESTIVO

A	B	C	D	E
7:16	7:26	7:34	7:41	7:52
8:16	8:26	8:34	8:43	8:54
9:18	9:29	9:37	9:46	9:57
10:18	10:29	10:37	10:46	10:57
11:18	11:29	11:37	11:46	11:57
12:18	12:29	12:37	12:46	12:57
1:18	1:29	1:37	1:46	1:57
2:18	2:29	2:37	2:46	2:57
3:18	3:29	3:37	3:46	3:57
4:18	4:30	4:38	4:46	4:57
5:18	5:29	5:37	5:45	5:56
6:18	6:29	6:37	6:45	6:57
7:18	7:29	7:37	7:45	7:57
8:18	8:28	8:36	8:44	8:56

Routing and times are subject to change. For current schedules and additional information, please visit www.foothilltransit.org

FOOTHILL TRANSIT BUS 286



NORTHBOUND/EN DIRECCIÓN NORTE

BREA TO POMONA BREA HACIA POMONA

WEEKDAY
ENTRE SEMANA

A	B	C	D	E
6:05	6:20	6:30	6:40	6:52
7:05	7:20	7:30	7:40	7:52
8:05	8:20	8:30	8:40	8:52
9:05	9:20	9:30	9:40	9:52
10:05	10:20	10:30	10:40	10:52
11:05	11:20	11:30	11:40	11:52
12:05	12:20	12:30	12:40	12:52
1:05	1:20	1:30	1:40	1:52
2:05	2:20	2:30	2:40	2:52
3:05	3:23	3:33	3:43	3:55
4:05	4:23	4:33	4:43	4:55
5:05	5:23	5:33	5:43	5:55
6:05	6:23	6:33	6:43	6:55
7:05	7:20	7:30	7:40	7:52
8:05	8:20	8:30	8:40	8:52
9:05	9:20	9:30	9:40	9:52
10:05	10:20	10:30	10:40	10:52

WEEKEND/HOLIDAY
FIN DE SEMANA Y DÍA FESTIVO

A	B	C	D	E
7:35	7:48	7:56	8:01	8:21
8:35	8:48	8:56	9:01	9:21
9:35	9:48	9:56	10:01	10:21
10:35	10:48	10:56	11:01	11:21
11:35	11:48	11:56	12:01	12:23
12:35	12:48	12:56	1:01	1:23
1:35	1:48	1:56	2:01	2:23
2:35	2:48	2:56	3:01	3:23
3:35	3:48	3:56	4:01	4:23
4:35	4:48	4:56	5:01	5:23
5:35	5:48	5:56	6:01	6:23
6:35	6:48	6:56	7:01	7:21
7:35	7:48	7:56	8:01	8:21

SOUTHBOUND/EN DIRECCIÓN SUR

POMONA TO BREA POMONA HACIA BREA

WEEKDAY
ENTRE SEMANA

E	D	C	B	A
6:00	6:15	6:28	6:37	6:52
7:00	7:20	7:33	7:42	7:57
8:00	8:20	8:33	8:42	8:57
9:00	9:15	9:25	9:34	9:48
10:00	10:15	10:25	10:34	10:48
11:00	11:18	11:28	11:37	11:51
12:00	12:18	12:28	12:37	12:51
1:00	1:20	1:30	1:39	1:53
2:00	2:20	2:30	2:40	2:54
3:00	3:20	3:30	3:40	3:54
4:00	4:18	4:28	4:38	4:52
5:00	5:18	5:28	5:38	5:52
6:00	6:15	6:25	6:34	6:48
7:00	7:15	7:25	7:34	7:48
8:00	8:15	8:25	8:34	8:48
9:00	9:15	9:25	9:34	9:48
10:00	10:15	10:25	10:34	10:48

WEEKEND/HOLIDAY
FIN DE SEMANA Y DÍA FESTIVO

E	D	C	B	A
7:30	7:45	7:52	7:57	8:15
8:30	8:45	8:52	8:57	9:15
9:30	9:46	9:53	9:58	10:16
10:30	10:46	10:53	10:58	11:16
11:30	11:46	11:53	11:58	12:18
12:30	12:47	12:54	12:59	1:19
1:30	1:47	1:54	1:59	2:19
2:30	2:47	2:54	2:59	3:19
3:30	3:45	3:52	3:57	4:17
4:30	4:45	4:51	4:56	5:15
5:30	5:45	5:51	5:56	6:15
6:30	6:45	6:51	6:56	7:15
7:30	7:42	7:48	7:53	8:12

Routing and times are subject to change. For current schedules and additional information, please visit www.foothilltransit.org

LAGUNA BEACH TRANSIT MAP



Routing and times are subject to change.

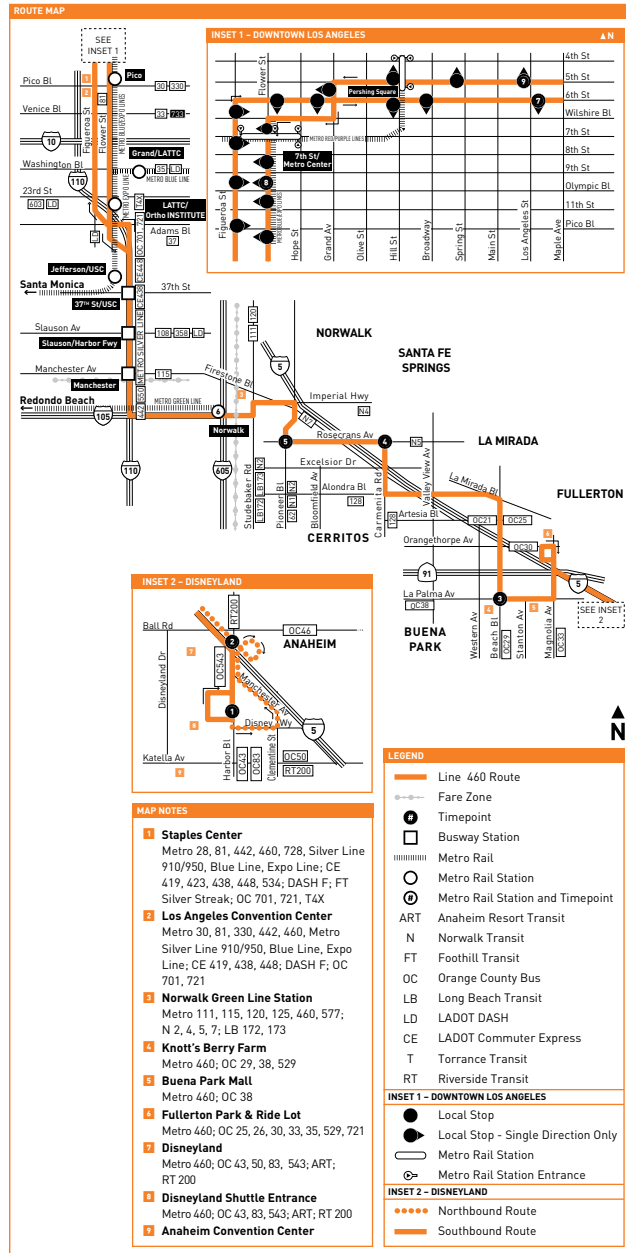
For current schedules and additional information, please visit www.lagunabeachcity.net/government/departments/publicworks/schedules/bus.htm

METRO BUS 460

Los Angeles County Metropolitan Transportation Authority's (Metro) Bus Routes and Schedules Serving Orange County
 Following are the Metro bus routes and schedules serving Orange County. All schedules were accurate at time of printing.
 For more information please contact Metro directly at www.metro.net or call 323-GO-METRO (466-3876).

Rutas y Horarios de la Autoridad de Transporte del Condado Metropolitano de Los Angeles (Metro) Que Dan Servicio al Condado de Orange

A continuación se detallan los horarios y de las rutas de la Metro que dan servicio al Condado de Orange. Todos los horarios eran exactos en la hora de la impresión. Para mas información, favor de comunicarse con la Metro directamente por el internet en www.metro.net o llame al 323-GO-METRO (466-3876).



Routing and times are subject to change. For current schedules and additional information, please visit www.metro.net

METRO BUS 460

Monday through Friday

460

Northbound - Westbound *Al Norte - Al Oeste* (Approximate Times / Tiempos Aproximados)

ANAHEIM		BUENA PARK			NORWALK		LOS ANGELES	
1	2	3	4	5	6	7		
Disneyland	Manchester & Harbor	Knott's Berry Farm	Rosecrans & Carmita	Pioneer & Rosecrans	Norwalk Green Line Station	6th & Los Angeles		
4:00A	4:04A	4:22A	4:43A	4:51A	5:05A	5:39A		
4:38	4:42	5:00	5:08	5:16	5:31	6:06		
5:07	5:12	5:30	5:24	5:32	5:48	6:26		
5:39	5:44	6:03	5:40	5:48	6:04	6:47		
6:01	6:06	6:25	5:55	6:03	6:20	7:05		
6:23	6:28	6:48	6:10	6:19	6:36	7:25		
6:45	6:51	7:11	6:30	6:40	6:58	7:51		
7:08	7:14	7:35	6:43	6:51	7:10	8:00		
7:33	7:39	8:00	6:53	7:03	7:21	8:16		
7:57	8:03	8:25	7:16	7:27	7:45	8:39		
8:23	8:29	8:51	7:40	7:51	8:09	9:00		
8:48	8:54	9:16	7:47	7:54	8:13	9:22		
9:13	9:19	9:41	7:59	8:08	8:27	9:42		
9:38	9:44	10:06	8:29	8:39	8:40	9:42		
10:07	10:13	10:35	8:53	9:04	9:21	10:05		
10:36	10:42	11:04	9:18	9:29	9:46	10:29		
11:04	11:10	11:32	9:43	9:54	10:11	10:52		
11:33	11:39	12:01P	10:08	10:19	10:36	11:16		
12:02P	12:08P	12:30	10:33	10:44	11:01	11:41		
12:31	12:37	12:59	11:02	11:13	11:30	12:10P		
12:57	1:03	1:24	11:31	11:42	11:59	12:39		
1:24	1:30	1:54	11:59	12:11P	12:28P	1:08		
1:50	1:56	2:20	12:29P	12:40	12:57	1:37		
2:10	2:16	2:41	12:58	1:09	1:26	2:06		
2:33	2:39	3:05	1:27	1:38	1:55	2:36		
2:54	3:00	3:26	1:56	2:06	2:24	3:08		
3:14	3:20	3:46	2:24	2:35	2:53	3:34		
3:33	3:39	4:05	2:51	3:02	3:20	4:03		
3:53	3:59	4:25	3:14	3:26	3:45	4:30		
4:14	4:20	4:46	3:38	3:51	4:10	4:55		
4:39	4:45	5:11	4:00	4:13	4:32	5:17		
5:02	5:08	5:34	4:20	4:33	4:53	5:38		
5:27	5:33	5:59	4:40	4:53	5:13	5:58		
5:56	6:02	6:28	5:00	5:13	5:33	6:17		
6:23	6:29	6:54	5:21	5:34	5:53	6:37		
6:50	6:56	7:20	5:45	5:57	6:14	6:56		
7:19	7:25	7:47	6:08	6:19	6:36	7:16		
7:49	7:55	8:16	6:32	6:42	6:59	7:38		
8:23	8:29	8:49	6:58	7:07	7:23	8:01		
8:56	9:02	9:22	7:22	7:31	7:47	8:24		
9:29	9:34	9:54	7:47	7:56	8:11	8:48		
10:03	10:08	10:27	8:21	8:21	8:36	9:13		
10:39	10:44	11:03	8:41	8:49	9:03	9:40		
11:19	11:24	11:43	9:12	9:20	9:33	10:10		
12:15A	12:19A	12:37A	9:44	9:52	10:05	10:42		
			10:16	10:24	10:37	11:14		
			10:49	10:57	11:10	11:46		
			11:25	11:33	11:46	12:20A		
			12:05A	12:13A	12:26A	1:00		
			12:58	1:06	1:19	1:53		

Monday through Friday

460

Southbound - Eastbound *Al Sur - Al Este* (Approximate Times / Tiempos Aproximados)

LOS ANGELES		NORWALK			BUENA PARK		ANAHEIM	
7	6	5	4	3	2	1		
5th & Los Angeles	Flower & Olympic	Norwalk Green Line Station	Rosecrans & Pioneer	Rosecrans & Carmita	Knott's Berry Farm	Disneyland		
4:00A	4:08A	4:36A	4:47A	4:54A	5:16A	5:36A		
4:28	4:36	5:05	5:16	5:23	5:46	6:08		
4:52	5:01	5:34	5:46	5:54	6:20	6:44		
5:18	5:27	6:00	6:14	6:22	6:51	7:17		
5:37	5:46	6:19	6:33	6:43	7:13	7:40		
5:54	6:04	6:38	6:52	7:02	7:33	8:00		
6:13	6:23	6:57	7:12	7:23	7:55	8:21		
6:31	6:41	7:15	7:30	7:42	8:14	8:39		
6:49	6:59	7:33	7:49	8:01	8:33	8:58		
7:07	7:18	7:52	8:08	8:19	8:51	9:15		
7:26	7:38	8:12	8:28	8:38	9:09	9:33		
7:46	7:58	8:32	8:48	8:58	9:27	9:51		
8:11	8:25	8:59	9:15	9:24	9:53	10:17		
8:39	8:53	9:27	9:43	9:52	10:21	10:45		
9:07	9:21	9:55	10:11	10:20	10:49	11:13		
9:34	9:48	10:22	10:38	10:47	11:16	11:40		
10:01	10:15	10:49	11:05	11:14	11:43	12:07P		
10:26	10:40	11:14	11:30	11:39	12:08P	12:32		
10:51	11:05	11:39	11:55	12:04P	12:33	12:57		
11:14	11:28	12:02P	12:18P	12:28	12:57	1:21		
11:34	11:48	12:22	12:38	12:48	1:17	1:41		
11:54	12:08P	12:42	12:58	1:08	1:37	2:02		
12:14P		1:02	1:19	1:19	1:58	2:23		
12:34	12:48	1:22	1:39	1:49	2:18	2:43		
12:53	1:07	1:42	1:59	2:10	2:39	3:04		
1:13	1:27	2:02	2:20	2:31	3:01	3:26		
1:32	1:46	2:22	2:41	2:52	3:24	3:49		
1:56	2:10	2:46	3:07	3:19	3:51	4:16		
2:21	2:35	3:14	3:34	3:46	4:18	4:44		
2:45	2:59	3:40	4:00	4:12	4:44	5:11		
3:11	3:25	4:06	4:26	4:38	5:09	5:36		
3:34	3:48	4:32	4:52	5:04	5:35	6:02		
3:56	4:11	4:57	5:17	5:29	6:00	6:27		
4:17	4:33	5:22	5:42	5:54	6:24	6:50		
4:40	4:58	5:47	6:07	6:18	6:47	7:13		
5:04	5:24	6:12	6:31	6:41	7:08	7:33		
5:29	5:49	6:37	6:55	7:05	7:30	7:54		
5:58	6:18	7:02	7:19	7:28	7:53	8:17		
6:30	6:47	7:27	7:43	7:52	8:17	8:41		
7:13	7:27	8:02	8:17	8:26	8:51	9:13		
7:55	8:08	8:42	8:55	9:03	9:26	9:47		
8:43	8:55	9:25	9:37	9:44	10:06	10:27		
9:29	9:39	10:08	10:19	10:26	10:47	11:08		
10:24	10:34	11:03	11:14	11:21	11:42	12:03A		

Routing and times are subject to change. For current schedules and additional information, please visit www.metro.net

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

METRO BUS 460

Saturday

Effective Jun 23 2019

460

Northbound - Westbound *Al Norte - Al Oeste* (Approximate Times / Tiempos Aproximados)

ANAHEIM		BUENA PARK		NORWALK		LOS ANGELES	
1	2	3	4	5	6	7	
Disneyland	Manchester & Harbor	Knott's Berry Farm	Rosecrans & Carmenita	Pioneer & Rosecrans	Norwalk Green Line Station	6th & Los Angeles	
5:00A	5:06A	5:24A	5:47A	5:55A	6:09A	6:43A	
5:45	5:51	6:10	6:33	6:42	6:57	7:31	
6:25	6:31	6:50	7:14	7:23	7:38	8:14	
6:56	7:03	7:23	7:47	7:56	8:12	8:49	
7:27	7:34	7:54	8:18	8:28	8:45	9:22	
7:58	8:05	8:25	8:49	8:59	9:16	9:54	
8:28	8:35	8:55	9:20	9:30	9:47	10:25	
8:57	9:04	9:24	9:50	10:01	10:18	10:56	
9:23	9:30	9:53	10:20	10:31	10:48	11:27	
9:50	9:57	10:20	10:47	10:58	11:16	11:55	
10:16	10:23	10:46	11:14	11:25	11:43	12:22P	
10:40	10:47	11:11	11:39	11:50	12:08P	12:48	
11:05	11:12	11:36	12:04P	12:15P	12:33	1:13	
11:29	11:36	11:59	12:29	12:40	12:58	1:38	
11:53	11:59	12:25P	12:54	1:05	1:23	2:03	
12:18P	12:25P	12:50	1:19	1:30	1:48	2:28	
12:44	12:51	1:16	1:45	1:55	2:13	2:53	
1:11	1:18	1:43	2:12	2:22	2:40	3:21	
1:39	1:46	2:11	2:40	2:50	3:08	3:49	
2:07	2:14	2:39	3:08	3:18	3:36	4:16	
2:35	2:42	3:07	3:36	3:46	4:04	4:44	
3:04	3:11	3:36	4:05	4:15	4:33	5:12	
3:33	3:40	4:05	4:34	4:44	5:02	5:41	
4:02	4:09	4:34	5:03	5:13	5:31	6:10	
4:31	4:38	5:03	5:32	5:41	5:59	6:38	
4:58	5:05	5:30	5:58	6:07	6:24	7:02	
5:23	5:30	5:55	6:23	6:32	6:49	7:27	
5:50	5:57	6:22	6:50	6:59	7:14	7:51	
6:15	6:22	6:47	7:15	7:24	7:39	8:15	
6:43	6:50	7:14	7:40	7:49	8:04	8:41	
7:13	7:19	7:42	8:07	8:16	8:30	9:06	
7:45	7:51	8:14	8:38	8:46	9:00	9:37	
8:20	8:26	8:47	9:10	9:18	9:31	10:07	
8:53	8:59	9:19	9:42	9:50	10:03	10:40	
9:26	9:31	9:51	10:14	10:22	10:35	11:12	
10:03	10:08	10:27	10:49	10:57	11:10	11:46	
10:39	10:44	11:03	11:25	11:33	11:46	12:20A	
11:19	11:24	11:43	12:05A	12:13A	12:26A	1:00	
12:15A	12:19A	12:37A	12:58	1:06	1:19	1:53	

Saturday

460

Southbound - Eastbound *Al Sur - Al Este* (Approximate Times / Tiempos Aproximados)

LOS ANGELES		NORWALK		BUENA PARK		ANAHEIM	
7	8	6	5	4	3	1	
5th & Los Angeles	Flower & Olympic	Norwalk Green Line Station	Rosecrans & Pioneer	Rosecrans & Carmenita	Knott's Berry Farm	Disneyland	
4:30A	4:38A	5:07A	5:18A	5:25A	5:48A	6:09A	
4:58	5:06	5:37	5:48	5:55	6:18	6:39	
5:28	5:36	6:07	6:18	6:25	6:48	7:10	
5:55	6:04	6:35	6:46	6:53	7:17	7:40	
6:20	6:29	7:01	7:14	7:22	7:47	8:10	
6:42	6:52	7:26	7:39	7:47	8:12	8:35	
7:06	7:16	7:50	8:03	8:12	8:38	9:01	
7:30	7:40	8:14	8:28	8:37	9:03	9:26	
7:54	8:04	8:38	8:52	9:01	9:29	9:53	
8:18	8:29	9:03	9:18	9:27	9:55	10:19	
8:43	8:54	9:28	9:43	9:52	10:20	10:45	
9:07	9:19	9:53	10:08	10:17	10:45	11:10	
9:32	9:44	10:18	10:33	10:42	11:10	11:36	
9:57	10:09	10:43	10:58	11:07	11:35	12:01P	
10:22	10:34	11:08	11:24	11:33	12:01P	12:27	
10:47	10:59	11:33	11:49	11:58	12:28	12:54	
11:10	11:23	11:58	12:14P	12:23P	12:53	1:19	
11:33	11:47	12:23P	12:39	12:48	1:18	1:44	
11:58	12:12P	12:48	1:04	1:13	1:43	2:09	
12:23P	12:37	1:13	1:29	1:38	2:07	2:33	
12:47	1:02	1:38	1:54	2:03	2:31	2:57	
1:12	1:27	2:03	2:19	2:27	2:55	3:22	
1:35	1:50	2:28	2:44	2:52	3:20	3:47	
2:00	2:15	2:54	3:10	3:18	3:46	4:13	
2:26	2:41	3:20	3:36	3:44	4:12	4:39	
2:51	3:06	3:46	4:02	4:10	4:38	5:04	
3:17	3:31	4:12	4:28	4:36	5:04	5:30	
3:44	3:58	4:39	4:55	5:03	5:31	5:57	
4:11	4:25	5:06	5:22	5:30	5:57	6:23	
4:38	4:52	5:33	5:49	5:57	6:23	6:48	
5:08	5:22	6:01	6:16	6:24	6:50	7:15	
5:37	5:51	6:29	6:44	6:52	7:18	7:42	
6:08	6:21	6:58	7:13	7:21	7:46	8:10	
6:39	6:52	7:27	7:41	7:49	8:14	8:38	
7:18	7:30	8:03	8:17	8:24	8:47	9:09	
8:00	8:11	8:43	8:56	9:03	9:26	9:47	
8:42	8:53	9:23	9:35	9:42	10:05	10:26	
9:29	9:39	10:08	10:19	10:26	10:47	11:08	
10:24	10:34	11:03	11:14	11:21	11:42	12:03A	

Routing and times are subject to change. For current schedules and additional information, please visit www.metro.net

METRO BUS 460

Sunday and Holiday

Effective Jun 23 2019

460

Northbound - Westbound *Al Norte - Al Oeste* (Approximate Times / Tiempos Aproximados)

ANAHEIM	BUENA PARK	NORWALK	LOS ANGELES
1	2	3	7
Disneyland	Manchester & Harbor	Knott's Berry Farm	6th & Los Angeles
5:00A	5:05A	5:23A	6:42A
5:45	5:50	6:08	7:28
6:25	6:30	6:48	8:09
6:57	7:03	7:22	8:43
7:30	7:36	7:55	9:17
8:01	8:07	8:26	9:48
8:30	8:36	8:55	10:19
9:00	9:06	9:26	10:52
9:30	9:37	9:58	11:24
10:00	10:07	10:28	11:56
10:32	10:39	11:00	12:28P
11:03	11:10	11:31	1:01
11:34	11:41	12:02P	1:33
12:04P	12:11P	12:34	2:06
12:35	12:42	1:05	2:38
1:06	1:13	1:36	3:09
1:37	1:44	2:07	3:41
2:08	2:15	2:38	4:10
2:39	2:46	3:09	4:41
3:10	3:17	3:41	5:13
3:41	3:48	4:13	5:45
4:14	4:21	4:45	6:17
4:47	4:54	5:18	6:48
5:20	5:27	5:51	7:20
5:56	6:03	6:26	7:52
6:28	6:35	6:58	8:24
7:03	7:09	7:31	8:55
7:35	7:41	8:03	9:28
8:13	8:19	8:40	10:02
8:52	8:58	9:18	10:38
9:24	9:31	9:51	11:11
10:03	10:08	10:27	11:45
10:39	10:44	11:03	12:20A
11:19	11:24	11:43	1:00
12:15A	12:19A	12:37A	1:53

Sunday and Holiday

460

Southbound - Eastbound *Al Sur - Al Este* (Approximate Times / Tiempos Aproximados)

LOS ANGELES	NORWALK	BUENA PARK	ANAHEIM
9	4	3	1
5th & Los Angeles	Norwalk Green Line Station	Rosecrans & Pioneer	Disneyland
4:30A	4:38A	5:18A	6:08A
5:20	5:28	6:09	7:01
5:54	6:03	6:44	7:36
6:21	6:31	7:14	8:07
6:51	7:01	7:45	8:40
7:20	7:30	8:15	9:11
7:49	8:00	8:45	9:44
8:16	8:29	9:16	10:15
8:46	8:59	9:46	10:45
9:16	9:29	10:16	11:17
9:46	9:59	10:47	11:49
10:14	10:27	11:17	12:19P
10:43	10:57	11:48	12:50
11:13	11:27	12:18P	1:20
11:41	11:56	12:47	1:49
12:10P	12:25P	1:16	2:18
12:38	12:53	1:44	2:46
1:06	1:21	2:12	3:15
1:35	1:50	2:40	3:43
2:03	2:18	3:08	4:11
2:31	2:46	3:36	4:40
3:01	3:16	4:06	5:10
3:31	3:46	4:36	5:40
4:03	4:16	5:06	6:10
4:34	4:47	5:37	6:38
5:05	5:19	6:08	7:08
5:36	5:49	6:37	7:36
6:09	6:21	7:08	8:05
6:42	6:54	7:41	8:37
7:20	7:31	8:17	9:10
8:00	8:10	8:55	9:47
8:42	8:52	9:22	10:25
9:29	9:39	10:19	11:08
10:24	10:34	11:14	12:03A

Routing and times are subject to change. For current schedules and additional information, please visit www.metro.net

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

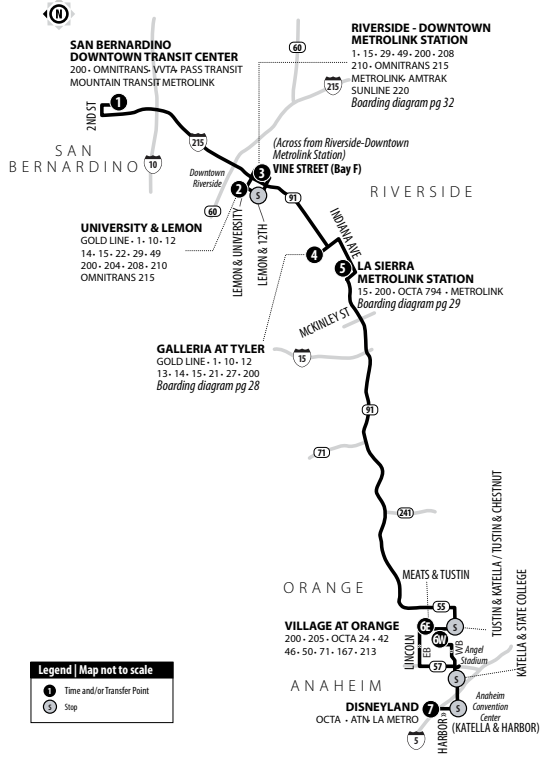
RTA ROUTE 200

200 SAN BERNARDINO - RIVERSIDE - ANAHEIM

Information Center
(951) 565-5002
RiversideTransit.com
RTABus.com

Routing and timetables subject to change.
Rutas y horarios son sujetos a cambios.

Sunday service on: Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas Day and New Year's Day. On these holidays, the Route 200 bus will not enter the San Bernardino Downtown Transit Center and instead will stop just outside the center on W. Rialto Ave.



Legend | Map not to scale
1 Time and/or Transfer Point
2 Stop

200 Weekdays | Westbound to Anaheim

A.M. times are in PLAIN, P.M. times are in BOLD | Times are approximate.

San Bernardino Downtown Transit Center	Lemon & University (Downtown Riverside)	Riverside-Downtown Metrolink Station (Vine St Bay F)	Galleria at Tyler	La Sierra Metrolink Station	Meats & Tustin	Disneyland
1	2	3	4	5	6W	7
3:32	3:53	3:56	4:13	4:21	4:57	5:15
4:35	4:56	4:59	5:17	5:25	6:08	6:29
5:11	5:34	5:37	5:55	6:03	6:51	7:33
6:35	7:00	7:03	7:21	7:29	8:14	8:38
7:35	8:00	8:03	8:21	8:29	9:06	9:30
8:15	8:39	8:43	9:03	9:11	9:48	10:12
9:25	9:49	9:53	10:13	10:21	10:58	11:22
10:21	10:45	10:50	11:12	11:20	11:58	12:22
11:23	11:47	11:52	12:14	12:23	1:01	1:25
12:11	12:35	12:40	1:02	1:11	1:49	2:13
1:06	1:30	1:35	1:57	2:06	2:44	3:08
2:16	2:40	2:45	3:07	3:16	3:54	4:18
3:21	3:46	3:49	4:10	4:19	4:57	5:23
4:28	4:53	4:56	5:17	5:26	6:02	6:26
5:28	5:54	5:57	6:18	6:26	7:00	7:24
6:35	6:58	7:01	7:18	7:26	8:00	8:22
7:42	8:04	8:07	8:24	8:32	9:06	9:28

200 Weekdays | Eastbound to San Bernardino

A.M. times are in PLAIN, P.M. times are in BOLD | Times are approximate.

Disneyland	Village at Orange	La Sierra Metrolink Station	Galleria at Tyler	Lemon & University (Downtown Riverside)	Riverside-Downtown Metrolink Station (Vine St Bay F)	San Bernardino Downtown Transit Center
7	6E	5	4	2	3	1
5:56	6:16	6:49	6:54	7:17	7:21	7:39
7:05	7:33	8:10	8:18	8:41	8:45	9:05
8:10	8:38	9:12	9:20	9:40	9:43	10:01
9:14	9:40	10:14	10:22	10:42	10:45	11:03
10:06	10:32	11:06	11:14	11:34	11:38	11:56
10:48	11:16	11:55	12:04	12:27	12:31	12:51
12:03	12:31	1:10	1:19	1:42	1:46	2:06
1:03	1:31	2:10	2:19	2:42	2:46	3:06
2:02	2:30	3:13	3:22	3:47	3:51	4:13
2:50	3:22	4:12	4:21	4:46	4:50	5:13
3:45	4:17	5:14	5:23	5:48	5:52	6:15
4:20	4:55	5:55	6:04	6:26	6:30	6:50
5:06	5:41	6:34	6:42	7:03	7:07	7:27
6:06	6:37	7:26	7:34	7:53	7:57	8:15
7:14	7:42	8:21	8:29	8:48	8:52	9:10
8:12	8:37	9:12	9:19	9:38	9:41	9:59
9:05	9:30	10:04	10:11	10:28	10:31	10:49
10:15	10:39	11:12	11:18	11:34	11:37	11:55

200 Weekends | Westbound to Anaheim

A.M. times are in PLAIN, P.M. times are in BOLD | Times are approximate.

San Bernardino Downtown Transit Center	Lemon & University (Downtown Riverside)	Riverside-Downtown Metrolink Station (Vine St Bay F)	Galleria at Tyler	La Sierra Metrolink Station	Meats & Tustin	Disneyland
1	2	3	4	5	6W	7
6:00	6:22	6:25	6:45	6:53	7:25	7:47
7:36	7:58	8:01	8:21	8:29	9:04	9:26
9:11	9:33	9:36	9:56	10:04	10:39	11:01
10:40	11:02	11:06	11:26	11:34	12:12	12:36
12:20	12:42	12:46	1:06	1:14	1:52	2:16
2:15	2:37	2:41	3:01	3:09	3:47	4:11
3:30	3:52	3:55	4:15	4:23	4:59	5:23
5:30	5:52	5:55	6:15	6:23	6:57	7:21
7:30	7:52	7:55	8:13	8:21	8:53	9:15

200 Weekends | Eastbound to San Bernardino

A.M. times are in PLAIN, P.M. times are in BOLD | Times are approximate.

Disneyland	Village at Orange	La Sierra Metrolink Station	Galleria at Tyler	Lemon & University (Downtown Riverside)	Riverside-Downtown Metrolink Station (Vine St Bay F)	San Bernardino Downtown Transit Center
7	6E	5	4	2	3	1
8:28	8:56	9:32	9:39	9:59	10:02	10:20
10:07	10:35	11:11	11:19	11:39	11:42	12:00
11:42	12:10	12:46	12:55	1:15	1:18	1:36
1:12	1:40	2:18	2:27	2:47	2:50	3:08
2:53	3:21	3:59	4:08	4:28	4:31	4:49
4:48	5:16	5:54	6:02	6:22	6:25	6:43
6:04	6:29	7:07	7:15	7:35	7:38	7:56
8:15	8:40	9:14	9:21	9:41	9:44	10:02
10:15	10:40	11:13	11:19	11:35	11:38	11:56

Routing and times are subject to change. For current schedules and additional information, please visit www.riversidetransit.com

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

RTA ROUTE 205 & 206

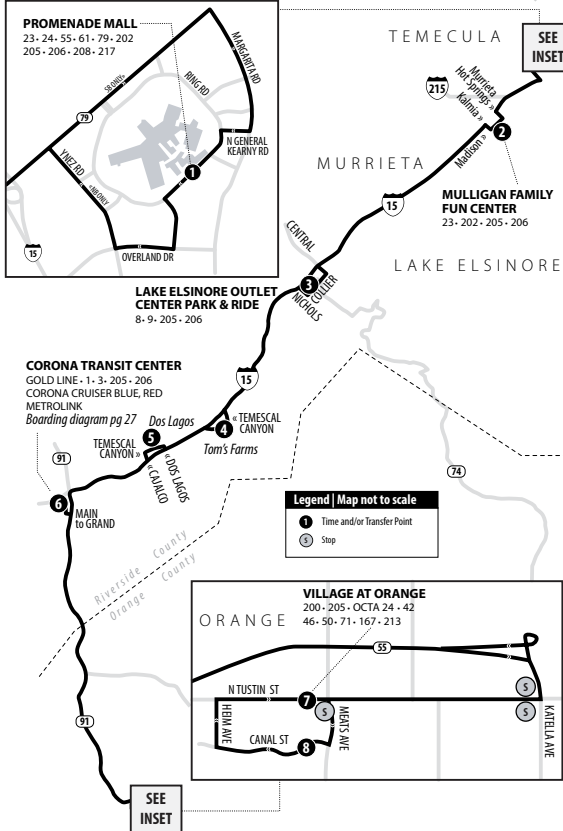
205 | 206

**TEMECULA - MURRIETA - LAKE ELSINORE -
CORONA TRANSIT CENTER - ORANGE**

Information Center
(951) 565-5002
RiversideTransit.com
RTABus.com

Routing and timetables
subject to change.
Rutas y horarios son
sujetos a cambios.

No service on weekends or: Memorial Day, Independence Day, Labor Day, Thanksgiving Day,
Christmas Day and New Year's Day.



205 | 206 **Weekdays | Northbound to Corona Transit Center and Village at Orange**

A.M. times are in PLAIN, P.M. times are in **BOLD** | Times are approximate

	Promenade Mall	Mulligans Murrieta	Lake Elsinore Outlet Center Park-And-Ride	Tom's Farm	Dos Lagos	Corona Transit Center	Canal & Meats
	1	2	3	4	5	6	8
205	3:56	4:07	4:27	4:38	—	5:00	5:45
206	4:17	4:27	4:45	5:00	—	5:20	—
206	4:36	4:47	5:07	5:23	—	5:45	—
205	—	—	5:35	5:47	6:00	6:23	7:18
206	5:09	5:20	5:40	—	—	6:15	—
205	—	—	6:10	6:23	6:38	7:04	7:59
206	5:48	6:00	6:20	—	—	7:02	—
206	6:13	6:25	6:48	7:01	7:13	7:39	—
The 6:48 a.m. trip will stop at Lake Elsinore Center at 6:47 a.m. for passenger connections from Route 8 Loops.							
206	8:00	8:15	8:40	8:54	9:03	9:23	—
206	8:55	9:10	9:35	9:49	9:58	10:18	—
206	11:15	11:30	11:55	12:09	12:18	12:38	—
206	1:35	1:50	2:15	2:29	2:38	2:58	—
205	—	—	—	—	—	3:10	3:48
205	—	—	—	—	—	4:27	5:05
206	3:17	3:32	3:57	4:11	4:20	4:40	—
206	4:41	4:56	5:21	5:35	5:44	6:04	—
205	—	—	—	—	—	6:14	6:49
206	6:30	6:45	7:07	7:20	7:28	7:46	—

205 | 206 **Weekdays | Southbound to Temecula**

A.M. times are in PLAIN, P.M. times are in **BOLD** | Times are approximate

	Canal & Meats	Village at Orange	Corona Transit Center	Dos Lagos	Tom's Farm	Lake Elsinore Outlet Center Park-And-Ride	Mulligans Murrieta	Promenade Mall
	8	7	6	5	4	3	2	1
206	—	—	6:25	6:38	6:48	7:05	7:23	7:45
The 6:25 a.m. trip will wait for the 6:10 a.m. westbound train, but no later than 6:25 a.m. before departing the Metrolink Station.								
205	5:55	5:59	6:34	—	—	—	—	—
206	—	—	7:12	7:25	7:35	7:50	8:05	8:18
The 7:12 a.m. trip will wait for the 6:50 a.m. eastbound and 6:50 a.m. westbound trains, but no later than 7:20 a.m. before departing the Metrolink Station.								
205	7:30	7:34	8:11	—	—	—	—	—
205	8:15	8:19	8:56	—	—	—	—	—
206	—	—	9:35	9:48	9:58	10:13	10:28	10:41
The 9:35 a.m. trip will wait for the 9:14 a.m. eastbound train, but no later than 9:45 a.m. before departing the station.								
206	—	—	10:40	10:53	11:03	11:18	11:33	11:46
The 10:40 a.m. trip will wait for the 10:09 a.m. eastbound and 10:36 a.m. westbound trains, but no later than 10:50 a.m. before departing the station.								
206	—	—	1:50	2:03	2:13	2:28	2:43	2:56
The 1:50 p.m. trip will wait for the 1:40 p.m. eastbound train, but no later than 2:00 p.m. before departing the station.								
206	—	—	3:25	3:38	3:48	4:03	4:18	4:31
The 3:25 p.m. trip will wait for the 3:21 p.m. westbound train, but no later than 3:35 p.m. before departing the station.								
206	—	—	4:31	—	5:03	5:18	5:38	5:55
The 4:31 p.m. trip will wait for the 4:27 p.m. train, but no later than 4:41 p.m. before departing the Metrolink Station.								
205	4:00	4:04	5:08	5:33	5:43	5:58	—	—
The 5:08 p.m. trip will wait for the 4:41 p.m. and 4:58 p.m. trains, but no later than 5:15 p.m. before departing the Metrolink Station.								
206	—	—	5:09	—	—	5:51	6:11	6:26
The 5:09 p.m. trip will wait for the 4:41 p.m. and 4:58 p.m. trains, but no later than 5:15 p.m. before departing the Metrolink Station.								
206	—	—	5:30	—	6:02	6:17	6:37	6:52
The 5:30 p.m. trip will wait for the 5:25 p.m. train, but no later than 5:40 p.m. before departing the Metrolink Station.								
206	—	—	5:50	—	6:22	6:37	6:57	7:12
The 5:50 p.m. trip will wait for the 5:45 p.m. train, but no later than 6:05 p.m. before departing the Metrolink Station.								
205	5:17	5:21	6:25	6:50	7:00	7:15	7:30	7:48
The 6:25 p.m. trip will wait for the 6:05 p.m. and 6:17 p.m. trains, but no later than 6:35 p.m. before departing the Metrolink Station.								
206	—	—	6:40	—	7:05	7:20	7:40	7:55
The 6:40 p.m. trip will wait for the 6:35 p.m. train, but no later than 6:50 p.m. before departing the Metrolink Station.								
205	6:59	7:03	8:01	—	8:19	8:34	8:49	9:05
The 8:01 p.m. trip will hold for the 7:36 p.m. and 7:55 p.m. trains to arrive. If your train is delayed, please call RTA Customer Information Center at 951-565-5002 to ensure the bus waits.								

Attachment: Attachment No. 5c - OCTA Oct. 2020 Bus Book (Appeal of the Draft Allocation for the City of Huntington Beach)

ORANGE COUNTY LINE • AMTRAK SERVICE

AMTRAK TRAINS FOR MONTHLY PASS HOLDERS ONLY

Oceanside to L.A.

DAILY

Amtrak Train No.	A561	A1761	A763	A565	A1565	A767	A1767	A569	A1569	A573	A1573	A777	A579	A583	A785	A591	A1591	A593	A595
Oceanside	4:53	5:37	6:57	7:55	7:43	9:23	9:06	10:40	10:40	12:16	11:51	1:00	2:36	3:48	4:53	6:34	6:27	7:40	9:53
San Clemente Pier	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	4:10	5:19	↓	↓	↓
San Clemente	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
San Juan Capistrano	5:25	6:09	7:30	8:30	8:18	10:01	9:42	11:17	11:21	12:53	12:22	1:33	3:08	4:25	5:34	7:13	7:07	8:15	10:26
Laguna Niguel/Mission Viejo	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Irvine	5:41	6:25	7:48	8:46	8:34	10:16	9:57	11:31	11:35	1:07	12:36	1:48	3:23	4:42	5:49	7:28	7:22	8:30	10:41
Tustin	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Santa Ana	5:52	6:36	7:59	8:58	8:46	10:27	10:08	11:42	11:46	1:18	12:47	1:59	3:34	4:55	6:00	7:39	7:33	8:42	10:52
Orange	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Anaheim	6:02	6:48	8:08	9:07	8:55	10:36	10:17	11:51	11:55	1:28	12:57	2:08	3:43	5:05	6:10	7:48	7:42	8:52	11:01
Fullerton	6:11	7:00	8:16	9:15	9:03	10:45	10:26	11:59	12:03	1:38	1:07	2:16	3:52	5:17	6:20	7:57	7:51	9:01	11:10
Buena Park	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Norwalk/Santa Fe Springs	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Commerce	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
L.A. Union Station	7:03	7:30	8:51	9:56	9:44	11:25	11:06	12:34	12:38	2:15	1:46	2:51	4:36	5:54	6:57	8:34	8:28	9:39	11:50
	M-F	Sa-Su		M-F	Sa-Su	M-F	Sa-Su	M-F	Sa-Su	M-F	Sa-Su					M-F	Sa-Su		

Blackout dates may apply; schedules are subject to change. For details please visit: metrolinktrains.com/rail2rail.

L.A. to Oceanside

DAILY

Amtrak Train No.	A562	A564	A1564	A566	A1566	A768	A572	A1572	A774	A578	A580	A782	A584	A1584	A590	A1590	A792	A796
L.A. Union Station	6:05	7:02	6:52	8:33	8:19	9:55	10:54	11:20	12:33	1:15	2:58	4:08	5:15	5:15	7:21	6:46	8:15	10:22
Commerce	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Norwalk/Santa Fe Springs	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Buena Park	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Fullerton	6:36	7:33	7:23	9:04	8:50	10:26	11:25	11:51	1:04	1:47	3:29	4:39	5:47	5:47	7:52	7:17	8:46	10:53
Anaheim	6:45	7:41	7:31	9:12	8:58	10:34	11:33	11:59	1:12	1:56	3:37	4:47	5:56	5:56	8:00	7:26	8:54	11:01
Orange	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Santa Ana	6:55	7:49	7:40	9:21	9:07	10:43	11:42	12:08	1:21	2:05	3:46	4:56	6:05	6:05	8:09	7:34	9:02	11:10
Tustin	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Irvine	7:08	8:02	7:53	9:32	9:18	10:54	11:55	12:21	1:34	2:18	3:59	5:09	6:18	6:18	8:22	7:46	9:15	11:21
Laguna Niguel/Mission Viejo	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
San Juan Capistrano	7:23	8:22	8:09	9:46	9:31	11:09	12:15	12:41	1:49	2:32	4:14	5:24	6:32	6:32	8:38	8:00	9:30	11:36
San Clemente	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
San Clemente Pier	↓	↓	↓	10:04	9:48	11:22	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
Oceanside	8:02	8:55	8:42	10:28	10:19	11:47	12:52	1:15	2:24	3:09	4:52	6:01	7:06	7:06	9:11	8:45	10:05	12:10
	M-F	Sa-Su	M-F	Sa-Su		M-F	Sa-Su						M-F	Sa-Su	M-F	Sa-Su		

Blackout dates may apply; schedules are subject to change. For details please visit: metrolinktrains.com/rail2rail.

ORANGE COUNTY LINE • AMTRAK SERVICE

AMTRAK TRAINS FOR MONTHLY PASS HOLDERS ONLY

NOTES

- ↓ Train does not stop at this station
- ↓ Express Train
- D Stops to discharge only
- Transfer Trains
- Train may leave up to five minutes ahead of schedule

- ★ Metrolink/Amtrak Shared Station
- A Amtrak train. Only Metrolink monthly pass holders may travel on Amtrak at no additional cost as part of the Rail® program. Please visit metrolinktrains.com for conditions of use.
- FRI Train operates on Fridays only
- Amtrak bus

M-F Train operates on Mondays to Fridays only
 Sa-Su Train operates on Saturdays and Sundays only

MA These Amtrak trains are available to passengers with any type of valid Metrolink ticket, and cannot accommodate bicycles

AM times PM times

Boarding information is available at each station

Routing and times are subject to change. For current schedules and additional information, please visit www.amtrak.com

METROLINK SCHEDULES

ORANGE COUNTY LINE

Oceanside to L.A.

MONDAY THROUGH FRIDAY

Metrolink Train No.	681	601	603	605	683	607	685	800	687	633	641	609	689	643	645
Oceanside	4:35	5:16	5:42			6:34		7:39				2:59	3:26		
San Clemente Pier	↓	↓	↓			↓		↓				↓	↓		
San Clemente	4:58	5:38	6:04			6:56		8:02				3:21	3:48		
San Juan Capistrano	5:07	5:47	6:13			7:05		8:11				3:31	3:57		
Laguna Niguel/Mission Viejo	4:05	5:14	5:53	6:19		7:11	8:03	8:17	8:43	9:28		3:39	4:07		5:50 9:25
Irvine	4:15	5:24	6:03	6:29	7:10	7:22	8:13	8:27	8:54	9:38		3:50	4:19	5:17	6:00 9:35
Tustin	4:21	5:30	6:09	6:36	7:16	7:28	8:19	8:33	9:00	9:45		3:57	4:26	5:23	6:07 9:42
Santa Ana	4:27	5:36	6:16	6:43	7:22	7:34	8:25	8:39	9:06	9:52		4:04	4:33	5:29	6:14 9:49
Orange	4:32	5:44	6:21	6:49	7:27	7:39	8:30	8:44	9:11	9:57		4:09	4:38	5:34	6:19 9:55
Anaheim	4:36	5:49	6:26	6:55	7:32	7:44	8:35		9:16	10:02		4:14	4:44	5:39	6:24 10:00
Fullerton	4:43	5:56	6:35	7:02	7:41	7:51	8:42		9:25	10:10		4:24	4:51	5:46	6:32 10:10
Buena Park	4:49	6:02	6:41	7:08	7:47	7:57	8:48		9:30	10:16		4:57	5:52	6:38	
Norwalk/Santa Fe Springs	4:57	6:10	6:49	7:16	7:55	8:05	8:56		9:37	10:24		5:05	6:00	6:46	
Commerce	↓	↓	7:00	7:26	↓	8:19	9:08		↓	↓		↓	↓	↓	
L.A. Union Station	5:25	6:37	7:20	7:45	8:19	8:40	9:26		10:04	10:49		5:31	6:27	7:11	

Check 91/PV Line and Inland Empire-Orange County Line schedules for additional trains along this corridor.

NOTES: See page 3

MONDAY THROUGH FRIDAY

Metrolink Train No.	682	600	632	684	602	686	640	604	688	606	608	642	644
L.A. Union Station	6:26	7:58	1:30	2:11	3:19	3:47		4:30	4:50	5:40	6:40	7:41	
Commerce	↓	↓	↓	3:33	4:01			4:44	↓	5:54	↓	↓	
Norwalk/Santa Fe Springs	6:48	8:20	1:53	2:33	3:43	4:12		4:55	5:12	6:04	7:03	8:05	
Buena Park	6:55	8:27	2:01	2:40	3:50	4:19		5:03	5:19	6:11	7:10	8:13	
Fullerton	7:02	8:33	2:08	2:46	3:56	4:25	4:50	5:10	5:25	6:17	7:16	8:19	10:30
Anaheim	7:09	8:40	2:18	2:54	4:03	4:33	4:57	5:17	5:33	6:25	7:23	8:29	10:37
Orange	7:14	8:45	2:23	2:59	4:08	4:38	5:02	5:22	5:39	6:31	7:28	8:34	10:42
Santa Ana	7:20	8:50	2:28	3:05	4:13	4:43	5:07	5:27	5:45	6:36	7:33	8:40	10:48
Tustin	7:26	8:56	2:35	3:12	4:19	4:49	5:13	5:33	5:52	6:42	7:39	8:46	10:54
Irvine	7:35	9:04	2:43	3:21	4:27	5:02	5:21	5:41	6:01	6:50	7:47	8:55	11:03
Laguna Niguel/Mission Viejo	7:50	9:14	2:55	3:36	4:40		5:35	5:51	6:15	7:00	7:58	9:06	11:14
San Juan Capistrano		9:20			4:46			5:57		7:06	8:04		11:19
San Clemente		9:30			4:59			6:06		7:16	8:17		11:29
San Clemente Pier		↓			↓			↓		↓	↓		↓
Oceanside		10:01			5:28			6:37		7:48	8:46		11:55

Train 644 may be held in Anaheim for special events. Please visit metrolinktrains.com for details.

Check 91/PV Line and Inland Empire-Orange County Line schedules for additional trains along this corridor.

ORANGE COUNTY LINE

L.A. to Oceanside

Oceanside to L.A.

SATURDAY AND SUNDAY

Metrolink Train No.	660	662	664	666
L.A. Union Station	8:40	10:50	2:00	4:40
Commerce	↓	↓	↓	↓
Norwalk/Santa Fe Springs	9:02	11:12	2:22	5:02
Buena Park	9:09	11:19	2:29	5:09
Fullerton	9:15	11:25	2:35	5:15
Anaheim	9:22	11:32	2:42	5:22
Orange	9:27	11:37	2:47	5:27
Santa Ana	9:32	11:42	2:52	5:32
Tustin	9:38	11:48	2:58	5:38
Irvine	9:46	11:56	3:06	5:46
Laguna Niguel/Mission Viejo	9:56	12:06	3:16	5:56
San Juan Capistrano	10:01	12:13	3:21	6:01
San Clemente	10:12	12:25	3:34	6:15
San Clemente Pier	10:15	12:28	3:36	6:18
Oceanside	10:52	1:00	4:15	6:55

Check 91/PV Line and Inland Empire-Orange County Line schedules for additional trains along this corridor.

SATURDAY AND SUNDAY

Metrolink Train No.	661	663	665	667
Oceanside	8:15	11:24	1:24	5:36
San Clemente Pier	8:35	11:48	1:43	5:55
San Clemente	8:38	11:50	1:46	5:58
San Juan Capistrano	8:50	12:00	2:00	6:11
Laguna Niguel/Mission Viejo	8:58	12:08	2:07	6:19
Irvine	9:08	12:19	2:17	6:29
Tustin	9:14	12:25	2:23	6:35
Santa Ana	9:20	12:31	2:29	6:41
Orange	9:25	12:36	2:34	6:46
Anaheim	9:30	12:41	2:39	6:51
Fullerton	9:37	12:48	2:46	6:58
Buena Park	9:43	12:54	2:52	7:04
Norwalk/Santa Fe Springs	9:51	1:02	3:00	7:12
Commerce	↓	↓	↓	↓
L.A. Union Station	10:30	1:37	3:39	7:56

Check 91/PV Line and Inland Empire-Orange County Line schedules for additional trains along this corridor.

NOTES

↓ Train does not stop at this station

★ Metrolink/Amtrak Shared Station

AM times PM times

➤ Transfer Trains

• Train may leave up to five minutes ahead of schedule

Boarding information is available at each station

METROLINK SCHEDULES

INLAND EMPIRE - ORANGE COUNTY LINE

MONDAY THROUGH FRIDAY

Metrolink Train No.	803	805	807	809	811	813	815	817
San Bernardino - Downtown	4:31	5:18	5:54					12:19
San Bernardino Depot*	4:36	5:23	5:59					12:24
Riverside - Downtown	4:53	5:40	6:16	6:59	7:28	10:18		12:40 3:01
Riverside - La Sierra	5:06	5:50	6:27	7:10	7:40	10:29		12:52 3:14
Corona - North Main	5:13	5:58	6:34	7:17	7:47	10:36		12:59 3:21
Corona - West	5:18	6:04	6:39	7:22	7:52	10:41		1:04 3:26
Anaheim Canyon	5:36	6:25	6:59	7:42	8:12	11:02		1:25 3:45
Orange	5:44	6:33	7:07	7:53	8:22	11:09		1:34 3:54
Santa Ana	5:53	6:38	7:12	7:58	8:28	11:14		1:40 4:00
Tustin	5:59	6:44	7:18	8:05	8:34	11:21		1:46 4:07
Irvine	6:07	6:55	7:26	8:13	8:42	11:30		1:54 4:15
Laguna Niguel/Mission Viejo	6:18		7:42	8:28	8:53	11:42		2:04 4:26
San Juan Capistrano	6:26							2:09
San Clemente	6:36							2:18
San Clemente Pier	↓							↓
Oceanside	7:03							2:53

* Formerly San Bernardino Station

Check 91/PV Line and Orange County Line schedules for additional trains along this corridor.

Oceanside to San Bernardino

MONDAY THROUGH FRIDAY

Metrolink Train No.	800	802	804	806	808	810	812	814
Oceanside	7:39							4:25
San Clemente Pier	↓							↓
San Clemente	8:02							4:46
San Juan Capistrano	8:11							4:57
Laguna Niguel/Mission Viejo	8:17	9:13	12:40	3:27	3:56	4:45	5:18	6:35
Irvine	8:27	9:23	12:50	3:37	4:06	4:55	5:28	6:45
Tustin	8:33	9:29	12:57	3:44	4:12	5:01	5:34	6:51
Santa Ana	8:39	9:35	1:03	3:50	4:19	5:07	5:41	6:57
Orange	8:44	9:40	1:08	3:57	4:24	5:12	5:46	7:02
Anaheim Canyon	8:51	9:46	1:14	4:03	4:31	5:19	5:53	7:09
Corona - West	9:09	10:04	1:34	4:22	4:52	5:38	6:11	7:30
Corona - North Main	9:14	10:09	1:40	4:27	4:58	5:45	6:17	7:36
Riverside - La Sierra	9:21	10:17	1:48	4:35	5:06	5:54	6:25	7:44
Riverside - Downtown	9:44	10:29	2:10	4:57	5:17	6:06	6:37	8:05
San Bernardino Depot*	10:47				5:32	6:21	6:54	
San Bernardino - Downtown	11:01				5:44	6:33	7:08	

INLAND EMPIRE - ORANGE COUNTY LINE

SATURDAY AND SUNDAY

Metrolink Train No.	857	859
San Bernardino - Downtown	7:00	8:55
San Bernardino Depot*	7:05	9:00
Riverside - Downtown	7:24	9:19
Riverside - La Sierra	7:36	9:32
Corona - North Main	7:44	9:39
Corona - West	7:49	9:44
Anaheim Canyon	8:11	10:07
Orange	8:22	10:17
Santa Ana	8:27	10:23
Tustin	8:34	10:30
Irvine	8:42	10:39
Laguna Niguel/Mission Viejo	8:57	10:52
San Juan Capistrano	9:03	11:00
San Clemente	9:13	11:10
San Clemente Pier	9:16	11:13
Oceanside	9:55	11:50

* Formerly San Bernardino Station

Check 91/PV Line and Orange County Line schedules for additional trains along this corridor.

Oceanside to San Bernardino

SATURDAY AND SUNDAY

Metrolink Train No.	858	860
Oceanside	2:51	4:28
San Clemente Pier	3:11	4:47
San Clemente	3:14	4:50
San Juan Capistrano	3:29	5:00
Laguna Niguel/Mission Viejo	3:37	5:08
Irvine	3:48	5:18
Tustin	3:55	5:24
Santa Ana	4:01	5:30
Orange	4:07	5:35
Anaheim Canyon	4:16	5:42
Corona - West	4:36	6:02
Corona - North Main	4:43	6:08
Riverside - La Sierra	4:52	6:17
Riverside - Downtown	5:00	6:26
San Bernardino Depot*	5:18	6:44
San Bernardino - Downtown	5:34	7:11

* Formerly San Bernardino Station

Check 91/PV Line and Orange County Line schedules for additional trains along this corridor.

NOTES

↓ Train does not stop at this station

★ Metrolink/Amtrak Shared Station

AM times PM times

➤ Transfer Trains

• Train may leave up to five minutes ahead of schedule

Boarding information is available at each station

Routing and times are subject to change. For current schedules and additional information, please visit www.octa.net/metrolink or www.metrolinktrains.com

METROLINK SCHEDULES

91/PERRIS VALLEY LINE

Perris to L.A.

L.A. to Perris

MONDAY THROUGH FRIDAY

Metrolink Train No.	701	703	705	707	711
Perris - South	4:30	5:10	5:48	6:30	
Perris - Downtown	4:34	5:14	5:52	6:34	
Moreno Valley/March Field	4:44	5:24	6:02	6:44	
Riverside - Hunter Park/UCR	5:02	5:42	6:20	7:02	
Riverside - Downtown	5:14	5:54	6:32	7:14	6:07
Riverside - La Sierra	5:24	6:02	6:42	7:24	6:17
Corona - North Main	5:32	6:10	6:50	7:32	6:25
Corona - West	5:38	6:16	6:56	7:38	6:31
Fullerton	6:05	6:43	7:21	8:03	6:58
Buena Park	6:11	6:50	7:29	8:10	7:04
Norwalk/Santa Fe Springs	6:19	6:58	7:36	8:18	7:10
L.A. Union Station	6:45	7:25	8:10	8:45	7:37

MONDAY THROUGH FRIDAY

Metrolink Train No.	700	704	706	708	710	712
L.A. Union Station	5:45	3:35	4:20	5:00	5:30	6:50
Norwalk/Santa Fe Springs	6:06	3:56	4:41	5:21	5:51	7:11
Buena Park	6:12	4:03	4:47	5:27	5:57	7:17
Fullerton	6:19	4:09	4:54	5:34	6:04	7:24
Corona - West	6:43	4:35	5:18	5:58	6:28	7:48
Corona - North Main	6:50	4:41	5:25	6:05	6:35	7:55
Riverside - La Sierra	6:59	4:50	5:34	6:14	6:44	8:04
Riverside - Downtown	7:15	5:03	5:48	6:28	6:58	8:25
Riverside - Hunter Park/UCR		5:15	5:57	6:37	7:07	
Moreno Valley/March Field		5:28	6:10	6:50	7:20	
Perris - Downtown		5:39	6:21	7:01	7:31	
Perris - South		5:58	6:40	7:15	7:50	

Check Orange County Line and Inland Empire-Orange County Line schedules for additional trains along this corridor.
Check Riverside Line schedule for additional trains between L.A. Union Station and Riverside - Downtown.

SATURDAY AND SUNDAY

Metrolink Train No.	751	753
Perris - South	7:07	8:17
Perris - Downtown	7:11	8:21
Moreno Valley/March Field	7:24	8:34
Riverside - Hunter Park/UCR	7:41	8:51
Riverside - Downtown	7:50	9:00
Riverside - La Sierra	8:00	9:10
Corona - North Main	8:08	9:18
Corona - West	8:14	9:24
Fullerton	8:39	9:49
Buena Park	8:46	9:56
Norwalk/Santa Fe Springs	8:54	10:04
L.A. Union Station	9:30	10:40

SATURDAY AND SUNDAY

Metrolink Train No.	752	754
L.A. Union Station	3:15	7:12
Norwalk/Santa Fe Springs	3:36	7:33
Buena Park	3:42	7:39
Fullerton	3:49	7:46
Corona - West	4:13	8:10
Corona - North Main	4:20	8:17
Riverside - La Sierra	4:29	8:26
Riverside - Downtown	4:42	8:39
Riverside - Hunter Park/UCR	4:59	8:57
Moreno Valley/March Field	5:16	9:14
Perris - Downtown	5:29	9:27
Perris - South	5:35	9:33

NOTES

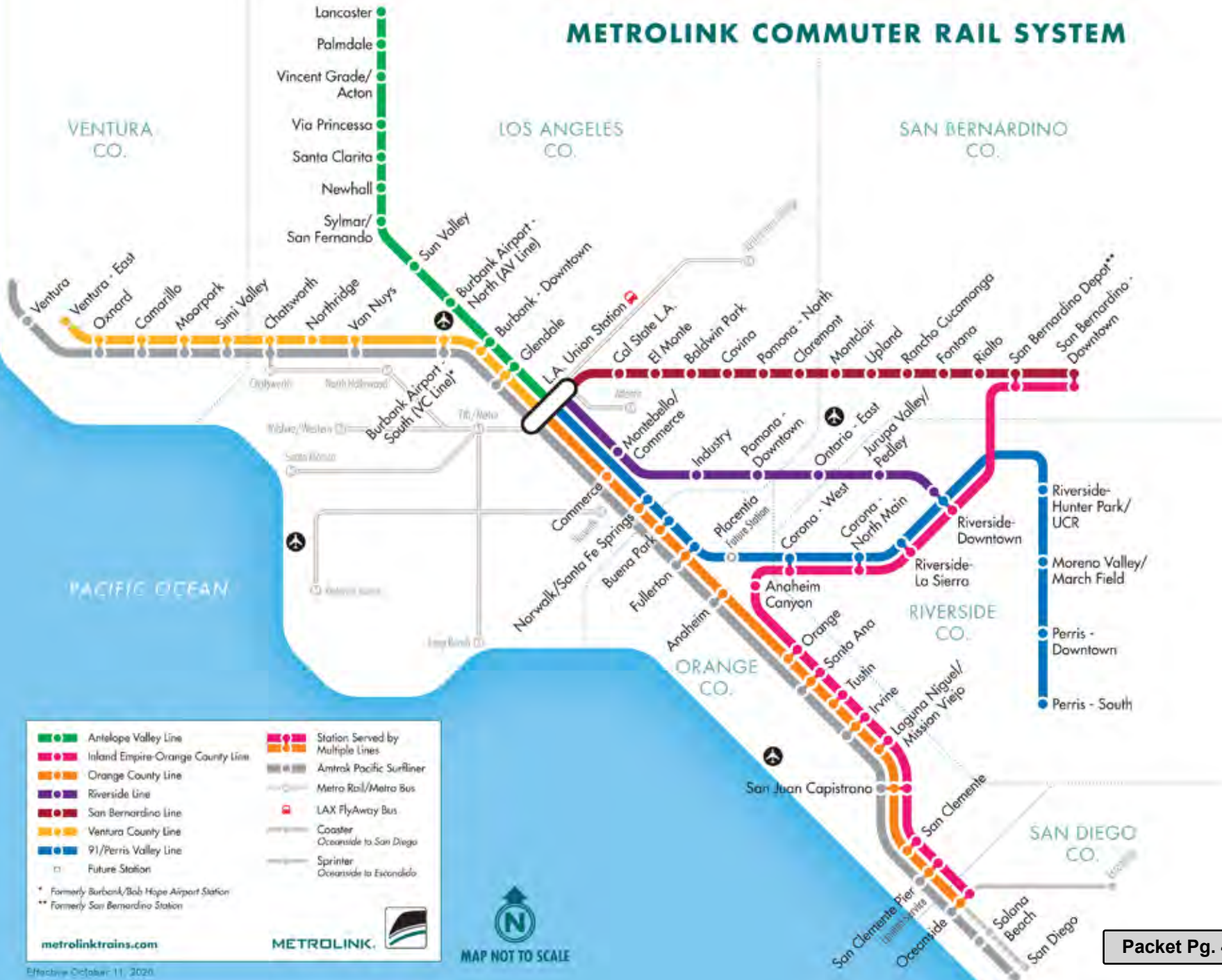
- ↓ Train does not stop at this station
- ★ Metrolink/Amtrak Shared Station
- Transfer Trains
- Train may leave up to five minutes ahead of schedule

AM times **PM** times

Boarding information is available at each station

Routing and times are subject to change. For current schedules and additional information, please visit www.octa.net/metrolink or www.metrolinktrains.com

METROLINK COMMUTER RAIL SYSTEM



- Antelope Valley Line
- Inland Empire-Orange County Line
- Orange County Line
- Riverside Line
- San Bernardino Line
- Ventura County Line
- 91/Perris Valley Line
- Future Station
- Station Served by Multiple Lines
- Amtrak Pacific Surfliner
- Metro Rail/Metro Bus
- LAX FlyAway Bus
- Coaster Oceanside to San Diego
- Sprinter Oceanside to Escondido

* Formerly Burbank/Bob Hope Airport Station
 ** Formerly San Bernardino Station

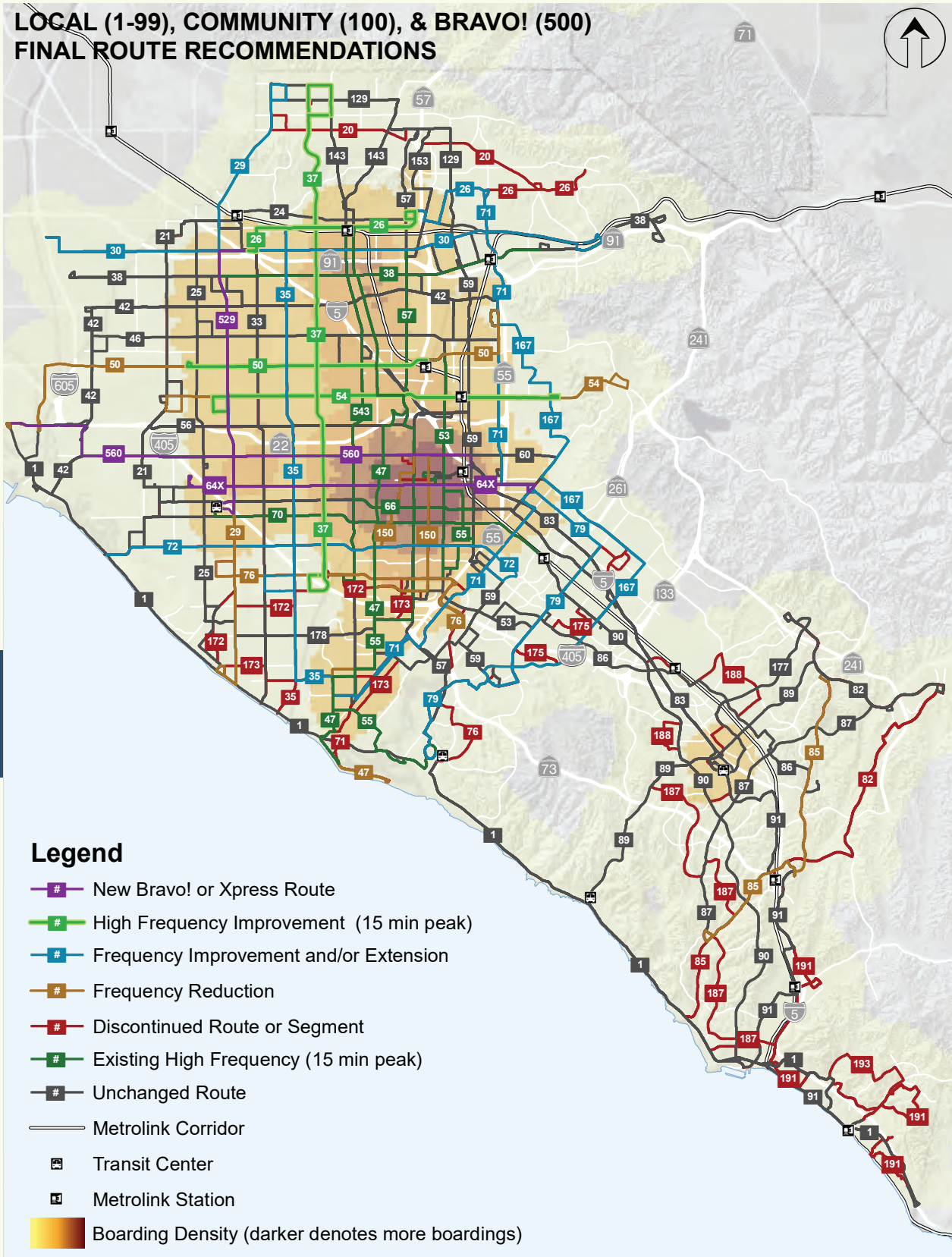
metrolinktrains.com

METROLINK



ID	Comment	Response
<p><i>Submitted by</i> City of Costa Mesa Submittal 0001527 Related Documents Link</p>		
0001527.01	<p>Dear Connect SoCal Team:The City of Costa Mesa appreciates the time and effort undertaken by the Southern California Association of Governments (SCAG) staff in its efforts to develop a RTP/SCS of our large and diverse metropolitan planning area. The City of Costa Mesa remains committed to doing its fair share in addressing regional issues and appreciate the comment and review period provided by SCAG for the Connect SoCal Plan and its associated PEIR.</p>	<p>Thank you for your comments on the Draft Connect SoCal and associated PEIR. Comment noted. For responses related to the Connect SoCal Program Environmental Impact Report (PEIR), please refer to Chapter 9.0, Responses to Comments, of the Final Connect SoCal PEIR.</p>
0001527.02	<p>The City would like to express its support of recommendations and comments submitted by the Orange County Council of Governments, Orange County Transportation Authority, and Center for Demographic Research. We strongly recommend that all comments and concerns from these bodies be implemented into the Connect SoCal Plan and the associated PEIR.</p>	<p>Comment noted. For responses related to the Draft Connect SoCal Program Environmental Impact Report (PEIR), please refer to Chapter 9.0, Responses to Comments, and Chapter 10, Corrections and Additions, of the Final Connect SoCal PEIR.</p>
<p><i>Submitted by</i> City of Huntington Beach Submittal 0001393 Related Documents Link</p>		
0001393.01	<p>Thank you for the opportunity to submit comments on the Draft Connect SoCal plan and Program EIR. The City of Huntington Beach appreciates SCAG's public outreach efforts for this process and offers the following comments and concerns for your consideration.</p>	<p>Thank you for your comments on the Draft Connect SoCal and associated PEIR.</p>
0001393.02	<p>High Quality Transit Areas (HQTAs). HQTAs are defined as "corridors that have at least a fifteen minute headway (time in between the next scheduled service) during peak hours bus service." According to RTP/SCS maps, all of Beach Boulevard within the City of Huntington Beach is defined as a HQTA. However, based on the October 13, 2019 Orange County Transportation Authority (OCTA) Bus Schedule 1, there are no bus stops on Beach Boulevard within the City of Huntington Beach with headway times of 15 minutes or less. Route 29 services Beach Boulevard from the City of La Habra to PCH in Huntington Beach. The shortest headway time during peak hours for bus service is on the Route 29 stop at PCH/1 51 Street (not a stop on Beach Boulevard) traveling southbound with an average headway time of 18.23 minutes during the PM peak hours. Most stops have an average peak hour headway time of approximately 19-25 minutes. Some stops, such as the Beach Boulevard/Talbert Avenue stop, have peak hour headway times of 40-49 minutes. One stop (Beach Boulevard/Atlanta Avenue) did not list any stop times as part of any route for this stop. It must also be noted that OCTA eliminated Route 211 in October 2019, which serviced Huntington Beach to Irvine (a major Orange County job center) due to low ridership.Further, OCTA's 2018 Long Range Transportation Plan (LRTP)2 includes Figure 4.1 - Local, Community, and Bravo! Final Route Recommendations. This figure recommends that Route 29 receive a reduction in frequency of service. This will add further delay to the 19-25 minute average peak hour headway service times on Beach Boulevard.</p>	<p>SCAG worked closely with the Orange County Transportation Authority (OCTA) to identify the high quality transit corridors (HQTAs) in Orange County which form the basis for high quality transit areas (HQTAs). SCAG and OCTA together identified the Beach Blvd corridor, including the entire alignment within the City of Huntington Beach, as both an existing and future HQTAs. See Figure 4.10 in OCTA's 2018 Long Range Transportation Plan.The nature of bus services is that routes and service frequency can change periodically, thus a County Transportation Commission's (CTC) estimate of future transit service frequency is the best estimate available at a given point in time. For the 6th cycle of RHNA, SCAG is assigning a portion of housing unit need on the basis of 2045 HQTAs. These HQTAs will be consistent with those developed for Connect SoCal. CTCs including OCTA have provided SCAG with the most likely future service scenario in order to assist with our long-range planning efforts.</p>

FIGURE 4.1





June 11, 2020

To: Transit Committee

From: Darrell E. Johnson, Chief Executive Officer

Subject: Bus Operations Performance Measurements Report for the Third Quarter of Fiscal Year 2019-20

Overview

The Orange County Transportation Authority operates fixed-route bus and demand-response paratransit service throughout Orange County and into neighboring counties. The established measures of performance for these services assess the safety, courtesy, reliability, and overall quality of these services. This report summarizes the year-to-date performance of these services through the third quarter of fiscal year 2019-20.

Recommendation

Receive and file as an information item.

Background

The Orange County Transportation Authority (OCTA) operates a countywide network of 60 routes, including local, community, rail connector, and express bus routes serving over 5,000 bus stops. Fixed-route bus (OC Bus) service operates in a 798 square-mile area, serving more than three million residents in 34 cities and unincorporated areas, with connections to transit services in Orange, Los Angeles, and Riverside counties. OCTA provides these services through both directly-operated (DOFR) and contracted fixed-route service (CFR). OCTA also provides OC ACCESS, a federally-mandated paratransit service, which is a shared-ride program available for people unable to use the OC Bus service because of functional limitations. Performance measures for both, OC Bus and OC ACCESS services are summarized and reported quarterly (Attachment A).

Discussion

This report provides an update on the performance of the OC Bus and OC ACCESS services by presenting the current trends and comparisons with OCTA-established performance standards for transit system safety, courtesy, and reliability. OCTA counts preventable vehicle accidents to evaluate system safety, customer complaints to assess courtesy, and uses both on-time performance and miles between road calls (MBRC) to measure service reliability. This report includes year-to-date performance through the third quarter, including the months of January, February, and March of fiscal year (FY) 2019-20.

It is important to note that OCTA implemented a reduced service schedule for OC Bus on March 23, 2020 in response to the novel coronavirus (COVID-19) pandemic. The impact that COVID-19 has had on both OC Bus and OC ACCESS has been significant, but because the impacts did not begin to manifest themselves until mid-March, the impact on the performance metrics for the entire three-month period is not significant. Impacts as a result of COVID-19 will be much more evident and discussed in the performance measures report for the following quarter.

- Safety – DOFR OC Bus and OC ACCESS services both remain below the accident frequency standard as the number of preventable accidents recorded for each mode exceeded one preventable accident per 100,000 service miles for the year-to-date numbers. OCTA Operations staff have continued to focus on and stress the importance of safety, conduct safety-related campaigns, and promote the safe driving award program. Improvements were realized between January and March, moving the trend line towards meeting the standard. Improvements were realized between January and March, moving the trend line towards meeting the standard. Improvements were realized between January and March, moving the trend line towards meeting the standard. For OC ACCESS service, fixed object and curb strikes continued to pull overall performance below standard. However, the contractor did take steps to address performance in this area with the Regional Director of Safety for Southern onsite during February 2020. OCTA Operations staff will continue to focus on and stress the importance of safety, conduct safety-related campaigns, and promote the safe driving award program. CFR OC Bus service continued to improve compared to the previous quarter, resulting in year-to-date performance that exceeds the standard.

- Customer Service – Customer service is measured by evaluating the number of valid customer complaints received compared to boardings. During the first quarter, all modes of service performed above the respective standards.
- Reliability – On-time performance (OTP) for OC Bus and OC ACCESS remain below target but showed improvement between January and March. The improvement in fixed-route OTP is likely a result of the OTP for March. In March, OTP for fixed-route services was 87.4 percent, an increase of 6.6 percent. OTP for OC ACCESS improved slightly by 0.2 percent.

The MBRC for all modes of service exceeded the standard through the reporting period. OCTA staff will continue to monitor performance in this area and work with the contractor to sustain or improve overall performance.

The report also includes:

- An assessment of the efficiency of OCTA transit operations based on industry standards for ridership, productivity, farebox recovery, and cost per revenue vehicle hour;
- A review of contractor performance for CFR and OC ACCESS services;
- A route-level performance evaluation that includes subsidy per boarding, revenue per boarding, and resource allocation (buses); and
- A status report on the service adjustments and strategies implemented under the OC Bus 360° Program, including OC Flex and the College Pass Program.

Summary

Through the third quarter of FY 2019-20, the performance of OC Bus service and OC ACCESS exceeded the performance in the areas of courtesy and reliability (MBRC). While the safety and reliability standards continue to improve, year-to-date performance has not met the standard; staff will continue to focus efforts in both safety and reliability. The performance of OC ACCESS exceeded the standard for courtesy but fell below the performance standard for safety and reliability. OCTA staff continue to focus on continuous quality improvement in safety and reliability as detailed in the report. In addition to tracking the established key performance indicators, staff will continue to manage the service contracts pursuant to contract requirements and work to identify other strategies to improve overall system performance.

Attachment

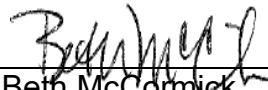
- A. Bus Operations Performance Measurements Report, Third Quarter, Fiscal Year 2019-20

Prepared by:

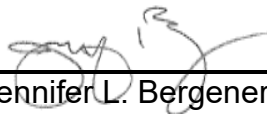


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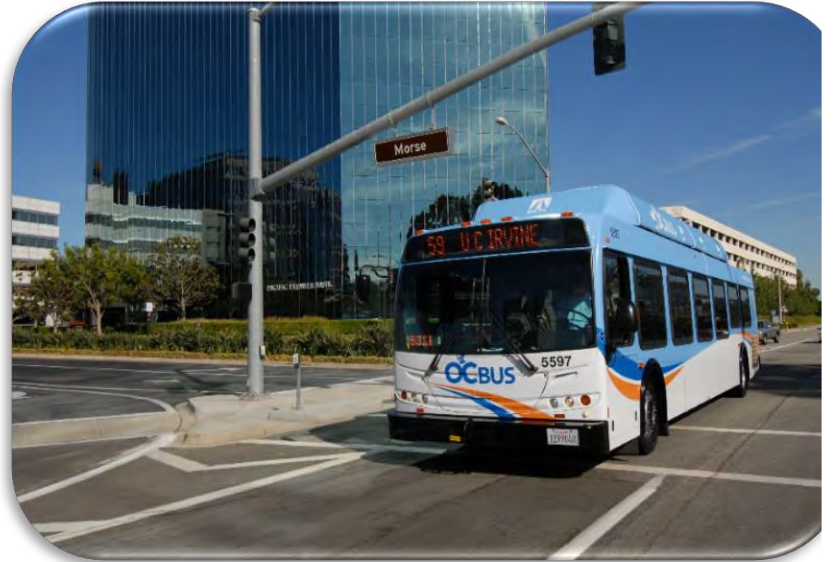


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Bus Operations
Performance
Measurements
Report



Third Quarter
Fiscal Year 2019-20

About This Report

The Orange County Transportation Authority (OCTA) operates a countywide network of 61 routes including local, community, rail connector, and express bus routes serving over 5,000 bus stops known as OC Bus. OCTA also operates paratransit service (OC ACCESS), a shared-ride program available for people unable to use the standard OC Bus service because of functional limitations. OC Bus service is provided through both direct operations by OCTA referred to as directly operated fixed-route (DOFR) and contracted operations referred to as contracted fixed-route (CFR). The OC ACCESS service is a contract-operated demand-response service required by the Americans with Disabilities Act that is complementary to the fixed-route service and predominately accounts for the overall paratransit services operated by OCTA. These services make up the bus transit system and are evaluated by the performance measurements summarized in this report.

This report tracks bus system safety, as measured by vehicle accidents; courtesy, as measured by customer complaints; and reliability, as measured by on-time performance (OTP) and miles between road calls (MBRC). Along with these metrics, industry-standard measurements are tracked to assess OCTA bus operations; these measurements include ridership, productivity, farebox recovery ratio (FRR), and cost per revenue vehicle hour (RVH). Graphs accompany the details of each indicator showing the standards or goals and the values for the current reporting period. The following sections provide performance information for OC Bus service, DOFR and CFR, and OC ACCESS service.

It is important to note that OCTA implemented a reduced service schedule for OC Bus on March 23, 2020 in response to the novel coronavirus (COVID-19) pandemic. The impact that the COVID-19 pandemic has had on both OC Bus and OC ACCESS has been significant, but because the impacts did not begin to manifest themselves until mid-March, the impact on the performance metrics for the entire three-month period, is not significant. Impacts as a result of the COVID-19 pandemic will be much more evident and discussed in the performance measures report for the following quarter.

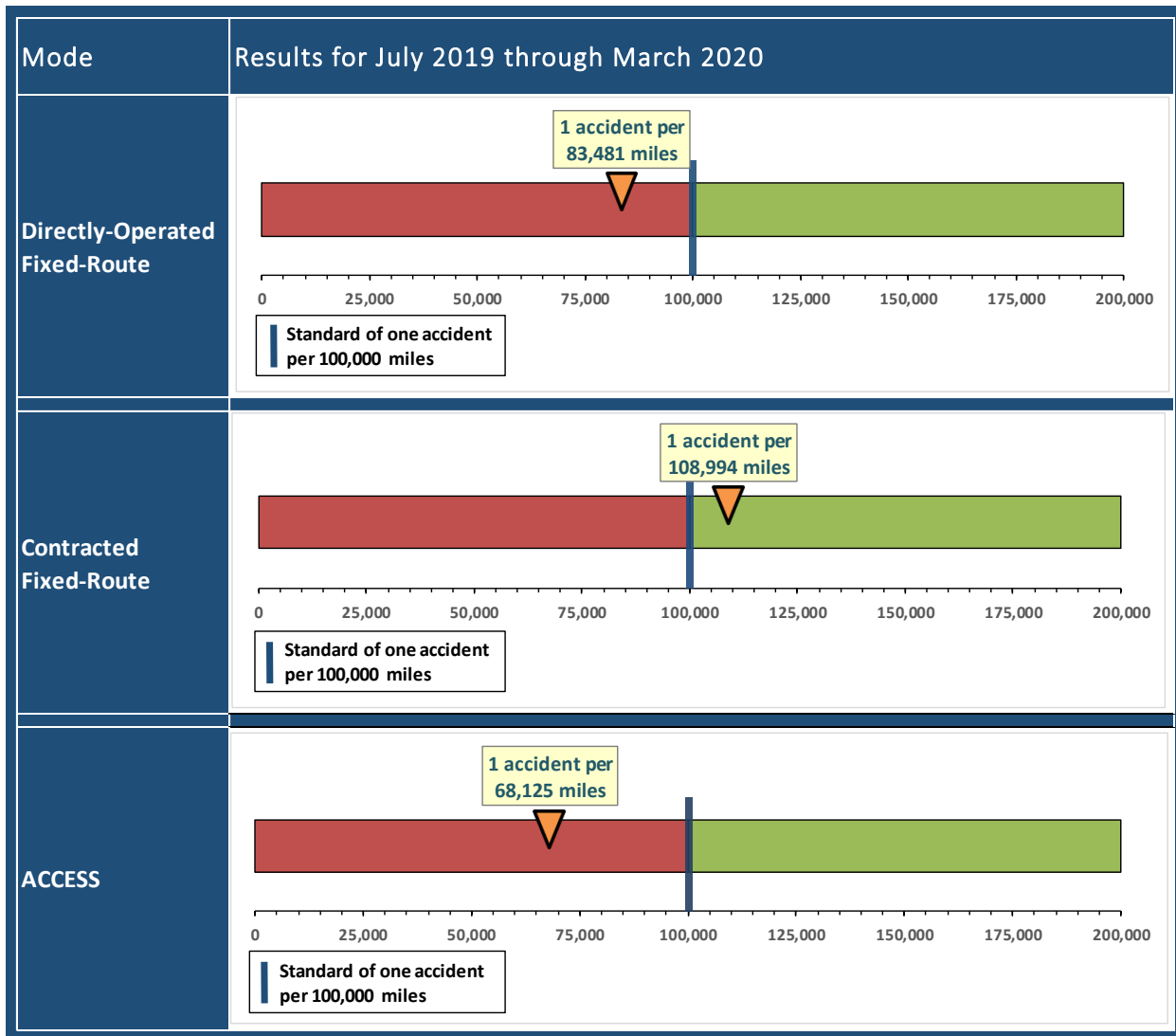
FY2019-20 Q3 SUMMARY

- **Safety:**
 - DOFR - ▼
 - CFR - ▲
 - OC ACCESS - ▼
- **Courtesy:**
 - DOFR - ▲
 - CFR - ▲
 - OC ACCESS - ▲
- **On-Time Performance:**
 - DOFR - ▼
 - CFR - ▼
 - OC ACCESS - ▼
- **Miles Between Road Calls:**
 - DOFR - ▲
 - CFR - ▲
 - OC ACCESS - ▲

Safety: Preventable Vehicle Accidents

OCTA is committed to the safe delivery of the OC Bus service. The safety standard for DOFR, CFR, and OC ACCESS services is no more than one vehicle accident per 100,000 miles. Preventable vehicle accidents are defined as incidents when physical contact occurs between vehicles used for public transit and other vehicles, objects, or pedestrians, and where a coach operator failed to do everything reasonable to prevent the accident.

Through the third quarter of fiscal year (FY) 2019-20, all modes of service, except CFR, performed below the safety standard, operating less than 100,000 miles between preventable accidents.

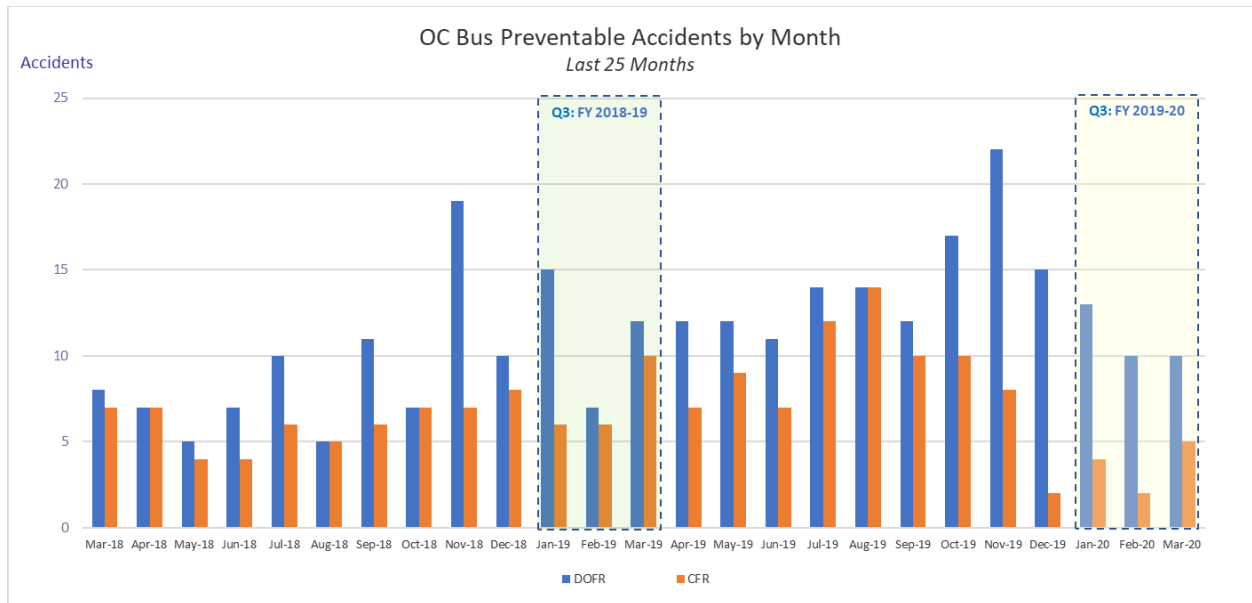


DOFR OC Bus and OC ACCESS services both remain below the accident frequency standard as the number of preventable accidents recorded for each mode exceeded one preventable accident per 100,000 service miles for the year-to-date numbers. Improvements were realized between January and March. During this time, there was a 39 percent decrease in the number of preventable accidents compared to last quarter resulting in an accident rate of less than one accident per 100,000 miles. To sustain this trend,

OCTA Operations staff will continue to focus on and stress the importance of safety, conduct safety-related campaigns, and promote the safe driving award program.

CFR OC Bus service performance also continued to improve during the third quarter, exceeding the standard. Between the months of January and March, the number of preventable accidents reported by the contractor decreased by 45 percent. Monthly comprehensive safety campaigns continue that focus on different topics using a variety of communication methods including posters, safety messages, hands-on training, and discussions at monthly safety meetings by the CFR management.

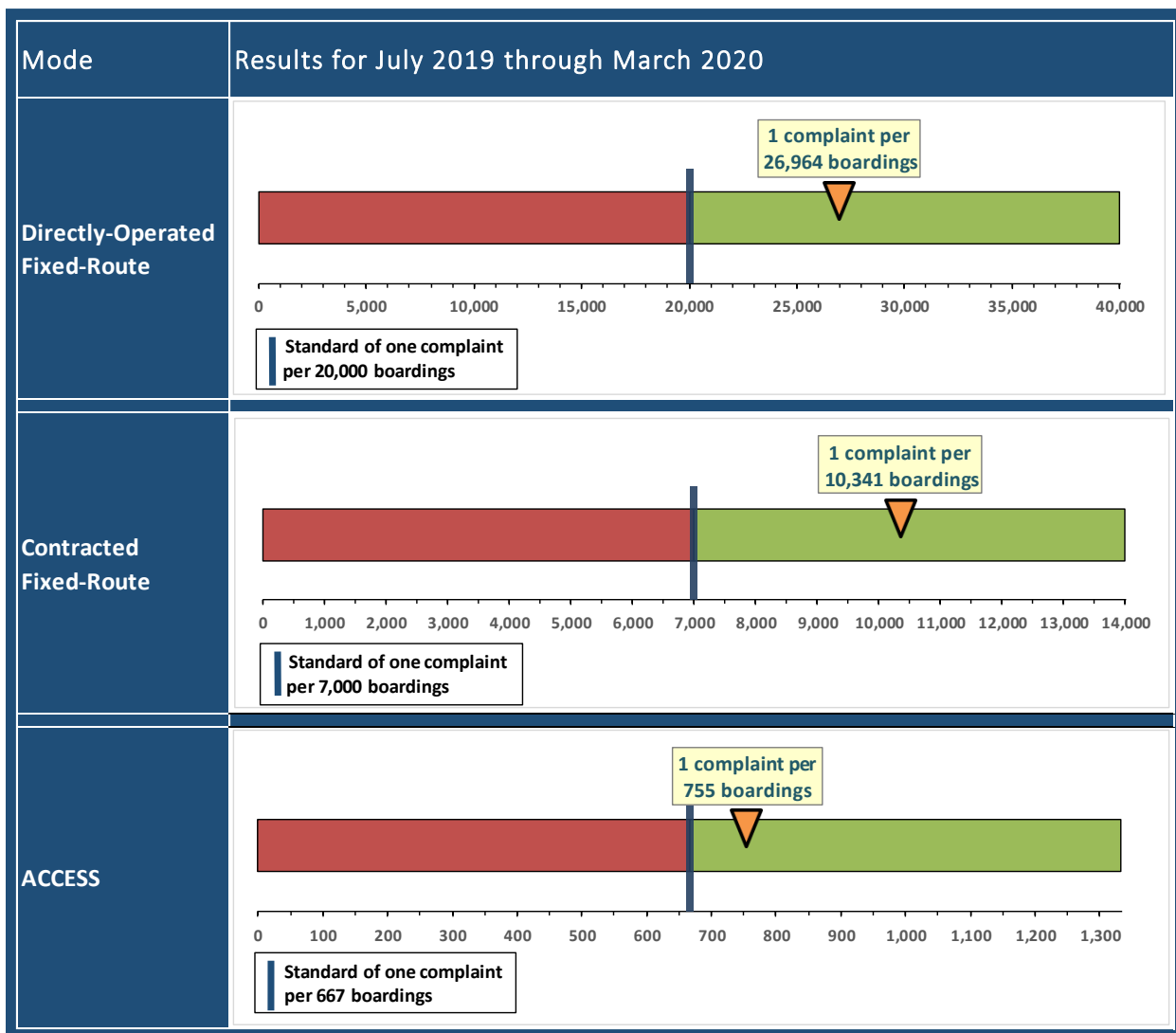
For OC ACCESS, though there was a decrease in the number of preventable accidents compared to the second quarter, fixed object and curb strikes continue to drive overall performance below standard. However, the contractor did take steps to address the increase which included having the Regional Director of Safety for Southern California onsite during February 2020 to review the safety program and to ensure that the safety initiatives were being implemented properly. The efforts taken by the contractor resulted in a significant decrease in preventable accidents for February (eight) and March (five) from after a subpar performance in January (20). The following chart shows the trend of preventable accidents for fixed-route service over the last two years.



Courtesy: Customer Complaints

OCTA strives to achieve a high level of customer satisfaction in the delivery of OC Bus services. The performance standard for customer satisfaction is courtesy as measured by the number of valid complaints received. Customer complaints are the count of incidents when a rider reports dissatisfaction with the service. The standard adopted by OCTA for DOFR OC Bus is no more than one customer complaint per 20,000 boardings; the standard for CFR OC Bus service is no more than one complaint per 7,000 boardings; and the contractual standard for OC ACCESS is no more than one complaint per 667 boardings.

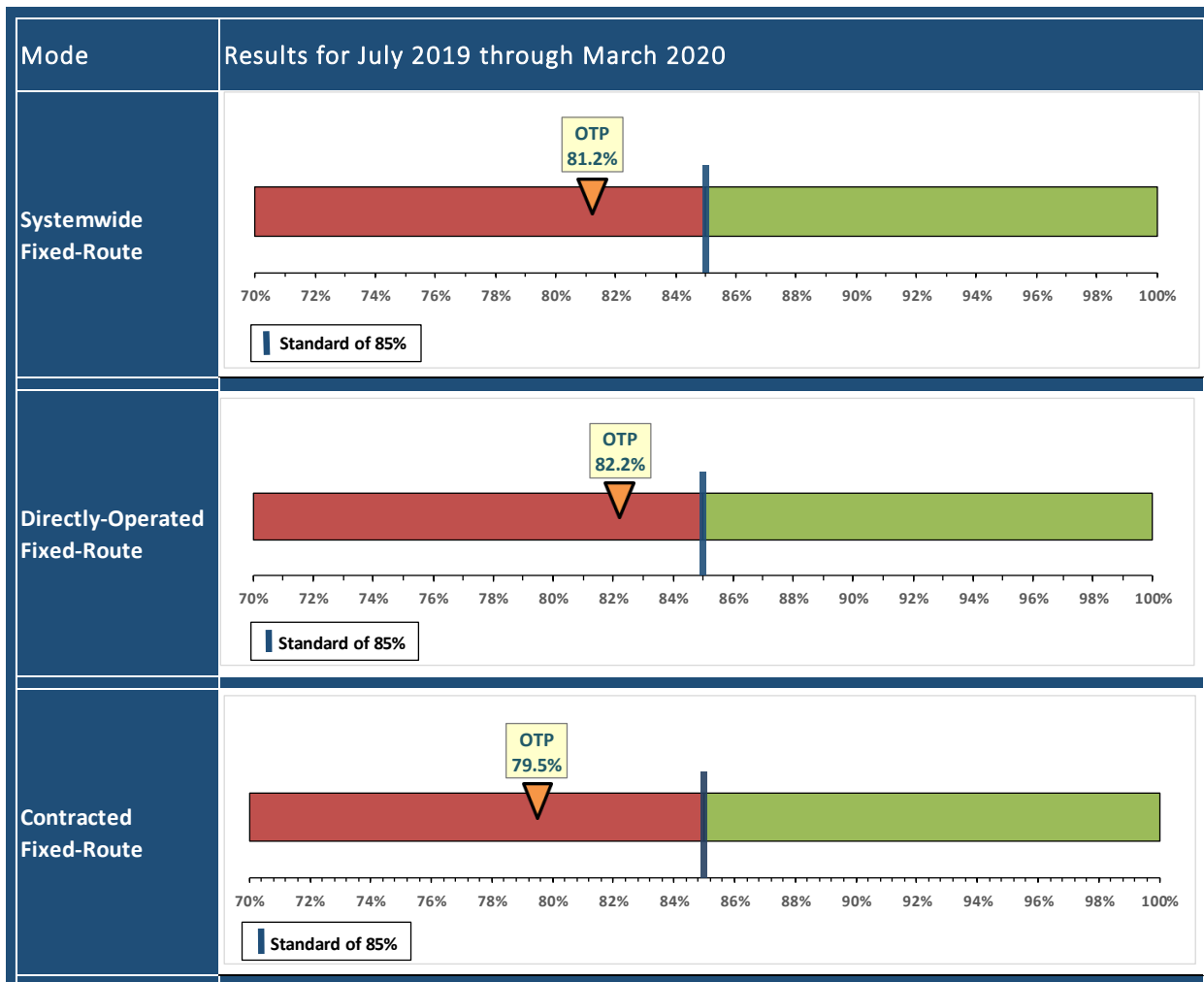
Through the third quarter of FY 2019-20, all modes of service continue to perform well, exceeding the courtesy standard with less than one valid complaint per 20,000, 7,000, and 667 boardings, respectively.



Reliability: On-Time Performance

Reliability is vital to a successful transportation network. Reliability for OCTA is measured in part by OTP. OTP is a measure of performance which evaluates the schedule adherence of a bus operating in revenue service according to a published schedule. Schedule adherence is tracked by monitoring the departure of vehicles from time points, which are designated locations on a route used to control vehicle spacing as shown in the published schedule. For OC Bus service, a trip is considered on-time if it departs the time point no more than five minutes late. OCTA’s fixed-route system standard for OTP is 85 percent. For OC ACCESS service, OTP is a measure of performance evaluating a revenue vehicle’s adherence to a scheduled pick-up time for transportation on a demand response trip. A trip is considered on-time if the vehicle arrives within a 30-minute window. The OC ACCESS OTP standard is 94 percent.

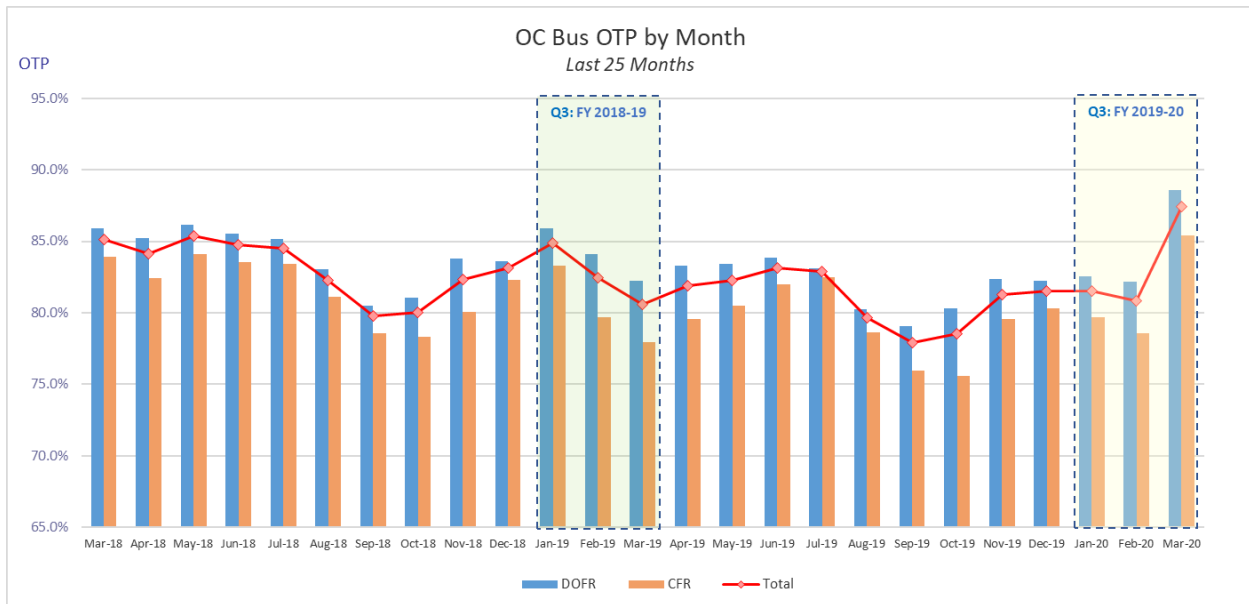
On-time performance (OTP) for OC Bus and OC ACCESS remain below target but showed improvement between January and March with OTP rates of 81.2 percent and 92.4 percent, respectively.



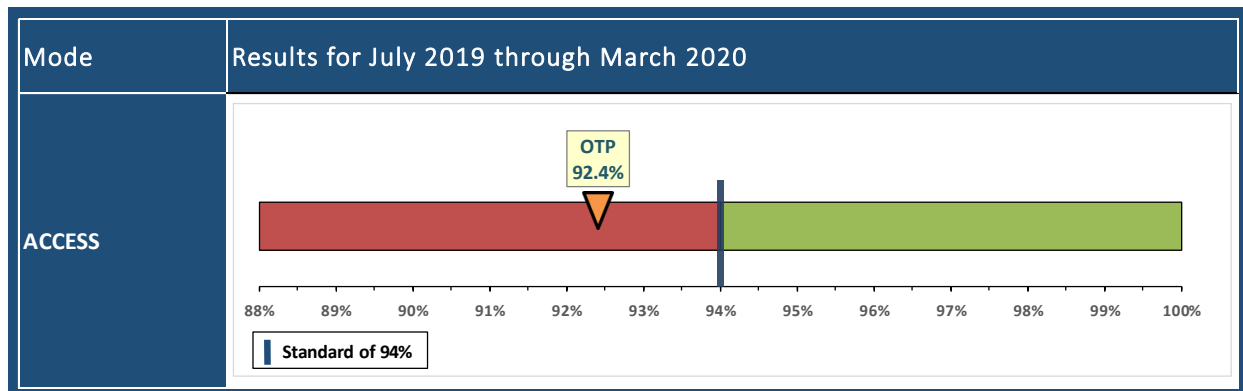
OTP for the DOFR OC Bus service through the third quarter was at 82.2 percent, a 1.0 percent increase from last quarter but 1.0 percent lower than the same time last year. The OTP for the CFR OC Bus service through

the third quarter showed improvement, reaching 79.5 percent, a 0.7 percent increase from last quarter and 1.1 percent lower than the same time last year.

The improvement in OTP is likely a result of the OTP for March. In March, OTP for fixed-route services was 87.4 percent, an increase of 6.6 percent. For the first time in over two years, OTP for both directly operated fixed-route (DOFR) and contract fixed-route (CFR) services exceeded the performance standard of 85 percent in a month, at 88.6 percent and 85.4 percent, respectively. The OTP for March is largely attributed to changes in travel patterns due to the state and national orders associated with the COVID-19 pandemic. This led to reduced traffic on the roads, reduced ridership, and shorter dwell times at bus stops. The following chart shows the OTP trend for fixed-route service over the last two years.



OCTA Operations staff will continue to monitor the dynamic traffic conditions as travel restrictions are lifted to ensure the current overall OTP is maintained and monitor the need for bus running time adjustments needed to reflect traffic associated with on-going construction projects. The contractor management team will continue to focus on coach operator behavior, performing route level checks and coaching and counseling as appropriate.



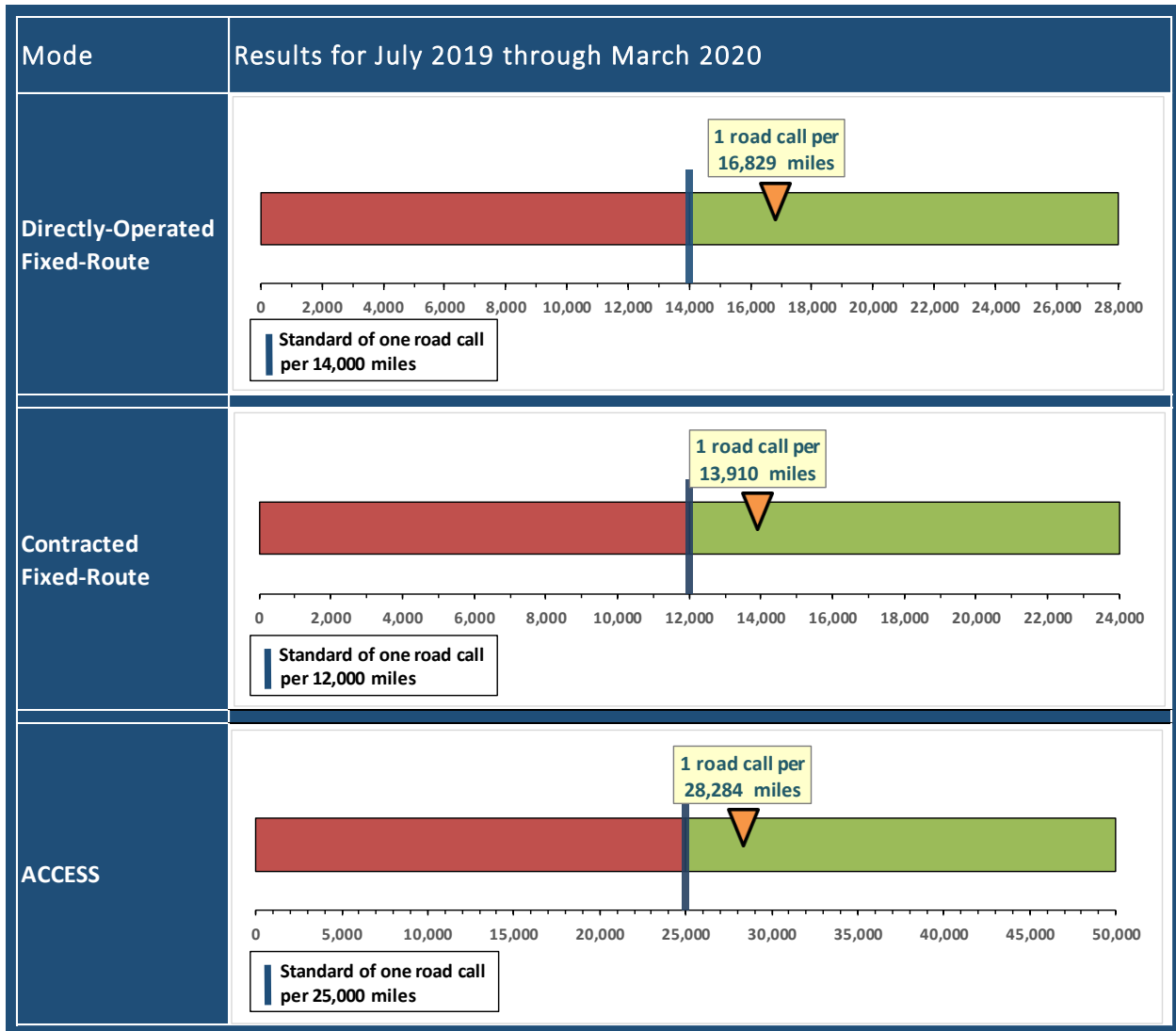
OTP for OC ACCESS service (Primary Service and Supplemental Taxi) for the third quarter was 92.4 percent, 1.6 percent below the standard, 0.2 percent higher than last quarter, and 0.7 percent lower than the 93.1 percent reported during the same period last year.

The contractor continued their work, making modifications to subscription trip routing/scheduling for individuals traveling to adult day programs. These changes were implemented in early-March 2020 but did not have the level of impact that was expected as a result of the COVID-19 pandemic.

OCTA staff will be working closely with the contractor to ensure plans are in place to meet performance standards during and after stay-at-home orders are lifted.

Reliability: Miles Between Road Calls

MBRC is a vehicle reliability performance indicator that measures the average distance in miles that a transit vehicle travels before failure of a vital component forces removal of the vehicle from service. OCTA has adopted standards for the MBRC for DOFR, CFR, and OC ACCESS services. These standards vary to align with the specific type of service being provided and account for the variability inherent to each of these services including the vehicles assigned. The specific standards as adopted by OCTA are 14,000 MBRC for DOFR OC Bus service; 12,000 MBRC for CFR OC Bus service; and 25,000 MBRC for OC ACCESS.



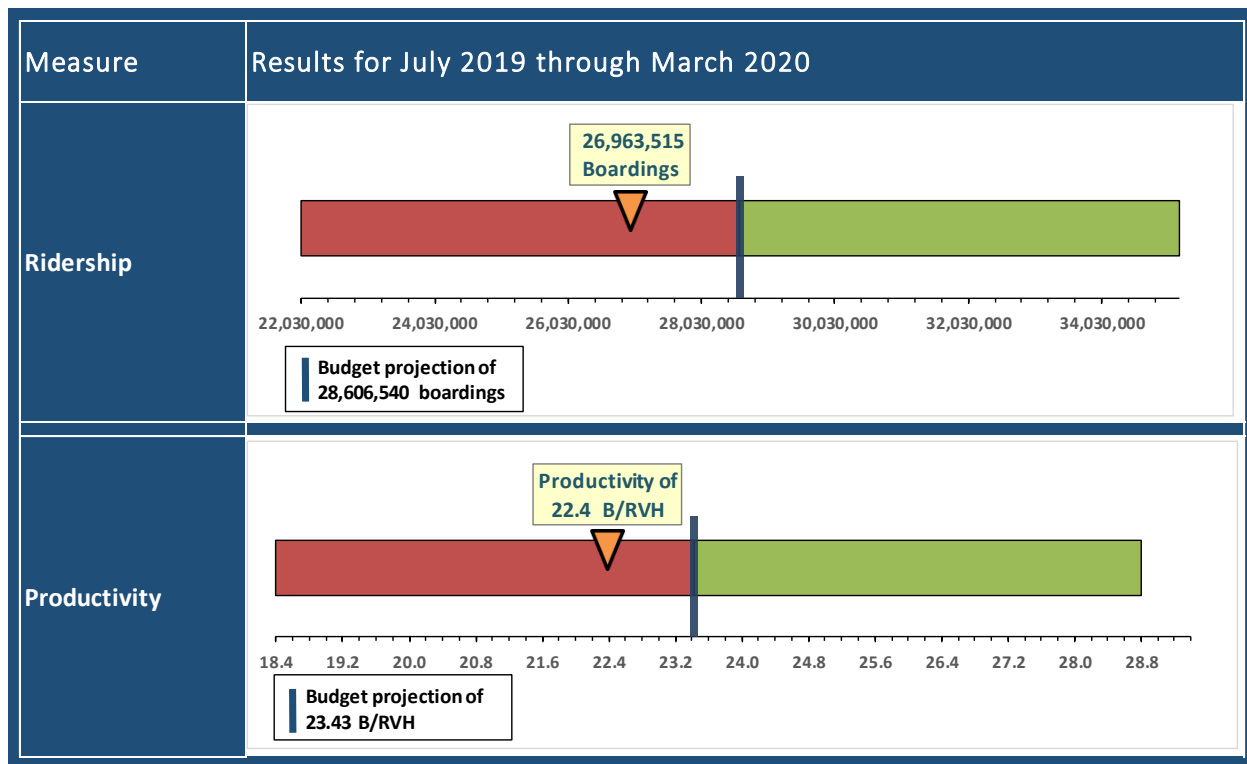
Through the third quarter of FY 2019-20, OC Bus services performed above standard across all modes.

OCTA staff will continue to monitor performance in this area and work with the contractor to sustain or improve overall performance.

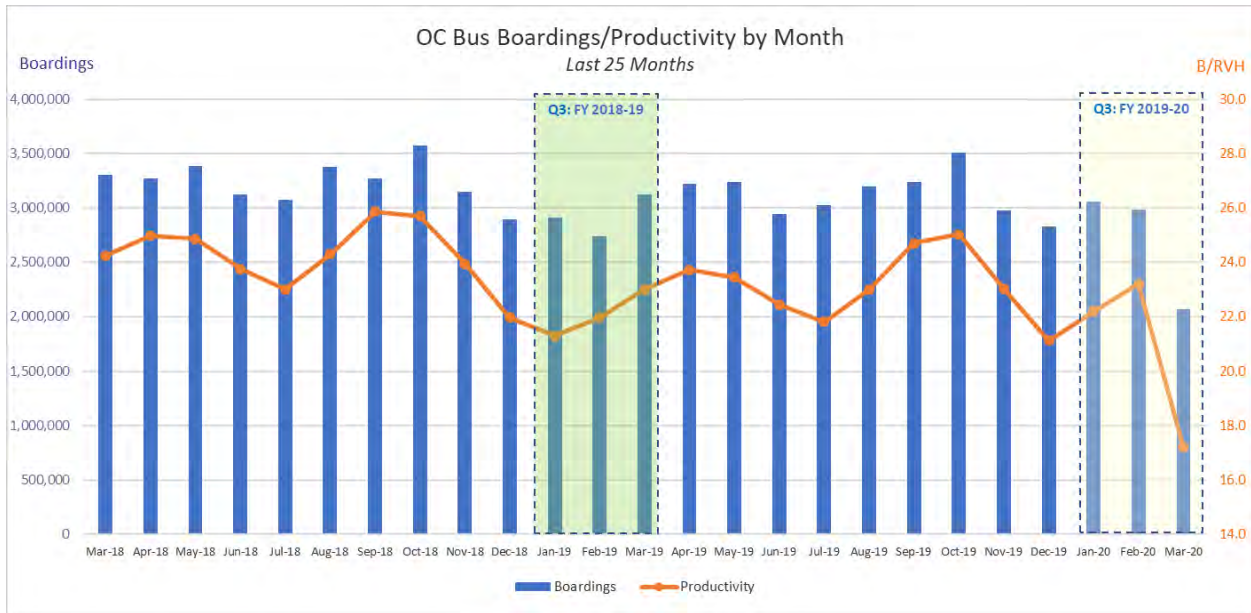
Ridership and Productivity – OC Bus

Ridership (or boardings) is the number of rides taken by passengers using public transit and is influenced by the level of service provided, weather, economy, and seasonal variations in demand. Productivity is an industry measure that counts the average number of boardings for each RVH that is operated. RVH is any 60-minute increment of time that a vehicle is available for passengers within the scheduled hours of service, excluding deadhead (a non-revenue movement of a transit vehicle to position it for service). Boardings per RVH (B/RVH) is calculated by taking the boardings and dividing it by the number of RVH operated.

Through the third quarter of FY 2019-20, both ridership and productivity for OC Bus service were significantly lower than budgeted projections, down by 5.7 percent and 4.5 percent, respectively.



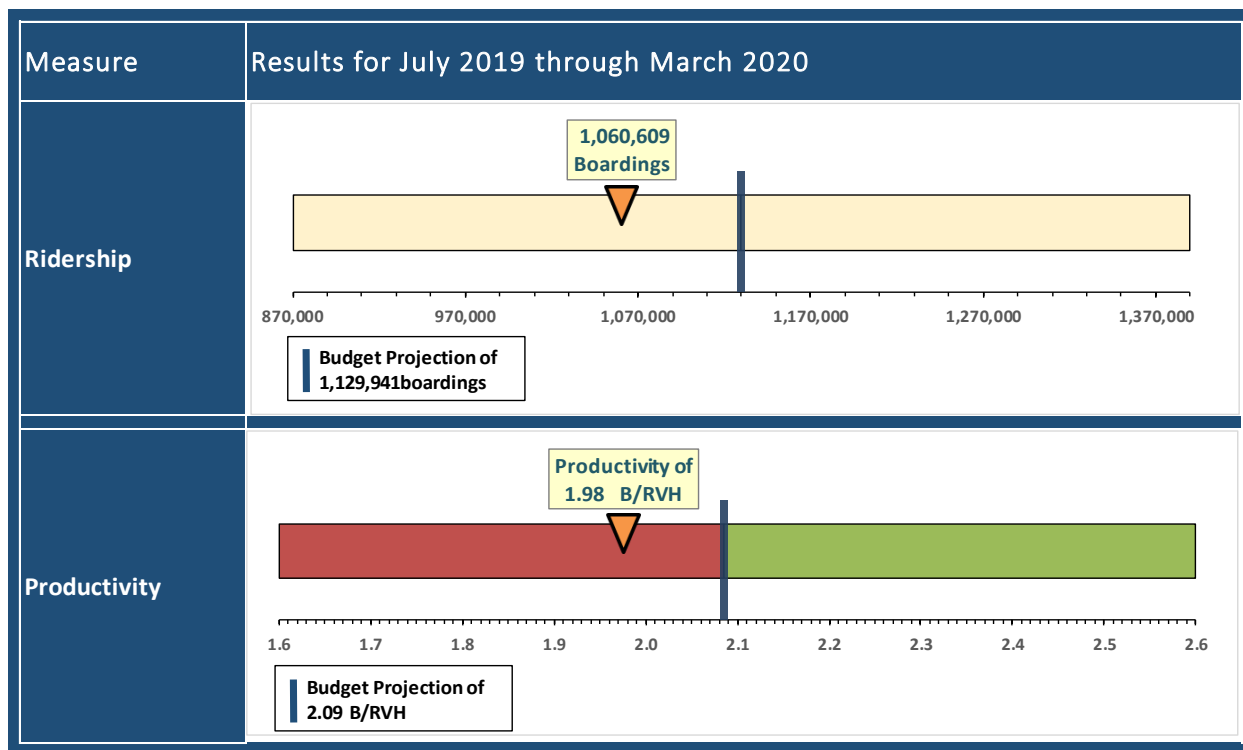
The ridership and productivity for the third quarter, as shown on the following chart, reveals a trend severely impacted by the COVID-19 pandemic that resulted in significant changes to travel patterns. The national and state level orders related to the pandemic caused a substantial drop in ridership and productivity. Average weekday ridership at the close of the month was less than 35,000, roughly 30 percent of the average weekday ridership before the “Safe at Home” orders went into effect. Ridership and productivity levels are expected to remain well below pre-COVID-19 pandemic levels until well after the travel restrictions are lifted.



Ridership and Productivity – OC ACCESS

(Primary Service Provider and Supplemental Taxi)

Through the third quarter of FY 2019-20, the ridership and productivity for OC ACCESS are trending below budgeted projections by 6.1 percent and 5.3 percent, respectively. As with the fixed-route service, ridership and productivity for OC ACCESS was impacted by the initial stages of the COVID-19 pandemic. With recommendations in place that persons 65 years or older or having underlying health issues stay home, many individuals who typically use OC ACCESS service made fewer trips, causing a drop in average daily ridership of 90 percent. Additionally, productivity has been impacted by the requirement for social distancing on OC ACCESS vehicles, as shared rides have been limited.



Contractor Performance: Fixed-Route

Per Agreement No. C-4-1737 between OCTA and First Transit, Inc. (First Transit), additional measures are tracked to ensure the CFR OC Bus service meets specified standards for safety, customer service, and reliability. When the contractor's monthly performance exceeds the standard as set forth in the agreement, financial incentives are paid to the contractor; conversely, when the monthly performance of the contractor is below the standard as set forth in the agreement, penalties are assessed and are paid to OCTA by the contractor.

Through the third quarter of FY 2019-20, the overall performance of the contracted OC Bus service as determined by the performance categories outlined in the contract was below standard for missed trips and on-time performance.

Table 1 provides the penalties and incentives assessed to the contractor by quarter for FY 2019-20. The incentives paid in the third quarter relate to courtesy and accident frequency, which totaled \$25,200. This brings the year-to-date total up to \$52,100. The total penalties assessed to the contractor during the quarter total \$157,207 resulting in a year-to-date total of \$565,989. Despite improvements compared to the previous quarter, missed trips, unreported accidents and vehicle damage were the primary categories where penalties were assessed.

Table 1: Performance Categories		FY20 Q1	FY20 Q2	FY20 Q3	FY20 Q4	FYTD 19
Penalties	On-Time Performance	\$ (6,000)	\$ (12,000)	\$ (7,000)	\$ -	\$ (25,000)
	Valid Complaints: Per 7,000 boardings	\$ -	\$ -	\$ -	\$ -	\$ -
	Unreported Accident	\$ (85,000)	\$ (20,000)	\$ (30,000)	\$ -	\$ (135,000)
	Accident Frequency Ratio	\$ (20,000)	\$ -	\$ -	\$ -	\$ (20,000)
	Key Positions	\$ -	\$ -	\$ -	\$ -	\$ -
	CHP Terminal Inspections	\$ -	\$ -	\$ -	\$ -	\$ -
	Reports	\$ -	\$ -	\$ -	\$ -	\$ -
	Preventive Maintenance	\$ -	\$ (382)	\$ (1,207)	\$ -	\$ (1,589)
	Road Calls	\$ (1,400)	\$ -	\$ -	\$ -	\$ (1,400)
	Vehicle Damage: Per vehicle per day	\$ -	\$ -	\$ (63,000)	\$ -	\$ (63,000)
	Missed Trips	\$ (166,000)	\$ (98,000)	\$ (56,000)	\$ -	\$ (320,000)
	Total	\$ (278,400)	\$ (130,382)	\$ (157,207)	\$ -	\$ (565,989)
Incentives	On-Time Performance	\$ -	\$ -	\$ -	\$ -	\$ -
	Valid Complaints: Per 7,000 boardings	\$ 14,500	\$ 7,400	\$ 15,200	\$ -	\$ 37,100
	Accident Frequency Ratio	\$ -	\$ 5,000	\$ 10,000	\$ -	\$ 15,000
	Total	\$ 14,500	\$ 12,400	\$ 25,200	\$ -	\$ 52,100
Prior Periods Adjustment	AFR	\$ -	\$ (5,000)	\$ -	\$ -	\$ (5,000)
	Key Position	\$ -	\$ -	\$ -	\$ -	\$ -
	Total	\$ -	\$ (5,000)	\$ -	\$ -	\$ (5,000)
All	Total	\$ (263,900)	\$ (122,982)	\$ (132,007)	\$ -	\$ (518,889)

Contractor Performance: OC ACCESS

(Primary Service Provider and Supplemental Taxi)

Per Agreement No. C-2-1865 between OCTA and MV Transportation, Inc., additional measures are tracked to ensure OC ACCESS meets the standards for safety, customer service, and reliability. When the contractor's monthly performance exceeds the standard as set forth in the agreement, financial incentives are paid to the contractor; conversely, when the monthly performance of the contractor is below the standard as set forth in the agreement, penalties are assessed and must be paid to OCTA by the contractor.

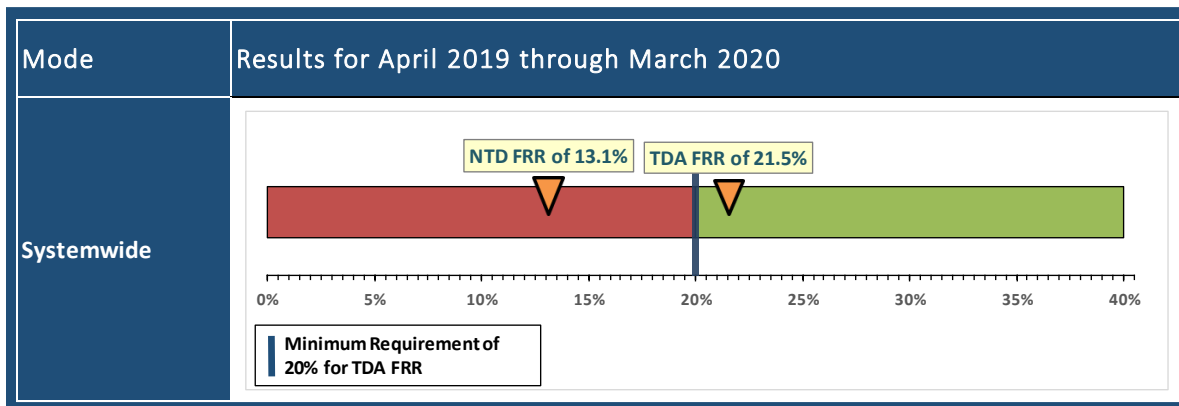
As presented in this report, the overall performance of the contractor providing OC ACCESS service through the third quarter of FY 2019-20 is above standard with respect to courtesy, while below standard for safety and on-time performance. Table 2 below lists, by quarter, the penalties and incentives assessed to the OC ACCESS contractor as established in the agreement. Through the third quarter, there were no incentives awarded to the contractor, but \$90,000 in penalties were assessed. This brings the gross year-to-date total for penalties to \$272,007. Penalties assessed to the contractor were related to performance for passenger productivity, OTP, excessively late trips, missed trips, and an unreported accident.

Table 2: Performance Categories		FY20 Q1	FY20 Q2	FY20 Q3	FY20 Q4	FYTD 20
Penalties	Passenger Productivity	\$ (10,000)	\$ (20,000)	\$ (30,000)	\$ -	\$ (60,000)
	On-Time Performance	\$ (15,000)	\$ (30,000)	\$ (10,000)	\$ -	\$ (55,000)
	Customer Comments	\$ (2,800)	\$ (3,000)	\$ -	\$ -	\$ (5,800)
	Call Center Hold Times	\$ (5,000)	\$ -	\$ -	\$ -	\$ (5,000)
	Excessively Late Trips	\$ (20,000)	\$ (30,000)	\$ (30,000)	\$ -	\$ (80,000)
	Missed Trips	\$ (5,000)	\$ (30,000)	\$ (15,000)	\$ -	\$ (50,000)
	Unreported Accident	\$ (5,000)	\$ (5,000)	\$ (5,000)	\$ -	\$ (15,000)
	Preventive Maintenance	\$ -	\$ -	\$ -	\$ -	\$ -
	Road calls	\$ (700)	\$ -	\$ -	\$ -	\$ (700)
	Reports	\$ -	\$ -	\$ -	\$ -	\$ -
	Key Positions	\$ -	\$ -	\$ -	\$ -	\$ -
	CHP Terminal Inspections	\$ -	\$ -	\$ -	\$ -	\$ -
	Vehicle Damage	\$ -	\$ -	\$ -	\$ -	\$ -
	Fare Variance	\$ -	\$ (507)	\$ -	\$ -	\$ (507)
	Total	\$ (63,500)	\$ (118,507)	\$ (90,000)	\$ -	\$ (272,007)
Incentives	Passenger Productivity	\$ -	\$ -	\$ -	\$ -	\$ -
	On-Time Performance	\$ -	\$ -	\$ -	\$ -	\$ -
	Excessively Late Trips	\$ -	\$ -	\$ -	\$ -	\$ -
	Missed Trips	\$ -	\$ -	\$ -	\$ -	\$ -
	Total	\$ -	\$ -	\$ -	\$ -	\$ -
Prior Periods Adjustment	Customer Comments	\$ -	\$ -	\$ -	\$ -	\$ -
	Unreported Accident	\$ 10,000	\$ -	\$ -	\$ -	\$ 10,000
	Total	\$ 10,000	\$ -	\$ -	\$ -	\$ 10,000
All	Total	\$ (53,500)	\$ (118,507)	\$ (90,000)	\$ -	\$ (262,007)

Farebox Recovery Ratio

Farebox Recovery Ratio (FRR) is a measure of the proportion of operating costs recovered by passenger fares, calculated by dividing the farebox revenue by total operating expenses. A minimum FRR of 20 percent for all service is required by the Transportation Development Act in order for transit agencies to receive the state sales tax available for public transit purposes. In an effort to normalize seasonal fluctuations, data shown below reflects actuals over the last 12 months from April 2019 through March 2020.

FRR, based on the National Transit Database definition in which only passenger fares are included under revenue, did not meet the 20 percent goal. However, as a result of the passage of Senate Bill No. 508 (SB 508), OCTA was able to adjust the FRR to include local funds. SB 508 states, *“If fare revenues are insufficient to meet the applicable ratio of fare revenues to operating cost required by this article, an operator may satisfy that requirement by supplementing its fare revenues with local funds. As used in this section, “local funds” are any non-federal or non-state grant funds or other revenue generated by, earned by, or distributed to an operator.”* After incorporating property tax revenue, advertising revenue, and Measure M fare stabilization, the adjusted FRR was 21.5 percent, a decrease of 0.8 percent from the previous quarter and a 3.9 percent drop from the same quarter last year.



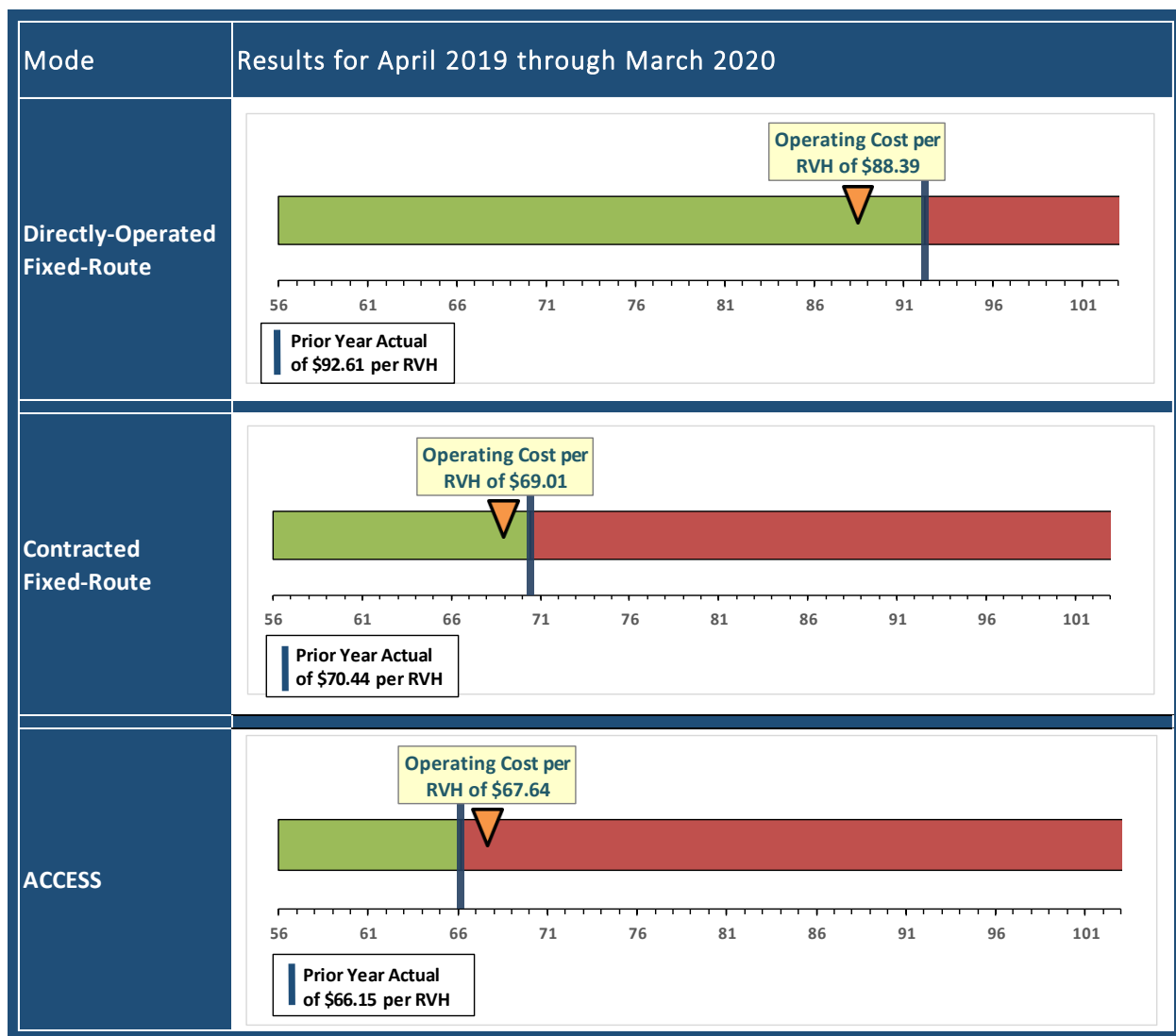
Note:

- National Transit Database (NTD) FRR consists of only passenger fares
- Transportation Development Act (TDA) FRR includes passenger fares, property tax revenue, advertising revenue and Measure M fare stabilization

Operating Cost per Revenue Vehicle Hour

Cost per RVH is one of the industry standards used to measure the cost efficiency of transit service. It is derived by dividing operating expenses by RVH. In order to provide a more comparable illustration, all metrics below are calculated based on direct operating cost, which excludes capital, general administrative, and other overhead costs.

Similar to the FRR, the statistics below depict actuals over the last 12 months. All modes operated at a lower cost per RVH than the same 12-month period of the prior year except for OC ACCESS due to the Alternative Fuel Tax Credit for fixed-route services from the period of January 2018 through December 2019 being received in March 2020. The difference in cost per RVH from the prior FY was a 4.1 percent decrease in DOFR, 4.4 percent decrease in CFR, and 2.2 percent increase in OC ACCESS.



Performance Evaluation by Route

Continuing efforts are underway to better understand, evaluate, and improve route performance. Performance evaluation is important because it provides:

- A better understanding of where resources are being applied;
- A measure of how well services are being delivered;
- A measure of how well these services are used; and
- An objective basis for decisions regarding future service changes and service deployment.

The tables on the following pages summarize route-level performance through the third quarter. The first three tables present the route-level performance sorted by routes with the highest net subsidy per boarding to routes with a lower net subsidy per boarding, and the remaining three tables present the same information sorted by routes that have the highest boardings to routes with a lower level of boardings.

A route guide listing all of the routes and their points of origins and destinations is provided after the route-level performance tables. Route types are grouped by route numbers as follows:

- **Routes 1 to 99** - Local routes include two sub-categories:
 - **Major:** These routes operate as frequent as every 15 minutes during peak times. Major routes operate seven days a week throughout the day. Together, the Major routes form a grid on arterial streets throughout the highest transit propensity portions of the OC Bus service area, primarily in northern parts of the county.
 - **Local:** These routes operate on arterials within the grid created by the Major routes, but at lower frequencies. Local routes also operate in parts of Orange County with lower transit demand. Most Local routes operate seven days per week, however some operate on weekdays only.
- **Routes 100 to 199:** Community routes to connect pockets of transit demand with major destinations and offer local circulation. Routes tend to be less direct than Local routes, serving neighborhoods and destinations off the arterial grid. Approximately half of Community routes operate seven days per week.
- **Routes 200 to 299:** Intra-county express routes operate on weekdays only at peak times and connect riders over long distances to destinations within Orange County, using freeways to access destinations.
- **Routes 400 to 499:** Stationlink routes are rail feeder services designed to connect Metrolink stations to nearby employment destinations. These routes have relatively short alignments, with schedules tied to Metrolink arrivals and departures. They operate during weekday peak hours only, in the peak direction, from the station to destinations in the morning and the reverse in the evening.
- **Routes 500 to 599:** Bravo! routes are limited-stop services operated with branded vehicles.
- **Routes 600 to 699:** *Seasonal or Temporary routes (these are not included on the following charts)* such as the OC Fair Express.
- **Routes 700 to 799:** Inter-county express routes that operate on weekdays only at peak times and connects riders over long distances to destinations outside of Orange County, often using freeways to access destinations.



OCTA Operating Statistics By Route for Local and Community Services (Sorted by Subsidy per Boarding)
Fiscal Year 2019-20 Through Q3

Route	Zone	Farebox	Subsidy per Boarding	Direct Subsidy	Indirect Subsidy	"Capital Subsidy" Per Boarding	Revenue per Boarding	Boardings	Cost/SH	Direct Cost/VSH	Cost/VSM	BoardVSH	VSH	Bus Count		
														40 FT	32 FT	60 FT
862	C	5.3%	\$ 17.08	\$ 10.72	\$ 5.43	\$ 0.93	\$ 0.90	38,709	\$ 135.08	\$ 76.79	\$ 17.57	7.93	4,883	2	-	-
123	N	8.7%	13.83	5.88	3.98	3.97	0.94	18,076	83.55	44.53	6.46	7.73	2,337	4	-	-
085	S	8.0%	12.70	7.08	4.91	7.33	1.05	50,810	109.91	8.79	8.79	8.36	6,079	2	-	-
001	S	7.1%	12.01	6.91	4.64	0.46	0.88	385,710	145.17	88.99	9.02	11.68	33,018	10	-	-
529	C	7.3%	11.66	6.53	4.39	0.74	0.87	243,859	150.37	90.84	13.14	12.76	19,110	10	-	-
153	N	7.8%	11.62	6.66	4.51	0.45	0.95	80,280	108.01	71.40	9.00	8.91	9,011	2	-	-
087	S	8.5%	10.98	6.07	4.21	0.70	0.73	51,196	110.33	71.92	11.60	12.08	5,215	2	-	-
076	C	8.4%	10.82	6.12	4.11	0.59	0.94	60,494	134.91	81.36	11.60	12.08	5,008	2	-	-
178	C	8.8%	10.70	6.03	4.09	0.58	0.97	62,064	107.35	70.91	8.64	9.68	6,413	2	-	-
177	S	11.2%	9.41	5.10	3.45	0.86	1.08	62,375	109.23	71.30	8.53	11.34	5,500	3	-	-
083	C	10.2%	8.52	4.86	3.27	0.39	0.92	414,666	146.60	89.80	7.76	16.20	25,603	9	-	-
086	C	11.1%	8.27	4.57	3.17	0.53	0.97	101,451	107.24	71.11	8.29	12.32	8,234	3	-	-
091	S	12.8%	8.07	4.46	3.10	0.51	1.11	280,858	110.26	72.09	7.72	12.72	22,087	8	-	-
167	C	12.0%	7.69	4.21	2.86	0.62	0.97	144,808	109.76	71.16	8.83	13.66	10,601	5	-	-
090	S	13.6%	7.46	4.03	2.80	0.63	1.07	229,348	112.27	72.34	7.51	14.21	16,139	8	-	-
129	N	12.6%	7.36	4.15	2.82	0.39	1.00	139,376	108.97	71.61	9.53	13.67	10,198	3	-	-
143	N	11.5%	7.32	4.12	2.80	0.40	0.90	135,843	107.28	69.72	9.63	13.72	9,903	3	-	-
079	C	13.2%	6.73	3.77	2.62	0.34	0.90	317,759	108.40	71.20	9.58	14.74	21,568	6	-	-
066	N	12.2%	6.58	3.76	2.52	0.30	0.87	296,926	138.28	83.10	13.03	19.35	15,346	5	-	-
560	C	12.7%	6.54	3.65	2.45	0.44	0.89	533,808	145.26	87.81	12.69	20.79	25,681	13	-	-
150	C	15.3%	6.22	3.37	2.29	0.56	1.02	126,948	112.65	71.32	11.17	16.86	7,528	4	-	-
059	C	14.0%	6.15	3.45	2.39	0.31	0.95	404,540	110.42	71.63	10.02	16.25	24,900	7	-	-
089	S	15.2%	6.03	3.35	2.32	0.36	1.02	245,835	108.07	71.05	8.67	16.15	15,219	5	-	-
082	S	17.0%	6.00	3.18	2.20	0.62	1.11	57,638	119.82	72.71	8.33	18.47	3,120	2	-	-
026	N	13.8%	5.95	3.31	2.30	0.34	0.90	320,070	108.89	71.17	10.82	16.75	19,109	6	-	-
025	N	14.2%	5.89	3.36	2.33	0.20	0.94	266,672	108.83	71.47	9.11	16.43	16,229	3	-	-
055	C	15.4%	5.88	3.37	2.26	0.25	1.02	921,140	139.73	84.20	12.56	21.00	43,866	13	-	-
050	N	13.0%	5.83	3.33	2.23	0.27	0.83	904,877	139.89	84.40	12.38	21.88	41,353	5	-	6
071	N	14.8%	5.76	3.22	2.23	0.31	0.95	517,972	109.77	71.57	8.82	17.17	30,175	9	-	-
037	N	14.3%	5.75	3.23	2.17	0.35	0.90	777,464	146.01	88.16	11.77	23.19	33,519	15	-	-
072	C	14.5%	5.72	3.28	2.20	0.24	0.93	364,373	136.35	82.36	11.03	21.25	17,149	4	1	-
064	N	14.5%	5.70	3.21	2.16	0.33	0.91	869,506	140.52	84.77	12.56	22.39	38,833	16	-	-
029	N	15.1%	5.34	3.06	2.06	0.22	0.91	1,243,921	141.93	85.74	11.99	23.55	52,831	5	-	7
543	N	16.2%	4.92	2.78	1.86	0.28	0.90	641,470	142.29	85.89	12.95	25.70	24,961	10	-	-
035	N	15.9%	4.81	2.65	1.84	0.32	0.85	569,160	110.70	71.54	9.68	20.76	27,411	10	-	-
033	N	15.5%	4.80	2.64	1.83	0.33	0.82	269,878	107.99	71.36	8.72	20.43	13,208	5	-	-
070	C	17.3%	4.77	2.66	1.84	0.27	0.94	652,545	111.93	71.95	9.56	20.56	31,732	10	-	-
047	C	17.9%	4.76	2.71	1.82	0.23	0.99	1,489,528	140.73	84.90	12.63	25.49	58,435	19	-	-
030	N	15.9%	4.69	2.62	1.82	0.25	0.84	494,816	107.70	71.41	8.33	20.39	24,271	7	-	-
057	C	17.3%	4.69	2.66	1.78	0.25	0.93	1,410,344	157.85	95.48	14.80	29.38	48,009	4	-	11
046	N	18.3%	4.42	2.42	1.68	0.32	0.91	452,008	108.83	71.53	9.47	21.73	20,797	8	-	-
038	N	17.6%	4.35	2.37	1.64	0.34	0.86	732,153	110.37	71.57	9.21	22.65	32,318	14	-	-
060	C	17.8%	4.21	2.42	1.63	0.16	0.82	1,360,015	141.12	85.19	12.32	28.65	47,464	12	-	-
053	C	18.6%	4.16	2.38	1.60	0.18	0.91	973,836	144.76	86.98	15.65	29.65	32,844	10	-	-
053X	C	19.9%	3.90	2.22	1.49	0.19	0.92	483,523	128.29	77.10	12.39	27.69	17,463	5	-	-
043	N	20.4%	3.79	2.19	1.47	0.13	0.94	1,515,585	138.07	82.94	13.75	29.96	50,581	11	-	-
057X	C	22.0%	3.62	2.00	1.35	0.27	0.94	775,154	128.58	77.41	11.80	29.98	25,858	3	-	6
042	N	19.5%	3.57	1.98	1.38	0.21	0.81	1,098,476	109.80	71.50	9.85	26.31	41,750	13	-	-
066	C	22.8%	3.39	1.94	1.30	0.15	0.96	1,467,798	137.37	82.55	13.89	32.68	44,908	12	-	-
064	C	22.2%	3.21	1.82	1.22	0.17	0.87	1,083,794	143.03	85.97	14.58	36.60	29,611	10	-	-
064X	C	23.8%	2.95	1.67	1.12	0.16	0.87	435,532	128.35	77.19	12.24	35.14	12,395	4	-	-

(1) Total bus count (429) is based on PM weekday equipment requirements.
 (2) Bus count for routes 53X, 57X and 64X are estimated based on total route 53, 57 and 64 equipment requirements.
 (3) C under Zone is Central County, N is North County and S is South County.



OCTA Operating Statistics By Route for Express Service (Sorted by Subsidy per Boarding)
 Fiscal Year 2019-20 Through Q3

Route	Zone	Farebox	Subsidy per Boarding	Direct Subsidy	Indirect Subsidy	"Capital Subsidy" Per Boarding	Revenue per Boarding	Boardings	CostVSH	Direct CostVSH	CostVSM	BoardVSH	VSH	Bus Count		
														40 FT	32 FT	60 FT
213	N	2.3%	\$ 51.96	\$ 25.02	\$ 15.28	\$ 11.66	\$ 0.96	7,691	\$ 156.25	\$ 96.51	\$ 7.80	3.79	2,031	5	-	-
721	N	4.6%	44.17	24.97	15.67	3.53	1.97	15,223	225.20	140.41	8.71	5.29	2,880	3	-	-
701	C	9.7%	27.22	14.93	9.38	2.91	2.62	18,464	259.39	161.29	10.84	9.63	1,917	3	-	-
206	C	6.1%	24.53	10.21	6.24	8.08	1.07	8,872	153.54	92.71	7.81	8.77	1,012	4	-	-
794	C	20.4%	23.40	13.50	8.25	1.65	5.57	21,681	195.62	131.78	7.34	7.16	3,027	2	-	-

(1) Total bus count (429) is based on PM weekday equipment requirements.
 (2) C under Zone is Central County, N is North County and S is South County.



OCTA Operating Statistics By Route for Stationlink Service (Sorted by Subsidy per Boarding)
 Fiscal Year 2019-20 Through Q3

Route	Zone	Submode	Farebox	Subsidy per Boarding	Direct Subsidy	Indirect Subsidy	"Capital Subsidy" Per Boarding	Revenue per Boarding	Boardings	CostVSH	Direct CostVSH	CostVSM	BoardVSH	VSH	Bus Count		
															40 FT	32 FT	60 FT
463	C	RCL	3.5%	\$ 28.66	\$ 14.57	\$ 9.82	\$ 4.27	\$ 0.89	12,592	\$ 143.03	\$ 85.43	\$ 13.33	5.66	2,226	3	-	-
480	C	RCL	8.2%	13.60	6.22	4.20	3.18	0.93	16,918	142.46	85.50	12.77	12.55	1,348	3	-	-
472	C	RCL	9.4%	11.56	5.29	3.56	2.71	0.92	19,879	135.42	84.72	11.84	13.86	1,434	3	-	-
453	N	RCL	7.7%	10.40	5.20	3.51	1.69	0.73	21,205	141.03	84.99	24.07	14.94	1,419	2	-	-
473	C	RCL	14.7%	7.29	3.34	2.25	1.70	0.96	31,577	150.69	85.47	13.13	22.97	1,374	3	-	-

(1) Total bus count (429) is based on PM weekday equipment requirements.
 (2) C under Zone is Central County, N is North County and S is South County.



OCTA Operating Statistics By Route for Local and Community Services (Sorted by Boardings)
Fiscal Year 2019-20 Through Q3

Route	Zone	Farebox	Subsidy per Boarding	Direct Subsidy	Indirect Subsidy	"Capital Subsidy" Per Boarding	Revenue per Boarding	Boardings	Cost/VSH	Direct Cost/VSH	Cost/VSM	Board/VSH	VSH	Bus Count		
														40 FT	32 FT	60 FT
043	N	20.4%	\$ 3.79	\$ 2.19	\$ 1.47	\$ 0.13	\$ 0.94	1,515,585	\$ 138.07	\$ 82.94	\$ 13.75	29.96	50,581	11	-	-
047	C	17.9%	4.76	2.71	1.82	0.23	0.99	1,489,528	140.73	84.90	12.63	25.49	58,435	19	-	-
066	C	22.8%	3.39	1.94	1.30	0.15	0.96	1,467,798	137.37	82.55	13.89	32.68	44,908	12	-	-
057	C	17.3%	4.69	2.66	1.78	0.25	0.93	1,410,344	157.85	95.48	14.80	29.38	48,009	4	-	11
060	C	17.8%	4.21	2.42	1.63	0.16	0.87	1,360,015	141.12	85.19	12.32	28.65	47,464	12	-	-
029	N	15.1%	5.34	3.06	2.06	0.22	0.91	1,243,921	141.93	85.74	11.99	23.55	52,831	5	-	7
042	N	19.5%	3.57	1.98	1.38	0.21	0.81	1,098,476	109.80	71.50	9.85	26.31	41,750	13	-	-
064	C	22.2%	3.21	1.82	1.22	0.17	0.87	1,083,794	143.03	85.97	14.58	36.60	29,611	10	-	-
053	C	18.6%	4.16	2.38	1.60	0.18	0.91	973,836	144.76	86.98	15.65	29.65	32,844	10	-	-
055	C	15.4%	5.88	3.37	2.26	0.25	1.02	921,140	139.73	84.20	12.56	21.00	43,866	13	-	-
050	N	13.0%	5.83	3.33	2.23	0.27	0.83	904,877	139.89	84.40	12.38	21.88	38,833	5	-	6
054	N	14.5%	5.70	3.21	2.16	0.33	0.91	869,506	140.52	84.77	12.56	22.39	38,833	16	-	-
037	N	14.3%	5.75	3.23	2.17	0.35	0.90	777,464	146.01	88.16	11.77	23.19	33,519	15	-	-
057X	C	22.0%	3.62	2.00	1.35	0.27	0.94	775,154	128.58	77.41	11.80	29.98	25,858	3	-	6
038	N	17.6%	4.95	2.37	1.64	0.34	0.86	732,153	110.37	71.57	9.21	22.65	32,318	14	-	-
070	C	17.3%	4.77	2.66	1.84	0.27	0.94	652,545	111.93	71.95	9.56	20.56	31,732	10	-	-
543	N	16.2%	4.92	2.78	1.86	0.28	0.90	641,470	142.29	85.89	12.95	25.70	24,961	10	-	-
035	N	15.9%	4.81	2.65	1.84	0.32	0.85	569,160	110.70	71.54	9.68	20.76	27,411	10	-	-
560	C	12.7%	6.54	3.65	2.45	0.44	0.89	533,808	145.26	87.81	12.69	20.79	25,681	13	-	-
071	N	14.8%	5.76	3.22	2.23	0.31	0.95	517,972	109.77	71.57	8.82	17.17	30,175	9	-	-
030	N	15.9%	4.69	2.62	1.82	0.25	0.84	494,816	107.70	71.41	8.33	20.39	24,271	7	-	-
053X	C	19.9%	3.90	2.22	1.49	0.19	0.92	483,523	128.29	77.10	12.39	27.69	17,463	5	-	-
046	N	18.3%	4.42	2.42	1.68	0.32	0.91	452,008	108.83	71.53	9.47	21.73	20,797	8	-	-
064X	C	23.8%	2.95	1.67	1.12	0.16	0.87	435,532	128.35	77.19	12.24	35.14	12,395	4	-	-
083	C	10.2%	8.52	4.86	3.27	0.39	0.92	414,666	146.60	89.80	7.76	16.20	25,603	9	-	-
059	C	14.0%	6.15	3.45	2.39	0.31	0.95	404,540	110.42	71.63	10.02	16.25	24,900	7	-	-
001	S	7.1%	12.01	6.91	4.64	0.46	0.88	385,710	145.17	88.99	9.02	11.68	33,018	10	-	-
072	C	14.5%	5.72	3.28	2.20	0.24	0.93	364,373	136.35	82.36	11.03	21.25	17,149	4	1	-
026	N	13.8%	5.95	3.31	2.30	0.34	0.90	320,070	108.89	71.17	10.82	16.75	19,109	6	-	-
079	C	13.2%	6.73	3.77	2.62	0.34	0.97	317,759	108.40	71.20	9.58	14.74	21,558	6	-	-
056	N	12.2%	6.58	3.76	2.52	0.30	0.87	296,926	138.28	83.10	13.03	19.35	15,346	5	-	-
091	S	12.8%	8.07	4.46	3.10	0.51	1.11	280,858	110.26	72.09	7.72	12.72	22,087	8	-	-
033	N	15.5%	4.80	2.64	1.83	0.33	0.82	269,878	107.99	71.36	8.72	20.43	13,208	5	-	-
025	N	14.2%	5.89	3.36	2.33	0.20	0.94	266,672	108.83	71.47	9.11	16.43	16,229	3	-	-
089	S	15.2%	6.03	3.35	2.32	0.36	1.02	245,835	108.07	71.05	8.67	16.15	15,219	5	-	-
529	C	7.3%	11.66	6.53	4.39	0.74	0.87	243,859	150.37	90.84	13.14	12.76	19,110	10	-	-
090	S	13.6%	7.46	4.03	2.80	0.63	1.07	229,348	112.27	72.34	7.51	14.21	16,139	8	-	-
167	C	12.0%	7.69	4.21	2.86	0.62	0.97	144,808	109.76	71.16	8.83	13.66	10,601	5	-	-
129	N	12.6%	7.36	4.15	2.82	0.39	1.00	139,376	108.97	71.61	9.53	13.67	10,198	3	-	-
143	N	11.5%	7.32	4.12	2.80	0.40	0.90	135,843	107.28	69.72	9.63	13.72	9,903	3	-	-
050	C	15.3%	6.22	3.37	2.29	0.56	1.02	126,948	112.65	71.32	11.17	16.86	7,528	4	-	-
086	C	11.1%	8.27	4.57	3.17	0.53	0.97	101,451	107.24	71.11	8.29	12.32	8,234	3	-	-
153	N	7.8%	11.62	6.66	4.51	0.45	0.95	80,280	108.01	71.40	9.00	8.91	9,011	2	-	-
177	S	11.2%	9.41	5.10	3.45	0.86	1.08	62,375	109.23	71.30	8.53	11.34	5,500	3	-	-
178	C	8.8%	10.70	6.03	4.09	0.58	0.97	62,064	107.35	70.91	8.64	9.68	6,413	2	-	-
076	C	8.4%	10.82	6.12	4.11	0.59	0.94	60,494	134.91	81.36	11.60	12.08	5,008	2	-	-
082	S	17.0%	6.00	3.18	2.20	0.62	1.11	57,638	119.82	72.71	8.33	18.47	3,120	2	-	-
087	S	8.5%	10.98	6.07	4.21	0.70	0.95	51,196	110.33	71.92	7.37	9.82	5,215	2	-	-
085	S	8.0%	12.70	7.08	4.91	0.71	1.05	50,871	108.91	71.33	7.79	8.36	6,079	2	-	-
862	C	5.3%	17.08	10.72	5.43	0.93	0.90	38,709	135.08	76.79	17.57	7.93	4,883	2	-	-
123	N	8.7%	13.83	5.88	3.98	3.97	0.94	18,076	83.55	44.53	6.46	7.73	2,337	4	-	-

(1) Total bus count (429) is based on PM weekday equipment requirements.
(2) Bus count for routes 53X, 57X and 64X are estimated based on total route 53, 57 and 64 equipment requirements.
(3) C under Zone is Central County, N is North County and S is South County.



OCTA Operating Statistics By Route for Express Service (Sorted by Boardings)
 Fiscal Year 2019-20 Through Q3

Route	Zone	Farebox	Subsidy per Boarding	Direct Subsidy	Indirect Subsidy	"Capital Subsidy" Per Boarding	Revenue per Boarding	Boardings	CostVSH	Direct CostVSH	CostVSM	BoardVSH	VSH	Bus Count		
														40 FT	32 FT	60 FT
794	C	20.4%	\$ 23.40	\$ 13.50	\$ 8.25	\$ 1.65	\$ 5.57	21,681	\$ 195.62	\$ 131.78	\$ 7.34	7.16	3,027	2	-	-
701	C	9.7%	27.22	14.93	9.38	2.91	2.62	18,464	259.39	161.29	10.84	9.63	1,917	3	-	-
721	N	4.6%	44.17	24.97	15.67	3.53	1.97	15,223	225.20	140.41	8.71	5.29	2,880	3	-	-
206	C	6.1%	24.53	10.21	6.24	8.08	1.07	8,872	153.54	92.71	7.81	8.77	1,012	4	-	-
213	N	2.3%	51.96	25.02	15.28	11.66	0.96	7,691	156.25	96.51	7.80	3.79	2,031	5	-	-

(1) Total bus count (429) is based on PMI weekday equipment requirements.

(2) C under Zone is Central County, N is North County and S is South County.



OCTA Operating Statistics By Route for Stationlink Service (Sorted by Boardings)
 Fiscal Year 2019-20 Through Q3

Route	Zone	Farebox	Subsidy per Boarding	Direct Subsidy	Indirect Subsidy	"Capital Subsidy" Per Boarding	Revenue per Boarding	Boardings	CostVSH	Direct CostVSH	CostVSM	BoardVSH	VSH	Bus Count		
														40 FT	32 FT	60 FT
473	C	14.7%	\$ 7.29	\$ 3.34	\$ 2.25	\$ 1.70	\$ 0.96	31,577	\$ 150.69	\$ 85.47	\$ 13.13	22.97	1,374	3	-	-
453	N	7.7%	10.40	5.20	3.51	1.69	0.73	21,205	141.03	84.99	24.07	14.94	1,419	2	-	-
472	C	9.4%	11.56	5.29	3.56	2.71	0.92	19,879	135.42	84.72	11.84	13.86	1,434	3	-	-
480	C	8.2%	13.60	6.22	4.20	3.18	0.93	16,918	142.46	85.50	12.77	12.55	1,348	3	-	-
483	C	3.5%	28.66	14.57	9.82	4.27	0.89	12,592	143.03	85.43	13.33	5.66	2,226	3	-	-

(1) Total bus count (429) is based on PMI weekday equipment requirements.

(2) C under Zone is Central County, N is North County and S is South County.

Route Reference Table

Route	Route	Route Description	Main Street	Route Category
1	1	Long Beach - San Clemente	via Pacific Coast Hwy	LOCAL
25	25	Fullerton - Huntington Beach	via Knott Ave/ Goldenwest St	LOCAL
26	26	Fullerton - Placentia	via Commonwealth Ave/ Yorba Linda Blvd	LOCAL
29	29	La Habra - Huntington Beach	via Beach Blvd	LOCAL
30	30	Cerritos - Anaheim	via Orangethorpe Ave	LOCAL
33	33	Fullerton - Huntington Beach	via Magnolia St	LOCAL
35	35	Fullerton - Costa Mesa	via Brookhurst St	LOCAL
37	37	La Habra - Fountain Valley	via Euclid St	LOCAL
38	38	Lakewood - Anaheim Hills	via Del Amo Blvd/ La Palma Ave	LOCAL
42	42	Seal Beach - Orange	via Seal Beach Blvd/ Los Alamitos Blvd/ Lincoln Ave	LOCAL
43	43	Fullerton - Costa Mesa	via Harbor Blvd	LOCAL
46	46	Long Beach - Orange	via Ball Road/ Taft Ave	LOCAL
47	47	Fullerton - Balboa	via Anaheim Blvd/ Fairview St	LOCAL
50	50	Long Beach - Orange	via Katella Ave	LOCAL
53	53/53X	Anaheim - Irvine	via Main St	LOCAL
54	54	Garden Grove - Orange	via Chapman Ave	LOCAL
55	55	Santa Ana - Newport Beach	via Standard Ave/ Bristol St/ Fairview St/ 17th St	LOCAL
56	56	Garden Grove - Orange	via Garden Grove Blvd	LOCAL
57	57/57X	Brea - Newport Beach	via State College Blvd/ Bristol St	LOCAL
59	59	Anaheim - Irvine	via Kraemer Blvd/ Glassell St/ Grand Ave/ Von Karman Ave	LOCAL
60	60	Long Beach - Tustin	via Westminster Ave/ 17th St	LOCAL
64	64/64X	Huntington Beach - Tustin	via Bolsa Ave/ 1st St	LOCAL
66	66	Huntington Beach - Irvine	via McFadden Ave/ Walnut Ave	LOCAL
70	70	Sunset Beach - Tustin	via Edinger Ave	LOCAL
71	71	Yorba Linda - Newport Beach	via Tustin Ave/ Red Hill Ave/ Newport Blvd	LOCAL
72	72	Sunset Beach - Tustin	via Warner Ave	LOCAL
76	76	Huntington Beach - John Wayne Airport	via Talbert Ave/ MacArthur Blvd	LOCAL
79	79	Tustin - Newport Beach	via Bryan Ave/ Culver Dr/ University Ave	LOCAL
82	82	Foothill Ranch - Rancho Santa Margarita	via Portola Pkwy/ Santa Margarita Pkwy	LOCAL
83	83	Anaheim - Laguna Hills	via 5 Fwy/ Main St	LOCAL
85	85	Mission Viejo - Laguna Niguel	via Marguerite Pkwy/ Crown Valley Pkwy	LOCAL
86	86	Costa Mesa - Mission Viejo	via Alton Pkwy/ Jeronimo Rd	LOCAL
87	87	Rancho Santa Margarita - Laguna Niguel	via Alicia Pkwy	LOCAL
89	89	Mission Viejo - Laguna Beach	via El Toro Rd/ Laguna Canyon Rd	LOCAL
90	90	Tustin - Dana Point	via Irvine Center Dr/ Moulton Pkwy/ Golden Lantern St	LOCAL
91	91	Laguna Hills - San Clemente	via Paseo de Valencia/ Camino Capistrano/ Del Obispo St	LOCAL
123	123	Anaheim - Huntington Beach	via Malvern Ave/ Valley View / Bolsa Chica	COMMUNITY
129	129	La Habra - Anaheim	via La Habra Blvd/ Brea Blvd/ Birch St/ Kraemer Blvd	COMMUNITY
143	143	La Habra - Brea	via Whittier Blvd/ Harbor Blvd/ Brea Blvd/ Birch St	COMMUNITY
150	150	Santa Ana - Costa Mesa	via Fairview St/ Flower St	COMMUNITY
153	153	Brea - Anaheim	via Placentia Ave	COMMUNITY
167	167	Orange - Irvine	via Irvine Ave/ Hewes St/ Jeffrey Rd	COMMUNITY
177	177	Foothill Ranch - Laguna Hills	via Lake Forest Dr/ Muirlands Blvd/ Los Alisos Blvd	COMMUNITY
178	178	Huntington Beach - Irvine	via Adams Ave/ Birch St/ Campus Dr	COMMUNITY
862	862	Downtown Santa Ana Shuttle	via Civic Center Dr	COMMUNITY
206	206	Santa Ana - Lake Forest Express	via 5 Fwy	EXPRESS BUS
213	213	Brea - Irvine Express	via 55 Fwy	EXPRESS BUS
453	453	Orange Transportation Center - St. Joseph's Hospital	via Chapman Ave/ Main St/ La Veta Ave	STATIONLINK
463	463	Santa Ana Regional transportation Center - Hutton Centre	via Grand Ave	STATIONLINK
472	472	Tustin Metrolink Station - Irvine Business Complex	via Edinger Ave/ Red Hill Ave/ Campus Dr/ Jamboree Rd	STATIONLINK
473	473	Tustin Metrolink Station - U.C.I.	via Edinger Ave/ Harvard Ave	STATIONLINK
480	480	Irvine Metrolink Station - Lake Forest	via Alton Pkwy/ Bake Pkwy/ Lake Forest Dr	STATIONLINK
529	529	Fullerton - Huntington Beach	via Beach Blvd	BRAVO
543	543	Fullerton Transportation Center - Santa Ana	via Harbor Blvd	BRAVO
560	560	Santa Ana - Long Beach	via 17th St/ Westminster Blvd	BRAVO
701	701	Huntington Beach - Los Angeles Express	via 405 Fwy/ 605 Fwy/ 105 Fwy/ 110 Fwy	EXPRESS BUS
721	721	Fullerton - Los Angeles Express	via 110 Fwy/ 91 Fwy	EXPRESS BUS
794	794	Riverside / Corona - South Coast Metro Express	via 91 Fwy/ 55 Fwy	EXPRESS BUS

OC Bus 360° Plan: Performance to Date

To address declining bus ridership, the OCTA Board of Directors (Board) endorsed a comprehensive action plan known as OC Bus 360° plan in 2015. This effort included a comprehensive review of current and former rider perceptions, a peer review panel that reviewed OCTA's performance and plans, new branding and marketing tactics tied to rider needs, upgraded bus routes and services to better match demand and capacity, technology solutions to improve passenger experience, and pricing, as well as other revenue changes to stimulate ridership and provide new funding.

Extensive work was invested by OCTA divisions to implement the OC Bus 360° plan. These efforts included:

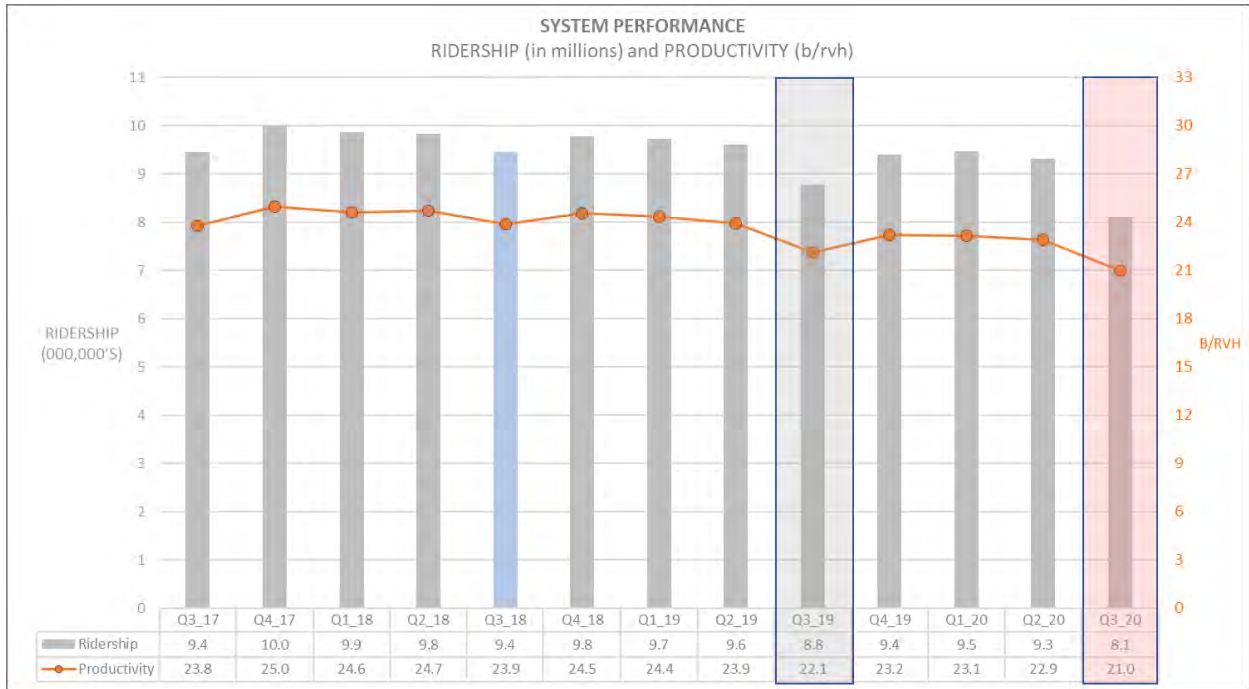
- Implementation of new and faster bus routes;
- Redeployment of services in June 2016, October 2016, October 2017, and February 2018, to improve efficiencies and build ridership;
- Competitively awarded grants to local agencies through Project V for transit services tailored to community needs;
- Implementation of a promotional fare and college pass program;
- Rollout of new technologies, such as mobile ticketing, real-time bus arrival information, a microtransit service; and
- Extensive marketing, public outreach, and promotional campaigns.

Impact of the Service Changes

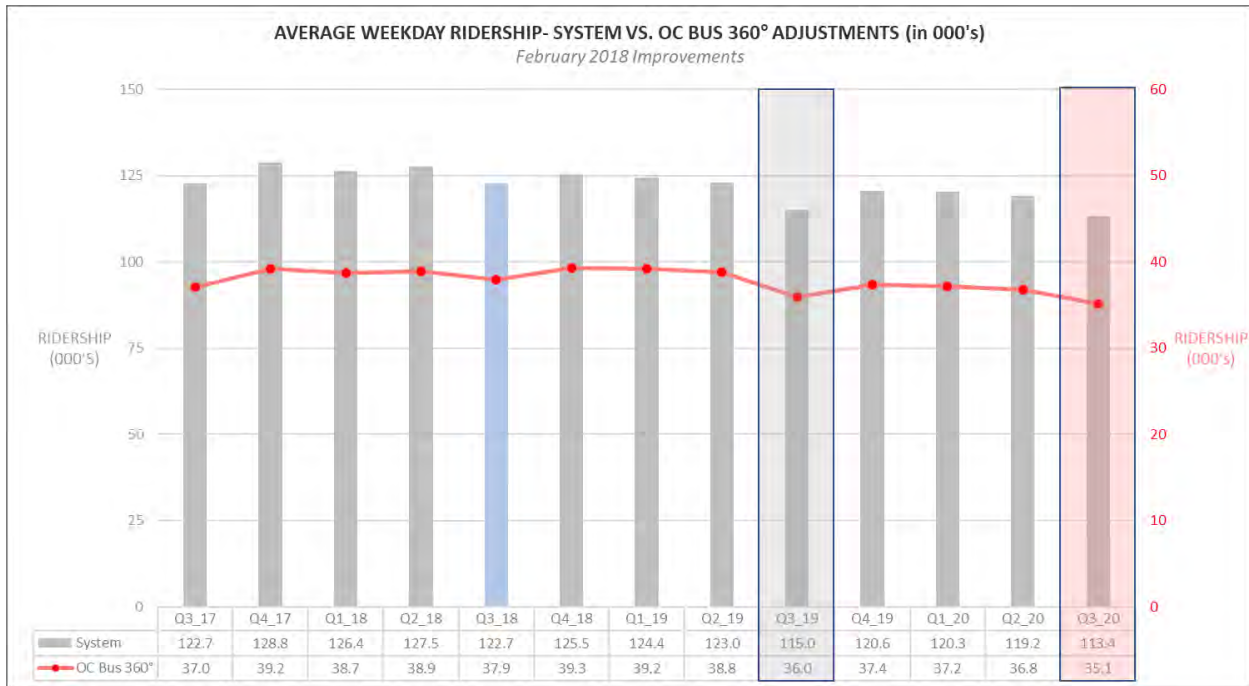
Of the series of approved bus service changes under the OC Bus 360° plan, the changes implemented in October 2016 and February 2018 were the most significant and are tracked for overall OC Bus 360° plan impact. Provided below is a series of charts that show overall system performance over the last 13 quarters and the impact of the route adjustments implemented to date under the plan. In this review, performance is measured by change in average weekday boardings for routes that were improved and average B/RVH for routes that were reduced. This analysis is necessary and ongoing to gauge the effectiveness of the recommended changes and the overall OC Bus 360° plan. The trend of overall system ridership and productivity is provided on the following chart. Though the trend was favorable through January and February, the impact of the COVID-19 pandemic had a substantial impact on ridership and productivity.

Through the third quarter of FY 2019-20:

- Ridership was 13.0 percent lower than the previous quarter, and 7.6 percent lower than the same quarter last year.
- Productivity through the third quarter fell by 8.3 percent from last quarter and dropped by 4.5 percent from the same quarter last year.

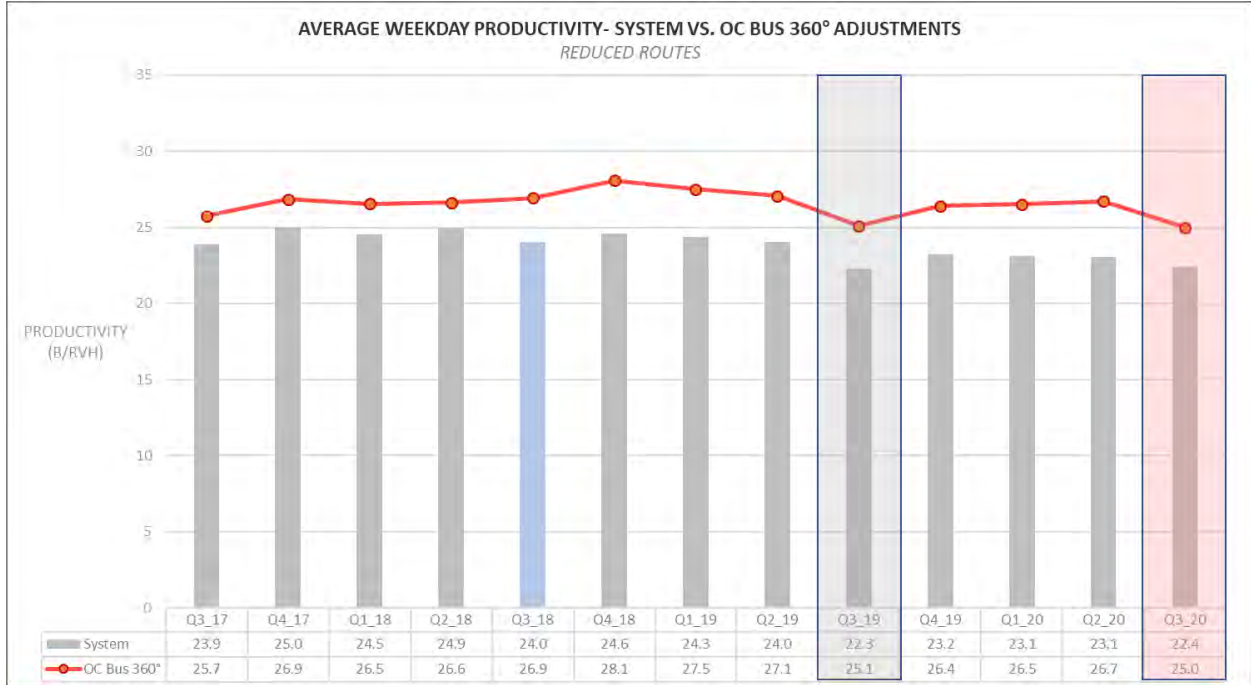


The impacts of the adjustments implemented under the OC Bus 360° plan are consistent with the systemwide trend, including the decrease with respect to the COVID-19 pandemic. The following chart compares the system trend against the group of routes improved under the OC Bus 360° plan. The average weekday ridership systemwide and for the improved routes dropped by 4.8 percent and 4.5 percent compared to last quarter and dropped by 1.4 percent and 2.4 percent respectively compared to the same quarter last year.



Improved system and route productivity are the goals for services that are *reduced or eliminate* under the OC Bus 360° plan – making low performing routes more productive.

The following chart compares the system productivity trend against the productivity of the group of routes that were reduced/eliminated, most recently, in February 2018.



During the third quarter of FY 2019-20, productivity systemwide and for the collective reductions decreased by 2.7 percent and 6.5 percent, respectively compared to last quarter. Compared to the same quarter last year, systemwide productivity was up by 0.6 percent and the collective reductions were down by 0.5 percent. Overall, the productivity for the routes reduced under OC Bus 360° remain above the system average by 11.3 percent.

Other OC Bus 360° Initiatives

OC Flex Pilot Program

OC Flex service launched in October 2018 in two zones under a one-year pilot program. The OCTA Board approved five primary goals and performance metrics to evaluate the pilot program. Upon approval of the pilot program, the Board directed staff to provide updates on the performance metrics as part of quarterly Bus Operations Performance Measurements Report.

For the third quarter of FY 2019-20, ridership experienced a decrease due to the impacts associated with the COVID-19 pandemic in mid-March. The two performance metrics related to shared trips and connected trips continue to exceed the respective targets. The measures related to productivity and subsidy per boarding continue to trend in the right direction, though they remain below target. The performance improvement expected from the adjustments implemented in February 2020 did not occur due to the reduced travel demand associated with the “Safer at Home” orders passed down

nationally and statewide. Additionally, service in the Blue zone was suspended on March 23, 2020 due to extremely low demand. Staff is now considering options for the near and long-term options for the OC Flex service post-COVID-19 pandemic.

OC Flex Ridership – Through Q3-FY2019-20

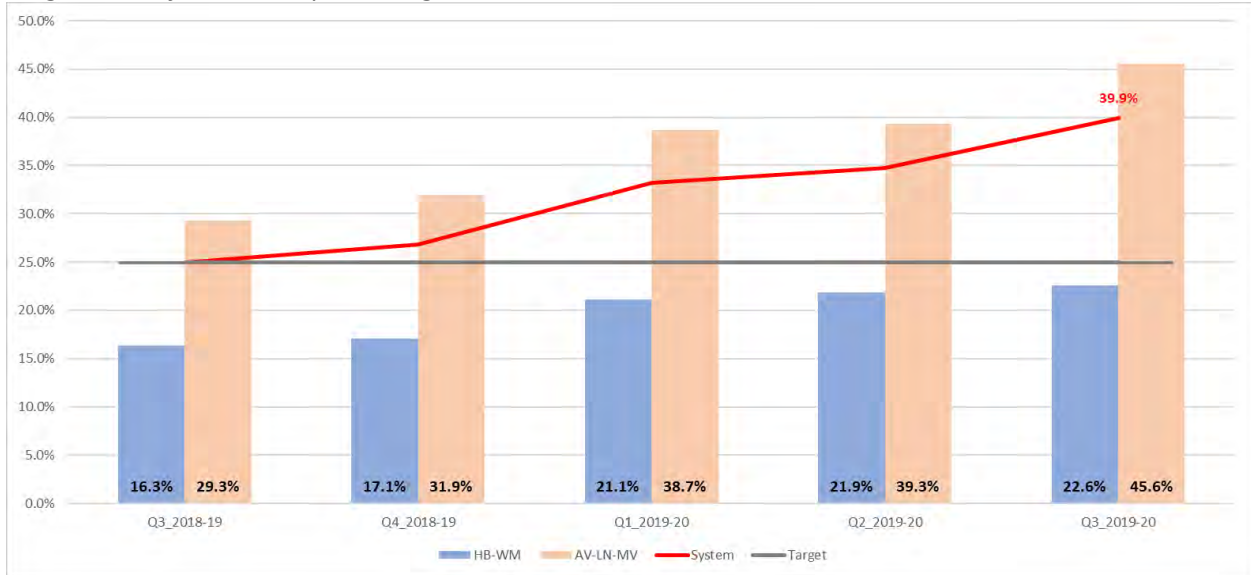


OC Flex Productivity (B/RVH) and Direct Subsidy per Boarding – Through Q3-FY2019-20

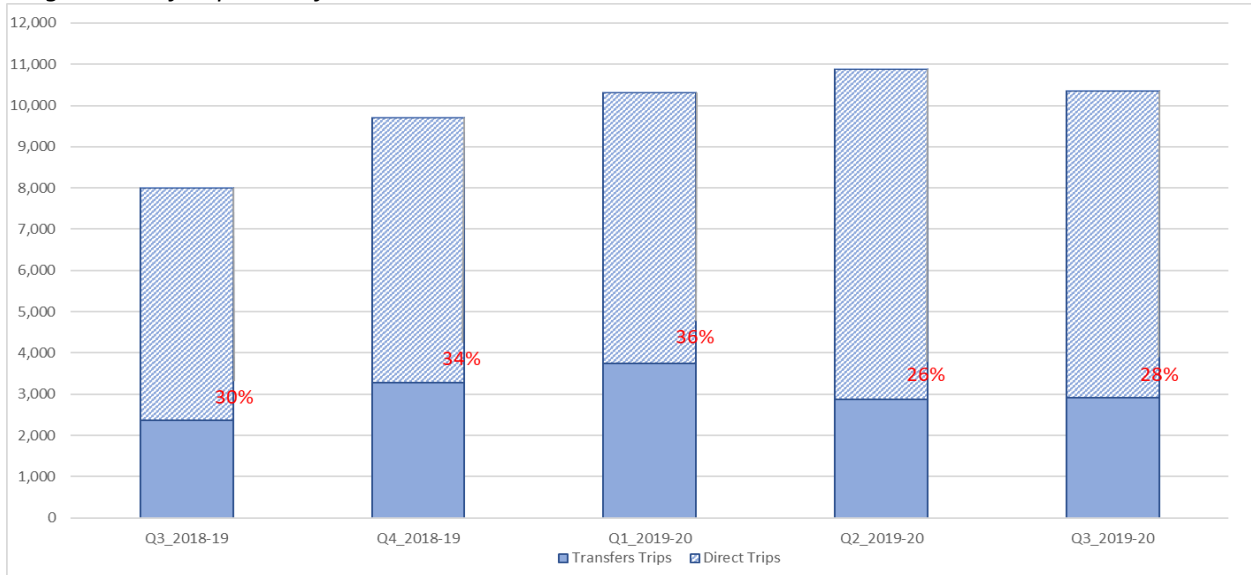
Targets: Productivity – 6 b/rvh; Direct Subsidy per Boarding - \$9 per Boarding



OC Flex Shared Trips – Through Q3-FY2019-20
Target: 25% of Booked Trips Sharing a Vehicle



OC Flex Connecting Trips (Transfers) – Through Q3-FY2019-20
Target: 25% of Trips Transfer to OC Bus or Metrolink Service



College Pass Program

The College Pass Program started in August 2017 with students from Santa Ana College and continuing education students from Santa Ana College and Santiago Canyon College. In August 2018, the program expanded to include all students from Santiago Canyon College. In Fall 2019, both Golden West and Fullerton colleges joined the College Pass Program.

Driven by significant ridership decreases in March 2020 due to the COVID-19 pandemic, the third quarter of FY 2019-20 saw an overall 22.9 percent decrease in ridership compared to the same period the prior year in continuing colleges. In the month of March alone, continuing colleges saw decreases of between 44 to 64 percent of ridership from the prior year. Fullerton and Golden West colleges, which joined the College Pass Program this year, saw ridership in March 2020 decrease from the prior month by 42 and 66 percent respectively.

Despite the impact of the third quarter, since starting on August 26, 2019 to the end of the March 2020 reporting period, Fullerton College reported 161,895 boardings and Golden West College reported 97,012 boardings.

The College Pass continued to attract new student riders at Golden West and Fullerton colleges, with the cumulative total of unique student riders to date continuing to increase. The number of unique student riders at Fullerton College increased by 125 percent (from 1,192 in August 2019 to 2,682 by the end of March 2020) and number of unique student riders at Golden West College increasing by 220 percent (from 422 in August 2019 to 1,352 by the end of March 2020).

As of March 31, 2020, less than three years since starting in August 2017, the overall College Pass Program has reported 3.22 million boardings with 18,958 unique students among participating colleges.

The college pass program has been very successful and popular among students and colleges. Even with the possibility of remote instruction in the Fall 2020 term, additional colleges request to join the program. OCTA continues to work with other interested colleges to expand the College Pass program with college-provided funding or student fees and available Low Carbon Transit Operations Program and Mobile Source Air Pollution Reduction grant funds.



Falling Transit Ridership: California and Southern California

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EXECUTIVE SUMMARY

In the last ten years transit use in Southern California has fallen significantly. This report investigates that falling transit use. We define Southern California as the six counties that participate in the Southern California Association of Governments (SCAG) – Los Angeles, Orange, Riverside, San Bernardino, Ventura and Imperial. We examine patterns of transit service and patronage over time and across the region, and consider an array of explanations for falling transit use: declining transit service levels, eroding transit service quality, rising fares, falling fuel prices, the growth of Lyft and Uber, the migration of frequent transit users to outlying neighborhoods with less transit service, and rising vehicle ownership. While all of these factors probably play some role, we conclude that the most significant factor is increased motor vehicle access, particularly among low-income households that have traditionally supplied the region with its most frequent and reliable transit users.

Transit service and use trends in Southern California

Long associated with the automobile, in the last 25 years Southern California has invested heavily in public transportation. Since 1990, the SCAG region has added over 100 miles of light and heavy rail in Los Angeles County, and over 530 miles of commuter rail region-wide. These investments, however, have not been matched by increases in transit ridership. Transit ridership in the SCAG region reached its postwar peak in 1985. Through the 1990s and 2000s ridership rose and fell modestly, but never again reached its 1985 level. Figure ES-1 shows that per capita trips have been mostly declining in the SCAG region since 2007, and have fallen consistently since 2013.

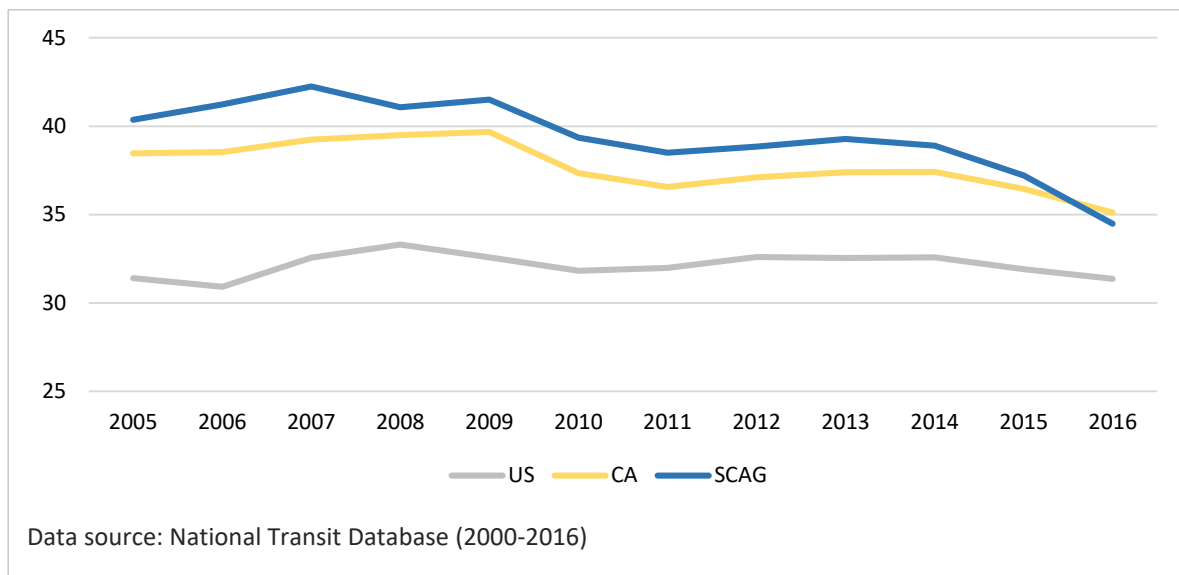


Figure ES 1. Transit trips per capita. *Relatively flat nationally, but down in California since 2009.*

This decline spans modes; it is not simply a case of bus ridership falling while rail ridership increases. Rail ridership, on net, is also down. Further, these aggregate numbers mask large asymmetries in transit service and use. Transit use in particular is heavily concentrated among a relatively small segment of the population, in a small number of the region's neighborhoods, and on a small share of the region's transit systems. As a result of these asymmetries, even small changes in these households, neighborhoods, or transit systems can have an outsized effect on regional transit use.

A few people make most of the trips

The average resident of the SCAG-region made about 35 transit trips in 2016, but the median resident made none. Only a minority of the population rides transit very frequently or even occasionally. About two percent of the population rides transit very frequently (averaging 45 trips/month), another 20 percent of the population rides transit occasionally (averaging 12 trips/month), and more than three-quarters of SCAG-region residents ride transit very little or not at all (averaging less than 1 trip/month). Heavy transit use, moreover, is concentrated among the low-income population, and especially low-income foreign born residents.

A few neighborhoods generate most of the trips

Ten percent of all of the people who commuted to and from work on transit in 2015 lived in 1.4 percent of the region's census tracts, which covered just 0.2 percent of the region's land area; the average number of transit commuters in these few tracts was almost 12 times the regional average. Fully 60 percent of the region's transit commuters lived in 21 percent of the region's census tracts, which occupied 0.9 percent of the region's land area. Overall, the most urban and transit-friendly neighborhoods in the SCAG region comprise less than one percent of the region's land area. These neighborhoods hold about 17 percent the

region’s population, but 45 percent of its transit commuters. So while the region’s transit systems are increasingly diverse and far reaching, transit riders remain highly concentrated.

A few operators carry most of the passengers

The SCAG region has over 100 transit operators, but just a few them carry the vast majority of riders. Figure ES-2 shows that nine percent of the region’s operators are responsible for 60 percent of the region’s transit service and carry about 80 percent of all transit riders.

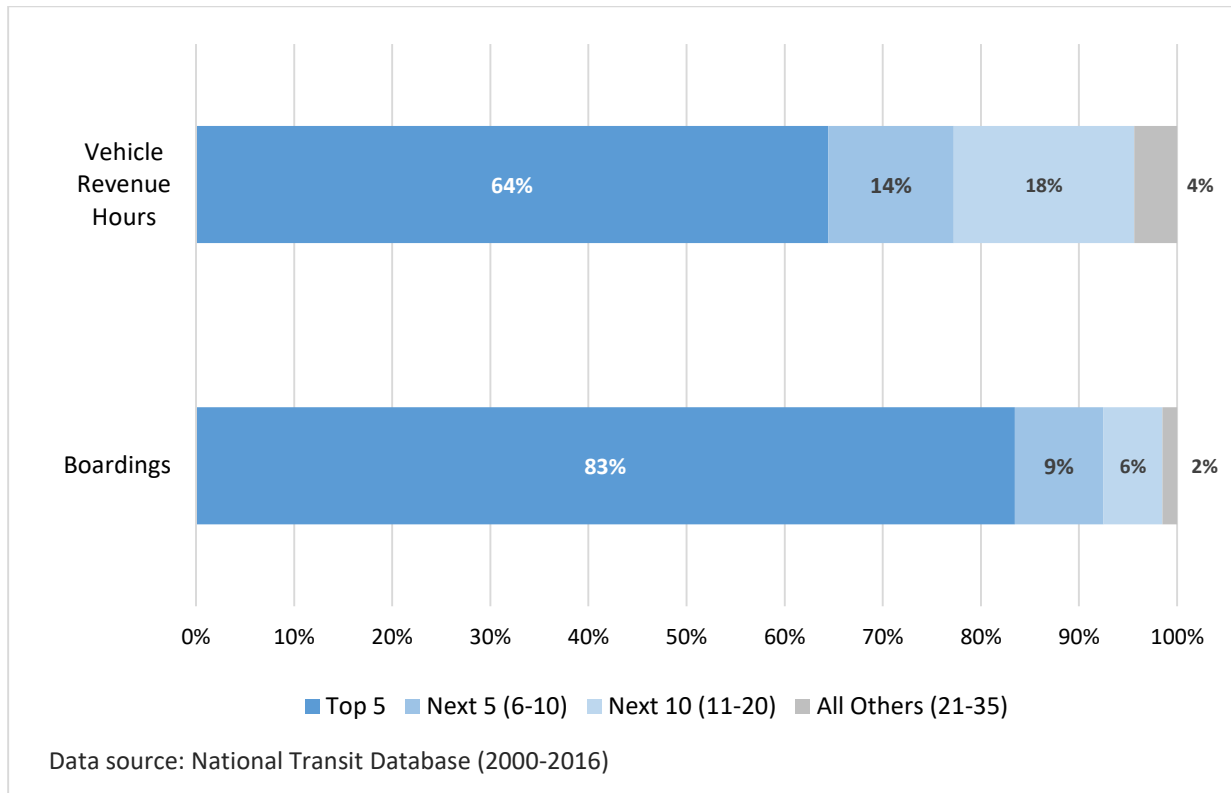


Figure ES 2. Key metrics by operating grouping. *14% of operators carry 83% of the trips.*

Because service and riders are concentrated on the largest systems, ridership losses are concentrated on these systems as well. Four SCAG-region operators—LA Metro, Orange County Transportation Authority (OCTA), Los Angeles Department of Transportation (LADOT), and the Santa Monica Big Blue Bus—accounted for 88 percent of the state’s ridership losses between 2010 and 2016. LA Metro by itself accounted for a remarkable 72 percent of the state’s losses. Because LA Metro’s losses are themselves highly concentrated, a dozen routes in LA County account for 38 percent of all the lost ridership in California. In fact, half of California’s total lost ridership is accounted for by 17 LA Metro routes (14 bus and 3 rail lines) and one OCTA route.

Possible causes of eroding transit use

Why is transit use falling? We consider a number of potential explanations, and review our findings below.

Changes in transit service and fares have mostly followed and not led falling ridership

Transit use can fall if transit becomes harder to use: if service declines, or fares rise. It does not appear, however, that these factors played a large role in the SCAG region’s falling ridership. While transit fare increases are never popular, they are occasionally necessary to keep pace with rising costs. Figure ES-3 shows the inflation-adjusted trends in average fare paid per mile of transit travel between 2002 and 2016 in the U.S., California, and the SCAG region. Fares in Southern California are lower than those in the rest of the state and the country and have been remarkably flat over time.

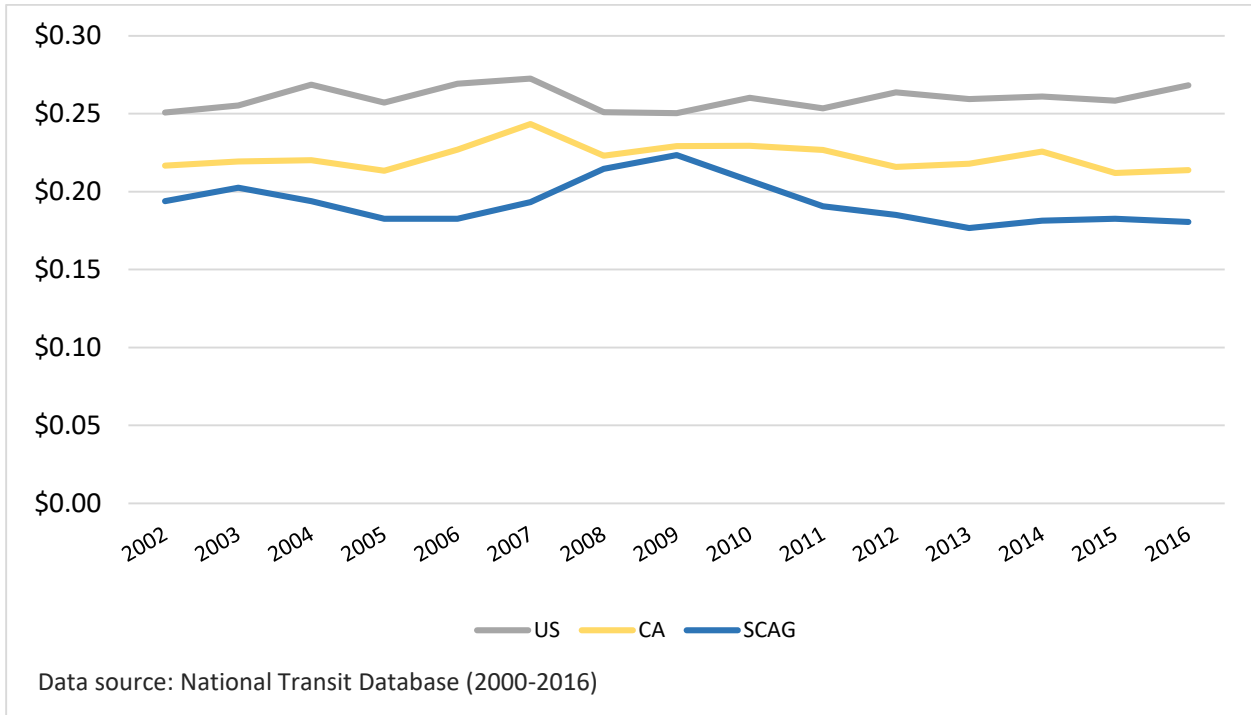


Figure ES 3. Average fare per passenger mile traveled in 2015 dollars. *Average fare per PMT remained fairly consistent and even declined a little since 2009.*

These regional averages can mask significant variation among transit operators. In particular, inflation-adjusted fares per boarding for both OCTA and the Big Blue Bus increased by about 50 percent between 2002 and 2016 — to nearly \$1.25 and \$0.75 per boarding respectively. So while fares have probably not caused significant ridership declines across the region, they may have played a role at operators like OCTA and Big Blue.

Transit service in the SCAG region, moreover, mostly rose while ridership was falling, and ridership fell even on routes that maintained excellent on-time records. These circumstances suggest that service quantity and reliability were not large factors in falling transit use. There is some evidence, admittedly limited, that riders felt unsafe on transit vehicles in recent years, which may have contributed to the ridership decline.

Fuel prices have likely played a contributing, but not leading role

Fuel prices have been volatile since 1998, but have fallen substantially since peaking in 2012. Figure ES-4 compares trends in fuel prices and transit use in the Los Angeles metropolitan area. While there is a generally positive relationship (as fuel prices rise so too does ridership), it is a relatively weak one – fuel prices rise and fall much more dramatically than transit patronage. The timing of transit’s decline, moreover, is not conducive to a fuel price explanation. Per capita transit use in Southern California has been mostly falling since 2007, and it fell between 2009 and 2011 when fuel prices were rising sharply.

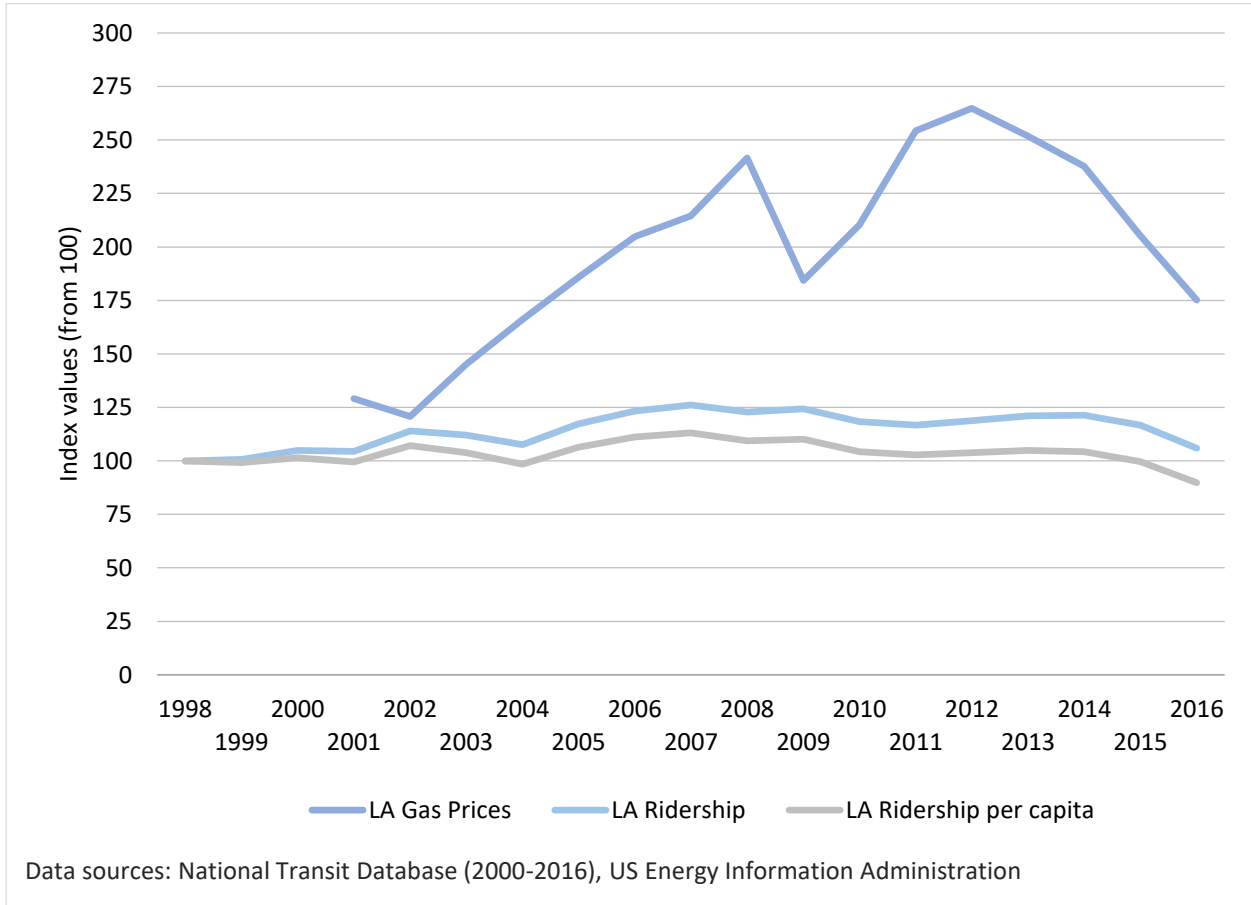


Figure ES 4. Transit ridership and gas prices in Los Angeles Metropolitan Area.

The Transportation Network Companies do not appear to have cannibalized transit

We have very little data that lets us directly measure the effect of transportation network companies (TNCs, like Lyft and Uber) on transit use. What evidence we do have suggests that most TNC trips are probably not replacing large numbers of transit trips. The typical TNC user does not resemble the typical transit rider, the typical TNC trip does not occur when and where most transit trips occur, and most TNC users report no change in their travel by other modes. However, if the pool of TNC users continues to expand, the effect of TNCs on transit use — both positive and negative — may expand as well.

Evidence about neighborhood change and migration of lower-income people is mixed, but suggestive

Transit is heavily-supplied in a small proportion of places, and heavily used by a small proportion of people. If the neighborhoods where transit quality is high change, and become less likely to hold the small group of people who use transit regularly, then transit use could fall. We find some evidence consistent with the idea that neighborhood change has been associated with less transit use. Areas that were heavily populated with transit commuters in the year 2000 became, in the next 15 years, slightly less poor, and significantly less foreign born. Perhaps most important, the share of households without vehicles in these neighborhoods fell notably. All these factors align with a narrative where a transit-using populace is replaced by people who are more likely to drive. We emphasize, however, that this relationship is not one we can measure with precision, and it would be premature to declare neighborhood change a large culprit in falling transit ridership.

Private vehicle access increased substantially from 2000 forward

A defining attribute of regular transit riders is their relative lack of private vehicle access. But between 2000 and 2015, households in the SCAG region, and especially lower-income households, dramatically increased their levels of vehicle ownership. Census data show that from 1990 to 2000 the region added 1.8 million people but only 456,000 household vehicles (or 0.25 vehicles per new resident). From 2000 to 2015, the SCAG region added 2.3 million people and 2.1 million household vehicles (or 0.95 vehicles per new resident).

The growth in vehicle access has been especially dramatic among subsets of the population that are among the heaviest users of transit. Between 2000 and 2015, the share of households in the region with no vehicles fell by 30 percent, and the share of households with fewer vehicles than adults fell 14 percent. Among foreign-born residents, zero-vehicle households were down 42 percent, and those with fewer vehicles than adults were down 22 percent. Finally, among foreign-born households from Mexico, the share of households without vehicles declined an astonishing 66 percent, while households with more adults than vehicles dropped 27 percent. Living in a household without a vehicle is perhaps the strongest single predictor of transit use; the decline of these households has powerful implications for transit in Southern California.

Vehicle ownership is not, of course, the only determinant of regional transit ridership—income, race, age, and nativity, to name a few, also matter. But vehicle access may well be the largest factor. We demonstrate the strong association between vehicle access and transit ridership by building a series of statistical models of transit ridership. The models cover the SCAG region, all of California, Los Angeles

County, and the SCAG region outside of LA County. Each model compares two predicted outcomes: the change in transit use we would expect to see based on due to changes in socioeconomic attributes *other than* vehicle ownership, and the change we would expect to see if we account, in addition, for changes in vehicle access. In short, we compare a scenario where incomes, nativity, racial composition, and various other attributes change the way they did from 2000-2015, but where vehicle access is unchanged, to a scenario where vehicle access changes as well.

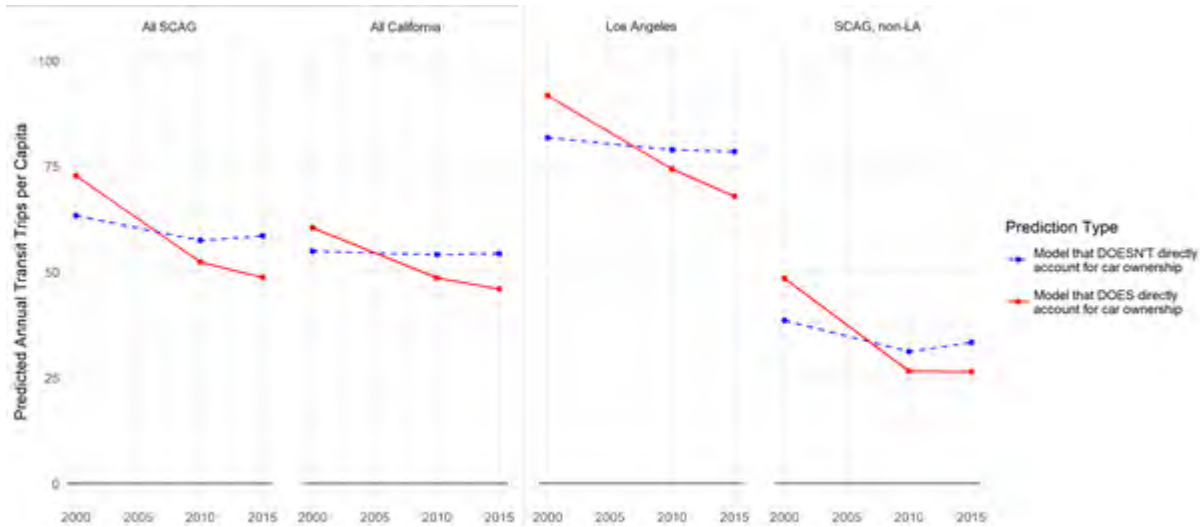


Figure ES 5. Transit use changes based on area.

Figure ES-5 shows the results of these models. The dotted blue line in each case is an estimate of transit ridership trends between 2000 and 2015 based on changes in the region's income, nativity, and so on, but assuming no change in vehicle ownership. The solid red lines represent these same models, but with the region's observed changes in vehicle access included. In all cases the blue line predicts transit use starting at a lower point and declining only modestly, while the red line shows transit use starting at a higher point and falling sharply, more in line with what we are actually observing. The models reinforce the idea that vehicle access is the decisive factor in transit use: income, age, and many other factors matter, but they matter largely because they predict the ability to access and use motor vehicles. In Southern California since 2000, that ability has increased, and transit use has fallen.

Conclusion

Public transportation is unlikely to fare well when Southern California is flooded with additional vehicles, especially when those vehicles are owned disproportionately by transit's traditional riders. Much of the region's built environment is designed to accommodate the presence of private vehicles and to punish their absence. Extensive street and freeway networks link free parking spaces at the origin and destination of most trips. Driving is relatively easy, while moving around by means other than driving is not. These circumstances give people strong economic and social incentives to acquire cars, and — once they have cars — to drive more and ride transit less.

The advantages of automobile access, which are particularly large for low-income people with limited mobility, suggest that transit agencies should not respond to falling ridership by trying to win back former riders who now travel by auto. A better approach may be to convince the vast majority of people who rarely or never use transit to begin riding occasionally instead of driving. This task is unquestionably more difficult than serving frequent-riding transit dependents, and it would likely require weakening or removing some of the state’s and region’s entrenched subsidies for motor vehicle use. But the opportunity is substantial. The SCAG region, between 2012 and 2016, lost 72 million transit rides annually. That number seems daunting, but the region has a population of 18.8 million, and about 77 percent of those people (roughly 14.5 million), ride transit rarely or never. If one out of every four of those people replaced a single driving trip with a transit trip once every two weeks, annual ridership would grow by 96 million — more than compensating for the losses of recent years. The future of public transit in the SCAG region, then, will be shaped less by the mobility needs of people who do not own vehicles, and more by policy decisions that encourage vehicle-owning households to drive less and use transit more.

FALLING TRANSIT RIDERSHIP: CALIFORNIA AND SOUTHERN CALIFORNIA

In the last 15 years Americans have supported public transportation more and demanded it less. California, the nation's most populous state, is in many ways emblematic of this pattern. Motivated by concerns about congestion and climate change, California's state and local governments have invested heavily in transit, often with the explicit approval of voters. This investment is particularly evident in Southern California. Since 1990, the six-county Southern California Association of Governments (SCAG) region has added over 100 miles of light and heavy rail in Los Angeles County, and over 530 miles of commuter rail region-wide. In November 2016, voters in LA County approved a \$120 billion sales tax measure for transportation, with a plurality of the funding dedicated to expanding and improving transit (Measure M: Metro's Plan to Transform Transportation in LA 2016). This measure marked the third such countywide tax increase since 1990, and the fourth one overall. Other SCAG counties have also routinely passed sales tax measures for transportation and transit improvements.

Over the same period, however, California's transit use (depending on how one measures it) has varied from modest increases to relative stagnancy to—in more recent years—steep decline. Southern California is again illustrative. Despite its heavy investments in transit, in absolute terms the region's transit ridership reached its postwar peak in 1985. Through the 1990s and mid-2000s ridership rose and fell modestly, never reaching 1985 levels, and in 2012 it began declining. In per capita terms, ridership has fallen more steadily since the 1980s. Ridership per capita was flat in the early 2000s, but started trending down again in 2007. In California overall, per capita ridership was flat until 2009, when it began a decline from which it has not recovered (The National Transit Database (NTD), 2015).

Why is transit ridership falling? The question is not merely academic. The combination of rising supply and falling demand has profound fiscal implications for transit operators, since it substantially increases the public cost of moving each passenger. Increased transit supply has meant increased public investment, particularly in new rail services. Measured as a ten-year rolling average of capital and operating costs, transit investment in both the US and California rose almost 50 percent between 2000 and 2015. These rising expenditures, when combined with falling patronage, yield falling productivity. Between 2005 and 2016, transit productivity —measured as passenger boardings per vehicle revenue hour (VRH) —has fallen 5 percent in California and 14 percent in the SCAG region. Falling productivity is not sustainable; it usually ends with more subsidies or less service.

Beyond fiscal concerns, falling ridership calls into question a number of California's ambitious environmental goals. California's aggressive agenda for combatting climate change is predicated in part on many people using transit more and driving less. The carbon reduction targets set out in Senate Bill 375, California's landmark climate reduction bill of 2008, involve large mode shifts to transit and away from driving, while the California Department of Transportation's current Strategic Management Plan includes an explicit goal of doubling the state's transit mode share by 2020 (California Department of Transportation, 2015). But transit ridership, despite heavy transit investment, is trending very much in the opposite direction.

This report assesses California's, and particularly Southern California's, recent ridership downturn. We emphasize Southern California because — as we will show — California's falling ridership is in many ways Southern California's falling ridership. Had transit use not fallen in the SCAG region through 2016, it would not have fallen statewide.

Our study considers the years from 2000 to 2015 or 2016 (depending on data availability). While widespread concern about falling transit use did not begin until ridership began falling absolutely in 2012, we focus on the per capita decline that began about five years before that. The falling absolute ridership of the last few years is important, and we do pay outsized attention to it. But we view it as a particularly acute manifestation of the longer-run per capita decline, not as a phenomenon in itself. Absolute declines in ridership are at once more noticeable and less important than per capita declines. Ridership numbers that are not adjusted for population lack context, and focusing only on absolute ridership declines can for that reason yield incomplete or misleading results.

For example, since 2012 gas prices have fallen sharply, transportation network companies (TNCs) like Lyft and Uber have expanded dramatically, undocumented immigrants have been granted drivers' licenses, and the economy has rebounded from the Great Recession. All these factors may have depressed transit use, but all of them also occurred well *after* per capita transit ridership began to decline. Thus none of them, individually or in combination, can fully explain Southern California's, or California's, transit patronage losses.

Our analysis faces data limitations common to examinations of transit. Aggregate data on transit use are widely available through the National Transit Database (NTD), but users of NTD data can never be entirely sure of the data's accuracy.¹ NTD records are compiled from the reports of individual transit operators to the federal government, and for a variety of reasons — from failure to report to mistakes in reporting to errors in correcting those mistakes— NTD data do not always match up with operator data. We have checked some of the NTD data used in this report against operator data and been satisfied that they reasonably conform, but checking all the data would be impossible. We emphasize that this problem is almost universal in transit studies: all data are imperfect, but the NTD is the nation's standard source for transit data.

A second issue is that while data on transit use are easy to find, data on transit *users* are not. Public transportation is used by a small and hard-to-track subset of the population, making riders (and especially former riders) hard to study. The U.S. Census, in its annual American Community Survey (ACS), provides detailed economic and demographic information about transit commuters, but commutes are a minority of transit trips, and commuters (as we will show) are a minority of transit riders. More detailed data on transit users can be found in the California Household Travel Survey (CHTS) which provides an in-depth look at travel of all types by Californians, and complements those travel data with extensive person-level

¹ Transit operators who receive funding from the Federal Transit Administration's Urbanized Area Formula Program, or its Rural Formula program, must submit data to the NTD on the financial and operating conditions of their systems, as well as the conditions of their assets and rolling stock. Just over 660 operators receive such funding and report to the NTD. See <https://www.transit.dot.gov/ntd>

socioeconomic information. But the CHTS is a one-year snapshot, only available for 2012. As a result, we have a data mismatch: excellent data for a single year, but a research question – why is transit ridership declining? – that demands data on changes over time.

A last data obstacle is that the determinants of transit use are varied, ranging from gas prices to auto ownership to the quality of transit service, and no single data set contains all of them. Some factors thought to influence transit use, like the availability of free parking, are not systematically tracked at all.

To work around these limitations, we draw on an array of spatial, person-level, and administrative data. At different points we use the U.S. Census summary files, the Integrated Public Use Microdata (IPUMS) of the Census,² state and national travel diary data, gas price and economic data from the Energy Information Agency and the Bureau of Labor Statistics, and data and rider surveys conducted by some of Southern California’s larger transit operators. One operator—the Los Angeles County Metropolitan Transportation Authority (Metro, or LA Metro)—by itself accounts for most of the region’s transit use and has ample public data available. As a result, at different points in the report when data for the entire region is lacking, we draw on data specific to LA Metro.

Largely because of these data constraints, the case we build is circumstantial; we offer no definitive proof of cause-and-effect. But the evidence is nevertheless compelling. The primary factor we identify is automobile ownership. In the last 15 years, household vehicle access in the SCAG region has grown dramatically. Vehicle ownership has grown particularly sharply among subgroups most likely to use transit, such as the low-income and the foreign born from Latin America. The steep rise in vehicle access among these groups that occurred as transit ridership began to fall is not direct proof, but it is a smoldering if not a smoking gun. Public transportation is unlikely to fare well when Southern California is flooded with additional vehicles. Much of the region’s built environment is designed to accommodate the presence of private vehicles and to punish their absence. Extensive street and freeway networks link free parking spaces at the origin and destination of most trips. These circumstances give people strong incentives to acquire cars, and — once they have cars — to drive more and ride transit less.

The surge in vehicle ownership does not explain all of the transit decline. And it may well have been reinforced by falling gas prices and the rise of TNCs— though again we note that increasing vehicle ownership and declining transit use began before TNCs existed and when gas prices were still high. But increased vehicle ownership by itself probably explains much of Southern California’s lost transit ridership.

Our findings accord with previous research about transit patronage. Giuliano (2005) has shown that compared to Americans at large, the poor use transit more but like it less. The typical low-income rider wants to graduate to automobiles, while the typical driver might view transit positively but have little interest in using it (Manville & Cummins, 2015). These facts, coupled with the falling ridership of recent years, raise questions about transit’s future.

Transit ridership is not, by itself, a legitimate goal of public policy. Transit use is instead a means to achieve other public ends. Traditionally, transit’s goals have been twofold: Providing mobility to disadvantaged people who lack it, and mitigating the social and environmental costs of private automobiles by providing alternatives to them. The first goal has long accounted for more of transit’s ridership, while the second

² The IPUMS data are from Ruggles et al (2017).

has accounted for more of its rhetoric. Throughout the United States, and particularly in Southern California, public transportation advocates have emphasized transit's potential to manage traffic and reduce pollution. In practice, however, transit has functioned overwhelmingly as a social service for low-income people with little private mobility (Taylor & Morris, 2015).

Because transit has primarily carried low-income people, rising vehicle ownership among those people suggests a future where public transportation's core ridership could dramatically shrink. While this outcome poses a grave problem for transit operators, it is not obvious that transit operators should try to win these low-income riders back, at least not to the very high levels at which they rode transit previously. With very few exceptions, acquiring an automobile in Southern California makes life easier along multiple dimensions, dramatically increasing access to jobs, educational institutions and other opportunities (Kawabata & Shen, 2006). As a result, pulling low-income former riders out of their cars and back onto trains and buses could make transit agencies healthier but the region poorer. If transit agencies want to protect their fiscal health while also increasing social welfare, they may need to convince the vast majority of people who never use transit to begin riding occasionally instead of driving. This task is unquestionably more difficult than serving a large pool of people who have few alternatives to transit. Convincing some drivers to start using transit would likely require weakening or removing some of the state's and region's entrenched subsidies for motor vehicle use. But transit is unlikely to grow substantially, to accomplish its environmental goals, if driving remains artificially inexpensive.

THE SPATIAL AND DEMOGRAPHIC DISTRIBUTION OF AMERICAN PUBLIC TRANSPORTATION

Public transportation use in the United States is distributed unevenly across people and places. Transit accounts for about two percent of all passenger miles travelled (PMT), and about two percent of personal trips overall (NHTS 2009). These small overall numbers, however, conceal transit's outsized importance to some people in some places. The average U.S. resident made about 32 transit trips in 2016 (Neff & Dickens, 2017; U.S. Census Bureau, 2016), but the modal resident made zero trips, and a small number of people rely on transit extensively. Chu (2012) shows that 20 percent of Americans live in neighborhoods without transit, while 60 percent live in neighborhoods with transit but have not used it in the previous month. Another 11 percent uses transit less than ten times per month, while eight percent take ten or more trips monthly.

The small share of people who use transit frequently is concentrated in a handful of metropolitan areas. In 2016, 65 percent of all transit boardings occurred on the nation's ten largest transit operators; the 15 systems in the New York region by themselves account for over 40 percent of the country's transit trips (FTA, 2016). Even within these transit-heavy areas, however, most people do not use transit regularly, because most transit use occurs in the central cities, and specifically among lower-income and foreign-

born people in these cities. And even within these subgroups, whose members are *more likely* to ride transit, *most* people do not use transit.

Why is transit use so rare? In the broadest terms, travelers will choose to ride transit when they believe transit has the lowest relative costs – in money, time, or risk and uncertainty – of the various transportation modes available to them. These factors help explain why so much transit use occurs in New York City. New Yorkers ride transit as much as they do not only because transit service is frequent and extensive, but also because riding a subway across Manhattan is often cheaper, faster and more reliable than driving. Manhattan’s streets are clogged with unpredictable congestion and parking is scarce and expensive.³ In most other places, driving is a faster door-to-door option, and one that people also believe is safer (Yoh, Iseki, Smart, & Taylor, 2011). Driving in these places is also more reliable: when congestion is low and transit service is sparse, riding transit might involve more time waiting at stops and transferring between vehicles, which make trips seem unpredictable, complicated and burdensome (Iseki & Taylor, 2009). For this reason, outside New York and a handful of other urban places, most transit users are people who for various reasons do not have the option of travelling by car.

The fact that so few people use transit regularly is important but often overlooked, especially in discussions about why ridership might fall. Per capita transit use can fall when current riders ride less, when the number of people who never ride grows, or both. Strictly speaking, there is no difference between these root causes. A person who rides and stops is a lost transit rider, but so is a person who moves to a transit service area and never rides. The decision to stop and the failure to start both reduce per capita transit use.

In practice, however, concerns about falling per capita ridership are rarely concerns about new residents who never start riding, and are instead concerns about current riders who leave. This dynamic is understandable, as riders who leave are easier to notice. But it is important to remember that transit riders leave transit regularly, even when ridership is stable or growing. If riders who leave are replaced by others, their departure from transit is less noticeable, and ridership might remain unchanged. For that matter, ridership can remain unchanged even when riders leave and are *not* replaced by other people. If an existing rider stops taking her daily trip and drives instead, but another frequent rider adds a daily trip, the number of riders falls but per capita ridership does not. Conversely, if two riders who take three trips a day each start taking two, the number of riders won’t change but ridership will. Riders are not equivalent to ridership; stable ridership can conceal large churn among riders, and vice-versa.

The Spatial Concentration of Transit in California and Southern California

As it is in the nation at large, public transit use in California is unevenly distributed: a small share of people and places account for a large share of overall rides. Northern Californians use transit more intensively than Southern Californians, largely as a result of high ridership in San Francisco and its surrounding areas, but most of California’s transit use occurs in Southern California, where a majority of the state’s

³ Manhattan also has relatively few highway lane-miles, which contributes to its surface-street congestion.

population lives (Figure 1). Transit accounts for 6 percent of all trips in the Bay Area, as opposed to 5 percent in the SCAG region, but the SCAG region – because it is so large – accounts for 52 percent of California’s transit trips, while the Bay Area accounts for 28 percent. Southern California thus exerts a large influence on California’s overall transit use.

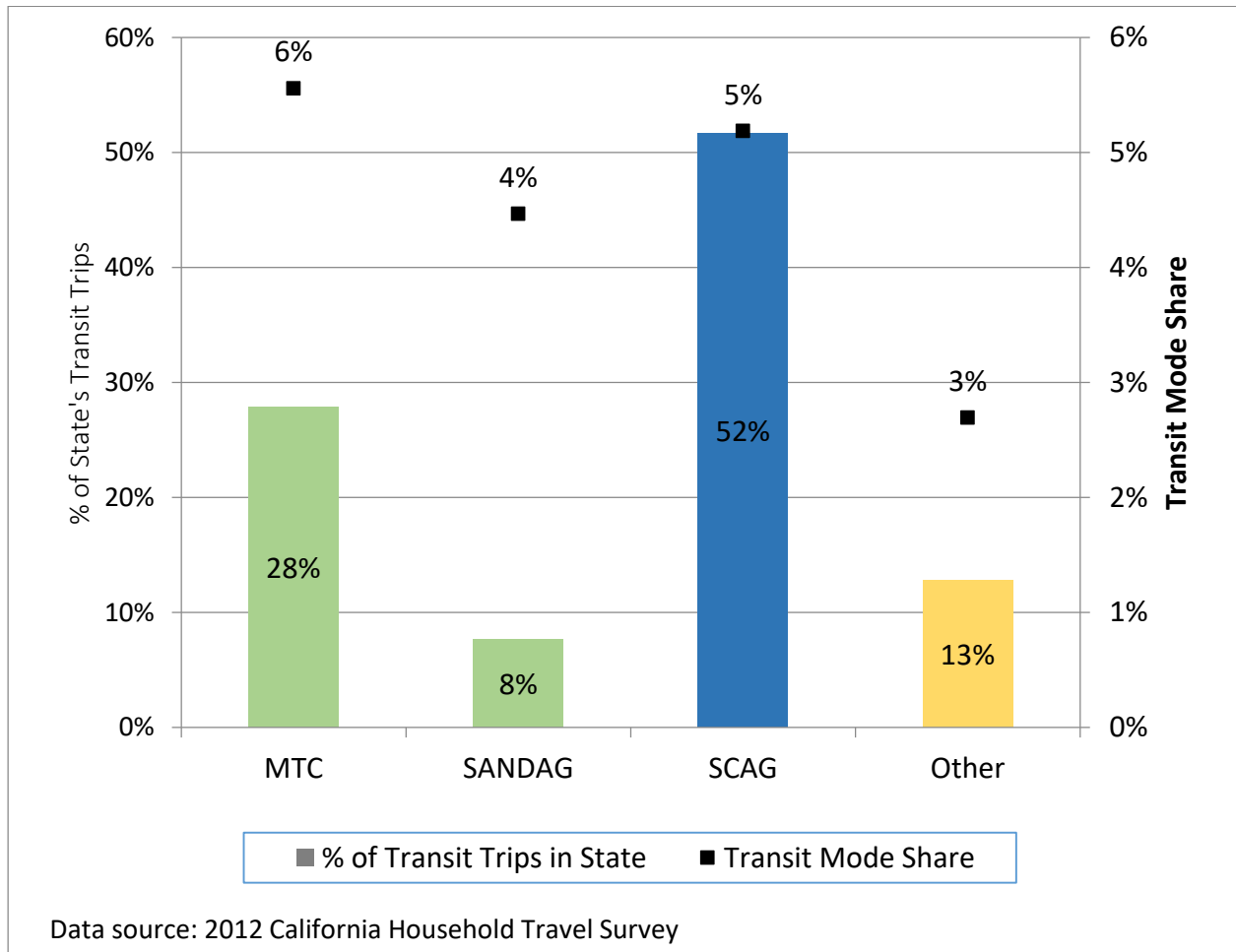


Figure 1. Transit mode share and distribution of transit trips by California region.

Figures 2 and 3 show the trend in transit boardings nationwide, in California, and the SCAG region between 2000 and 2016, first in absolute and then in relative terms. Absolute ridership was largely flat over this time in all three geographies. In relative terms ridership grew steadily between 2004 and 2007 (SCAG region), 2008 (the U.S.), and 2009 (California). This period of growth was followed by patronage losses from the start of the Great Recession through 2011, particularly in California. The recession’s end brought a gradual transit patronage recovery, followed by steep declines from 2014 onward.

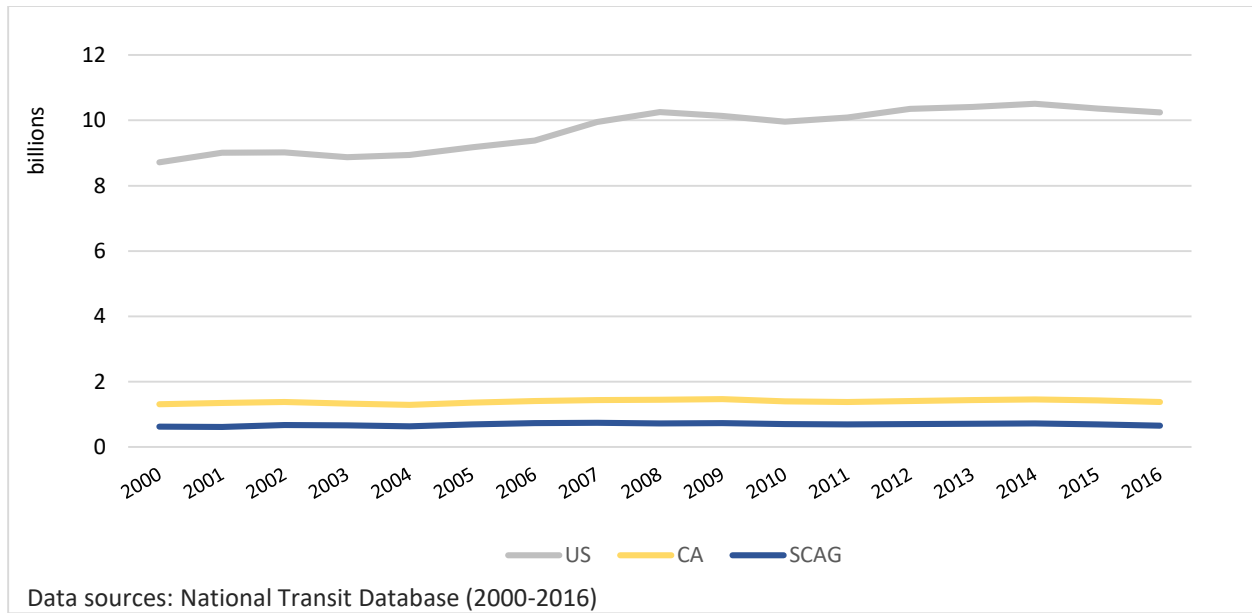


Figure 2. Boardings (unlinked passenger trips). Growing nationwide, but relatively flat in California and SCAG.

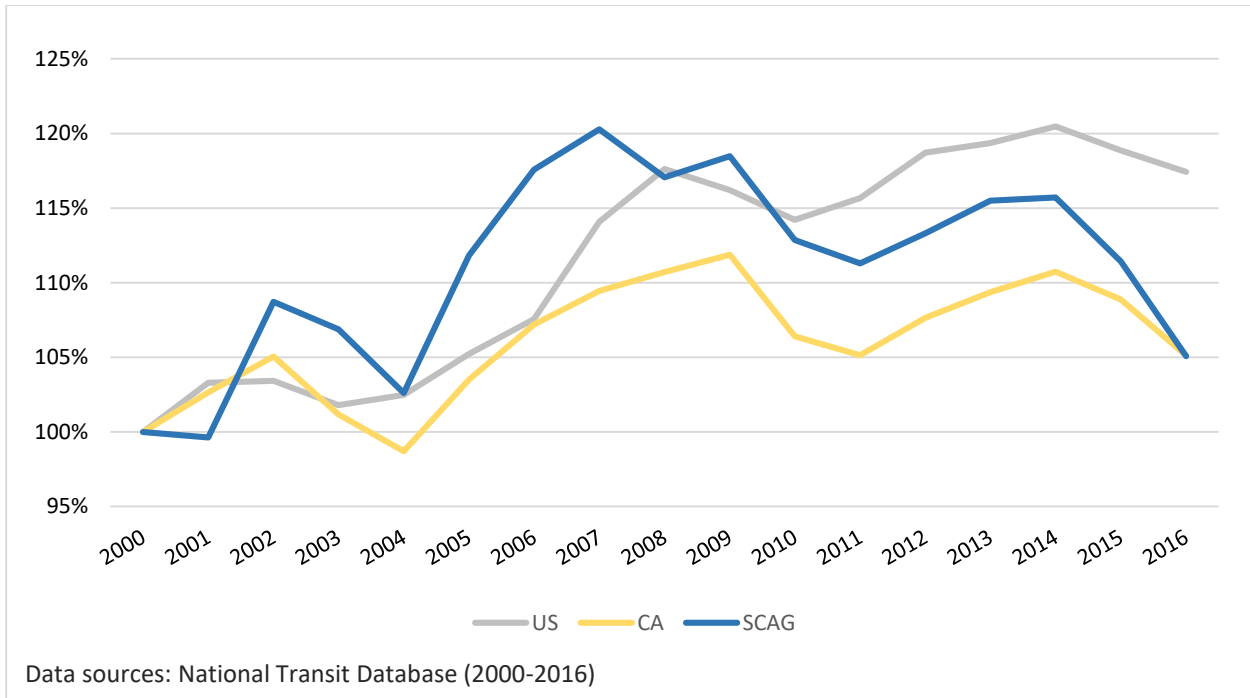


Figure 3. Indexed boardings. *Growing nationwide, but California and SCAG face steeper declines, returning to 2000 levels.*

Figure 4 expresses these ridership trends in per capita terms. Between 2005 and 2016, per capita ridership peaked in California in 2009, in the nation in 2008, and in the SCAG region in 2007. Since 2007, per capita transit use in the SCAG region has been mostly falling—before the recession, the rise of Lyft and Uber, or the post-2012 drop in fuel prices.

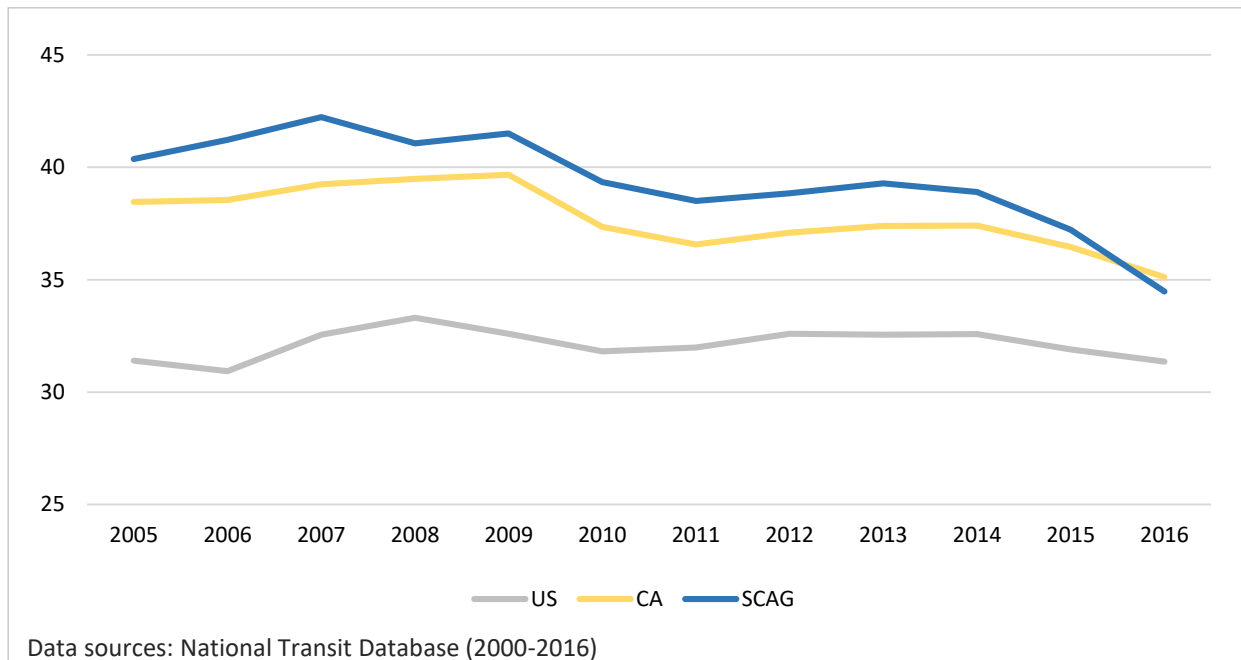


Figure 4. Transit trips per capita. *Relatively flat nationally, but down in California since 2009.*

Because the SCAG region accounts for so much of California’s ridership, and because in recent years its decline has been so steep, losses in the SCAG region from 2012 to 2016 actually account for all of California’s ridership losses during that time. Figure 5 shows changes in transit ridership across California from 2012 to 2016. During this time annual transit boardings statewide fell by 62.2 million. The SCAG region, however, lost 72 million annual rides, or 120 percent of the state’s total losses. Ridership outside the SCAG region actually rose 20 percent, largely as a result of gains made by transit systems in San Francisco. The Bay Area Rapid Transit District (BART) alone accounted for 28.4 percent of the state’s increased transit ridership (although by 2017 ridership on BART, and in California outside the SCAG region, had also started to fall).

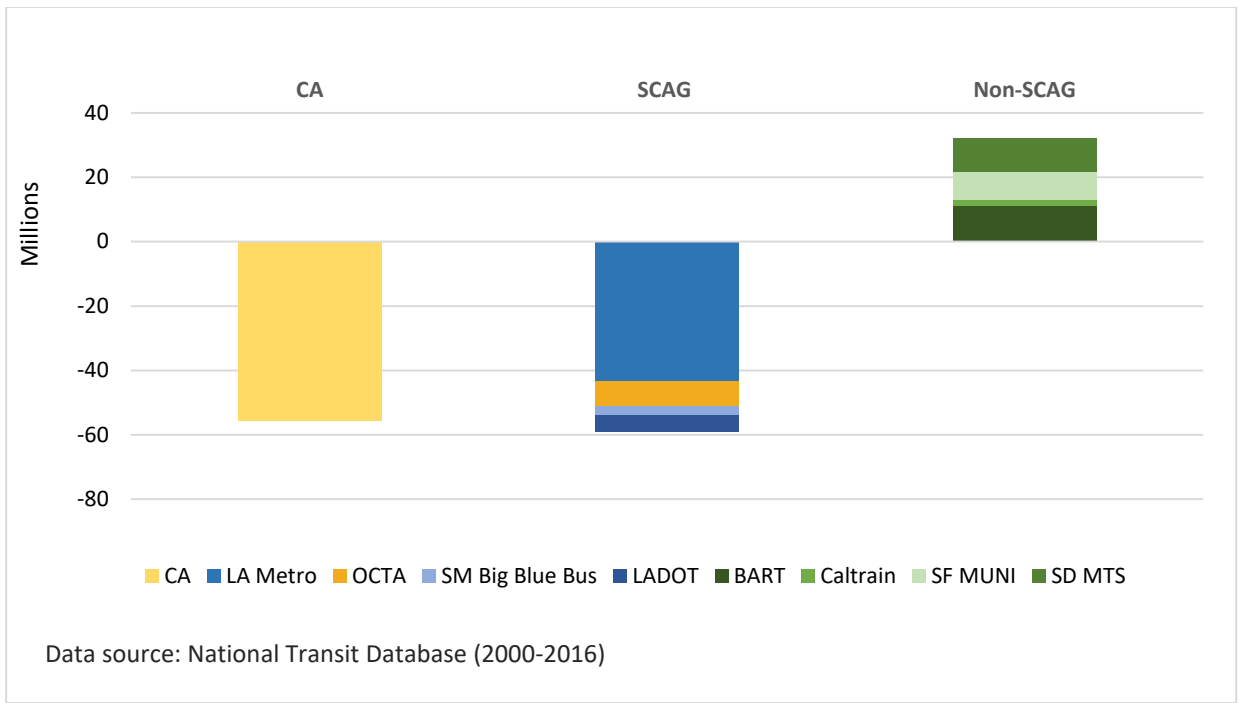


Figure 5. CA net change in ridership (2012-2016). *Losses in CA are driven by losses from the largest operators in the SCAG region, while Bay Area region saw growth in ridership.*

Within the SCAG region, transit trips (and lost trips) are similarly geographically concentrated. We can illustrate this concentration in a number of ways. For example, the CHTS shows that in 2012 82 percent of the transit trips in the SCAG region were in Los Angeles County. Another 8 percent were in Orange County, and the remaining ten percent were spread over the other four counties.

A second way to measure concentration, which allows us to examine smaller levels of geography, is to use census data and map the location of the region’s transit commuters. While commuters are not the majority of transit riders, they do tend to use transit frequently and intensively, and we have high-quality data about their residential locations. Those locations are intensely concentrated. In 2000, 2010, and 2015, 60 percent of the SCAG region’s transit commuters lived in 20 percent of its census tracts, which represented (depending on the year) one to three percent of the region’s land area. In all three years, ten percent of the region’s transit commuters lived in one percent of the region’s census tracts, which accounted for two-tenths of one percent (0.2%) of the region’s land area.⁴ (Note that even in these tracts, *most* workers do not commute via transit – 7 out of 10 use some other means.) Unsurprisingly, these tracts are overwhelmingly located in LA County, followed by Orange County.

A third way to illustrate the concentration of transit use is to examine transit trips by operator. Figure 6 shows that the ten largest transit agencies in the SCAG region account for 60 percent of all transit service

⁴ Calculated from summary file data of the Decennial Census 2000, and the 2010 and 2015 ACS.

(measured in vehicle-revenue hours), and 80 percent of all transit trips. The smallest 60 transit operators, by contrast, account for just over 6 percent of service and just over two percent of trips.

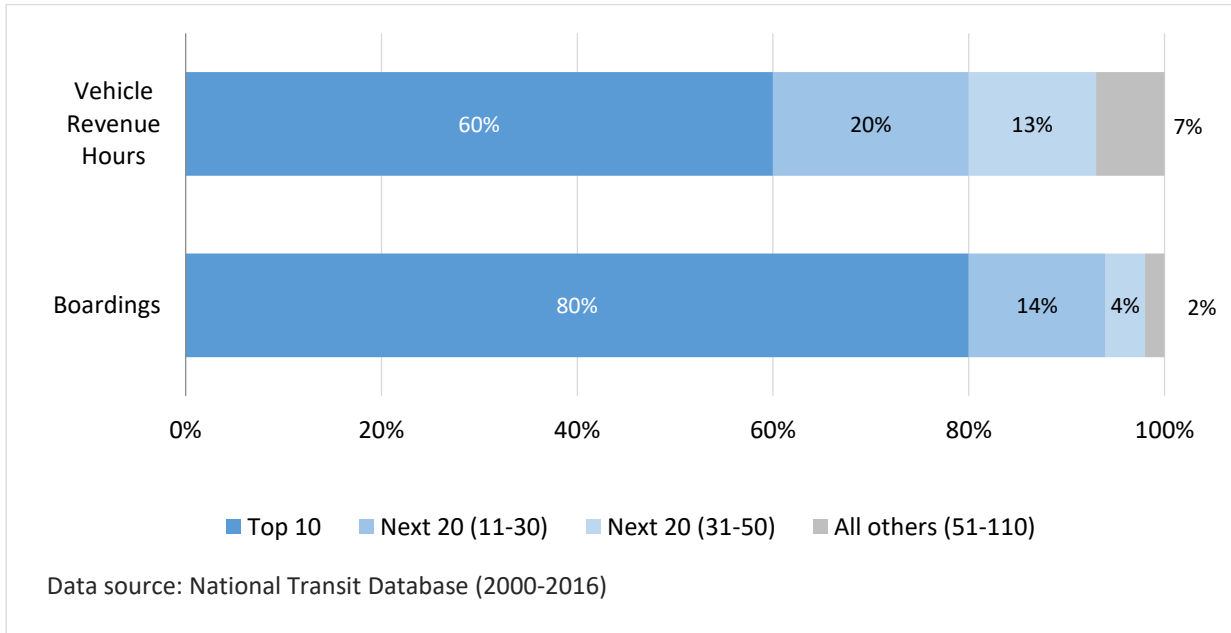


Figure 6. Key metrics by operator grouping. *9% of operators carry 80% of the trips*

Digging still deeper, the distribution of service and trips within these large operators is also highly skewed. LA Metro accounts for most of the SCAG region’s trips, and LA Metro’s ridership is itself highly concentrated. The agency has over 100 transit routes, but in both 2012 and 2016 over half of its total rides took place on 20 of those routes.⁵ Metro’s busiest routes are also, unsurprisingly, where the agency has suffered the largest ridership declines. A dozen Metro lines accounted for 53 percent of all the agency’s lost rides between 2012 and 2016.

Putting all this information together, we see that declining transit patronage through 2016 in California is essentially declining patronage in Southern California, and that Southern California’s ridership declines are themselves remarkably concentrated. As a result, the state’s lost ridership can be traced to a small number of Southern California transit operators. Four SCAG operators (LA Metro, the Orange County Transportation Authority (OCTA), the Los Angeles Department of Transportation (LA DOT), and the Santa Monica Big Blue Bus) accounted for 88 percent of the state’s ridership losses, and LA Metro by itself accounted for a remarkable 72 percent of the state’s losses. Because LA Metro’s losses are themselves highly concentrated, a dozen routes from LA Metro account for 38 percent of all the lost ridership in California. Half of California’s total lost ridership is accounted for by 17 LA Metro routes (14 bus and 3 rail lines) and one OCTA route.

⁵ Calculated from Metro ridership-by-line data, 2012 and 2016.

If we examine these routes more closely (Figures 7 and 8), we see that they include both bus and rail. Transit agencies nationwide – LA Metro included – have made substantial investments in rail service, but the bus remains the workhorse of public transit in the US, the SCAG region and LA County. Bus trips are 78 percent of all transit trips in California and 86 percent of transit trips in the SCAG region.⁶ Given that buses carry the most passengers, it is not surprising that they have also seen the largest ridership declines, accounting for 84 percent of the lost rides between 2012 and 2016. While some bus routes gained ridership, the bus routes that lost riders lost more than the growing routes gained. The five bus lines with the largest declines were urban routes that travel in and out of downtown LA, while the five lines that gained the most ridership ran more outlying and circumferential routes.

Two Metro rail lines, meanwhile – the Gold and Expo – opened extensions after 2012, and partly as a result their ridership grew. But Metro’s remaining rail lines, most of which also travel into downtown LA, saw steep ridership losses that exceeded the Gold and Expo Line’s gains. The SCAG transit decline thus spans modes; it is not a simple story of buses falling behind while rail surges. Instead major routes that run into the heart of the city – the sort of routes where transit is traditionally strongest – are losing riders precipitously.

⁶ Calculated from the 2012 California Household Travel Survey.



12 Bus Lines with Highest Ridership Loss			12 Bus Lines with Highest Ridership Gain		
Local CBD	Local Non-CBD	Rapid/BRT	Local CBD	Local Non-CBD	Rapid/BRT
2, 4, 16, 18, 40, 45, 51, 60, 66	204, 207	720	28, 90	102, 167, 175	734, 910
			Express	Commuter/Circulator	
			460	603	

Source: Ridership data from LA MTA (2012-2016), bus lines from Metro Developer - LACMTA (2016), LA County census tracts and freeways from the Census TIGER files (2010). GCS: WGS 1984. Projection: UTM 11N. Map created by: Tiffany Chu.

Figure 7. LA MTA: Bus lines with the most ridership change (2012-2016).

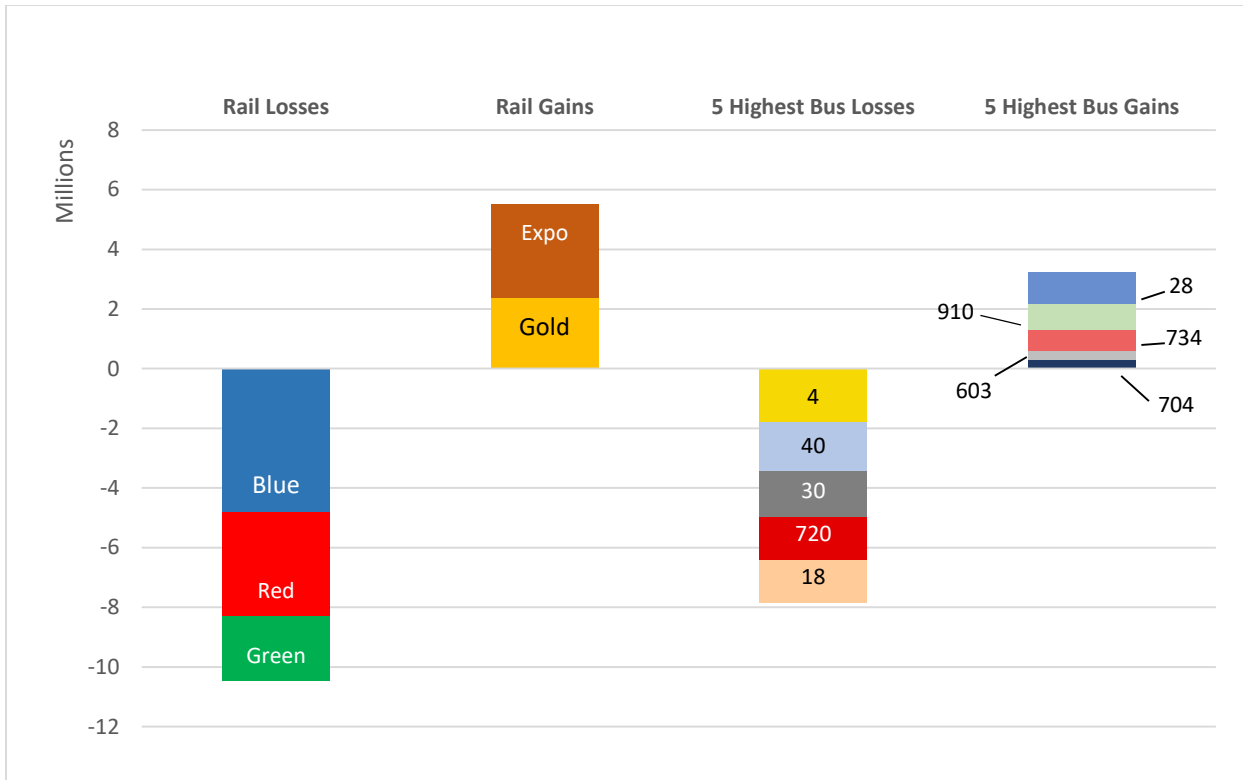


Figure 8. LA MTA: Net change in Ridership (2013-2016) by mode. *Buses made up 84% of loss and rail made up 12%.*

The Demographic Concentration of Transit Use in Southern California

Transit use in the SCAG region is concentrated among a small group of people as well as a small number of places. People ride transit for different reasons, but a common thread running through regular transit users is lack of access to a private vehicle. This trait is not universal; many commuter rail passengers, for example, could make their trips by car and choose not to, but commuter rail is a small portion of overall transit ridership. In general, transit ridership is powerfully associated with lack of vehicle access (Taylor & Fink, 2013). Note again, however, that this relationship is not symmetrical. While most regular transit users lack vehicle access, most people without vehicle access do not regularly use transit, in part because transit is unavailable in many places.

Lack of vehicle access might arise for economic reasons, for medical reasons, or out of personal preference or habit (Brown, 2017). The relationship between vehicle access and transit use could also run two ways. People might ride transit because they do not have a car (either they cannot afford a car or cannot use

one for medical or legal reasons) or they may not have access to a car *because* they ride transit (they live and work near high-quality transit and so need not spend money on vehicles).⁷

Non-economic reasons for lacking a vehicle include disabilities or medical conditions that prevent driving, and legal sanctions that forbid it (e.g. losing a license as a result of traffic infractions, or being in the country illegally). In Southern California, perhaps the largest non-economic source of low vehicle access is immigration. Even controlling for income, immigrants are less likely than the native born to have vehicles, and more likely to use public transportation. Why this is so remains something of a puzzle. Scholars have proposed various explanations, including immigrants' tendency to live in dense areas; their tendency to live in close-knit communities that allow for more communal resources, including sharing of cars; a habit of not driving carried over from the native country; and – if the immigrant is undocumented – legal barriers to owning and operating automobiles (Blumenberg & Smart, 2014; Chatman & Klein, 2009, 2013; Liu & Painter, 2012). The evidence suggests, however, that driving less and riding transit more is not universal among the foreign born – immigrants from some countries, particularly Mexico and many countries in Central America, are less likely than others to drive and more likely to ride (Chatman, Klein, & DiPetrillo, 2010). There is also substantial evidence that over time immigrants assimilate and begin to travel more like the native born, with more driving and less transit use (Blumenberg & Evans, 2010). Thus transit ridership cannot be sustained by immigration alone; it requires a steady stream of new immigrants from particular countries, who will arrive with a transit habit and replace those earlier arrivals who assimilate driving.

Economic reasons for lacking vehicle access can include both low incomes and the high cost of driving. In some parts of California, such as northeastern San Francisco, a combination of heavy congestion, high tolls, and scarce and expensive parking make the price of owning and operating a vehicle high, and encourage even affluent people to ride transit (notably, the same density that makes the city congested can make transit service more effective by putting large numbers of trip origins and destinations within steps of transit stops). Yet there are few places in Southern California where driving is challenging in this way. Congestion is severe, but parking is abundant and often inexpensive if not free, and low-to-moderate densities make transit less able to effectively link many places. As a result, income becomes the principal determining factor in vehicle access, and thus of transit use.

Figure 9 uses CHTS data to illustrate the disproportionate propensity to use transit among the low-income, the foreign-born, and households with limited vehicle access. The figure's dashed vertical line represents the overall average of daily unlinked transit trips in the SCAG region, and the circle associated with each subgroup indicates its relative size in the overall population. The figure shows, in short, that transit use is more common among smaller segments of the population. African Americans and Hispanics ride transit about three times as much as Whites and Asians. Immigrants who have been in the country less than ten years ride substantially more than both the native-born and longtime immigrants who have been in the country longer. Households earning under \$25,000 per year ride more than twice as much as households earning \$25,000 to \$50,000, and these households in turn ride twice as much as households earning over \$50,000 annually. By far the largest differences, however, are those that represent vehicle availability. Households without vehicles take almost five times as many transit trips as households with one vehicle,

⁷ These reasons might interact. People who cannot afford vehicles might choose to live near transit because of their lack of vehicle access (Glaeser, Kahn, & Rappaport, 2008).

and households with one vehicle take twice as many trips as households with two. If we measure vehicles per adult, households with one vehicle for every two adults take twice as many trips as households with one vehicle per adult. Finally, people without driver’s licenses take many more transit trips than licensed residents.

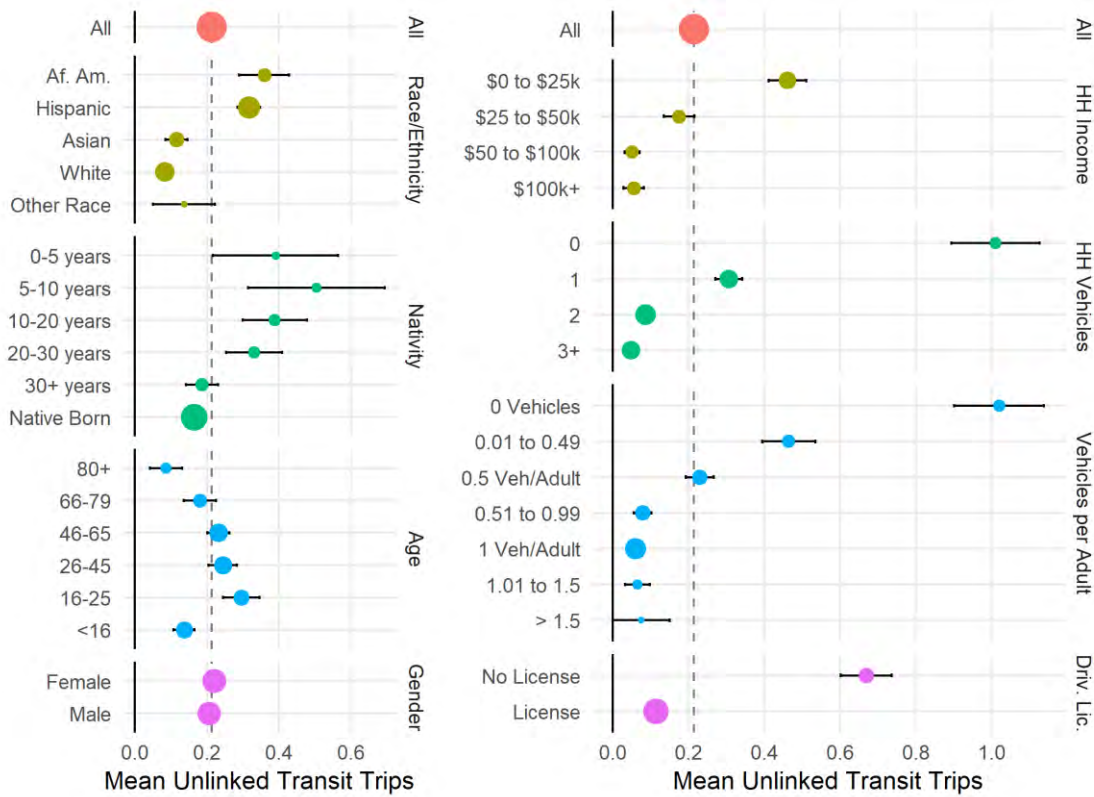


Figure 9. Mean transit trips by socio-economic characteristics and automobile access (CHTS).

The drawback of the CHTS, as we have mentioned before, is that it provides only one year of data. Table 1 uses LA Metro’s annual rider surveys to show that the prevalence of people with low incomes and limited vehicle access on transit extends across years. We examine the 2005 survey (the earliest available) and then annual surveys from 2010 to 2016. Across both bus and rail riders, at least 69 percent of transit users (and often closer to 80%) report not having a vehicle available to make their trip. These proportions are higher for bus riders than rail riders, but even among rail riders between 58 and 65 percent (depending on the year) report not having a vehicle. The share of riders reporting not having a vehicle, furthermore, has grown over time.

In addition to limited vehicle access, Metro riders generally have low incomes and are strongly dependent on transit. Close to half of all surveyed LA Metro riders in each year have household incomes under \$15,000. The median household income of riders hovers near \$16,000, and the average income barely exceeds \$25,000 in most years. In most years a strong majority of riders are habitual (riding over 4 days a

week) and a majority are longtime users (riding over 5 years). The riders are also overwhelmingly nonwhite.

All these characteristics make Metro riders – who are, again, most of SCAG’s transit users – strikingly different from the population at large. The CHTS shows that in 2012, 73 percent of LA County residents took transit only occasionally or never, and the 2016 Census ACS shows that LA County residents are 26 percent non-Hispanic white, and that county median household income is \$62,000. Only 5 percent of the county’s households earn less than \$15,000 per year. Thus SCAG’s largest transit operator has for over a decade been dominated by low-income, nonwhite people with little vehicle access, people who live and move very differently from the typical Southern Californian.

	2005	2010	2012	2013	2014	2015
Share No Vehicle Available (%)	69	75	81	79	69	78
Bus Only	73	76	82	80	70	82
Rail Only	50	64	63	63	58	65
Share Earning Under \$15k/Year			51	45	47	47
Median Household Income (\$)			14,706	16,316	15,910	15,918
Mean Household Income (\$)			26,025	25,540	23,223	25,747
Share White		8	9	10	9	9
Share Riding 5+ Days/Week		56	67	67	67	68
Share Riding 5+ Years		49	53	52	59	57

Source: Metro Rider Surveys. Not all questions asked every year. Dollars are nominal. “No vehicle” indicates that respondents lack access to a vehicle for the current trip.

Table 1. Characteristics of LA Metro riders, 2005-2015.

The importance of vehicle access is reinforced by evidence from other transit operators. A small operator in the SCAG region, the Montebello Bus Lines, surveyed residents (not just riders) in 2016. Most respondents did not ride transit, and 55 percent of non-riders said they would only ride if they lost access to their car. Most people who did ride did not have access to a vehicle (Diversified Transportation Solutions 2015). In 2016, the OCTA also surveyed Orange County residents about their travel behavior. The results were similar. Only three percent of people who always had vehicle access listed transit as their primary travel mode, compared to 33 percent of people who never had a vehicle (True North Research 2015).⁸

The OCTA survey also stands out for usefully disaggregating “lack of vehicle access,” and demonstrating that vehicle access is not the same as vehicle ownership. Over 70 percent of OCTA transit users had a car in their household, but the car was not available to them. In most instances it was being used by someone else, but 19 percent of current riders were unable to drive, and another eight percent reported having a vehicle that was not working (True North Research 2015). People in households with vehicles can still lack

⁸ Note that 2/3 of people without vehicle access still did not use transit regularly.

vehicle access. If a household has more adults than vehicles, and if most adults move around on most days, then someone is without a car, and the odds of using public transportation rise.

We emphasize again, however, that most people simply do not use public transportation very often. The four panels of Figure 10 use 2012 CHTS data to divide the California, Southern California, and LA County populations into three groups: *Transit Commuters* (respondents who use transit for the journey to work); *Transit Non-Commuters* (respondents who used transit in the week prior to the survey but do not use transit for the journey to work); and *Infrequent Transit Users* (respondents who do not use transit for the journey to work and did not use it in the previous week).

In general, and unsurprisingly, transit use is more intensive in the SCAG region than in California, and more intensive in LA County than in the SCAG region. Beyond this difference, the patterns relating to these three types of users are generally consistent across the three geographies. *Transit Commuters*, who garner perhaps the most attention from public officials and transit planners, ride most frequently (44 to 49 trips per month), but are a very small share (2% to 3%) of the population; as a result, they account for just 25 percent to 30 percent of all transit trips taken, despite their frequent use. *Transit Non-Commuters* ride transit less frequently (11 to 16 trips per month) than *Transit Commuters*, but account for a much larger share (20% to 23%) of the population, and as a result they actually account for over half (54% to 57%) of all transit trips. Finally, *Infrequent Transit Users* ride little or not at all, averaging only 0.9 to 1.5 trips per month across the three geographies. This group, however, comprises about three-quarters (73% to 78%) of the population, and because of this large base, *Infrequent Transit Users* account for better than one in seven (16% to 18%) of all transit trips.

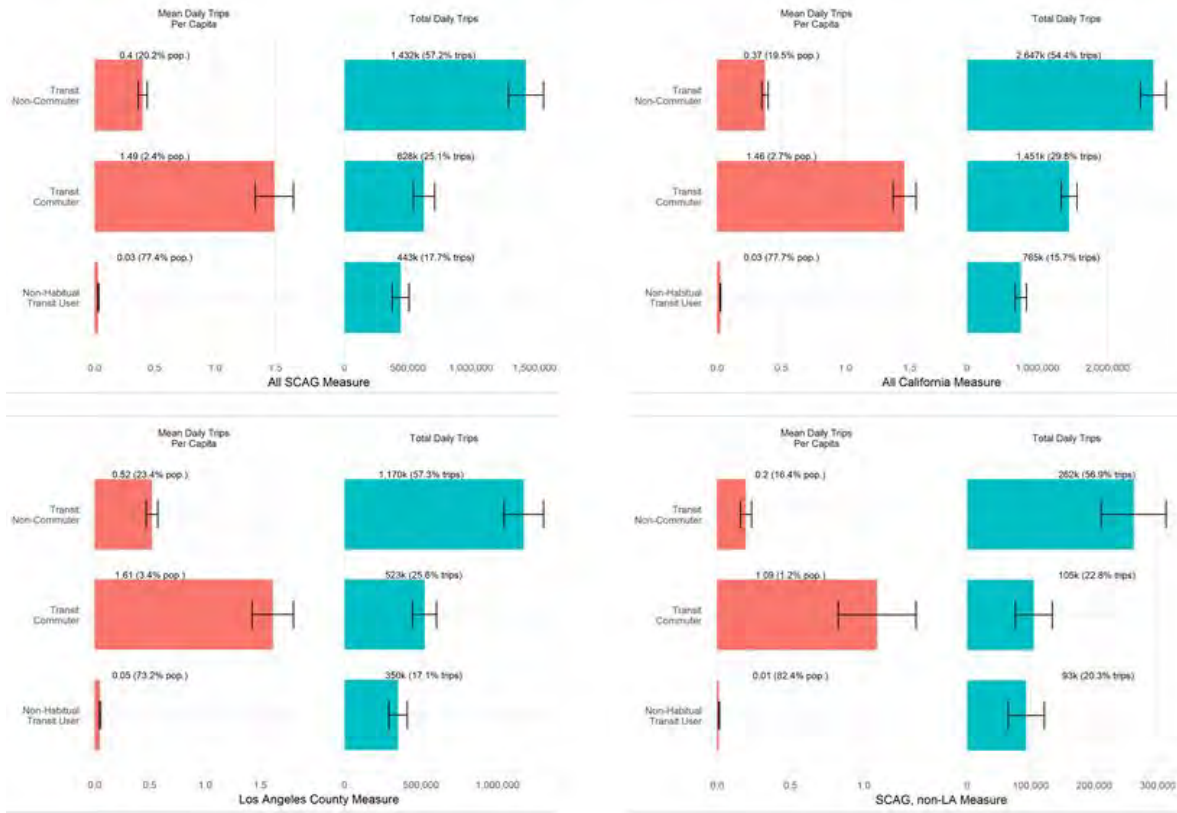


Figure 10. Mean and total daily trips by transit user group for the SCAG region, California, Los Angeles County, and non-Los Angeles SCAG region.

This snapshot of transit users is a picture of asymmetry, and this asymmetry suggests how transit ridership can fall dramatically and seemingly suddenly. The people who ride transit regularly are a narrow segment of the population. They come disproportionately from households with two or more adults per available vehicle, and especially from households with no vehicles. They have lower incomes, on average, and are more likely immigrants, young adults, and African-American or Latino. Many of them do *not* ride transit to or from work; transit commuters are just three percent of the population, and 13 percent of regular transit riders. The transit industry is thus heavily-dependent on a small subset of people, and very sensitive to even small changes in how those people choose to move around.

EXAMINING SOUTHERN CALIFORNIA’S DECLINE IN TRANSIT USE

Transit ridership can fall for multiple reasons. For convenience we divide these reasons into two categories: factors that transit operators (funding permitting) can control, and factors they cannot. We take these up in turn.

Factors Within Transit Operators' Control

The Quantity and Quality of Transit Service

People will ride transit less if service is slow, infrequent, or unreliable, and/or if rides are difficult or dangerous to take. As the quantity or quality of service falls, ridership should fall as well.

The Quantity of Transit Service

Some observers contend that recent drops in transit ridership can be tied directly to declining service quantity. For example, Hertz (2015) ties falling transit ridership to cuts in bus service, and articles in both the Wall Street Journal (Harrison, 2017) and New York Times (Rosenthal, Fitzsimmons, & LaForgia, 2017) make similar arguments. Freemark (2017) argues that LA's declining bus ridership is a function of Metro's falling service levels, and observes that average bus speeds fell 13 percent between 2005 and 2013.

Service levels certainly have a strong influence on ridership, even controlling for reverse causality – the fact that places with more riders often add more service (Alam, Nixon, & Zhang, 2015; Taylor, Miller, Iseki, & Fink, 2009). But service levels can be measured in many ways; two of the most common metrics are vehicle revenue miles (VRMs) and vehicle revenue hours (VRHs). VRM measures the distance transit vehicles cover while in service, while VRH measures the amount of time vehicles are in service. Both Hertz (2015) and Harrison (2017), in relating falling ridership to service declines, measure service using VRM. VRM alone, however, can be a problematic measure of transit service. In practical terms, VRM differentiates faster, longer-distance commuter services from lower speed local service. VRH, in contrast, measures the supply of different kinds of services (local bus service, bus rapid transit, rail transit, express bus, commuter rail, etc.) more similarly. VRH differentiates less among modes and service area types because the time between stops often varies far less than the distance travelled between them. A dozen stops spaced far apart in uncongested outlying suburbs can take a similar amount of time to serve as a dozen closely-spaced stops in a congested urban environment. The miles covered on the two routes will vary greatly, but the time required to serve them may not.

As a result, falling VRM *can* indicate service cuts, but can also reflect transit vehicles operating in higher levels of congestion, or agencies increasing local service rather than express service, or agencies redirecting service from outlying areas to central areas.

For example, if a transit agency shifts service from outlying suburban routes that travel longer distances at higher speeds to shorter, slower urban routes, VRM would almost certainly fall, as would average speed. But VRH may not change. Vehicles moved to dense areas typically cover less ground, but also move more slowly, stop more frequently, and dwell longer at each stop to allow more people to board and alight. In this case a “cut” in VRM would not necessarily be associated with a cut in VRH, and could actually deliver more service to more people.

In short, falling VRM is hard to interpret without also examining VRH. If VRM and VRH fall at roughly the same rate, then service is likely falling absolutely. But VRM falling substantially more than VRH suggests a change in service deployment or operating conditions (such as worsening congestion), rather than a service cut.

With this as background, we can consider the SCAG region's recent trends in VRM and VRH; we will show that rates of change in VRM and VRH have generally not been in concert. Figure 11 shows the relative trends in total VRM for the US, California, the SCAG region, and the SCAG region excluding LA Metro or OCTA between 2000 and 2016.

While VRM has increased across all four geographies, it has grown faster in the SCAG region than the U.S. or California as a whole, and faster still among SCAG's smaller transit operators – suggesting a relative shift in service delivery from LA Metro and OCTA to the smaller operators.

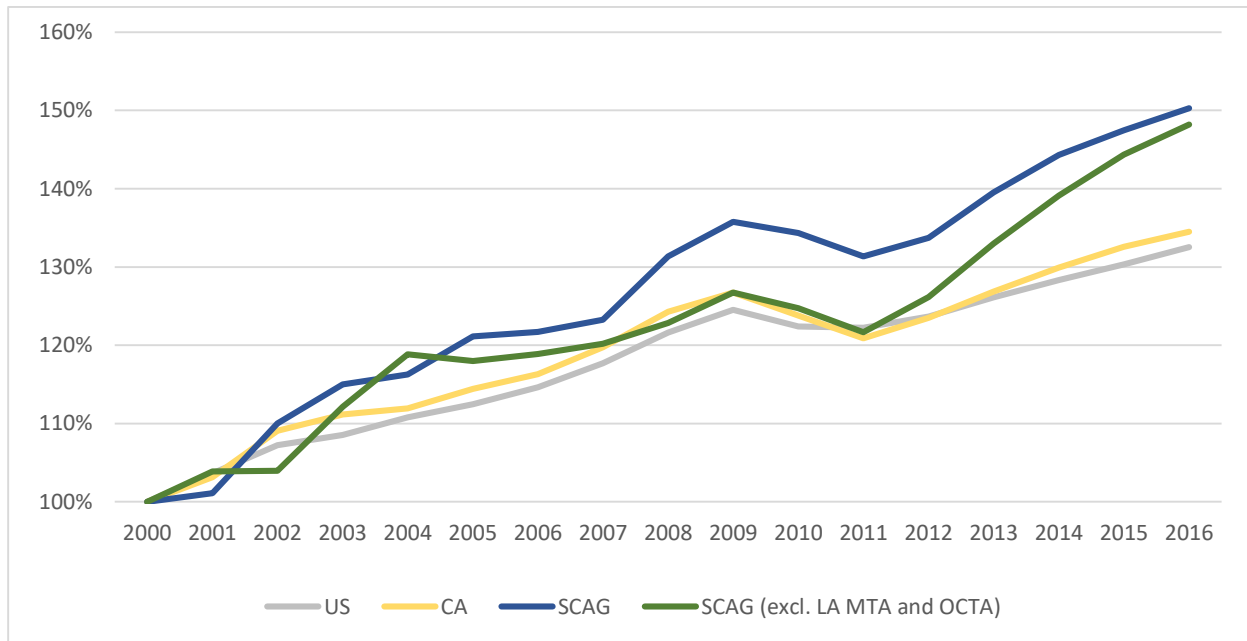


Figure 11. Indexed vehicle revenue miles. *Growth in service in the SCAG region outpaces national and state trends; within the SCAG region, all other operators have collectively added service at a faster rate than LA MTA or OCTA.*

This pattern is confirmed if we examine absolute VRM trends in the SCAG region separately for LA Metro, OCTA, and the remaining SCAG operators (Figure 12). Overall transit VRM has been growing for all three groups, but growing faster at the smaller operators.

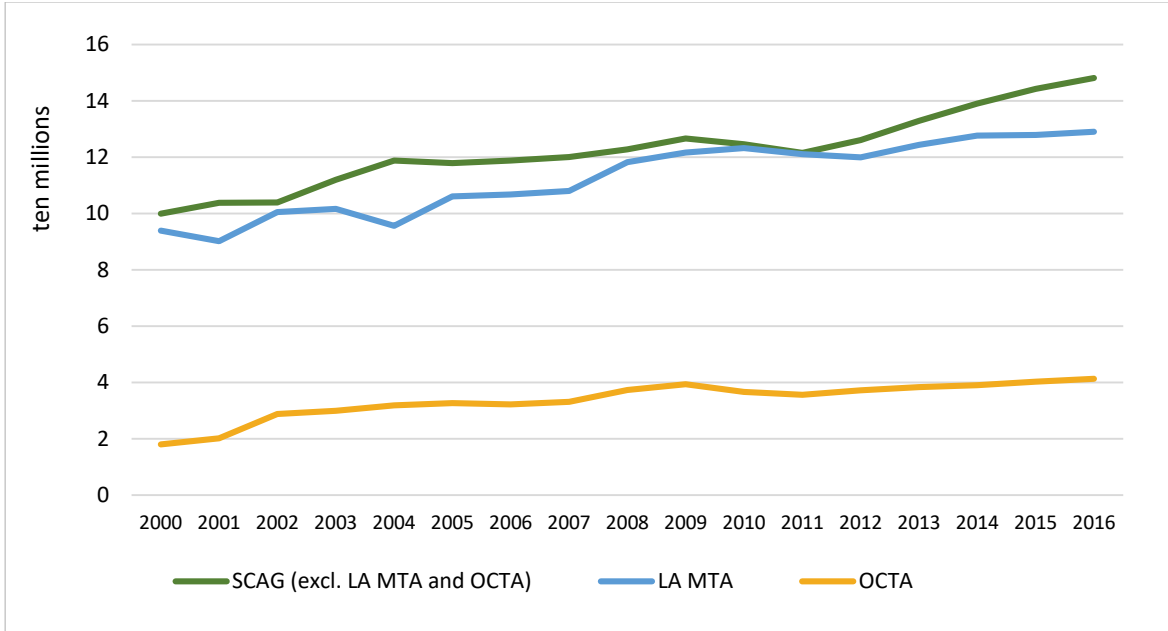


Figure 12. Vehicle revenue miles. *Service levels for LA MTA matches aggregate service provision for all other operators in the region (minus OCTA). Service is growing faster in the SCAG area excluding LA MTA and OCTA than at LA MTA or OCTA.*

While VRM rose in the aggregate from 2000 and 2016, it has not been climbing for all modes. Figure 13 shows the roller coaster that has been the VRM trend for local bus service over this period: Significant growth between 2000 and 2005, little change between 2005 and 2009, a steep drop between 2009 and 2013, and slow growth from 2014 to 2016. Rail service, in contrast, has been steadily rising, especially light rail (Figure 14).

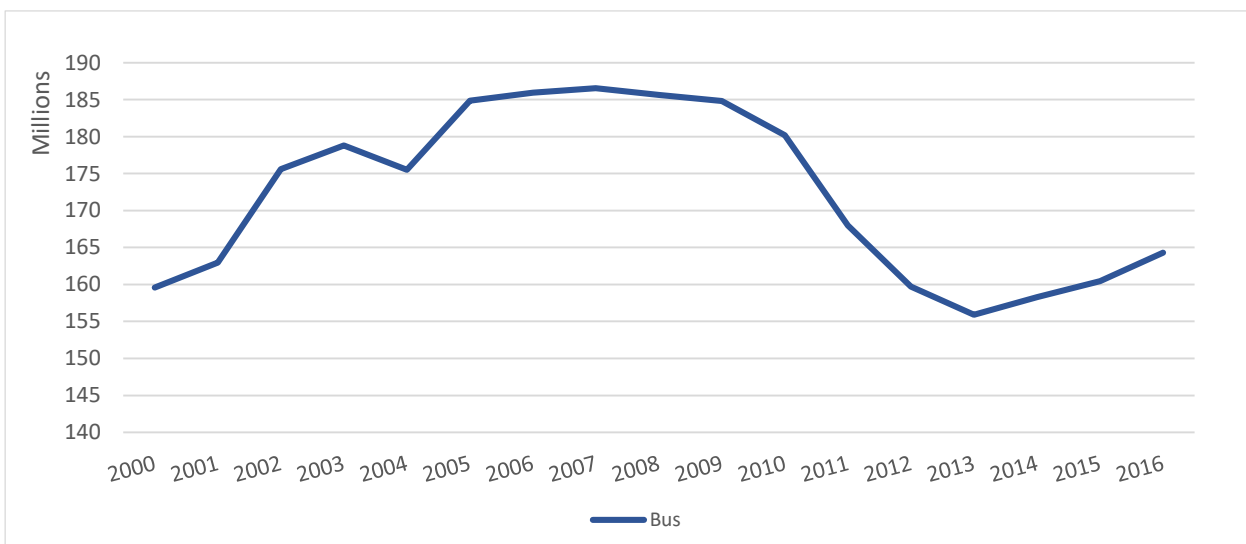


Figure 13. SCAG region: VRM for bus. *Service in miles traveled dropped by 15% between 2007 and 2013. Service has increased since. Hours of service has also declined, but not as rapidly as miles of service, indicating that service is cut on suburban bus lines.*

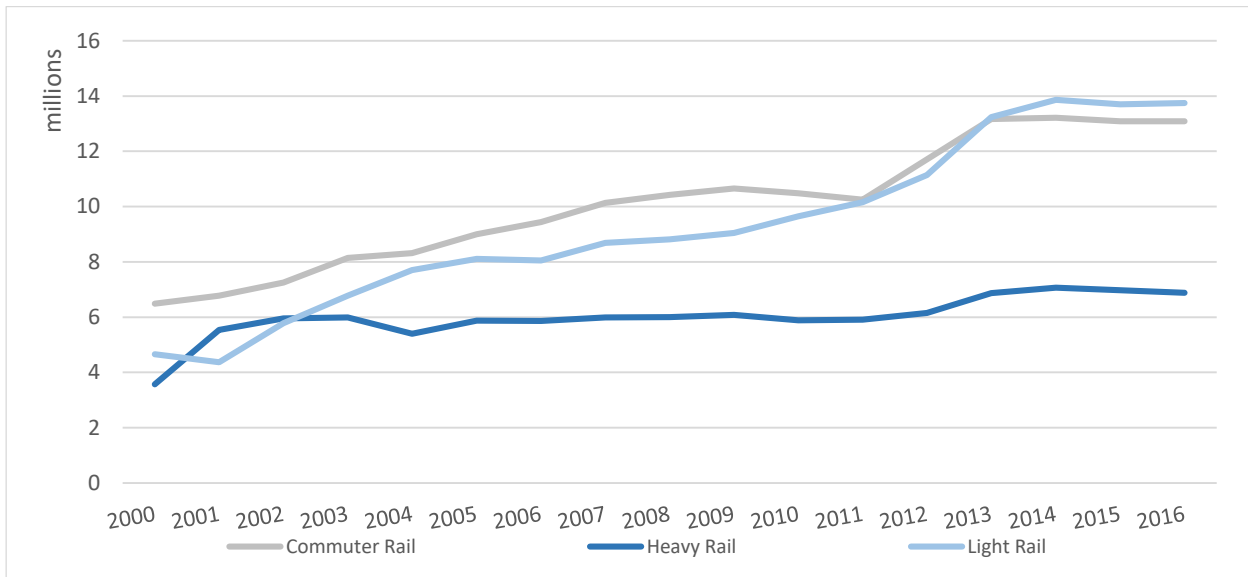


Figure 14. SCAG region: VRM for rail. *Substantial service increases for all commuter and light rail since 2000.*

If we examine service hours (VRH), we see similar aggregate trends. VRH rose from 2000 to 2009 in the US, California, and the SCAG region, fell from 2009 to 2011 during the Great Recession, and then climbed again across all three geographies through 2016 (Figure 15).

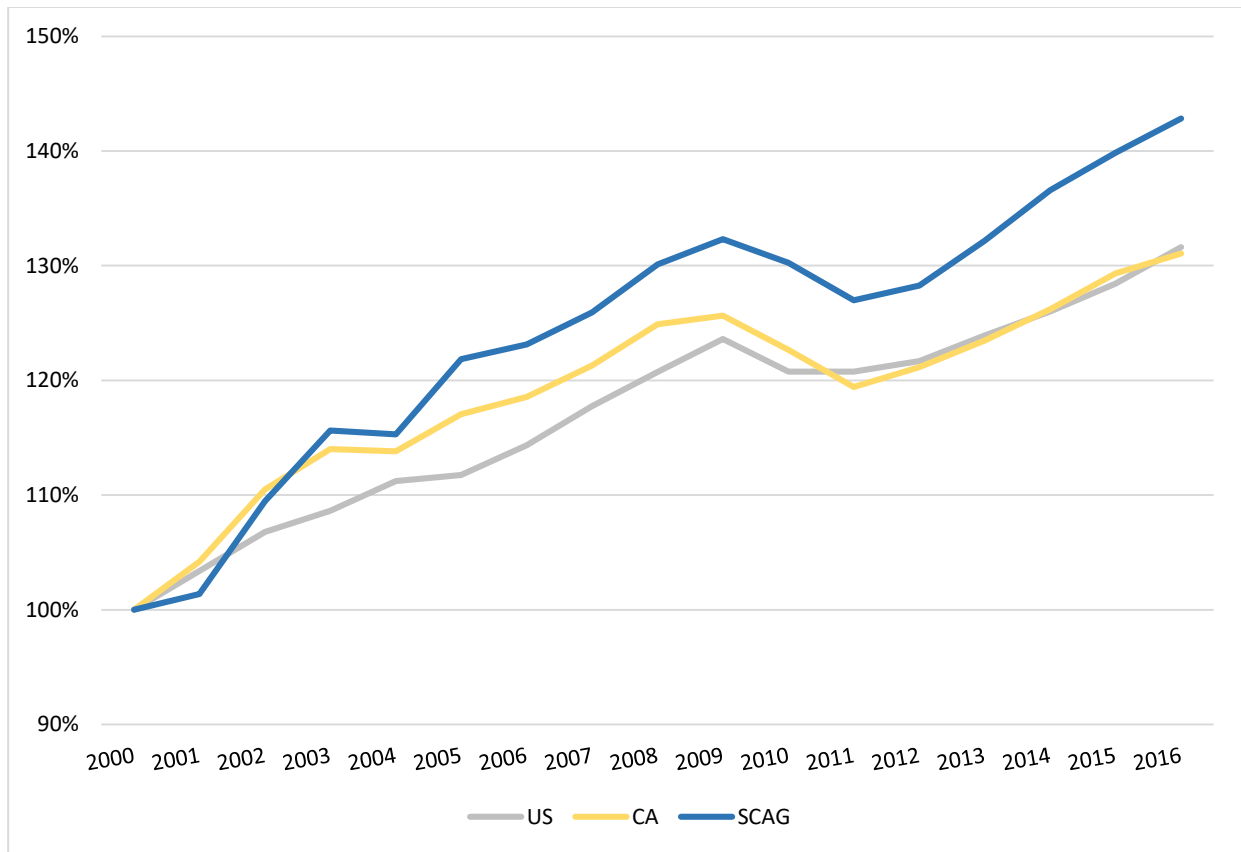


Figure 15. Indexed vehicle revenue hours. *Growth in service in the SCAG region outpaces national and state trends.*

Figure 16 shows the percent change in vehicle revenue hours over two time periods – 2005 to 2016 and 2010 to 2016 – across three geographies (US, California, SCAG region) and across four types of SCAG-region transit operators (Largest, Large, Medium, and Small). The figure shows that VRH increased during both time periods across all three geographies and all four operator types. It also shows, however, that VRH grew least among the largest operators that have lost the most riders, while it increased much more among the smaller operators.

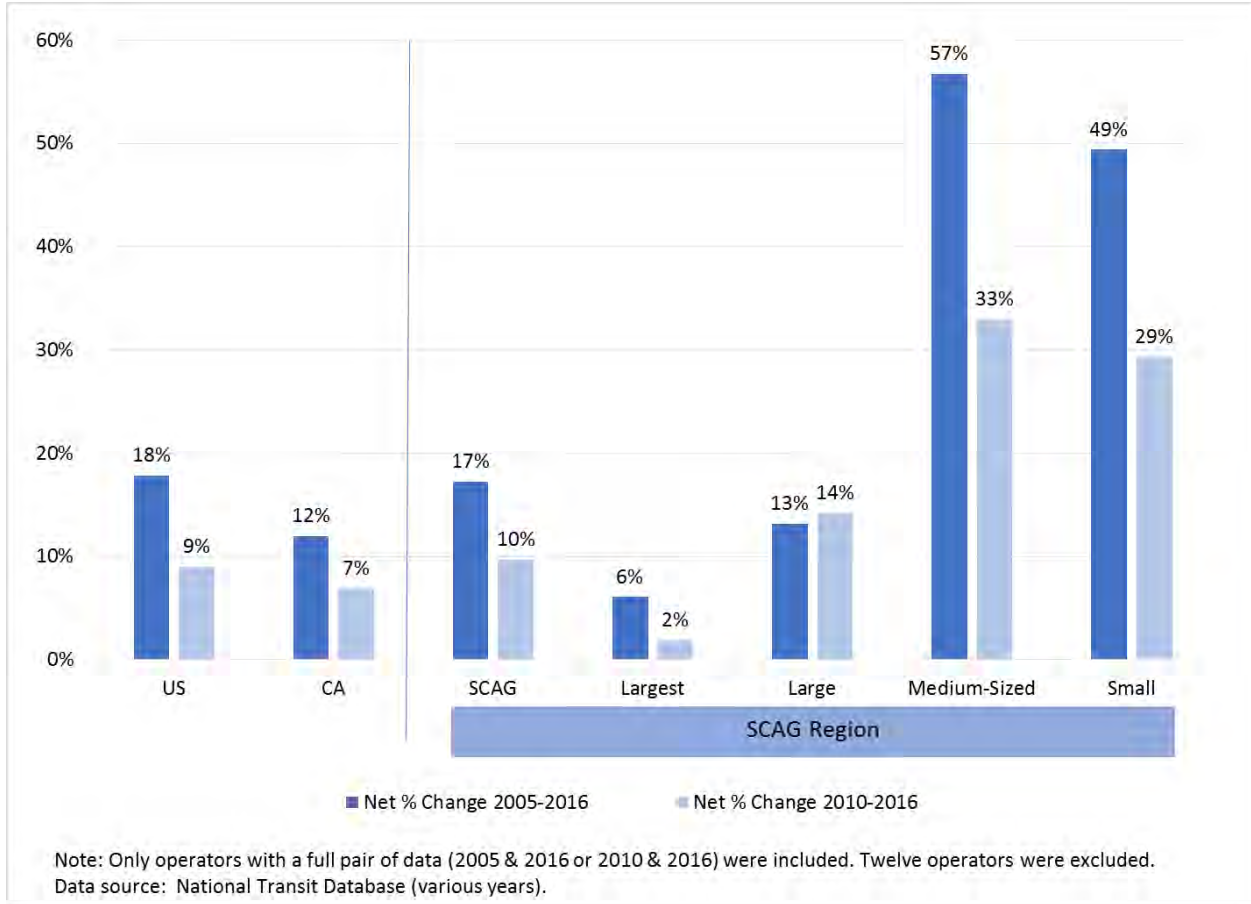


Figure 16. Changes in indexed vehicle revenue hours by region and SCAG transit operator size: 2005-2016 & 2010-2016. *Service growth among the largest SCAG operators was lower than national, state, or regional averages, and much smaller than smaller SCAG-region operators.*

Finally, Figures 17 and 18 show the absolute and relative changes in VRM and VRH by mode between 2010 and 2016.⁹ The figures show substantial overall shifts in service among modes, with local bus, rapid bus and demand response taxi service declining, while rail, commuter bus, and vanpool service increased. In absolute terms, local and rapid bus service declined most, while commuter bus and vanpool grew most; in relative terms, rail transit grew most while demand response fell most.

⁹ Note that because Figure 17 shows absolute changes in both VRM and VRH on the same Y-axis, the VRM changes appear to be substantially larger than the proportional differences shown in Figure 16. These apparently large differences are mostly an artifact of transit service moving anywhere from about 6 (for the slowest urban bus service) to 40 (for the fastest commuter rail service) miles per hour, on average. This means that, for example, a one million VRH increase might be expected to have a corresponding 10 million or more VRM increase.

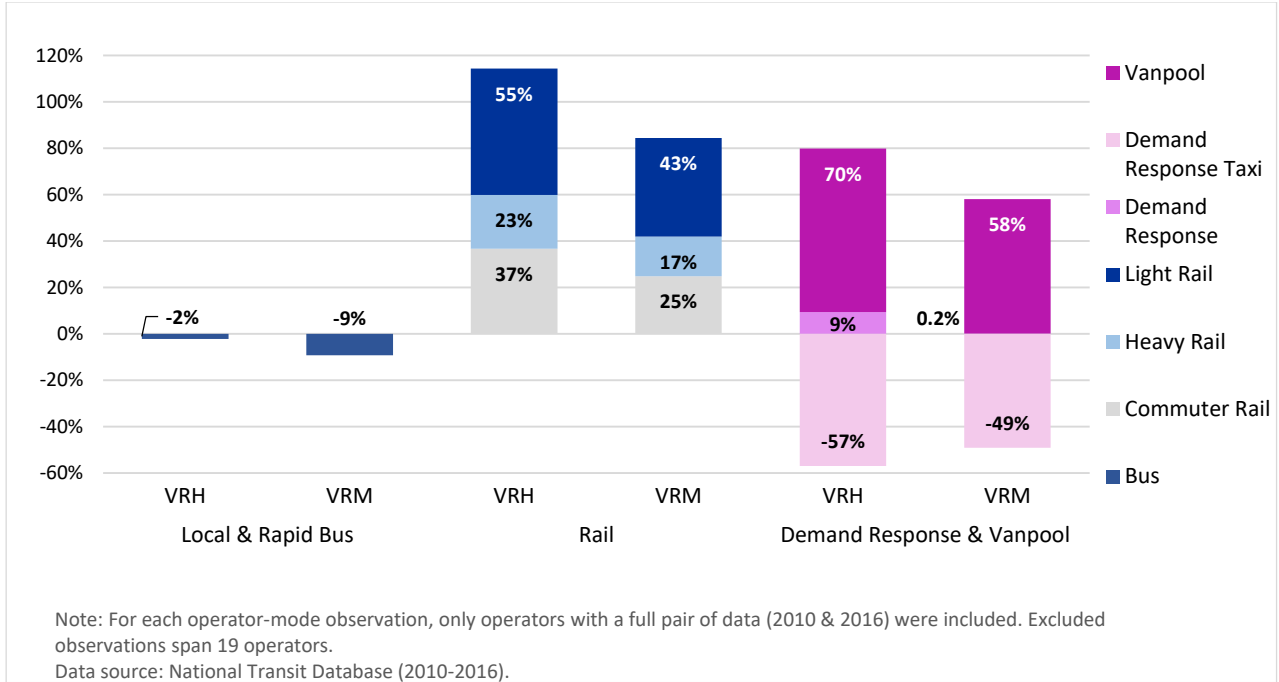


Figure 17. Percent change in service (hours and miles) by mode: SCAG region 2010-2016. Rail and vanpool have largest % gains, and service is added in the urban core, rather than to outlying areas. Bus service hours were slightly reduced, and came from outlying areas.

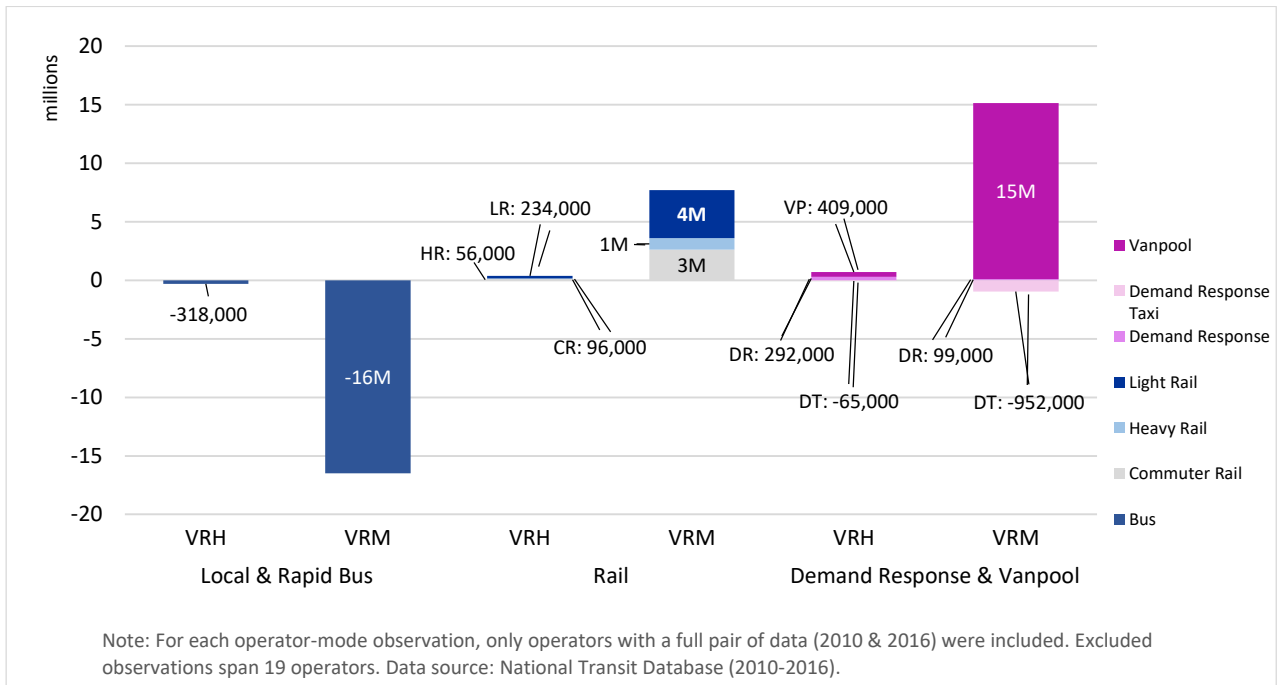


Figure 18. Change in service (hours and miles) by mode: SCAG region 2010-2016. A 9% reduction in bus service miles is equivalent to 16.5 million bus service miles cut. Vanpool had the most service miles added, reflecting the longer commutes that vanpool serves.

Overall, these shifts in service provision reflect both the choices and mandates of public policy. For better than three decades Southern California, and Los Angeles County in particular, has chosen to invest heavily in new rail services. As these new services have come on line, they account for a growing share of the region’s transit service. Second, federal civil rights legislation, in the form of the Americans with Disabilities Act, has mandated the delivery of both accessible and demand-response transportation services to a growing and aging population. In combination, these choices and mandates have shifted transit service away from buses and toward rail and van services.¹⁰

What do these changes in transit service supply mean for transit patronage? First, Figure 19 shows the trends per capita VRH and per capita transit boardings over the past quarter century in the SCAG region. Transit service supply has been mostly climbing in the SCAG region for better than a quarter century, while transit use has never reached the 1991 levels. Given this, there is no *prima facie* case that faltering transit service supply is driving down patronage.

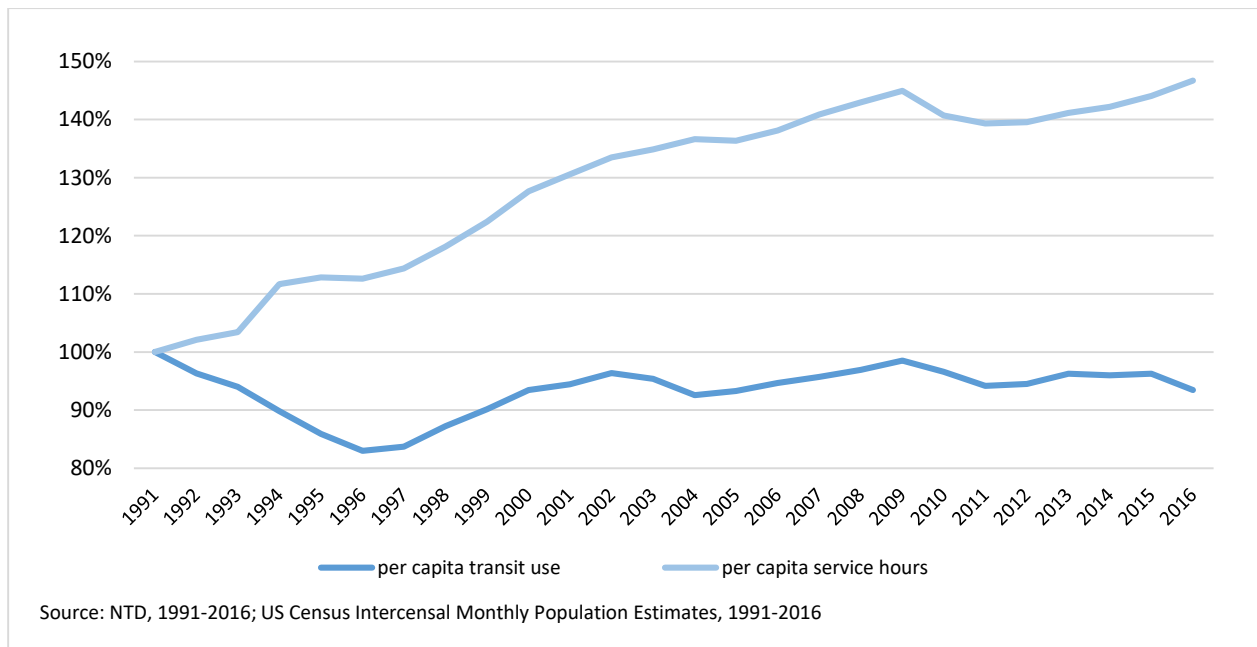


Figure 19. Transit trips and transit supply (1991-2016). *Per capita transit supply has increased 34% since 1991, while per capita transit use has not changed much.*

¹⁰ Though not directly relevant to our question, these shifts have significant budgetary implications beyond just the deployment of various services (Taylor, Garrett, & Iseki, 2000). Local bus and bus rapid transit services (with the exception of those operating in exclusive rights-of-way) tend to be the cheapest to deliver and require the smallest per passenger subsidies. By contrast, the annualized capital plus operating expenses of rail transit tend to be substantially greater per passenger, while the per passenger subsidies for ADA demand response services tend to be the highest of all.

As a final way to examine the relationship between service levels and ridership, we examine the shifts between modes that occurred within the region’s largest transit operator, LA Metro. Doing so allows us to address the possibility that aggregate increases in services are masking drops in those types of services— such as buses— that most transit riders rely on. The figures below show the indexed trends in boardings, service (VRH), and productivity (boardings/VRH) for LA Metro bus (Figure 20) and rail (Figure 21) service from 2000 to 2016, and demand response service (Figure 22) since 2008. For local bus and BRT service, transit service supply has tended to follow, rather than lead, changes in ridership — at least through 2014. Beginning in 2014, bus service rose slightly while boardings plunged. Rail service, not surprisingly, has increased more than 150 percent since 2000, and ridership has increased as well, though more slowly. Both service and patronage have tailed off since 2014, but largely in concert— there is no obvious sign of one leading the other. Finally, demand response and van service supply has grown steadily since 2008; boardings increased steadily, albeit more slowly than service, through 2015. Over the past year, service continued to gradually climb, while patronage began to fall.

Collectively, these data offer little evidence that service cuts are driving away customers. Instead service expansion has been accompanied by less ridership, with the main result being lost productivity, particularly for rapidly expanding rail and van services. Rail and van productivity (measured as boardings per VRH) has eroded steadily since 2009, while the service effectiveness of local bus and BRT service began dropping later (and more precipitously) in 2014. Falling service does not seem to be the culprit for falling ridership; falling ridership, in concert with expanding service, is the culprit for falling productivity.

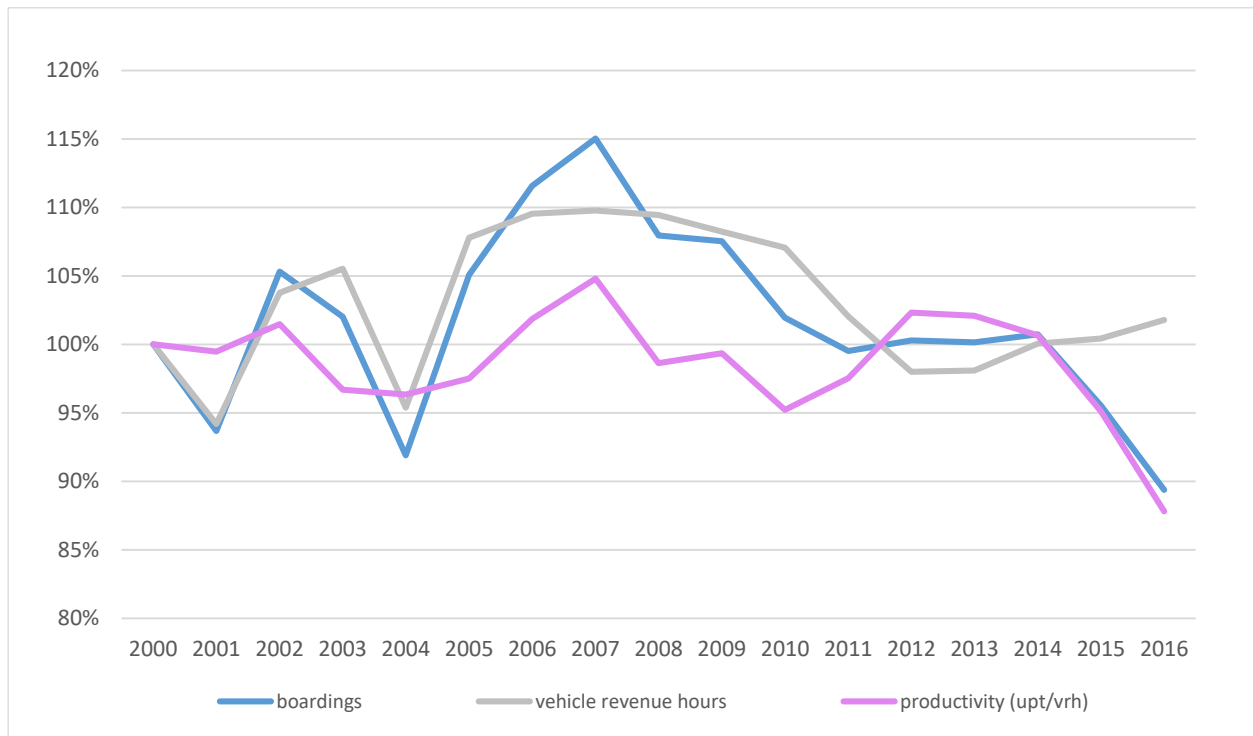


Figure 20. LA MTA: Indexed bus and BRT boardings, service, and productivity. *Declining ridership since 2007, with services’ slow growth in the post-recession period leading to declining productivity.*

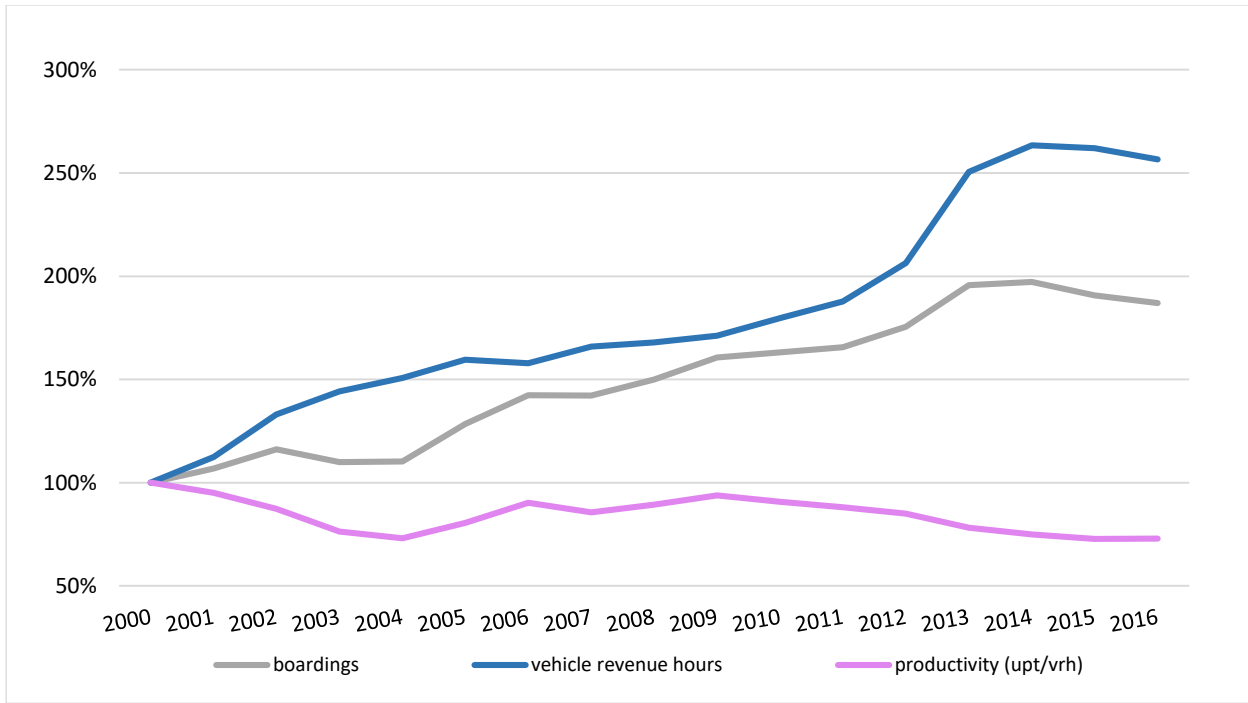


Figure 21. LA MTA: Indexed rail boardings, service, and productivity. *Light rail service doubles with the opening of the Expo Line. Boardings do increase, but slower than the amount of service added.*

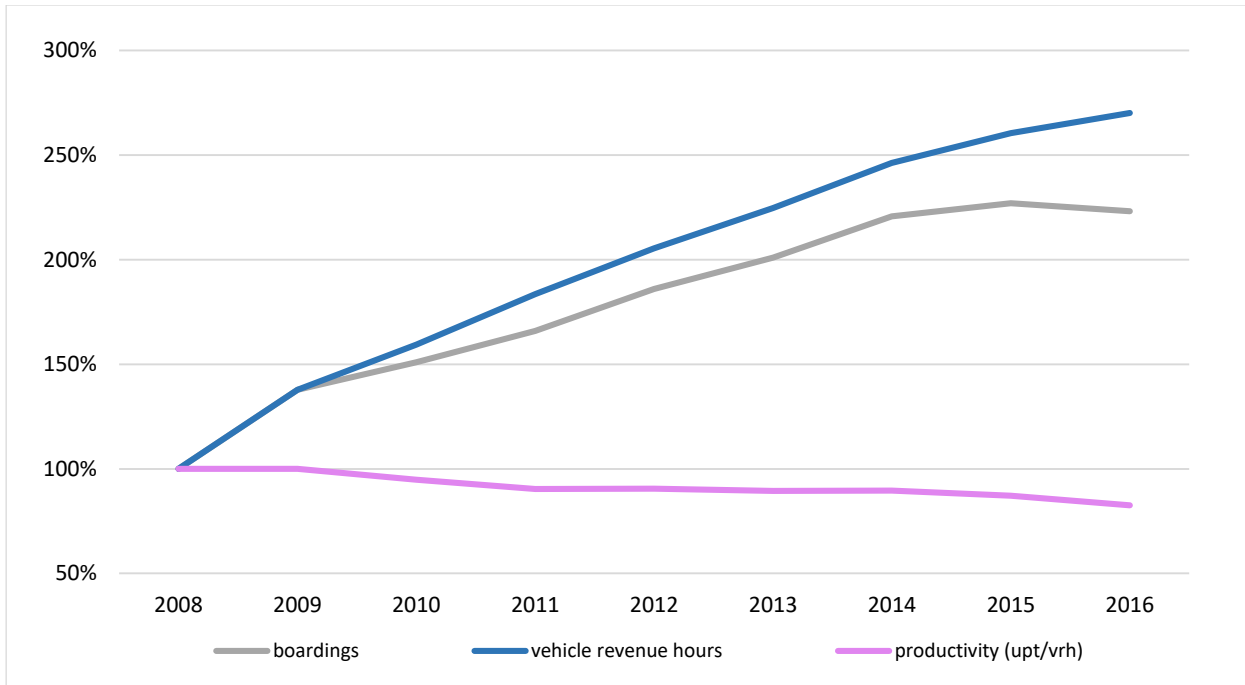


Figure 22. LA MTA: Indexed demand response boardings, service, productivity. *Ridership more than doubled, while service increased by 2.8x.*

The Quality of Transit Service

Even if transit quantity does not change, transit quality might. Transit quality has no specific definition, but we can divide it into speed, reliability, and experience. Speed measures how quickly transit vehicles move throughout the region. Reliability is a measure of on-time performance: Do vehicles arrive and depart when they are supposed to? Experience is a measure of how safe or comfortable people feeling during their transit journey, including the time they spend waiting for and transferring among their buses and trains.

Local bus and BRT service in the SCAG region has been slowing down over time. This slowdown is likely a result of many factors, including worsening congestion, shifts from faster suburban to slower urban service, shorter stop spacing, and longer stop “dwell” times to load and unload passengers. Whatever the underlying causes, region-wide bus vehicle speeds declined five percent between 2000 and 2010, and another eight percent between 2010 and 2016, for a total drop in speed of nearly 13 percent over 16 years. By comparison, rail transit speeds were down only two percent between 2000 and 2016.

Falling speeds slow travel times, and if operators do not counteract falling speed by adding more vehicles, then headways (the time between vehicle arrivals at a stop) will rise. Rising headways make transit less attractive by increasing average wait times at stops and lengthening the times of transfers among vehicles. Research has shown that transit passengers find waiting for busses and trains to be especially burdensome, so increased headways can undermine the quality of transit service even if the quantity (in terms of vehicle revenue hours of service) stays unchanged (Iseki & Taylor, 2009).

The SCAG region has 41 transit agencies that operate fixed-route general public service, and on-time performance naturally varies across them.¹¹ Measuring reliability for all or even most of these operators is therefore beyond the scope of this report. We can, however, examine reliability for LA Metro, which again accounts for the lion's share of the SCAG region's transit trips and lost trips.

Historically, Metro has been unreliable relative to other large transit agencies. A 2008 study by the agency showed that compared to 9 peer operators, Metro had both a lower on-time target and a lower on-time percentage (a vehicle is considered "on-time" if it is less than 5 minutes late). Metro aimed to have 70 percent of its vehicles arrive on time, and attained a rate of 63 percent. In comparison, New York attempted an 83 percent on-time rate and attained an 82 percent rate (Flowers & Snoble, 2008). Metro's reliability problems occur almost entirely on buses, which can easily become trapped in congestion (and which, of course, can also exacerbate congestion).

In the intervening years, however, Metro's on-time performance appears to have improved substantially. An analysis of Metro data by local reporters (Mendelson, 2015) suggests that from 2010 to 2015 Metro rail maintained a 99 percent on-time rate (with subways being late 1 stop out of 200, and light rail 1 stop out of 50), while the buses improved their on-time rate to 81 percent. We say "appears" because this discussion comes with an important caveat: Reliability is a function of the conditions in which buses and trains operate, the efficacy of the bus and train operations, and the schedule that sets the performance expectations. Controlling for conditions or operations, schedules that assume few traffic disruptions and little layover or recovery times can be difficult to meet, while those that assume slower speeds and provide generous layover and recovery times at the ends of routes are easier to meet.

As a result, transit operators can improve measured reliability in two ways. The first involves steps like better field supervision, quicker boarding and alighting procedures that reduce dwell times, and giving buses their own lanes in chronically congested districts. All these steps can change operations, and lower the variability of travel times. But the second way to improve reliability is to change the schedule, by factoring in more slack. Doing so is not necessarily disingenuous, and may simply reflect the challenges of operating in heavy congestion. Adding slack to schedules can allow vehicles to maintain performance even in the face of disruptions (severe congestion, crashes, crowds of people boarding or alighting at particular stops, and so on). The downside to this approach, however, is that too much slack in the schedule might increase reliability on paper but manifest as poorer-quality service in the eyes of riders. As slack increases average vehicle speeds fall, headways rise, and so do timepoint holds (instances where vehicles wait at stops so as not to run ahead of schedule). A service that is on-time because its schedule makes it less frequent is not a high-quality service.

We could not, with the data and time available to us, determine if Metro's schedule adherence improved because its buses met the existing schedule more often, or because schedules themselves were changed. If bus performance improved on the street as opposed to on paper, then we would have little reason to think service reliability was a large factor in falling ridership – bus ridership would have fallen even as schedule adherence increased. But we cannot say for certain that this occurred. We do know, however,

¹¹ With another 69 systems operating demand-response and other types of transit services, for a total of 110 regional transit service providers.

that rail ridership fell even as rail maintained a near-perfect on-time record. So we have some reason to think that service reliability did not play a large role in the ridership downturn.

We should also note that the advent of mobile apps that track transit vehicles in real time may have diminished the problems caused by unreliable buses. Unreliability is a larger problem when it strands people at stops with little idea of when a vehicle will arrive. To the extent people can follow vehicles in real time and adjust their departures to minimize waiting, some of the worst aspects of irregular transit vehicle arrivals can be mitigated (Yoh et al., 2011). LA Metro has next bus and next train information at its rail stations and BRT stops, and real time information about local and express buses is available on multiple smartphone applications. Metro’s 2016 rider survey shows that 51 percent of bus riders have a smartphone, and that 66 percent of these riders use the phone “very often” or “occasionally” to get information about Metro rides.

A transit vehicle that arrives on time can still have poor service quality, if the experience of using the vehicle – which includes walking to the stop, waiting at the stop, and riding – is unpleasant. Specifically, if people using transit feel unsafe or uncomfortable, ridership could fall (Delbosc & Currie, 2012; Iseki & Taylor, 2009). Safety perceptions are often gendered (Loukaitou-Sideris, 2015), and a slight majority of transit users in the SCAG region are women. Note that perceptions of safety are different from, and probably more important than, safety itself. Many behaviors that are not crimes, and that do not directly threaten other people, may nevertheless disturb people nearby, and can discourage them from using transit (Ellickson, 1996; Fink, 2012).

There is some reason to think that transit vehicles, stations, and stops in the SCAG region – and particularly along LA Metro routes – came to feel less safe to riders in recent years. In 2016, LA Metro surveyed former riders, and 28 percent said that the primary reason they stopped riding transit was that they felt either unsafe or uncomfortable. Unfortunately, this survey is not conclusive. Former transit riders are a hard group to reach, and there are responses in the survey that suggest that the overall sample may not have been representative. As a result, we cannot be certain that safety actually loomed so large for former riders. At the same time, even if the survey inflated safety concerns by a factor of two, a nontrivial share of former riders (14 percent) report leaving transit because they felt unsafe. And considerable anecdotal evidence suggests that in recent years transit users started to feel less safe — such reports prompted Metro to completely revamp its security procedures in 2017.

What might explain riders’ perceptions that transit is less safe? Possibly some riders have *always* felt unsafe, and what changed was not conditions on transit but the option to leave (if people got access to vehicles or TNCs, for example). We do not discount this possibility, but will take it up later in this report. If we assume that perceptions of safety really did decline in recent years, one potential (and admittedly speculative) reason involves LA County’s dramatic increase in homelessness after 2010. Table 2 shows changes in the LA County homeless population from 2005 to 2017, based on homeless counts done by the Los Angeles County Housing Services Administration. Homeless counts, and especially counts of the unsheltered homeless, are for obvious reasons prone to error. Nevertheless, the table suggests that homelessness, while not as severe today as it was in 2005, has in recent years both risen sharply and changed in composition. The unsheltered chronic homeless (people who are not just homeless but also have some sort of disabling condition) became a larger proportion of the homeless overall.

Year	All Homeless		Share	Chronic Homeless		Share
	Total	Unsheltered	Unsheltered	Total	Unsheltered	Unsheltered
2005	65,287	53,429	81.8%			
2007	59,956	39,168	74.0%			
2009	38,602	21,073	54.6%			
2011	39,153	20,157	52.4%			
2013	39,463	25,136	63.7%	7,475	6,652	89.0%
2015	44,359	31,025	69.9%	13,356	nd	nd
2016	46,874	34,701	74.0%	14,644	13,746	93.9%
2017	57,794	42,828	74.1%	17,531	13,321	93.1%
Pct Change, 2005-2017	-13.0%	-24.8%	-10.4%			
Pct Change, 2009-2017	33.2%	50.8%	26.3%			
Pct Change, 2013-2017	46.5%	70.4%	16.3%	57.4%	59.2%	4.4%

Source: Los Angeles Homeless Counts, Los Angeles Almanac
<https://www.lahsa.org/homeless-count/reports>
<http://www.laalmanac.com/social/so14.php>

Table 2. Changes in LA County homeless population, 2005-2017.

Homelessness— the simple condition of people being without housing— often arises from high housing prices that push some people out of the housing market (O’Flaherty, 1998). Chronic homelessness, however, which tends to be much more visible (in part because the chronic homeless are less likely to be sheltered) often has different underlying causes related to addiction or mental illness. In conversations with transit operators during the writing of this report, some mentioned the impact of California’s prison realignment program, which led to many inmates being released from prisons and jails. The state’s carceral institutions have traditionally held many mentally ill persons, and discharging them without any corresponding increase in other social services may have increased the number of people with addictions and disabilities living on the streets. No government entity tracks prison realignment’s impact on homelessness, but some advocates estimate that up to 20 percent of the state prisoners discharged, and up to 10 percent of county jail inmates, have now become homeless(Holland, 2015). There is also small body of evidence, some academic and some journalistic, suggesting that the unsheltered homeless gather disproportionately around transit facilities. Transit vehicles can provide shelter and protection, while transit stops can provide a roof or even just a bench (Emmons, 2013; National Academies of Sciences, Engineering, and Medicine, Transportation Research Board, Transit Cooperative Research Program, & Boyle, 2016; Trevor, n.d.; Voorhees Center for Neighborhood and Community Improvement, 2016). To the extent some of these people use transit stops and transit vehicles as ad hoc shelters, and to the extent their presence or behavior disturbs others, realignment may have played a role in making transit seem less safe, and reducing ridership. We emphasize again that this line of thinking is quite speculative and warrants further research.

Transit Fares

Potential transit riders weigh the quality of a ride against its price. Like most goods, transit, even at constant quality, will become less attractive if its price rises, and more attractive if the price falls. The postwar high-water mark for transit in Los Angeles County occurred during a three-year program that cut bus fares in half from 1982 to 1985. When this program ended and bus fares returned to their previous levels, transit ridership fell substantially (Southern California Rapid Transit District, 1986).

The inverse relationship between fares and use, however, is complicated by two factors. First, the people who use transit the most – lower-income people with limited or no vehicle access – are generally more price sensitive in that they have less income, but *less* price sensitive in that they have few viable alternatives to transit. As a result, many transit riders are less sensitive to fare increases than one might expect given their incomes. Second, although every transit operator has a posted one-way fare, relatively few riders actually pay that rate, because agencies offer a variety of discounts and bulk payment mechanisms, including daily, weekly or monthly passes, youth and elderly discount passes, and so on that offer substantial discounts to particular classes of riders, including those who ride frequently (Yoh, Taylor, & Gahbauer, 2016). Heavy users who buy monthly passes will typically pay a per-ride rate much lower than the advertised fare. LA Metro’s 2016 rider survey showed nearly half (49%) used a daily, weekly, or monthly pass, while about 25 percent paid a discounted fare.

Further complicating this issue is that transit fares can be calculated on a per-trip or per-mile basis. Arguably the most intuitive way to think about fare increases is per-trip: How much does a person pay to get aboard a vehicle? But once a passenger is on board, what follows might be a local bus trip of two blocks or a light rail trip of 22 miles. With the exception of commuter rail and some express bus routes, transit fares generally do not change with distance travelled. If the average fare to board a vehicle rises less quickly than the average distance of a trip, the per-mile fare could fall more than the per-trip fare rises, and transit may in a real sense become less expensive. For our purposes, the fare per trip is probably more relevant, as it is likely more salient to potential riders, but it remains worthwhile to consider both.

This wide array of payment methods and rates, and ways of considering these rates, makes calculating the actual fare paid by different classes of users beyond the scope of this report. We can, however, easily determine the average fare paid per boarding for a given system and the SCAG region, by simply dividing total fare revenues collected by either total boardings or passenger miles. While these metrics will fail to capture some of the nuances of fare payment among different types of users (they cannot completely control, for instance, the bulk discounts for heavy users of different lines) they are a measure of the fare payments actually made by people when they ride.

Figure 23 below displays the average inflation-adjusted fare paid per boarding across all transit systems in the US, California, and the SCAG region between 2002 and 2015. The figure shows, first, that the average transit fare paid is lower in the SCAG region than for California as a whole, which in turn is lower than the average transit fare paid nationwide. Second, the figure shows that the average inflation-adjusted fare paid per boarding in California began creeping up in 2012, and to a lesser extent in the US since 2013 and the SCAG region since 2015. Overall, however, the average inflation-adjusted fare per boarding in the SCAG region has been remarkably flat since 2002.

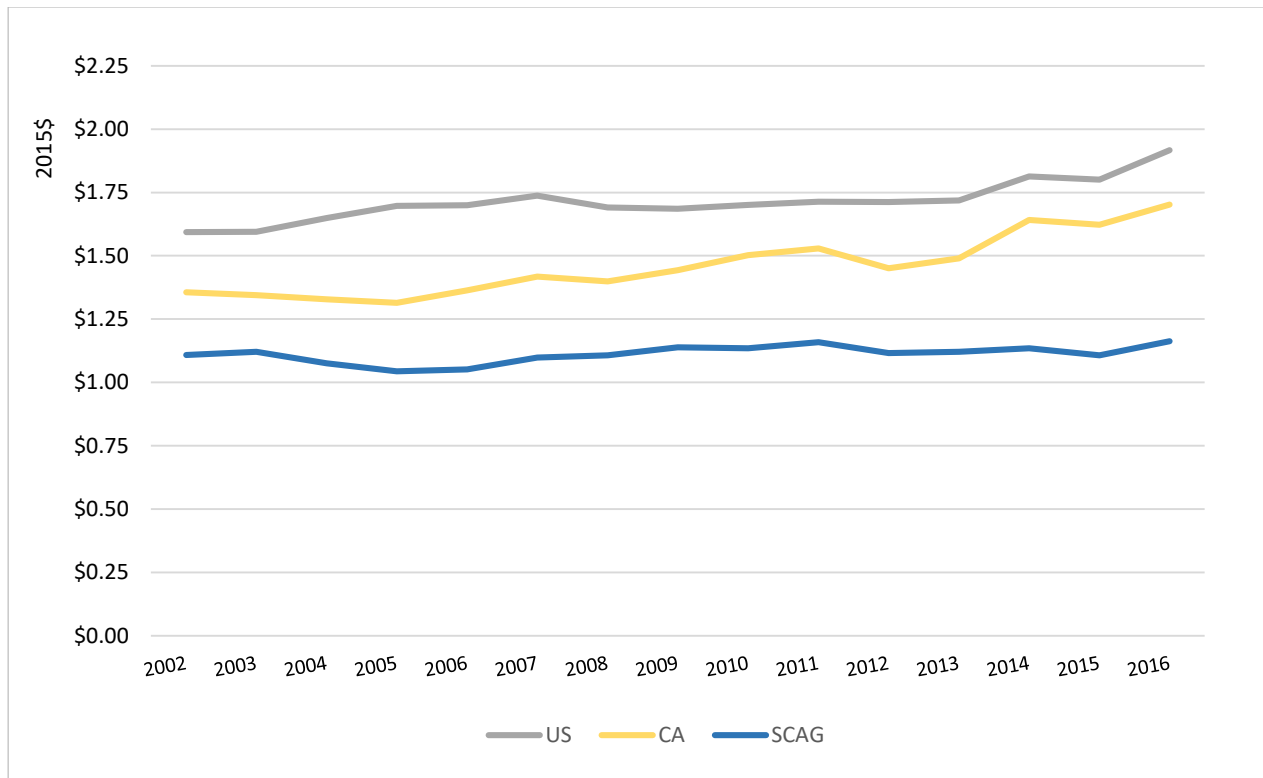


Figure 23. Average fare per boarding in 2015 dollars. *Average fare per boarding has stayed relatively constant in the SCAG region.*

National, state, and regional averages, of course, can mask considerable variation in fares paid across transit systems, services, and riders. Figure 24 shows the same inflation-adjusted trend in fares paid per boarding since 2002 for each of the six largest transit operators in the SCAG region. Focusing on these larger operators tells a different story. With the exception of Long Beach Transit, inflation-adjusted fare payments have been increasing over time on these operators. In particular, inflation-adjusted fares per boarding at both OCTA and the Big Blue Bus increased by about 50 percent between 2002 and 2016 — to nearly \$1.25 and \$0.75 per boarding respectively. Foothill transit had (in 2016) the highest average fares paid (at \$1.25 per boarding), followed in order by OCTA, LA MTA, the Big Blue Bus and Long Beach Transit, while LA DOT had the lowest average fare paid (at just over \$0.50 per boarding).

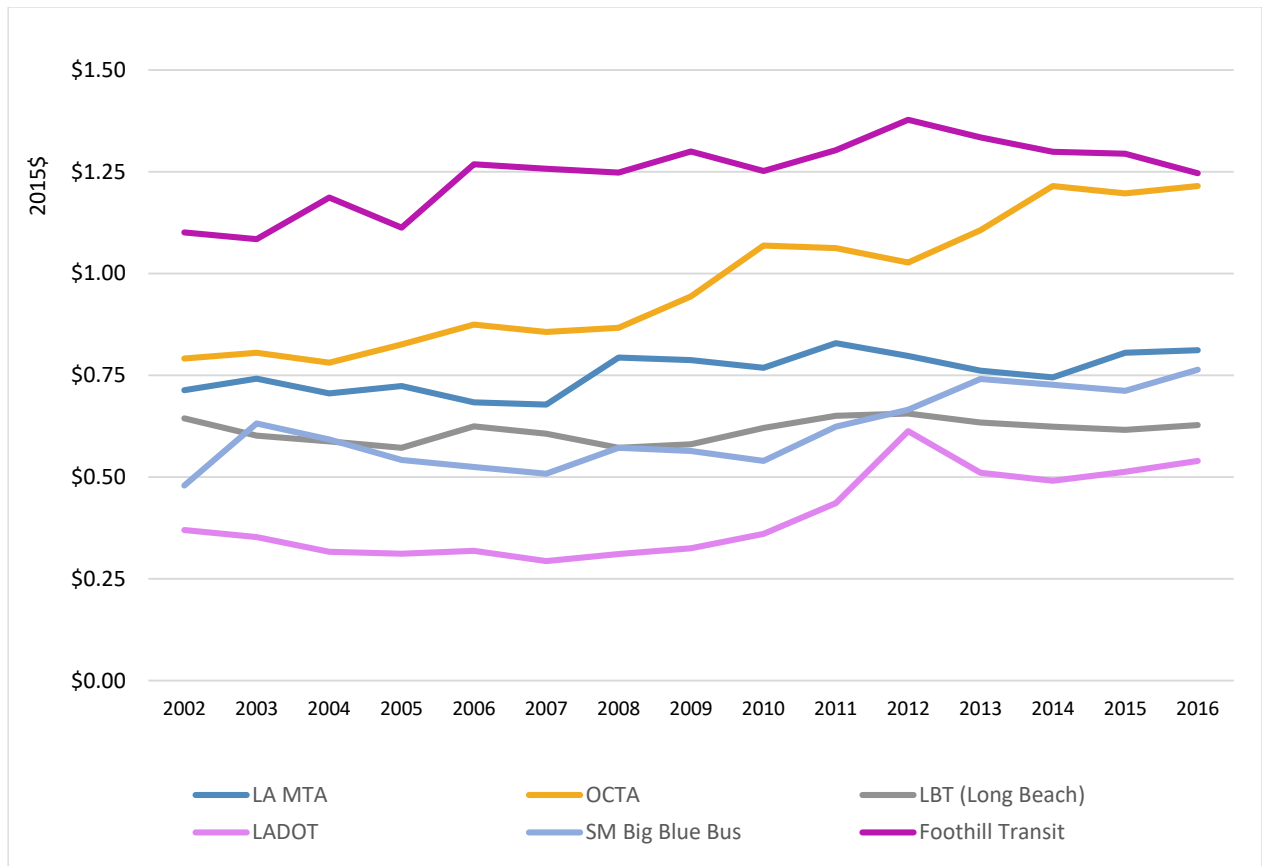


Figure 24. SCAG: Average fare per boarding for largest operators in 2015 dollars. *Inflation-adjusted average fares per boarding have increased the most rapidly for OCTA and LADOT.*

Figure 25 shows the 14-year trend in real average fare paid per mile for the nation, California, and the SCAG region. Here we see that average fares paid per mile have remained largely unchanged in the U.S. and California, and in the SCAG region they have actually fallen. Despite being lower than average per mile fares in the state and nation, average per mile fares in the SCAG region have declined about 20 percent since 2009.

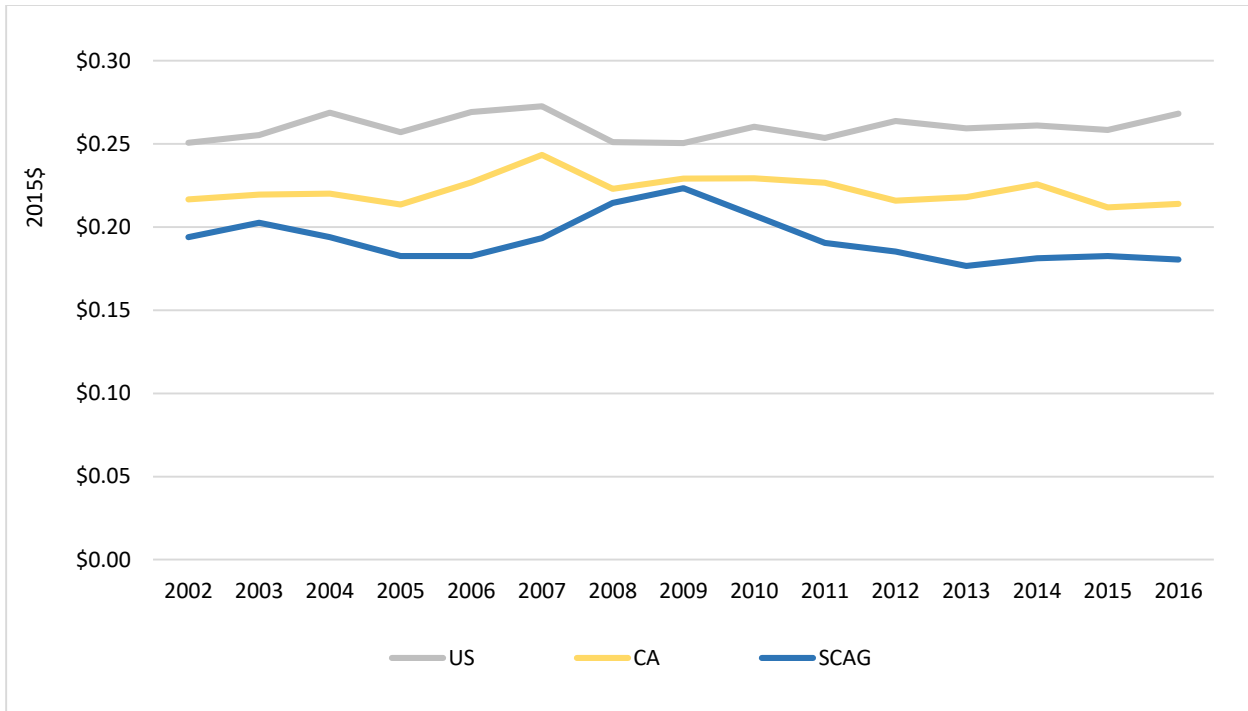


Figure 25. Average fare per passenger mile traveled in 2015 dollars. Average fare per PMT remained fairly constant, and even declined a little since 2009.

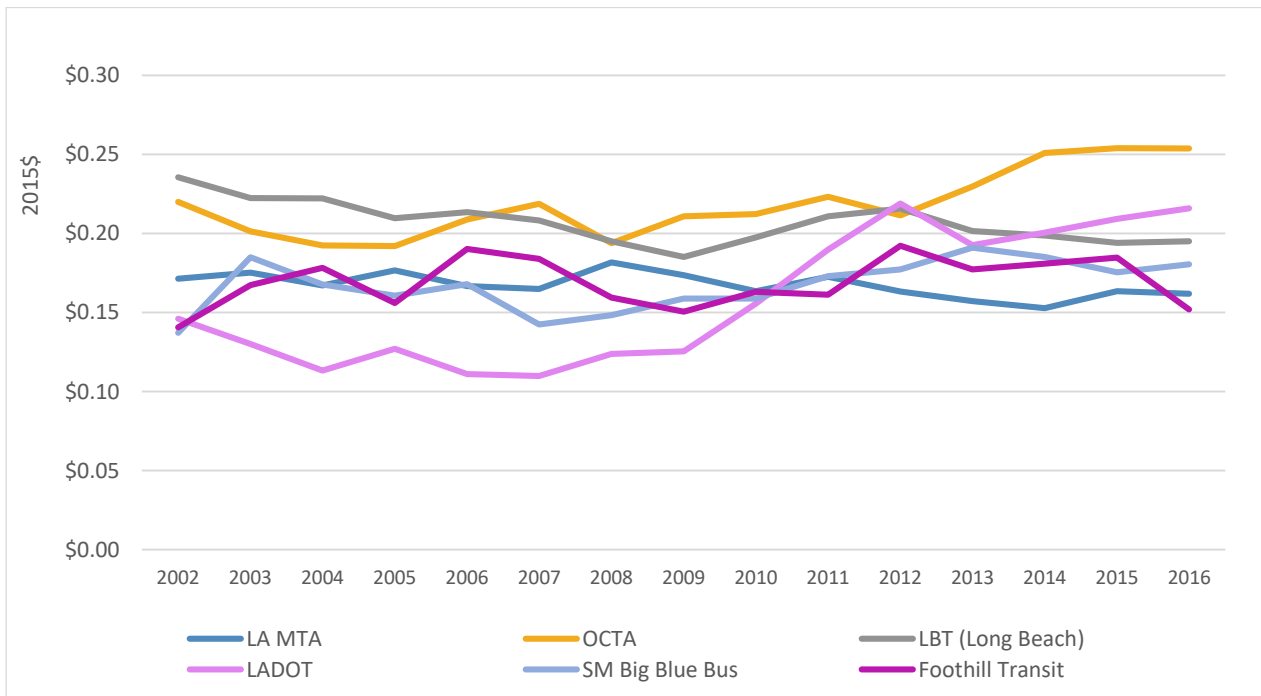


Figure 26. SCAG: Average fare per PMT for largest operators in 2015 dollars. Average fare per PMT increased the most rapidly (about \$0.07 per mile) for LADOT and slightly for OCTA (\$0.04 per mile).

If we zoom in on the six largest transit operators in the SCAG region, we see that inflation-adjusted fares per mile rose notably at two systems — LA DOT (+\$0.07/mile) and OCTA (+\$0.04/mile). On the Big Blue Bus and Foothill Transit per mile fares rose modestly, and at Long Beach Transit and LA Metro they fell (despite Metro’s 2014 fare increase).

The most notable attribute of the figures above is the steep increase in fares for OCTA. OCTA’s fares have risen over 50 percent since 2002, and OCTA is also the transit operator that has suffered the sharpest decline in ridership (about 35% since 2007). The transit industry’s rule of thumb (sometimes called the Simpson-Curtin rule) suggests that a 10 percent increase in fares will be associated with about a 3 percent reduction in ridership. By this heuristic, OCTA’s fare increases should have resulted in a 17 percent ridership decline.

To help isolate the association between fare increases and transit use, we estimated a multivariate regression statistical model using data for each transit operator in the SCAG region for each year between 2002 and 2016. Full details of this model are in the Appendix, but we used fixed effects to control for the panel nature of the data, and controlled for the level of service each operator provided, the average time between each bus or train arrival, and the density, size and population of the service area.

We find, after controlling for these factors, that higher fares are indeed associated with lower ridership, but by less than industry rules of thumb might suggest. Across the SCAG region over this time period, a 10 percent fare increase was associated with a roughly 1.6 percent decrease in ridership. This relationship is relatively “inelastic” (i.e. it suggests people are not very sensitive to prices) though it falls within the range of findings from other studies of how fare increases influence ridership (Cervero, 1990; Linsalata & Pham, 1991). Based on these results, we would expect OCTA patronage to have fallen about 8 percent since 2002, as a result of its fare increases.

It seems plausible, in light of these data, to suggest that fare increases played some role in OCTA’s lost transit trips. But OCTA’s losses, as large as they are, account for a small fraction of the SCAG region’s total losses. The bulk of those losses were from LA Metro, and it is harder to suggest that fare increases played a big role in Metro’s ridership decline.

Factors Outside Transit Operators’ Control

Fuel Prices

Fuel prices are a large and highly salient operating cost of driving. As fuel prices rise people drive less, and as they fall people drive more. In general, a ten percent increase in the price of gasoline is associated with a long-run (5 year) one to three percent reduction in vehicle travel (Goodwin, Dargay, & Hanly, 2004). Driving more, however, is not the same as using transit less, since (again) the typical driver almost never uses transit. People who drive less when gas prices are high often walk, carpool, stay home, or drive to nearer destinations (e.g. a restaurant that is 2 miles away instead of 10). Similarly, for many regular transit riders changes in the price of gasoline are immaterial, because many transit users do not have access to private vehicles. As a result of these factors, much of the adjustment to fluctuating fuel gas prices that occurs in the U.S. has no bearing on transit use, and the relationship between fuel prices and transit ridership tends to be weaker than the relationship between fuel prices and driving.

“Weaker,” however, is not “nonexistent,” and in both Southern California and nationwide, fuel prices rose and fell sharply from the late 1990s through 2015. Prices increased at a record pace from 1998 to 2008, declined, and then rose sharply again until 2013, after which they plunged (Figure 27). Transit ridership also fell steeply from 2013 to 2016. It is reasonable to think that falling gas prices could contribute to falling transit ridership. A steep drop in gas prices could have lured some of the minority of transit riders who do have vehicles away from transit use. Even among riders without vehicles available, falling fuel prices could have an indirect impact. When fuel is cheap rides in cars become more available: Friends or family members who become more likely to drive, and people who might otherwise have used transit might start carpooling for some trips.

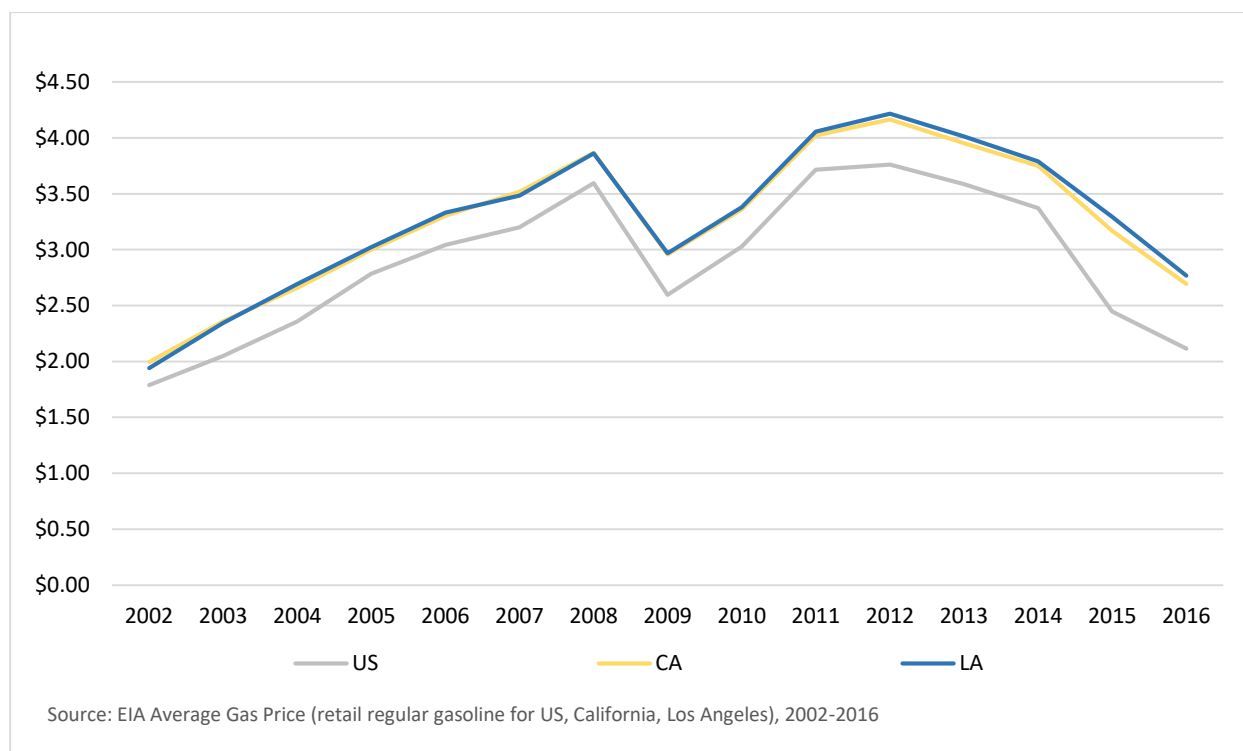


Figure 27. Average gas per gallon in 2015 dollars.

As to how much a steep drop in fuel prices might undermine transit use: the research literature reports a fairly wide array of elasticities (estimates of transit’s sensitivity to gas price changes). These range from relatively large effects for commuter rail (0.37, when gasoline costs more than \$3 per gallon) (Nowak & Savage, 2013) to much lower average estimates for bus ridership that range from -0.05 to 0.22 (Blanchard, 2009; Iseki & Ali, 2014; Mattson, 2008). Blanchard (2009) used gas price changes in LA County to estimate a bus ridership elasticity of 0.092, a subway elasticity of 0.011, a commuter rail elasticity of 0.126, and light rail elasticity of 0.071. Lane (2010), also studying LA, found similar results. All these estimates suggest that a 10 percent change in fuel prices is associated with about a half-percent change in transit use in the near term, and a 1 to 1.8 percent change in the longer-term. Gas prices fell 30 percent from 2012 to 2016,

which would imply a 3 percent reduction in bus ridership, and larger losses in rail and commuter rail, all else equal.

One way to consider this relationship of fuels prices to fares is to compare the ratio of average fare paid per boarding with the average price of gasoline in the SCAG region over this period (Figure 28). As with fares generally, we see that this fares-to-gas ratio is lower in the SCAG region than in California as a whole, and lower in California than the nation as a whole. Further, while the price of a transit trip relative to a gallon of gas has been climbing across all three geographies since about 2012, the ratio in the SCAG region today remains substantially lower than it was in 2002.

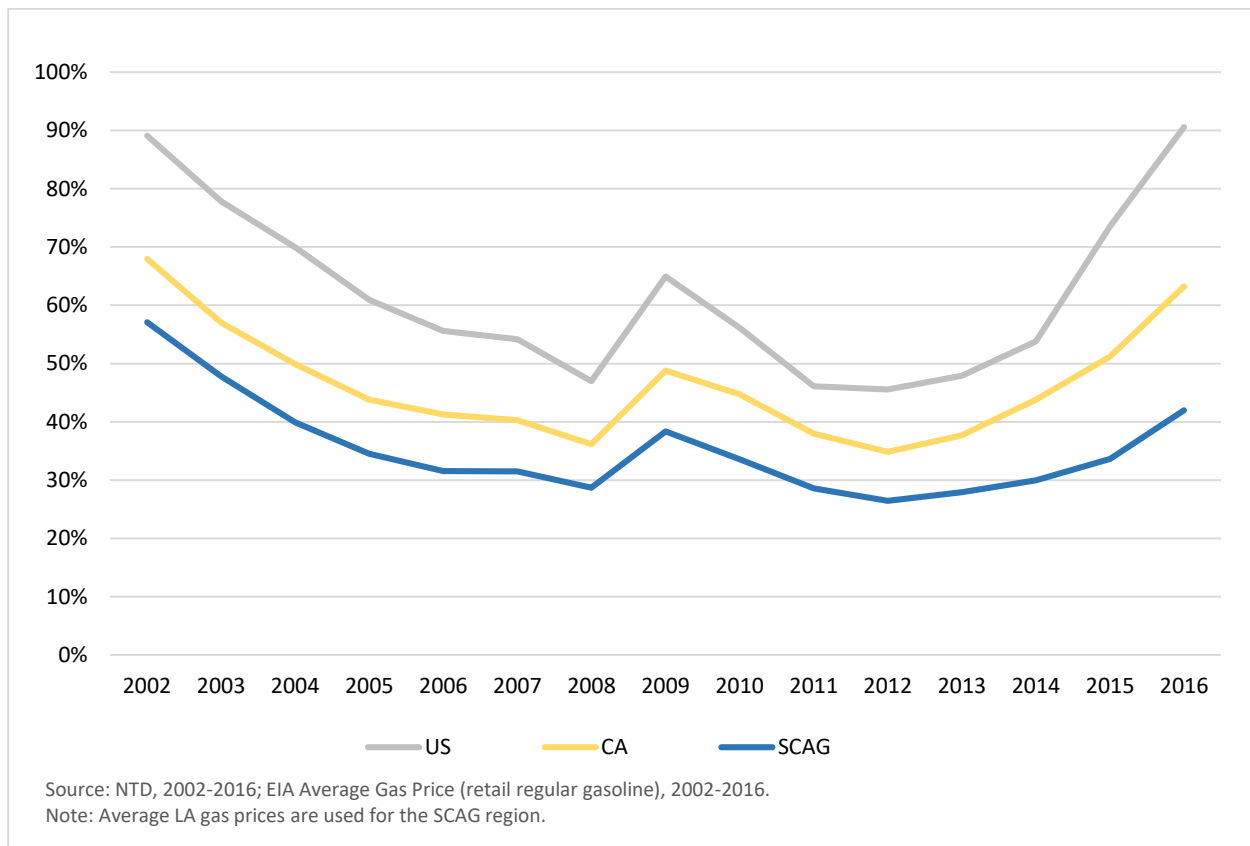


Figure 28. Average fare as a percent of region's average gas per gallon. *Average fare is consistently less than the cost of a gallon of gas, even as gas prices have been falling since 2014.*

Figure 29 plots the trend in gas prices against the trend in absolute and per capita transit ridership in the SCAG region (we use the Los Angeles Metropolitan Statistical Area average gas prices). The graph suggests a real but fairly modest relationship: Transit use does rise and fall with fuel prices, with a small lag. The response does not appear to be large, however, especially for ridership per capita. But with only one data point per year, we can only say so much about the role of gasoline prices. It would be surprising if falling gas prices did not contribute to the decline in transit ridership, but it is difficult to quantify their precise role. Overall, we consider falling fuel prices to be a real but probably minor driver in falling transit use.

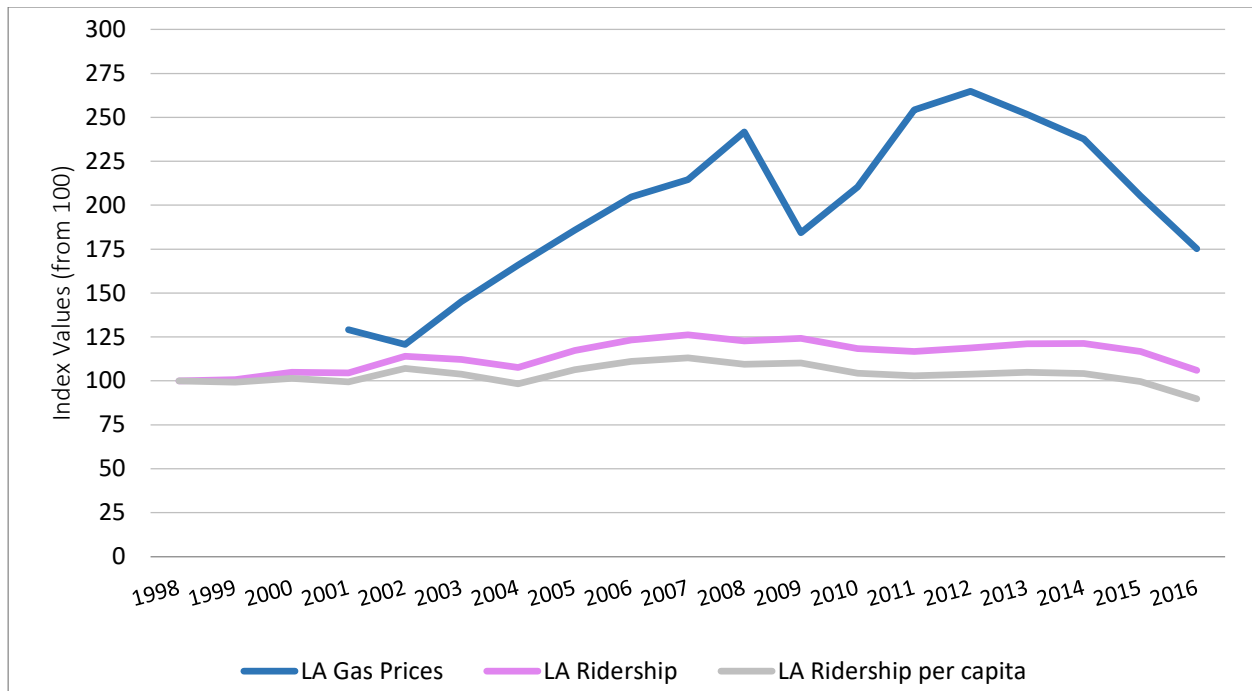


Figure 29. Transit ridership and gas prices in Los Angeles.

The Transportation Network Companies

The large absolute decline in transit ridership coincided not just with falling gas prices but also with the rise of Transportation Network Companies (TNC) like Lyft and Uber. TNCs are a plausible culprit in transit’s decline. TNCs can offer the convenience of automobile travel to people who do not own automobiles, and could therefore become viable substitutes for public transportation. Any explanation for falling transit use that hinges on TNCs, however, faces a timing problem: TNCs began operating in Southern California in 2009, and did not begin serving people in large numbers until 2012. Per capita transit ridership began falling in 2007. So while the TNCs may affect transit use, they cannot by themselves explain transit’s recent patronage decline.

Moreover, TNCs’ influence on mode choice is theoretically ambiguous. On the one hand, TNCs let people purchase vehicle trips *a la carte*. If those trips are inexpensive, then TNCs can be a faster, more direct, less-crowded, and more comfortable substitute for transit. While some TNC trips are substantially more expensive than transit fares, the TNC shared ride services, like Lyft Line and Uber Pool, have sometimes seen fares fall low enough to be competitive with one-way transit fares. Given the speed and convenience these services offer, they could draw some riders away from transit, provided those riders have smartphones and credit cards.

On the other hand, TNCs could also *increase* transit use. TNCs could help solve first-mile/last mile problems, and get people to transit stops that are beyond walking distance. TNCs could also provide transit riders a form of insurance – if some people don’t take transit because they worry an emergency might arise where they need a car (for instance, getting a sick child home from school) the option of calling

a TNC during one of those emergencies can lower the perceived risk of taking public transportation, and make it more attractive.

Finally, since most people in most regions do not use transit or even consider doing so, the average TNC trip may have little impact on transit ridership. If the typical Uber passenger has never used a bus and never considered doing so, Uber's growth cannot be blamed for transit's decline.

Because TNCs provide almost no operating data to the public, we do not have sufficient evidence to adjudicate between these scenarios. We do not know even basic information — such as the total number of TNC trips in the SCAG region year over year, or the general areas where those trips originate — that could cast light on the relationship between TNCs and public transportation (Transportation Research Board, & National Academies of Sciences, Engineering, and Medicine, 2016).¹²

What little evidence we do have suggests that most TNC trips do not replace transit trips. Surveys done by independent researchers and organizations suggest that the typical TNC user does not resemble the typical transit rider (TNC users are disproportionately college-educated and affluent), and that the most common times and places for TNC rides are Friday and Saturday nights in popular commercial districts, and trips to airports (Clewlow & Mishra, 2017; Feigon & Murphy, 2016; Rayle, Dai, Chan, Cervero, & Shaheen, 2016). Large surveys by Clewlow and Mishra (2017) and APTA (Murphy 2016) suggest that most TNC trips occur between 10 p.m. and 4 a.m., when transit runs infrequently and carries few riders. Clewlow and Mishra (2017) find that the majority of TNC users report no change in their use of other modes. All this evidence suggests little impact on transit.

The caveat attached to these findings, however, is that the subgroups most likely to take transit – low-income racial and ethnic minorities – are also difficult to survey. Even very large, well-funded surveys often struggle to get adequate coverage of poorer households. As such, we cannot rule out the possibility that actual TNC use in some poorer neighborhoods is higher than the current data suggest.

Moreover, as the pool of TNC users continues to expand, the TNCs' effect on transit use – both positive and negative – may well increase. These amplified effects will be still more likely if TNC prices fall, and TNC use grows disproportionately in dense, high transit ridership areas populated by residents with relatively low levels of household motor vehicle access. For this reason, the relationship between TNCs and transit should be monitored, and there may well be a public interest in letting transit agencies see at least basic data about the location and volume of TNC trips. But relatively little evidence suggests that TNCs are a big player in the current transit decline. The timing, again, does not match up well.

Neighborhood Change and Migration

Transit is heavily-supplied in a small proportion of places, and heavily used by a small proportion of people. This situation creates a potential matching problem. If the small group of people who use transit a lot becomes less likely to live in the small number of places that offers a lot of service, transit use could

¹² TNCs are required under California law to report a host of data on rides given, disability access, and drivers to the California Public Utilities Commission. Unlike transit data in the NTD, however, these TNC data are not public. The CPUC cannot easily turn those data over to the public or public agencies. Such conditions are common throughout the United States. For more - <http://www.cpuc.ca.gov/General.aspx?id=3989>

fall. Such a mismatch could occur for a number of reasons. The highest-profile explanation is gentrification-driven displacement. If gentrification pushes transit-riding lower-income households away from transit-rich neighborhoods, and replaces them with higher-income residents, transit use may fall. The new higher-income residents may use transit more than they did previously, but less than the lower-income residents they replace (Dominie, 2012).¹³

Gentrification and displacement, however, account for only a small portion of moves by poor and immigrant households. Most moves by such households are by choice, or for reasons unrelated to immigration by the affluent—for example, a low-income resident might lose a job and be forced to move (either to find new work, or to find a place with lower rent), even if neighborhood rents are not rising (Freeman 2005; Freeman and Braconi 2004; Newman and Wyly 2006; Vigdor 2002). The relevant fact is that in recent years many poor households, when they move for whatever reason, relocate to the suburbs. As poor households suburbanize, they move farther from transit on average (Farrell, 2016; Kneebone, 2014; Kneebone & Garr, 2010; Singer, 2011; Zimmerman, Restrepo, Kates, & Joseph, 2015). Upon arriving in the suburbs, low-income people may well use transit more than other suburbanites, but less than they had used it when they lived in central-city neighborhoods. If they are not replaced in central-city neighborhoods by other people who ride at high rates, then as a result of their migration overall transit use could fall.

Ideally we could examine the extent to which migration influences transit use by following low-income households and their travel behavior over time and across neighborhoods. Unfortunately, the data that would allow us do this do not exist. What we can do instead is use census-tract level data to examine changes in the spatial location of transit commuters and in the characteristics of residents living in high-transit commuting neighborhoods. We approach this task in two ways: identifying tracts with transit-friendly built environments and seeing how they change over time, and identifying tracts with high levels of transit commuting, and examining change within those places over time. These approaches have limits, as we will explain, but in combination they show a decline in the number of transit commuters in many high-transit use neighborhoods in 2010 and 2015, a decline in transit mode share in these neighborhoods (particularly from 2000 to 2010), and a shift in the characteristics of neighborhood residents in ways that help to explain declining transit use.

We have two methods available to identify areas that are highly conducive to transit use. These are areas that, regardless of who lives in them, are transit-friendly, either because of their levels of transit service or attributes of their built environment. Our first measure of transit-conduciveness is SCAG's High Quality Transit Area designation. SCAG defines a High Quality Transit Area as an area within one-half mile of a fixed guideway transit stop or a bus transit corridor where buses arrive at a frequency of every 15 minutes or less during peak commuting hours. SCAG last identified existing High Quality Transit Areas using data for 2012. These High Quality Transit Areas are located in 762 census tracts—about 45 percent of the region's total Census tracts.

Our second measure of transit-conduciveness comes from a typology of neighborhoods developed at the UCLA Institute of Transportation Studies for the US Federal Highway Administration (Voulgaris, Taylor, Blumenberg, Brown, & Ralph, 2016), using data from 2010-2013 (Ramsey & Bell, 2014; Voulgaris et al.,

¹³ This outcome could well result in lower transit ridership but also lower VMT and GHG, because the higher income in-migrants are more likely to replace driving with their transit trips (see Chapple et al. 2016, Chapter 4).

2016). This typology characterizes neighborhoods based on their built environment and transportation system characteristics (e.g. density, land use mix, age of housing stock, resident turnover, street network characteristics, and transit supply), but not on the characteristics of the people living in these neighborhoods. In this way the typology can capture how transit-friendly a neighborhood's built environment is. We focus in particular on one neighborhood type called "Old Urban," which indicates very-high density neighborhoods with high-levels of transit supply. Old Urban neighborhoods are much less common than SCAG High Quality Transit Areas—in 2010 there were 719 Old Urban neighborhoods in the region.

For our purposes, the limitations of both the SCAG designation and the Old Urban designation are that the data used to construct them are from 2010 or after. As a result, we can track changes in these neighborhoods from 2010-2015, but we do not have a good measure of tract-level transit supply or transit-conduciveness from 2000 to 2010, the time period when transit use in the SCAG region began to fall.

To examine changes from 2000 forward, we examine the clustering of transit commuters. This method is imperfect, since as we have shown commuters are a minority of transit users, but we assume for this exercise that as regular transit users, commuters tend to cluster in areas conducive to transit use. This assumption is contestable, but we have no other Census tract-level data on transit use that stretches back to 2000. We identify high-transit commuter neighborhoods with data on transit commuters by Census tract from the 2000 Decennial Census, and the 2010 and 2015 ACS.¹⁴ For each year, we rank order tracts by the number of transit commuters in them. As we discussed earlier, transit commuters are highly concentrated in a very small fraction of the SCAG region's land area; eighty percent of transit commuters live on less than five percent of the land area and in less than 40 percent of census tracts. This distribution changed very little from 2000 to 2015.

We examine changes over time using the rank-ordered transit commuting data from the 2000 Census. We identified the census tracts that most intensively host transit commuters; these tracts, which are 1.43 percent of all census tracts in the region and 0.02 percent of the region's land area, hold ten percent of the region's transit commuters. We call these "10% Tracts." The mean number of transit commuters in these tracts is almost 12 times the regional average. For comparison, we also extracted data on the tracts where the top 60 percent of transit commuters live; these neighborhoods comprise 20.6 percent of all census tracts and 0.86 percent of the land area. We call these "60% Tracts." The mean number of transit commuters in these neighborhoods is 4.5 times the regional average. The number of ten percent tracts is extremely small: in 2000, just 48. The number of tracts that hold 60 percent of the commuters, in contrast, is 743—roughly the same number as are in the Old Urban designation.

The tracts in the 10% and 60% designations in 2000 strongly overlap with the SCAG High Quality Transit Area and Old Urban designations. If we take the 10% Tracts in 2000 and follow them forward, we see that about 85 percent are Old Urban tracts, and all of them are SCAG High Quality Transit tracts. Similarly, of the tracts in the 60% designation in 2000, in 2010 55 percent of them are Old Urban, and 85 percent are

¹⁴ Because we are using tract-level data, the ACS data are from the 5-year samples. The 2010 data are from the 2006-2010 ACS, and the 2015 data are from the 2011-2015 ACS.

High Quality Transit. As such, following the trajectory of the 10% and especially the 60% Tracts may be a rough-but-reasonable proxy for following the trajectory of transit-rich areas.

As a first step, we follow three of these four tract designations – 60% Tracts, Old Urban, and High Quality Transit – over time, to the extent we can. For the latter two designations, this means only tracking changes from 2000 to 2015. We follow the year 2000 60% Tracts from 2000 to 2010, and then to 2015. (We use the 60% Tracts, rather than the 10% Tracts, because their numbers are more comparable to the Old Urban tracts).

Figure 30 summarizes the results. Essentially, the 60% Tracts saw substantial changes between 2000 and 2010, and these changes are consistent with the idea that the people most likely to use transit migrated away from transit-rich areas. From 2000 to 2010, the poverty rate in these tracts fell by four percentage points, the share foreign born fell from 48 percent to 45 percent, and the share of households without vehicles fell from 23 percent to 17 percent. From 2010 to 2015, in contrast, relatively little changed, and that same pattern holds if we examine Old Urban tracts and SCAG High Quality Transit Areas. Across all three neighborhood typologies, poverty rose slightly, the share of foreign born fell slightly, and – perhaps most important, given the importance of vehicle access to transit use – the share of households without vehicles stayed at the point it had fallen to. (The same general pattern holds for the 10% Tracts, although to conserve space these are not shown in the figure).

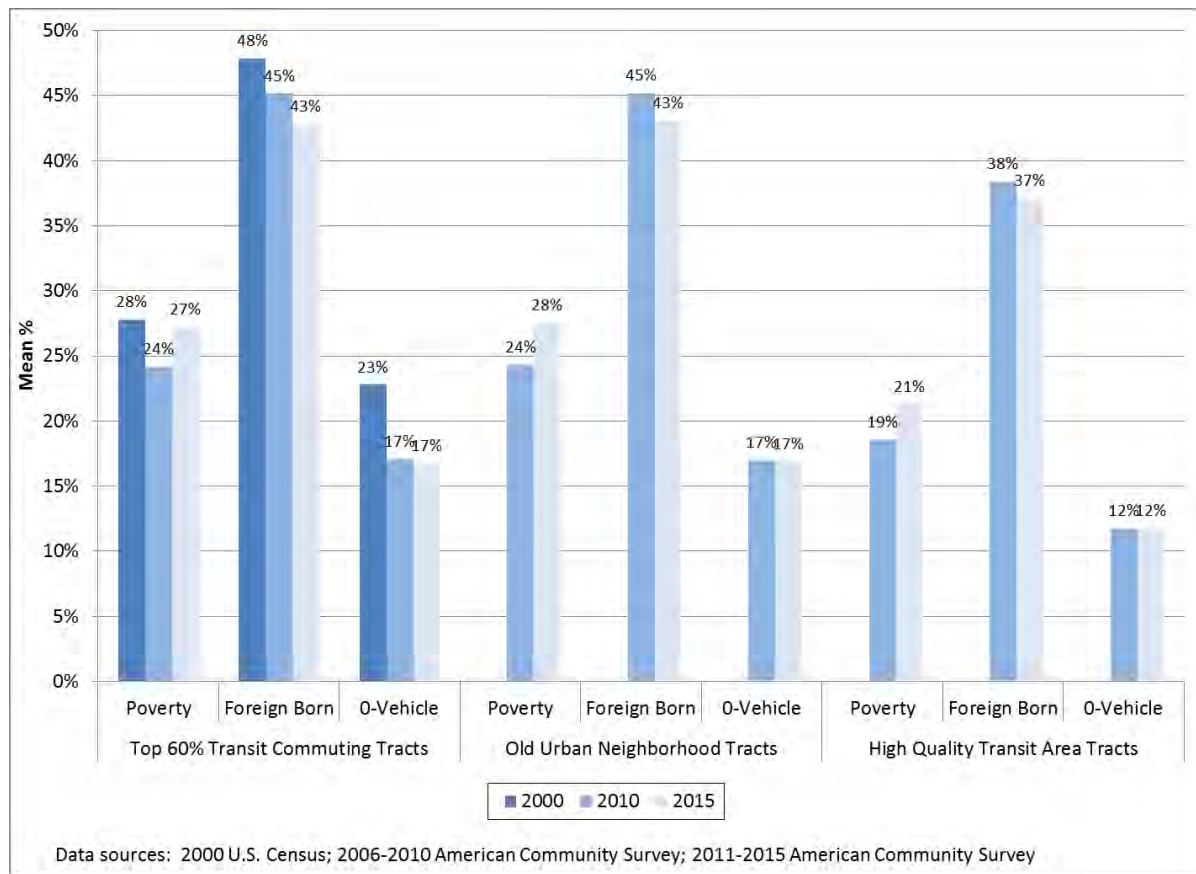


Figure 30. Characteristics of high-transit areas, 2000, 2010, and 2015 (2000 Census tracts over time)

Some additional data also suggest neighborhoods changing in ways not conducive to transit use. Figure 31, for example, shows that in both the 10% and 60% Tracts the transit commute mode share fell between 2000 and 2015 (with most of the decline occurring between 2000 and 2010.) Although not shown graphically, Census data also indicate that in these tracts, both the number of workers and overall earnings for workers rose, but earnings did *not* rise for those commuters using transit to get to work.

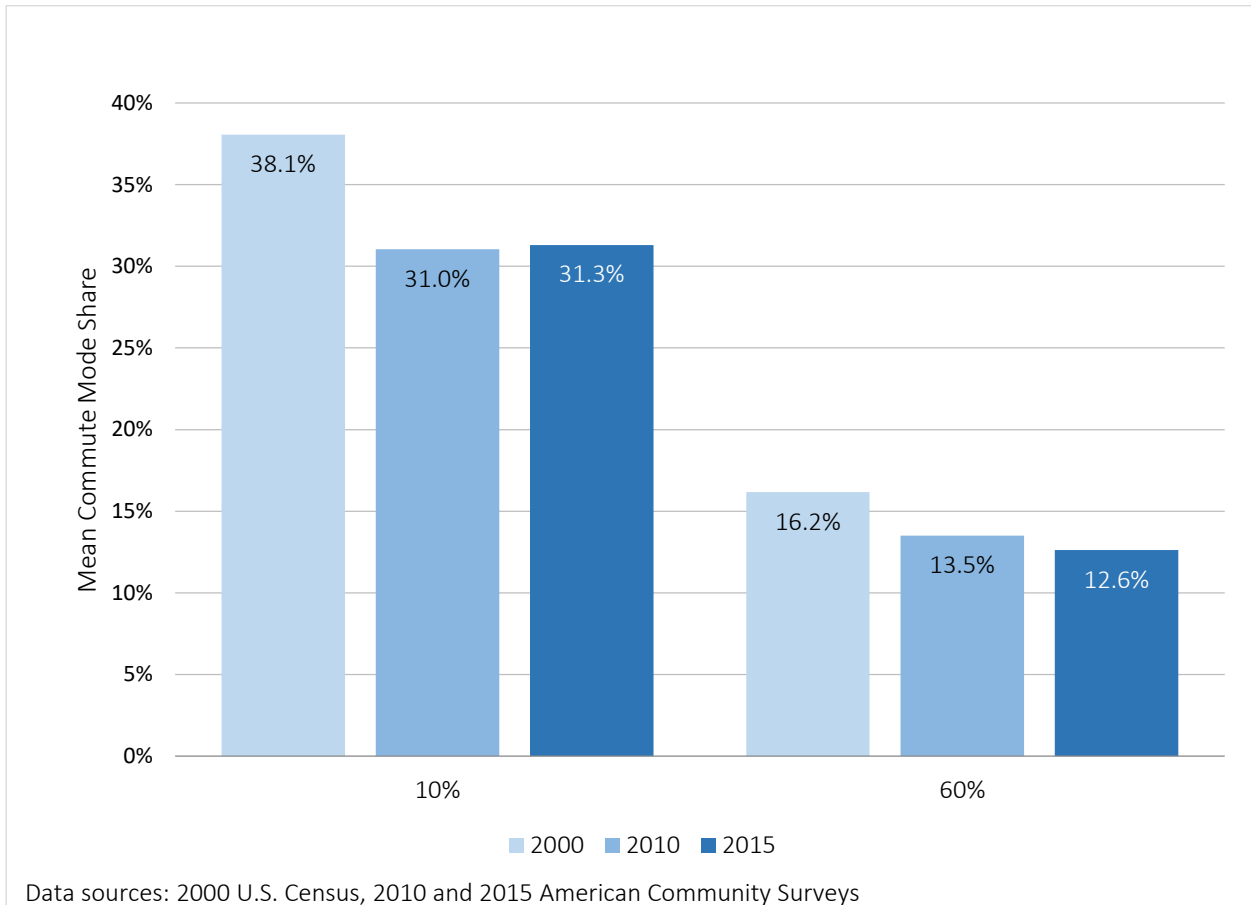


Figure 31. Mean transit commute mode share in high-transit neighborhoods, SCAG Region by year.

In summary, then, we observe changes in census tracts that in the year 2000 were most heavily-populated by transit commuters. These tracts, in turn, overlap substantially with tracts that we know in 2010 were rich in transit supply and/or had transit-friendly built environments, letting us infer (albeit with some uncertainty) that these neighborhoods were transit-rich in 2000 as well. Particularly between 2000 and 2010, in these neighborhoods we see falling transit commuting, falling population, a falling share of immigrants, falling poverty, more vehicle ownership, and higher earnings for workers overall but not those workers who commute via transit. All of this evidence is consonant with these neighborhoods becoming

more affluent, with that affluence being associated with less transit use, and with people left out of that affluence remaining on transit.

We emphasize that this story is far from conclusive. For the reasons we discussed above, the relationship between neighborhood change and transit use is very hard to measure. The data we have are consistent with neighborhood changes in the most transit-friendly SCAG-region neighborhoods contributing to falling transit use, but they are not conclusive. This is an area that warrants substantial further research.

Rising Vehicle Ownership

The defining attribute of regular transit riders is often a lack of vehicle access. Between 2000 and 2015, vehicle access in the SCAG region became much more common. Households in the SCAG region, and especially lower-income households, dramatically increased their levels of vehicle ownership. Census summary file data show that from 2000 to 2015, the SCAG region added 2.3 million people and 2.1 million household vehicles (or 0.95 vehicles per new resident). To put that growth in perspective, from 1990 to 2000 the region added 1.8 million people but only 456,000 household vehicles (0.25 vehicles per new resident). The growth of household vehicles in the last 15 years has been astonishing.

There are strong reasons to believe that this surge in vehicle ownership is largely responsible for the decline in transit use. A back of the envelope calculation can illustrate the magnitude of the problem this vehicle surge could pose for transit operators. Data from the US Consumer Expenditure Survey show that from 2000 to 2015, the average expenditure per household vehicle in LA County was about \$3,729.¹⁵ Since SCAG residents added 2.1 million vehicles in this time, a midrange estimate of private expenditures on household vehicle growth is \$7.8 billion. Over the same period of time, LA Metro and Metrolink combined to spend about \$6.4 billion opening new rail service, and about \$7.4 billion on combined rail and Bus Rapid Transit service. Thus even a conservative estimate of private investment in vehicle growth shows it easily outpacing public investment in fixed-route, dedicated right-of-way transit— the type of transit that is supposed to be most competitive with driving. This level of increased vehicle ownership is in many ways incommensurate with robust transit use.

To be sure, much of this vehicle growth would not influence transit use. Because most SCAG residents had never used transit, increased vehicle ownership in most SCAG households would not contribute to transit's decline. The 2000s were when the Millennials, a demographically large cohort, reached ages when many would buy automobiles. Millennial car-buying could help explain the bulge in vehicle acquisition, but unless those Millennials would otherwise be on transit these additional vehicles would not necessarily explain falling transit use.

¹⁵ The Consumer Expenditure Survey tracks the average net outlay per vehicle purchased. Data are not available for the other SCAG counties, but the average net outlays are probably similar across Southern California. Moreover, the \$3,729 figure is the average of each annual average. Since more vehicles were purchased in the early to mid-2000s, and at higher prices, this figure likely underestimates the true average. See <https://www.bls.gov/cex/csxmsa.htm>

Some additional evidence, however, suggests that vehicle ownership did play a role in reducing ridership. When the OCTA surveyed its former riders in 2015, for example, 70 percent reported leaving transit because they had acquired a car (True North Research 2015).

Moreover, we have reason to think that the increase in vehicle ownership occurred disproportionately among populations that are more likely to take transit. Census data show that vehicle access increased most among lower-income households (we return to this point below, in Figure 40). Vehicle access also rose disproportionately among the foreign born. Table 4 shows changes in both zero-vehicle households and those with a vehicle “deficit” (that is, fewer vehicles than adults). Across the entire SCAG region, the share of households without vehicles fell 30 percent between 2000 and 2015, while the share of households with a vehicle deficit fell 14 percent. Among foreign-born households, these percent declines were larger — 42 percent and 22 percent — and among the foreign born from Mexico they were larger still. Among the foreign born from Mexico, the share of households without vehicles fell by two-thirds between 2000 and 2015, and the share with a vehicle deficit fell 28 percent. Thus car ownership rose across-the-board, but rose fastest among subgroups with a high propensity to ride transit. And these changes largely occurred between 2000 and 2010, which aligns with the timing of the transit downturn that began in 2007.

	All SCAG		Foreign Born		Mexican Foreign Born	
	Share Households With:		Share Households With:		Share Households With:	
	No Vehicles	Vehicle Deficit	No Vehicles	Vehicle Deficit	No Vehicles	Vehicle Deficit
2000	10.2	30.1	14.1	47.1	15.7	57.2
2010	7.7	26.1	9.4	38.9	7.0	46.0
2015	7.1	25.9	8.2	36.6	5.4	41.6
Pct Change	-0.30	-0.14	-0.42	-0.22	-0.66	-0.27

Table 4. Vehicle ownership trends, SCAG region (US Census, Census IPUMs).

To refine our understanding of the association between vehicle ownership and transit use, we estimated a multivariate regression model. As a result of the data constraints we discussed earlier, this process involved two steps. Recall that our fundamental data obstacle was a mismatch between the availability of detailed, person-level information about travel behavior and our need to answer a question about changes over time. The CHTS provides detailed travel behavior, as well as demographic and socioeconomic data, but only for the year 2012. The Census provides detailed annual data, but for almost every category *except* travel behavior and transit use.

We resolve this problem by first using the CHTS to build a model that predicts total unlinked trips as a function of different demographic, socioeconomic, and neighborhood attributes. Importantly, all of these attributes – such as sex, nativity, income, vehicle ownership, and so on – are also tracked in 2000, 2010 and 2015 Census IPUMS microdata. This symmetry allows us to take the parameters of the CHTS model and apply them to time-series data from the Census. We use the CHTS, in short, to estimate the relationship between transit use and different social and economic characteristics, and then use the

Census to track how those characteristics have changed. Once we have measured that change in the Census, we can use the CHTS results to estimate how transit use would have changed as a result.

A core assumption of this approach is that the relationships between transit use and the socioeconomic and demographic attributes, which we can only measure in 2012, are relatively constant across time. We assume that changes in transit use from 2000 to 2015 are driven primarily by changes in the composition of the population, and not by changes in the propensity to use transit by people in different population groups. Our approach is more valid, for example, if transit use changes because there are more or fewer people in poverty, or with vehicles, and not because poor people or people with vehicles become more or less likely to use transit. The latter scenario is possible, but we cannot measure it.

We constructed models for California, the SCAG region, Los Angeles, and the SCAG region outside of Los Angeles. Figure 38 shows results from the first stage of our analysis: the major predictors of transit trips in the SCAG region. Unsurprisingly, transit trips are highly associated with automobile ownership and access, even accounting for other potential determinants of transit use. Beyond automobile access, transit use is associated with lack of a driver's license, being nonwhite, and being foreign-born — especially being foreign-born and a new arrival.¹⁶

¹⁶ While we experimented with different functional forms for the regression, we settled on a zero-inflated negative binomial regression. A negative binomial regression is a standard tool for analyzing overdispersed count data, and the zero-inflation corrects for bias that might otherwise be introduced when the value of the dependent variable is frequently zero, as it is with personal transit trips.

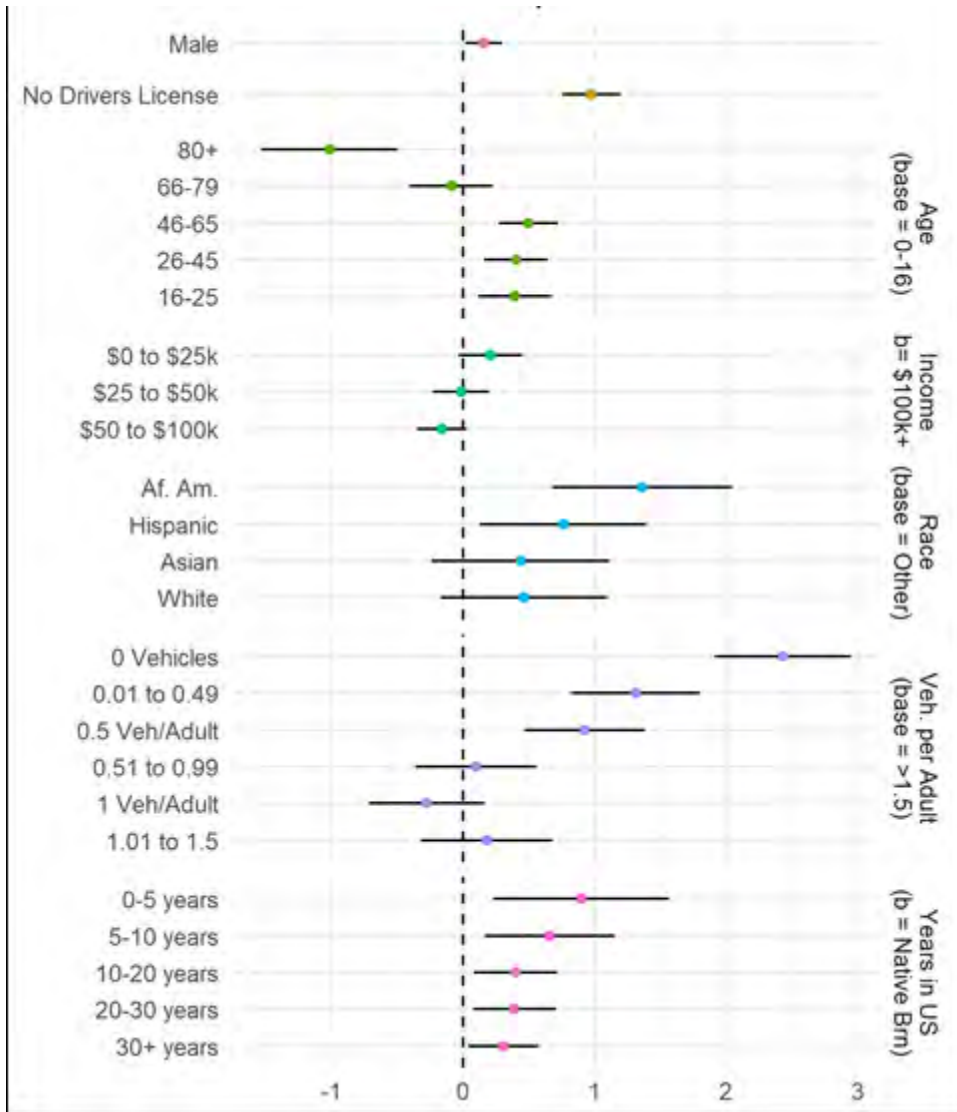


Figure 32. All SCAG unlinked trip predictors (CHTS).

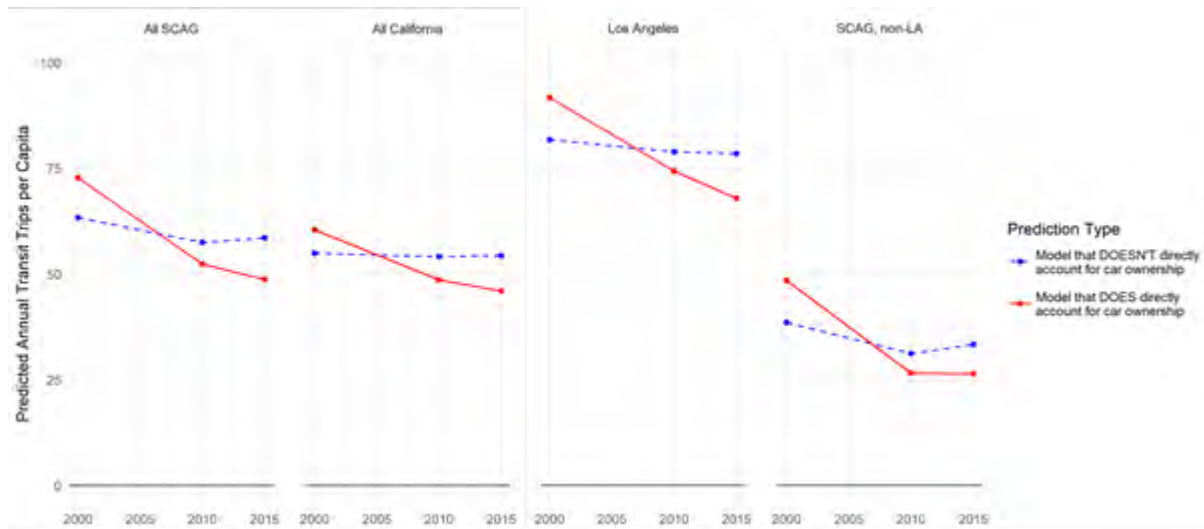


Figure 33. Relationship between increased vehicle ownership and falling transit trips (CHTS and US Census Bureau).

When we apply these parameters to Census IPUMS data from 2000, 2010 and 2015,¹⁷ we see a powerful association between rising household vehicle access and falling transit trips. Figure 39 illustrates this relationship by graphing the results of two models. The first model, represented by the dashed line, predicts the change in county transit trips based on changes in all factors *except* vehicle access. In the SCAG region, the line has a mild negative slope from 2000 to 2010 and then a small positive slope from 2010 to 2015, suggesting that changes in these demographic, economic, and geographic factors would be associated with a small decline in transit use since 2000, albeit with a modest uptick between 2010 and 2015. The graphs for Los Angeles County and the SCAG region outside LA County suggest that this predicted modest uptick (which did not actually occur) would have taken place in SCAG’s outlying counties. In Los Angeles County, transit trips were predicted to keep declining through 2015.

The second model, represented by the solid line, is identical to the first model but includes changes in automobile access. The difference in results is dramatic. This line starts at a higher point and falls sharply to a lower point, both of which suggest the important role automobile access has in influencing transit use. An absence of automobiles is associated with much more use, and the acquisition of automobiles is associated with much less. The line also suggests that many socioeconomic attributes play an essentially the intermediary role in mode choice. Income, nativity, age, location within the region, and many other factors can influence transit use, but they do so primarily by predicting people’s access to private cars.

¹⁷ A natural concern is that the CHTS might measure nativity, income, etc. differently than the Census. We validated our approach by first using the Census independent variables to replicate the CHTS estimates, suggesting this is not a problem.

Income alone, for example, does not take people off buses. Income helps people buy automobiles, and it is auto access that fuels an exodus from transit.¹⁸

Why did vehicle ownership rise so much? We cannot answer this question definitively, but as we discussed earlier in this report, vehicle ownership has both economic and non-economic determinants. The non-economic determinants include the growth or decline of immigrant groups who are less likely to acquire vehicles, and changes in licensure laws or other laws that surround owning and operating vehicles. The economic reasons can themselves be divided into two categories: changes in personal spending power, and changes in the price of vehicles themselves.

Since the foreign-born, and particularly the recently-arrived foreign-born, are less likely than the native-born to own vehicles, one possibility is that number or composition of immigrants changed. In absolute terms, the foreign-born population in the SCAG region grew between 2000 and 2015. However, it did not grow as fast as the overall population, so the region’s share of foreign-born fell, albeit modestly (from 31% to just over 30%). This proportional decline occurred entirely within LA County, which has the most transit service. Every other SCAG county saw its share of foreign-born rise.

	Imperial	Los Angeles	Orange	Riverside	San Bernardino	Ventura	All SCAG
2000	32.2%	36.2%	29.9%	19.0%	18.6%	20.7%	31.0%
2010	31.9%	35.6%	30.5%	22.4%	21.6%	22.9%	31.0%
2015	32.6%	34.7%	30.5%	22.0%	21.3%	22.8%	30.4%
% Change	1.2%	-4.3%	2.0%	13.7%	12.6%	9.2%	-2.0%

Table 5. Share foreign born residents, Southern California counties (2000-2015). US Census.

The *composition* of immigrants, however, changed more dramatically. Table 6 shows that between 2000 and 2015 (and especially between 2000 and 2010), the share of the foreign-born from Asia rose 23 percent, while the share from Central America fell ten percent, and the share from Mexico fell over 13 percent. In 2000, 48 percent of SCAG immigrants were from Mexico, while by 2015 only 41 percent were. Because existing evidence suggests that immigrants from Mexico and Central America are less likely to have automobiles and drive than immigrants from other origin countries, this shift could contribute to rising auto use, especially among the foreign born (US Census ACS 2015).

¹⁸ We should note that these models are *not* predictive models – their purpose is not to yield output that precisely matches the observed transit ridership in the SCAG region (and in fact our predictions do not match observed ridership). We do not build a predictive model for two reasons. First, we are not using the correct data to do so. Regional ridership counts come from annual reporting to the NTD. Because we need person-level data that includes socioeconomic attributes, we are using one-day travel diary data from the 2012 CHTS, and then matching that to person-level data from three Census years. Second and more important, the goal of the regressions is to test a particular hypothesis – that vehicle access is the decisive factor in transit use – not to predict transit ridership. Our output thus yields an estimate of the relative magnitude of the importance of auto access, *not* a precise measure of how many trips each additional increment of auto access actually cost the SCAG region.

	2000	2010	2015	Change
Asia	28.7%	33.9%	35.3%	23.0%
Americas	63.7%	59.1%	57.7%	-9.4%
Latin America	62.4%	58.0%	56.5%	-9.5%
Central America	58.8%	54.5%	53.0%	-9.9%
Mexico	47.7%	42.4%	41.3%	-13.4%
South America	2.6%	2.7%	2.7%	3.8%

Source: US Census Summary File Data. US Census Bureau classifies Mexico as part of Central America. Data on Caribbean Americas omitted.

Table 6. Composition of SCAG immigrants (2010-2015).

Moreover, among both the foreign-born overall and the foreign-born from Mexico, in data from the US Census IPUMs we see both an assimilation effect and a cohort effect reinforcing the trend toward more vehicles. More recent waves of immigrants are more likely to have vehicles shortly after arrival, and those who do not are faster to acquire them as time goes on.

In the year 2000, for example, 31 percent of the foreign-born households in the SCAG region that had emigrated from Mexico between 1990 and 1999 had no household vehicle, and 74 percent had a vehicle deficit. By 2010, just 9.3 percent of this same cohort of immigrant households had no vehicle, and only 51 percent had a vehicle deficit. By 2015, these figures were 7 percent and 41 percent. This is the assimilation effect; as time passes, immigrants begin to behave more like the native -born.

The cohort effect, however, is more notable. The more recent waves of immigrants to Southern California are more likely to own vehicles shortly after arrival, and as such they have not fully replenish the stock of zero-vehicle households that shrank as existing immigrants assimilated toward cars. In 2010, only 17 percent of the Mexican immigrant households in the SCAG region that had arrived in the US between 2000 and 2009 had no vehicles, compared to 31 percent for those that arrived between 1990 and 1999 in the year 2000. Similarly, only 62 percent of these 2000-2010 arrivals had a vehicle deficit in 2010; in 2000, 74 percent of Mexican immigrants who had arrived since 1990 had a vehicle deficit. By 2015 the share of zero-vehicle households in the post-2000 cohort was down to 10 percent, and the share with vehicle deficits down to 49 percent. And by in 2015, only 11 percent of Mexican immigrant households that had arrived in 2010 or after did not have a vehicle. A similar pattern holds for the foreign-born overall. More recent waves of immigrants acquired more vehicles more quickly, meaning that as previous waves of immigrants acquired cars, the ranks of the carless were shrinking rather than being replenished.

In sum, immigrants overall are now a slightly smaller share of the population, but also more likely to own vehicles, and to own them earlier after arrival. Mexican immigrants, who are a mainstay of transit ridership in Southern California, remain more likely than the foreign-born overall to live in households without vehicles, but since 2000 they have both added household vehicles and become a smaller share of total immigrants.

It is not clear *why* the foreign-born began adding more cars. In 2015, California began issuing driver's licenses to undocumented immigrants. While licensure may have increased vehicle ownership, for a variety of reasons we do not think it played a large role. First, a license makes a vehicle more useful, but not more affordable; if the barrier to acquiring a vehicle is price, a license does little to overcome that. One might argue in response that legality and not price was the actual barrier, but existing evidence suggests this is simply not the case: many undocumented immigrants, even without licenses, were already driving (Lovejoy & Handy, 2008). Indeed, the prevalence of undocumented driving was the primary motivation for the law that authorized licensure. The decision to issue licenses was justified primarily on safety, not mobility, grounds – there were concerns, for example, that unlicensed undocumented drivers would flee the scene of accidents. It is possible that undocumented immigrants drove *less* – and took transit more – before being licensed, and that licensing did help depress transit use. Even this scenario, however, has its limits. A law that took effect in 2015 cannot explain a per capita ridership decline that began in 2007 or an explosion in vehicle ownership that began in the early 2000s.

Ruling out legal changes brings us to possible economic factors for increased vehicle ownership: Perhaps immigrants (and others) began acquiring more cars because they had more money. A small but persuasive literature on personal consumption shows that poorer people tend to convert even small increases in income into vehicle purchases – a testament to how valuable vehicle access can be (Aaronson, Agarwal, & French, 2012; Adams, Einav, & Levin, 2009; Leininger, Levy, & Schanzenbach, 2010; Parker, Souleles, Johnson, & McClelland, 2013; Souleles, 1999).

The 2000-2015 period was volatile economically, as the economy grew steadily before cratering during the Great Recession. During most of this time, furthermore, median wages and incomes were stagnant. Median household income in LA County, for example, was about \$59,000 in both 2000 and 2015, and was slightly lower during the recession in 2010. The Census suggests that newer waves of immigrants are if anything slightly poorer than the cohorts that came before them: In 2000 average incomes of immigrants that had arrived since 1990 was slightly higher than the average income of immigrants in 2010 who had arrived after 2000. Finally, we can see in Figure 40 that vehicle growth occurred across all income groups, for both the foreign-born and the native-born. In 2000 just under 40 percent of households earning less than \$25,000 per year had a vehicle-deficit, as did 60 percent of immigrant households in the same income bracket. In 2015 less than 30 percent of native-born households in the same income bracket had a vehicle-deficit, as did just over 50 percent of immigrant households. The pattern holds for households earning \$25,000 to \$50,000, and for more affluent households.



Figure 34. Share of households with vehicle deficits, by income and nativity, 2000-2015, US Census (solid line = foreign born, dashed line = native born).

It is therefore not obvious that rising incomes played a large role in rising vehicle ownership. Certainly the macro-economy played some role in changing levels of transit use. Transit use contracted during the Great Recession: A robust economy puts more people to work, which increases both commuting and discretionary travel. A faltering economy does the reverse. But these same economic trends do not appear to explain why people acquired so many more vehicles than they had in previous periods.

Even at constant incomes, households can acquire more vehicles if the effective price of those vehicles falls. The effective price reflects not the sticker price, but the actual outlay required of a consumer to drive the vehicle home. A large part of this outlay is often a down payment, meaning that vehicles can become more affordable not just if their price declines, but also if financing that price becomes easier.

Some evidence does suggest that vehicle finance became easier during this time. Although lost somewhat in the shadow of easy home-lending credit, automobile credit also surged in the run-up to the Great Recession. And unlike home lending, which tightened considerably after the crash, automobile lending has remained relatively loose. Consumers with good credit scores (typically above 700) can find auto loans with low- and sometimes even zero-interest rates. Since the recession, the share of SCAG-region residents with credit scores below 660 (considered subprime) has fallen (Figure 41), suggesting that consumers have gotten better access over time to low-interest loans (Federal Reserve Bank of New York and Equifax, various). Subprime auto loans also remain prevalent, allowing consumers with poor credit histories or low

incomes to finance vehicle purchases. U.S. auto loan originations among subprime consumers increased 140 percent from 2010 to 2015 (New York Fed Consumer Credit Panel / Equifax). We do not have local-level data on vehicle debt, but inflation-adjusted per capita vehicle debt in California rose 91 percent between 2000 and 2015 (Federal Reserve Bank of New York).¹⁹

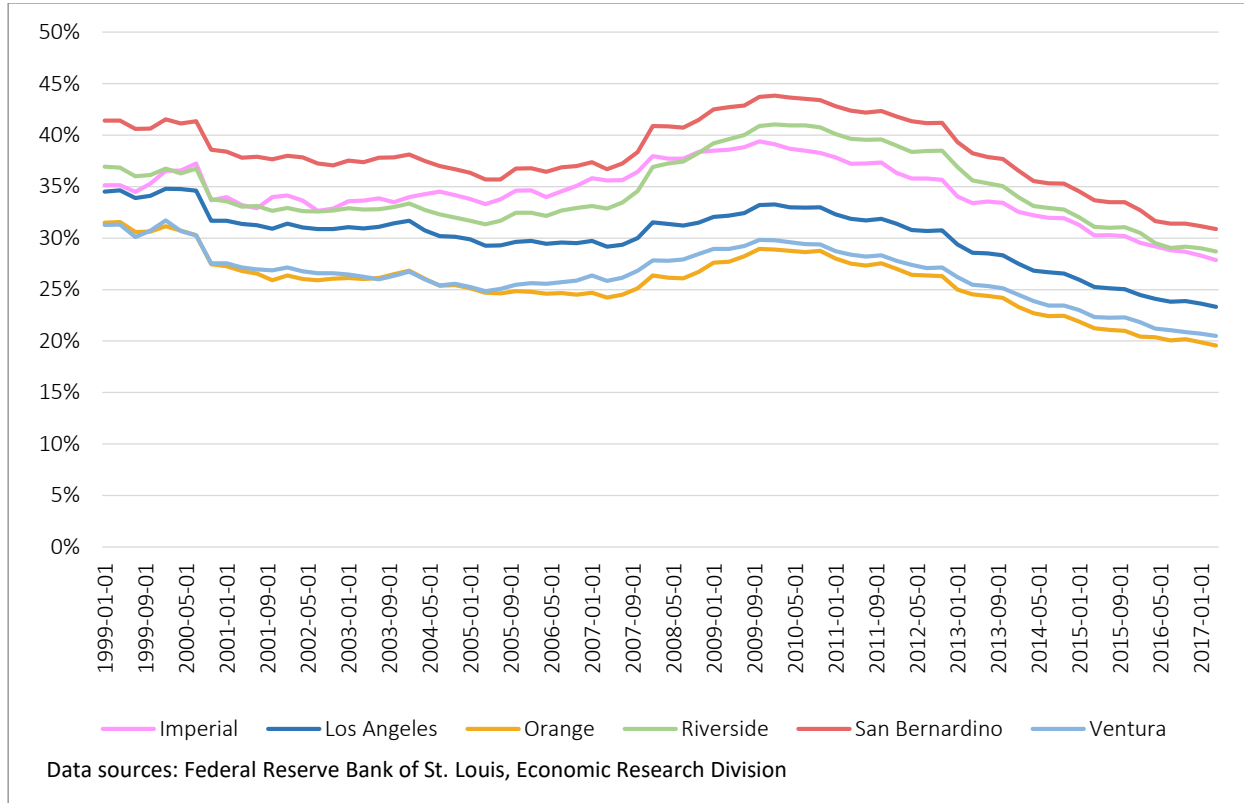


Figure 35. Percent of sample with credit scores below 660, by county in SCAG region.

CONCLUSION

Per capita transit ridership, long sluggish in Southern California, began to fall in 2007. In 2012 that per capita decline accelerated, and manifested as a more noticeable and more alarming absolute decline. The precise reasons for this decline are almost certainly manifold, and hard to disentangle. Gas prices fell sharply after rising steeply. The explosive growth of Uber and Lyft provided new mobility options to some people who had been mobility-constrained. In Orange County, fares rose substantially. On LA Metro, by at least some accounts, feelings of danger increased. Some of the people most likely to use transit moved to areas where transit was less prevalent. Especially in recent years, all these factors most likely contributed to transit’s downturn.

¹⁹ Data come from the New York Federal Reserve Bank’s Consumer Credit Panel.

But in weighing the evidence, the overwhelming factor appears to be a dramatic increase in the stock of private automobiles. Between 2000 and 2015 Southern Californians acquired vehicles at nearly four times the rate they had between 1990 and 2000. This growth of the private vehicle stock lines up—in timing, in magnitude, and in theory—with the region’s falling transit use. Vehicle access grew across all income levels and groups, but disproportionately among those groups, like the low-income and foreign-born, who are most likely to ride transit. Transit ridership in the SCAG region has long depended on a sizable minority of people who did not, largely for economic reasons, have access to cars. After 2000, many of these people acquired cars, and it should not surprise us that they started riding transit less.

To be sure, the case we build in reaching this conclusion is circumstantial. For reasons we have already enumerated, the data available to examine transit riders are scarce and fragmented, which leaves alternative explanations possible if not plausible. Certainly future research should emphasize more data collection. Given the data available today, however, in our judgement rising vehicle ownership is the best explanation for falling transit ridership.

If this explanation is sound, it poses a daunting problem for transit operators. When lower-income people graduate from transit to driving, transit agencies bear a cost, but the other side of that cost is a large benefit for both the people who start driving *and* for society overall. In the aggregate, Southern Californians drive too much, once the various costs of pollution, congestion and crashes are accounted for. But some Southern Californians – the poorest of them – drive *too little*, and both their lives and the region as a whole would be improved if they drove a bit more. The low-income person who acquires a vehicle often makes fewer trips than an affluent person (driving is expensive) and the trips they make are often essential, and have social benefits that exceed their social costs. A car trip by a low-income household is more likely than one by an affluent household to involve finding and keeping work, getting to school, or accessing better health and daycare options. These trips might modestly increase congestion and pollution, but they have large paybacks in employment, earnings, and overall well-being that exceed those costs. Affluent households, in contrast, make many more trips, and more trips whose social value is lower (they might increase congestion and pollution not just by driving to work, but also by driving to lunch, or to visit friends).

Given the powerful difference a car can make in the lives of low-income people, efforts by transit agencies to recapture low-income riders can have a perverse impact: they would target some of the highest-value vehicle trips in the region. Ideally, of course, transit agencies would pull people away from lower-value vehicle trips. It makes little sense to deprive a low-income person of their trip to work at a location poorly served by transit, when affluent people routinely drive for errands and visits that they could easily complete by foot or transit. A quick trip to a store a half mile away (or a trip to a store a mile away when a comparable store is a quarter mile away) is more likely to have social costs that exceed its benefits. And these trips are abundant.

Given this situation, and given the ambitious greenhouse gas reduction goals that California has assigned to transit, planners and operators may need to expand transit’s target market. Transit should by no means abdicate its social service mission, but as we stated in the introduction, per capita transit use falls when current riders stop riding, and when new residents don’t start. Transit today relies on a high rate of use by a narrow base of people. But if that narrow base of people is acquiring vehicles, transit’s healthy future lies in reversing those circumstances, and striving for at least a low rate of use by a broad base of people. The SCAG region lost 72 million transit rides annually from 2012 to 2016. This number seems daunting,

but the region has 18.8 million people. According to the CHTS, about 77 percent of those people (roughly 14.5 million), ride transit rarely or never. Herein lies vast untapped potential. If one out of every four of those people replaced a single driving trip with a transit trip once every two weeks, annual ridership would grow by 96 million—more than compensating for the losses of recent years.

The obstacle to this outcome, however, is large and beyond the direct control of transit operators: driving is too cheap. The large subsidies given to transit in recent years pale next to the longstanding subsidies for automobiles that are hidden in unpriced road use, unpriced or underpriced street parking, high minimum parking requirements, and taxpayer- and developer-financed road-widenings. If public policy does not adequately confront underpriced driving, then transit ridership will likely continue to falter, and transit will not meet its ambitious environmental goals.

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Appendix A

Fare regression output.

Descriptive Data (data are in panel form; observations are agency-years). Route coverage = route miles/service area. Headways = route miles/ (revenue miles/service miles). The service area is in square miles. Service area and service population are the difference between UZA average level of service and service area/ service population.

Absolute Levels

	mean	sd	n
unlinked passenger trips	15,213,380	130,300,000	9,030
vehicle revenue hours	395,268	1,659,684	9,037
headway	33.07	51.01	6,954
route coverage	3.18	6.32	6,922
service area	713.2	8,963.3	9,793
service population	718,549	1,729,745	9,794
fare (2015\$)	\$1.71	\$2.52	8,647

Change from Prior Year

	mean	sd	n
change in unlinked passenger trips	170,442	6,338,137	8,037
change in vehicle revenue hours	5,015	87,867	8,047
change in headway	0.02	18.81	6,277
change in route coverage	-0.07	5.45	6,255
change in service area	0.0	0.4	8,852
change in service population	0	0	8,853
change in fare (2015\$)	\$0.01	\$0.64	7,702

Regression Output:

The regressions are linear and all variables are naturally log-transformed. Models were run with the dependent variables being levels and changes. Model 4 is the model discussed in the text.

* change from the prior year is calculated using absolute levels

y=passenger trips	(1)	(2)	(3)	(4)
VARIABLES	OLS	OLS	OLS	FE
vehicle revenue hours	1.264*** (0.00974)	1.312*** (0.00950)	1.289*** (0.00947)	0.754*** (0.0108)
headway	-0.155*** (0.0128)	-0.193*** (0.0129)	-0.209*** (0.0116)	-0.0152* (0.00833)
route coverage	0.0416*** (0.00809)	0.0635*** (0.00815)	0.0824*** (0.00697)	0.0164*** (0.00555)
service area (miles ²)	-0.126*** (0.0129)	0.00594 (0.0104)		
service pop	0.214*** (0.0128)		0.139*** (0.0102)	0.0380*** (0.00679)
fare (2015\$)	-0.0270** (0.0106)	-0.0105 (0.0108)	-0.0249** (0.0107)	-0.162*** (0.00677)
Constant	0.0223 (0.0918)	-0.434*** (0.0895)	-0.134 (0.0910)	5.708*** (0.123)
Observations	6,767	6,767	6,767	6,767
R-squared	0.868	0.862	0.866	0.498
Number of agencies				620

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

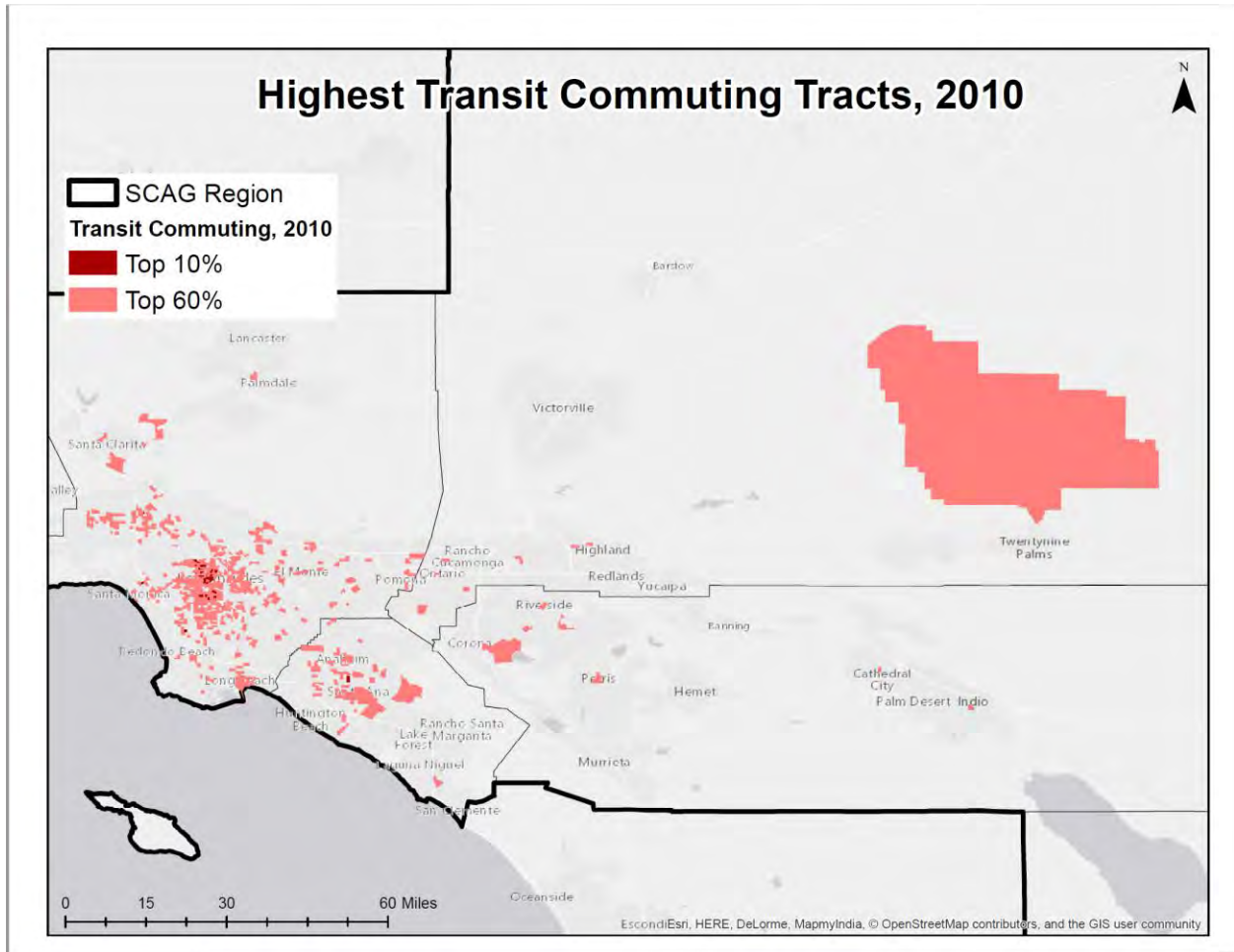
y=change in passenger trips VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) FE
change in VRH	32.08*** (1.096)	32.08*** (1.096)	32.08*** (1.096)	27.19*** (1.147)
change in headway	-12,979** (5,995)	-12,973** (5,994)	-13,133** (5,981)	-9,162 (6,095)
change in route coverage	28,528 (20,642)	28,498 (20,637)	29,237 (20,554)	18,718 (21,703)
change in service area (miles ²)	-98,385 (263,173)	-95,007 (259,378)		
change in service pop	19,953 (262,368)		3,401 (258,587)	
change in fares (2015\$)	-287,046* (172,940)	-286,709* (172,869)	-287,167* (172,928)	-301,584* (178,218)
Constant	31,160 (86,058)	31,496 (85,937)	31,138 (86,052)	59,982 (84,787)
Observations	6,102	6,102	6,102	6,102
R-squared	0.124	0.124	0.124	0.094
Number of agencies				602

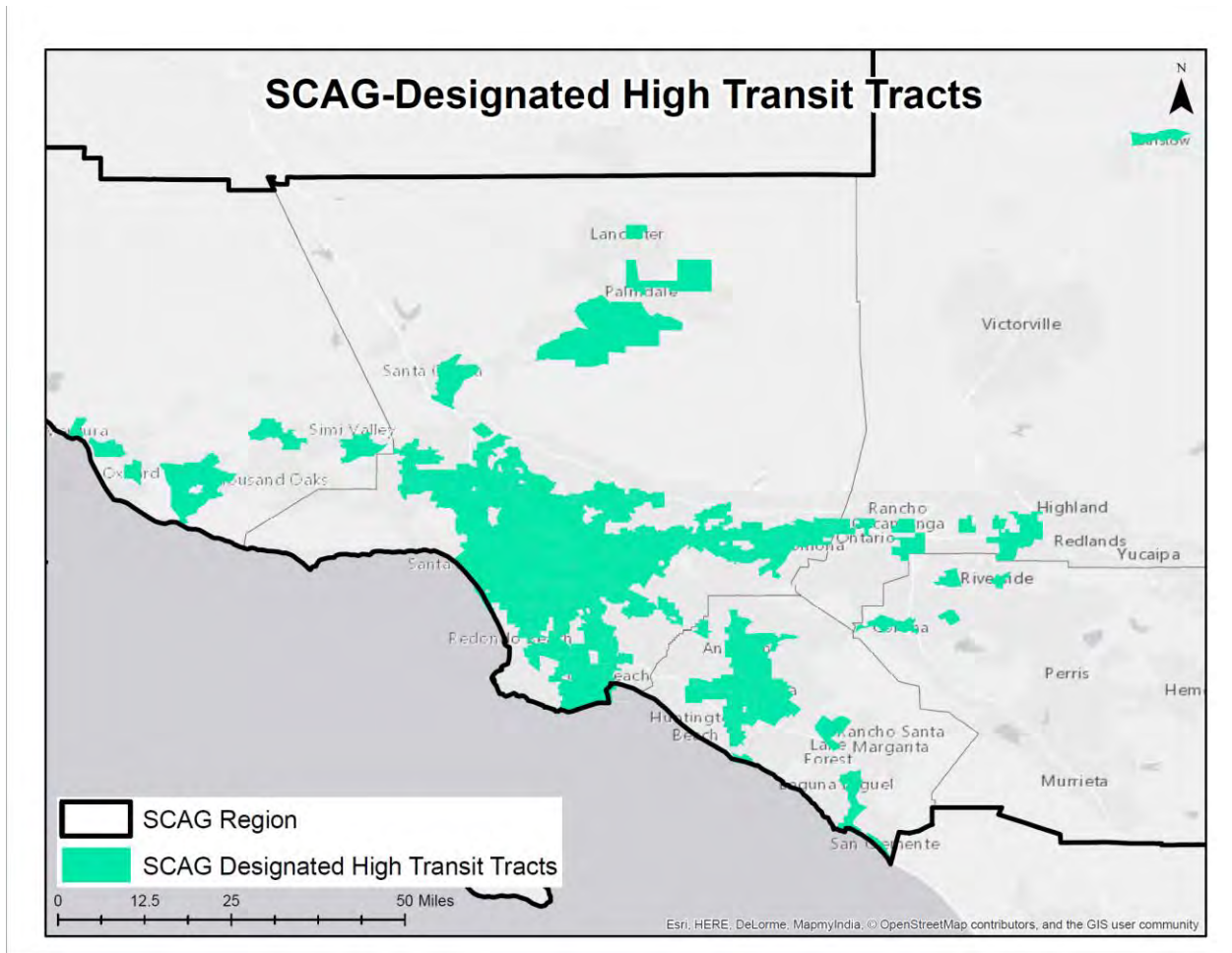
Standard errors in parentheses

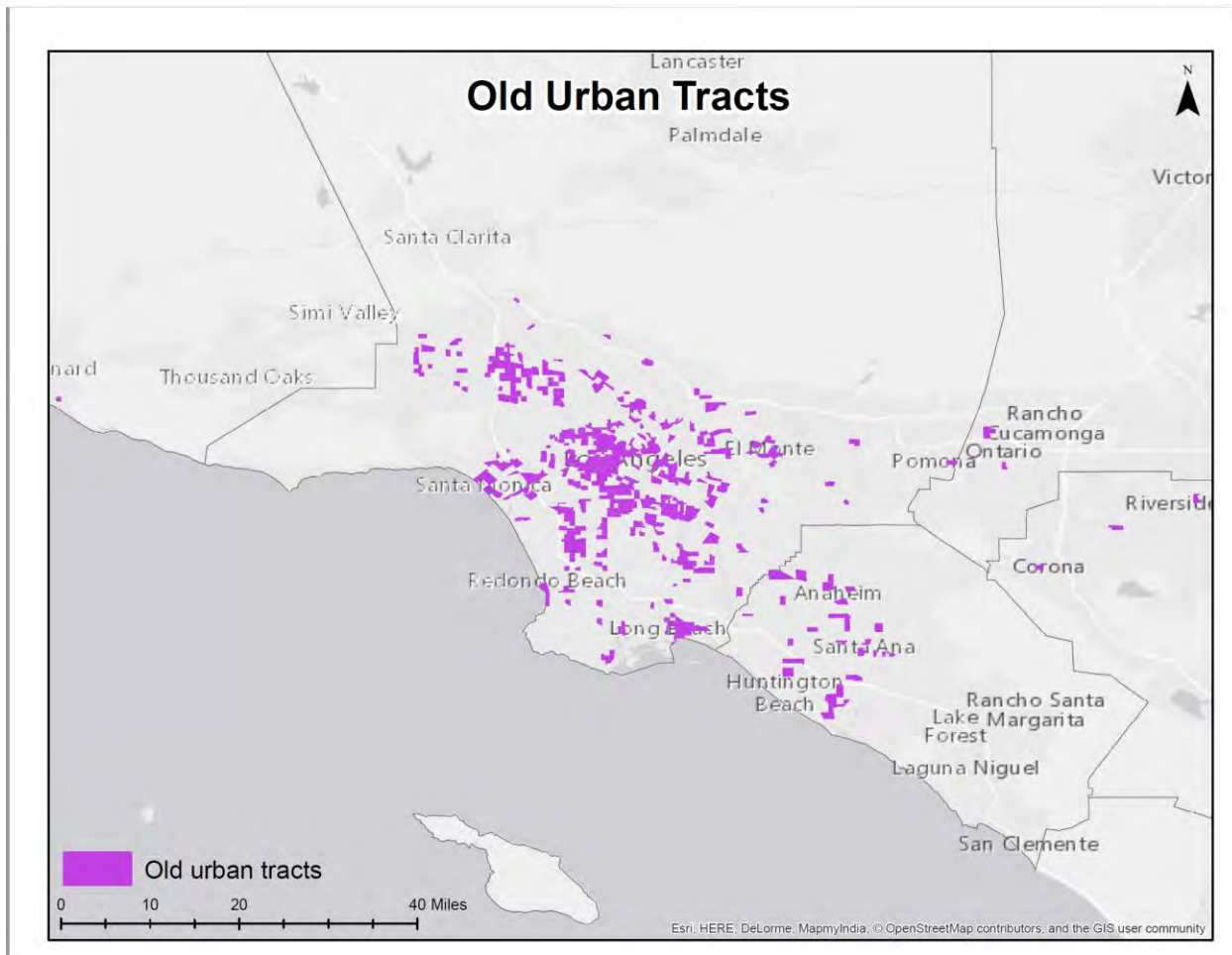
*** p<0.01, ** p<0.05, * p<0.1

Appendix B

Neighborhood change attributes and locations.





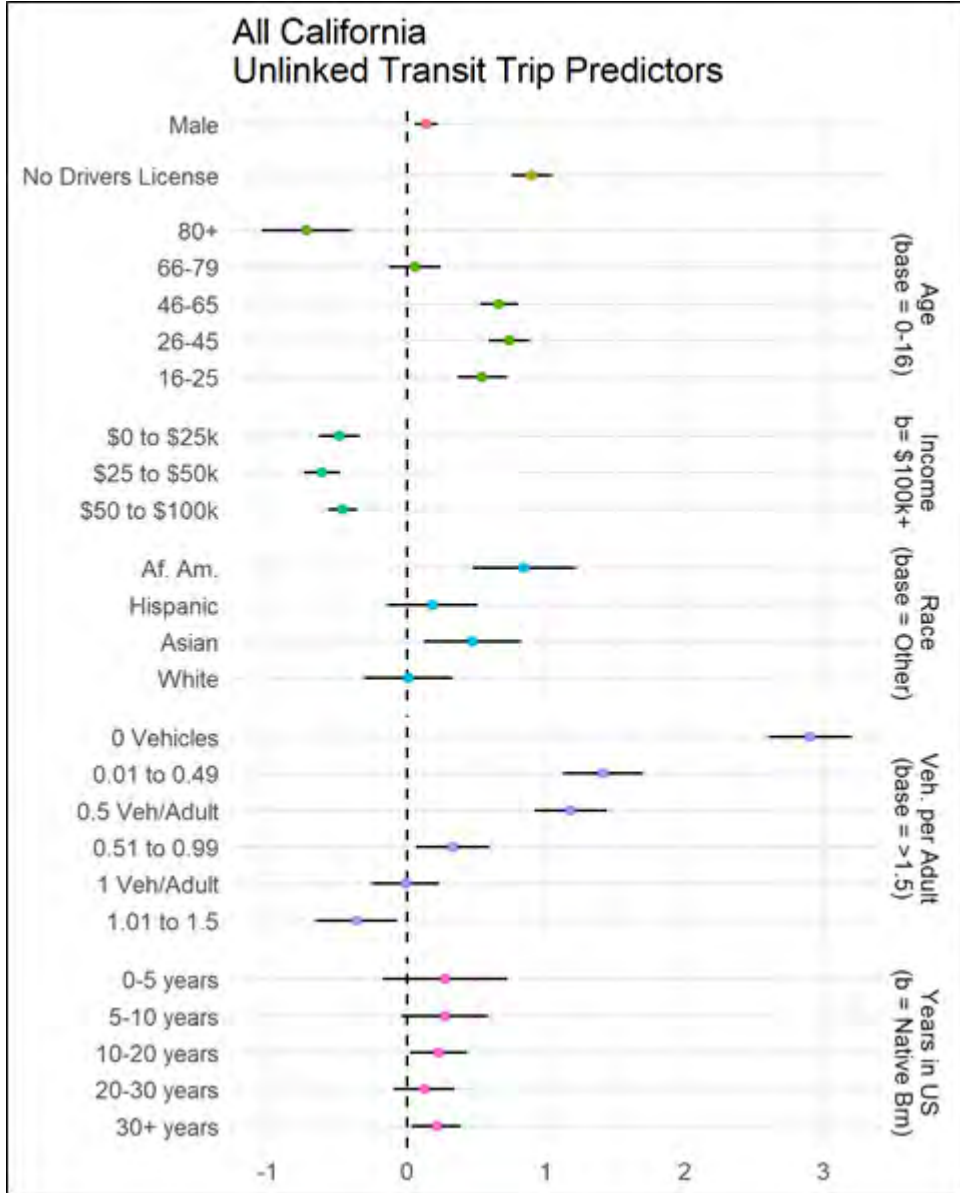


**Mean Characteristics of Transit-Rich Neighborhoods:
Change over time in Tracts with High Concentrations of Transit Commuters in 2000**

10 Percent	2000	2010	2015
% Transit Use	38%	33%	33%
% Poverty	38%	32%	36%
% Foreign Born	63%	62%	57%
% 0-Vehicle Households	43%	34%	34%
% NH White	9%	10%	8%
N Tracts	48	48	
% of All Tracts in Region	1.4%	1.2%	1.2%
Total Tracts	3,393	3,954	3,953
60 Percent	2000	2010	2015
% Transit Use	16%	14%	13%
% Poverty	27.79	23.13	26.55
% Foreign Born	47.84	44.31	42.10
% 0-Vehicle Households	22.78%	15.76%	15.68%
% NH White	14.39	17.42	15.86
N Tracts	691	691	691
% of All Tracts in Region	20.4%	17.5%	17.5%
Total Tracts	3,393	3,954	3,953

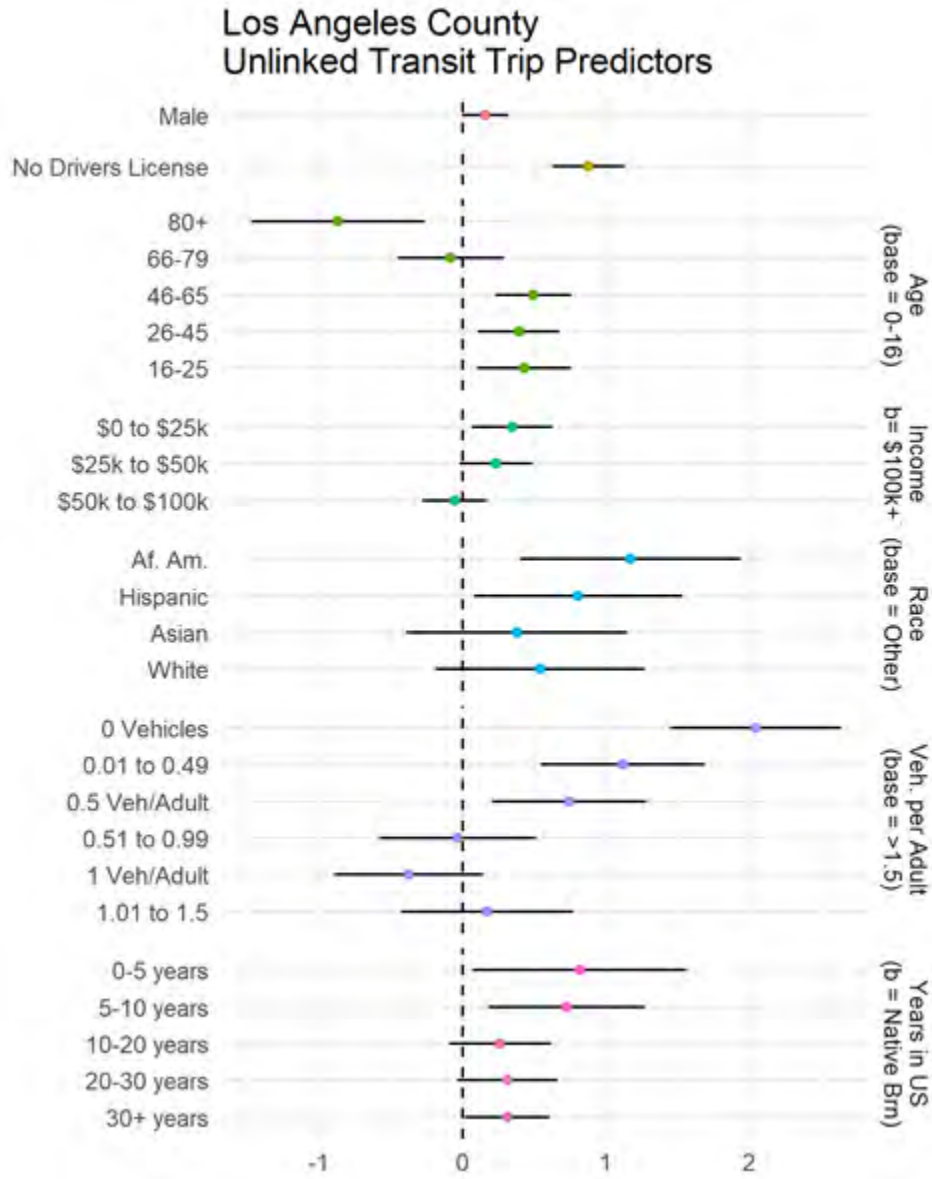
Sources: US Census 2000, ACS 2006-2010, ACS 2011-2015

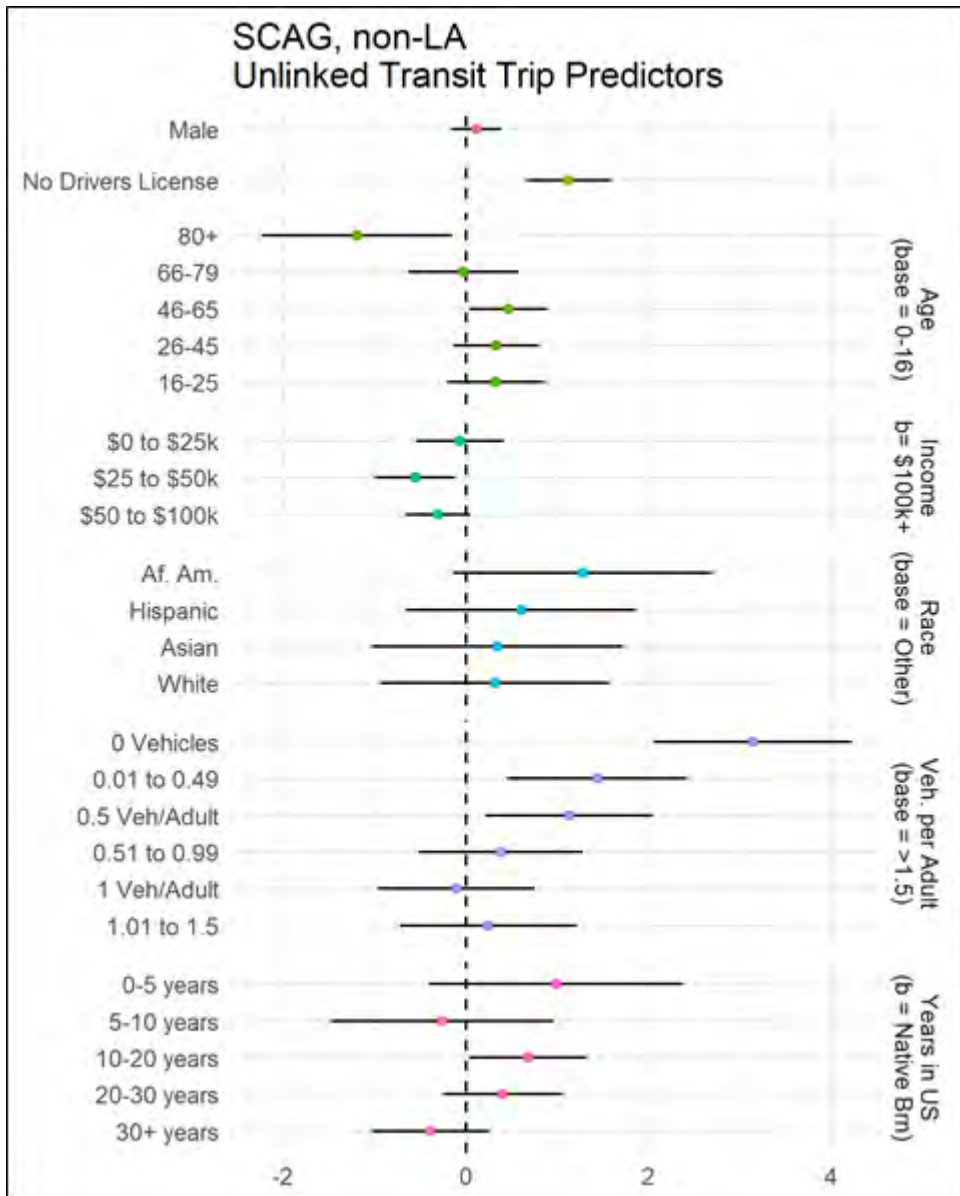
Appendix C



Appendix D

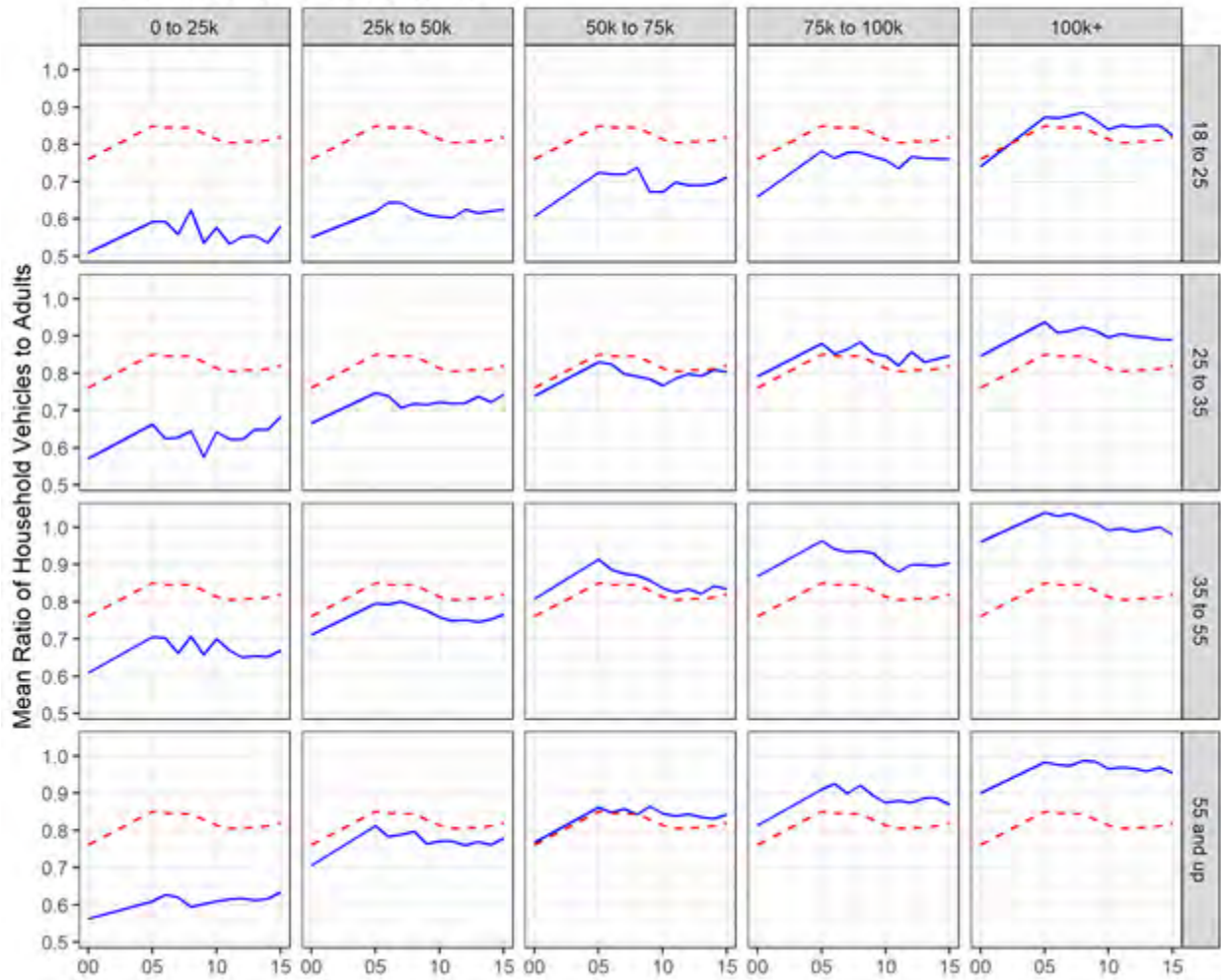
Additional trip predictors and descriptive data.





Mean Ratio of Household Vehicles to Adults

By Household Income & Individual Age (Blue Line)
and All-Adult Comparison (Dotted Red Line)



PUBLIC TRANSPORTATION RIDERSHIP REPORT

Fourth Quarter 2008

ESTIMATED UNITED STATES UNLINKED TRANSIT PASSENGER TRIPS

CALENDAR COMPARISON

Period	Percent Change			OCTOBER		NOVEMBER		DECEMBER		
	2008	2007	2007-2008	2008	2007	2008	2007	2008	2007	
OCTOBER	981,964	946,754	3.72%	Weekdays	22	22	18	20	21	19
NOVEMBER	846,302	870,712	-2.80%	Saturdays	4	4	5	4	4	5
DECEMBER	841,756	808,452	4.12%	Sundays	4	4	5	4	4	5
Fourth Quarter	2,670,023	2,625,918	1.68%	Holidays	1	1	2	2	2	2

ESTIMATED UNLINKED TRANSIT PASSENGER TRIPS *

MODE	CURRENT YEAR (a)(b)					PRECEDING YEAR (a)(b)					% CHANGE (b)	
	OCT '08 (000's)	NOV '08 (000's)	DEC '08 (000's)	OCT '08- DEC '08 (000's)	JAN '08- DEC '08 (000's)	OCT '07 (000's)	NOV '07 (000's)	DEC '07 (000's)	OCT '07- DEC '07 (000's)	JAN '07- DEC '07 (000's)	Fourth Quarter (000's)	Year -to-Date (000's)
Heavy Rail	318,949	280,977	290,522	890,447	3,570,785	315,646	293,380	280,438	889,464	3,450,429	0.11%	3.49%
Light Rail	41,750	36,985	36,078	114,813	465,283	38,744	37,342	34,992	111,077	429,765	3.36%	8.26%
Commuter Rail	41,669	37,947	38,390	118,006	476,505	40,402	39,259	37,030	116,691	455,118	1.13%	4.70%
Trolleybus	9,877	8,934	8,231	27,043	109,406	9,335	8,441	7,861	25,636	102,868	5.49%	6.36%
Bus Population Group												
2,000,000+	359,551	310,547	301,977	972,075	3,916,271	347,154	316,745	292,918	956,816	3,801,693	1.59%	3.01%
500,000 to 1,999,999	107,550	86,921	85,739	280,211	1,102,168	99,232	90,471	81,593	271,295	1,051,725	3.29%	4.80%
100,000 to 499,999	43,616	35,545	32,038	111,199	430,945	40,574	36,131	29,564	106,269	400,593	4.64%	7.58%
Below 100,000	20,766	15,940	15,578	52,284	191,627	19,159	16,113	13,314	48,586	175,312	7.61%	9.31%
Bus Total	531,483	448,952	435,333	1,415,768	5,641,011	506,118	459,460	417,388	1,382,966	5,429,322	2.37%	3.90%
Demand Response	20,611	17,664	17,727	56,002	222,967	19,194	17,740	16,115	53,049	210,650	5.57%	5.85%
Other (c)	17,624	14,843	15,476	47,944	197,716	17,316	15,091	14,628	47,035	192,437	1.93%	2.74%
United States Total	981,964	846,302	841,756	2,670,023	10,683,673	946,754	870,712	808,452	2,625,918	10,270,589	1.68%	4.02%
Canada	149,839	142,577	123,814	416,230	1,976,567	156,330	141,573	123,274	421,177	1,930,028	-1.17%	2.41%

* Preliminary information based on data from reporting systems.

Note: Data may differ from that included in Federal Transit Administration reports due to differences in data calculation procedures and in periods of time covered.

(a) Transit agencies assigned by urbanized areas or urban places of less than 50,000 population outside urbanized areas based on 2000 U.S. Census Population.

(b) Year-to-date ridership adjusted for data received after closing dates of previous issues.

(c) Includes aerial tramway, automated guideway, cable car, ferryboat, inclined plane, monorail, and vanpool.

Attachment: Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

HEAVY RAIL PUBLIC TRANSPORTATION RIDERSHIP REPORT Fourth Quarter 2008

ESTIMATED UNLINKED TRANSIT PASSENGER TRIPS

<u>State and Primary City</u>	<u>Transit Agency</u>	CURRENT YEAR (a)(b)				PRECEDING YEAR (a)(b)						% CHANGE (b)		
		<u>AVG WKDY</u> (000's)	<u>OCT '08</u> (000's)	<u>NOV '08</u> (000's)	<u>DEC '08</u> (000's)	<u>OCT '08- DEC '08</u> (000's)	<u>JAN '08- DEC '08</u> (000's)	<u>OCT '07</u> (000's)	<u>NOV '07</u> (000's)	<u>DEC '07</u> (000's)	<u>OCT '07- DEC '07</u> (000's)	<u>JAN '07- DEC '07</u> (000's)	<u>4th Qtr Chng</u>	<u>YT Chr</u>
CA Los Angeles	Los Angeles County MTA	139.7	3893.1	3593.1	3750.8	11237.0	45457.7	3600.2	3470.1	3415.1	10485.4	42222.5	7.17%	7.66
CA San Francisco	San Francisco Bay Area RTD	379.4	10616.6	9132.6	9521.1	29270.3	117171.2	10242.2	9547.6	9124.6	28914.4	112444.0	1.23%	4.20
DC Washington	Washington Metro Area TA	944.4	26189.9	21452.4	21759.3	69401.6	293235.0	25755.6	22579.4	20315.8	68650.8	283790.5	1.09%	3.33
FL Miami	Miami-Dade Transit Agency	63.8	1757.6	1536.0	1480.8	4774.4	19075.9	1494.1	1431.5	1462.9	4388.5	17627.0	8.79%	8.22
GA Atlanta	Metro Atlanta Rapid Tr Auth	269.7	7982.6	6565.4	6480.8	21028.8	86029.9	7320.7	6741.1	6290.2	20352.0	79239.2	3.33%	8.57
IL Chicago	Chicago Transit Authority	640.7	18947.5	15777.3	14839.3	49564.1	198137.3	17725.7	15419.4	13689.6	46834.7	190272.9	5.83%	4.13
MA Boston	Massachusetts Bay Tr Auth	485.8	14016.0	11701.1	11585.5	37302.6	150408.3	11904.8	11787.9	10882.3	34575.0	139387.6	7.89%	7.91
MD Baltimore	Maryland Transit Admin	53.3	1305.3	1007.5	1049.3	3362.1	14179.7	1170.7	1147.6	1071.3	3389.6	13555.5	-0.81%	4.60
NJ Jersey City	Port Authority of NY & NJ	250.4	6765.0	5734.9	6040.3	18540.2	74937.7	6636.4	5961.9	5673.4	18271.7	71593.5	1.47%	4.67
NJ Lindenwold	Port Authority Transit Corp	36.6	1044.7	787.3	821.3	2653.3	10337.9	863.7	782.0	713.7	2359.4	9406.5	12.46%	9.90
NY New York	MTA New York City Transit	7,880.0	217250.1	192850.8	204576.3	614677.2	2451201.6	219826.4	203935.2	199578.6	623340.2	2383218.1	-1.39%	2.85
NY New York	MTA Staten Island Railway	15.9	412.2	340.3	359.1	1111.6	4380.0	432.4	391.1	348.4	1171.9	4129.3	-5.15%	6.07
OH Cleveland	Greater Cleveland Reg TA	NA	572.0	481.8	483.9	1537.7	5929.7	562.8	479.0	437.0	1478.8	5908.2	3.98%	0.36
PA Philadelphia	Southeastern Penn TA	318.0	7266.6	9276.3	7017.5	23560.4	90999.3	7303.1	9009.2	6831.3	23143.6	89418.7	1.80%	1.77
PR San Juan	Puerto Rico DOT	36.8	929.7	739.8	756.2	2425.7	9304.2	807.4	696.9	603.8	2108.1	8215.2	15.07%	13.26
REPORTED TOTAL		11,514.4	318,948.9	280,976.6	290,521.5	890,447.0	3,570,785.4	315,646.2	293,379.9	280,438.0	889,464.1	3,450,428.7	0.11%	3.49
PROJECTED TOTAL			318,948.9	280,976.6	290,521.5	890,447.0	3,570,785.4	315,646.2	293,379.9	280,438.0	889,464.1	3,450,428.7	0.11%	3.49

* Preliminary information based on data from reporting systems.

Note: Data may differ from that included in Federal Transit Administration reports due to differences in data calculation procedures and in periods of time covered.

(a) Transit agencies assigned by urbanized areas or urban places of less than 50,000 population outside urbanized areas based on 2000 U.S. Census Population.

(b) Year-to-date ridership adjusted for data received after closing dates of previous issues.

Attachment: Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

LIGHT RAIL PUBLIC TRANSPORTATION RIDERSHIP REPORT Fourth Quarter 2008

ESTIMATED UNLINKED TRANSIT PASSENGER TRIPS

		CURRENT YEAR (a)(b)				PRECEDING YEAR (a)(b)						% CHANGE (b)		
<u>State and</u> <u>Primary City</u>	<u>Transit Agency</u>	<u>AVG</u>	<u>OCT '08</u>	<u>NOV '08</u>	<u>DEC '08</u>	<u>OCT '08-</u>	<u>JAN '08-</u>	<u>OCT '07</u>	<u>NOV '07</u>	<u>DEC '07</u>	<u>OCT '07-</u>	<u>JAN '07-</u>	<u>4th Qtr</u>	<u>YT</u>
		<u>WKDY</u>	<u>WKDY</u>	<u>WKDY</u>	<u>WKDY</u>	<u>DEC '08</u>	<u>DEC '08</u>	<u>DEC '07</u>	<u>DEC '07</u>	<u>DEC '07</u>	<u>DEC '07</u>	<u>DEC '07</u>	<u>DEC '07</u>	<u>Chng</u>	Chr
		(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)		
CA Los Angeles	Los Angeles County MTA	136.4	3,989.6	3,513.8	3,513.9	11,017.3	45,343.4	3,629.5	3,441.6	3,211.2	10,282.3	42,221.6	7.15%	7.39
CA Oceanside	North County Transit District	7.5	217.0	181.8	173.8	572.6	1,900.9	0.0	0.0	0.0	0.0	0.0	NA	N
CA Sacramento	Sacramento Reg Tr Dist	60.5	1,627.0	1,404.1	1,397.8	4,428.9	17,146.4	1,363.4	1,367.9	1,238.6	3,969.9	14,993.7	11.56%	14.36
CA San Diego	San Diego Trolley, Inc.	103.9	2,892.1	2,906.8	2,788.0	8,586.9	36,054.6	3,192.5	3,212.3	3,337.4	9,742.2	36,836.1	-11.86%	-2.12
CA San Francisco	San Francisco Muni Rwy	156.9	4,488.5	3,908.0	3,933.5	12,330.0	48,889.6	4,466.2	3,908.0	3,933.5	12,307.7	46,167.9	0.18%	5.90
CA San Jose	Santa Clara Valley Trp Auth	34.4	1,031.5	874.9	807.9	2,714.3	10,797.6	888.4	787.7	745.7	2,421.8	10,302.5	12.08%	4.81
CO Denver	Regional Trp District	68.8	2,030.8	1,687.8	1,619.1	5,337.7	20,617.5	1,847.2	1,574.6	1,384.3	4,806.1	18,664.6	11.06%	10.46
FL Tampa	Hillsborough Area Reg TA	0.9	38.9	27.3	40.2	106.4	436.8	40.1	30.3	39.7	110.1	431.8	-3.36%	1.16
LA New Orleans	Regional Transit Auth	15.1	485.4	402.5	402.8	1,290.7	4,708.1	152.9	225.9	293.0	671.8	1,481.9	92.13%	217.71
MA Boston	Massachusetts Bay Tr Auth	229.2	6,957.4	5,838.5	5,489.2	18,285.1	80,337.2	7,110.8	6,811.4	6,186.8	20,109.0	81,843.0	-9.07%	-1.84
MD Baltimore	Maryland Transit Admin	33.6	833.2	646.3	635.7	2,115.2	8,054.1	711.8	680.2	602.8	1,994.8	7,085.1	6.04%	13.68
MN Minneapolis	Metro Transit	30.2	892.7	849.8	844.0	2,586.5	10,221.6	863.7	868.0	843.4	2,575.1	9,100.9	0.44%	12.31
MO Saint Louis	Bi-State Dev Agency	59.0	1,810.6	1,566.5	1,488.4	4,865.5	20,212.7	1,642.1	1,542.4	1,418.5	4,603.0	19,070.0	5.70%	5.99
NC Charlotte	Charlotte Area Transit	21.7	476.4	400.1	424.5	1,301.0	4,975.0	0.0	161.2	356.0	517.2	517.2	151.55%	861.91
NJ Newark	New Jersey Transit Corp	NA	2,060.1	1,704.6	1,842.0	5,606.7	21,858.3	1,790.2	1,683.4	1,675.0	5,148.6	19,710.8	8.90%	10.90
NY Buffalo	Niagara Frontier Trp Auth	26.3	677.6	591.6	599.7	1,868.9	6,869.0	498.5	514.2	414.4	1,427.1	5,543.1	30.96%	23.92
OH Cleveland	Greater Cleveland Reg TA	NA	320.3	307.1	296.7	924.1	3,278.4	296.3	288.6	258.4	843.3	3,198.8	9.58%	2.49
OR Portland	Tri-County Metro Trp Dist	107.6	3,132.7	2,707.0	2,912.0	8,751.7	35,772.9	3,027.6	2,839.0	2,667.8	8,534.4	34,700.4	2.55%	3.09
PA Philadelphia	Southeastern Penn TA	112.6	2,720.0	3,152.3	2,451.1	8,323.4	32,453.3	2,482.1	3,060.5	2,305.3	7,847.9	26,317.6	6.06%	23.31
PA Pittsburgh	Port Auth of Allegheny Co	25.7	676.0	569.0	591.0	1,836.0	7,306.2	647.5	615.1	571.3	1,833.9	6,922.6	0.11%	5.54
TN Memphis	Memphis Area Transit Auth	2.8	100.9	72.3	61.6	234.8	1,060.3	92.2	81.0	53.8	227.0	1,079.3	3.44%	-1.76
TX Dallas	Dallas Area Rapid Transit	69.8	1,851.3	1,571.4	1,652.9	5,075.6	19,826.5	1,662.8	1,493.5	1,530.2	4,686.5	17,990.6	8.30%	10.20
TX Galveston	City of Galveston/Island Tr	0.0	0.0	0.0	0.0	0.0	17.9	1.1	0.8	1.2	3.1	31.5	-100.00%	-43.17
TX Houston	Metro Tr Auth of Harris Co	39.3	1,081.7	906.0	863.6	2,851.3	11,640.2	1,142.2	985.3	883.3	3,010.8	12,013.6	-5.30%	-3.11
UT Salt Lake City	Utah Transit Authority	44.8	1,221.3	1,082.0	1,124.9	3,428.2	13,949.0	1,095.7	1,078.1	960.2	3,134.0	12,425.3	9.39%	12.26%

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

<u>State and</u> <u>Primary City</u>	<u>Transit Agency</u>	<u>AVG</u> <u>WKDY</u> (000's)	<u>OCT '08</u> (000's)	<u>NOV '08</u> (000's)	<u>DEC '08</u> (000's)	<u>OCT '08-</u> <u>DEC '08</u> (000's)	<u>JAN '08-</u> <u>DEC '08</u> (000's)	<u>OCT '07</u> (000's)	<u>NOV '07</u> (000's)	<u>DEC '07</u> (000's)	<u>OCT '07-</u> <u>DEC '07</u> (000's)	<u>JAN '07-</u> <u>DEC '07</u> (000's)	<u>4th Qtr</u> <u>Chng</u>	<u>YTD</u> <u>Chng</u>
WA Seattle	King County Dept of Trp	1.3	35.1	29.4	31.3	95.8	414.2	0.0	0.0	0.0	0.0	0.0	NA	NA
WA Seattle	Sound Transit	3.2	89.3	72.7	81.9	243.9	930.7	86.4	79.6	69.4	235.4	919.1	3.61%	1.26
WI Kenosha	Kenosha Transit	NA	3.4	3.0	2.2	8.6	65.7	3.4	2.7	2.7	8.8	62.7	-2.27%	4.78
REPORTED TOTAL		1,391.3	41,740.8	36,976.6	36,069.7	114,787.1	465,138.1	38,734.6	37,333.3	34,983.9	111,051.8	429,631.7	3.36%	8.26
PROJECTED TOTAL			41,750.4	36,984.9	36,077.6	114,812.9	465,283.4	38,743.5	37,341.7	34,991.6	111,076.8	429,765.1	3.36%	8.26

* Preliminary information based on data from reporting systems.

Note: Data may differ from that included in Federal Transit Administration reports due to differences in data calculation procedures and in periods of time covered.

- (a) Transit agencies assigned by urbanized areas or urban places of less than 50,000 population outside urbanized areas based on 2000 U.S. Census Population.
- (b) Year-to-date ridership adjusted for data received after closing dates of previous issues.
- (c) Includes missing agencies (Central Arkansas TA).
- (d) Charlotte Area Transit light rail service began on November 24, 2007.
- (e) North County Transit District light rail service began on March 9, 2008.
- (f) King County DOT light rail service began on December 14, 2007.
- (g) City of Galveston light rail service suspended starting in September 2008 due to hurricane damage.

COMMUTER RAIL PUBLIC TRANSPORTATION RIDERSHIP REPORT Fourth Quarter 2008

ESTIMATED UNLINKED TRANSIT PASSENGER TRIPS

State and Primary City	Transit Agency	CURRENT YEAR (a)(b)				PRECEDING YEAR (a)(b)				% CHANGE (b)				
		AVG WKDY (000's)	OCT '08 (000's)	NOV '08 (000's)	DEC '08 (000's)	OCT '08- DEC '08 (000's)	JAN '08- DEC '08 (000's)	OCT '07 (000's)	NOV '07 (000's)	DEC '07 (000's)	OCT '07- DEC '07 (000's)	JAN '07- DEC '07 (000's)	4th Qtr Chng	Y1 Chi
CA Los Angeles	Southern California RRA	43.0	1110.0	891.9	918.8	2920.7	12161.2	1,017.9	917.0	814.2	2,749.1	11,146.8	6.24%	9.10
CA Oakland	Capitol Corridor Joint Power	NA	157.4	140.3	130.3	428.0	1730.8	134.8	136.7	119.5	391.0	1,490.4	9.46%	16.13
CA Oceanside	North County Transit District	5.1	139.6	105.3	101.5	346.4	1699.0	126.7	121.9	105.8	354.4	1,615.6	-2.26%	5.16
CA San Carlos	Caltrain	39.1	1160.5	1007.4	967.0	3134.9	12803.1	996.1	948.4	853.4	2,797.9	11,377.2	12.04%	12.53
CA Stockton	San Joaquin Reg Rail Com	3.2	86.0	60.0	57.4	203.4	865.7	73.0	63.5	53.2	189.7	755.0	7.22%	14.66
CT New Haven	Connecticut DOT	2.1	54.1	46.7	47.4	148.2	568.1	44.5	43.0	38.7	126.2	483.7	17.43%	17.45
FL Pompano Beach	South Florida RTA (Tri-Rail)	14.8	400.8	346.6	343.8	1091.2	4303.6	326.1	306.1	292.9	925.1	3,502.5	17.95%	22.87
IL Chicago	Metra	324.3	6630.1	6048.7	5906.1	18584.9	77166.9	6,647.1	6,370.6	5,833.4	18,851.1	75,099.6	-1.41%	2.75
IN Chesterton	Northern IN Commuter TD	13.0	356.9	300.8	320.3	978.0	4180.4	373.4	336.6	319.8	1,029.8	4,245.9	-5.03%	-1.54
MA Boston	Massachusetts Bay Tr Auth	148.6	3718.0	3202.1	3313.7	10233.8	39721.4	3,546.6	3,290.2	3,127.9	9,964.7	38,961.6	2.70%	1.95
MD Baltimore	Maryland Transit Admin	30.4	738.7	562.8	614.0	1915.5	8068.7	718.1	637.3	576.2	1,931.6	7,720.3	-0.83%	4.51
ME Portland	Northern NE Passenger RA	1.3	44.4	39.8	29.7	113.9	482.9	36.2	35.1	34.2	105.5	381.9	7.96%	26.45
NJ Newark	New Jersey Transit Corp	NA	6656.7	6416.5	6533.1	19606.3	77527.6	6,582.0	6,533.4	6,480.5	19,595.9	74,854.5	0.05%	3.57
NM Albuquerque	New Mexico Dept of Trp	2.5	61.0	37.6	99.1	197.7	676.7	47.9	36.4	33.1	117.4	500.9	68.40%	35.10
NY New York	MTA Long Island Rail Road	348.5	8766.0	7816.0	8310.1	24892.1	103215.1	8,768.0	8,432.0	8,144.0	25,344.0	100,368.0	-1.78%	2.84
NY New York	MTA Metro-North Railroad	291.9	7457.3	6466.7	7119.4	21043.4	82948.7	7,264.1	6,782.1	6,820.0	20,866.2	79,724.7	0.85%	4.04
PA Harris-Phil	Penn DOT (Keystone)	1.7	50.1	42.6	42.8	135.5	513.9	41.0	40.4	36.8	118.2	436.5	14.64%	17.73
PA Philadelphia	Southeastern Penn TA	128.0	2900.3	3520.8	2600.7	9021.8	36167.7	2,797.5	3,480.6	2,675.1	8,953.2	33,360.4	0.77%	8.42
TX Dallas-Ft Worth	Trinity Railway Express	10.5	327.5	214.3	215.7	757.5	2850.4	234.1	204.2	186.2	624.5	2,497.2	21.30%	14.14
UT Salt Lake City	Utah Transit Authority	5.8	167.6	123.2	133.1	423.9	1385.9	0.0	0.0	0.0	0.0	0.0	NA	NA
VA Alexandria	Virginia Railway Express	15.8	352.7	271.1	297.4	921.2	3817.1	324.0	277.4	245.1	846.5	3,504.1	8.82%	8.93
WA Seattle	Sound Transit	10.0	259.3	219.3	221.4	700.0	2668.6	231.3	197.5	175.1	603.9	2,156.5	15.91%	23.75
REPORTED TOTAL		1,439.8	41,595.0	37,880.5	38,322.8	117,798.3	475,523.5	40,330.4	39,190.4	36,965.1	116,485.9	454,183.3	1.13%	4.70
PROJECTED TOTAL (c)			41,669.1	37,947.1	38,389.9	118,006.1	476,504.5	40,402.2	39,259.3	37,029.8	116,691.3	455,118.1	1.13%	4.70%

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

State and Primary City	Transit Agency	AVG WKDY (000's)	OCT '08 (000's)	NOV '08 (000's)	DEC '08 (000's)	OCT '08- DEC '08 (000's)	JAN '08- DEC '08 (000's)	OCT '07 (000's)	NOV '07 (000's)	DEC '07 (000's)	OCT '07- DEC '07 (000's)	JAN '07- DEC '07 (000's)	4th Qtr Chng	YTD Chng
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* Preliminary information based on data from reporting systems.

Note: Data may differ from that included in Federal Transit Administration reports due to differences in data calculation procedures and in periods of time covered.

- (a) Transit agencies assigned by urbanized areas or urban places of less than 50,000 population outside urbanized areas based on 2000 U.S. Census Population.
- (b) Year-to-date ridership adjusted for data received after closing dates of previous issues.
- (c) Includes missing agencies (Alaska Railroad Corp).
- (d) Utah Transit Authority services began on April 26, 2008.

TROLLEY BUS PUBLIC TRANSPORTATION RIDERSHIP REPORT Fourth Quarter 2008

ESTIMATED UNLINKED TRANSIT PASSENGER TRIPS

State and Primary City	Transit Agency	CURRENT YEAR (a)(b)				PRECEDING YEAR (a)(b)						% CHANGE (b)		
		AVG WKDY (000's)	OCT '08 (000's)	NOV '08 (000's)	DEC '08 (000's)	OCT '08- DEC '08 (000's)	JAN '08- DEC '08 (000's)	OCT '07 (000's)	NOV '07 (000's)	DEC '07 (000's)	OCT '07- DEC '07 (000's)	JAN '07- DEC '07 (000's)	4th Qtr Chng	Y1 Chg
CA San Francisco	San Francisco Muni Rwy	224.4	6500.0	5786.7	5495.2	17781.9	73351.2	6,467.5	5,786.7	5,495.2	17,749.4	71,520.0	0.18%	2.56
MA Boston	Massachusetts Bay Tr Auth	12.5	314.5	268.2	284.5	867.2	3798.3	354.2	308.5	276.5	939.2	3,769.3	-7.67%	0.77
PA Philadelphia	Southeastern Penn TA	18.2	445.9	502.2	392.6	1340.7	3516.1	0.0	0.0	0.0	0.0	0.0	NA	↑
WA Seattle	King County Dept of Trp	78.8	2203.1	1929.6	1708.7	5841.4	24168.1	2,121.9	1,922.5	1,755.1	5,799.5	23,278.5	0.72%	3.82
REPORTED TOTAL		333.8	9,463.5	8,486.7	7,881.0	25,831.2	104,833.7	8,943.6	8,017.7	7,526.8	24,488.1	98,567.8	5.48%	6.36
PROJECTED TOTAL			9,877.1	8,934.3	8,231.2	27,042.6	109,406.2	9,334.5	8,440.6	7,861.3	25,636.4	102,868.1	5.49%	6.36

* Preliminary information based on data from reporting systems.

Note: Data may differ from that included in Federal Transit Administration reports due to differences in data calculation procedures and in periods of time covered.

(a) Transit agencies assigned by urbanized areas or urban places of less than 50,000 population outside urbanized areas based on 2000 U.S. Census Population.

(b) Year-to-date ridership adjusted for data received after closing dates of previous issues.

(c) Includes missing agencies (Greater Dayton RTA).

(d) SEPTA service reinstated May 2008.

LARGEST BUS AGENCIES PUBLIC TRANSPORTATION RIDERSHIP REPORT

(Transit Agencies in Urbanized Areas of 1,000,000 or more population that operate 400 or more peak-hour buses)

Fourth Quarter 2008

ESTIMATED UNLINKED TRANSIT PASSENGER TRIPS

<u>State and Primary City</u>	<u>Transit Agency</u>	CURRENT YEAR (a)(b)				PRECEDING YEAR (a)(b)						% CHANGE (b)		
		<u>AVG</u>	<u>OCT '08</u>	<u>NOV '08</u>	<u>DEC '08</u>	<u>OCT '08-</u>	<u>JAN '08-</u>	<u>OCT '07</u>	<u>NOV '07</u>	<u>DEC '07</u>	<u>OCT '07-</u>	<u>JAN '07-</u>	<u>4TH Qtr</u>	<u>YT</u>
		<u>WKDY</u> (000's)	<u>OCT '08</u> (000's)	<u>NOV '08</u> (000's)	<u>DEC '08</u> (000's)	<u>DEC '08</u> (000's)	<u>DEC '08</u> (000's)	<u>OCT '07</u> (000's)	<u>NOV '07</u> (000's)	<u>DEC '07</u> (000's)	<u>DEC '07</u> (000's)	<u>DEC '07</u> (000's)	<u>Chng</u>	<u>Chr</u>
AZ Phoenix	City of Phoenix PTD	171.0	4798.8	3972.5	4101.1	12872.4	48949.6	4305.1	3558.3	3231.8	11095.2	43902.7	16.02%	11.50
CA Los Angeles	Los Angeles County MTA	1,212.8	35454.9	30786.8	30069.3	96311.0	395124.8	34223.6	31150.6	29652.0	95026.2	397727.7	1.35%	-0.65
CA Oakland	Alameda-Contra Costa TD	NA	7248.0	5836.4	5184.6	18269.0	71663.2	7094.4	5712.8	5074.8	17882.0	67810.2	2.16%	5.68
CA Orange	Orange County Transp Auth	214.0	6361.2	5360.5	5051.9	16773.6	68867.2	5981.6	5498.9	5147.5	16628.0	65552.8	0.88%	5.06
CA San Diego	San Diego Transit Corp	93.5	2846.6	2329.6	2247.5	7423.7	29653.2	2417.6	2302.4	2104.7	6824.7	26966.0	8.78%	9.97
CA San Francisco	San Francisco Muni Rwy	273.4	8201.5	6976.0	6703.4	21880.9	91138.6	8160.7	6976.0	6703.4	21840.1	90314.2	0.19%	0.91
CA San Jose	Santa Clara Valley Trp Auth	114.9	3390.3	2853.5	2721.1	8964.9	34774.6	3064.1	2711.9	2524.1	8300.1	32892.1	8.01%	5.72
CO Denver	Regional Trp District	225.5	6430.2	5312.5	5218.7	16961.4	66807.5	5992.9	5286.4	4778.1	16057.4	61513.4	5.63%	8.61
DC Washington	Washington Metro Area TA	445.3	12340.0	10207.8	10451.8	32999.6	135669.7	12174.8	10790.6	9934.0	32899.4	131604.3	0.30%	3.09
FL Miami	Miami-Dade Transit Agency	292.0	7804.1	7249.3	7070.3	22123.7	86409.2	7471.7	6996.3	7156.6	21624.6	84218.3	2.31%	2.60
GA Atlanta	Metro Atlanta Rapid Tr Auth	237.4	6766.0	5735.5	5834.2	18335.7	72112.5	5794.8	5103.1	5236.7	16134.6	66990.3	13.64%	7.65
IL Arlington Heights	PACE Suburban Bus	117.6	3371.2	2691.5	2478.6	8541.3	34653.2	3229.7	2784.6	2468.2	8482.5	33543.3	0.69%	3.31
IL Chicago	Chicago Transit Authority	1,037.2	31133.0	26186.5	24298.1	81617.6	328199.2	29273.9	26024.2	24078.1	79376.2	309271.4	2.82%	6.12
MA Boston	Massachusetts Bay Tr Auth	347.2	9449.6	8215.3	8350.1	26015.0	107354.2	9679.8	8274.1	7467.1	25421.0	104398.5	2.34%	2.83
MD Baltimore	Maryland Transit Admin	301.3	7238.8	5808.6	5922.8	18970.2	73865.1	6048.4	5907.3	5396.7	17352.4	67976.3	9.32%	8.66
MI Detroit	City of Detroit Dept of Trp	129.6	3781.5	3098.0	2895.4	9774.9	38480.7	3225.3	2901.7	2621.5	8748.5	36170.7	11.73%	6.39
MN Minneapolis	Metro Transit	234.1	6510.0	5430.8	5319.6	17260.4	71613.4	6318.6	5670.4	5187.6	17176.6	67865.9	0.49%	5.52
MO Saint Louis	Bi-State Dev Agency	116.5	3414.1	2842.9	2609.3	8866.3	35025.6	3064.7	2781.1	2527.0	8372.8	32176.3	5.89%	8.86
NJ Newark	New Jersey Transit Corp	NA	15200.4	12885.5	13106.1	41192.0	166219.8	14626.6	13339.0	12434.6	40400.2	159736.2	1.96%	4.06
NY New York	MTA New York City Transit	2,385.3	67457.3	59242.7	60382.3	187082.3	746977.4	68338.3	61406.3	58016.4	187761.0	738039.6	-0.36%	1.21
OH Cincinnati	Southwest Ohio RTA	63.9	2027.1	1600.1	1610.3	5237.5	21354.1	2171.1	1921.5	1776.0	5868.6	22709.1	-10.75%	-5.97
OH Cleveland	Greater Cleveland Reg TA	209.5	4668.5	3797.4	3742.2	12208.1	47571.8	4529.3	4032.5	3594.2	12156.0	47663.1	0.43%	-0.19
OR Portland	Tri-County Metro Trp Dist	214.8	6152.0	5214.9	5213.3	16580.2	66759.2	5604.2	5094.9	4897.7	15596.8	62609.6	6.31%	6.63
PA Philadelphia	Southeastern Penn TA	558.3	13214.2	15752.0	12294.8	41261.0	164944.6	13211.3	16287.2	12352.3	41850.8	162135.9	-1.41%	1.73
PA Pittsburgh	Port Auth of Allegheny Co	198.7	5557.0	4661.0	4502.0	14720.0	58373.6	5502.0	4886.0	4283.4	14671.4	59320.4	0.33%	-1.60%

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter 2008)

<u>State and</u> <u>Primary City</u>	<u>Transit Agency</u>	<u>AVG</u> <u>WKDY</u> (000's)	<u>OCT '08</u> (000's)	<u>NOV '08</u> (000's)	<u>DEC '08</u> (000's)	<u>OCT '08-</u> <u>DEC '08</u> (000's)	<u>JAN '08-</u> <u>DEC '08</u> (000's)	<u>OCT '07</u> (000's)	<u>NOV '07</u> (000's)	<u>DEC '07</u> (000's)	<u>OCT '07-</u> <u>DEC '07</u> (000's)	<u>JAN '07-</u> <u>DEC '07</u> (000's)	<u>4TH Qtr</u> <u>Chng</u>	<u>YTD</u> <u>Chng</u>
TX Dallas	Dallas Area Rapid Transit	156.9	4533.1	3559.0	3395.5	11487.6	45419.2	4170.2	3647.5	3284.6	11102.3	44357.1	3.47%	2.39
TX Houston	Metro Tr Auth of Harris Co	269.5	7532.9	6137.8	5681.7	19352.4	81175.3	8169.1	7503.9	7126.2	22799.2	85867.7	-15.12%	-5.46
TX San Antonio	VIA Metropolitan Transit	144.2	4292.0	3669.2	3469.1	11430.3	45893.9	4006.4	3623.6	3470.7	11100.7	41657.6	2.97%	10.17
WA Seattle	King County Dept of Trp	321.8	8882.4	7436.5	6804.9	23123.8	94109.2	8138.2	7402.1	6618.4	22158.7	87187.7	4.36%	7.94
WI Milwaukee	Milwaukee County Tr Sys	177.4	5043.9	4265.1	4067.9	13376.9	50950.6	4839.5	4517.0	3981.6	13338.1	50716.3	0.29%	0.46
REPORTED TOTAL		10,263.9	311,100.6	269,115.2	260,797.9	841,013.7	3,380,110.2	300,827.9	274,092.2	253,126.0	828,046.1	3,282,894.7	1.57%	2.96

* Preliminary information based on data from reporting systems.

Note: Data may differ from that included in Federal Transit Administration reports due to differences in data calculation procedures and in periods of time covered.

(a) Transit agencies assigned by urbanized areas or urban places of less than 50,000 population outside urbanized areas based on 2000 U.S. Census Population.

(b) Year-to-date ridership adjusted for data received after closing dates of previous issues.

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '08 (000's)	Trips for Nov '08 (000's)	Trips for Dec '08 (000's)	Trips Thru Dec '08 (000's)	Trips for Oct '07 (000's)	Trips for Nov '07 (000's)	Trips for Dec '07 (000's)	Trips Thru Dec '07 (000's)	Quarterly Change	Year-to-Date Change
AL Birmingham	Birmingham-Jefferson Co TA	DR	0.5	13.0	10.7	12.0	138.8	12.3	10.4	9.6	125.3	10.53%	10.77
AL Birmingham	Birmingham-Jefferson Co TA	MB	11.4	281.3	222.9	226.6	3,042.4	272.3	249.8	250.2	3,101.3	-5.37%	-1.90
AL Birmingham	Birmingham-Jefferson Co TA	TOTAL	11.9	294.3	233.6	238.6	3,181.2	284.6	260.2	259.8	3,226.6	-4.74%	-1.41
AZ Bullhead City	Bullhead Area Transit System	DR	0.1	1.9	1.2	1.4	20.5	1.9	1.9	1.8	25.0	-19.64%	-18.00
AZ Bullhead City	Bullhead Area Transit System	MB	0.5	15.4	12.2	13.4	162.9	13.0	12.4	12.5	148.4	8.18%	9.77
AZ Bullhead City	Bullhead Area Transit System	TOTAL	0.6	17.3	13.4	14.8	183.4	14.9	14.3	14.3	173.4	4.60%	5.77
AZ Flagstaff	Coconino County Transp Services	DR	0.1	2.6	2.1	2.1	25.0	1.9	1.8	1.5	21.6	30.77%	15.74
AZ Flagstaff	Coconino County Transp Services	MB	3.2	96.5	77.3	76.9	1,003.9	77.0	70.0	62.4	792.6	19.72%	26.66
AZ Flagstaff	Coconino County Transp Services	TOTAL	3.3	99.1	79.4	79.0	1,028.9	78.9	71.8	63.9	814.2	19.99%	26.37
AZ Glendale	Glendale Transit	DR	0.3	8.1	6.6	7.8	91.9	7.1	6.8	6.7	83.5	9.22%	10.06
AZ Glendale	Glendale Transit	MB	0.4	10.3	9.1	9.8	112.0	7.3	6.6	6.3	144.2	44.55%	-22.33
AZ Glendale	Glendale Transit	TOTAL	0.7	18.4	15.7	17.6	203.9	14.4	13.4	13.0	227.7	26.72%	-10.45
AZ Phoenix	City of Phoenix PTD	DR	2.0	54.5	44.9	47.8	632.3	59.4	53.1	52.4	653.5	-10.73%	-3.24
AZ Phoenix	City of Phoenix PTD	MB	171.0	4,798.8	3,972.5	4,101.1	48,949.6	4,305.1	3,558.3	3,231.8	43,902.7	16.02%	11.50
AZ Phoenix	City of Phoenix PTD	TOTAL	NA	NA	NA	NA	NA	4,364.5	3,611.4	3,284.2	44,556.2	NA	11.50
AZ Phoenix	Valley Metro	DR	0.9	23.7	20.5	22.1	252.4	22.0	20.0	19.0	236.4	8.69%	6.77
AZ Phoenix	Valley Metro	MB	29.6	803.7	654.9	689.7	8,354.0	771.2	689.3	542.8	7,345.8	7.24%	13.72
AZ Phoenix	Valley Metro	VP	4.0	92.7	75.5	88.9	887.8	70.6	63.4	53.2	733.6	37.34%	21.02
AZ Phoenix	Valley Metro	TOTAL	34.5	920.1	750.9	800.7	9,494.2	863.8	772.7	615.0	8,315.8	9.78%	14.17
AZ Tucson	City of Tucson MTS	MB	62.7	2,095.7	1,751.6	1,737.1	21,015.3	1,787.0	1,617.9	1,493.7	18,425.4	14.00%	14.06
AZ Tucson	City of Tucson MTS	TOTAL	62.7	2,095.7	1,751.6	1,737.1	21,015.3	1,787.0	1,617.9	1,493.7	18,425.4	14.00%	14.06
CA Alturas	Modoc Transportation Agency	MB	0.4	9.2	7.8	9.5	126.1	9.4	9.7	9.5	118.5	-7.34%	6.41
CA Alturas	Modoc Transportation Agency	TOTAL	0.4	9.2	7.8	9.5	126.1	9.4	9.7	9.5	118.5	-7.34%	6.41
CA Antioch	Eastern Contra Costa Tr Auth	DR	0.5	11.2	9.5	10.3	118.0	9.6	9.3	9.0	107.3	11.11%	9.97
CA Antioch	Eastern Contra Costa Tr Auth	MB	9.8	272.1	217.2	204.9	2,760.6	240.1	216.5	191.7	2,511.7	7.08%	9.91
CA Antioch	Eastern Contra Costa Tr Auth	TOTAL	10.3	283.3	226.7	215.2	2,878.6	249.7	225.8	200.7	2,619.0	7.25%	9.91
CA Bakersfield	Golden Empire Transit District	DR	0.2	6.0	5.0	5.1	62.3	5.7	4.9	4.5	62.9	6.62%	-0.95
CA Bakersfield	Golden Empire Transit District	MB	25.2	728.7	598.9	585.9	7,442.4	617.5	564.6	526.5	6,595.9	11.99%	12.83
CA Bakersfield	Golden Empire Transit District	TOTAL	25.4	734.7	603.9	591.0	7,504.7	623.2	569.5	531.0	6,658.8	11.95%	12.70
CA Benicia	Rio Vista Delta Breeze	DR	0.0	0.0	0.1	0.2	1.5	0.3	0.3	0.2	4.4	-62.50%	-65.91
CA Benicia	Rio Vista Delta Breeze	MB	0.0	1.1	0.8	0.8	8.4	0.3	0.3	0.2	3.4	>100%	>100%
CA Benicia	Rio Vista Delta Breeze	TOTAL	0.0	1.1	0.9	1.0	9.9	0.6	0.6	0.4	7.8	87.50%	26.92

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '08 (000's)	Trips for Nov '08 (000's)	Trips for Dec '08 (000's)	Trips Thru Dec '08 (000's)	Trips for Oct '07 (000's)	Trips for Nov '07 (000's)	Trips for Dec '07 (000's)	Trips Thru Dec '07 (000's)	Quarterly Change	Year-to-Date Change
CA Concord	Central Contra Costa TA	DR	NA	16.0	13.0	14.6	173.1	15.0	13.5	12.7	161.4	5.83%	7.25%
CA Concord	Central Contra Costa TA	MB	NA	476.6	332.5	NA	NA	421.0	365.2	310.4	4,284.2	NA	↑
CA Concord	Central Contra Costa TA	TOTAL	NA	492.6	345.5	NA	NA	436.0	378.7	323.1	4,445.6	NA	↑
CA Culver City	Culver CityBus	MB	19.9	586.6	484.2	450.4	5,998.0	490.7	432.7	400.1	5,398.6	14.94%	11.10%
CA Culver City	Culver CityBus	TOTAL	19.9	586.6	484.2	450.4	5,998.0	490.7	432.7	400.1	5,398.6	14.94%	11.10%
CA Davis	Unitrans	MB	16.0	442.7	326.7	169.9	3,275.7	438.9	337.1	161.8	3,148.2	0.16%	4.05%
CA Davis	Unitrans	TOTAL	16.0	442.7	326.7	169.9	3,275.7	438.9	337.1	161.8	3,148.2	0.16%	4.05%
CA Delano	Delano Area Rapid Transit	DR	NA	1.4	1.0	1.2	NA	1.1	0.8	0.7	14.7	38.46%	↑
CA Delano	Delano Area Rapid Transit	MB	0.4	11.7	9.4	8.9	NA	8.1	5.4	4.5	68.9	66.67%	↑
CA Delano	Delano Area Rapid Transit	TOTAL	NA	13.1	10.4	10.1	NA	9.2	6.2	5.2	83.6	63.11%	↑
CA Fairfield	Fairfield/Suisun Transit Sys	DR	NA	1.9	NA	NA	NA	2.0	1.8	1.8	21.7	NA	↑
CA Fairfield	Fairfield/Suisun Transit Sys	MB	3.6	100.0	71.0	74.0	1,001.8	92.6	79.0	70.3	913.0	1.28%	9.73%
CA Fairfield	Fairfield/Suisun Transit Sys	TOTAL	NA	101.9	NA	NA	NA	94.6	80.8	72.1	934.7	NA	↑
CA Fresno	Fresno Area Express	DR	0.8	21.4	18.6	18.6	229.6	19.6	17.9	16.5	217.9	8.52%	5.37%
CA Fresno	Fresno Area Express	MB	49.0	1,390.7	1,069.0	1,101.9	14,031.3	1,206.9	1,068.3	941.4	12,518.8	10.73%	12.08%
CA Fresno	Fresno Area Express	TOTAL	49.8	1,412.1	1,087.6	1,120.5	14,260.9	1,226.5	1,086.2	957.9	12,736.7	10.69%	11.97%
CA Glendale	City of Glendale	DR	0.2	5.0	4.1	4.5	NA	5.0	4.2	4.1	55.5	2.26%	↑
CA Glendale	City of Glendale	MB	4.7	198.0	144.4	132.2	NA	207.2	187.0	140.0	2,201.0	-11.16%	↑
CA Glendale	City of Glendale	TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	↑
CA Lancaster	Antelope Valley Transit Auth	DR	2.6	3.2	2.6	2.6	36.8	2.9	2.7	2.4	34.1	5.00%	7.92%
CA Lancaster	Antelope Valley Transit Auth	MB	NA	320.4	254.1	220.7	3,199.2	279.2	249.4	214.4	2,958.0	7.03%	8.15%
CA Lancaster	Antelope Valley Transit Auth	TOTAL	NA	323.6	256.7	223.3	3,236.0	282.1	252.1	216.8	2,992.1	7.00%	8.15%
CA Livermore	Livermore/Amador Valley TA	DR	0.2	5.7	4.8	5.1	66.6	6.0	5.4	5.0	68.0	-4.88%	-2.06%
CA Livermore	Livermore/Amador Valley TA	MB	8.3	226.4	175.5	178.8	2,296.5	212.4	181.9	168.4	2,179.9	3.20%	5.35%
CA Livermore	Livermore/Amador Valley TA	TOTAL	8.5	232.1	180.3	183.9	2,363.1	218.4	187.3	173.4	2,247.9	2.97%	5.12%
CA Los Angeles	Access Services	DR	6.9	250.4	221.4	227.9	2,711.0	225.3	206.7	194.6	2,466.4	11.67%	9.92%
CA Los Angeles	Access Services	TOTAL	6.9	250.4	221.4	227.9	2,711.0	225.3	206.7	194.6	2,466.4	11.67%	9.92%
CA Los Angeles	Los Angeles County MTA	HR	139.7	3,893.1	3,593.1	3,750.8	45,457.7	3,600.2	3,470.1	3,415.1	42,222.5	7.17%	7.66%
CA Los Angeles	Los Angeles County MTA	LR	136.4	3,989.6	3,513.8	3,513.9	45,343.4	3,629.5	3,441.6	3,211.2	42,221.6	7.15%	7.39%
CA Los Angeles	Los Angeles County MTA	MB	1,212.8	35,454.9	30,786.8	30,069.3	395,124.8	34,223.6	31,150.6	29,652.0	397,727.7	1.35%	-0.65%
CA Los Angeles	Los Angeles County MTA	TOTAL	1,488.9	43,337.6	37,893.7	37,334.0	485,925.9	41,453.3	38,062.3	36,278.3	482,171.8	2.39%	0.78%
CA Los Angeles	Southern California RRA	CR	43.0	1,110.0	891.9	918.8	12,161.2	1,017.9	917.0	814.2	11,146.8	6.24%	9.10%
CA Los Angeles	Southern California RRA	TOTAL	43.0	1,110.0	891.9	918.8	12,161.2	1,017.9	917.0	814.2	11,146.8	6.24%	9.10%

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '08 (000's)	Trips for Nov '08 (000's)	Trips for Dec '08 (000's)	Trips Thru Dec '08 (000's)	Trips for Oct '07 (000's)	Trips for Nov '07 (000's)	Trips for Dec '07 (000's)	Trips Thru Dec '07 (000's)	Quarterly Change	Year-to-Date Change
CA Merced	Merced County Transit (The Bus)	DR	0.5	12.6	9.2	10.5	136.5	13.6	10.5	9.1	114.1	-2.71%	19.63
CA Merced	Merced County Transit (The Bus)	MB	3.3	84.9	61.9	62.4	828.0	138.1	69.5	55.0	963.3	-20.34%	-14.05
CA Merced	Merced County Transit (The Bus)	TOTAL	3.8	97.5	71.1	72.9	964.5	151.7	80.0	64.1	1,077.4	-18.36%	-10.48
CA Modesto	Modesto Area Express	DR	0.4	9.8	8.8	9.2	111.7	9.3	8.6	8.3	104.9	6.11%	6.48
CA Modesto	Modesto Area Express	MB	11.0	310.4	243.5	240.3	3,189.0	292.4	261.6	242.3	2,994.1	-0.26%	6.51
CA Modesto	Modesto Area Express	TOTAL	11.4	320.2	252.3	249.5	3,300.7	301.7	270.2	250.6	3,099.0	-0.06%	6.51
CA Montebello	Montebello Bus Lines	DR	0.2	4.9	4.5	4.9	50.5	1.9	2.2	2.6	18.1	>100%	>100%
CA Montebello	Montebello Bus Lines	MB	37.7	841.1	704.7	665.1	9,778.2	864.0	791.9	734.9	9,732.1	-7.52%	0.47
CA Montebello	Montebello Bus Lines	TOTAL	37.9	846.0	709.2	670.0	9,828.7	865.9	794.1	737.5	9,750.2	-7.19%	0.81
CA Monterey	Monterey-Salinas Transit	DR	0.4	10.8	9.1	9.2	107.5	7.7	6.6	5.9	74.3	44.06%	44.68
CA Monterey	Monterey-Salinas Transit	MB	14.0	425.7	354.7	332.0	4,704.5	410.5	369.9	326.9	4,707.5	0.46%	-0.06
CA Monterey	Monterey-Salinas Transit	TOTAL	14.4	436.5	363.8	341.2	4,812.0	418.2	376.5	332.8	4,781.8	1.24%	0.63
CA Norwalk	Norwalk Transit System	DR	0.1	2.6	2.2	2.2	27.3	2.2	1.8	1.7	23.4	22.81%	16.67
CA Norwalk	Norwalk Transit System	MB	9.7	264.9	205.6	197.7	2,839.7	256.8	209.8	204.8	2,426.0	-0.48%	17.05
CA Norwalk	Norwalk Transit System	TOTAL	9.8	267.5	207.8	199.9	2,867.0	259.0	211.6	206.5	2,449.4	-0.28%	17.05
CA Oakland	Alameda-Contra Costa TD	DR	NA	63.2	53.0	56.5	682.8	59.9	52.6	50.1	647.6	6.21%	5.44
CA Oakland	Alameda-Contra Costa TD	MB	NA	7,248.0	5,836.4	5,184.6	71,663.2	7,094.4	5,712.8	5,074.8	67,810.2	2.16%	5.68
CA Oakland	Alameda-Contra Costa TD	TOTAL	NA	7,311.2	5,889.4	5,241.1	72,346.0	7,154.3	5,765.4	5,124.9	68,457.8	2.20%	5.68
CA Oakland	Capitol Corridor Joint Powers Auth	CR	NA	157.4	140.3	130.3	1,730.8	134.8	136.7	119.5	1,490.4	9.46%	16.13
CA Oakland	Capitol Corridor Joint Powers Auth	TOTAL	NA	157.4	140.3	130.3	1,730.8	134.8	136.7	119.5	1,490.4	9.46%	16.13
CA Oceanside	North County Transit District	CR	5.1	139.6	105.3	101.5	1,699.0	126.7	121.9	105.8	1,615.6	-2.26%	5.16
CA Oceanside	North County Transit District	DR	0.4	10.9	9.1	9.1	163.7	14.9	15.6	14.1	189.7	-34.75%	-13.71
CA Oceanside	North County Transit District	LR	7.5	217.0	181.8	173.8	1,900.9	0.0	0.0	0.0	0.0	NA	↑
CA Oceanside	North County Transit District	MB	29.3	867.7	701.5	648.7	9,565.5	820.7	826.6	747.5	9,973.4	-7.39%	-4.09
CA Oceanside	North County Transit District	TOTAL	42.4	1,235.2	997.7	933.1	13,329.1	962.3	964.1	867.4	11,778.7	13.32%	13.16
CA Orange	Orange County Transp Auth	DR	NA	NA	NA	NA	NA	118.2	106.7	93.1	1,251.9	NA	↑
CA Orange	Orange County Transp Auth	MB	214.0	6,361.2	5,360.5	5,051.9	68,867.2	5,981.6	5,498.9	5,147.5	65,552.8	0.88%	5.06
CA Orange	Orange County Transp Auth	VP	2.9	68.2	50.9	60.7	641.6	NA	NA	NA	NA	NA	↑
CA Orange	Orange County Transp Auth	TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	↑
CA Oxnard	Gold Coast Transit	DR	0.3	8.3	6.6	6.9	81.6	7.4	6.7	5.9	78.5	9.00%	3.95
CA Oxnard	Gold Coast Transit	MB	11.6	339.6	262.3	297.7	3,636.9	304.8	271.6	260.6	3,410.5	7.48%	6.64
CA Oxnard	Gold Coast Transit	TOTAL	11.9	347.9	268.9	304.6	3,718.5	312.2	278.3	266.5	3,489.0	7.51%	6.58
CA Redding	Redding Area Bus Authority	DR	0.4	7.9	6.3	6.7	83.3	7.2	6.3	5.9	78.8	7.73%	5.71
CA Redding	Redding Area Bus Authority	MB	2.3	62.4	49.9	52.2	657.1	57.4	52.8	49.8	645.9	2.81%	1.73%
CA Redding	Redding Area Bus Authority	TOTAL	2.7	70.3	56.2	58.9	740.4	64.6	59.1	55.7	724.7	2.24%	2.17%

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

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CA Riverside	Riverside Transit Agency	DR	1.2	32.8	27.0	28.7	334.8	26.3	24.2	22.9	270.9	20.57%	23.59
CA Riverside	Riverside Transit Agency	MB	26.8	784.3	630.7	608.8	7,712.6	634.4	571.5	536.3	6,877.7	16.16%	12.14
CA Riverside	Riverside Transit Agency	TOTAL	28.0	817.1	657.7	637.5	8,047.4	660.7	595.7	559.2	7,148.6	16.34%	12.57
CA Sacramento	Sacramento Reg Tr Dist	DR	NA	NA	NA	NA	NA	29.6	26.9	25.8	320.0	NA	↑
CA Sacramento	Sacramento Reg Tr Dist	LR	60.5	1,627.0	1,404.1	1,397.8	17,146.4	1,363.4	1,367.9	1,238.6	14,993.7	11.56%	14.36
CA Sacramento	Sacramento Reg Tr Dist	MB	59.4	1,701.8	1,356.5	1,309.4	17,169.8	1,542.2	1,427.8	1,268.5	16,528.1	3.05%	3.88
CA Sacramento	Sacramento Reg Tr Dist	TOTAL	NA	NA	NA	NA	NA	2,935.2	2,822.6	2,532.9	31,841.8	NA	↑
CA San Bernardino	OMNITRANS	DR	1.7	41.9	32.8	36.0	447.1	41.9	36.9	33.0	462.4	-0.98%	-3.31
CA San Bernardino	OMNITRANS	MB	49.9	1,465.5	1,189.2	1,139.7	15,041.1	1,294.9	1,155.2	1,084.3	14,557.4	7.36%	3.32
CA San Bernardino	OMNITRANS	TOTAL	51.6	1,507.4	1,222.0	1,175.7	15,488.2	1,336.8	1,192.1	1,117.3	15,019.8	7.10%	3.12
CA San Carlos	Caltrain	CR	39.1	1,160.5	1,007.4	967.0	12,803.1	996.1	948.4	853.4	11,377.2	12.04%	12.53
CA San Carlos	Caltrain	TOTAL	39.1	1,160.5	1,007.4	967.0	12,803.1	996.1	948.4	853.4	11,377.2	12.04%	12.53
CA San Carlos	San Mateo County Tran Dist	DR	1.2	30.7	26.4	27.2	331.7	30.3	27.4	24.7	320.2	2.31%	3.59
CA San Carlos	San Mateo County Tran Dist	MB	51.7	1,471.0	1,141.7	1,220.3	14,974.7	1,350.0	1,242.2	1,148.8	14,478.2	2.46%	3.43
CA San Carlos	San Mateo County Tran Dist	TOTAL	52.8	1,501.7	1,168.1	1,247.5	15,306.4	1,380.3	1,269.6	1,173.5	14,798.4	2.46%	3.43
CA San Diego	San Diego Metrop Transit System	DR	1.8	49.9	39.4	38.2	585.1	45.8	47.6	40.7	617.0	-4.92%	-5.17
CA San Diego	San Diego Metrop Transit System	MB	73.2	2,030.7	1,638.6	1,545.0	21,430.7	1,806.5	1,786.2	1,570.0	20,583.5	1.00%	4.12
CA San Diego	San Diego Metrop Transit System	TOTAL	75.0	2,080.6	1,678.0	1,583.2	22,015.8	1,852.3	1,833.8	1,610.7	21,200.5	0.85%	3.88
CA San Diego	San Diego Transit Corp	MB	93.5	2,846.6	2,329.6	2,247.5	29,653.2	2,417.6	2,302.4	2,104.7	26,966.0	8.78%	9.97
CA San Diego	San Diego Transit Corp	TOTAL	93.5	2,846.6	2,329.6	2,247.5	29,653.2	2,417.6	2,302.4	2,104.7	26,966.0	8.78%	9.97
CA San Diego	San Diego Trolley, Inc.	LR	103.9	2,892.1	2,906.8	2,788.0	36,054.6	3,192.5	3,212.3	3,337.4	36,836.1	-11.86%	-2.12
CA San Diego	San Diego Trolley, Inc.	TOTAL	103.9	2,892.1	2,906.8	2,788.0	36,054.6	3,192.5	3,212.3	3,337.4	36,836.1	-11.86%	-2.12
CA San Francisco	Golden Gate Bridge, Hwy & TD	DR	0.4	10.5	8.6	9.0	112.3	9.9	8.7	8.0	105.0	5.64%	6.95
CA San Francisco	Golden Gate Bridge, Hwy & TD	FB	5.8	171.7	132.9	140.9	1,985.9	170.3	150.7	134.6	2,015.6	-2.22%	-1.47
CA San Francisco	Golden Gate Bridge, Hwy & TD	MB	24.9	701.0	579.3	577.8	7,515.3	663.7	614.2	547.9	7,237.6	1.77%	3.84
CA San Francisco	Golden Gate Bridge, Hwy & TD	TOTAL	31.1	883.2	720.8	727.7	9,613.5	843.9	773.6	690.5	9,358.2	1.03%	2.73
CA San Francisco	San Francisco Bay Area RTD	HR	379.4	10,616.6	9,132.6	9,521.1	117,171.2	10,242.2	9,547.6	9,124.6	112,444.0	1.23%	4.20
CA San Francisco	San Francisco Bay Area RTD	TOTAL	379.4	10,616.6	9,132.6	9,521.1	117,171.2	10,242.2	9,547.6	9,124.6	112,444.0	1.23%	4.20
CA San Francisco	San Francisco Muni Rwy	CC	18.0	620.8	503.1	493.6	7,833.8	617.7	503.1	493.6	7,715.7	0.19%	1.53
CA San Francisco	San Francisco Muni Rwy	LR	156.9	4,488.5	3,908.0	3,933.5	48,889.6	4,466.2	3,908.0	3,933.5	46,167.9	0.18%	5.90
CA San Francisco	San Francisco Muni Rwy	MB	273.4	8,201.5	6,976.0	6,703.4	91,138.6	8,160.7	6,976.0	6,703.4	90,314.2	0.19%	0.91
CA San Francisco	San Francisco Muni Rwy	TB	224.4	6,500.0	5,786.7	5,495.2	73,351.2	6,467.5	5,786.7	5,495.2	71,520.0	0.18%	2.56
CA San Francisco	San Francisco Muni Rwy	TOTAL	672.6	19,810.8	17,173.8	16,625.7	221,213.2	19,712.1	17,173.8	16,625.7	215,717.8	0.18%	2.56

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CA San Jose	Santa Clara Valley Trp Auth	DR	3.7	99.9	82.7	85.7	1,071.0	97.5	87.4	79.1	1,047.7	1.63%	2.22%
CA San Jose	Santa Clara Valley Trp Auth	LR	34.4	1,031.5	874.9	807.9	10,797.6	888.4	787.7	745.7	10,302.5	12.08%	4.81%
CA San Jose	Santa Clara Valley Trp Auth	MB	114.9	3,390.3	2,853.5	2,721.1	34,774.6	3,064.1	2,711.9	2,524.1	32,892.1	8.01%	5.72%
CA San Jose	Santa Clara Valley Trp Auth	TOTAL	153.0	4,521.7	3,811.1	3,614.7	46,643.2	4,050.0	3,587.0	3,348.9	44,242.3	8.75%	5.43%
CA Santa Barbara	Santa Barbara MTD	DR	0.2	4.6	3.7	3.9	51.6	4.2	3.8	3.7	46.2	4.27%	11.69%
CA Santa Barbara	Santa Barbara MTD	MB	27.4	830.8	651.5	579.0	8,412.6	778.8	667.0	543.9	7,791.8	3.60%	7.97%
CA Santa Barbara	Santa Barbara MTD	TOTAL	27.6	835.4	655.2	582.9	8,464.2	783.0	670.8	547.6	7,838.0	3.60%	7.99%
CA Santa Cruz	Santa Cruz Metro Transit Dist	DR	NA	NA	NA	NA	NA	8.4	7.2	6.7	86.9	NA	↑
CA Santa Cruz	Santa Cruz Metro Transit Dist	MB	19.8	722.2	518.4	319.9	5,858.1	670.9	545.2	355.7	5,671.9	-0.72%	3.28%
CA Santa Cruz	Santa Cruz Metro Transit Dist	TOTAL	NA	NA	NA	NA	NA	679.3	552.4	362.4	5,758.8	NA	↑
CA Santa Monica	Santa Monica's Big Blue Bus	MB	55.2	1,514.9	1,056.1	972.9	16,781.2	1,515.8	1,324.3	1,161.2	19,868.5	-11.43%	-15.54%
CA Santa Monica	Santa Monica's Big Blue Bus	TOTAL	55.2	1,514.9	1,056.1	972.9	16,781.2	1,515.8	1,324.3	1,161.2	19,868.5	-11.43%	-15.54%
CA Simi Valley	City of Simi Valley/Transit	DR	NA	NA	NA	NA	NA	4.0	3.5	3.2	44.0	NA	↑
CA Simi Valley	City of Simi Valley/Transit	MB	1.7	45.7	37.5	36.0	494.7	39.9	32.9	30.0	453.3	15.95%	9.13%
CA Simi Valley	City of Simi Valley/Transit	TOTAL	NA	NA	NA	NA	NA	43.9	36.4	33.2	497.3	NA	↑
CA Stockton	San Joaquin Reg Rail Comm	CR	3.2	86.0	60.0	57.4	865.7	73.0	63.5	53.2	755.0	7.22%	14.66%
CA Stockton	San Joaquin Reg Rail Comm	TOTAL	3.2	86.0	60.0	57.4	865.7	73.0	63.5	53.2	755.0	7.22%	14.66%
CA Stockton	San Joaquin Reg Trans Dist	DR	0.3	7.4	6.4	6.3	87.6	9.2	8.4	7.9	96.0	-21.18%	-8.75%
CA Stockton	San Joaquin Reg Trans Dist	MB	16.9	441.5	366.3	362.6	4,953.3	398.1	395.6	338.2	4,176.0	3.40%	18.61%
CA Stockton	San Joaquin Reg Trans Dist	TOTAL	17.2	448.9	372.7	368.9	5,040.9	407.3	404.0	346.1	4,272.0	2.86%	18.00%
CA Thousand Palms	SunLine Transit Agency	DR	0.3	8.8	7.3	7.7	92.3	7.6	6.9	6.1	82.7	15.53%	11.61%
CA Thousand Palms	SunLine Transit Agency	MB	11.9	349.1	301.9	289.2	3,596.2	307.0	285.1	273.4	3,343.6	8.63%	7.55%
CA Thousand Palms	SunLine Transit Agency	TOTAL	12.2	357.9	309.2	296.9	3,688.5	314.6	292.0	279.5	3,426.3	8.79%	7.65%
CA Torrance	Torrance Transit System	DR	0.3	6.8	6.3	6.0	76.8	6.0	5.6	5.9	72.5	9.14%	5.93%
CA Torrance	Torrance Transit System	MB	14.8	450.2	356.5	355.0	4,820.5	443.2	357.5	325.1	4,598.9	3.19%	4.82%
CA Torrance	Torrance Transit System	TOTAL	15.1	457.0	362.8	361.0	4,897.3	449.2	363.1	331.0	4,671.4	3.28%	4.84%
CA Ventura	Ventura County Transp Comm	DR	0.7	19.5	15.7	15.5	206.6	19.3	18.2	15.1	215.1	-3.61%	-3.95%
CA Ventura	Ventura County Transp Comm	MB	2.7	79.7	63.6	54.4	742.6	59.8	52.6	42.2	597.7	27.88%	24.24%
CA Ventura	Ventura County Transp Comm	TOTAL	3.4	99.2	79.3	69.9	949.2	79.1	70.8	57.3	812.8	19.88%	16.78%
CA Visalia	Visalia City Coach	DR	0.1	2.6	2.4	2.5	32.7	3.1	2.8	2.2	32.3	-7.41%	1.24%
CA Visalia	Visalia City Coach	MB	5.0	139.1	114.5	112.8	1,451.0	123.3	109.7	99.2	1,311.8	10.30%	10.61%
CA Visalia	Visalia City Coach	TOTAL	5.1	141.7	116.9	115.3	1,483.7	126.4	112.5	101.4	1,344.1	9.87%	10.39%
CA Woodland	Yolo County Transportation District	MB	5.9	169.2	143.7	140.7	1,711.1	127.6	116.0	106.4	1,409.6	29.60%	21.39%
CA Woodland	Yolo County Transportation District	TOTAL	5.9	169.2	143.7	140.7	1,711.1	127.6	116.0	106.4	1,409.6	29.60%	21.39%

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CO Aspen	Roaring Fork Transp Auth	MB	11.8	242.4	244.9	528.1	4,838.3	207.2	230.9	499.4	4,459.3	8.31%	8.50%
CO Aspen	Roaring Fork Transp Auth	TOTAL	11.8	242.4	244.9	528.1	4,838.3	207.2	230.9	499.4	4,459.3	8.31%	8.50%
CO Denver	Regional Trp District	DR	6.8	162.0	149.8	155.5	1,789.9	156.1	142.8	131.9	1,638.9	8.47%	9.21%
CO Denver	Regional Trp District	LR	68.8	2,030.8	1,687.8	1,619.1	20,617.5	1,847.2	1,574.6	1,384.3	18,664.6	11.06%	10.46%
CO Denver	Regional Trp District	MB	225.5	6,430.2	5,312.5	5,218.7	66,807.5	5,992.9	5,286.4	4,778.1	61,513.4	5.63%	8.61%
CO Denver	Regional Trp District	TOTAL	301.1	8,623.0	7,150.1	6,993.3	89,214.9	7,996.2	7,003.8	6,294.3	81,816.9	6.91%	9.04%
CO Grand Junction	Mesa County Reg Transp Office	DR	0.0	0.9	0.7	0.8	9.5	0.8	0.7	0.6	8.4	14.29%	13.10%
CO Grand Junction	Mesa County Reg Transp Office	MB	2.9	73.9	64.8	70.1	748.7	57.5	52.6	49.7	639.0	30.66%	17.17%
CO Grand Junction	Mesa County Reg Transp Office	TOTAL	2.9	74.8	65.5	70.9	758.2	58.3	53.3	50.3	647.4	30.45%	17.11%
CT Bridgeport	Greater Bridgeport Tr Auth	DR	0.3	8.0	6.4	6.9	91.4	8.7	7.8	7.3	90.2	-10.50%	1.33%
CT Bridgeport	Greater Bridgeport Tr Auth	MB	17.9	511.3	418.8	424.0	5,304.7	443.0	409.2	386.1	4,981.8	9.35%	6.48%
CT Bridgeport	Greater Bridgeport Tr Auth	TOTAL	18.2	519.3	425.2	430.9	5,396.1	451.7	417.0	393.4	5,072.0	8.98%	6.39%
CT Hartford	Connecticut DOT	DR	0.3	8.8	7.2	7.4	90.5	8.0	7.1	5.9	81.4	11.43%	11.18%
CT Hartford	Connecticut DOT	MB	NA	NA	NA	NA	NA	18.0	15.0	13.0	194.8	NA	NA
CT Hartford	Connecticut DOT	TOTAL	NA	NA	NA	NA	NA	26.0	22.1	18.9	276.2	NA	NA
CT Hartford	Connecticut Transit	MB	91.0	2,432.9	1,975.9	2,034.1	26,227.7	2,356.9	2,112.5	1,933.2	24,862.9	0.63%	5.49%
CT Hartford	Connecticut Transit	TOTAL	91.0	2,432.9	1,975.9	2,034.1	26,227.7	2,356.9	2,112.5	1,933.2	24,862.9	0.63%	5.49%
CT Hartford	Greater Hartford Tran Dist	DR	6.5	29.0	24.4	25.5	NA	28.7	25.8	22.5	303.1	2.47%	NA
CT Hartford	Greater Hartford Tran Dist	TOTAL	6.5	29.0	24.4	25.5	NA	28.7	25.8	22.5	303.1	2.47%	NA
CT New Haven	Connecticut DOT	CR	2.1	54.1	46.7	47.4	568.1	44.5	43.0	38.7	483.7	17.43%	17.45%
CT New Haven	Connecticut DOT	MB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CT New Haven	Connecticut DOT	TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CT Norwalk	Norwalk Transit District	DR	0.4	9.8	7.9	8.1	94.9	8.2	7.3	6.1	86.9	19.44%	9.21%
CT Norwalk	Norwalk Transit District	MB	6.4	186.7	150.6	149.7	1,975.3	179.3	163.3	148.8	1,868.1	-0.90%	5.74%
CT Norwalk	Norwalk Transit District	TOTAL	6.8	196.5	158.5	157.8	2,070.2	187.5	170.6	154.9	1,955.0	-0.04%	5.89%
CT South Windsor	Collins Bus Service	MB	NA	14.7	11.1	11.4	154.2	13.8	11.5	9.5	146.3	6.90%	5.40%
CT South Windsor	Collins Bus Service	TOTAL	NA	14.7	11.1	11.4	154.2	13.8	11.5	9.5	146.3	6.90%	5.40%
CT Storrs	UCONN Transp Services	MB	9.4	234.0	157.0	98.4	1,533.4	213.9	158.1	91.6	1,464.3	5.57%	4.72%
CT Storrs	UCONN Transp Services	TOTAL	9.4	234.0	157.0	98.4	1,533.4	213.9	158.1	91.6	1,464.3	5.57%	4.72%
CT Waterbury	North East Transportation Co	DR	0.7	18.2	15.4	13.0	194.4	17.6	16.7	14.3	108.9	-4.12%	78.51%
CT Waterbury	North East Transportation Co	MB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CT Waterbury	North East Transportation Co	TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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DC	Washington	Washington Metro Area TA	HR	944.4	26,189.9	21,452.4	21,759.3	293,235.0	25,755.6	22,579.4	20,315.8	283,790.5	1.09%	3.33%
DC	Washington	Washington Metro Area TA	MB	445.3	12,340.0	10,207.8	10,451.8	135,669.7	12,174.8	10,790.6	9,934.0	131,604.3	0.30%	3.09%
DC	Washington	Washington Metro Area TA	TOTAL	1,389.7	38,529.9	31,660.2	32,211.1	428,904.7	37,930.4	33,370.0	30,249.8	415,394.8	0.84%	3.25%
DE	Wilmington	Delaware Transit Corp	DR	3.4	83.9	66.7	73.3	894.6	77.0	68.6	63.7	820.4	6.98%	9.04%
DE	Wilmington	Delaware Transit Corp	MB	33.1	843.4	667.7	702.5	8,774.0	741.3	676.6	621.1	7,965.9	8.56%	10.14%
DE	Wilmington	Delaware Transit Corp	TOTAL	36.5	927.3	734.4	775.8	9,668.6	818.3	745.2	684.8	8,786.3	8.42%	10.04%
FL	Bradenton	Manatee County Area Transit	DR	0.3	8.3	6.2	7.2	95.7	9.0	7.9	7.8	97.9	-12.15%	-2.25%
FL	Bradenton	Manatee County Area Transit	MB	3.5	125.9	107.2	111.7	1,411.0	108.6	105.6	102.4	1,291.1	8.91%	9.29%
FL	Bradenton	Manatee County Area Transit	VP	NA	NA	NA	NA	NA	0.0	0.0	0.0	0.9	NA	↑
FL	Bradenton	Manatee County Area Transit	TOTAL	NA	NA	NA	NA	NA	117.6	113.5	110.2	1,389.9	NA	↑
FL	Cocoa	Space Coast Area Transit	DR	9.3	36.7	37.3	37.5	411.7	34.6	32.8	32.1	405.6	12.06%	1.50%
FL	Cocoa	Space Coast Area Transit	MB	29.3	117.1	117.6	117.7	1,285.3	92.1	91.1	97.5	1,098.1	25.54%	17.05%
FL	Cocoa	Space Coast Area Transit	VP	1.5	5.9	5.8	5.9	99.0	12.1	12.1	12.2	149.6	-51.65%	-33.82%
FL	Cocoa	Space Coast Area Transit	TOTAL	40.1	159.7	160.7	161.1	1,796.0	138.8	136.0	141.8	1,653.3	15.58%	8.63%
FL	Daytona Beach	Votran	DR	0.8	22.4	18.7	19.8	256.5	28.7	25.3	22.7	318.7	-20.60%	-19.52%
FL	Daytona Beach	Votran	MB	9.5	277.2	233.3	248.7	3,015.6	255.7	234.7	218.9	2,902.9	7.04%	3.88%
FL	Daytona Beach	Votran	VP	0.5	13.3	9.7	8.8	97.4	7.8	7.9	5.3	85.2	51.43%	14.32%
FL	Daytona Beach	Votran	TOTAL	NA	NA	NA	NA	NA	292.2	267.9	246.9	3,306.8	NA	↑
FL	Fort Lauderdale	Broward County Transit	DR	3.1	92.1	70.2	68.7	943.6	76.5	90.1	69.3	869.9	-2.08%	8.47%
FL	Fort Lauderdale	Broward County Transit	FB	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00%	↑
FL	Fort Lauderdale	Broward County Transit	MB	133.8	3,694.3	3,221.0	3,301.5	41,035.3	3,587.4	3,367.6	3,279.7	41,422.7	-0.17%	-0.94%
FL	Fort Lauderdale	Broward County Transit	TOTAL	NA	3,786.4	3,291.2	3,370.2	41,978.9	3,663.9	3,457.7	3,349.0	42,292.6	-0.22%	-0.74%
FL	Fort Myers	Lee Tran	DR	0.4	10.4	10.4	8.2	124.8	12.2	10.8	9.8	135.9	-11.59%	-8.17%
FL	Fort Myers	Lee Tran	MB	9.5	252.9	230.1	240.5	3,103.3	231.9	228.4	228.7	3,021.8	5.01%	2.70%
FL	Fort Myers	Lee Tran	VP	0.1	2.2	2.1	3.2	33.0	2.9	2.7	2.7	26.6	-9.64%	24.06%
FL	Fort Myers	Lee Tran	TOTAL	10.1	265.5	242.6	251.9	3,261.1	247.0	241.9	241.2	3,184.3	4.10%	2.41%
FL	Gainesville	Regional Transit System	DR	0.1	3.9	3.1	3.2	40.3	2.9	2.5	2.5	29.2	29.11%	38.01%
FL	Gainesville	Regional Transit System	MB	41.9	1,110.5	805.3	575.7	9,128.3	1,130.7	860.2	408.6	8,904.9	3.83%	2.51%
FL	Gainesville	Regional Transit System	TOTAL	42.0	1,114.4	808.4	578.9	9,168.6	1,133.6	862.7	411.1	8,934.1	3.92%	2.62%
FL	Jacksonville	Jacksonville Transp Auth	AG	1.7	51.4	38.3	39.2	512.8	46.1	38.3	35.0	584.8	7.96%	-12.31%
FL	Jacksonville	Jacksonville Transp Auth	DR	1.2	33.0	28.0	29.1	351.7	31.0	28.0	26.0	385.6	6.00%	-8.79%
FL	Jacksonville	Jacksonville Transp Auth	MB	37.6	1,017.2	833.0	860.0	10,485.4	893.3	833.0	790.1	10,094.0	7.70%	3.88%
FL	Jacksonville	Jacksonville Transp Auth	TOTAL	40.4	1,101.6	899.3	928.3	11,349.9	970.4	899.3	851.1	11,064.4	7.66%	2.58%
FL	Jacksonville	Runways Transportation Company	MB	NA	1.0	1.1	1.5	11.6	0.8	0.9	1.0	7.3	33.33%	58.90%
FL	Jacksonville	Runways Transportation Company	TOTAL	NA	1.0	1.1	1.5	11.6	0.8	0.9	1.0	7.3	33.33%	58.90%

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

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FL Miami	Miami-Dade Transit Agency	AG	27.6	769.0	662.3	740.1	8,723.7	811.8	763.1	760.6	8,838.8	-7.03%	-1.30%
FL Miami	Miami-Dade Transit Agency	DR	4.6	126.0	148.4	112.7	1,604.4	129.4	123.4	152.2	1,669.1	-4.42%	-3.88%
FL Miami	Miami-Dade Transit Agency	HR	63.8	1,757.6	1,536.0	1,480.8	19,075.9	1,494.1	1,431.5	1,462.9	17,627.0	8.79%	8.22%
FL Miami	Miami-Dade Transit Agency	MB	292.0	7,804.1	7,249.3	7,070.3	86,409.2	7,471.7	6,996.3	7,156.6	84,218.3	2.31%	2.60%
FL Miami	Miami-Dade Transit Agency	TOTAL	387.9	10,456.7	9,596.0	9,403.9	115,813.2	9,907.0	9,314.3	9,532.3	112,353.2	2.44%	3.08%
FL Orlando	Central Florida RTA	DR	2.2	59.4	50.4	54.4	631.1	51.4	45.8	44.4	559.5	15.96%	12.80%
FL Orlando	Central Florida RTA	MB	81.1	2,351.6	1,990.8	2,011.1	26,069.7	2,334.7	2,184.3	2,157.8	25,875.5	-4.84%	0.75%
FL Orlando	Central Florida RTA	VP	0.6	17.4	13.9	14.1	197.4	18.9	15.3	13.4	199.0	-4.62%	-0.80%
FL Orlando	Central Florida RTA	TOTAL	83.9	2,428.4	2,055.1	2,079.6	26,898.2	2,405.0	2,245.4	2,215.6	26,634.0	-4.41%	0.99%
FL Pompano Beach	South Florida RTA (Tri-Rail)	CR	14.8	400.8	346.6	343.8	4,303.6	326.1	306.1	292.9	3,502.5	17.95%	22.87%
FL Pompano Beach	South Florida RTA (Tri-Rail)	MB	1.7	44.8	36.2	38.1	476.4	28.5	28.7	27.3	303.9	40.95%	56.76%
FL Pompano Beach	South Florida RTA (Tri-Rail)	TOTAL	16.5	445.6	382.8	381.9	4,780.0	354.6	334.8	320.2	3,806.4	19.88%	25.58%
FL Sarasota	Sarasota County Area Transit	DR	0.6	17.0	13.2	14.7	192.8	21.8	18.9	16.8	230.8	-21.91%	-16.46%
FL Sarasota	Sarasota County Area Transit	MB	8.4	202.6	207.5	219.9	2,408.0	186.3	166.6	174.1	2,209.6	19.54%	8.98%
FL Sarasota	Sarasota County Area Transit	TOTAL	9.0	219.6	220.7	234.6	2,600.8	208.1	185.5	190.9	2,440.4	15.47%	6.57%
FL St. Petersburg	Pinellas Suncoast Tran Auth	DR	0.8	5.2	5.9	6.0	196.0	21.6	20.1	19.1	251.4	-71.88%	-22.04%
FL St. Petersburg	Pinellas Suncoast Tran Auth	MB	41.1	1,126.5	948.3	982.4	12,652.4	1,062.5	989.0	967.4	11,624.0	1.27%	8.85%
FL St. Petersburg	Pinellas Suncoast Tran Auth	TOTAL	41.9	1,131.7	954.2	988.4	12,848.4	1,084.1	1,009.1	986.5	11,875.4	-0.18%	8.19%
FL Tampa	Hillsborough Area Reg TA	DR	0.3	10.3	7.9	8.2	103.1	9.2	8.5	7.7	89.5	3.94%	15.20%
FL Tampa	Hillsborough Area Reg TA	LR	0.9	38.9	27.3	40.2	436.8	40.1	30.3	39.7	431.8	-3.36%	1.16%
FL Tampa	Hillsborough Area Reg TA	MB	42.6	1,166.0	942.5	958.5	12,136.6	1,066.7	965.1	913.4	11,389.4	4.14%	6.56%
FL Tampa	Hillsborough Area Reg TA	VP	0.4	8.4	6.7	6.8	91.9	9.2	8.0	7.7	85.9	-12.05%	6.98%
FL Tampa	Hillsborough Area Reg TA	TOTAL	44.2	1,223.6	984.4	1,013.7	12,768.4	1,125.2	1,011.9	968.5	11,996.6	3.74%	6.43%
FL West Palm Beach	Palm Beach County STD	DR	NA	NA	NA	NA	NA	76.0	69.1	65.7	919.5	NA	↑
FL West Palm Beach	Palm Beach County STD	MB	36.9	843.9	699.2	735.6	9,664.4	870.6	804.5	780.7	10,053.7	-7.21%	-3.87%
FL West Palm Beach	Palm Beach County STD	TOTAL	NA	NA	NA	NA	NA	946.6	873.6	846.4	10,973.2	NA	↑
GA Atlanta	Metro Atlanta Rapid Tr Auth	DR	1.6	42.6	36.2	38.5	448.5	34.8	32.1	29.8	383.0	21.30%	17.10%
GA Atlanta	Metro Atlanta Rapid Tr Auth	HR	269.7	7,982.6	6,565.4	6,480.8	86,029.9	7,320.7	6,741.1	6,290.2	79,239.2	3.33%	8.57%
GA Atlanta	Metro Atlanta Rapid Tr Auth	MB	237.4	6,766.0	5,735.5	5,834.2	72,112.5	5,794.8	5,103.1	5,236.7	66,990.3	13.64%	7.65%
GA Atlanta	Metro Atlanta Rapid Tr Auth	TOTAL	508.6	14,791.2	12,337.1	12,353.5	158,590.9	13,150.3	11,876.3	11,556.7	146,612.5	7.92%	8.17%
GA Gainesville	Hall Area Transit	DR	0.1	2.9	2.2	2.2	30.3	2.9	2.3	2.1	28.8	0.00%	5.21%
GA Gainesville	Hall Area Transit	MB	2.2	10.6	9.0	8.6	104.7	6.5	5.3	5.5	66.0	63.01%	58.64%
GA Gainesville	Hall Area Transit	TOTAL	2.3	13.5	11.2	10.8	135.0	9.4	7.6	7.6	94.8	44.31%	42.41%

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

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GA Lawrenceville	Gwinnett County DOT	DR	0.1	1.4	1.1	1.2	15.3	1.2	1.1	1.1	10.7	8.82%	42.9%
GA Lawrenceville	Gwinnett County DOT	MB	6.8	214.3	161.6	150.6	2,110.5	170.4	157.2	125.3	1,957.4	16.25%	7.8%
GA Lawrenceville	Gwinnett County DOT	TOTAL	6.9	215.7	162.7	151.8	2,125.8	171.6	158.3	126.4	1,968.1	16.20%	8.0%
GA Savannah	Chatham Area Transit Auth	DR	0.2	5.5	4.7	4.7	61.7	6.3	5.4	4.9	69.4	-10.24%	-11.1%
GA Savannah	Chatham Area Transit Auth	MB	13.5	318.2	254.3	264.3	3,534.2	315.3	293.5	272.2	3,538.6	-5.02%	-0.1%
GA Savannah	Chatham Area Transit Auth	TOTAL	13.7	323.7	259.0	269.0	3,595.9	321.6	298.9	277.1	3,608.0	-5.11%	-0.3%
IA Ames	Ames Transit Agency	DR	0.1	0.9	0.7	0.7	NA	0.9	0.8	0.8	11.2	-8.00%	↑
IA Ames	Ames Transit Agency	MB	21.5	603.0	419.3	403.2	4,740.7	573.6	436.4	257.9	4,405.0	12.43%	7.6%
IA Ames	Ames Transit Agency	TOTAL	21.6	603.9	420.0	403.9	NA	574.5	437.2	258.7	4,416.2	12.39%	↑
IA Des Moines	Des Moines Area Regional TA	DR	7.0	18.7	15.0	15.6	200.6	18.6	16.2	14.3	206.0	0.41%	-2.6%
IA Des Moines	Des Moines Area Regional TA	MB	16.9	434.0	350.0	340.1	4,616.8	400.9	352.3	302.8	3,987.3	6.45%	15.7%
IA Des Moines	Des Moines Area Regional TA	VP	12.1	30.0	24.0	25.1	232.9	12.1	10.6	9.2	130.2	>100%	78.8%
IA Des Moines	Des Moines Area Regional TA	TOTAL	35.9	482.7	389.0	380.8	5,050.3	431.6	379.1	326.3	4,323.5	10.16%	16.8%
ID Boise	Valley Regional Transit	DR	NA	4.0	3.1	NA	NA	4.4	3.8	3.6	40.4	NA	↑
ID Boise	Valley Regional Transit	MB	5.3	139.0	110.8	114.0	1,317.0	105.5	88.4	83.1	1,065.1	31.34%	23.6%
ID Boise	Valley Regional Transit	TOTAL	NA	143.0	113.9	NA	NA	109.9	92.2	86.7	1,105.5	NA	↑
IL Arlington Heights	PACE Suburban Bus	DR	13.5	357.5	304.0	315.4	3,857.8	285.4	314.5	279.8	3,658.0	11.05%	5.4%
IL Arlington Heights	PACE Suburban Bus	MB	117.6	3,371.2	2,691.5	2,478.6	34,653.2	3,229.7	2,784.6	2,468.2	33,543.3	0.69%	3.3%
IL Arlington Heights	PACE Suburban Bus	VP	7.9	193.2	154.1	156.9	1,999.7	174.4	159.9	141.0	1,877.0	6.08%	6.5%
IL Arlington Heights	PACE Suburban Bus	TOTAL	138.9	3,921.9	3,149.6	2,950.9	40,510.7	3,689.5	3,259.0	2,889.0	39,078.3	1.88%	3.6%
IL Chicago	Chicago Transit Authority	DR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00%	↑
IL Chicago	Chicago Transit Authority	HR	640.7	18,947.5	15,777.3	14,839.3	198,137.3	17,725.7	15,419.4	13,689.6	190,272.9	5.83%	4.1%
IL Chicago	Chicago Transit Authority	MB	1,037.2	31,133.0	26,186.5	24,298.1	328,199.2	29,273.9	26,024.2	24,078.1	309,271.4	2.82%	6.1%
IL Chicago	Chicago Transit Authority	TOTAL	1,678.0	50,080.5	41,963.8	39,137.4	526,336.5	46,999.6	41,443.6	37,767.7	499,544.3	3.94%	5.3%
IL Chicago	Metra	CR	324.3	6,630.1	6,048.7	5,906.1	77,166.9	6,647.1	6,370.6	5,833.4	75,099.6	-1.41%	2.7%
IL Chicago	Metra	TOTAL	324.3	6,630.1	6,048.7	5,906.1	77,166.9	6,647.1	6,370.6	5,833.4	75,099.6	-1.41%	2.7%
IL Granite City	Madison County Trans Dist	DR	0.6	14.7	11.9	15.3	146.6	12.0	10.9	9.9	138.8	27.74%	5.6%
IL Granite City	Madison County Trans Dist	MB	8.6	243.2	181.1	175.6	2,289.3	211.8	175.7	143.5	2,044.9	12.98%	11.9%
IL Granite City	Madison County Trans Dist	VP	1.2	29.4	22.5	22.1	307.9	27.1	23.0	17.9	297.5	8.82%	3.5%
IL Granite City	Madison County Trans Dist	TOTAL	10.4	287.3	215.5	213.0	2,743.8	250.9	209.6	171.3	2,481.2	13.30%	10.5%
IL Harrisburg	Rides Mass Transit District	MB	1.4	41.0	31.3	32.6	419.3	35.5	30.2	28.7	325.3	11.12%	28.9%
IL Harrisburg	Rides Mass Transit District	TOTAL	1.4	41.0	31.3	32.6	419.3	35.5	30.2	28.7	325.3	11.12%	28.9%
IL Macomb	Go West Transit	MB	NA	208.4	204.5	146.1	1,658.2	209.8	208.6	93.2	1,607.7	9.27%	3.1%
IL Macomb	Go West Transit	TOTAL	NA	208.4	204.5	146.1	1,658.2	209.8	208.6	93.2	1,607.7	9.27%	3.14%

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IL Moline	Rock Island County MMTD	DR	0.1	1.5	1.5	1.4	17.5	1.5	1.5	1.2	17.1	4.76%	2.34
IL Moline	Rock Island County MMTD	MB	7.7	253.7	226.1	215.0	2,703.4	195.2	239.1	206.0	2,521.4	8.51%	7.22
IL Moline	Rock Island County MMTD	TOTAL	7.9	255.2	227.6	216.4	2,720.9	196.7	240.6	207.2	2,538.5	8.49%	7.19
IL Springfield	Springfield Mass Transit Dist	DR	0.2	4.7	3.6	4.1	50.0	4.5	4.0	3.8	48.7	0.81%	2.67
IL Springfield	Springfield Mass Transit Dist	MB	5.4	152.8	129.0	133.0	1,527.7	126.5	116.7	109.3	1,301.8	17.67%	17.35
IL Springfield	Springfield Mass Transit Dist	TOTAL	5.6	157.5	132.6	137.1	1,577.7	131.0	120.7	113.1	1,350.5	17.11%	16.82
IL Urbana	Champaign-Urbana MTD	DR	0.6	12.0	9.7	10.1	131.9	14.4	12.8	11.2	135.5	-17.19%	-2.66
IL Urbana	Champaign-Urbana MTD	MB	40.7	1,171.4	899.5	792.9	9,670.0	1,122.8	872.7	558.0	8,863.6	12.15%	9.10
IL Urbana	Champaign-Urbana MTD	TOTAL	41.3	1,183.4	909.2	803.0	9,801.9	1,137.2	885.5	569.2	8,999.1	11.72%	8.92
IN Bloomington	Bloomington Public Trp Corp	DR	0.1	2.9	2.4	2.2	31.6	3.2	2.8	2.4	35.4	-10.71%	-10.73
IN Bloomington	Bloomington Public Trp Corp	MB	12.3	357.1	265.6	228.8	2,830.1	335.5	272.4	161.8	2,570.1	10.63%	10.12
IN Bloomington	Bloomington Public Trp Corp	TOTAL	12.4	360.0	268.0	231.0	2,861.7	338.7	275.2	164.2	2,605.5	10.40%	9.83
IN Chesterton	Northern IN Commuter TD	CR	13.0	356.9	300.8	320.3	4,180.4	373.4	336.6	319.8	4,245.9	-5.03%	-1.54
IN Chesterton	Northern IN Commuter TD	TOTAL	13.0	356.9	300.8	320.3	4,180.4	373.4	336.6	319.8	4,245.9	-5.03%	-1.54
IN East Chicago	City of East Chicago PT	DR	NA	0.5	0.4	0.4	6.0	0.6	0.5	0.5	6.4	-18.75%	-6.25
IN East Chicago	City of East Chicago PT	MB	NA	27.0	19.0	21.0	265.0	28.0	21.0	19.0	271.0	-1.47%	-2.21
IN East Chicago	City of East Chicago PT	TOTAL	NA	27.5	19.4	21.4	271.0	28.6	21.5	19.5	277.4	-1.87%	-2.31
IN Fort Wayne	Fort Wayne Public Tr Corp	DR	0.2	4.8	3.6	3.4	51.7	4.1	4.4	3.8	47.9	-4.07%	7.93
IN Fort Wayne	Fort Wayne Public Tr Corp	MB	6.5	170.6	142.6	141.1	2,023.4	183.1	164.2	157.4	1,934.6	-9.99%	4.59
IN Fort Wayne	Fort Wayne Public Tr Corp	TOTAL	6.7	175.4	146.2	144.5	2,075.1	187.2	168.6	161.2	1,982.5	-9.85%	4.67
IN Gary	Gary Public Transp Corp	DR	NA	0.9	0.9	0.9	10.5	2.0	1.8	1.8	21.2	-51.79%	-50.47
IN Gary	Gary Public Transp Corp	MB	3.3	84.6	69.5	68.9	890.7	85.6	76.4	68.4	810.7	-3.21%	9.87
IN Gary	Gary Public Transp Corp	TOTAL	NA	NA	NA	NA	NA	87.6	78.2	70.2	831.9	NA	↑
IN Indianapolis	Indianapolis Public Trp Corp	DR	1.4	31.6	27.4	28.4	327.3	28.3	25.1	23.3	303.4	13.95%	7.88
IN Indianapolis	Indianapolis Public Trp Corp	MB	31.4	917.3	726.9	673.4	9,590.1	793.1	726.3	677.3	8,380.8	5.50%	14.43
IN Indianapolis	Indianapolis Public Trp Corp	TOTAL	32.8	948.9	754.3	701.8	9,917.4	NA	NA	NA	NA	NA	↑
IN Lafayette	Greater Lafayette PTC	DR	0.1	2.1	1.7	1.8	20.6	1.6	1.5	1.4	18.2	24.44%	13.19
IN Lafayette	Greater Lafayette PTC	MB	23.3	584.8	485.8	415.3	4,945.3	570.0	507.3	275.6	4,646.3	9.83%	6.44
IN Lafayette	Greater Lafayette PTC	TOTAL	23.4	586.9	487.5	417.1	4,965.9	571.6	508.8	277.0	4,664.5	9.88%	6.46
IN Muncie	Muncie Indiana Transit Sys	DR	0.3	6.6	5.5	6.0	71.6	7.5	6.4	5.5	82.8	-6.70%	-13.53
IN Muncie	Muncie Indiana Transit Sys	MB	7.4	199.8	157.3	151.0	1,957.9	193.1	173.5	141.4	1,953.0	0.02%	0.25
IN Muncie	Muncie Indiana Transit Sys	TOTAL	7.7	206.4	162.8	157.0	2,029.5	200.6	179.9	146.9	2,035.8	-0.23%	-0.31

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '08 (000's)	Trips for Nov '08 (000's)	Trips for Dec '08 (000's)	Trips Thru Dec '08 (000's)	Trips for Oct '07 (000's)	Trips for Nov '07 (000's)	Trips for Dec '07 (000's)	Trips Thru Dec '07 (000's)	Quarterly Change	Year-to-Date Change
IN South Bend	South Bend Public Transp	DR	0.1	3.9	3.2	3.2	39.0	3.1	2.9	2.6	34.1	19.77%	14.37
IN South Bend	South Bend Public Transp	MB	9.3	282.2	253.6	204.3	2,792.7	283.0	283.7	198.8	2,615.4	-3.32%	6.78
IN South Bend	South Bend Public Transp	TOTAL	9.4	286.1	256.8	207.5	2,831.7	286.1	286.6	201.4	2,649.5	-3.06%	6.88
KS Olathe	Johnson County Transit	DR	0.4	9.2	6.6	7.2	100.9	9.5	8.2	7.2	102.3	-7.63%	-1.37
KS Olathe	Johnson County Transit	MB	2.1	55.2	41.4	35.6	525.3	42.3	38.6	28.5	388.8	20.84%	35.11
KS Olathe	Johnson County Transit	TOTAL	2.5	64.4	48.0	42.8	626.2	51.8	46.8	35.7	491.1	15.56%	27.51
KY Fort Wright	Tr Auth of Northern Kentucky	DR	0.4	10.1	8.5	8.4	107.0	9.3	8.5	7.1	97.5	8.43%	9.74
KY Fort Wright	Tr Auth of Northern Kentucky	MB	12.1	368.3	292.8	284.6	3,854.5	344.6	311.7	280.4	3,626.5	0.96%	6.29
KY Fort Wright	Tr Auth of Northern Kentucky	TOTAL	12.5	378.4	301.3	293.0	3,961.5	353.9	320.2	287.5	3,724.0	1.15%	6.38
KY Lexington	Transit Auth Lexington-Fayette	DR	NA	NA	NA	NA	NA	12.0	10.9	10.3	132.1	NA	↑
KY Lexington	Transit Auth Lexington-Fayette	MB	23.2	524.6	457.2	483.6	NA	496.4	454.6	429.5	5,388.7	6.15%	↑
KY Lexington	Transit Auth Lexington-Fayette	TOTAL	NA	NA	NA	NA	NA	508.4	465.5	439.8	5,520.8	NA	↑
KY Louisville	Transit Auth of River City	DR	1.4	38.0	31.4	32.0	404.9	35.5	32.1	28.8	393.5	5.19%	2.90
KY Louisville	Transit Auth of River City	MB	50.4	1,458.2	1,171.6	1,144.2	15,775.4	1,496.2	1,353.1	1,192.9	15,866.2	-6.64%	-0.57
KY Louisville	Transit Auth of River City	TOTAL	51.8	1,496.2	1,203.0	1,176.2	16,180.3	1,531.7	1,385.2	1,221.7	16,259.7	-6.36%	-0.49
KY Owensboro	Owensboro Transit System	DR	NA	1.8	NA	NA	NA	1.5	NA	NA	NA	NA	↑
KY Owensboro	Owensboro Transit System	MB	NA	27.5	NA	NA	NA	24.7	24.8	25.1	297.0	NA	↑
KY Owensboro	Owensboro Transit System	TOTAL	NA	29.3	NA	NA	NA	26.2	NA	NA	NA	NA	↑
KY Paducah	Paducah Area Transit System	DR	NA	49.1	13.1	13.1	256.2	26.1	20.4	14.1	299.7	24.26%	-14.51
KY Paducah	Paducah Area Transit System	MB	NA	18.1	18.1	17.1	185.0	36.1	27.4	15.3	256.0	-32.36%	-27.73
KY Paducah	Paducah Area Transit System	TOTAL	NA	67.2	31.2	30.2	441.2	62.2	47.8	29.4	555.7	-7.75%	-20.60
LA Baton Rouge	Capital Area Transit System	MB	81.6	444.1	346.4	267.1	3,826.9	451.3	391.8	259.5	3,639.0	-4.08%	5.16
LA Baton Rouge	Capital Area Transit System	TOTAL	81.6	444.1	346.4	267.1	3,826.9	451.3	391.8	259.5	3,639.0	-4.08%	5.16
LA New Orleans	Regional Transit Auth	DR	0.4	11.4	9.3	10.1	112.1	7.3	7.0	7.2	80.4	43.26%	39.43
LA New Orleans	Regional Transit Auth	LR	15.1	485.4	402.5	402.8	4,708.1	152.9	225.9	293.0	1,481.9	92.13%	>100
LA New Orleans	Regional Transit Auth	MB	24.0	657.4	546.7	544.0	6,536.4	634.5	553.7	507.1	6,746.8	3.11%	-3.12
LA New Orleans	Regional Transit Auth	TOTAL	39.4	1,154.2	958.5	956.9	11,356.6	794.7	786.6	807.3	8,309.1	28.51%	36.68
MA Amherst	UMass Transit Service	MB	13.0	369.3	287.6	228.7	2,760.2	340.3	282.7	210.2	2,591.3	6.29%	6.52
MA Amherst	UMass Transit Service	TOTAL	13.0	369.3	287.6	228.7	2,760.2	340.3	282.7	210.2	2,591.3	6.29%	6.52

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '08 (000's)	Trips for Nov '08 (000's)	Trips for Dec '08 (000's)	Trips Thru Dec '08 (000's)	Trips for Oct '07 (000's)	Trips for Nov '07 (000's)	Trips for Dec '07 (000's)	Trips Thru Dec '07 (000's)	Quarterly Change	Year-to-Date Change
MA Boston	Massachusetts Bay Tr Auth	CR	148.6	3,718.0	3,202.1	3,313.7	39,721.4	3,546.6	3,290.2	3,127.9	38,961.6	2.70%	1.9%
MA Boston	Massachusetts Bay Tr Auth	DR	6.4	177.3	157.4	157.9	1,896.0	153.7	144.1	129.5	1,648.8	15.28%	14.9%
MA Boston	Massachusetts Bay Tr Auth	FB	3.6	110.3	74.5	69.0	1,220.5	128.5	81.2	63.7	1,378.7	-7.17%	-11.47%
MA Boston	Massachusetts Bay Tr Auth	HR	485.8	14,016.0	11,701.1	11,585.5	150,408.3	11,904.8	11,787.9	10,882.3	139,387.6	7.89%	7.91%
MA Boston	Massachusetts Bay Tr Auth	LR	229.2	6,957.4	5,838.5	5,489.2	80,337.2	7,110.8	6,811.4	6,186.8	81,843.0	-9.07%	-1.84%
MA Boston	Massachusetts Bay Tr Auth	MB	347.2	9,449.6	8,215.3	8,350.1	107,354.2	9,679.8	8,274.1	7,467.1	104,398.5	2.34%	2.8%
MA Boston	Massachusetts Bay Tr Auth	TB	12.5	314.5	268.2	284.5	3,798.3	354.2	308.5	276.5	3,769.3	-7.67%	0.77%
MA Boston	Massachusetts Bay Tr Auth	TOTAL	1,233.2	34,743.1	29,457.1	29,249.9	384,735.9	32,878.4	30,697.4	28,133.8	371,387.5	1.90%	3.5%
MD Baltimore	Maryland Transit Admin	CR	30.4	738.7	562.8	614.0	8,068.7	718.1	637.3	576.2	7,720.3	-0.83%	4.51%
MD Baltimore	Maryland Transit Admin	DR	4.2	96.6	81.1	87.6	1,038.2	84.8	79.7	76.4	852.7	10.13%	21.7%
MD Baltimore	Maryland Transit Admin	HR	53.3	1,305.3	1,007.5	1,049.3	14,179.7	1,170.7	1,147.6	1,071.3	13,555.5	-0.81%	4.6%
MD Baltimore	Maryland Transit Admin	LR	33.6	833.2	646.3	635.7	8,054.1	711.8	680.2	602.8	7,085.1	6.04%	13.6%
MD Baltimore	Maryland Transit Admin	MB	301.3	7,238.8	5,808.6	5,922.8	73,865.1	6,048.4	5,907.3	5,396.7	67,976.3	9.32%	8.6%
MD Baltimore	Maryland Transit Admin	TOTAL	422.8	10,212.6	8,106.3	8,309.4	105,205.8	8,733.8	8,452.1	7,723.4	97,189.9	6.90%	8.2%
MD College Park	Shuttle-UM Transit System	DR	0.1	1.7	1.3	1.5	24.2	2.7	3.0	1.9	28.3	-40.79%	-14.4%
MD College Park	Shuttle-UM Transit System	MB	13.7	367.5	282.1	181.0	2,488.4	308.7	289.9	131.7	2,167.2	13.73%	14.8%
MD College Park	Shuttle-UM Transit System	TOTAL	13.8	369.2	283.4	182.5	2,512.6	311.4	292.9	133.6	2,195.5	13.17%	14.4%
MD Largo	Prince Georges County Transp	DR	0.6	14.1	11.8	13.2	155.7	13.9	11.9	11.2	154.1	5.68%	1.04%
MD Largo	Prince Georges County Transp	MB	13.9	360.2	253.4	276.8	3,652.8	300.4	282.2	232.7	3,041.2	9.21%	20.11%
MD Largo	Prince Georges County Transp	TOTAL	14.5	374.3	265.2	290.0	3,808.5	314.3	294.1	243.9	3,195.3	9.06%	19.1%
MD Rockville	Montgomery County Ride-On	MB	96.4	2,772.6	2,339.1	2,392.8	29,110.2	2,718.7	2,440.3	2,273.7	29,196.0	0.97%	-0.2%
MD Rockville	Montgomery County Ride-On	TOTAL	NA	NA	NA	NA	NA	2,718.7	2,440.3	2,273.7	29,196.0	NA	1%
ME Portland	Northern NE Passenger RA	CR	1.3	44.4	39.8	29.7	482.9	36.2	35.1	34.2	381.9	7.96%	26.4%
ME Portland	Northern NE Passenger RA	TOTAL	1.3	44.4	39.8	29.7	482.9	36.2	35.1	34.2	381.9	7.96%	26.4%
MI Ann Arbor	Ann Arbor Transportation Auth	DR	0.6	17.5	14.9	14.6	182.3	16.1	14.4	12.8	172.1	8.55%	5.9%
MI Ann Arbor	Ann Arbor Transportation Auth	MB	23.3	650.2	508.8	452.8	6,046.9	596.0	516.3	403.8	5,547.8	6.31%	9.0%
MI Ann Arbor	Ann Arbor Transportation Auth	TOTAL	23.9	667.7	523.7	467.4	6,229.2	612.1	530.7	416.6	5,719.9	6.37%	8.9%
MI Battle Creek	City of Battle Creek	DR	0.1	2.4	2.0	2.3	26.8	2.3	2.3	2.1	27.3	0.00%	-1.8%
MI Battle Creek	City of Battle Creek	MB	2.0	49.7	40.2	39.3	508.5	44.1	40.4	35.9	465.3	7.31%	9.2%
MI Battle Creek	City of Battle Creek	TOTAL	2.1	52.1	42.2	41.6	535.3	46.4	42.7	38.0	492.6	6.92%	8.67%
MI Bay City	Bay Metropolitan Transp Auth	DR	0.2	5.1	3.8	4.0	59.1	5.7	5.1	4.8	62.0	-17.31%	-4.6%
MI Bay City	Bay Metropolitan Transp Auth	MB	2.0	50.5	38.8	38.0	554.1	59.0	50.5	45.2	551.3	-17.71%	0.51%
MI Bay City	Bay Metropolitan Transp Auth	TOTAL	2.2	55.6	42.6	42.0	613.2	64.7	55.6	50.0	613.3	-17.67%	-0.02%

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '08 (000's)	Trips for Nov '08 (000's)	Trips for Dec '08 (000's)	Trips Thru Dec '08 (000's)	Trips for Oct '07 (000's)	Trips for Nov '07 (000's)	Trips for Dec '07 (000's)	Trips Thru Dec '07 (000's)	Quarterly Change	Year-to-Date Change
MI Detroit	City of Detroit Dept of Trp	DR	0.9	24.3	21.1	20.8	261.0	19.0	19.0	19.0	218.5	16.14%	19.4%
MI Detroit	City of Detroit Dept of Trp	MB	129.6	3,781.5	3,098.0	2,895.4	38,480.7	3,225.3	2,901.7	2,621.5	36,170.7	11.73%	6.3%
MI Detroit	City of Detroit Dept of Trp	TOTAL	130.5	3,805.8	3,119.1	2,916.2	38,741.7	3,244.3	2,920.7	2,640.5	36,389.2	11.76%	6.4%
MI Detroit	Detroit Transp Corp/DPM	AG	4.3	127.6	121.1	131.5	2,059.6	139.1	132.1	145.0	2,320.6	-8.65%	-11.2%
MI Detroit	Detroit Transp Corp/DPM	TOTAL	4.3	127.6	121.1	131.5	2,059.6	139.1	132.1	145.0	2,320.6	-8.65%	-11.2%
MI Flint	Mass Transportation Authority	DR	2.6	71.0	57.3	52.9	670.7	62.9	55.9	49.2	642.2	7.86%	4.4%
MI Flint	Mass Transportation Authority	MB	19.1	576.0	431.1	402.5	5,537.8	492.8	441.0	404.6	4,811.1	5.32%	15.1%
MI Flint	Mass Transportation Authority	TOTAL	21.7	647.0	488.4	455.4	6,208.5	555.7	496.9	453.8	5,453.3	5.60%	13.8%
MI Grand Rapids	Interurban Transit Partnership	DR	1.2	40.5	33.9	34.3	423.4	38.7	34.0	31.7	411.9	4.12%	2.7%
MI Grand Rapids	Interurban Transit Partnership	MB	36.8	1,063.3	817.8	658.8	8,894.8	943.9	787.2	586.3	7,891.2	9.60%	12.7%
MI Grand Rapids	Interurban Transit Partnership	TOTAL	38.0	1,103.8	851.7	693.1	9,318.2	982.6	821.2	618.0	8,303.1	9.36%	12.2%
MI Lansing	Capital Area Transp Authority	DR	1.8	47.5	38.7	39.2	502.5	49.3	43.5	38.9	503.4	-4.78%	-0.1%
MI Lansing	Capital Area Transp Authority	MB	43.3	1,315.0	1,075.2	719.9	10,963.6	1,197.6	1,078.8	670.6	10,222.6	5.53%	7.2%
MI Lansing	Capital Area Transp Authority	TOTAL	45.1	1,362.5	1,113.9	759.1	11,466.1	1,246.9	1,122.3	709.5	10,726.0	5.09%	6.9%
MI Monroe	Lake Erie Transp Commission	DR	0.5	11.7	9.5	9.7	125.4	12.1	10.9	8.8	133.2	-2.83%	-5.8%
MI Monroe	Lake Erie Transp Commission	MB	1.0	23.0	19.6	19.4	261.4	22.6	27.8	19.5	259.6	-11.30%	0.6%
MI Monroe	Lake Erie Transp Commission	TOTAL	1.5	34.7	29.1	29.1	386.8	34.7	38.7	28.3	392.8	-8.65%	-1.5%
MI Muskegon Heights	Muskegon Area Transit Sys	DR	0.0	1.1	1.0	1.0	12.2	1.3	1.2	1.1	14.1	-13.89%	-13.4%
MI Muskegon Heights	Muskegon Area Transit Sys	MB	2.1	60.8	48.3	49.3	612.2	53.4	47.8	45.5	538.9	7.98%	13.6%
MI Muskegon Heights	Muskegon Area Transit Sys	TOTAL	2.1	61.9	49.3	50.3	624.4	54.7	49.0	46.6	553.0	7.45%	12.9%
MI Port Huron	Blue Water Area Transp Comm	DR	9.2	44.1	35.7	40.0	474.2	45.1	39.4	33.2	452.4	1.78%	4.8%
MI Port Huron	Blue Water Area Transp Comm	MB	13.0	59.9	54.9	54.8	NA	NA	NA	NA	NA	NA	↑
MI Port Huron	Blue Water Area Transp Comm	TOTAL	22.2	104.0	90.6	94.8	NA	NA	NA	NA	NA	NA	↑
MN Anoka	Anoka County Office of Transit	DR	0.2	5.7	5.0	5.1	57.0	4.7	4.1	4.0	52.1	23.44%	9.4%
MN Anoka	Anoka County Office of Transit	MB	1.7	41.1	32.2	34.2	439.9	36.4	31.9	28.8	383.0	10.71%	14.8%
MN Anoka	Anoka County Office of Transit	TOTAL	1.9	46.8	37.2	39.3	496.9	41.1	36.0	32.8	435.1	12.19%	14.2%
MN Burnsville	Minnesota Valley Transit Auth	DR	0.1	2.4	2.0	2.2	24.9	2.0	1.7	1.4	20.7	29.41%	20.2%
MN Burnsville	Minnesota Valley Transit Auth	MB	9.7	242.2	189.1	194.9	2,613.2	229.1	198.9	168.5	2,448.4	4.98%	6.7%
MN Burnsville	Minnesota Valley Transit Auth	TOTAL	9.8	244.6	191.1	197.1	2,638.1	231.1	200.6	169.9	2,469.1	5.19%	6.8%
MN Minneapolis	Metro Transit	LR	30.2	892.7	849.8	844.0	10,221.6	863.7	868.0	843.4	9,100.9	0.44%	12.3%
MN Minneapolis	Metro Transit	MB	234.1	6,510.0	5,430.8	5,319.6	71,613.4	6,318.6	5,670.4	5,187.6	67,865.9	0.49%	5.5%
MN Minneapolis	Metro Transit	TOTAL	264.3	7,402.7	6,280.6	6,163.6	81,835.0	7,182.3	6,538.4	6,031.0	76,966.8	0.48%	6.3%

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

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MN Plymouth	Plymouth Metrolink & DAR	DR	0.0	5.5	4.0	4.1	57.0	6.1	5.0	4.3	64.3	-11.69%	-11.35%
MN Plymouth	Plymouth Metrolink & DAR	MB	1.8	43.9	32.9	35.0	480.1	45.7	39.6	32.7	479.1	-5.25%	0.21%
MN Plymouth	Plymouth Metrolink & DAR	TOTAL	1.8	49.4	36.9	39.1	537.1	51.8	44.6	37.0	543.4	-6.00%	-1.16%
MO Kansas City	Kansas City Area Trp Auth	DR	1.7	44.9	38.4	38.8	500.5	40.3	39.4	37.0	458.1	4.63%	9.26%
MO Kansas City	Kansas City Area Trp Auth	MB	55.7	1,561.9	1,280.6	1,245.8	16,616.7	1,370.9	1,257.3	1,133.6	14,868.1	8.68%	11.76%
MO Kansas City	Kansas City Area Trp Auth	VP	0.2	5.7	4.5	4.9	69.8	6.3	5.7	5.0	71.9	-11.18%	-2.92%
MO Kansas City	Kansas City Area Trp Auth	TOTAL	57.6	1,612.5	1,323.5	1,289.5	17,187.0	1,417.5	1,302.4	1,175.6	15,398.1	8.47%	11.62%
MO Saint Louis	Bi-State Dev Agency	DR	2.5	64.3	54.8	57.3	710.8	61.5	57.3	54.1	672.4	2.02%	5.71%
MO Saint Louis	Bi-State Dev Agency	LR	59.0	1,810.6	1,566.5	1,488.4	20,212.7	1,642.1	1,542.4	1,418.5	19,070.0	5.70%	5.99%
MO Saint Louis	Bi-State Dev Agency	MB	116.5	3,414.1	2,842.9	2,609.3	35,025.6	3,064.7	2,781.1	2,527.0	32,176.3	5.89%	8.86%
MO Saint Louis	Bi-State Dev Agency	TOTAL	178.0	5,289.0	4,464.2	4,155.0	55,949.1	4,768.3	4,380.8	3,999.6	51,918.7	5.78%	7.76%
MO Springfield	City Utilities of Springfield	DR	0.1	1.7	1.5	1.4	17.4	1.6	1.3	1.2	16.7	12.20%	4.19%
MO Springfield	City Utilities of Springfield	MB	5.3	145.5	116.9	117.7	1,568.1	145.1	130.2	119.2	1,914.8	-3.65%	-18.11%
MO Springfield	City Utilities of Springfield	TOTAL	5.4	147.2	118.4	119.1	1,585.5	146.7	131.5	120.4	1,931.5	-3.49%	-17.91%
MS Jackson	Jackson Public Transportation	DR	0.9	2.0	2.0	2.0	28.9	2.4	2.3	2.0	31.0	-10.45%	-6.77%
MS Jackson	Jackson Public Transportation	MB	1.8	46.1	37.4	40.2	566.8	68.1	59.2	56.2	741.3	-32.59%	-23.54%
MS Jackson	Jackson Public Transportation	TOTAL	2.7	48.1	39.4	42.2	595.7	70.5	61.5	58.2	772.3	-31.81%	-22.87%
NC Boone	AppalCART	MB	5.2	179.5	125.1	82.1	1,145.5	150.7	117.6	46.4	975.7	22.88%	17.40%
NC Boone	AppalCART	TOTAL	5.2	179.5	125.1	82.1	1,145.5	150.7	117.6	46.4	975.7	22.88%	17.40%
NC Chapel Hill	Chapel Hill Transit	MB	28.4	745.7	606.6	437.8	6,637.0	716.4	571.5	359.6	5,788.7	8.66%	14.65%
NC Chapel Hill	Chapel Hill Transit	TOTAL	28.4	745.7	606.6	437.8	6,637.0	716.4	571.5	359.6	5,788.7	8.66%	14.65%
NC Charlotte	Charlotte Area Transit	DR	1.8	43.9	35.0	35.1	455.9	39.1	36.5	33.2	474.1	4.78%	-3.84%
NC Charlotte	Charlotte Area Transit	LR	21.7	476.4	400.1	424.5	4,975.0	0.0	161.2	356.0	517.2	>100%	>100%
NC Charlotte	Charlotte Area Transit	MB	88.1	2,033.9	1,629.5	1,620.4	20,680.5	1,795.1	1,635.6	1,455.7	19,119.5	8.13%	8.16%
NC Charlotte	Charlotte Area Transit	VP	1.1	23.5	18.6	21.7	255.1	20.0	19.7	19.2	235.3	8.32%	8.41%
NC Charlotte	Charlotte Area Transit	TOTAL	112.6	2,577.7	2,083.2	2,101.7	26,366.5	1,854.2	1,853.0	1,864.1	20,346.1	21.38%	29.59%
NC Greensboro	Greensboro Transit Auth	DR	0.6	17.8	15.4	14.0	198.6	17.8	15.9	13.8	180.8	-0.63%	9.85%
NC Greensboro	Greensboro Transit Auth	MB	13.7	395.3	315.5	295.8	3,860.2	343.6	317.3	277.8	3,923.4	7.23%	-1.61%
NC Greensboro	Greensboro Transit Auth	TOTAL	14.3	413.1	330.9	309.8	4,058.8	361.4	333.2	291.6	4,104.2	6.85%	-1.11%
NC Resrch Trigle Park	Triangle Transit Authority	MB	4.2	123.4	85.3	75.3	1,100.0	87.7	75.5	58.3	885.0	28.22%	24.29%
NC Resrch Trigle Park	Triangle Transit Authority	VP	1.9	43.6	34.3	40.7	446.0	36.5	31.4	30.0	394.1	21.14%	13.17%
NC Resrch Trigle Park	Triangle Transit Authority	TOTAL	6.1	167.0	119.6	116.0	1,546.0	124.2	106.9	88.3	1,279.1	26.05%	20.87%

Attachment: Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '08 (000's)	Trips for Nov '08 (000's)	Trips for Dec '08 (000's)	Trips Thru Dec '08 (000's)	Trips for Oct '07 (000's)	Trips for Nov '07 (000's)	Trips for Dec '07 (000's)	Trips Thru Dec '07 (000's)	Quarterly Change	Year-to-Date Change
NJ Jersey City	Port Authority of NY & NJ	AG	5.8	170.6	154.0	187.0	1,941.9	160.2	171.9	178.1	1,794.4	0.27%	8.22%
NJ Jersey City	Port Authority of NY & NJ	FB	6.8	168.6	130.3	137.7	1,792.9	176.3	147.3	122.1	1,816.7	-2.04%	-1.31%
NJ Jersey City	Port Authority of NY & NJ	HR	250.4	6,765.0	5,734.9	6,040.3	74,937.7	6,636.4	5,961.9	5,673.4	71,593.5	1.47%	4.67%
NJ Jersey City	Port Authority of NY & NJ	TOTAL	263.0	7,104.2	6,019.2	6,365.0	78,672.5	6,972.9	6,281.1	5,973.6	75,204.6	1.36%	4.61%
NJ Lindenwold	Port Authority Transit Corp	HR	36.6	1,044.7	787.3	821.3	10,337.9	863.7	782.0	713.7	9,406.5	12.46%	9.90%
NJ Lindenwold	Port Authority Transit Corp	TOTAL	36.6	1,044.7	787.3	821.3	10,337.9	863.7	782.0	713.7	9,406.5	12.46%	9.90%
NJ Newark	New Jersey Transit Corp	CR	NA	6,656.7	6,416.5	6,533.1	77,527.6	6,582.0	6,533.4	6,480.5	74,854.5	0.05%	3.57%
NJ Newark	New Jersey Transit Corp	LR	NA	2,060.1	1,704.6	1,842.0	21,858.3	1,790.2	1,683.4	1,675.0	19,710.8	8.90%	10.90%
NJ Newark	New Jersey Transit Corp	MB	NA	15,200.4	12,885.5	13,106.1	166,219.8	14,626.6	13,339.0	12,434.6	159,736.2	1.96%	4.06%
NJ Newark	New Jersey Transit Corp	TOTAL	NA	23,917.2	21,006.6	21,481.2	265,605.7	22,998.8	21,555.8	20,590.1	254,301.5	1.93%	4.45%
NM Albuquerque	New Mexico Dept of Trp	CR	2.5	61.0	37.6	99.1	676.7	47.9	36.4	33.1	500.9	68.40%	35.10%
NM Albuquerque	New Mexico Dept of Trp	MB	1.4	36.7	26.3	22.0	399.7	31.8	27.9	23.3	330.3	2.41%	21.01%
NM Albuquerque	New Mexico Dept of Trp	TOTAL	3.9	97.7	63.9	121.1	1,076.4	79.7	64.3	56.4	831.2	41.07%	29.50%
NM Las Cruces	City of Las Cruces-RdRUNR Tr	DR	0.2	5.8	4.4	4.5	59.2	5.7	4.6	4.1	56.6	2.08%	4.59%
NM Las Cruces	City of Las Cruces-RdRUNR Tr	MB	2.2	68.4	51.4	47.4	651.9	66.9	60.7	50.8	717.3	-6.28%	-9.12%
NM Las Cruces	City of Las Cruces-RdRUNR Tr	TOTAL	2.4	74.2	55.8	51.9	711.1	72.6	65.3	54.9	773.9	-5.65%	-8.11%
NV Las Vegas	RTC of Southern Nevada	DR	3.3	91.7	72.0	85.6	1,015.8	82.9	71.0	67.7	905.5	12.50%	12.18%
NV Las Vegas	RTC of Southern Nevada	MB	198.6	6,185.0	5,411.1	5,207.6	67,336.1	5,768.6	5,215.9	4,993.7	64,242.6	5.17%	4.82%
NV Las Vegas	RTC of Southern Nevada	TOTAL	201.9	6,276.7	5,483.1	5,293.2	68,351.9	5,851.5	5,286.9	5,061.4	65,148.1	5.27%	4.92%
NV Reno	Regional Transportation Comm	DR	0.7	21.1	18.0	19.9	239.4	21.3	19.6	18.9	248.4	-1.34%	-3.62%
NV Reno	Regional Transportation Comm	MB	23.8	809.8	664.6	683.6	9,092.5	788.8	744.6	685.9	8,865.4	-2.76%	2.56%
NV Reno	Regional Transportation Comm	TOTAL	24.5	830.9	682.6	703.5	9,331.9	810.1	764.2	704.8	9,113.8	-2.72%	2.39%
NV Stateline	South Tahoe Area Transit Authority	DR	NA	1.8	NA	NA	NA	2.6	2.3	2.5	32.2	NA	1.10%
NV Stateline	South Tahoe Area Transit Authority	MB	NA	41.0	NA	NA	NA	25.0	27.0	109.0	792.0	NA	1.10%
NV Stateline	South Tahoe Area Transit Authority	TOTAL	NA	42.8	NA	NA	NA	27.6	29.3	111.5	824.2	NA	1.10%
NY Albany	Capital District Transp Auth	DR	0.8	19.3	17.0	17.6	213.7	17.0	16.9	15.8	195.7	8.45%	9.20%
NY Albany	Capital District Transp Auth	MB	52.8	1,479.2	1,214.8	1,202.1	15,052.2	1,320.1	1,165.8	1,057.2	13,302.7	9.96%	13.15%
NY Albany	Capital District Transp Auth	TOTAL	53.5	1,498.5	1,231.8	1,219.7	15,265.9	1,337.1	1,182.7	1,073.0	13,498.4	9.94%	13.09%
NY Buffalo	Niagara Frontier Trp Auth	DR	0.5	12.4	10.8	10.7	129.1	10.3	9.7	8.9	109.8	17.30%	17.58%
NY Buffalo	Niagara Frontier Trp Auth	LR	26.3	677.6	591.6	599.7	6,869.0	498.5	514.2	414.4	5,543.1	30.96%	23.92%
NY Buffalo	Niagara Frontier Trp Auth	MB	78.9	2,190.0	1,875.9	1,827.6	21,381.0	1,993.7	1,808.6	1,672.1	20,029.6	7.66%	6.75%
NY Buffalo	Niagara Frontier Trp Auth	TOTAL	105.7	2,880.0	2,478.3	2,438.0	28,379.1	2,502.5	2,332.5	2,095.4	25,682.5	12.49%	10.50%
NY Garden City	MTA Long Island Bus	DR	1.4	35.3	30.3	31.2	378.4	32.6	29.5	26.9	352.3	8.76%	7.41%
NY Garden City	MTA Long Island Bus	MB	108.1	2,974.4	2,535.6	2,579.2	32,649.2	2,993.1	2,701.8	2,522.6	32,088.2	-1.56%	1.75%
NY Garden City	MTA Long Island Bus	TOTAL	109.5	3,009.7	2,565.9	2,610.4	33,027.6	3,025.7	2,731.3	2,549.5	32,440.5	1.45%	1.91%

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '08 (000's)	Trips for Nov '08 (000's)	Trips for Dec '08 (000's)	Trips Thru Dec '08 (000's)	Trips for Oct '07 (000's)	Trips for Nov '07 (000's)	Trips for Dec '07 (000's)	Trips Thru Dec '07 (000's)	Quarterly Change	Year-to-Date Change
NY Ithaca	Tompkins Consol Area Transit	MB	12.5	357.6	295.5	230.5	3,231.7	330.4	292.6	177.5	3,098.8	10.38%	4.2%
NY Ithaca	Tompkins Consol Area Transit	TOTAL	12.5	NA	NA	NA	NA	330.4	292.6	177.5	3,098.8	NA	NA
NY New York	MTA Long Island Rail Road	CR	348.5	8,766.0	7,816.0	8,310.1	103,215.1	8,768.0	8,432.0	8,144.0	100,368.0	-1.78%	2.84%
NY New York	MTA Long Island Rail Road	TOTAL	348.5	8,766.0	7,816.0	8,310.1	103,215.1	8,768.0	8,432.0	8,144.0	100,368.0	-1.78%	2.84%
NY New York	MTA Metro-North Railroad	CR	291.9	7,457.3	6,466.7	7,119.4	82,948.7	7,264.1	6,782.1	6,820.0	79,724.7	0.85%	4.04%
NY New York	MTA Metro-North Railroad	FB	1.0	23.1	18.2	20.0	250.3	21.2	18.3	16.1	205.7	10.25%	21.6%
NY New York	MTA Metro-North Railroad	MB	1.5	35.6	29.0	33.7	412.8	38.2	34.2	30.6	393.3	-4.56%	4.9%
NY New York	MTA Metro-North Railroad	TOTAL	294.4	7,516.0	6,513.9	7,173.1	83,611.8	7,323.5	6,834.6	6,866.7	80,323.7	0.85%	4.0%
NY New York	MTA New York City Transit	DR	24.6	679.1	621.6	629.7	7,243.6	565.9	519.3	432.6	5,872.0	27.18%	23.3%
NY New York	MTA New York City Transit	HR	7,880.0	217,250.1	192,850.8	204,576.3	2,451,201.6	219,826.4	203,935.2	199,578.6	2,383,218.1	-1.39%	2.8%
NY New York	MTA New York City Transit	MB	2,385.3	67,457.3	59,242.7	60,382.3	746,977.4	68,338.3	61,406.3	58,016.4	738,039.6	-0.36%	1.21%
NY New York	MTA New York City Transit	TOTAL	10,289.9	285,386.5	252,715.1	265,588.3	3,205,422.6	288,730.6	265,860.8	258,027.6	3,127,129.7	-1.10%	2.5%
NY New York	MTA Staten Island Railway	HR	15.9	412.2	340.3	359.1	4,380.0	432.4	391.1	348.4	4,129.3	-5.15%	6.07%
NY New York	MTA Staten Island Railway	TOTAL	15.9	412.2	340.3	359.1	4,380.0	432.4	391.1	348.4	4,129.3	-5.15%	6.07%
NY New York	New York City DOT	FB	62.0	1,819.3	1,579.7	1,659.8	20,045.7	1,804.6	1,525.1	1,597.6	19,513.3	2.67%	2.7%
NY New York	New York City DOT	MB	2.6	65.2	51.3	53.7	704.6	67.2	57.8	46.9	679.6	-0.99%	3.6%
NY New York	New York City DOT	TOTAL	64.7	1,884.5	1,631.0	1,713.5	20,750.3	1,871.8	1,582.9	1,644.5	20,192.9	2.55%	2.7%
NY Syracuse	Centro of Cayuga	MB	1.7	40.2	34.5	38.4	444.4	30.7	29.8	29.1	355.3	26.23%	25.0%
NY Syracuse	Centro of Cayuga	TOTAL	1.7	40.2	34.5	38.4	444.4	30.7	29.8	29.1	355.3	26.23%	25.0%
NY Syracuse	Centro of Oswego	MB	1.7	40.1	35.7	33.6	336.4	27.1	25.9	19.4	312.8	51.10%	7.54%
NY Syracuse	Centro of Oswego	TOTAL	1.7	40.1	35.7	33.6	336.4	27.1	25.9	19.4	312.8	51.10%	7.54%
NY Syracuse	CNY Centro	DR	0.3	4.6	6.0	6.3	80.1	6.8	6.3	6.2	75.0	-12.44%	6.8%
NY Syracuse	CNY Centro	MB	44.1	1,098.0	935.1	795.3	10,645.5	941.8	842.5	711.9	9,576.9	13.31%	11.1%
NY Syracuse	CNY Centro	TOTAL	44.4	1,102.6	941.1	801.6	10,725.6	948.6	848.8	718.1	9,651.9	13.11%	11.12%
OH Canton	Stark Area RTA	DR	0.5	14.6	11.4	11.4	148.1	15.2	13.6	11.6	155.9	-7.43%	-5.0%
OH Canton	Stark Area RTA	MB	7.3	209.6	176.6	181.4	2,246.9	188.4	175.5	167.6	2,080.8	6.79%	7.9%
OH Canton	Stark Area RTA	TOTAL	7.8	224.2	188.0	192.8	2,395.0	203.6	189.1	179.2	2,236.7	5.79%	7.0%
OH Cincinnati	Southwest Ohio RTA	DR	0.8	22.1	18.4	19.0	238.4	22.2	19.8	18.1	249.4	-1.00%	-4.41%
OH Cincinnati	Southwest Ohio RTA	MB	63.9	2,027.1	1,600.1	1,610.3	21,354.1	2,171.1	1,921.5	1,776.0	22,709.1	-10.75%	-5.97%
OH Cincinnati	Southwest Ohio RTA	TOTAL	64.7	2,049.2	1,618.5	1,629.3	21,592.5	2,193.3	1,941.3	1,794.1	22,958.5	-10.65%	-5.9%

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

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OH Cleveland	Greater Cleveland Reg TA	DR	NA	45.3	38.2	41.1	507.2	45.5	42.2	39.2	481.0	-1.81%	5.4%
OH Cleveland	Greater Cleveland Reg TA	HR	NA	572.0	481.8	483.9	5,929.7	562.8	479.0	437.0	5,908.2	3.98%	0.3%
OH Cleveland	Greater Cleveland Reg TA	LR	NA	320.3	307.1	296.7	3,278.4	296.3	288.6	258.4	3,198.8	9.58%	2.4%
OH Cleveland	Greater Cleveland Reg TA	MB	209.5	4,668.5	3,797.4	3,742.2	47,571.8	4,529.3	4,032.5	3,594.2	47,663.1	0.43%	-0.1%
OH Cleveland	Greater Cleveland Reg TA	TOTAL	NA	5,606.1	4,624.5	4,563.9	57,287.1	5,433.9	4,842.3	4,328.8	57,251.1	1.30%	0.0%
OH Columbus	Central Ohio Transit Auth	DR	0.7	18.7	16.6	17.7	198.0	15.5	14.3	13.5	166.5	22.40%	18.9%
OH Columbus	Central Ohio Transit Auth	MB	57.0	1,625.4	1,309.0	1,277.6	16,330.1	1,423.0	1,290.6	1,129.8	14,880.6	9.59%	9.7%
OH Columbus	Central Ohio Transit Auth	TOTAL	57.7	1,644.1	1,325.6	1,295.3	16,528.1	1,438.5	1,304.9	1,143.3	15,047.1	9.73%	9.8%
OH Delaware	Delaware Area Transit Agency	MB	0.2	5.1	3.3	3.4	48.8	5.6	4.8	4.5	53.1	-20.81%	-8.1%
OH Delaware	Delaware Area Transit Agency	TOTAL	0.2	5.1	3.3	3.4	48.8	5.6	4.8	4.5	53.1	-20.81%	-8.1%
OH Grand River	LAKETRAN	DR	1.3	32.1	25.9	27.1	354.4	33.0	29.7	25.8	362.6	-3.84%	-2.2%
OH Grand River	LAKETRAN	MB	2.3	60.0	45.6	43.8	623.1	56.9	49.4	42.0	589.5	0.74%	5.7%
OH Grand River	LAKETRAN	TOTAL	3.7	92.1	71.5	70.9	977.5	89.9	79.1	67.8	952.1	-0.97%	2.6%
OH Kent	Portage Area Reg Trp Auth	DR	NA	10.1	8.0	8.5	118.6	13.2	11.2	9.2	151.2	-20.83%	-21.5%
OH Kent	Portage Area Reg Trp Auth	MB	NA	189.5	132.5	76.0	1,299.0	189.3	142.7	75.5	1,223.0	-2.33%	6.2%
OH Kent	Portage Area Reg Trp Auth	TOTAL	NA	199.6	140.5	84.5	1,417.6	202.5	153.9	84.7	1,374.2	-3.74%	3.1%
OH Zanesville	South East Area Transit	DR	0.1	1.7	1.2	0.9	16.8	1.9	1.4	1.8	16.9	-25.49%	-0.5%
OH Zanesville	South East Area Transit	MB	0.3	5.2	5.5	5.4	70.5	5.9	5.9	6.5	63.2	-12.02%	11.5%
OH Zanesville	South East Area Transit	TOTAL	0.4	6.9	6.7	6.3	87.3	7.8	7.3	8.3	80.1	-14.96%	8.9%
OK Oklahoma City	Central Oklahoma TA	DR	0.2	5.5	4.5	4.8	63.0	5.8	5.3	4.3	61.3	-3.90%	2.7%
OK Oklahoma City	Central Oklahoma TA	MB	8.8	255.1	209.7	200.6	2,652.0	227.9	201.9	167.8	2,597.7	11.35%	2.0%
OK Oklahoma City	Central Oklahoma TA	TOTAL	9.1	260.6	214.2	205.4	2,715.0	233.7	207.2	172.1	2,659.0	10.96%	2.1%
OK Tulsa	Metro Tulsa Transit Auth	MB	11.0	269.1	210.7	200.5	2,704.3	228.0	198.9	159.6	2,387.9	15.99%	13.2%
OK Tulsa	Metro Tulsa Transit Auth	TOTAL	11.0	269.1	210.7	200.5	2,704.3	228.0	198.9	159.6	2,387.9	15.99%	13.2%
OR Portland	Tri-County Metro Trp Dist	DR	3.5	102.4	87.8	67.1	1,105.2	102.2	92.3	87.7	1,100.7	-8.82%	0.4%
OR Portland	Tri-County Metro Trp Dist	LR	107.6	3,132.7	2,707.0	2,912.0	35,772.9	3,027.6	2,839.0	2,667.8	34,700.4	2.55%	3.0%
OR Portland	Tri-County Metro Trp Dist	MB	214.8	6,152.0	5,214.9	5,213.3	66,759.2	5,604.2	5,094.9	4,897.7	62,609.6	6.31%	6.6%
OR Portland	Tri-County Metro Trp Dist	TOTAL	325.9	9,387.1	8,009.7	8,192.4	103,637.3	8,734.0	8,026.2	7,653.2	98,410.7	4.82%	5.3%
OR Salem	Salem-Keizer Transit	DR	0.4	11.4	8.4	7.4	125.6	11.1	9.7	10.1	121.0	-11.97%	3.8%
OR Salem	Salem-Keizer Transit	MB	17.5	474.5	370.9	370.4	5,157.1	460.6	403.8	369.3	5,053.3	-1.45%	2.0%
OR Salem	Salem-Keizer Transit	TOTAL	17.9	485.9	379.3	377.8	5,282.7	471.7	413.5	379.4	5,174.3	-1.71%	2.0%
PA Butler	Butler Transit Authority	MB	6.5	21.6	18.7	19.5	225.3	18.6	17.2	16.1	190.2	15.22%	18.4%
PA Butler	Butler Transit Authority	TOTAL	6.5	21.6	18.7	19.5	225.3	18.6	17.2	16.1	190.2	15.22%	18.4%

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '08 (000's)	Trips for Nov '08 (000's)	Trips for Dec '08 (000's)	Trips Thru Dec '08 (000's)	Trips for Oct '07 (000's)	Trips for Nov '07 (000's)	Trips for Dec '07 (000's)	Trips Thru Dec '07 (000's)	Quarterly Change	Year-to-Date Change
PA Charleroi	Mid Mon Valley Transit Auth	MB	1.6	41.6	33.4	27.3	372.0	35.0	31.1	24.3	339.2	13.16%	9.67%
PA Charleroi	Mid Mon Valley Transit Auth	TOTAL	1.6	41.6	33.4	27.3	372.0	35.0	31.1	24.3	339.2	13.16%	9.67%
PA Greensburg	Westmoreland County TA	DR	0.0	0.7	0.6	0.6	NA	0.5	0.4	0.4	4.8	46.15%	↑
PA Greensburg	Westmoreland County TA	MB	1.7	41.5	32.4	33.3	NA	35.3	31.3	26.1	360.8	15.64%	↑
PA Greensburg	Westmoreland County TA	TOTAL	1.7	42.2	33.0	33.9	NA	35.8	31.7	26.5	365.6	16.06%	↑
PA Harrisburg	Cumberland-Dauphin-Harrisburg TA	DR	0.8	18.6	15.3	16.9	204.6	18.5	16.4	14.8	210.7	2.21%	-2.90%
PA Harrisburg	Cumberland-Dauphin-Harrisburg TA	MB	9.7	254.6	205.4	210.9	2,670.7	228.6	201.9	184.2	2,429.6	9.14%	9.92%
PA Harrisburg	Cumberland-Dauphin-Harrisburg TA	TOTAL	10.4	273.2	220.7	227.8	2,875.3	247.1	218.3	199.0	2,640.3	8.62%	8.90%
PA Harris-Phil	Penn DOT (Keystone)	CR	1.7	50.1	42.6	42.8	513.9	41.0	40.4	36.8	436.5	14.64%	17.73%
PA Harris-Phil	Penn DOT (Keystone)	TOTAL	1.7	50.1	42.6	42.8	513.9	41.0	40.4	36.8	436.5	14.64%	17.73%
PA Johnstown	Cambria County Transit Auth	DR	0.0	0.4	0.3	0.3	3.3	0.2	0.2	0.2	3.2	66.67%	3.12%
PA Johnstown	Cambria County Transit Auth	IP	0.2	8.7	4.8	3.1	101.6	9.7	4.4	3.9	103.7	-7.78%	-2.03%
PA Johnstown	Cambria County Transit Auth	MB	3.0	98.0	82.2	86.2	1,128.3	93.2	85.7	87.0	1,127.1	0.19%	0.11%
PA Johnstown	Cambria County Transit Auth	TOTAL	3.2	107.1	87.3	89.6	1,233.2	103.1	90.3	91.1	1,234.0	-0.18%	-0.06%
PA Lancaster	Red Rose Transit Authority	DR	1.2	29.3	23.9	25.8	326.1	30.2	27.2	24.7	344.7	-3.78%	-5.40%
PA Lancaster	Red Rose Transit Authority	MB	7.2	220.5	163.0	163.3	2,116.8	183.6	170.9	157.0	1,947.4	6.90%	8.70%
PA Lancaster	Red Rose Transit Authority	TOTAL	8.3	249.8	186.9	189.1	2,442.9	213.8	198.1	181.7	2,292.1	5.42%	6.58%
PA Lebanon	County of Lebanon Tr Auth	DR	0.2	5.6	4.6	5.0	61.8	5.4	5.2	4.6	60.3	0.00%	2.49%
PA Lebanon	County of Lebanon Tr Auth	MB	1.1	29.7	25.3	26.1	329.8	25.9	24.0	23.8	270.1	10.04%	22.10%
PA Lebanon	County of Lebanon Tr Auth	TOTAL	1.3	35.3	29.9	31.1	391.6	31.3	29.2	28.4	330.4	8.32%	18.52%
PA Philadelphia	Southeastern Penn TA	CR	128.0	2,900.3	3,520.8	2,600.7	36,167.7	2,797.5	3,480.6	2,675.1	33,360.4	0.77%	8.42%
PA Philadelphia	Southeastern Penn TA	DR	6.1	145.0	172.1	133.6	1,782.9	144.9	169.3	130.6	1,769.4	1.33%	0.76%
PA Philadelphia	Southeastern Penn TA	HR	318.0	7,266.6	9,276.3	7,017.5	90,999.3	7,303.1	9,009.2	6,831.3	89,418.7	1.80%	1.77%
PA Philadelphia	Southeastern Penn TA	LR	112.6	2,720.0	3,152.3	2,451.1	32,453.3	2,482.1	3,060.5	2,305.3	26,317.6	6.06%	23.31%
PA Philadelphia	Southeastern Penn TA	MB	558.3	13,214.2	15,752.0	12,294.8	164,944.6	13,211.3	16,287.2	12,352.3	162,135.9	-1.41%	1.73%
PA Philadelphia	Southeastern Penn TA	TB	18.2	445.9	502.2	392.6	3,516.1	0.0	0.0	0.0	0.0	NA	↑
PA Philadelphia	Southeastern Penn TA	TOTAL	1,141.2	26,692.0	32,375.7	24,890.3	329,863.9	25,938.9	32,006.8	24,294.6	313,002.0	2.09%	5.39%
PA Pittsburgh	Port Auth of Allegheny Co	DR	5.9	157.0	131.5	136.5	1,701.2	159.8	138.9	129.8	1,704.5	-0.82%	-0.19%
PA Pittsburgh	Port Auth of Allegheny Co	IP	2.4	94.9	81.1	80.0	1,143.8	94.7	86.1	82.2	1,085.0	-2.66%	5.42%
PA Pittsburgh	Port Auth of Allegheny Co	LR	25.7	676.0	569.0	591.0	7,306.2	647.5	615.1	571.3	6,922.6	0.11%	5.54%
PA Pittsburgh	Port Auth of Allegheny Co	MB	198.7	5,557.0	4,661.0	4,502.0	58,373.6	5,502.0	4,886.0	4,283.4	59,320.4	0.33%	-1.60%
PA Pittsburgh	Port Auth of Allegheny Co	TOTAL	232.7	6,484.9	5,442.6	5,309.5	68,524.8	6,404.0	5,726.1	5,066.7	69,032.5	0.23%	-0.74%
PA Reading	Berks Area Reading Trp Auth	DR	0.9	20.7	17.4	17.8	224.9	20.8	18.1	16.1	220.5	1.64%	2.00%
PA Reading	Berks Area Reading Trp Auth	MB	10.2	273.9	228.9	242.7	2,958.3	259.5	239.2	230.1	2,753.4	2.29%	7.44%
PA Reading	Berks Area Reading Trp Auth	TOTAL	11.1	294.6	246.3	260.5	3,183.2	280.3	257.3	246.2	2,973.9	2.25%	7.04%

Attachment: Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '08 (000's)	Trips for Nov '08 (000's)	Trips for Dec '08 (000's)	Trips Thru Dec '08 (000's)	Trips for Oct '07 (000's)	Trips for Nov '07 (000's)	Trips for Dec '07 (000's)	Trips Thru Dec '07 (000's)	Quarterly Change	Year-to-Date Change
PA Rochester	Beaver County Transit Authority	DR	0.4	8.8	7.1	7.1	94.4	9.2	8.0	6.9	99.9	-4.56%	-5.51
PA Rochester	Beaver County Transit Authority	MB	3.1	76.4	61.9	64.5	808.1	67.1	61.1	55.6	704.3	10.34%	14.74
PA Rochester	Beaver County Transit Authority	TOTAL	3.5	85.2	69.0	71.6	902.5	76.3	69.1	62.5	804.2	8.61%	12.22
PA Scotrun	Monroe County Transp Auth	MB	0.9	30.9	24.2	24.2	323.3	31.2	27.7	24.5	252.1	-4.92%	28.24
PA Scotrun	Monroe County Transp Auth	TOTAL	0.9	30.9	24.2	24.2	323.3	31.2	27.7	24.5	252.1	-4.92%	28.24
PA Williamsport	Williamsport Bureau of Tr	DR	0.0	0.1	0.1	0.2	1.6	0.2	0.1	0.1	1.8	0.00%	-11.11
PA Williamsport	Williamsport Bureau of Tr	MB	4.4	116.9	98.2	103.5	1,329.7	107.5	101.1	101.6	1,244.5	2.71%	6.85
PA Williamsport	Williamsport Bureau of Tr	TOTAL	4.4	117.0	98.3	103.7	1,331.3	107.7	101.2	101.7	1,246.3	2.70%	6.82
PR San Juan	Puerto Rico DOT	HR	36.8	929.7	739.8	756.2	9,304.2	807.4	696.9	603.8	8,215.2	15.07%	13.26
PR San Juan	Puerto Rico DOT	MB	7.1	181.0	145.0	143.0	2,076.5	171.6	184.7	163.4	2,235.3	-9.76%	-7.10
PR San Juan	Puerto Rico DOT	TOTAL	43.9	1,110.7	884.8	899.2	11,380.7	979.0	881.6	767.2	10,450.5	10.16%	8.90
TN Chattanooga	Chattanooga Area RTA	DR	NA	3.9	3.3	3.4	43.4	4.0	3.5	3.1	42.6	0.00%	1.88
TN Chattanooga	Chattanooga Area RTA	IP	NA	28.3	18.8	12.1	385.7	38.8	24.3	16.4	374.6	-25.53%	2.96
TN Chattanooga	Chattanooga Area RTA	MB	NA	253.5	199.7	186.1	2,789.0	261.6	225.0	198.0	2,712.6	-6.62%	2.82
TN Chattanooga	Chattanooga Area RTA	TOTAL	NA	285.7	221.8	201.6	3,218.1	304.4	252.8	217.5	3,129.8	-8.47%	2.82
TN Clarksville	Clarksville Transit System	DR	0.1	3.1	2.5	2.7	35.0	3.2	2.8	2.6	35.3	-3.49%	-0.85
TN Clarksville	Clarksville Transit System	MB	2.4	66.3	55.5	56.2	723.3	60.3	54.8	54.5	644.4	4.95%	12.24
TN Clarksville	Clarksville Transit System	TOTAL	2.5	69.4	58.0	58.9	758.3	63.5	57.6	57.1	679.7	4.55%	11.56
TN Memphis	Memphis Area Transit Auth	DR	0.9	23.6	18.8	19.1	254.5	23.5	20.4	18.6	254.0	-1.60%	0.20
TN Memphis	Memphis Area Transit Auth	LR	2.8	100.9	72.3	61.6	1,060.3	92.2	81.0	53.8	1,079.3	3.44%	-1.76
TN Memphis	Memphis Area Transit Auth	MB	37.7	1,006.0	808.1	884.2	10,414.5	940.6	852.1	847.2	10,393.0	2.21%	0.21
TN Memphis	Memphis Area Transit Auth	TOTAL	41.3	1,130.5	899.2	964.9	11,729.3	1,056.3	953.5	919.6	11,726.3	2.23%	0.03
TN Nashville	Metropolitan Transit Auth	DR	NA	24.4	20.7	21.3	266.2	21.8	20.1	18.7	234.5	9.57%	13.52
TN Nashville	Metropolitan Transit Auth	MB	NA	872.7	673.9	678.1	9,118.9	818.0	741.1	696.6	8,614.1	-1.37%	5.86
TN Nashville	Metropolitan Transit Auth	TOTAL	NA	897.1	694.6	699.4	9,385.1	839.8	761.2	715.3	8,848.6	-1.09%	6.06
TX Austin	Capital Metropolitan Trp Auth	DR	2.3	62.1	48.9	56.8	706.8	63.1	56.2	53.0	677.4	-2.61%	4.34
TX Austin	Capital Metropolitan Trp Auth	MB	137.0	4,177.8	3,114.7	2,666.7	37,082.9	3,766.0	3,593.1	2,537.2	34,580.0	0.64%	7.24
TX Austin	Capital Metropolitan Trp Auth	VP	1.4	32.9	24.3	24.4	351.0	29.8	25.6	21.1	322.0	6.67%	9.01
TX Austin	Capital Metropolitan Trp Auth	TOTAL	140.7	4,272.8	3,187.9	2,747.9	38,140.7	3,858.9	3,674.9	2,611.3	35,579.4	0.63%	7.20
TX Bryan	Brazos Transit District	DR	0.1	6.7	5.3	5.4	63.9	5.2	4.5	4.0	58.2	27.01%	9.79
TX Bryan	Brazos Transit District	MB	1.0	23.3	17.4	18.0	240.4	22.5	19.3	17.8	227.0	-1.51%	5.90
TX Bryan	Brazos Transit District	TOTAL	1.1	30.0	22.7	23.4	304.3	27.7	23.8	21.8	285.2	3.82%	6.70

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

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TX Corpus Christi	Corpus Christi Regional TA	DR	0.9	19.6	15.6	16.6	210.4	16.7	16.5	16.4	202.5	4.44%	3.90%
TX Corpus Christi	Corpus Christi Regional TA	FB	0.0	0.0	0.0	0.0	24.1	0.0	0.0	0.0	0.0	0.00%	1.00%
TX Corpus Christi	Corpus Christi Regional TA	MB	20.6	499.0	399.1	394.8	5,238.8	485.7	426.7	407.5	4,958.5	-2.05%	5.65%
TX Corpus Christi	Corpus Christi Regional TA	VP	0.0	0.7	0.9	0.8	21.2	0.6	0.3	1.3	17.4	9.09%	21.84%
TX Corpus Christi	Corpus Christi Regional TA	TOTAL	21.5	519.3	415.6	412.2	5,494.5	503.0	443.5	425.2	5,178.4	-1.79%	6.10%
TX Dallas	Dallas Area Rapid Transit	DR	2.5	68.4	55.8	58.1	742.4	65.7	58.1	53.1	699.9	3.05%	6.07%
TX Dallas	Dallas Area Rapid Transit	LR	69.8	1,851.3	1,571.4	1,652.9	19,826.5	1,662.8	1,493.5	1,530.2	17,990.6	8.30%	10.20%
TX Dallas	Dallas Area Rapid Transit	MB	156.9	4,533.1	3,559.0	3,395.5	45,419.2	4,170.2	3,647.5	3,284.6	44,357.1	3.47%	2.39%
TX Dallas	Dallas Area Rapid Transit	TOTAL	229.2	6,452.8	5,186.2	5,106.5	65,988.1	5,898.7	5,199.1	4,867.9	63,047.6	4.88%	4.66%
TX Dallas-Ft Worth	Trinity Railway Express	CR	10.5	327.5	214.3	215.7	2,850.4	234.1	204.2	186.2	2,497.2	21.30%	14.14%
TX Dallas-Ft Worth	Trinity Railway Express	TOTAL	10.5	327.5	214.3	215.7	2,850.4	234.1	204.2	186.2	2,497.2	21.30%	14.14%
TX El Paso	El Paso Mass Transit Dept	DR	0.6	19.2	15.5	16.1	227.0	22.8	19.8	18.1	241.7	-16.31%	-6.08%
TX El Paso	El Paso Mass Transit Dept	MB	43.0	1,249.1	1,094.2	1,073.0	12,858.5	1,127.5	1,062.4	1,005.2	12,501.0	6.92%	2.86%
TX El Paso	El Paso Mass Transit Dept	TOTAL	43.6	1,268.3	1,109.7	1,089.1	13,085.5	1,150.3	1,082.2	1,023.3	12,742.7	6.49%	2.69%
TX Fort Worth	Fort Worth Trp Auth	DR	1.4	33.0	28.5	30.0	360.7	29.7	28.0	26.3	321.4	8.93%	12.23%
TX Fort Worth	Fort Worth Trp Auth	MB	22.0	565.3	506.7	463.5	6,337.1	575.6	516.0	472.0	6,265.0	-1.80%	1.15%
TX Fort Worth	Fort Worth Trp Auth	VP	2.7	23.0	19.0	20.0	552.6	52.8	49.0	50.3	569.3	-59.24%	-2.93%
TX Fort Worth	Fort Worth Trp Auth	TOTAL	26.0	621.3	554.2	513.5	7,250.4	658.1	593.0	548.6	7,155.7	-6.15%	1.32%
TX Galveston	City of Galveston/Island Tr	DR	0.0	0.6	0.5	0.4	23.3	2.4	2.1	2.0	27.4	-76.92%	-14.96%
TX Galveston	City of Galveston/Island Tr	LR	0.0	0.0	0.0	0.0	17.9	1.1	0.8	1.2	31.5	-100.00%	-43.17%
TX Galveston	City of Galveston/Island Tr	MB	0.0	47.7	43.9	35.1	1,002.4	98.8	89.7	89.0	1,150.8	-54.34%	-12.90%
TX Galveston	City of Galveston/Island Tr	TOTAL	0.0	48.3	44.4	35.5	1,043.6	102.3	92.6	92.2	1,209.7	-55.35%	-13.73%
TX Houston	Metro Tr Auth of Harris Co	DR	5.9	131.8	111.7	114.7	1,413.7	135.6	119.2	112.1	1,446.2	-2.37%	-2.25%
TX Houston	Metro Tr Auth of Harris Co	LR	39.3	1,081.7	906.0	863.6	11,640.2	1,142.2	985.3	883.3	12,013.6	-5.30%	-3.11%
TX Houston	Metro Tr Auth of Harris Co	MB	269.5	7,532.9	6,137.8	5,681.7	81,175.3	8,169.1	7,503.9	7,126.2	85,867.7	-15.12%	-5.46%
TX Houston	Metro Tr Auth of Harris Co	VP	10.6	249.0	193.8	203.6	2,584.6	219.9	190.0	155.6	2,201.8	14.31%	17.39%
TX Houston	Metro Tr Auth of Harris Co	TOTAL	325.2	8,995.4	7,349.3	6,863.6	96,813.8	9,666.8	8,798.4	8,277.2	101,529.3	-13.22%	-4.64%
TX Laredo	El Metro	DR	0.2	5.1	4.1	3.5	50.6	4.6	4.1	3.6	50.4	3.25%	0.40%
TX Laredo	El Metro	MB	13.2	316.1	255.9	272.1	4,034.9	402.1	363.2	370.3	4,358.5	-25.67%	-7.42%
TX Laredo	El Metro	TOTAL	13.4	321.2	260.0	275.6	4,085.5	406.7	367.3	373.9	4,408.9	-25.36%	-7.34%
TX Lewisville	Denton County Transportation Auth	DR	0.2	4.6	3.5	3.3	45.1	3.4	3.1	2.6	37.1	25.27%	21.56%
TX Lewisville	Denton County Transportation Auth	MB	9.7	296.6	208.0	103.0	1,937.8	278.1	212.3	92.9	1,778.8	4.17%	8.94%
TX Lewisville	Denton County Transportation Auth	TOTAL	9.9	301.2	211.5	106.3	1,982.9	281.5	215.4	95.5	1,815.9	4.49%	9.20%

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

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TX Lubbock	Citibus	DR	0.3	9.6	7.7	7.7	97.9	8.7	7.6	7.1	93.2	6.84%	5.04%
TX Lubbock	Citibus	MB	11.5	348.5	273.5	122.3	2,742.5	400.5	310.5	137.5	2,872.0	-12.28%	-4.51%
TX Lubbock	Citibus	TOTAL	11.8	358.1	281.2	130.0	2,840.4	409.2	318.1	144.6	2,965.2	-11.77%	-4.21%
TX San Antonio	VIA Metropolitan Transit	DR	3.8	100.9	82.7	86.0	1,086.8	98.4	86.4	80.7	1,081.7	1.54%	0.47%
TX San Antonio	VIA Metropolitan Transit	MB	144.2	4,292.0	3,669.2	3,469.1	45,893.9	4,006.4	3,623.6	3,470.7	41,657.6	2.97%	10.17%
TX San Antonio	VIA Metropolitan Transit	TOTAL	148.1	4,392.9	3,751.9	3,555.1	46,980.7	4,104.8	3,710.0	3,551.4	42,739.3	2.94%	9.92%
TX Waco	Waco Transit System	DR	0.2	7.2	5.7	5.8	75.2	6.7	6.0	5.5	73.3	2.75%	2.56%
TX Waco	Waco Transit System	MB	2.3	73.0	58.3	48.5	706.0	68.9	58.7	46.6	643.9	3.21%	9.64%
TX Waco	Waco Transit System	TOTAL	2.5	80.2	64.0	54.3	781.2	75.6	64.7	52.1	717.2	3.17%	8.92%
UT Logan	Logan/Cache Valley TD	DR	0.1	2.5	2.0	2.2	26.8	2.4	2.1	1.7	25.2	8.06%	6.35%
UT Logan	Logan/Cache Valley TD	MB	7.1	200.2	153.1	125.5	1,930.3	181.8	152.9	117.5	1,720.0	5.88%	12.23%
UT Logan	Logan/Cache Valley TD	TOTAL	7.2	202.7	155.1	127.7	1,957.1	184.2	155.0	119.2	1,745.2	5.91%	12.14%
UT Salt Lake City	Utah Transit Authority	CR	5.8	167.6	123.2	133.1	1,385.9	0.0	0.0	0.0	0.0	NA	↑
UT Salt Lake City	Utah Transit Authority	DR	1.9	43.6	36.1	39.6	481.1	44.7	40.1	34.2	484.3	0.25%	-0.66%
UT Salt Lake City	Utah Transit Authority	LR	44.8	1,221.3	1,082.0	1,124.9	13,949.0	1,095.7	1,078.1	960.2	12,425.3	9.39%	12.26%
UT Salt Lake City	Utah Transit Authority	MB	89.0	2,169.4	1,832.0	1,910.8	22,080.7	2,005.2	1,886.3	1,762.6	20,981.0	4.56%	5.24%
UT Salt Lake City	Utah Transit Authority	VP	5.7	134.4	118.9	118.9	1,658.0	147.5	142.3	143.4	1,656.3	-14.08%	0.10%
UT Salt Lake City	Utah Transit Authority	TOTAL	147.3	3,736.3	3,192.2	3,327.3	39,554.7	3,293.1	3,146.8	2,900.4	35,546.9	9.80%	11.27%
VA Alexandria	Alexandria Transit Company	MB	13.8	370.4	300.7	314.2	4,054.6	354.1	310.7	287.5	3,875.0	3.47%	4.63%
VA Alexandria	Alexandria Transit Company	TOTAL	13.8	370.4	300.7	314.2	4,054.6	354.1	310.7	287.5	3,875.0	3.47%	4.63%
VA Alexandria	Virginia Railway Express	CR	15.8	352.7	271.1	297.4	3,817.1	324.0	277.4	245.1	3,504.1	8.82%	8.93%
VA Alexandria	Virginia Railway Express	TOTAL	15.8	352.7	271.1	297.4	3,817.1	324.0	277.4	245.1	3,504.1	8.82%	8.93%
VA Arlington	Arlington Transit (ART)	MB	4.7	129.2	108.0	114.2	1,382.6	100.8	94.5	89.3	1,114.0	23.47%	24.11%
VA Arlington	Arlington Transit (ART)	TOTAL	4.7	129.2	108.0	114.2	1,382.6	100.8	94.5	89.3	1,114.0	23.47%	24.11%
VA Fairfax	City of Fairfax CUE Bus	MB	4.5	108.2	85.6	80.9	1,080.6	102.1	86.2	69.6	1,064.7	6.51%	1.49%
VA Fairfax	City of Fairfax CUE Bus	TOTAL	4.5	108.2	85.6	80.9	1,080.6	102.1	86.2	69.6	1,064.7	6.51%	1.49%
VA Fairfax	Fairfax County Dept of Transp	MB	32.7	906.5	715.9	769.6	9,420.7	765.2	695.0	593.6	8,363.3	16.47%	12.64%
VA Fairfax	Fairfax County Dept of Transp	TOTAL	32.7	906.5	715.9	769.6	9,420.7	765.2	695.0	593.6	8,363.3	16.47%	12.64%
VA Hampton	Hampton Roads Transit	DR	0.9	23.5	19.8	21.2	250.8	21.7	19.1	18.7	238.0	8.40%	5.38%
VA Hampton	Hampton Roads Transit	FB	0.6	25.0	18.5	14.9	368.0	29.9	22.0	15.4	393.2	-13.22%	-6.41%
VA Hampton	Hampton Roads Transit	MB	74.4	3,146.4	1,004.5	1,511.1	24,250.9	2,300.7	2,506.1	1,692.0	24,329.7	-12.88%	-0.32%
VA Hampton	Hampton Roads Transit	VP	0.8	25.6	13.7	13.4	231.6	17.1	16.3	14.8	195.3	9.34%	18.59%
VA Hampton	Hampton Roads Transit	TOTAL	76.7	3,220.5	1,056.5	1,560.6	25,101.3	2,369.4	2,563.5	1,740.9	25,156.2	-12.53%	-0.22%

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '08 (000's)	Trips for Nov '08 (000's)	Trips for Dec '08 (000's)	Trips Thru Dec '08 (000's)	Trips for Oct '07 (000's)	Trips for Nov '07 (000's)	Trips for Dec '07 (000's)	Trips Thru Dec '07 (000's)	Quarterly Change	Year-to-Date Change
VA Richmond	Greater Richmond Transit Co	DR	0.9	20.4	18.9	19.7	237.5	21.0	19.2	17.7	224.8	1.90%	5.6%
VA Richmond	Greater Richmond Transit Co	MB	37.4	976.8	777.4	790.9	10,045.9	928.2	815.1	717.3	9,613.3	3.43%	4.50%
VA Richmond	Greater Richmond Transit Co	VP	1.9	43.3	36.4	42.0	434.9	32.1	30.6	29.6	339.0	31.85%	28.2%
VA Richmond	Greater Richmond Transit Co	TOTAL	40.2	1,040.5	832.7	852.6	10,718.3	981.3	864.9	764.6	10,177.1	4.40%	5.3%
VA Williamsburg	Williamsburg Area Transport	DR	0.0	0.5	0.4	0.5	5.2	0.5	0.5	0.3	4.6	7.69%	13.04%
VA Williamsburg	Williamsburg Area Transport	MB	2.0	60.8	44.8	62.0	811.7	54.7	54.3	42.2	725.0	10.85%	11.9%
VA Williamsburg	Williamsburg Area Transport	TOTAL	2.0	61.3	45.2	62.5	816.9	55.2	54.8	42.5	729.6	10.82%	11.97%
VA Woodbridge	PRTC Omni-Ride	MB	12.3	302.8	236.7	244.8	3,080.4	248.9	220.8	194.4	2,737.4	18.10%	12.5%
VA Woodbridge	PRTC Omni-Ride	TOTAL	12.3	302.8	236.7	244.8	3,080.4	248.9	220.8	194.4	2,737.4	18.10%	12.5%
WA Bremerton	Kitsap Transit	DR	1.5	39.0	32.2	27.2	428.6	39.5	35.4	30.5	438.7	-6.64%	-2.30%
WA Bremerton	Kitsap Transit	FB	1.6	45.7	35.9	33.2	523.9	42.7	37.7	33.4	465.9	0.88%	12.4%
WA Bremerton	Kitsap Transit	MB	13.9	376.7	309.1	285.6	4,110.0	349.2	321.1	286.0	3,871.1	1.58%	6.17%
WA Bremerton	Kitsap Transit	VP	1.4	29.6	26.4	22.7	312.9	26.7	23.9	20.8	300.3	10.22%	4.20%
WA Bremerton	Kitsap Transit	TOTAL	18.5	491.0	403.6	368.7	5,375.4	458.1	418.1	370.7	5,076.0	1.32%	5.90%
WA Everett	Everett Transit System	DR	0.3	10.3	8.7	7.5	111.6	9.6	8.4	8.3	102.7	0.76%	8.67%
WA Everett	Everett Transit System	MB	8.2	239.6	197.2	203.7	2,513.6	201.1	184.6	173.0	2,226.5	14.64%	12.8%
WA Everett	Everett Transit System	TOTAL	8.5	249.9	205.9	211.2	2,625.2	210.7	193.0	181.3	2,329.2	14.02%	12.71%
WA Everett	Snohomish County PTBA	DR	0.6	19.8	17.1	13.9	214.6	19.8	17.6	16.2	212.2	-5.22%	1.1%
WA Everett	Snohomish County PTBA	MB	35.1	1,008.8	806.2	713.0	10,259.7	877.9	778.6	668.8	9,058.4	8.72%	13.2%
WA Everett	Snohomish County PTBA	VP	3.1	65.9	68.0	60.4	855.4	70.9	63.8	53.6	738.4	3.19%	15.8%
WA Everett	Snohomish County PTBA	TOTAL	38.8	1,094.5	891.3	787.3	11,329.7	968.6	860.0	738.6	10,009.0	8.02%	13.20%
WA Olympia	Intercity Transit	DR	0.2	12.8	10.7	10.0	133.6	11.9	10.8	9.8	135.1	3.08%	-1.11%
WA Olympia	Intercity Transit	MB	13.7	440.8	341.3	337.5	4,318.3	351.4	311.1	265.4	3,635.9	20.66%	18.77%
WA Olympia	Intercity Transit	VP	0.5	68.1	69.2	69.2	729.8	50.9	47.1	45.2	553.9	44.20%	31.7%
WA Olympia	Intercity Transit	TOTAL	14.5	521.7	421.2	416.7	5,181.7	414.2	369.0	320.4	4,324.9	23.20%	19.81%
WA Port Angeles	Clallam Transit System	DR	NA	5.9	5.1	4.4	61.7	4.7	5.6	4.3	60.2	5.48%	2.4%
WA Port Angeles	Clallam Transit System	MB	3.6	95.7	95.7	74.8	1,040.3	82.1	72.1	72.0	902.1	17.68%	15.3%
WA Port Angeles	Clallam Transit System	TOTAL	NA	101.6	100.8	79.2	1,102.0	86.8	77.7	76.3	962.3	16.94%	14.5%
WA Richland	Ben Franklin Transit	DR	2.1	50.7	41.5	42.8	530.8	48.6	42.0	38.0	520.8	4.98%	1.9%
WA Richland	Ben Franklin Transit	MB	13.7	382.3	296.0	285.2	3,804.5	328.1	284.4	252.8	3,358.7	11.35%	13.27%
WA Richland	Ben Franklin Transit	VP	4.7	104.5	92.5	107.2	1,141.1	83.8	77.9	77.2	858.9	27.33%	32.8%
WA Richland	Ben Franklin Transit	TOTAL	20.5	537.5	430.0	435.2	5,476.4	460.5	404.3	368.0	4,738.4	13.78%	15.57%

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '08 (000's)	Trips for Nov '08 (000's)	Trips for Dec '08 (000's)	Trips Thru Dec '08 (000's)	Trips for Oct '07 (000's)	Trips for Nov '07 (000's)	Trips for Dec '07 (000's)	Trips Thru Dec '07 (000's)	Quarterly Change	Year-to-Date Change
WA Seattle	King County Dept of Trp	DR	3.6	108.7	91.5	74.3	1,155.9	104.0	94.2	86.4	1,139.8	-3.55%	1.41
WA Seattle	King County Dept of Trp	LR	1.3	35.1	29.4	31.3	414.2	0.0	0.0	0.0	0.0	NA	1.00
WA Seattle	King County Dept of Trp	MB	321.8	8,882.4	7,436.5	6,804.9	94,109.2	8,138.2	7,402.1	6,618.4	87,187.7	4.36%	7.94
WA Seattle	King County Dept of Trp	TB	78.8	2,203.1	1,929.6	1,708.7	24,168.1	2,121.9	1,922.5	1,755.1	23,278.5	0.72%	3.82
WA Seattle	King County Dept of Trp	VP	10.6	238.8	232.7	231.2	2,769.0	200.2	192.9	173.7	2,322.2	23.98%	19.24
WA Seattle	King County Dept of Trp	TOTAL	416.1	11,468.1	9,719.7	8,850.4	122,616.4	10,564.3	9,611.7	8,633.6	113,928.2	4.26%	7.63
WA Seattle	Sound Transit	CR	10.0	259.3	219.3	221.4	2,668.6	231.3	197.5	175.1	2,156.5	15.91%	23.75
WA Seattle	Sound Transit	LR	3.2	89.3	72.7	81.9	930.7	86.4	79.6	69.4	919.1	3.61%	1.26
WA Seattle	Sound Transit	MB	44.5	1,219.5	1,023.6	1,000.2	12,528.8	988.6	901.4	835.8	10,688.8	18.99%	17.21
WA Seattle	Sound Transit	TOTAL	57.7	1,568.1	1,315.6	1,303.5	16,128.1	1,306.3	1,178.5	1,080.3	13,764.4	17.45%	17.17
WA Spokane	Spokane Transit Authority	DR	1.9	49.4	41.5	31.1	509.9	45.3	41.9	38.8	502.4	-3.17%	1.49
WA Spokane	Spokane Transit Authority	MB	37.5	1,110.6	899.0	783.1	11,110.3	896.5	823.9	762.1	9,436.7	12.50%	17.74
WA Spokane	Spokane Transit Authority	VP	0.8	19.8	16.3	17.3	224.3	14.8	13.9	13.1	168.1	27.75%	33.43
WA Spokane	Spokane Transit Authority	TOTAL	40.3	1,179.8	956.8	831.5	11,844.5	956.6	879.7	814.0	10,107.2	11.99%	17.19
WA Vancouver	Clark Co Pub Trp Benefit Area	DR	0.8	22.6	19.2	15.1	245.9	22.1	19.7	18.5	230.5	-5.64%	6.68
WA Vancouver	Clark Co Pub Trp Benefit Area	MB	22.6	639.9	516.0	508.0	6,526.1	562.7	514.9	444.2	5,735.2	9.34%	13.79
WA Vancouver	Clark Co Pub Trp Benefit Area	TOTAL	23.4	662.5	535.2	523.1	6,772.0	584.8	534.6	462.7	5,965.7	8.77%	13.52
WA Wenatchee	Chelan-Douglas PTBA	DR	0.0	7.6	6.3	6.9	82.7	6.7	6.3	6.1	74.5	8.90%	11.01
WA Wenatchee	Chelan-Douglas PTBA	MB	3.2	93.6	73.8	76.1	944.4	76.2	66.9	61.5	805.9	19.01%	17.19
WA Wenatchee	Chelan-Douglas PTBA	VP	NA	0.4	0.4	0.6	6.8	0.6	0.6	0.6	9.5	-22.22%	-28.42
WA Wenatchee	Chelan-Douglas PTBA	TOTAL	NA	101.6	80.5	83.6	1,033.9	83.5	73.8	68.2	889.9	17.83%	16.18
WI Kenosha	Kenosha Transit	DR	0.0	1.9	1.5	1.6	18.3	1.6	1.4	1.3	17.2	16.28%	6.40
WI Kenosha	Kenosha Transit	LR	NA	3.4	3.0	2.2	65.7	3.4	2.7	2.7	62.7	-2.27%	4.78
WI Kenosha	Kenosha Transit	MB	7.1	178.7	150.6	123.3	1,769.9	177.4	160.6	127.1	1,641.7	-2.69%	7.81
WI Kenosha	Kenosha Transit	TOTAL	NA	184.0	155.1	127.1	1,853.9	182.4	164.7	131.1	1,721.6	-2.51%	7.68
WI La Crosse	La Crosse Municipal Tr Utility	DR	0.3	8.7	7.2	7.1	92.1	8.2	8.0	7.8	91.9	-4.17%	0.22
WI La Crosse	La Crosse Municipal Tr Utility	MB	4.6	109.0	92.0	88.1	1,087.1	94.9	88.5	86.3	950.8	7.19%	14.34
WI La Crosse	La Crosse Municipal Tr Utility	TOTAL	4.9	117.7	99.2	95.2	1,179.2	103.1	96.5	94.1	1,042.7	6.26%	13.09
WI Madison	Metro Transit	DR	0.8	25.6	21.8	19.9	267.4	22.5	24.0	18.9	261.7	2.91%	2.18
WI Madison	Metro Transit	MB	52.6	1,458.2	1,254.9	1,128.1	13,433.3	1,364.6	1,223.0	1,036.1	12,672.3	6.00%	6.01
WI Madison	Metro Transit	TOTAL	53.4	1,483.8	1,276.7	1,148.0	13,700.7	1,387.1	1,247.0	1,055.0	12,934.0	5.95%	5.93
WI Milwaukee	Milwaukee County Tr Sys	DR	3.9	106.0	88.9	85.9	1,129.5	103.2	92.9	79.4	1,092.0	1.92%	3.43
WI Milwaukee	Milwaukee County Tr Sys	MB	177.4	5,043.9	4,265.1	4,067.9	50,950.6	4,839.5	4,517.0	3,981.6	50,716.3	0.29%	0.46
WI Milwaukee	Milwaukee County Tr Sys	VP	0.1	3.1	2.5	2.5	26.3	1.9	1.7	1.3	25.1	65.31%	4.78
WI Milwaukee	Milwaukee County Tr Sys	TOTAL	181.5	5,153.0	4,356.5	4,156.3	52,106.4	4,944.6	4,611.6	4,062.3	51,833.4	0.35%	0.53%

Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '08 (000's)	Trips for Nov '08 (000's)	Trips for Dec '08 (000's)	Trips Thru Dec '08 (000's)	Trips for Oct '07 (000's)	Trips for Nov '07 (000's)	Trips for Dec '07 (000's)	Trips Thru Dec '07 (000's)	Quarterly Change	Year-to-Date Change
WI Waukesha	Waukesha Metro Transit	DR	0.1	2.9	2.5	2.3	32.9	3.0	2.9	2.3	32.3	-6.10%	1.86%
WI Waukesha	Waukesha Metro Transit	MB	4.9	133.9	108.2	105.2	1,411.9	133.9	120.8	110.5	1,378.8	-4.90%	2.40%
WI Waukesha	Waukesha Metro Transit	TOTAL	5.0	136.8	110.7	107.5	1,444.8	136.9	123.7	112.8	1,411.1	-4.93%	2.39%
WV Huntington	The Transit Authority	DR	1.3	3.4	2.7	2.5	36.7	3.8	3.5	3.2	42.2	-18.10%	-13.03%
WV Huntington	The Transit Authority	MB	2.7	72.2	59.5	62.5	790.1	71.0	64.6	62.1	781.8	-1.77%	1.06%
WV Huntington	The Transit Authority	TOTAL	4.0	75.6	62.2	65.0	826.8	74.8	68.1	65.3	824.0	-2.59%	0.34%
WV Parkersburg	Mid-Ohio Valley Transit Auth	DR	0.0	0.6	0.5	0.5	7.2	0.7	0.6	0.6	7.7	-15.79%	-6.49%
WV Parkersburg	Mid-Ohio Valley Transit Auth	MB	1.0	25.8	22.6	23.3	283.3	22.4	21.8	20.4	241.0	10.99%	17.55%
WV Parkersburg	Mid-Ohio Valley Transit Auth	TOTAL	1.0	26.4	23.1	23.8	290.5	23.1	22.4	21.0	248.7	10.23%	16.81%

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

CANADA			Average	Trips for	Trips for	Trips for	Trips Thru	Trips for	Trips for	Trips for	Trips Thru	Year-	
Province and City	Transit Agency	Mode	Weekday	Oct '08	Nov '08	Dec '08	Dec '08	Oct '07	Nov '07	Dec '07	Dec '07	Quarterly	to-D:
			(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	Change	Char
AB Calgary	Calgary Transit	LR	297.5	8,102.9	7,453.1	7,036.9	83,750.3	7,008.9	6,901.4	6,101.8	69,990.2	12.90%	19.6%
AB Calgary	Calgary Transit	MB	290.1	7,900.5	7,266.8	6,861.1	81,872.5	6,833.7	6,728.9	5,949.3	74,079.4	12.90%	10.5%
AB Calgary	Calgary Transit	TOTAL	587.5	16003.4	14719.9	13898.0	165622.8	13842.6	13630.3	12051.1	144069.6	12.90%	14.9%
AB Edmonton	Edmonton Transit System	LR	NA	1,356.4	1,342.6	1,277.2	14,393.4	1,318.2	1,206.2	1,248.8	13,354.8	5.38%	7.7%
AB Edmonton	Edmonton Transit System	MB	NA	8,617.4	8,529.2	8,113.8	91,440.6	8,374.6	7,663.0	7,933.8	84,842.4	5.38%	7.7%
AB Edmonton	Edmonton Transit System	TOTAL	NA	9973.8	9871.8	9391.0	105834.0	9692.8	8869.2	9182.6	98197.2	5.38%	7.7%
BC Burnaby	Greater Vancouver Transp Auth	AG	NA	6,636.8	6,397.1	6,146.5	73,528.9	6,195.7	6,618.5	5,665.2	71,213.0	3.79%	3.2%
BC Burnaby	Greater Vancouver Transp Auth	CR	NA	248.3	213.1	214.5	2,682.4	238.3	229.6	190.6	2,532.5	2.64%	5.9%
BC Burnaby	Greater Vancouver Transp Auth	DR	NA	129.7	127.9	99.1	1,490.4	124.4	129.5	102.4	1,416.7	0.11%	5.2%
BC Burnaby	Greater Vancouver Transp Auth	FB	NA	450.2	389.8	408.5	5,536.5	438.0	401.6	384.5	5,400.8	1.99%	2.5%
BC Burnaby	Greater Vancouver Transp Auth	MB	NA	14,077.7	12,801.1	12,988.2	155,067.4	13,188.9	13,223.2	11,004.2	148,170.0	6.55%	4.6%
BC Burnaby	Greater Vancouver Transp Auth	TB	NA	6,011.3	5,547.4	5,680.2	65,591.9	5,929.7	5,929.7	4,944.1	66,691.8	2.59%	-1.6%
BC Burnaby	Greater Vancouver Transp Auth	TOTAL	NA	27554.0	25476.4	25537.0	303897.5	26115.0	26532.1	22291.0	295424.8	4.84%	2.8%
BC Vancouver	West Coast Express	CR	10.8	247.1	211.9	213.7	2,670.4	238.3	229.6	190.6	2,544.4	2.16%	4.9%
BC Vancouver	West Coast Express	MB	NA	5.8	5.2	4.9	63.4	3.7	3.7	3.0	27.0	52.88%	>10%
BC Vancouver	West Coast Express	TOTAL	NA	252.9	217.1	218.6	2733.8	242.0	233.3	193.6	2571.4	2.95%	6.3%
BC Victoria	BC Transit	DR	1.1	34.2	31.0	27.0	376.2	34.5	33.3	28.5	369.3	-4.26%	1.8%
BC Victoria	BC Transit	MB	96.5	2,488.8	2,419.8	2,204.1	27,152.0	2,447.4	2,343.4	1,890.1	25,908.1	6.46%	4.8%
BC Victoria	BC Transit	TOTAL	97.6	2523.0	2450.8	2231.1	27528.2	2481.9	2376.7	1918.6	26277.4	6.31%	4.7%
NS Dartmouth	Metro Transit	FB	NA	113.5	87.9	72.5	1,363.7	NA	NA	NA	NA	NA	NA
NS Dartmouth	Metro Transit	MB	NA	1,728.0	1,605.0	1,589.7	18,173.4	NA	NA	NA	NA	NA	NA
NS Dartmouth	Metro Transit	TOTAL	NA	1841.5	1692.9	1662.2	19537.1	NA	NA	NA	NA	NA	NA
ON Brampton	Brampton Transit	MB	NA	1,240.3	1,109.3	914.0	12,324.6	1,113.4	1,059.7	815.2	11,063.8	9.21%	11.4%
ON Brampton	Brampton Transit	TOTAL	NA	1240.3	1109.3	914.0	12324.6	1113.4	1059.7	815.2	11063.8	9.21%	11.4%
ON Ottawa	OC Transpo/Para Transpo	DR	2.7	71.2	68.7	62.8	786.2	70.1	69.6	55.2	779.7	4.00%	0.8%
ON Ottawa	OC Transpo/Para Transpo	LR	4.9	366.2	NA	NA	NA	349.6	330.5	234.3	2,841.6	NA	NA
ON Ottawa	OC Transpo/Para Transpo	MB	400.7	12,780.2	12,666.6	3,509.5	132,208.7	12,394.4	12,797.8	11,103.4	134,620.6	-20.22%	-1.7%
ON Ottawa	OC Transpo/Para Transpo	TOTAL	408.3	13217.6	NA	NA	NA	12814.1	13197.9	11392.9	138241.9	NA	NA
ON Richmond Hill	York Region Transit	MB	67.4	1,662.5	1,654.8	1,422.9	24,303.0	2,378.7	2,303.4	1,833.8	24,602.4	-27.25%	-1.2%
ON Richmond Hill	York Region Transit	TOTAL	67.4	1662.5	1654.8	1422.9	24303.0	2378.7	2303.4	1833.8	24602.4	-27.25%	-1.2%
ON Toronto	GO Transit	CR	162.5	3,939.2	3,664.0	3,271.4	43,218.0	3,778.3	3,858.7	2,845.3	40,764.9	3.74%	6.0%
ON Toronto	GO Transit	MB	43.5	1,306.3	1,044.7	837.4	12,200.4	1,179.9	1,141.6	759.5	11,142.2	3.49%	9.5%
ON Toronto	GO Transit	TOTAL	206.1	5245.5	4708.7	4108.8	55418.4	4958.2	5000.3	3604.8	51907.1	3.68%	6.7%

Attachment: Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

CANADA			Average	Trips for	Trips for	Trips for	Trips Thru	Trips for	Trips for	Trips for	Trips Thru	Quarterly	Year-
Province and City	Transit Agency	Mode	Weekday	Oct '08	Nov '08	Dec '08	Dec '08	Oct '07	Nov '07	Dec '07	Dec '07	Change	to-D:
			(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)		Char
ON Toronto	Toronto Transit Commission	DR	6.4	158.2	164.0	163.2	2,139.2	169.0	173.0	150.7	2,103.5	-1.48%	1.7%
ON Toronto	Toronto Transit Commission	HR	927.7	25,454.6	24,900.3	24,355.2	280,217.7	29,550.8	25,207.3	22,929.0	286,200.0	-3.83%	-2.0%
ON Toronto	Toronto Transit Commission	IR	48.8	1,467.7	1,459.0	1,380.1	15,850.4	1,548.8	1,339.3	1,255.5	16,225.8	3.94%	-2.3%
ON Toronto	Toronto Transit Commission	LR	285.0	7,149.0	7,058.1	6,756.0	80,982.5	9,174.1	7,368.3	6,850.5	89,551.6	-10.39%	-9.5%
ON Toronto	Toronto Transit Commission	MB	1,250.2	36,284.3	34,569.7	28,423.4	387,306.6	40,644.0	33,008.0	27,792.6	377,852.5	-2.14%	2.5%
ON Toronto	Toronto Transit Commission	TOTAL	2,518.1	70513.8	68151.1	61077.9	766496.4	81086.7	67095.9	58978.3	771933.4	-3.58%	-0.7%
QC Montreal	Agence Metropolitaine de Transport	CR	65.9	1,516.5	1,355.0	1,358.8	15,698.3	1,471.1	1,472.1	1,159.4	15,098.3	3.11%	3.9%
QC Montreal	Agence Metropolitaine de Transport	MB	5.6	135.9	127.0	83.6	1,253.8	133.4	132.5	87.4	1,276.1	-1.92%	-1.7%
QC Montreal	Agence Metropolitaine de Transport	TOTAL	71.4	1652.4	1482.0	1442.4	16952.1	1604.5	1604.6	1246.8	16374.4	2.71%	3.5%

Attachment: Attachment No. 10a - American Public Transportation Ridership Report (4th Quarter_2008)

PUBLIC TRANSPORTATION RIDERSHIP REPORT

Fourth Quarter 2019

ESTIMATED UNITED STATES UNLINKED TRANSIT PASSENGER TRIPS

CALENDAR COMPARISON

Period	Percent Change			OCTOBER		NOVEMBER		DECEMBER		
	2019 (000's)	2018 (000's)	2018-2019	2019	2018	2019	2018	2019	2018	
OCTOBER	923,004	929,830	-0.73%	Weekdays	22	22	19	20	21	20
NOVEMBER	818,489	817,128	0.17%	Saturdays	4	4	5	4	4	5
DECEMBER	792,326	764,302	3.67%	Sundays	4	4	4	4	5	5
Fourth Quarter	2,533,819	2,511,260	0.90%	Holidays	1	1	2	2	1	1

ESTIMATED UNLINKED TRANSIT PASSENGER TRIPS *

MODE	CURRENT YEAR (a)(b)					PRECEDING YEAR (a)(b)					% CHANGE (b)	
	OCT '19 (000's)	NOV '19 (000's)	DEC '19 (000's)	OCT '19- DEC '19 (000's)	JAN '19- DEC '19 (000's)	OCT '18 (000's)	NOV '18 (000's)	DEC '18 (000's)	OCT '18- DEC '18 (000's)	JAN '18- DEC '18 (000's)	Fourth Quarter	Year -to-Date
Heavy Rail	352,592	320,156	316,866	989,614	3,797,708	347,231	304,866	286,057	938,154	3,712,458	5.49%	2.30%
Light Rail	45,603	39,968	39,050	124,621	503,272	48,563	43,314	40,643	132,521	526,981	-5.96%	-4.50%
Commuter Rail	46,319	41,993	42,167	130,478	515,768	44,849	41,467	40,025	126,341	499,063	3.27%	3.35%
Trolleybus	7,537	6,593	6,361	20,491	81,507	7,356	6,511	6,208	20,075	79,670	2.07%	2.31%
Bus Population Group												
2,000,000+	295,233	259,032	247,117	801,381	3,222,689	304,434	266,580	253,170	824,185	3,258,926	-2.77%	-1.11%
500,000 to 1,999,999	81,187	70,505	67,626	219,318	864,171	82,528	72,504	67,382	222,413	873,482	-1.39%	-1.07%
100,000 to 499,999	41,097	34,596	29,187	104,881	399,047	40,961	35,317	29,033	105,311	402,242	-0.41%	-0.79%
Below 100,000	18,909	14,875	13,186	46,971	171,663	18,944	14,957	11,322	45,224	171,689	3.86%	-0.02%
Bus Total	436,426	379,009	357,116	1,172,551	4,657,569	446,867	389,358	360,907	1,197,132	4,706,339	-2.05%	-1.04%
Demand Response	19,116	17,096	16,790	53,001	209,307	18,767	17,000	16,226	51,993	205,509	1.94%	1.85%
Other (c)	15,412	13,674	13,976	43,063	180,194	16,196	14,613	14,236	45,045	186,022	-4.40%	-3.13%
United States Total	923,004	818,489	792,326	2,533,819	9,945,325	929,830	817,128	764,302	2,511,260	9,916,042	0.90%	0.30%
Canada	242,080	235,445	209,797	687,321	2,774,045	228,937	224,253	196,820	650,009	2,635,684	5.74%	5.25%

* Preliminary information based on data from reporting systems.

Note: Data may differ from that included in Federal Transit Administration reports due to differences in data calculation procedures and in periods of time covered.

(a) Transit agencies assigned by urbanized areas or urban places of less than 50,000 population outside urbanized areas based on 2010 U.S. Census Population.

(b) Year-to-date ridership adjusted for data received after closing dates of previous issues.

(c) Includes aerial tramway, automated guideway, cable car, ferryboat, inclined plane, monorail, and vanpool.

HEAVY RAIL PUBLIC TRANSPORTATION RIDERSHIP REPORT Fourth Quarter 2019

ESTIMATED UNLINKED TRANSIT PASSENGER TRIPS

		CURRENT YEAR (a)(b)				PRECEDING YEAR (a)(b)						% CHANGE (b)		
<u>State and</u>		<u>AVG</u>				<u>OCT '19-</u>	<u>JAN '19-</u>				<u>OCT '18-</u>	<u>JAN '18-</u>	<u>4th Qtr</u>	<u>YT</u>
<u>Primary City</u>	<u>Transit Agency</u>	<u>WKDY</u>	<u>OCT '19</u>	<u>NOV '19</u>	<u>DEC '19</u>	<u>DEC '19</u>	<u>DEC '19</u>	<u>OCT '18</u>	<u>NOV '18</u>	<u>DEC '18</u>	<u>DEC '18</u>	<u>DEC '18</u>	<u>Chng</u>	<u>Chr</u>
		(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)		
CA Los Angeles	Los Angeles County MTA	130.9	3,578.9	3,302.5	3,401.1	10,282.5	41,775.1	3,794.7	3,582.3	3,621.3	10,998.3	43,300.6	-6.51%	-3.52
CA San Francisco	San Francisco Bay Area RTD	421.1	11,304.9	9,711.6	9,294.4	30,310.9	123,510.1	11,480.0	9,597.2	9,223.6	30,300.8	125,576.4	0.03%	-1.65
DC Washington	Washington Metro Area TA	816.7	22,837.6	19,057.4	17,702.0	59,597.0	237,701.1	21,181.9	17,790.9	16,031.6	55,004.4	226,349.6	8.35%	5.02
FL Miami	Miami-Dade Transit Agency	62.6	1,643.2	1,469.4	1,433.9	4,546.5	18,073.1	1,757.2	1,656.9	1,553.8	4,967.9	19,282.5	-8.48%	-6.27
GA Atlanta	Metro Atlanta Rapid Tr Auth	NA	5,626.7	5,039.1	4,867.2	15,533.0	63,998.5	6,019.5	5,257.3	4,816.2	16,093.0	64,854.0	-3.48%	-1.32
IL Chicago	Chicago Transit Authority	695.3	20,582.7	17,448.4	15,923.6	53,954.7	218,467.0	21,551.5	18,271.1	16,109.7	55,932.3	225,895.1	-3.54%	-3.29
MA Boston	Massachusetts Bay Tr Auth	475.3	13,116.8	11,184.0	10,262.5	34,563.3	152,339.7	14,625.0	12,757.3	11,399.6	38,781.9	155,748.8	-10.88%	-2.19
MD Baltimore	Maryland Transit Admin	36.6	701.4	604.4	609.2	1,915.0	7,325.5	627.0	579.0	559.8	1,765.8	8,270.6	8.45%	-11.43
NJ Jersey City	Port Authority of NY & NJ	306.7	8,274.1	7,165.0	7,080.3	22,519.4	90,276.6	8,252.3	7,360.7	6,970.7	22,583.7	89,664.3	-0.28%	0.68
NJ Lindenwold	Port Authority Transit Corp	38.4	1,027.8	894.7	895.7	2,818.2	11,107.5	1,007.1	892.3	856.8	2,756.2	10,789.6	2.25%	2.95
NY New York	MTA New York City Transit	9,117.4	253,609.9	235,137.3	236,357.7	725,104.9	2,723,960.1	246,416.1	217,622.2	206,071.1	670,109.4	2,629,607.6	8.21%	3.59
NY New York	MTA Staten Island Railway	28.5	724.7	609.6	604.8	1,939.1	7,741.0	797.7	695.1	640.6	2,133.4	8,129.6	-9.11%	-4.78
OH Cleveland	Greater Cleveland Reg TA	15.9	523.5	484.0	460.0	1,467.5	5,958.0	586.6	522.6	466.4	1,575.6	6,249.8	-6.86%	-4.67
PA Philadelphia	Southeastern Penn TA	329.2	8,523.3	7,626.2	7,566.8	23,716.3	90,240.8	8,596.3	7,825.4	7,331.1	23,752.8	93,546.4	-0.15%	-3.53
PR San Juan	Puerto Rico DOT	20.3	516.3	422.6	406.3	1,345.2	5,233.9	538.0	455.3	405.1	1,398.4	5,192.9	-3.80%	0.79
REPORTED TOTAL		12,494.9	352,591.8	320,156.2	316,865.5	989,613.5	3,797,708.0	347,230.9	304,865.6	286,057.4	938,153.9	3,712,457.8	5.49%	2.30
PROJECTED TOTAL			352,591.8	320,156.2	316,865.5	989,613.5	3,797,708.0	347,230.9	304,865.6	286,057.4	938,153.9	3,712,457.8	5.49%	2.30

* Preliminary information based on data from reporting systems.

Note: Data may differ from that included in Federal Transit Administration reports due to differences in data calculation procedures and in periods of time covered.

(a) Transit agencies assigned by urbanized areas or urban places of less than 50,000 population outside urbanized areas based on 2000 U.S. Census Population.

(b) Year-to-date ridership adjusted for data received after closing dates of previous issues.

LIGHT RAIL PUBLIC TRANSPORTATION RIDERSHIP REPORT Fourth Quarter 2019

ESTIMATED UNLINKED TRANSIT PASSENGER TRIPS

			CURRENT YEAR (a)(b)					PRECEDING YEAR (a)(b)					% CHANGE (b)	
<u>State and Primary City</u>	<u>Transit Agency</u>	<u>AVG</u>	<u>OCT '19</u>	<u>NOV '19</u>	<u>DEC '19</u>	<u>OCT '19- DEC '19</u>	<u>JAN '19- DEC '19</u>	<u>OCT '18</u>	<u>NOV '18</u>	<u>DEC '18</u>	<u>OCT '18- DEC '18</u>	<u>JAN '18- DEC '18</u>	<u>4th Qtr Chng</u>	<u>YT Chr</u>
		(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	
AR Little Rock	Rock Region Metro	NA	10.1	7.8	10.1	28.0	127.1	3.2	2.5	7.5	13.2	42.8	>100%	>100
AZ Phoenix	Valley Metro Rail, Inc.	47.0	1,387.7	1,315.4	1,204.5	3,907.6	15,060.2	1,366.5	1,300.6	1,198.8	3,865.9	15,406.3	1.08%	-2.25
AZ Tucson	City of Tucson MTS	3.1	98.7	89.0	66.8	254.5	873.1	104.1	95.0	56.1	255.2	907.5	-0.27%	-3.79
CA Los Angeles	Los Angeles County MTA	161.3	3,834.5	4,418.7	4,666.5	12,919.7	51,395.8	5,664.0	5,423.1	5,427.2	16,514.3	64,715.7	-21.77%	-20.58
CA Oceanside	North County Transit District	7.8	241.9	195.7	175.2	612.8	2,475.8	238.3	189.8	148.7	576.8	2,403.2	6.24%	3.02
CA Sacramento	Sacramento Reg Tr Dist	38.4	1,059.0	896.9	879.0	2,834.9	11,180.1	1,025.6	833.6	819.4	2,678.6	10,464.7	5.84%	6.84
CA San Diego	San Diego Metrop Transit Sy	117.7	3,551.9	3,124.4	2,879.5	9,555.8	38,047.3	3,389.1	3,077.0	2,957.4	9,423.5	37,139.7	1.40%	2.44
CA San Francisco	San Francisco Muni Rwy	157.7	4,490.6	3,871.6	3,829.4	12,191.6	49,519.6	4,531.6	4,171.5	3,634.2	12,337.3	49,971.7	-1.18%	-0.90
CA San Jose	Santa Clara Valley Trp Auth	26.7	769.8	681.3	664.2	2,115.3	8,335.1	811.1	677.0	682.4	2,170.5	8,538.9	-2.54%	-2.39
CO Denver	Regional Trp District	95.3	2,392.9	2,003.3	1,905.7	6,301.9	24,585.3	2,355.5	2,179.9	2,173.8	6,709.2	25,669.7	-6.07%	-4.22
DC Washington	District Dept of Transp	2.4	80.5	66.8	56.0	203.3	1,093.4	102.2	92.9	90.3	285.4	1,145.3	-28.77%	-4.53
FL Tampa	Hillsborough Area Reg TA	2.4	78.5	85.7	95.7	259.9	902.7	53.2	55.6	91.1	199.9	423.0	30.02%	>100
GA Atlanta	Metro Atlanta Rapid Tr Auth	NA	16.4	18.2	19.5	54.1	255.6	13.7	10.9	12.3	36.9	280.8	46.61%	-8.97
LA New Orleans	Regional Transit Auth	5.6	198.8	114.8	185.1	498.7	5,289.4	659.0	553.1	541.3	1,753.4	7,712.9	-71.56%	-31.42
MA Boston	Massachusetts Bay Tr Auth	137.7	4,099.1	3,424.7	3,121.8	10,645.6	47,161.5	5,074.3	4,276.0	3,623.8	12,974.1	53,715.6	-17.95%	-12.20
MD Baltimore	Maryland Transit Admin	25.3	628.3	562.8	536.8	1,727.9	6,508.7	613.6	590.3	584.8	1,788.7	7,157.0	-3.40%	-9.06
MN Minneapolis	Metro Transit	75.3	2,339.0	1,971.3	1,876.2	6,186.5	25,299.4	2,449.0	2,098.2	1,881.7	6,428.9	24,955.7	-3.77%	1.38
MO Saint Louis	Bi-State Dev Agency	38.9	1,167.6	992.7	943.6	3,103.9	13,088.0	1,144.1	1,009.0	965.2	3,118.3	13,210.2	-0.46%	-0.93
NC Charlotte	Charlotte Area Transit	29.9	822.3	743.7	714.0	2,280.0	8,892.1	564.9	654.3	591.1	1,810.3	7,376.5	25.95%	20.55
NJ Newark	New Jersey Transit Corp	NA	2,119.0	1,846.2	2,022.8	5,988.0	23,983.3	2,220.5	1,891.0	2,036.7	6,148.2	24,085.9	-2.61%	-0.43
NY Buffalo	Niagara Frontier Trp Auth	15.1	424.4	350.4	341.1	1,115.9	4,394.0	445.3	399.3	362.0	1,206.6	4,492.2	-7.52%	-2.19
OH Cleveland	Greater Cleveland Reg TA	3.9	130.1	118.8	112.0	360.9	1,477.7	146.6	122.8	119.8	389.2	1,638.1	-7.27%	-9.79
OR Portland	Tri-County Metro Trp Dist	119.6	3,442.5	3,114.1	3,022.7	9,579.3	38,388.2	3,482.1	3,198.7	2,987.8	9,668.6	38,953.1	-0.92%	-1.45
PA Philadelphia	Southeastern Penn TA	89.4	2,346.6	2,071.0	2,023.2	6,440.8	24,321.2	2,375.7	2,165.5	2,053.9	6,595.1	24,868.2	-2.34%	-2.20
PA Pittsburgh	Port Auth of Allegheny Co	NA	681.9	600.2	568.0	1,850.1	7,364.3	669.3	576.2	544.1	1,789.6	7,328.1	3.38%	0.49%

Attachment: Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

<u>State and</u>		<u>AVG</u>				<u>OCT '19-</u>	<u>JAN '19-</u>				<u>OCT '18-</u>	<u>JAN '18-</u>	<u>4th Qtr</u>	<u>YTD</u>
<u>Primary City</u>	<u>Transit Agency</u>	<u>WKDY</u>	<u>OCT '19</u>	<u>NOV '19</u>	<u>DEC '19</u>	<u>DEC '19</u>	<u>DEC '19</u>	<u>OCT '18</u>	<u>NOV '18</u>	<u>DEC '18</u>	<u>DEC '18</u>	<u>DEC '18</u>	<u>Chng</u>	<u>Chng</u>
		(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)		
TX Dallas	Dallas Area Rapid Transit	92.0	3,210.2	2,092.3	2,084.3	7,386.8	28,069.0	3,162.4	2,350.1	2,139.8	7,652.3	28,759.2	-3.47%	-2.40
TX El Paso	El Paso Mass Transit Dept	1.6	28.1	32.2	34.9	95.2	271.9	0.0	0.0	66.7	66.7	66.7	42.73%	>100
TX Houston	Metro Tr Auth of Harris Co	60.3	1,689.5	1,341.6	1,370.3	4,401.4	18,409.1	1,728.7	1,483.2	1,337.0	4,548.9	18,806.3	-3.24%	-2.11
UT Salt Lake City	Utah Transit Authority	56.9	1,640.1	1,409.2	1,394.1	4,443.4	16,871.8	1,592.0	1,480.5	1,404.9	4,477.4	17,899.6	-0.76%	-5.74
VA Hampton	Hampton Roads Transit	4.2	123.0	101.7	96.6	321.3	1,345.1	141.5	99.8	90.9	332.2	1,461.5	-3.28%	-7.96
WA Seattle	King County Dept of Trp	6.0	175.5	148.0	136.6	460.1	1,863.4	161.1	139.7	131.2	432.0	1,685.7	6.50%	10.54
WA Seattle	Sound Transit	83.2	2,289.3	2,134.1	1,991.8	6,415.2	26,010.4	2,237.8	2,091.8	1,857.7	6,187.3	25,348.7	3.68%	2.61
REPORTED TOTAL		1,504.8	45,567.8	39,944.6	39,028.0	124,540.4	502,859.6	48,526.0	43,288.9	40,619.6	132,434.5	526,630.5	-5.96%	-4.51
PROJECTED TOTAL (c)			45,602.8	39,968.1	39,050.2	124,621.1	503,271.8	48,563.3	43,314.4	40,642.8	132,520.5	526,981.2	-5.96%	-4.50

* Preliminary information based on data from reporting systems.

Note: Data may differ from that included in Federal Transit Administration reports due to differences in data calculation procedures and in periods of time covered.

(a) Transit agencies assigned by urbanized areas or urban places of less than 50,000 population outside urbanized areas based on 2000 U.S. Census Population.

(b) Year-to-date ridership adjusted for data received after closing dates of previous issues.

(c) Includes missing agencies (Rock Region Metro and Kenosha Transit).

COMMUTER RAIL PUBLIC TRANSPORTATION RIDERSHIP REPORT Fourth Quarter 2019

ESTIMATED UNLINKED TRANSIT PASSENGER TRIPS

		CURRENT YEAR (a)(b)					PRECEDING YEAR (a)(b)					% CHANGE (b)		
<u>State and</u>		<u>AVG</u>				<u>OCT '19-</u>	<u>JAN '19-</u>				<u>OCT '18-</u>	<u>JAN '18-</u>	<u>4th Qtr</u>	<u>YT</u>
<u>Primary City</u>	<u>Transit Agency</u>	<u>WKDY</u>	<u>OCT '19</u>	<u>NOV '19</u>	<u>DEC '19</u>	<u>DEC '19</u>	<u>DEC '19</u>	<u>OCT '18</u>	<u>NOV '18</u>	<u>DEC '18</u>	<u>DEC '18</u>	<u>DEC '18</u>	<u>Chng</u>	<u>Chr</u>
		(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)		
AK Anchorage	Alaska Railroad Corporation	0.2	1.0	1.2	2.9	5.1	203.4	1.1	1.1	2.0	4.2	199.7	21.43%	1.85
CA Los Angeles	Southern California RRA	38.5	989.0	835.4	810.6	2,635.0	10,803.6	991.2	858.5	758.8	2,608.5	10,691.1	1.02%	1.05
CA Oakland	Capitol Corridor Joint Power	6.0	162.5	152.7	141.5	456.7	1,791.7	162.4	147.7	131.5	441.6	1,725.5	3.42%	3.84
CA Oceanside	North County Transit District	4.2	111.0	94.6	84.0	289.6	1,362.8	115.8	108.3	93.2	317.3	1,434.7	-8.73%	-5.01
CA San Carlos	Caltrain	67.5	1,726.4	1,472.7	1,428.4	4,627.5	18,693.5	1,605.7	1,470.2	1,356.5	4,432.4	18,855.7	4.40%	-0.86
CA San Francisco	San Francisco Bay Area RT	8.2	217.5	184.0	178.1	579.6	2,292.0	211.6	179.0	168.5	559.1	1,316.1	3.67%	74.15
CA San Rafael	Sonoma-Marín Area Rail Tr	NA	57.2	65.0	58.2	180.4	714.0	65.5	52.8	51.7	170.0	714.5	6.12%	-0.07
CA Stockton	San Joaquin Reg Rail Comm	4.8	141.7	115.0	101.4	358.1	1,492.4	151.6	122.9	99.0	373.5	1,479.3	-4.12%	0.89
CO Denver	Regional Trp District	40.0	947.9	841.3	848.2	2,637.4	9,711.3	674.9	629.1	592.7	1,896.7	7,613.0	39.05%	27.56
CT New Haven	Connecticut DOT	2.2	57.0	51.2	51.5	159.7	660.5	48.1	44.5	43.1	135.7	599.3	17.69%	10.21
FL Orlando	SunRail	6.3	143.6	128.8	129.5	401.9	1,571.8	127.6	118.7	110.8	357.1	1,114.7	12.55%	41.01
FL Pompano Beach	South Florida RTA (Tri-Rail)	14.8	409.0	364.8	365.5	1,139.3	4,505.1	397.4	371.8	354.1	1,123.3	4,413.9	1.42%	2.07
IL Chicago	Metra	274.0	5,868.3	5,407.0	5,217.8	16,493.1	66,783.6	6,013.0	5,619.7	5,183.9	16,816.6	68,446.2	-1.92%	-2.43
IN Chesterton	Northern IN Commuter TD	10.9	288.9	262.5	273.4	824.8	3,283.6	294.8	272.6	265.3	832.7	3,399.4	-0.95%	-3.41
MA Boston	Massachusetts Bay Tr Auth	121.7	2,911.5	2,592.2	2,680.0	8,183.7	32,420.4	2,920.0	2,682.9	2,589.3	8,192.2	32,249.1	-0.10%	0.53
MD Baltimore	Maryland Transit Admin	30.0	855.1	709.5	713.3	2,277.9	9,084.2	854.0	746.8	648.1	2,248.9	9,236.2	1.29%	-1.65
ME Portland	Northern NE Passenger RA	1.6	50.4	47.6	46.3	144.3	574.8	43.8	42.8	40.2	126.8	533.0	13.80%	7.84
MN Minneapolis	Metro Transit	2.5	62.8	51.6	53.5	167.9	767.5	66.0	58.4	52.7	177.1	787.4	-5.19%	-2.53
NJ Newark	New Jersey Transit Corp	NA	7,837.4	7,418.6	7,354.0	22,610.0	88,319.6	7,739.2	7,427.4	7,356.1	22,522.7	86,753.4	0.39%	1.81
NM Albuquerque	New Mexico Dept of Trp	2.4	69.9	52.1	52.9	174.9	743.6	72.0	57.8	54.0	183.8	770.0	-4.84%	-3.43
NY New York	MTA Long Island Rail Road	385.4	10,221.9	9,633.1	9,765.9	29,620.9	117,783.4	9,358.4	8,761.6	8,671.5	26,791.5	106,299.2	10.56%	10.80
NY New York	MTA Metro-North Railroad	311.8	7,854.5	6,931.2	7,245.4	22,031.1	86,459.0	7,872.2	7,202.1	7,224.5	22,298.8	86,389.4	-1.20%	0.08
OR Portland	Tri-County Metro Trp Dist	1.4	34.5	28.0	25.1	87.6	361.6	38.0	30.7	25.0	93.7	398.5	-6.51%	-9.26
PA Harris-Phil	Penn DOT (Keystone)	5.1	145.3	135.4	140.5	421.2	1,584.6	143.6	138.2	130.1	411.9	1,532.5	2.26%	3.40
PA Philadelphia	Southeastern Penn TA	134.6	3,393.8	2,994.4	3,029.4	9,417.6	35,594.8	3,165.1	2,885.3	2,756.2	8,806.6	34,373.4	6.94%	3.55%

Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

<u>State and</u>		<u>AVG</u>				<u>OCT '19-</u>	<u>JAN '19-</u>				<u>OCT '18-</u>	<u>JAN '18-</u>	<u>4th Qtr</u>	<u>YTD</u>
<u>Primary City</u>	<u>Transit Agency</u>	<u>WKDY</u>	<u>OCT '19</u>	<u>NOV '19</u>	<u>DEC '19</u>	<u>DEC '19</u>	<u>DEC '19</u>	<u>OCT '18</u>	<u>NOV '18</u>	<u>DEC '18</u>	<u>DEC '18</u>	<u>DEC '18</u>	<u>Chng</u>	<u>Chng</u>
		(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)		
TN Nashville	Regional Transp Auth	NA	28.7	23.1	23.1	74.9	292.5	27.4	22.7	21.6	71.7	298.8	4.46%	-2.11
TX Austin	Capital Metropolitan Trp Aut	2.2	49.0	43.9	44.1	137.0	671.2	82.5	60.1	52.8	195.4	807.8	-29.89%	-16.91
TX Dallas-Ft Worth	Trinity Railway Express	7.2	226.9	155.9	155.1	537.9	1,987.6	208.0	153.9	135.6	497.5	1,980.5	8.12%	0.36
TX Fort Worth	Trinity Metro	NA	41.9	44.7	51.2	137.8	545.0	0.0	0.0	0.0	0.0	0.0	NA	NA
TX Lewisville	Denton County Transportatio	1.5	44.5	30.6	26.4	101.5	382.4	45.4	36.6	25.5	107.5	407.3	-5.58%	-6.11
UT Salt Lake City	Utah Transit Authority	19.2	503.8	428.0	410.3	1,342.1	5,193.8	500.1	442.1	406.0	1,348.2	5,082.1	-0.45%	2.20
VA Alexandria	Virginia Railway Express	17.2	423.8	329.0	317.6	1,070.4	4,517.0	410.2	346.0	290.5	1,046.7	4,528.0	2.26%	-0.24
WA Seattle	Sound Transit	17.9	442.1	367.6	341.5	1,151.2	4,615.6	442.0	374.7	334.1	1,150.8	4,632.8	0.03%	-0.37
REPORTED TOTAL		1,539.0	46,318.8	41,992.7	42,166.6	130,478.1	515,767.9	44,848.6	41,467.0	40,024.9	126,340.5	499,062.5	3.27%	3.35
PROJECTED TOTAL			46,318.8	41,992.7	42,166.6	130,478.1	515,767.9	44,848.6	41,467.0	40,024.9	126,340.5	499,062.5	3.27%	3.35

* Preliminary information based on data from reporting systems.

Note: Data may differ from that included in Federal Transit Administration reports due to differences in data calculation procedures and in periods of time covered.

(a) Transit agencies assigned by urbanized areas or urban places of less than 50,000 population outside urbanized areas based on 2000 U.S. Census Population.

(b) Year-to-date ridership adjusted for data received after closing dates of previous issues.

TROLLEY BUS PUBLIC TRANSPORTATION RIDERSHIP REPORT Fourth Quarter 2019

ESTIMATED UNLINKED TRANSIT PASSENGER TRIPS

<u>State and Primary City</u>	<u>Transit Agency</u>	CURRENT YEAR (a)(b)				PRECEDING YEAR (a)(b)						% CHANGE (b)		
		<u>AVG WKDY</u> (000's)	<u>OCT '19</u> (000's)	<u>NOV '19</u> (000's)	<u>DEC '19</u> (000's)	<u>OCT '19- DEC '19</u> (000's)	<u>JAN '19- DEC '19</u> (000's)	<u>OCT '18</u> (000's)	<u>NOV '18</u> (000's)	<u>DEC '18</u> (000's)	<u>OCT '18- DEC '18</u> (000's)	<u>JAN '18- DEC '18</u> (000's)	<u>4th Qtr Chng</u>	<u>YT Chr</u>
CA San Francisco	San Francisco Muni Rwy	167.4	5,008.6	4,449.5	4,303.3	13,761.4	54,381.0	4,754.8	4,146.5	4,162.1	13,063.4	52,728.9	5.34%	3.13
MA Boston	Massachusetts Bay Tr Auth	9.8	265.9	227.7	203.2	696.8	2,889.5	290.0	249.3	206.6	745.9	2,769.9	-6.58%	4.32
PA Philadelphia	Southeastern Penn TA	16.9	434.4	392.0	388.4	1,214.8	4,715.6	465.8	417.8	393.9	1,277.5	4,262.2	-4.91%	10.64
WA Seattle	King County Dept of Trp	67.0	1,631.5	1,359.2	1,305.1	4,295.8	17,365.5	1,654.0	1,534.5	1,287.9	4,476.4	17,950.4	-4.03%	-3.26
REPORTED TOTAL		261.1	7,340.4	6,428.4	6,200.0	19,968.8	79,351.6	7,164.6	6,348.1	6,050.5	19,563.2	77,711.4	2.07%	2.11
PROJECTED TOTAL (c)			7,536.7	6,593.3	6,361.0	20,491.0	81,507.1	7,356.2	6,510.9	6,207.6	20,074.7	79,669.5	2.07%	2.31

* Preliminary information based on data from reporting systems.

Note: Data may differ from that included in Federal Transit Administration reports due to differences in data calculation procedures and in periods of time covered.

(a) Transit agencies assigned by urbanized areas or urban places of less than 50,000 population outside urbanized areas based on 2000 U.S. Census Population.

(b) Year-to-date ridership adjusted for data received after closing dates of previous issues.

LARGEST BUS AGENCIES PUBLIC TRANSPORTATION RIDERSHIP REPORT

(Transit Agencies in Urbanized Areas of 1,000,000 or more population that operate 300 or more peak-hour buses, plus a selection of other large bus operators)

Fourth Quarter 2019

ESTIMATED UNLINKED TRANSIT PASSENGER TRIPS

State and Primary City	Transit Agency	CURRENT YEAR (a)(b)				PRECEDING YEAR (a)(b)						% CHANGE (b)		
		AVG	OCT '19	NOV '19	DEC '19	OCT '19-	JAN '19-	OCT '18	NOV '18	DEC '18	OCT '18-	JAN '18-	4th Qtr	YT
		WKDY (000's)	OCT '19 (000's)	NOV '19 (000's)	DEC '19 (000's)	DEC '19 (000's)	DEC '19 (000's)	OCT '18 (000's)	NOV '18 (000's)	DEC '18 (000's)	DEC '18 (000's)	DEC '18 (000's)	Chng	Chr
AZ Phoenix	City of Phoenix PTD	108.3	3,081.9	2,699.8	2,603.5	8,385.2	33,222.5	3,267.0	3,077.1	2,817.3	9,161.4	35,384.8	-8.47%	-6.11
CA Long Beach	Long Beach Transit	75.8	2,219.4	1,837.7	1,858.0	5,915.1	23,132.8	2,216.3	1,864.8	1,908.5	5,989.6	23,453.4	-1.24%	-1.37
CA Los Angeles	Los Angeles County MTA	865.6	26,065.7	21,760.6	20,954.6	68,780.9	278,109.9	25,080.2	22,438.5	20,988.1	68,506.8	275,775.9	0.40%	0.85
CA Oakland	Alameda-Contra Costa TD	215.5	5,186.0	4,460.1	4,174.7	13,820.8	53,883.9	5,148.2	4,329.2	4,031.0	13,508.4	52,309.1	2.31%	3.01
CA Orange	Orange County Transp Auth	119.8	3,529.4	2,998.2	2,851.3	9,378.9	37,292.5	3,590.4	3,168.0	2,907.8	9,666.2	38,886.9	-2.97%	-4.10
CA San Diego	San Diego Metrop Transit Sy	163.0	4,809.7	3,963.2	3,560.9	12,333.8	48,032.2	4,690.8	3,987.1	3,537.6	12,215.5	47,734.8	0.97%	0.62
CA San Francisco	San Francisco Muni Rwy	334.6	9,724.1	8,383.3	8,177.4	26,284.8	104,950.2	9,820.2	8,413.4	8,515.3	26,748.9	107,199.8	-1.74%	-2.10
CA San Jose	Santa Clara Valley Trp Auth	92.0	2,631.1	2,271.4	2,145.7	7,048.2	27,367.4	2,659.0	2,217.5	2,262.6	7,139.1	27,994.0	-1.27%	-2.24
CA Santa Monica	Santa Monica's Big Blue Bus	43.5	1,305.4	1,080.3	949.1	3,334.8	12,823.3	1,258.6	1,072.8	909.9	3,241.3	12,818.0	2.88%	0.04
CO Denver	Regional Trp District	265.2	6,272.9	5,561.0	5,681.7	17,515.6	69,870.3	5,679.8	4,929.4	4,917.1	15,526.3	62,788.6	12.81%	11.28
DC Washington	Washington Metro Area TA	340.1	9,564.3	8,175.6	7,927.6	25,667.5	105,469.8	10,030.8	8,617.0	8,151.3	26,799.1	109,054.8	-4.22%	-3.29
FL Miami	Miami-Dade Transit Agency	163.5	4,507.0	4,197.2	4,127.0	12,831.2	49,909.7	4,554.9	4,245.5	4,081.6	12,882.0	51,030.1	-0.39%	-2.20
FL Orlando	Central Florida RTA	68.7	1,946.0	1,798.0	1,726.6	5,470.6	22,536.6	2,067.7	1,915.7	1,772.4	5,755.8	22,762.1	-4.96%	-0.99
GA Atlanta	Metro Atlanta Rapid Tr Auth	NA	4,905.4	3,590.8	3,777.6	12,273.8	50,018.3	4,197.7	3,769.3	3,554.5	11,521.5	49,316.7	6.53%	1.42
IL Arlington Heights	PACE Suburban Bus	112.2	2,451.5	2,070.3	1,996.9	6,518.7	26,186.0	2,628.1	2,235.4	2,045.8	6,909.3	27,689.7	-5.65%	-5.43
IL Chicago	Chicago Transit Authority	760.2	21,800.4	19,304.4	18,593.6	59,698.4	237,276.5	22,736.8	19,724.0	18,543.8	61,004.6	242,172.9	-2.14%	-2.02
MA Boston	Massachusetts Bay Tr Auth	381.2	10,637.5	9,403.4	8,797.1	28,838.0	113,483.2	10,784.8	9,506.9	8,656.4	28,948.1	115,236.7	-0.38%	-1.52
MD Baltimore	Maryland Transit Admin	270.6	6,342.2	5,538.9	5,255.7	17,136.8	67,925.7	6,472.1	5,530.7	5,036.4	17,039.2	67,678.6	0.57%	0.37
MD Rockville	Montgomery County Ride-O	68.5	1,978.4	1,657.4	1,566.0	5,201.8	20,717.7	1,971.7	1,657.9	1,546.1	5,175.7	20,952.8	0.50%	-1.12
MI Detroit	City of Detroit Dept of Trp	NA	2,233.0	1,848.4	1,839.7	5,921.1	22,680.0	2,204.0	1,877.7	1,784.8	5,866.5	23,291.6	0.93%	-2.63
MN Minneapolis	Metro Transit	171.6	4,735.2	4,106.2	3,885.5	12,726.9	51,860.1	4,967.9	4,387.5	4,009.1	13,364.5	54,910.4	-4.77%	-5.56
MO Saint Louis	Bi-State Dev Agency	70.2	2,028.9	1,787.0	1,751.5	5,567.4	22,492.7	2,164.5	1,834.8	1,772.3	5,771.6	23,243.3	-3.54%	-3.23
NJ Newark	New Jersey Transit Corp	NA	13,970.8	12,159.0	11,670.6	37,800.4	150,997.3	14,170.1	12,271.2	11,835.9	38,277.2	150,831.0	-1.25%	0.11
NV Las Vegas	RTC of Southern Nevada	200.2	6,150.8	5,431.6	5,314.2	16,896.6	65,266.1	5,957.7	5,352.9	5,192.7	16,503.3	64,579.6	2.38%	1.06
NY New York	MTA New York City Transit	2,259.1	64,429.9	58,671.7	55,039.2	178,140.8	732,636.8	70,053.1	61,142.9	59,790.1	190,986.1	734,640.9	-6.73%	-0.27%

Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

State and Primary City	Transit Agency	AVG	OCT '19-			JAN '19-			OCT '18-			JAN '18-	4th Qtr	YTD
		WKDY (000's)	OCT '19 (000's)	NOV '19 (000's)	DEC '19 (000's)	DEC '19 (000's)	DEC '19 (000's)	OCT '18 (000's)	NOV '18 (000's)	DEC '18 (000's)	DEC '18 (000's)	DEC '18 (000's)	Chng	Chng
OH Cincinnati	Southwest Ohio RTA	46.3	1,321.1	1,058.8	1,027.7	3,407.6	13,245.1	1,360.7	1,128.7	1,055.9	3,545.3	13,750.5	-3.88%	-3.68
OH Cleveland	Greater Cleveland Reg TA	82.1	2,362.1	1,985.2	1,839.6	6,186.9	24,757.4	2,460.7	2,083.0	1,912.9	6,456.6	25,549.1	-4.18%	-3.10
OH Columbus	Central Ohio Transit Auth	61.5	1,811.1	1,597.5	1,443.4	4,852.0	19,145.1	1,800.6	1,586.4	1,456.7	4,843.7	18,914.0	0.17%	1.22
OR Portland	Tri-County Metro Trp Dist	186.0	5,281.7	4,660.2	4,531.6	14,473.5	57,373.5	5,156.2	4,633.8	4,254.4	14,044.4	56,727.1	3.06%	1.14
PA Philadelphia	Southeastern Penn TA	491.5	13,020.0	11,252.6	11,118.4	35,391.0	137,328.2	13,207.8	11,641.0	11,048.8	35,897.6	141,806.7	-1.41%	-3.16
PA Pittsburgh	Port Auth of Allegheny Co	NA	5,234.2	4,419.6	4,185.1	13,838.9	54,832.8	5,331.7	4,536.6	4,119.6	13,987.9	54,871.9	-1.07%	-0.07
TX Dallas	Dallas Area Rapid Transit	124.2	3,517.8	3,041.0	3,054.4	9,613.2	38,598.5	2,705.0	2,450.5	2,185.1	7,340.6	29,631.1	30.96%	30.26
TX Houston	Metro Tr Auth of Harris Co	224.0	6,323.4	5,480.4	5,425.3	17,229.1	67,353.1	6,237.0	5,457.2	5,163.4	16,857.6	66,930.7	2.20%	0.63
TX San Antonio	VIA Metropolitan Transit	80.9	3,268.2	2,968.7	2,911.1	9,148.0	35,350.1	3,107.1	2,892.2	2,745.4	8,744.7	34,921.2	4.61%	1.23
VA Hampton	Hampton Roads Transit	33.2	913.9	790.9	789.7	2,494.5	10,660.6	1,017.1	895.5	853.9	2,766.5	11,239.2	-9.83%	-5.15
WA Seattle	King County Dept of Trp	332.6	9,624.6	8,508.6	7,876.6	26,009.8	103,934.8	9,538.5	8,423.4	7,700.7	25,662.6	104,261.4	1.35%	-0.31
WI Milwaukee	Milwaukee County Tr Sys	86.1	2,455.3	2,166.4	2,028.9	6,650.6	26,447.3	2,710.9	2,367.4	2,181.5	7,259.8	29,071.3	-8.39%	-9.03
REPORTED TOTAL		8,898.0	277,640.3	242,685.4	232,457.5	752,783.2	3,017,168.0	283,005.7	247,662.9	235,246.7	765,915.3	3,029,410.7	-1.71%	-0.40

* Preliminary information based on data from reporting systems.

Note: Data may differ from that included in Federal Transit Administration reports due to differences in data calculation procedures and in periods of time covered.

(a) Transit agencies assigned by urbanized areas or urban places of less than 50,000 population outside urbanized areas based on 2000 U.S. Census Population.

(b) Year-to-date ridership adjusted for data received after closing dates of previous issues.

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
AK Anchorage	Alaska Railroad Corporation	CR	0.2	1.0	1.2	2.9	203.4	1.1	1.1	2.0	199.7	21.43%	1.85
AK Anchorage	Alaska Railroad Corporation	TOTAL	0.2	1.0	1.2	2.9	203.4	1.1	1.1	2.0	199.7	21.43%	1.85
AR Little Rock	Rock Region Metro	DR	NA	9.4	8.0	7.8	97.6	8.7	7.5	7.2	93.5	7.69%	4.39
AR Little Rock	Rock Region Metro	LR	NA	10.1	7.8	10.1	127.1	3.2	2.5	7.5	42.8	>100%	>100%
AR Little Rock	Rock Region Metro	MB	8.3	225.0	188.5	187.2	2,351.8	211.1	184.0	172.5	2,240.6	5.83%	4.96
AR Little Rock	Rock Region Metro	TOTAL	NA	244.5	204.3	205.1	2,576.5	223.0	194.0	187.2	2,376.9	8.23%	8.40
AZ Flagstaff	N. AZ Intergovernmental Public TA	DR	0.0	2.0	1.6	1.6	20.2	1.8	1.5	1.5	23.9	8.33%	-15.48
AZ Flagstaff	N. AZ Intergovernmental Public TA	MB	7.7	293.5	231.1	171.0	2,507.6	305.0	246.3	173.0	2,531.1	-3.96%	-0.93
AZ Flagstaff	N. AZ Intergovernmental Public TA	VP	0.0	0.8	0.7	0.6	9.5	0.8	0.9	0.7	8.3	-12.50%	14.46
AZ Flagstaff	N. AZ Intergovernmental Public TA	TOTAL	7.7	296.3	233.4	173.2	2,537.3	307.6	248.7	175.2	2,563.3	-3.91%	-1.01
AZ Glendale	Glendale Transit	DR	0.2	5.9	4.7	5.0	67.1	7.9	6.9	6.3	79.2	-26.07%	-15.28
AZ Glendale	Glendale Transit	MB	0.4	11.0	9.8	10.1	126.6	11.1	10.4	10.8	121.6	-4.33%	4.11
AZ Glendale	Glendale Transit	TOTAL	0.6	16.9	14.5	15.1	193.7	19.0	17.3	17.1	200.8	-12.92%	-3.54
AZ Phoenix	City of Phoenix PTD	DR	1.0	31.2	27.8	28.4	352.3	30.3	28.0	27.1	342.4	2.34%	2.89
AZ Phoenix	City of Phoenix PTD	MB	108.3	3,081.9	2,699.8	2,603.5	33,222.5	3,267.0	3,077.1	2,817.3	35,384.8	-8.47%	-6.11
AZ Phoenix	City of Phoenix PTD	TOTAL	109.3	3,113.1	2,727.6	2,631.9	33,574.8	3,297.3	3,105.1	2,844.4	35,727.2	-8.37%	-6.02
AZ Phoenix	Valley Metro	DR	2.2	60.8	54.8	56.3	734.8	52.0	48.3	46.4	580.3	17.18%	26.62
AZ Phoenix	Valley Metro	MB	46.0	1,271.5	1,135.3	1,054.6	13,549.5	1,322.6	1,209.7	1,043.2	14,213.4	-3.19%	-4.67
AZ Phoenix	Valley Metro	VP	NA	90.1	77.7	74.7	998.2	88.4	79.0	78.5	982.1	-1.38%	1.64
AZ Phoenix	Valley Metro	TOTAL	NA	1,422.4	1,267.8	1,185.6	15,282.5	1,463.0	1,337.0	1,168.1	15,775.8	-2.33%	-3.13
AZ Phoenix	Valley Metro Rail, Inc.	LR	47.0	1,387.7	1,315.4	1,204.5	15,060.2	1,366.5	1,300.6	1,198.8	15,406.3	1.08%	-2.25
AZ Phoenix	Valley Metro Rail, Inc.	TOTAL	47.0	1,387.7	1,315.4	1,204.5	15,060.2	1,366.5	1,300.6	1,198.8	15,406.3	1.08%	-2.25
AZ Scottsdale	City of Scottsdale	MB	3.5	81.8	69.8	70.4	839.0	63.1	61.9	56.0	745.2	22.65%	12.59
AZ Scottsdale	City of Scottsdale	TOTAL	3.5	81.8	69.8	70.4	839.0	63.1	61.9	56.0	745.2	22.65%	12.59
AZ Tucson	City of Tucson MTS	DR	1.8	48.0	41.0	39.9	533.8	49.4	44.2	41.5	553.2	-4.59%	-3.51
AZ Tucson	City of Tucson MTS	LR	3.1	98.7	89.0	66.8	873.1	104.1	95.0	56.1	907.5	-0.27%	-3.79
AZ Tucson	City of Tucson MTS	MB	46.0	1,272.0	1,119.8	1,067.5	13,796.8	1,321.8	1,239.5	1,132.5	14,764.4	-6.35%	-6.55
AZ Tucson	City of Tucson MTS	TOTAL	50.8	1,418.7	1,249.8	1,174.2	15,203.7	1,475.3	1,378.7	1,230.1	16,225.1	-5.91%	-6.30
CA Alturas	Modoc Transportation Agency	MB	0.6	13.8	11.1	11.2	144.5	12.8	10.4	12.0	129.7	2.56%	11.41
CA Alturas	Modoc Transportation Agency	TOTAL	0.6	13.8	11.1	11.2	144.5	12.8	10.4	12.0	129.7	2.56%	11.41
CA Anaheim	Anaheim Resort Transportation	MB	15.4	698.9	625.2	713.7	8,417.1	920.8	778.1	851.1	9,809.1	-20.09%	-14.19
CA Anaheim	Anaheim Resort Transportation	TOTAL	15.4	698.9	625.2	713.7	8,417.1	920.8	778.1	851.1	9,809.1	-20.09%	-14.19

Attachment: Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

Modes: MB - Bus, DR - Demand Response, CR - Commuter Rail, HR - Heavy Rail, LR - Light Rail, AG - Automated Guideway, CC - Cable Car, FB - Ferry Boat, IP - Inclined Plane, IR - Intermediate Rail, MO - Monorail, TB - Trolleybus, VP - Vanpool

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
CA Antioch	Eastern Contra Costa Tr Auth	DR	0.8	19.2	16.4	16.7	186.2	13.6	12.3	12.3	139.4	36.91%	33.57
CA Antioch	Eastern Contra Costa Tr Auth	MB	6.0	156.1	127.9	134.4	1,691.8	180.1	143.7	133.6	2,064.8	-8.53%	-18.06
CA Antioch	Eastern Contra Costa Tr Auth	TOTAL	6.8	175.3	144.3	151.1	1,878.0	193.7	156.0	145.9	2,204.2	-5.02%	-14.80
CA Bakersfield	Golden Empire Transit District	DR	0.2	5.2	4.6	5.8	58.4	5.0	4.4	4.3	55.7	13.87%	4.85
CA Bakersfield	Golden Empire Transit District	MB	22.0	566.1	478.1	664.4	6,247.9	593.2	524.6	481.0	6,333.2	6.87%	-1.35
CA Bakersfield	Golden Empire Transit District	TOTAL	22.2	571.3	482.7	670.2	6,306.3	598.2	529.0	485.3	6,388.9	6.93%	-1.29
CA Concord	Central Contra Costa TA	DR	0.5	13.1	10.9	11.1	149.1	14.1	11.9	11.6	149.2	-6.65%	-0.07
CA Concord	Central Contra Costa TA	MB	13.2	368.5	292.3	270.1	3,463.8	325.8	263.4	243.0	3,366.5	11.86%	2.89
CA Concord	Central Contra Costa TA	TOTAL	13.7	381.6	303.2	281.2	3,612.9	339.9	275.3	254.6	3,515.7	11.06%	2.76
CA Culver City	Culver CityBus	MB	16.0	433.1	371.6	360.6	4,569.5	453.3	424.6	380.5	4,838.7	-7.40%	-5.56
CA Culver City	Culver CityBus	TOTAL	16.0	433.1	371.6	360.6	4,569.5	453.3	424.6	380.5	4,838.7	-7.40%	-5.56
CA Davis	Unitrans	MB	18.8	556.2	415.5	223.3	3,995.5	487.9	287.2	202.7	3,824.8	22.21%	4.46
CA Davis	Unitrans	TOTAL	18.8	556.2	415.5	223.3	3,995.5	487.9	287.2	202.7	3,824.8	22.21%	4.46
CA Fairfield	Fairfield/Suisun Transit Sys	DR	0.1	1.7	1.4	1.3	19.7	2.2	1.8	1.7	24.1	-22.81%	-18.26
CA Fairfield	Fairfield/Suisun Transit Sys	MB	3.3	87.0	70.9	62.4	886.3	88.5	71.5	63.4	921.3	-1.39%	-3.80
CA Fairfield	Fairfield/Suisun Transit Sys	TOTAL	3.4	88.7	72.3	63.7	906.0	90.7	73.3	65.1	945.4	-1.92%	-4.17
CA Fresno	Fresno Area Express	DR	0.7	20.3	16.6	15.9	219.2	20.7	17.4	16.1	217.7	-2.58%	0.69
CA Fresno	Fresno Area Express	MB	35.1	1,006.0	910.0	837.7	10,648.7	983.9	901.2	836.8	10,194.2	1.17%	4.46
CA Fresno	Fresno Area Express	TOTAL	35.8	1,026.3	926.6	853.6	10,867.9	1,004.6	918.6	852.9	10,411.9	1.10%	4.38
CA Gardena	Gardena Municipal Bus Lines	DR	0.0	2.1	1.4	1.7	22.0	1.7	1.7	1.7	22.1	1.96%	-0.45
CA Gardena	Gardena Municipal Bus Lines	MB	11.7	296.3	239.1	229.9	2,955.4	283.4	246.0	220.9	3,016.2	2.00%	-2.02
CA Gardena	Gardena Municipal Bus Lines	TOTAL	11.7	298.4	240.5	231.6	2,977.4	285.1	247.7	222.6	3,038.3	2.00%	-2.00
CA Hesperia	Victor Valley Transit Authority	DR	NA	17.7	14.9	15.4	190.8	17.1	15.5	14.3	187.3	2.35%	1.87
CA Hesperia	Victor Valley Transit Authority	MB	NA	156.5	125.1	111.1	1,528.5	104.8	126.4	109.7	1,406.0	15.20%	8.71
CA Hesperia	Victor Valley Transit Authority	VP	NA	54.8	46.3	46.9	566.5	51.0	46.3	42.6	590.3	5.79%	-4.03
CA Hesperia	Victor Valley Transit Authority	TOTAL	NA	229.0	186.3	173.4	2,285.8	172.9	188.2	166.6	2,183.6	11.56%	4.68
CA Lancaster	Antelope Valley Transit Auth	DR	0.2	5.1	4.4	4.2	52.2	4.8	4.2	3.7	50.6	7.87%	3.16
CA Lancaster	Antelope Valley Transit Auth	MB	7.9	234.6	188.5	164.0	2,374.1	209.8	170.7	153.8	2,298.2	9.88%	3.30
CA Lancaster	Antelope Valley Transit Auth	TOTAL	8.1	239.7	192.9	168.2	2,426.3	214.6	174.9	157.5	2,348.8	9.84%	3.30
CA Livermore	Livermore/Amador Valley TA	DR	1.7	4.2	3.5	3.5	47.1	4.3	3.9	3.7	48.2	-5.88%	-2.28
CA Livermore	Livermore/Amador Valley TA	MB	6.9	193.7	148.5	141.1	1,761.9	171.1	132.8	124.3	1,667.8	12.87%	5.64
CA Livermore	Livermore/Amador Valley TA	TOTAL	8.6	197.9	152.0	144.6	1,809.0	175.4	136.7	128.0	1,716.0	12.36%	5.42

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
CA Long Beach	Long Beach Transit	DR	0.1	3.5	3.1	3.0	37.7	3.7	3.2	3.0	38.6	-3.03%	-2.3%
CA Long Beach	Long Beach Transit	FB	0.1	4.4	3.2	1.8	92.5	0.0	0.0	0.0	74.5	NA	24.1%
CA Long Beach	Long Beach Transit	MB	75.8	2,219.4	1,837.7	1,858.0	23,132.8	2,216.3	1,864.8	1,908.5	23,453.4	-1.24%	-1.37%
CA Long Beach	Long Beach Transit	TOTAL	76.0	2,227.3	1,844.0	1,862.8	23,263.0	2,220.0	1,868.0	1,911.5	23,566.5	-1.09%	-1.2%
CA Los Angeles	Access Services	DR	15.2	429.0	387.6	383.9	4,663.5	402.9	361.7	342.6	4,451.7	8.43%	4.7%
CA Los Angeles	Access Services	TOTAL	15.2	429.0	387.6	383.9	4,663.5	402.9	361.7	342.6	4,451.7	8.43%	4.7%
CA Los Angeles	Los Angeles County MTA	HR	130.9	3,578.9	3,302.5	3,401.1	41,775.1	3,794.7	3,582.3	3,621.3	43,300.6	-6.51%	-3.5%
CA Los Angeles	Los Angeles County MTA	LR	161.3	3,834.5	4,418.7	4,666.5	51,395.8	5,664.0	5,423.1	5,427.2	64,715.7	-21.77%	-20.5%
CA Los Angeles	Los Angeles County MTA	MB	865.6	26,065.7	21,760.6	20,954.6	278,109.9	25,080.2	22,438.5	20,988.1	275,775.9	0.40%	0.8%
CA Los Angeles	Los Angeles County MTA	TOTAL	1,157.8	33,479.1	29,481.8	29,022.2	371,280.8	34,538.9	31,443.9	30,036.6	383,792.2	-4.20%	-3.2%
CA Los Angeles	Southern California RRA	CR	38.5	989.0	835.4	810.6	10,803.6	991.2	858.5	758.8	10,691.1	1.02%	1.0%
CA Los Angeles	Southern California RRA	TOTAL	38.5	989.0	835.4	810.6	10,803.6	991.2	858.5	758.8	10,691.1	1.02%	1.0%
CA Modesto	Modesto Area Express	DR	NA	7.4	6.7	6.6	81.7	7.1	6.3	6.1	81.8	6.15%	-0.1%
CA Modesto	Modesto Area Express	MB	NA	223.7	180.3	164.7	2,201.5	194.2	163.2	150.1	2,055.3	12.06%	7.1%
CA Modesto	Modesto Area Express	TOTAL	NA	231.1	187.0	171.3	2,283.2	201.3	169.5	156.2	2,137.1	11.84%	6.8%
CA Montebello	Montebello Bus Lines	DR	0.2	6.7	5.7	5.3	69.1	6.0	5.5	5.5	73.0	4.12%	-5.3%
CA Montebello	Montebello Bus Lines	MB	20.8	491.0	419.4	402.9	5,191.7	503.7	445.4	407.0	5,557.0	-3.16%	-6.5%
CA Montebello	Montebello Bus Lines	TOTAL	21.0	497.7	425.1	408.2	5,260.8	509.7	450.9	412.5	5,630.0	-3.07%	-6.5%
CA Monterey	Monterey-Salinas Transit	DR	0.7	19.8	16.9	15.5	203.8	18.9	16.6	14.7	207.4	3.98%	-1.7%
CA Monterey	Monterey-Salinas Transit	MB	11.6	373.5	316.2	269.6	4,145.7	384.0	326.8	290.5	4,259.9	-4.19%	-2.6%
CA Monterey	Monterey-Salinas Transit	TOTAL	12.3	393.3	333.1	285.1	4,349.5	402.9	343.4	305.2	4,467.3	-3.80%	-2.6%
CA Napa	Napa County Transportation and Pla	DR	0.4	8.9	7.3	6.7	97.9	9.0	6.8	6.3	97.4	3.62%	0.5%
CA Napa	Napa County Transportation and Pla	MB	3.3	79.2	66.7	66.4	894.4	85.3	67.9	58.0	941.4	0.52%	-4.9%
CA Napa	Napa County Transportation and Pla	TOTAL	3.7	88.1	74.0	73.1	992.3	94.3	74.7	64.3	1,038.8	0.81%	-4.4%
CA Norwalk	Norwalk Transit System	DR	0.4	2.4	1.8	1.9	24.5	2.1	1.9	1.8	22.9	5.17%	6.9%
CA Norwalk	Norwalk Transit System	MB	5.5	149.4	118.7	103.1	1,432.4	147.6	122.6	97.1	1,443.2	1.06%	-0.7%
CA Norwalk	Norwalk Transit System	TOTAL	5.9	151.8	120.5	105.0	1,456.9	149.7	124.5	98.9	1,466.1	1.13%	-0.6%
CA Oakland	Alameda-Contra Costa TD	DR	2.8	67.1	56.3	57.8	735.0	64.4	57.3	56.4	759.3	1.74%	-3.2%
CA Oakland	Alameda-Contra Costa TD	MB	215.5	5,186.0	4,460.1	4,174.7	53,883.9	5,148.2	4,329.2	4,031.0	52,309.1	2.31%	3.0%
CA Oakland	Alameda-Contra Costa TD	TOTAL	218.4	5,253.1	4,516.4	4,232.5	54,618.9	5,212.6	4,386.5	4,087.4	53,068.4	2.31%	2.9%
CA Oakland	Capitol Corridor Joint Powers Auth	CR	6.0	162.5	152.7	141.5	1,791.7	162.4	147.7	131.5	1,725.5	3.42%	3.8%
CA Oakland	Capitol Corridor Joint Powers Auth	TOTAL	6.0	162.5	152.7	141.5	1,791.7	162.4	147.7	131.5	1,725.5	3.42%	3.8%

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

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CA Oceanside	North County Transit District	CR	4.2	111.0	94.6	84.0	1,362.8	115.8	108.3	93.2	1,434.7	-8.73%	-5.01
CA Oceanside	North County Transit District	DR	0.5	13.2	12.2	11.7	157.0	16.3	13.9	12.6	181.1	-13.32%	-13.31
CA Oceanside	North County Transit District	LR	7.8	241.9	195.7	175.2	2,475.8	238.3	189.8	148.7	2,403.2	6.24%	3.02
CA Oceanside	North County Transit District	MB	21.2	622.5	519.9	462.4	6,301.3	626.1	532.8	478.2	6,478.1	-1.97%	-2.73
CA Oceanside	North County Transit District	TOTAL	33.7	988.6	822.4	733.3	10,296.9	996.5	844.8	732.7	10,497.1	-1.15%	-1.91
CA Orange	Orange County Transp Auth	DR	4.6	158.0	134.5	132.4	1,696.4	151.8	134.7	120.1	1,647.3	4.50%	2.98
CA Orange	Orange County Transp Auth	MB	119.8	3,529.4	2,998.2	2,851.3	37,292.5	3,590.4	3,168.0	2,907.8	38,886.9	-2.97%	-4.10
CA Orange	Orange County Transp Auth	VP	18.5	109.4	88.8	83.2	1,172.6	114.2	99.6	81.1	1,254.1	-4.58%	-6.50
CA Orange	Orange County Transp Auth	TOTAL	142.9	3,796.8	3,221.5	3,066.9	40,161.5	3,856.4	3,402.3	3,109.0	41,788.3	-2.72%	-3.89
CA Oxnard	Gold Coast Transit	DR	0.4	9.9	8.5	8.5	114.7	10.8	9.3	9.1	118.3	-7.88%	-3.04
CA Oxnard	Gold Coast Transit	MB	11.3	326.9	286.8	269.3	3,499.0	338.3	290.4	274.9	3,538.7	-2.28%	-1.12
CA Oxnard	Gold Coast Transit	TOTAL	11.7	336.8	295.3	277.8	3,613.7	349.1	299.7	284.0	3,657.0	-2.45%	-1.18
CA Redding	Redding Area Bus Authority	DR	0.2	3.9	3.1	3.3	46.7	4.7	4.1	4.0	50.5	-19.53%	-7.52
CA Redding	Redding Area Bus Authority	MB	2.6	54.6	50.0	44.8	578.6	57.2	48.4	47.1	625.2	-2.16%	-7.45
CA Redding	Redding Area Bus Authority	TOTAL	2.8	58.5	53.1	48.1	625.3	61.9	52.5	51.1	675.7	-3.50%	-7.46
CA Redondo Beach	City of Redondo Beach	DR	0.0	1.3	1.0	0.9	13.2	1.3	1.2	1.1	14.2	-11.11%	-7.04
CA Redondo Beach	City of Redondo Beach	MB	1.2	36.1	27.6	25.8	359.6	35.0	28.2	26.2	358.0	0.11%	0.45
CA Redondo Beach	City of Redondo Beach	TOTAL	1.2	37.4	28.6	26.7	372.8	36.3	29.4	27.3	372.2	-0.32%	0.16
CA Riverside	Riverside Transit Agency	DR	1.3	34.1	29.3	29.0	390.0	37.3	33.0	30.9	410.9	-8.70%	-5.09
CA Riverside	Riverside Transit Agency	MB	27.7	834.7	686.1	598.8	8,228.3	842.0	724.7	622.9	8,287.2	-3.20%	-0.71
CA Riverside	Riverside Transit Agency	TOTAL	29.0	868.8	715.4	627.8	8,618.3	879.3	757.7	653.8	8,698.1	-3.44%	-0.92
CA Sacramento	Sacramento Reg Tr Dist	DR	0.5	42.0	36.0	10.7	117.3	38.5	33.2	33.1	381.7	-67.94%	-69.27
CA Sacramento	Sacramento Reg Tr Dist	LR	38.4	1,059.0	896.9	879.0	11,180.1	1,025.6	833.6	819.4	10,464.7	5.84%	6.84
CA Sacramento	Sacramento Reg Tr Dist	MB	37.8	1,043.7	883.9	835.8	10,029.0	1,034.5	819.3	795.5	9,956.5	4.31%	0.73
CA Sacramento	Sacramento Reg Tr Dist	TOTAL	NA	2,144.7	1,816.8	NA	NA	2,098.6	1,686.1	1,648.0	20,802.9	NA	1
CA San Bernardino	OMNITRANS	DR	1.2	30.7	25.5	25.6	344.2	34.1	29.2	26.9	369.6	-9.31%	-6.87
CA San Bernardino	OMNITRANS	MB	35.2	1,025.4	851.0	802.6	10,540.0	1,019.5	897.4	801.4	10,605.8	-1.45%	-0.62
CA San Bernardino	OMNITRANS	TOTAL	36.4	1,056.1	876.5	828.2	10,884.2	1,053.6	926.6	828.3	10,975.4	-1.70%	-0.83
CA San Carlos	Caltrain	CR	67.5	1,726.4	1,472.7	1,428.4	18,693.5	1,605.7	1,470.2	1,356.5	18,855.7	4.40%	-0.86
CA San Carlos	Caltrain	TOTAL	67.5	1,726.4	1,472.7	1,428.4	18,693.5	1,605.7	1,470.2	1,356.5	18,855.7	4.40%	-0.86
CA San Carlos	San Mateo County Tran Dist	DR	1.1	29.9	26.6	25.8	334.7	31.6	27.4	26.0	346.3	-3.18%	-3.35
CA San Carlos	San Mateo County Tran Dist	MB	37.4	1,057.5	911.9	857.9	10,808.0	1,039.6	876.4	827.2	10,870.9	3.07%	-0.58
CA San Carlos	San Mateo County Tran Dist	TOTAL	38.5	1,087.4	938.5	883.7	11,142.7	1,071.2	903.8	853.2	11,217.2	2.88%	-0.66

Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
CA San Diego	San Diego Metrop Transit System	DR	1.6	43.3	36.2	36.1	474.9	46.8	41.2	36.6	544.1	-7.22%	-12.72%
CA San Diego	San Diego Metrop Transit System	LR	117.7	3,551.9	3,124.4	2,879.5	38,047.3	3,389.1	3,077.0	2,957.4	37,139.7	1.40%	2.44%
CA San Diego	San Diego Metrop Transit System	MB	163.0	4,809.7	3,963.2	3,560.9	48,032.2	4,690.8	3,987.1	3,537.6	47,734.8	0.97%	0.62%
CA San Diego	San Diego Metrop Transit System	TOTAL	282.3	8,404.9	7,123.8	6,476.5	86,554.4	8,126.7	7,105.3	6,531.6	85,418.6	1.11%	1.33%
CA San Francisco	Golden Gate Bridge, Hwy & TD	DR	0.4	8.8	7.9	7.7	118.0	11.7	10.2	9.6	129.2	-22.54%	-8.67%
CA San Francisco	Golden Gate Bridge, Hwy & TD	FB	8.0	220.8	174.1	160.0	2,445.7	221.2	165.8	160.4	2,527.0	1.37%	-3.22%
CA San Francisco	Golden Gate Bridge, Hwy & TD	MB	10.3	272.6	236.5	222.3	3,081.9	291.1	240.0	222.0	3,153.6	-2.88%	-2.27%
CA San Francisco	Golden Gate Bridge, Hwy & TD	TOTAL	18.7	502.2	418.5	390.0	5,645.6	524.0	416.0	392.0	5,809.8	-1.60%	-2.83%
CA San Francisco	San Francisco Bay Area RTD	AG	2.6	74.9	68.9	70.7	846.6	82.7	76.0	70.9	931.5	-6.58%	-9.11%
CA San Francisco	San Francisco Bay Area RTD	CR	8.2	217.5	184.0	178.1	2,292.0	211.6	179.0	168.5	1,316.1	3.67%	74.15%
CA San Francisco	San Francisco Bay Area RTD	HR	421.1	11,304.9	9,711.6	9,294.4	123,510.1	11,480.0	9,597.2	9,223.6	125,576.4	0.03%	-1.65%
CA San Francisco	San Francisco Bay Area RTD	TOTAL	431.9	11,597.3	9,964.5	9,543.2	126,648.7	11,774.3	9,852.2	9,463.0	127,824.0	0.05%	-0.92%
CA San Francisco	San Francisco Muni Rwy	CC	14.9	526.9	399.9	405.5	5,719.9	576.9	442.5	431.3	6,286.9	-8.16%	-9.02%
CA San Francisco	San Francisco Muni Rwy	LR	157.7	4,490.6	3,871.6	3,829.4	49,519.6	4,531.6	4,171.5	3,634.2	49,971.7	-1.18%	-0.90%
CA San Francisco	San Francisco Muni Rwy	MB	334.6	9,724.1	8,383.3	8,177.4	104,950.2	9,820.2	8,413.4	8,515.3	107,199.8	-1.74%	-2.10%
CA San Francisco	San Francisco Muni Rwy	TB	167.4	5,008.6	4,449.5	4,303.3	54,381.0	4,754.8	4,146.5	4,162.1	52,728.9	5.34%	3.13%
CA San Francisco	San Francisco Muni Rwy	TOTAL	674.5	19,750.2	17,104.3	16,715.6	214,570.7	19,683.5	17,173.9	16,742.9	216,187.3	-0.06%	-0.75%
CA San Francisco	Water Emergency Tr Auth	FB	10.1	310.7	236.4	213.4	3,218.6	278.2	196.4	191.7	2,923.4	14.14%	10.10%
CA San Francisco	Water Emergency Tr Auth	TOTAL	10.1	310.7	236.4	213.4	3,218.6	278.2	196.4	191.7	2,923.4	14.14%	10.10%
CA San Jose	Santa Clara Valley Trp Auth	DR	1.5	41.1	35.3	34.2	452.6	37.6	32.9	33.8	434.4	6.04%	4.19%
CA San Jose	Santa Clara Valley Trp Auth	LR	26.7	769.8	681.3	664.2	8,335.1	811.1	677.0	682.4	8,538.9	-2.54%	-2.39%
CA San Jose	Santa Clara Valley Trp Auth	MB	92.0	2,631.1	2,271.4	2,145.7	27,367.4	2,659.0	2,217.5	2,262.6	27,994.0	-1.27%	-2.24%
CA San Jose	Santa Clara Valley Trp Auth	TOTAL	120.2	3,442.0	2,988.0	2,844.1	36,155.1	3,507.7	2,927.4	2,978.8	36,967.3	-1.49%	-2.20%
CA San Rafael	Sonoma-Marín Area Rail Tr Dist (S	CR	NA	57.2	65.0	58.2	714.0	65.5	52.8	51.7	714.5	6.12%	-0.07%
CA San Rafael	Sonoma-Marín Area Rail Tr Dist (S	TOTAL	NA	57.2	65.0	58.2	714.0	65.5	52.8	51.7	714.5	6.12%	-0.07%
CA Santa Barbara	Santa Barbara MTD	DR	0.2	5.7	4.8	4.8	61.1	5.3	4.6	4.4	56.4	6.99%	8.33%
CA Santa Barbara	Santa Barbara MTD	MB	23.7	729.2	568.7	434.4	6,503.3	697.8	563.7	429.0	6,379.1	2.47%	1.95%
CA Santa Barbara	Santa Barbara MTD	TOTAL	23.9	734.9	573.5	439.2	6,564.4	703.1	568.3	433.4	6,435.5	2.51%	2.00%
CA Santa Cruz	Santa Cruz Metro Transit Dist	DR	0.3	7.4	6.4	6.1	75.4	7.0	6.0	5.7	71.7	6.42%	5.16%
CA Santa Cruz	Santa Cruz Metro Transit Dist	MB	18.6	616.1	482.8	304.2	5,078.7	589.1	491.7	318.2	4,931.3	0.29%	2.99%
CA Santa Cruz	Santa Cruz Metro Transit Dist	TOTAL	18.9	623.5	489.2	310.3	5,154.1	596.1	497.7	323.9	5,003.0	0.37%	3.02%
CA Santa Monica	Santa Monica's Big Blue Bus	DR	0.0	3.6	3.2	3.0	45.1	0.4	3.0	3.0	17.9	53.13%	>100%
CA Santa Monica	Santa Monica's Big Blue Bus	MB	43.5	1,305.4	1,080.3	949.1	12,823.3	1,258.6	1,072.8	909.9	12,818.0	2.88%	0.04%
CA Santa Monica	Santa Monica's Big Blue Bus	TOTAL	43.5	1,309.0	1,083.5	952.1	12,868.4	1,259.0	1,075.8	912.9	12,835.9	2.98%	0.25%

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
CA Simi Valley	City of Simi Valley/Transit	DR	0.1	3.3	3.2	3.0	38.7	3.8	3.2	3.0	42.0	-5.00%	-7.8%
CA Simi Valley	City of Simi Valley/Transit	MB	0.8	21.4	18.3	17.6	226.8	23.0	17.6	28.6	251.0	-17.20%	-9.6%
CA Simi Valley	City of Simi Valley/Transit	TOTAL	0.9	24.7	21.5	20.6	265.5	26.8	20.8	31.6	293.0	-15.66%	-9.3%
CA Stockton	San Joaquin Reg Rail Comm	CR	4.8	141.7	115.0	101.4	1,492.4	151.6	122.9	99.0	1,479.3	-4.12%	0.8%
CA Stockton	San Joaquin Reg Rail Comm	TOTAL	4.8	141.7	115.0	101.4	1,492.4	151.6	122.9	99.0	1,479.3	-4.12%	0.8%
CA Stockton	San Joaquin Reg Trans Dist	DR	0.6	14.8	13.2	13.8	150.6	6.2	5.7	5.2	62.2	>100%	>100%
CA Stockton	San Joaquin Reg Trans Dist	MB	12.3	333.0	281.8	257.0	3,498.8	337.7	276.8	255.7	3,413.9	0.18%	2.4%
CA Stockton	San Joaquin Reg Trans Dist	TOTAL	12.9	347.8	295.0	270.8	3,649.4	343.9	282.5	260.9	3,476.1	2.96%	4.9%
CA Thousand Palms	SunLine Transit Agency	DR	0.5	13.9	12.3	12.1	154.6	12.9	11.2	9.7	147.0	13.31%	5.17%
CA Thousand Palms	SunLine Transit Agency	MB	13.3	385.0	339.0	322.0	4,049.3	382.7	349.3	323.5	3,974.5	-0.90%	1.8%
CA Thousand Palms	SunLine Transit Agency	TOTAL	13.8	398.9	351.3	334.1	4,203.9	395.6	360.5	333.2	4,121.5	-0.46%	2.0%
CA Torrance	Torrance Transit System	DR	0.2	4.5	4.0	4.2	58.9	6.0	5.5	5.4	68.8	-24.85%	-14.3%
CA Torrance	Torrance Transit System	MB	12.1	344.9	287.8	273.2	3,610.3	314.7	312.8	301.3	3,692.8	-2.47%	-2.2%
CA Torrance	Torrance Transit System	TOTAL	12.3	349.4	291.8	277.4	3,669.2	320.7	318.3	306.7	3,761.6	-2.87%	-2.4%
CA Vallejo	Solano County Transit (SolTrans)	DR	0.1	2.7	2.4	2.7	36.0	3.2	2.8	2.6	33.0	-9.30%	9.0%
CA Vallejo	Solano County Transit (SolTrans)	MB	5.0	128.2	107.2	96.3	1,320.3	145.0	111.9	105.9	1,432.6	-8.57%	-7.8%
CA Vallejo	Solano County Transit (SolTrans)	TOTAL	5.1	130.9	109.6	99.0	1,356.3	148.2	114.7	108.5	1,465.6	-8.59%	-7.4%
CA Ventura	Ventura County Transp Comm	MB	2.4	68.0	55.5	44.8	642.1	73.5	55.0	46.3	644.8	-3.72%	-0.4%
CA Ventura	Ventura County Transp Comm	TOTAL	2.4	68.0	55.5	44.8	642.1	73.5	55.0	46.3	644.8	-3.72%	-0.4%
CA Visalia	Visalia City Coach	DR	0.1	3.7	3.2	3.0	39.8	3.7	3.2	3.0	39.3	0.00%	1.2%
CA Visalia	Visalia City Coach	MB	4.3	119.1	96.1	92.4	1,216.6	128.1	104.4	93.8	1,360.1	-5.73%	-10.5%
CA Visalia	Visalia City Coach	TOTAL	4.4	122.8	99.3	95.4	1,256.4	131.8	107.6	96.8	1,399.4	-5.56%	-10.2%
CA West Covina	Foothill Transit	MB	38.7	1,110.3	950.7	855.4	11,751.8	1,191.6	1,039.1	925.6	12,452.6	-7.60%	-5.6%
CA West Covina	Foothill Transit	TOTAL	38.7	1,110.3	950.7	855.4	11,751.8	1,191.6	1,039.1	925.6	12,452.6	-7.60%	-5.6%
CA Woodland	Yolo County Transportation District	MB	2.6	107.2	95.1	88.0	1,160.1	112.3	95.1	88.3	1,213.4	-1.83%	-4.3%
CA Woodland	Yolo County Transportation District	TOTAL	2.6	107.2	95.1	88.0	1,160.1	112.3	95.1	88.3	1,213.4	-1.83%	-4.3%
CO Aspen	Roaring Fork Transp Auth	DR	0.5	10.5	11.4	18.5	173.8	9.9	12.5	17.9	163.6	0.25%	6.2%
CO Aspen	Roaring Fork Transp Auth	MB	11.8	266.5	249.3	568.8	5,244.2	218.2	240.6	516.2	4,979.5	11.24%	5.3%
CO Aspen	Roaring Fork Transp Auth	TOTAL	12.2	277.0	260.7	587.3	5,418.0	228.1	253.1	534.1	5,143.1	10.80%	5.3%
CO Colorado Springs	Mountain Metropolitan Transit	DR	0.6	14.2	12.1	12.6	162.0	21.2	18.2	16.5	217.8	-30.41%	-25.6%
CO Colorado Springs	Mountain Metropolitan Transit	MB	9.9	275.7	234.1	238.0	3,215.2	277.4	248.1	227.3	3,082.9	-0.66%	4.2%
CO Colorado Springs	Mountain Metropolitan Transit	VP	0.1	3.7	2.7	2.8	42.6	4.4	3.9	2.9	45.4	-17.86%	-6.17%
CO Colorado Springs	Mountain Metropolitan Transit	TOTAL	10.6	293.6	248.9	253.4	3,419.8	303.0	270.2	246.7	3,346.1	-2.93%	2.2%

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CO Denver	Regional Trp District	CR	40.0	947.9	841.3	848.2	9,711.3	674.9	629.1	592.7	7,613.0	39.05%	27.56%
CO Denver	Regional Trp District	DR	4.6	105.9	93.2	95.5	1,193.3	116.2	102.4	91.0	1,240.9	-4.84%	-3.84%
CO Denver	Regional Trp District	LR	95.3	2,392.9	2,003.3	1,905.7	24,585.3	2,355.5	2,179.9	2,173.8	25,669.7	-6.07%	-4.22%
CO Denver	Regional Trp District	MB	265.2	6,272.9	5,561.0	5,681.7	69,870.3	5,679.8	4,929.4	4,917.1	62,788.6	12.81%	11.28%
CO Denver	Regional Trp District	VP	0.8	17.7	17.6	18.8	209.0	17.6	17.7	18.7	209.0	0.19%	0.00%
CO Denver	Regional Trp District	TOTAL	406.0	9,737.3	8,516.4	8,549.9	105,569.2	8,844.0	7,858.5	7,793.3	97,521.2	9.42%	8.25%
CO Fort Collins	Transfort	DR	0.0	3.6	3.3	3.5	39.1	3.5	3.0	2.7	37.5	13.04%	4.27%
CO Fort Collins	Transfort	MB	17.1	504.7	408.8	348.4	4,467.0	486.3	391.6	287.2	4,406.9	8.31%	1.36%
CO Fort Collins	Transfort	TOTAL	17.1	508.3	412.1	351.9	4,506.1	489.8	394.6	289.9	4,444.4	8.35%	1.36%
CO Grand Junction	Mesa County Reg Transp Office	DR	0.1	3.2	2.7	2.8	34.7	2.8	2.5	2.5	29.9	11.54%	16.05%
CO Grand Junction	Mesa County Reg Transp Office	MB	2.4	66.1	56.7	56.5	725.3	64.0	56.6	54.9	747.2	2.17%	-2.93%
CO Grand Junction	Mesa County Reg Transp Office	TOTAL	2.5	69.3	59.4	59.3	760.0	66.8	59.1	57.4	777.1	2.56%	-2.20%
CT Bridgeport	Greater Bridgeport Tr Auth	DR	NA	9.1	8.2	7.4	98.7	9.0	8.0	7.6	93.9	0.41%	5.11%
CT Bridgeport	Greater Bridgeport Tr Auth	MB	NA	485.9	425.0	386.1	5,178.8	499.6	439.0	411.9	5,199.1	-3.96%	-0.39%
CT Bridgeport	Greater Bridgeport Tr Auth	TOTAL	NA	495.0	433.2	393.5	5,277.5	508.6	447.0	419.5	5,293.0	-3.88%	-0.29%
CT Hartford	Connecticut DOT	DR	0.2	6.4	5.5	4.8	67.8	6.2	5.5	5.3	67.5	-1.76%	0.44%
CT Hartford	Connecticut DOT	MB	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CT Hartford	Connecticut DOT	TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
CT Hartford	Connecticut Transit	MB	NA	2,582.2	2,124.5	2,029.5	26,135.2	2,495.4	2,072.1	2,038.5	26,495.2	1.97%	-1.36%
CT Hartford	Connecticut Transit	TOTAL	NA	2,582.2	2,124.5	2,029.5	26,135.2	2,495.4	2,072.1	2,038.5	26,495.2	1.97%	-1.36%
CT Hartford	Greater Hartford Tran Dist	DR	2.0	48.4	41.9	39.0	519.0	47.3	42.7	40.1	504.7	-0.61%	2.83%
CT Hartford	Greater Hartford Tran Dist	TOTAL	2.0	48.4	41.9	39.0	519.0	47.3	42.7	40.1	504.7	-0.61%	2.83%
CT New Haven	Connecticut DOT	CR	2.2	57.0	51.2	51.5	660.5	48.1	44.5	43.1	599.3	17.69%	10.21%
CT New Haven	Connecticut DOT	TOTAL	2.2	57.0	51.2	51.5	660.5	48.1	44.5	43.1	599.3	17.69%	10.21%
CT New Haven	Greater New Haven Transit Dist	DR	0.8	21.4	19.4	18.1	232.7	21.4	19.7	18.3	231.5	-0.84%	0.52%
CT New Haven	Greater New Haven Transit Dist	TOTAL	0.8	21.4	19.4	18.1	232.7	21.4	19.7	18.3	231.5	-0.84%	0.52%
CT Norwalk	Norwalk Transit District	DR	0.5	10.8	9.5	9.0	126.6	9.9	8.0	7.8	100.2	14.01%	26.35%
CT Norwalk	Norwalk Transit District	MB	5.0	125.4	108.4	96.8	1,328.0	131.7	115.5	105.0	1,398.8	-6.13%	-5.06%
CT Norwalk	Norwalk Transit District	TOTAL	5.5	136.2	117.9	105.8	1,454.6	141.6	123.5	112.8	1,499.0	-4.76%	-2.96%
DC Washington	District Dept of Transp	LR	2.4	80.5	66.8	56.0	1,093.4	102.2	92.9	90.3	1,145.3	-28.77%	-4.53%
DC Washington	District Dept of Transp	MB	11.2	409.9	277.6	262.8	5,597.5	346.8	302.9	310.1	4,223.8	-0.99%	32.52%
DC Washington	District Dept of Transp	TOTAL	13.6	490.4	344.4	318.8	6,690.9	449.0	395.8	400.4	5,369.1	-7.36%	24.62%

Attachment: Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

Modes: MB - Bus, DR - Demand Response, CR - Commuter Rail, HR - Heavy Rail, LR - Light Rail, AG - Automated Guideway, CC - Cable Car, FB - Ferry Boat, IP - Inclined Plane, IR - Intermediate Rail, MO - Monorail, TB - Trolleybus, VP - Vanpool

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
DC Washington	Washington Metro Area TA	HR	816.7	22,837.6	19,057.4	17,702.0	237,701.1	21,181.9	17,790.9	16,031.6	226,349.6	8.35%	5.02%
DC Washington	Washington Metro Area TA	MB	340.1	9,564.3	8,175.6	7,927.6	105,469.8	10,030.8	8,617.0	8,151.3	109,054.8	-4.22%	-3.29%
DC Washington	Washington Metro Area TA	TOTAL	1,156.8	32,401.9	27,233.0	25,629.6	343,170.9	31,212.7	26,407.9	24,182.9	335,404.4	4.23%	2.32%
DE Wilmington	Delaware Transit Corp	DR	3.5	92.2	78.2	77.3	968.3	88.9	77.5	72.1	929.7	3.86%	4.15%
DE Wilmington	Delaware Transit Corp	MB	24.9	668.2	575.6	549.8	7,246.2	671.1	569.1	536.8	7,077.3	0.93%	2.39%
DE Wilmington	Delaware Transit Corp	TOTAL	28.4	760.4	653.8	627.1	8,214.5	760.0	646.6	608.9	8,007.0	1.28%	2.59%
FL Bradenton	Manatee County Area Transit	DR	0.4	8.9	7.6	7.4	98.4	8.6	7.8	7.4	97.1	0.42%	1.34%
FL Bradenton	Manatee County Area Transit	MB	4.7	124.5	120.7	118.4	1,494.7	122.4	113.6	108.1	1,379.2	5.67%	8.37%
FL Bradenton	Manatee County Area Transit	TOTAL	5.1	133.4	128.3	125.8	1,593.1	131.0	121.4	115.5	1,476.3	5.33%	7.91%
FL Fort Myers	Lee Tran	DR	NA	12.0	11.3	11.2	141.6	12.2	11.5	10.5	135.4	0.88%	4.58%
FL Fort Myers	Lee Tran	MB	8.6	239.3	220.2	226.9	2,947.8	245.6	234.2	227.2	3,073.4	-2.91%	-4.09%
FL Fort Myers	Lee Tran	VP	0.2	3.6	3.8	3.6	63.0	4.6	6.1	5.2	75.5	-30.82%	-16.56%
FL Fort Myers	Lee Tran	TOTAL	NA	254.9	235.3	241.7	3,152.4	262.4	251.8	242.9	3,284.3	-3.33%	-4.02%
FL Jacksonville	Jacksonville Transp Auth	AG	2.8	69.8	56.9	54.8	770.1	81.6	68.2	57.7	843.3	-12.53%	-8.68%
FL Jacksonville	Jacksonville Transp Auth	DR	1.3	36.6	31.6	26.9	375.9	35.0	31.8	30.1	379.3	-1.86%	-0.90%
FL Jacksonville	Jacksonville Transp Auth	FB	1.1	35.8	34.1	31.5	457.4	0.0	35.1	32.6	403.8	49.78%	13.27%
FL Jacksonville	Jacksonville Transp Auth	MB	31.2	889.7	783.8	754.9	9,765.4	958.4	848.0	792.7	10,262.0	-6.57%	-4.84%
FL Jacksonville	Jacksonville Transp Auth	TOTAL	36.3	1,031.9	906.4	868.1	11,368.8	1,075.0	983.1	913.1	11,888.4	-5.55%	-4.37%
FL Miami	Miami-Dade Transit Agency	AG	31.8	831.2	799.6	849.8	9,051.4	790.5	735.2	767.2	8,815.7	8.19%	2.67%
FL Miami	Miami-Dade Transit Agency	DR	5.9	162.7	144.4	138.6	1,779.3	162.6	145.7	136.1	1,753.8	0.29%	1.45%
FL Miami	Miami-Dade Transit Agency	HR	62.6	1,643.2	1,469.4	1,433.9	18,073.1	1,757.2	1,656.9	1,553.8	19,282.5	-8.48%	-6.27%
FL Miami	Miami-Dade Transit Agency	MB	163.5	4,507.0	4,197.2	4,127.0	49,909.7	4,554.9	4,245.5	4,081.6	51,030.1	-0.39%	-2.20%
FL Miami	Miami-Dade Transit Agency	TOTAL	263.8	7,144.1	6,610.6	6,549.3	78,813.5	7,265.2	6,783.3	6,538.7	80,882.1	-1.38%	-2.56%
FL Orlando	Central Florida RTA	DR	2.9	62.5	56.1	54.1	840.0	78.9	73.6	79.8	824.0	-25.66%	1.94%
FL Orlando	Central Florida RTA	MB	68.7	1,946.0	1,798.0	1,726.6	22,536.6	2,067.7	1,915.7	1,772.4	22,762.1	-4.96%	-0.99%
FL Orlando	Central Florida RTA	VP	1.4	43.8	38.2	37.6	410.9	31.5	33.2	31.1	351.2	24.84%	17.00%
FL Orlando	Central Florida RTA	TOTAL	73.0	2,052.3	1,892.3	1,818.3	23,787.5	2,178.1	2,022.5	1,883.3	23,937.3	-5.28%	-0.63%
FL Orlando	SunRail	CR	6.3	143.6	128.8	129.5	1,571.8	127.6	118.7	110.8	1,114.7	12.55%	41.01%
FL Orlando	SunRail	TOTAL	6.3	143.6	128.8	129.5	1,571.8	127.6	118.7	110.8	1,114.7	12.55%	41.01%
FL Pompano Beach	South Florida RTA (Tri-Rail)	CR	14.8	409.0	364.8	365.5	4,505.1	397.4	371.8	354.1	4,413.9	1.42%	2.07%
FL Pompano Beach	South Florida RTA (Tri-Rail)	MB	3.0	84.9	72.1	80.1	959.7	85.6	82.2	80.0	941.8	-4.32%	1.90%
FL Pompano Beach	South Florida RTA (Tri-Rail)	TOTAL	17.8	493.9	436.9	445.6	5,464.8	483.0	454.0	434.1	5,355.7	0.39%	2.04%

Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
FL St. Petersburg	Pinellas Suncoast Tran Auth	DR	1.1	30.6	27.5	27.4	368.6	35.1	32.2	30.3	396.1	-12.40%	-6.94
FL St. Petersburg	Pinellas Suncoast Tran Auth	MB	36.2	1,019.9	929.6	930.2	11,654.5	1,032.8	948.1	905.6	11,553.6	-0.24%	0.87
FL St. Petersburg	Pinellas Suncoast Tran Auth	TOTAL	37.3	1,050.5	957.1	957.6	12,023.1	1,067.9	980.3	935.9	11,949.7	-0.63%	0.61
FL Tallahassee	StarMetro-City of Tallahassee	DR	3.0	8.2	8.4	8.1	102.7	8.6	8.7	8.0	107.2	-2.37%	-4.20
FL Tallahassee	StarMetro-City of Tallahassee	MB	NA	220.1	268.5	167.1	2,536.8	184.2	280.1	175.9	2,728.5	2.42%	-7.03
FL Tallahassee	StarMetro-City of Tallahassee	TOTAL	NA	228.3	276.9	175.2	2,639.5	192.8	288.8	183.9	2,835.7	2.24%	-6.92
FL Tampa	Hillsborough Area Reg TA	DR	0.8	19.0	16.0	15.7	199.3	18.6	15.8	14.5	179.4	3.68%	11.09
FL Tampa	Hillsborough Area Reg TA	LR	2.4	78.5	85.7	95.7	902.7	53.2	55.6	91.1	423.0	30.02%	>100
FL Tampa	Hillsborough Area Reg TA	MB	39.0	1,094.1	981.2	957.8	11,938.0	1,093.8	1,003.4	949.4	11,581.4	-0.44%	3.08
FL Tampa	Hillsborough Area Reg TA	TOTAL	42.2	1,191.6	1,082.9	1,069.2	13,040.0	1,165.6	1,074.8	1,055.0	12,183.8	1.47%	7.03
FL West Palm Beach	Palm Beach County STD	DR	3.4	84.0	72.4	71.7	889.5	82.9	71.6	66.9	854.3	3.03%	4.12
FL West Palm Beach	Palm Beach County STD	MB	30.7	835.2	744.4	716.7	8,988.7	854.0	769.8	740.5	9,130.1	-2.88%	-1.55
FL West Palm Beach	Palm Beach County STD	TOTAL	34.1	919.2	816.8	788.4	9,878.2	936.9	841.4	807.4	9,984.4	-2.37%	-1.06
GA Atlanta	Georgia Regional Trp Auth	MB	7.6	190.5	140.4	125.0	1,865.4	175.4	149.0	116.4	1,863.7	3.43%	0.09
GA Atlanta	Georgia Regional Trp Auth	TOTAL	7.6	190.5	140.4	125.0	1,865.4	175.4	149.0	116.4	1,863.7	3.43%	0.09
GA Atlanta	Metro Atlanta Rapid Tr Auth	DR	NA	76.5	67.7	67.0	845.3	68.7	62.1	63.5	757.5	8.70%	11.59
GA Atlanta	Metro Atlanta Rapid Tr Auth	HR	NA	5,626.7	5,039.1	4,867.2	63,998.5	6,019.5	5,257.3	4,816.2	64,854.0	-3.48%	-1.32
GA Atlanta	Metro Atlanta Rapid Tr Auth	LR	NA	16.4	18.2	19.5	255.6	13.7	10.9	12.3	280.8	46.61%	-8.97
GA Atlanta	Metro Atlanta Rapid Tr Auth	MB	NA	4,905.4	3,590.8	3,777.6	50,018.3	4,197.7	3,769.3	3,554.5	49,316.7	6.53%	1.42
GA Atlanta	Metro Atlanta Rapid Tr Auth	TOTAL	NA	10,625.0	8,715.8	8,731.3	115,117.7	10,299.6	9,099.6	8,446.5	115,209.0	0.81%	-0.08
HI Honolulu	City & Cnty of Honolulu DOTS	DR	NA	NA	NA	NA	NA	105.1	99.6	97.5	1,180.7	NA	1.12
HI Honolulu	City & Cnty of Honolulu DOTS	MB	184.8	5,244.2	4,914.9	4,859.6	60,369.2	5,521.5	5,176.1	4,981.8	62,341.1	-4.21%	-3.16
HI Honolulu	City & Cnty of Honolulu DOTS	TOTAL	NA	NA	NA	NA	NA	5,626.6	5,275.7	5,079.3	63,521.8	NA	1.12
IA Ames	Ames Transit Agency	DR	0.0	0.7	0.6	0.7	8.6	0.6	0.6	0.6	8.2	11.11%	4.88
IA Ames	Ames Transit Agency	MB	26.4	792.9	577.8	472.9	5,834.3	858.1	647.7	343.6	6,459.9	-0.31%	-9.68
IA Ames	Ames Transit Agency	TOTAL	26.4	793.6	578.4	473.6	5,842.9	858.7	648.3	344.2	6,468.1	-0.30%	-9.67
IA Des Moines	Des Moines Area Regional TA	DR	0.4	9.7	8.3	8.6	108.2	9.4	8.3	7.7	101.7	4.72%	6.39
IA Des Moines	Des Moines Area Regional TA	MB	13.5	391.9	308.7	302.4	4,048.4	391.4	352.7	296.5	4,178.6	-3.61%	-3.12
IA Des Moines	Des Moines Area Regional TA	VP	0.8	20.6	15.7	16.2	214.9	21.7	19.6	16.0	237.6	-8.38%	-9.55
IA Des Moines	Des Moines Area Regional TA	TOTAL	14.6	422.2	332.7	327.2	4,371.5	422.5	380.6	320.2	4,517.9	-3.67%	-3.24
ID Ketchum	Mountain Rides Transportation Auth	DR	NA	0.3	0.3	0.5	2.0	0.3	0.2	0.2	4.2	57.14%	-52.38
ID Ketchum	Mountain Rides Transportation Auth	MB	NA	29.1	26.9	63.6	545.0	25.4	26.7	65.6	520.8	1.61%	4.65
ID Ketchum	Mountain Rides Transportation Auth	VP	NA	4.2	2.8	5.1	41.0	3.6	2.3	1.7	36.7	59.21%	11.72
ID Ketchum	Mountain Rides Transportation Auth	TOTAL	NA	33.6	30.0	69.2	588.0	29.3	29.2	67.5	561.7	5.40%	4.65

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ID Moscow	Smart Transit	DR	0.1	1.2	1.0	1.1	12.9	1.2	1.0	0.9	12.7	6.45%	1.57
ID Moscow	Smart Transit	MB	0.7	17.7	13.9	13.2	181.2	17.7	14.9	13.7	161.7	-3.24%	12.06
ID Moscow	Smart Transit	TOTAL	0.7	18.9	14.9	14.3	194.1	18.9	15.9	14.6	174.4	-2.63%	11.30
IL Arlington Heights	PACE Suburban Bus	DR	17.0	457.8	417.0	407.8	5,085.2	462.6	417.6	404.4	5,138.3	-0.16%	-1.03
IL Arlington Heights	PACE Suburban Bus	MB	112.2	2,451.5	2,070.3	1,996.9	26,186.0	2,628.1	2,235.4	2,045.8	27,689.7	-5.65%	-5.43
IL Arlington Heights	PACE Suburban Bus	VP	6.0	143.2	122.8	122.7	1,581.8	154.3	138.5	121.9	1,739.4	-6.27%	-9.06
IL Arlington Heights	PACE Suburban Bus	TOTAL	135.2	3,052.5	2,610.1	2,527.4	32,853.0	3,245.0	2,791.5	2,572.1	34,567.4	-4.86%	-4.96
IL Chicago	Chicago Transit Authority	DR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00%	1
IL Chicago	Chicago Transit Authority	HR	695.3	20,582.7	17,448.4	15,923.6	218,467.0	21,551.5	18,271.1	16,109.7	225,895.1	-3.54%	-3.29
IL Chicago	Chicago Transit Authority	MB	760.2	21,800.4	19,304.4	18,593.6	237,276.5	22,736.8	19,724.0	18,543.8	242,172.9	-2.14%	-2.02
IL Chicago	Chicago Transit Authority	TOTAL	1,455.5	42,383.1	36,752.8	34,517.2	455,743.5	44,288.3	37,995.1	34,653.5	468,068.0	-2.81%	-2.63
IL Chicago	Metra	CR	274.0	5,868.3	5,407.0	5,217.8	66,783.6	6,013.0	5,619.7	5,183.9	68,446.2	-1.92%	-2.43
IL Chicago	Metra	TOTAL	274.0	5,868.3	5,407.0	5,217.8	66,783.6	6,013.0	5,619.7	5,183.9	68,446.2	-1.92%	-2.43
IL Granite City	Madison County Trans Dist	DR	0.2	5.6	4.6	4.4	56.0	5.3	4.5	4.2	58.2	4.29%	-3.78
IL Granite City	Madison County Trans Dist	MB	7.1	202.1	165.7	149.2	2,013.2	201.9	165.3	146.3	2,018.2	0.68%	-0.25
IL Granite City	Madison County Trans Dist	VP	0.3	7.9	6.1	5.2	88.7	9.9	7.4	6.2	110.7	-18.30%	-19.87
IL Granite City	Madison County Trans Dist	TOTAL	7.6	215.6	176.4	158.8	2,157.9	217.1	177.2	156.7	2,187.1	-0.04%	-1.34
IL Macomb	Go West Transit	MB	2.1	68.7	52.5	33.9	665.4	110.2	82.9	52.1	943.1	-36.75%	-29.45
IL Macomb	Go West Transit	TOTAL	2.1	68.7	52.5	33.9	665.4	110.2	82.9	52.1	943.1	-36.75%	-29.45
IL Moline	Rock Island County MMTD	DR	0.3	7.4	6.4	6.8	72.8	5.8	5.2	5.2	66.2	27.16%	9.97
IL Moline	Rock Island County MMTD	FB	0.0	0.0	0.0	0.0	30.6	0.3	0.0	0.0	42.6	-100.00%	-28.17
IL Moline	Rock Island County MMTD	MB	10.4	286.1	262.6	230.5	3,135.7	292.9	259.3	242.5	3,164.9	-1.95%	-0.92
IL Moline	Rock Island County MMTD	TOTAL	10.7	293.5	269.0	237.3	3,239.1	299.0	264.5	247.7	3,273.7	-1.41%	-1.06
IL Normal	Bloomington-Normal Public Transit	DR	0.3	8.0	7.1	6.9	88.2	8.5	7.5	7.2	92.1	-5.17%	-4.23
IL Normal	Bloomington-Normal Public Transit	MB	8.6	261.5	216.8	174.4	2,421.4	264.6	218.1	171.5	2,326.8	-0.23%	4.07
IL Normal	Bloomington-Normal Public Transit	TOTAL	8.9	269.5	223.9	181.3	2,509.6	273.1	225.6	178.7	2,418.9	-0.40%	3.75
IL Peoria	Greater Peoria Mass Tr Dist	DR	0.4	13.2	11.5	11.5	143.3	13.4	11.3	11.5	143.6	0.00%	-0.21
IL Peoria	Greater Peoria Mass Tr Dist	MB	7.9	235.9	199.4	195.9	2,514.8	248.4	215.7	207.2	2,678.6	-5.97%	-6.12
IL Peoria	Greater Peoria Mass Tr Dist	TOTAL	8.3	249.1	210.9	207.4	2,658.1	261.8	227.0	218.7	2,822.2	-5.67%	-5.81
IL Rockford	Rockford Mass Transit Dist	DR	0.5	12.5	11.3	10.8	132.1	11.8	10.3	10.3	128.3	6.79%	2.96
IL Rockford	Rockford Mass Transit Dist	MB	5.2	140.2	121.8	129.6	1,488.8	143.3	133.3	123.8	1,564.8	-2.20%	-4.86
IL Rockford	Rockford Mass Transit Dist	TOTAL	5.7	152.7	133.1	140.4	1,620.9	155.1	143.6	134.1	1,693.1	-1.52%	-4.26

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State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
IL Springfield	Sangamon Mass Transit District	DR	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1
IL Springfield	Sangamon Mass Transit District	MB	NA	147.0	127.2	123.4	1,493.3	148.0	127.9	118.6	1,527.9	0.79%	-2.26
IL Springfield	Sangamon Mass Transit District	TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1
IL Urbana	Champaign-Urbana MTD	DR	0.6	15.0	13.4	12.5	138.5	12.8	11.5	10.8	127.7	16.52%	8.46
IL Urbana	Champaign-Urbana MTD	MB	44.6	1,330.3	1,062.7	859.9	11,231.6	1,359.6	1,147.5	908.8	11,656.4	-4.77%	-3.64
IL Urbana	Champaign-Urbana MTD	TOTAL	45.1	1,345.3	1,076.1	872.4	11,370.1	1,372.4	1,159.0	919.6	11,784.1	-4.56%	-3.51
IN Chesterton	Northern IN Commuter TD	CR	10.9	288.9	262.5	273.4	3,283.6	294.8	272.6	265.3	3,399.4	-0.95%	-3.41
IN Chesterton	Northern IN Commuter TD	TOTAL	10.9	288.9	262.5	273.4	3,283.6	294.8	272.6	265.3	3,399.4	-0.95%	-3.41
IN Fort Wayne	Fort Wayne Public Tr Corp	DR	0.2	7.2	6.1	5.6	71.7	7.7	6.9	6.5	84.6	-10.43%	-15.25
IN Fort Wayne	Fort Wayne Public Tr Corp	MB	5.0	143.4	126.4	124.7	1,578.5	160.0	137.0	130.8	1,693.1	-7.78%	-6.77
IN Fort Wayne	Fort Wayne Public Tr Corp	TOTAL	5.2	150.6	132.5	130.3	1,650.2	167.7	143.9	137.3	1,777.7	-7.91%	-7.17
IN Indianapolis	Indianapolis Public Trp Corp	DR	1.0	25.4	22.7	22.9	282.2	25.6	24.0	22.7	299.8	-1.80%	-5.87
IN Indianapolis	Indianapolis Public Trp Corp	MB	24.7	926.2	788.2	698.3	9,245.0	821.3	714.5	686.3	8,815.5	8.58%	4.87
IN Indianapolis	Indianapolis Public Trp Corp	TOTAL	25.7	951.6	810.9	721.2	9,527.2	846.9	738.5	709.0	9,115.3	8.25%	4.52
IN Lafayette	Greater Lafayette PTC	DR	0.1	2.9	2.6	2.5	31.4	2.7	2.5	2.3	27.1	6.67%	15.87
IN Lafayette	Greater Lafayette PTC	MB	19.1	565.4	505.4	305.7	5,068.3	542.3	491.2	286.8	4,713.4	4.26%	7.53
IN Lafayette	Greater Lafayette PTC	TOTAL	19.2	568.3	508.0	308.2	5,099.7	545.0	493.7	289.1	4,740.5	4.27%	7.58
IN Muncie	Muncie Indiana Transit Sys	DR	0.2	5.0	4.3	4.1	55.4	5.0	4.7	4.9	54.1	-8.22%	2.40
IN Muncie	Muncie Indiana Transit Sys	MB	4.9	131.6	113.1	101.9	1,351.7	134.2	114.1	105.0	1,337.5	-1.90%	1.06
IN Muncie	Muncie Indiana Transit Sys	TOTAL	5.1	136.6	117.4	106.0	1,407.1	139.2	118.8	109.9	1,391.6	-2.15%	1.11
IN South Bend	South Bend Public Transp	DR	0.3	7.5	6.7	6.6	83.4	7.2	7.0	6.0	76.0	2.97%	9.74
IN South Bend	South Bend Public Transp	MB	5.3	150.1	133.7	122.2	1,509.6	144.9	130.1	115.1	1,554.0	4.08%	-2.86
IN South Bend	South Bend Public Transp	TOTAL	5.6	157.6	140.4	128.8	1,593.0	152.1	137.1	121.1	1,630.0	4.02%	-2.27
KS Olathe	Johnson County Transit	DR	0.2	4.9	3.9	4.0	55.6	5.3	4.3	3.9	58.6	-5.19%	-5.12
KS Olathe	Johnson County Transit	MB	1.8	46.3	36.8	30.2	449.4	46.5	37.5	28.2	443.2	0.98%	1.40
KS Olathe	Johnson County Transit	TOTAL	2.0	51.2	40.7	34.2	505.0	51.8	41.8	32.1	501.8	0.32%	0.64
KS Wichita	Wichita Transit	MB	4.2	118.4	101.2	99.7	1,274.1	114.9	100.3	91.0	1,181.9	4.28%	7.80
KS Wichita	Wichita Transit	TOTAL	4.2	118.4	101.2	99.7	1,274.1	114.9	100.3	91.0	1,181.9	4.28%	7.80
KY Bowling Green	Community Action of Southern KY	DR	0.1	1.7	1.4	1.3	16.0	1.4	1.2	0.9	12.9	25.71%	24.03
KY Bowling Green	Community Action of Southern KY	MB	0.4	9.2	7.7	7.3	92.6	8.0	7.3	6.3	77.8	12.04%	19.02
KY Bowling Green	Community Action of Southern KY	TOTAL	0.5	10.9	9.1	8.6	108.6	9.4	8.5	7.2	90.7	13.94%	19.74

Attachment: Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
KY Fort Wright	Tr Auth of Northern Kentucky	DR	0.4	8.7	7.3	7.1	92.4	8.8	7.6	7.0	92.3	-1.28%	0.11
KY Fort Wright	Tr Auth of Northern Kentucky	MB	10.4	282.0	234.0	218.0	2,914.6	289.2	253.7	221.7	3,064.0	-4.00%	-4.88
KY Fort Wright	Tr Auth of Northern Kentucky	TOTAL	10.8	290.7	241.3	225.1	3,007.0	298.0	261.3	228.7	3,156.3	-3.92%	-4.73
KY Lexington	Transit Auth Lexington-Fayette	DR	1.0	20.8	21.8	19.1	234.6	21.0	18.5	17.7	222.5	7.87%	5.44
KY Lexington	Transit Auth Lexington-Fayette	MB	19.2	468.2	391.9	350.4	4,325.5	462.7	391.5	305.8	4,065.9	4.35%	6.38
KY Lexington	Transit Auth Lexington-Fayette	VP	0.1	1.7	1.3	1.2	18.8	2.1	1.8	1.6	23.7	-23.64%	-20.68
KY Lexington	Transit Auth Lexington-Fayette	TOTAL	20.3	490.7	415.0	370.7	4,578.9	485.8	411.8	325.1	4,312.1	4.39%	6.19
KY Louisville	Transit Auth of River City	DR	1.9	50.2	44.3	43.0	559.5	50.6	45.3	43.4	552.5	-1.29%	1.27
KY Louisville	Transit Auth of River City	MB	59.3	966.2	825.3	742.3	10,172.3	1,113.3	949.3	795.8	11,552.2	-11.36%	-11.94
KY Louisville	Transit Auth of River City	TOTAL	61.2	1,016.4	869.6	785.3	10,731.8	1,163.9	994.6	839.2	12,104.7	-10.89%	-11.34
KY Owensboro	Owensboro Transit System	DR	NA	1.8	1.5	1.5	18.8	1.8	1.6	1.6	19.0	-4.00%	-1.05
KY Owensboro	Owensboro Transit System	MB	NA	27.4	24.9	29.0	321.7	24.4	23.0	24.9	254.9	12.45%	26.21
KY Owensboro	Owensboro Transit System	TOTAL	NA	29.2	26.4	30.5	340.5	26.2	24.6	26.5	273.9	11.38%	24.32
LA New Orleans	Regional Transit Auth	DR	8.1	20.0	17.8	17.7	224.7	21.8	18.4	17.4	228.9	-3.65%	-1.83
LA New Orleans	Regional Transit Auth	LR	5.6	198.8	114.8	185.1	5,289.4	659.0	553.1	541.3	7,712.9	-71.56%	-31.42
LA New Orleans	Regional Transit Auth	MB	31.7	903.2	876.4	846.9	9,953.1	892.8	772.5	765.4	9,951.5	8.06%	0.02
LA New Orleans	Regional Transit Auth	TOTAL	45.4	1,122.0	1,009.0	1,049.7	15,467.2	1,573.6	1,344.0	1,324.1	17,893.3	-25.01%	-13.56
MA Amherst	UMass Transit Service	MB	13.4	443.2	325.7	250.6	3,209.4	415.4	319.5	253.2	3,281.1	3.18%	-2.19
MA Amherst	UMass Transit Service	TOTAL	13.4	443.2	325.7	250.6	3,209.4	415.4	319.5	253.2	3,281.1	3.18%	-2.19
MA Boston	Massachusetts Bay Tr Auth	CR	121.7	2,911.5	2,592.2	2,680.0	32,420.4	2,920.0	2,682.9	2,589.3	32,249.1	-0.10%	0.53
MA Boston	Massachusetts Bay Tr Auth	DR	5.9	160.5	147.3	140.7	1,812.3	167.4	157.1	150.7	1,904.1	-5.62%	-4.82
MA Boston	Massachusetts Bay Tr Auth	FB	5.2	146.0	108.3	95.8	1,635.9	141.5	106.3	89.7	1,522.6	3.73%	7.44
MA Boston	Massachusetts Bay Tr Auth	HR	475.3	13,116.8	11,184.0	10,262.5	152,339.7	14,625.0	12,757.3	11,399.6	155,748.8	-10.88%	-2.19
MA Boston	Massachusetts Bay Tr Auth	LR	137.7	4,099.1	3,424.7	3,121.8	47,161.5	5,074.3	4,276.0	3,623.8	53,715.6	-17.95%	-12.20
MA Boston	Massachusetts Bay Tr Auth	MB	381.2	10,637.5	9,403.4	8,797.1	113,483.2	10,784.8	9,506.9	8,656.4	115,236.7	-0.38%	-1.52
MA Boston	Massachusetts Bay Tr Auth	TB	9.8	265.9	227.7	203.2	2,889.5	290.0	249.3	206.6	2,769.9	-6.58%	4.32
MA Boston	Massachusetts Bay Tr Auth	TOTAL	1,136.9	31,337.3	27,087.6	25,301.1	351,742.5	34,003.0	29,735.8	26,716.1	363,146.8	-7.44%	-3.14
MD Baltimore	Maryland Transit Admin	CR	30.0	855.1	709.5	713.3	9,084.2	854.0	746.8	648.1	9,236.2	1.29%	-1.65
MD Baltimore	Maryland Transit Admin	DR	12.4	267.0	249.6	246.4	2,585.7	273.9	248.7	237.3	2,967.0	0.41%	-12.85
MD Baltimore	Maryland Transit Admin	HR	36.6	701.4	604.4	609.2	7,325.5	627.0	579.0	559.8	8,270.6	8.45%	-11.43
MD Baltimore	Maryland Transit Admin	LR	25.3	628.3	562.8	536.8	6,508.7	613.6	590.3	584.8	7,157.0	-3.40%	-9.06
MD Baltimore	Maryland Transit Admin	MB	270.6	6,342.2	5,538.9	5,255.7	67,925.7	6,472.1	5,530.7	5,036.4	67,678.6	0.57%	0.37
MD Baltimore	Maryland Transit Admin	TOTAL	374.8	8,794.0	7,665.2	7,361.4	93,429.8	8,840.6	7,695.5	7,066.4	95,309.4	0.92%	-1.97

Attachment: Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

Modes: MB - Bus, DR - Demand Response, CR - Commuter Rail, HR - Heavy Rail, LR - Light Rail, AG - Automated Guideway, CC - Cable Car, FB - Ferry Boat, IP - Inclined Plane, IR - Intermediate Rail, MO - Monorail, TB - Trolleybus, VP - Vanpool

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
MD Largo	Prince Georges County Transp	DR	0.3	6.8	5.4	5.5	68.6	7.5	6.4	4.9	97.4	-5.85%	-29.57
MD Largo	Prince Georges County Transp	MB	10.5	269.6	176.8	227.7	2,635.9	274.0	214.9	178.9	2,701.3	0.94%	-2.42
MD Largo	Prince Georges County Transp	TOTAL	10.8	276.4	182.2	233.2	2,704.5	281.5	221.3	183.8	2,798.7	0.76%	-3.37
MD Rockville	Montgomery County Ride-On	DR	0.0	1.4	1.0	1.8	NA	NA	NA	NA	NA	NA	NA
MD Rockville	Montgomery County Ride-On	MB	68.5	1,978.4	1,657.4	1,566.0	20,717.7	1,971.7	1,657.9	1,546.1	20,952.8	0.50%	-1.12
MD Rockville	Montgomery County Ride-On	TOTAL	68.5	1,979.8	1,658.4	1,567.8	NA	NA	NA	NA	NA	NA	NA
ME Portland	Northern NE Passenger RA	CR	1.6	50.4	47.6	46.3	574.8	43.8	42.8	40.2	533.0	13.80%	7.84
ME Portland	Northern NE Passenger RA	TOTAL	1.6	50.4	47.6	46.3	574.8	43.8	42.8	40.2	533.0	13.80%	7.84
MI Battle Creek	Battle Creek Transit	DR	0.1	2.2	1.9	1.9	22.5	2.3	2.0	1.9	25.2	-3.23%	-10.71
MI Battle Creek	Battle Creek Transit	MB	1.4	34.9	29.4	27.6	342.5	38.2	32.1	28.1	376.4	-6.61%	-9.01
MI Battle Creek	Battle Creek Transit	TOTAL	1.5	37.1	31.3	29.5	365.0	40.5	34.1	30.0	401.6	-6.41%	-9.11
MI Detroit	City of Detroit Dept of Trp	MB	NA	2,233.0	1,848.4	1,839.7	22,680.0	2,204.0	1,877.7	1,784.8	23,291.6	0.93%	-2.63
MI Detroit	City of Detroit Dept of Trp	TOTAL	NA	2,233.0	1,848.4	1,839.7	22,680.0	2,204.0	1,877.7	1,784.8	23,291.6	0.93%	-2.63
MI Flint	Mass Transportation Authority	DR	2.2	57.6	49.0	48.1	562.5	47.1	41.3	40.5	536.6	20.02%	4.83
MI Flint	Mass Transportation Authority	MB	13.3	361.7	315.9	301.7	4,011.4	445.5	373.9	350.2	4,277.9	-16.27%	-6.23
MI Flint	Mass Transportation Authority	TOTAL	15.5	419.3	364.9	349.8	4,573.9	492.6	415.2	390.7	4,814.5	-12.67%	-5.00
MI Grand Rapids	Interurban Transit Partnership	DR	1.2	31.1	27.7	27.5	345.1	32.4	28.9	27.3	350.9	-2.60%	-1.65
MI Grand Rapids	Interurban Transit Partnership	MB	38.1	1,088.8	894.8	733.4	10,012.0	1,147.3	942.1	730.2	10,109.7	-3.64%	-0.97
MI Grand Rapids	Interurban Transit Partnership	VP	0.1	2.9	2.2	2.2	30.9	3.0	2.6	2.3	37.2	-7.59%	-16.94
MI Grand Rapids	Interurban Transit Partnership	TOTAL	39.4	1,122.8	924.7	763.1	10,388.0	1,182.7	973.6	759.8	10,497.8	-3.62%	-1.05
MI Kalamazoo	Kalamazoo Metro Transit Sys	DR	0.7	17.2	14.3	12.7	168.8	16.0	13.8	12.2	166.9	5.24%	1.14
MI Kalamazoo	Kalamazoo Metro Transit Sys	MB	9.5	270.3	235.1	206.6	2,623.7	256.4	227.9	203.6	2,647.5	3.50%	-0.90
MI Kalamazoo	Kalamazoo Metro Transit Sys	TOTAL	10.2	287.5	249.4	219.3	2,792.5	272.4	241.7	215.8	2,814.4	3.60%	-0.78
MI Lansing	Capital Area Transp Authority	DR	1.7	42.0	38.4	35.7	484.0	46.5	41.1	38.3	500.8	-7.78%	-3.35
MI Lansing	Capital Area Transp Authority	MB	44.8	1,300.9	1,115.7	704.4	10,684.9	1,235.6	1,085.4	670.9	10,122.6	4.31%	5.55
MI Lansing	Capital Area Transp Authority	TOTAL	46.5	1,342.9	1,154.1	740.1	11,168.9	1,282.1	1,126.5	709.2	10,623.4	3.83%	5.13
MI Monroe	Lake Erie Transp Commission	DR	0.5	10.8	8.5	8.6	118.0	11.2	9.3	8.6	118.6	-4.12%	-0.51
MI Monroe	Lake Erie Transp Commission	MB	1.0	27.4	23.9	24.0	308.1	29.7	26.1	24.3	310.3	-5.99%	-0.71
MI Monroe	Lake Erie Transp Commission	TOTAL	1.5	38.2	32.4	32.6	426.1	40.9	35.4	32.9	428.9	-5.49%	-0.65
MI Muskegon Heights	Muskegon Area Transit Sys	DR	0.1	1.5	1.2	1.3	17.3	1.9	1.6	1.5	22.1	-20.00%	-21.72
MI Muskegon Heights	Muskegon Area Transit Sys	MB	1.6	41.1	35.2	35.7	454.9	44.6	39.1	35.3	465.5	-5.88%	-2.28
MI Muskegon Heights	Muskegon Area Transit Sys	TOTAL	1.7	42.6	36.4	37.0	472.2	46.5	40.7	36.8	487.6	-6.45%	-3.16

Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
MI Port Huron	Blue Water Area Transp Comm	DR	2.3	59.5	45.6	46.0	597.6	60.6	51.5	45.5	628.3	-4.12%	-4.89%
MI Port Huron	Blue Water Area Transp Comm	MB	3.3	79.9	62.8	71.0	894.2	88.2	79.5	79.8	954.8	-13.66%	-6.35%
MI Port Huron	Blue Water Area Transp Comm	TOTAL	5.6	139.4	108.4	117.0	1,491.8	148.8	131.0	125.3	1,583.1	-9.95%	-5.77%
MN Burnsville	Minnesota Valley Transit Auth	DR	0.0	2.2	1.6	1.4	22.1	2.5	2.1	1.8	21.7	-18.75%	1.84%
MN Burnsville	Minnesota Valley Transit Auth	MB	9.8	251.8	208.1	191.3	2,758.8	260.0	226.7	193.5	2,849.5	-4.26%	-3.18%
MN Burnsville	Minnesota Valley Transit Auth	TOTAL	9.8	254.0	209.7	192.7	2,780.9	262.5	228.8	195.3	2,871.2	-4.40%	-3.15%
MN Eden Prairie	Southwest Metro Transit	DR	0.4	10.0	8.6	8.2	108.6	10.9	9.4	8.5	102.6	-6.94%	5.85%
MN Eden Prairie	Southwest Metro Transit	MB	3.6	83.4	69.3	71.7	997.5	88.2	76.1	60.2	1,021.7	-0.04%	-2.37%
MN Eden Prairie	Southwest Metro Transit	TOTAL	4.0	93.4	77.9	79.9	1,106.1	99.1	85.5	68.7	1,124.3	-0.83%	-1.62%
MN Minneapolis	Metro Transit	CR	2.5	62.8	51.6	53.5	767.5	66.0	58.4	52.7	787.4	-5.19%	-2.53%
MN Minneapolis	Metro Transit	LR	75.3	2,339.0	1,971.3	1,876.2	25,299.4	2,449.0	2,098.2	1,881.7	24,955.7	-3.77%	1.38%
MN Minneapolis	Metro Transit	MB	171.6	4,735.2	4,106.2	3,885.5	51,860.1	4,967.9	4,387.5	4,009.1	54,910.4	-4.77%	-5.56%
MN Minneapolis	Metro Transit	TOTAL	249.3	7,137.0	6,129.1	5,815.2	77,927.0	7,482.9	6,544.1	5,943.5	80,653.5	-4.45%	-3.38%
MN Plymouth	Plymouth Metrolink & DAR	DR	0.1	3.5	2.8	2.8	35.9	2.8	2.9	2.4	27.6	12.35%	30.07%
MN Plymouth	Plymouth Metrolink & DAR	MB	1.8	46.4	36.8	33.9	487.0	47.5	39.6	32.8	491.7	-2.34%	-0.96%
MN Plymouth	Plymouth Metrolink & DAR	TOTAL	1.9	49.9	39.6	36.7	522.9	50.3	42.5	35.2	519.3	-1.41%	0.69%
MN Saint Cloud	St. Cloud Metrop Trans Comm	DR	NA	14.4	12.6	13.2	155.0	13.4	12.4	11.7	143.1	7.20%	8.32%
MN Saint Cloud	St. Cloud Metrop Trans Comm	MB	NA	144.7	126.7	114.2	1,477.5	165.5	145.2	125.8	1,654.7	-11.66%	-10.71%
MN Saint Cloud	St. Cloud Metrop Trans Comm	TOTAL	NA	159.1	139.3	127.4	1,632.5	178.9	157.6	137.5	1,797.8	-10.17%	-9.19%
MO Kansas City	Kansas City Area Trp Auth	DR	0.3	6.6	5.5	4.8	66.5	36.7	32.4	32.6	415.8	-83.38%	-84.01%
MO Kansas City	Kansas City Area Trp Auth	MB	38.7	1,083.4	933.0	918.5	12,164.8	1,136.5	1,095.1	924.5	12,525.6	-7.01%	-2.88%
MO Kansas City	Kansas City Area Trp Auth	VP	NA	NA	NA	NA	NA	5.5	4.5	4.0	53.7	NA	1.00%
MO Kansas City	Kansas City Area Trp Auth	TOTAL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.00%
MO Saint Louis	Bi-State Dev Agency	DR	1.5	41.8	37.4	35.9	489.2	46.5	42.0	41.7	546.8	-11.60%	-10.53%
MO Saint Louis	Bi-State Dev Agency	LR	38.9	1,167.6	992.7	943.6	13,088.0	1,144.1	1,009.0	965.2	13,210.2	-0.46%	-0.93%
MO Saint Louis	Bi-State Dev Agency	MB	70.2	2,028.9	1,787.0	1,751.5	22,492.7	2,164.5	1,834.8	1,772.3	23,243.3	-3.54%	-3.23%
MO Saint Louis	Bi-State Dev Agency	TOTAL	110.7	3,238.3	2,817.1	2,731.0	36,069.9	3,355.1	2,885.8	2,779.2	37,000.3	-2.59%	-2.51%
MO Springfield	City Utilities of Springfield	DR	NA	1.8	1.6	1.4	21.0	2.1	1.7	1.6	21.5	-11.11%	-2.33%
MO Springfield	City Utilities of Springfield	MB	4.2	114.2	100.8	101.7	1,281.3	119.8	105.6	101.1	1,280.7	-3.00%	0.05%
MO Springfield	City Utilities of Springfield	TOTAL	NA	116.0	102.4	103.1	1,302.3	121.9	107.3	102.7	1,302.2	-3.13%	0.01%
MT Missoula	Missoula Urban Transportation Distr	DR	0.1	3.7	2.9	3.3	41.7	3.5	3.4	3.5	36.2	-4.81%	15.19%
MT Missoula	Missoula Urban Transportation Distr	MB	5.6	136.0	120.8	115.8	1,539.0	142.4	122.0	116.4	1,573.6	-2.15%	-2.20%
MT Missoula	Missoula Urban Transportation Distr	TOTAL	5.7	139.7	123.7	119.1	1,580.7	145.9	125.4	119.9	1,609.8	-2.22%	-1.81%

Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

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NC Burlington	Link Transit (City of Burlington, NC)	DR	0.0	0.5	0.5	0.5	4.9	0.4	0.5	0.3	4.2	25.00%	16.67
NC Burlington	Link Transit (City of Burlington, NC)	MB	0.4	9.2	8.2	7.8	101.0	9.8	8.5	6.1	88.2	3.28%	14.51
NC Burlington	Link Transit (City of Burlington, NC)	TOTAL	0.4	9.7	8.7	8.3	105.9	10.2	9.0	6.4	92.4	4.30%	14.61
NC Chapel Hill	Chapel Hill Transit	DR	0.2	6.7	5.8	5.4	71.3	6.4	5.5	4.5	65.3	9.15%	9.15
NC Chapel Hill	Chapel Hill Transit	MB	27.8	744.4	589.0	448.7	6,191.2	663.7	544.2	614.0	6,529.5	-2.18%	-5.18
NC Chapel Hill	Chapel Hill Transit	TOTAL	28.0	751.1	594.8	454.1	6,262.5	670.1	549.7	618.5	6,594.8	-2.08%	-5.04
NC Charlotte	Charlotte Area Transit	DR	0.9	23.3	19.9	21.4	258.5	24.1	21.7	18.7	263.8	0.16%	-2.01
NC Charlotte	Charlotte Area Transit	LR	29.9	822.3	743.7	714.0	8,892.1	564.9	654.3	591.1	7,376.5	25.95%	20.55
NC Charlotte	Charlotte Area Transit	MB	42.0	1,149.8	996.6	978.7	12,659.9	1,257.0	1,053.8	938.8	13,648.2	-3.83%	-7.24
NC Charlotte	Charlotte Area Transit	VP	0.6	11.3	11.6	11.4	140.2	12.1	9.1	12.1	136.9	3.00%	2.41
NC Charlotte	Charlotte Area Transit	TOTAL	73.4	2,006.7	1,771.8	1,725.5	21,950.7	1,858.1	1,738.9	1,560.7	21,425.4	6.71%	2.45
NC Greensboro	Greensboro Transit Auth	DR	1.0	26.5	22.5	22.1	285.2	25.0	22.5	17.7	265.5	9.05%	7.42
NC Greensboro	Greensboro Transit Auth	MB	10.8	301.4	253.5	229.0	3,128.4	311.5	275.9	206.2	3,272.3	-1.22%	-4.40
NC Greensboro	Greensboro Transit Auth	TOTAL	11.8	327.9	276.0	251.1	3,413.6	336.5	298.4	223.9	3,537.8	-0.44%	-3.51
NC Resrch Trigle Park	GoTriangle	DR	0.3	6.3	5.4	5.1	63.6	6.5	5.5	4.3	70.9	3.07%	-10.30
NC Resrch Trigle Park	GoTriangle	MB	5.9	160.8	130.2	110.8	1,687.8	161.1	131.5	102.4	1,575.8	1.72%	7.11
NC Resrch Trigle Park	GoTriangle	VP	0.3	8.1	6.4	6.6	116.3	16.8	14.6	15.3	188.2	-54.82%	-38.20
NC Resrch Trigle Park	GoTriangle	TOTAL	6.4	175.2	142.0	122.5	1,867.7	184.4	151.6	122.0	1,834.9	-4.00%	1.79
NC Winston-Salem	Piedmont Auth for Regional Transp	MB	1.7	43.3	36.0	34.7	460.7	43.3	35.5	27.2	438.8	7.55%	4.95
NC Winston-Salem	Piedmont Auth for Regional Transp	VP	0.8	20.3	17.8	18.5	238.3	17.4	20.1	19.7	240.0	-1.05%	-0.71
NC Winston-Salem	Piedmont Auth for Regional Transp	TOTAL	2.5	63.6	53.8	53.2	699.0	60.7	55.6	46.9	678.8	4.53%	2.95
NJ Jersey City	Port Authority of NY & NJ	AG	NA	NA	NA	NA	NA	267.8	266.2	285.6	2,853.6	NA	1.69
NJ Jersey City	Port Authority of NY & NJ	FB	4.6	136.1	98.3	84.4	1,395.0	146.7	105.4	83.1	1,371.8	-4.89%	1.69
NJ Jersey City	Port Authority of NY & NJ	HR	306.7	8,274.1	7,165.0	7,080.3	90,276.6	8,252.3	7,360.7	6,970.7	89,664.3	-0.28%	0.65
NJ Jersey City	Port Authority of NY & NJ	TOTAL	NA	NA	NA	NA	NA	8,666.8	7,732.3	7,339.4	93,889.7	NA	1.69
NJ Lindenwold	Port Authority Transit Corp	HR	38.4	1,027.8	894.7	895.7	11,107.5	1,007.1	892.3	856.8	10,789.6	2.25%	2.95
NJ Lindenwold	Port Authority Transit Corp	TOTAL	38.4	1,027.8	894.7	895.7	11,107.5	1,007.1	892.3	856.8	10,789.6	2.25%	2.95
NJ Newark	New Jersey Transit Corp	CR	NA	7,837.4	7,418.6	7,354.0	88,319.6	7,739.2	7,427.4	7,356.1	86,753.4	0.39%	1.81
NJ Newark	New Jersey Transit Corp	LR	NA	2,119.0	1,846.2	2,022.8	23,983.3	2,220.5	1,891.0	2,036.7	24,085.9	-2.61%	-0.43
NJ Newark	New Jersey Transit Corp	MB	NA	13,970.8	12,159.0	11,670.6	150,997.3	14,170.1	12,271.2	11,835.9	150,831.0	-1.25%	0.11
NJ Newark	New Jersey Transit Corp	TOTAL	NA	23,927.2	21,423.8	21,047.4	263,300.2	24,129.8	21,589.6	21,228.7	261,670.3	-0.82%	0.62
NM Albuquerque	City of Albuquerque T & PD	DR	NA	24.4	19.8	19.5	256.0	24.4	21.4	19.0	254.9	-1.70%	0.43
NM Albuquerque	City of Albuquerque T & PD	MB	NA	815.3	694.7	738.8	9,016.7	837.6	758.2	670.5	9,571.3	-0.77%	-5.79
NM Albuquerque	City of Albuquerque T & PD	TOTAL	NA	839.7	714.5	758.3	9,272.7	862.0	779.6	689.5	9,826.2	-0.80%	-5.63

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NM Albuquerque	New Mexico Dept of Trp	CR	2.4	69.9	52.1	52.9	743.6	72.0	57.8	54.0	770.0	-4.84%	-3.43%
NM Albuquerque	New Mexico Dept of Trp	MB	0.9	22.2	17.2	16.1	232.6	22.1	18.6	14.3	236.8	0.91%	-1.77%
NM Albuquerque	New Mexico Dept of Trp	TOTAL	3.3	92.1	69.3	69.0	976.2	94.1	76.4	68.3	1,006.8	-3.52%	-3.04%
NM Española	North Central Regional Transit Distri	MB	1.1	24.1	19.2	25.4	295.0	24.4	21.0	22.1	291.8	1.78%	1.10%
NM Española	North Central Regional Transit Distri	TOTAL	1.1	24.1	19.2	25.4	295.0	24.4	21.0	22.1	291.8	1.78%	1.10%
NM Las Cruces	City of Las Cruces-RdRUNR Tr	DR	0.2	5.3	4.1	4.0	53.5	5.5	4.3	3.8	55.7	-1.47%	-3.95%
NM Las Cruces	City of Las Cruces-RdRUNR Tr	MB	2.0	63.4	50.7	44.2	560.8	57.1	48.2	36.2	558.8	11.87%	0.36%
NM Las Cruces	City of Las Cruces-RdRUNR Tr	TOTAL	2.2	68.7	54.8	48.2	614.3	62.6	52.5	40.0	614.5	10.70%	-0.03%
NM Los Alamos	Los Alamos County, Atomic City Tra	DR	0.0	0.6	0.5	0.5	6.7	0.6	0.4	0.5	6.2	6.67%	8.00%
NM Los Alamos	Los Alamos County, Atomic City Tra	MB	1.4	47.1	24.3	22.8	454.6	44.5	25.8	21.5	435.4	2.61%	4.41%
NM Los Alamos	Los Alamos County, Atomic City Tra	TOTAL	1.4	47.7	24.8	23.3	461.3	45.1	26.2	22.0	441.6	2.68%	4.40%
NM Santa Fe	Santa Fe Trails - City of Santa Fe	MB	NA	66.0	52.6	53.0	751.6	69.3	61.6	58.2	822.5	-9.25%	-8.62%
NM Santa Fe	Santa Fe Trails - City of Santa Fe	TOTAL	NA	66.0	52.6	53.0	751.6	69.3	61.6	58.2	822.5	-9.25%	-8.62%
NV Las Vegas	RTC of Southern Nevada	DR	4.9	128.8	112.0	114.7	1,393.0	121.2	107.7	103.9	1,343.7	6.82%	3.67%
NV Las Vegas	RTC of Southern Nevada	MB	200.2	6,150.8	5,431.6	5,314.2	65,266.1	5,957.7	5,352.9	5,192.7	64,579.6	2.38%	1.06%
NV Las Vegas	RTC of Southern Nevada	TOTAL	205.1	6,279.6	5,543.6	5,428.9	66,659.1	6,078.9	5,460.6	5,296.6	65,923.3	2.47%	1.12%
NV Reno	RTC of Washoe County	DR	0.8	19.6	17.1	17.5	224.8	19.6	17.8	17.0	241.7	-0.37%	-6.99%
NV Reno	RTC of Washoe County	MB	24.3	704.7	611.9	627.3	7,640.9	634.6	565.0	532.8	7,241.9	12.21%	5.51%
NV Reno	RTC of Washoe County	TOTAL	25.1	724.3	629.0	644.8	7,865.7	654.2	582.8	549.8	7,483.6	11.83%	5.11%
NY Albany	Capital District Transp Auth	DR	1.1	30.6	28.5	28.0	343.5	29.3	27.0	27.9	308.6	3.44%	11.31%
NY Albany	Capital District Transp Auth	MB	51.2	1,465.8	1,258.5	1,163.8	15,153.3	1,543.5	1,323.5	1,224.9	15,393.9	-4.98%	-1.56%
NY Albany	Capital District Transp Auth	TOTAL	52.3	1,496.4	1,287.0	1,191.8	15,496.8	1,572.8	1,350.5	1,252.8	15,702.5	-4.81%	-1.31%
NY Albion	Orleans Transit Service	DR	0.0	0.3	0.3	0.3	3.3	0.3	0.3	0.2	3.6	12.50%	-8.33%
NY Albion	Orleans Transit Service	MB	0.1	3.5	3.0	3.4	38.4	2.7	2.5	2.5	31.0	28.57%	23.87%
NY Albion	Orleans Transit Service	TOTAL	0.1	3.8	3.3	3.7	41.7	3.0	2.8	2.7	34.6	27.06%	20.52%
NY Batavia	Batavia Bus Service	DR	0.0	1.1	1.0	0.8	11.0	1.3	1.2	0.9	13.3	-14.71%	-17.29%
NY Batavia	Batavia Bus Service	MB	0.1	3.3	3.1	2.4	34.5	4.0	3.6	2.8	41.3	-15.38%	-16.46%
NY Batavia	Batavia Bus Service	TOTAL	0.2	4.4	4.1	3.2	45.5	5.3	4.8	3.7	54.6	-15.22%	-16.67%
NY Buffalo	Niagara Frontier Trp Auth	DR	0.8	21.9	19.1	18.6	227.2	20.0	18.1	16.3	213.5	9.56%	6.42%
NY Buffalo	Niagara Frontier Trp Auth	LR	15.1	424.4	350.4	341.1	4,394.0	445.3	399.3	362.0	4,492.2	-7.52%	-2.19%
NY Buffalo	Niagara Frontier Trp Auth	MB	69.9	1,938.6	1,608.9	1,536.4	19,994.4	2,032.9	1,783.6	1,708.7	19,138.0	-7.99%	4.47%
NY Buffalo	Niagara Frontier Trp Auth	TOTAL	85.8	2,384.9	1,978.4	1,896.1	24,615.6	2,498.2	2,201.0	2,087.0	23,843.7	-7.76%	3.24%

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NY Canandaigua	Canandiagua Area Transit Service	DR	0.0	0.2	0.2	0.2	4.0	0.6	0.5	0.4	6.5	-60.00%	-38.4%
NY Canandaigua	Canandiagua Area Transit Service	MB	0.7	20.8	18.6	18.9	231.5	22.2	20.2	20.0	250.1	-6.57%	-7.44%
NY Canandaigua	Canandiagua Area Transit Service	TOTAL	0.7	21.0	18.8	19.1	235.5	22.8	20.7	20.4	256.6	-7.82%	-8.22%
NY Dansville	Livingston Area Transp Svce	DR	0.1	1.9	1.7	1.7	22.2	1.8	1.7	1.7	20.7	1.92%	7.25%
NY Dansville	Livingston Area Transp Svce	MB	0.5	14.9	15.2	8.9	132.2	14.4	14.6	9.4	133.8	1.56%	-1.20%
NY Dansville	Livingston Area Transp Svce	TOTAL	0.6	16.8	16.9	10.6	154.4	16.2	16.3	11.1	154.5	1.61%	-0.06%
NY Ithaca	Tompkins Consol Area Transit	DR	0.2	4.8	3.9	4.2	55.7	4.9	4.5	4.0	53.4	-3.73%	4.31%
NY Ithaca	Tompkins Consol Area Transit	MB	17.9	470.3	411.7	265.7	4,236.4	473.9	422.2	246.4	4,168.7	0.46%	1.62%
NY Ithaca	Tompkins Consol Area Transit	VP	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00%	1.00%
NY Ithaca	Tompkins Consol Area Transit	TOTAL	18.1	475.1	415.6	269.9	4,292.1	478.8	426.7	250.4	4,222.1	0.41%	1.66%
NY Jamaica	AirTrain JFK	AG	NA	808.6	722.6	677.0	8,538.2	739.9	690.0	710.1	8,221.0	3.19%	3.86%
NY Jamaica	AirTrain JFK	TOTAL	NA	808.6	722.6	677.0	8,538.2	739.9	690.0	710.1	8,221.0	3.19%	3.86%
NY Lyons	Wayne Area Transp Service	DR	0.0	0.5	0.4	0.4	5.8	0.4	0.4	0.6	5.3	-7.14%	9.43%
NY Lyons	Wayne Area Transp Service	MB	0.9	27.1	15.6	14.7	216.3	28.6	16.4	15.8	224.4	-5.59%	-3.61%
NY Lyons	Wayne Area Transp Service	TOTAL	0.9	27.6	16.0	15.1	222.1	29.0	16.8	16.4	229.7	-5.63%	-3.31%
NY New York	MTA Bus Company	MB	386.6	12,344.2	11,065.1	10,581.1	135,003.2	12,968.8	11,487.1	10,992.3	137,618.5	-4.11%	-1.90%
NY New York	MTA Bus Company	TOTAL	386.6	12,344.2	11,065.1	10,581.1	135,003.2	12,968.8	11,487.1	10,992.3	137,618.5	-4.11%	-1.90%
NY New York	MTA Long Island Rail Road	CR	385.4	10,221.9	9,633.1	9,765.9	117,783.4	9,358.4	8,761.6	8,671.5	106,299.2	10.56%	10.80%
NY New York	MTA Long Island Rail Road	TOTAL	385.4	10,221.9	9,633.1	9,765.9	117,783.4	9,358.4	8,761.6	8,671.5	106,299.2	10.56%	10.80%
NY New York	MTA Metro-North Railroad	CR	311.8	7,854.5	6,931.2	7,245.4	86,459.0	7,872.2	7,202.1	7,224.5	86,389.4	-1.20%	0.06%
NY New York	MTA Metro-North Railroad	FB	0.7	17.9	14.1	12.4	172.9	17.8	15.1	12.8	164.4	-2.84%	5.17%
NY New York	MTA Metro-North Railroad	MB	1.5	36.2	31.7	31.6	406.0	37.9	33.5	29.9	399.7	-1.78%	1.58%
NY New York	MTA Metro-North Railroad	TOTAL	314.0	7,908.6	6,977.0	7,289.4	87,037.9	7,927.9	7,250.7	7,267.2	86,953.5	-1.21%	0.10%
NY New York	MTA New York City Transit	DR	35.0	980.7	928.4	925.2	10,853.7	912.3	867.4	894.8	9,881.5	5.97%	9.84%
NY New York	MTA New York City Transit	HR	9,117.4	253,609.9	235,137.3	236,357.7	2,723,960.1	246,416.1	217,622.2	206,071.1	2,629,607.6	8.21%	3.59%
NY New York	MTA New York City Transit	MB	2,259.1	64,429.9	58,671.7	55,039.2	732,636.8	70,053.1	61,142.9	59,790.1	734,640.9	-6.73%	-0.27%
NY New York	MTA New York City Transit	TOTAL	11,411.5	319,020.5	294,737.4	292,322.1	3,467,450.6	317,381.5	279,632.5	266,756.0	3,374,130.0	4.90%	2.77%
NY New York	MTA Staten Island Railway	HR	28.5	724.7	609.6	604.8	7,741.0	797.7	695.1	640.6	8,129.6	-9.11%	-4.78%
NY New York	MTA Staten Island Railway	TOTAL	28.5	724.7	609.6	604.8	7,741.0	797.7	695.1	640.6	8,129.6	-9.11%	-4.78%
NY New York	New York City DOT	FB	NA	1,820.2	1,575.9	1,899.0	22,935.2	2,303.1	2,046.5	2,062.1	24,775.7	-17.42%	-7.43%
NY New York	New York City DOT	MB	1.3	31.1	25.5	24.0	355.1	37.3	29.7	25.5	459.5	-12.86%	-22.72%
NY New York	New York City DOT	TOTAL	NA	1,851.3	1,601.4	1,923.0	23,290.3	2,340.4	2,076.2	2,087.6	25,235.2	-17.35%	-7.71%

Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
NY Rochester	Lift Line	DR	0.8	22.2	19.9	19.2	240.9	20.5	18.4	17.8	222.2	8.11%	8.42%
NY Rochester	Lift Line	TOTAL	0.8	22.2	19.9	19.2	240.9	20.5	18.4	17.8	222.2	8.11%	8.42%
NY Rochester	Rochester Genesee RTA	MB	48.0	1,338.7	1,156.1	1,145.1	14,441.2	1,406.4	1,233.3	1,171.3	14,626.7	-4.49%	-1.27%
NY Rochester	Rochester Genesee RTA	TOTAL	48.0	1,338.7	1,156.1	1,145.1	14,441.2	1,406.4	1,233.3	1,171.3	14,626.7	-4.49%	-1.27%
NY Rock Glen	Wyoming Transit Service	DR	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00%	1.19%
NY Rock Glen	Wyoming Transit Service	MB	0.2	5.4	3.3	3.3	48.7	7.1	3.3	3.3	44.6	-12.41%	9.19%
NY Rock Glen	Wyoming Transit Service	TOTAL	NA	5.4	3.3	3.3	48.7	7.1	3.3	3.3	44.6	-12.41%	9.19%
NY Syracuse	CNY Centro	DR	NA	17.0	15.0	14.7	185.0	17.0	15.5	15.7	184.6	-3.11%	0.22%
NY Syracuse	CNY Centro	MB	NA	1,033.0	834.0	665.2	9,787.6	1,047.9	857.9	731.0	10,168.4	-3.97%	-3.74%
NY Syracuse	CNY Centro	TOTAL	NA	1,050.0	849.0	679.9	9,972.6	1,064.9	873.4	746.7	10,353.0	-3.95%	-3.67%
NY Waterloo	Seneca Transit Service	DR	0.1	1.4	1.4	1.6	15.7	1.2	0.9	1.1	15.0	37.50%	4.67%
NY Waterloo	Seneca Transit Service	MB	0.2	4.1	3.2	3.5	44.5	4.2	3.5	3.4	43.6	-2.70%	2.06%
NY Waterloo	Seneca Transit Service	TOTAL	0.3	5.5	4.6	5.1	60.2	5.4	4.4	4.5	58.6	6.29%	2.73%
OH Akron	METRO Regional Transit Authority	DR	0.9	26.4	22.5	22.7	276.1	24.3	21.4	19.6	271.1	9.65%	1.84%
OH Akron	METRO Regional Transit Authority	MB	16.3	456.0	383.1	357.8	4,683.3	471.1	407.8	379.1	4,872.0	-4.86%	-3.87%
OH Akron	METRO Regional Transit Authority	TOTAL	17.2	482.4	405.6	380.5	4,959.4	495.4	429.2	398.7	5,143.1	-4.14%	-3.57%
OH Canton	Stark Area RTA	DR	0.0	15.2	13.9	12.8	158.9	15.5	14.2	13.1	161.2	-2.10%	-1.43%
OH Canton	Stark Area RTA	MB	7.3	196.6	169.5	163.9	2,183.4	217.1	184.7	174.7	2,289.9	-8.07%	-4.65%
OH Canton	Stark Area RTA	TOTAL	7.3	211.8	183.4	176.7	2,342.3	232.6	198.9	187.8	2,451.1	-7.65%	-4.44%
OH Cincinnati	Southwest Ohio RTA	DR	0.8	19.4	17.6	17.2	226.2	21.3	18.7	17.3	228.1	-5.41%	-0.83%
OH Cincinnati	Southwest Ohio RTA	MB	46.3	1,321.1	1,058.8	1,027.7	13,245.1	1,360.7	1,128.7	1,055.9	13,750.5	-3.88%	-3.68%
OH Cincinnati	Southwest Ohio RTA	TOTAL	47.1	1,340.5	1,076.4	1,044.9	13,471.3	1,382.0	1,147.4	1,073.2	13,978.6	-3.91%	-3.63%
OH Cleveland	Greater Cleveland Reg TA	DR	0.2	51.2	46.3	46.9	574.7	42.2	35.4	34.3	427.6	29.04%	34.40%
OH Cleveland	Greater Cleveland Reg TA	HR	15.9	523.5	484.0	460.0	5,958.0	586.6	522.6	466.4	6,249.8	-6.86%	-4.67%
OH Cleveland	Greater Cleveland Reg TA	LR	3.9	130.1	118.8	112.0	1,477.7	146.6	122.8	119.8	1,638.1	-7.27%	-9.79%
OH Cleveland	Greater Cleveland Reg TA	MB	82.1	2,362.1	1,985.2	1,839.6	24,757.4	2,460.7	2,083.0	1,912.9	25,549.1	-4.18%	-3.10%
OH Cleveland	Greater Cleveland Reg TA	TOTAL	102.2	3,066.9	2,634.3	2,458.5	32,767.8	3,236.1	2,763.8	2,533.4	33,864.6	-4.38%	-3.24%
OH Columbus	Central Ohio Transit Auth	DR	0.8	22.4	20.3	20.1	253.2	23.3	21.2	20.5	258.4	-3.38%	-2.01%
OH Columbus	Central Ohio Transit Auth	MB	61.5	1,811.1	1,597.5	1,443.4	19,145.1	1,800.6	1,586.4	1,456.7	18,914.0	0.17%	1.22%
OH Columbus	Central Ohio Transit Auth	TOTAL	62.3	1,833.5	1,617.8	1,463.5	19,398.3	1,823.9	1,607.6	1,477.2	19,172.4	0.12%	1.18%
OH Delaware	Delaware Area Transit Agency	MB	0.3	7.0	6.1	6.1	73.3	6.6	6.1	5.1	70.8	7.87%	3.53%
OH Delaware	Delaware Area Transit Agency	TOTAL	0.3	7.0	6.1	6.1	73.3	6.6	6.1	5.1	70.8	7.87%	3.53%

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OH Grand River	LAKETRAN	DR	1.1	25.6	22.2	21.2	290.8	26.9	24.1	20.8	288.8	-3.90%	0.6%
OH Grand River	LAKETRAN	MB	1.5	40.9	33.4	30.2	423.4	42.4	37.2	30.8	437.5	-5.34%	-3.2%
OH Grand River	LAKETRAN	TOTAL	2.6	66.5	55.6	51.4	714.2	69.3	61.3	51.6	726.3	-4.77%	-1.6%
OH Kent	Portage Area Reg Trp Auth	DR	NA	7.0	6.0	5.5	75.3	7.2	6.3	5.6	82.9	-3.14%	-9.1%
OH Kent	Portage Area Reg Trp Auth	MB	NA	149.1	117.1	61.5	1,080.7	151.9	118.9	61.8	1,140.9	-1.47%	-5.2%
OH Kent	Portage Area Reg Trp Auth	TOTAL	NA	156.1	123.1	67.0	1,156.0	159.1	125.2	67.4	1,223.8	-1.56%	-5.5%
OH New Lexington	Perry County Transit	DR	NA	4.8	4.4	4.3	53.3	4.7	3.7	4.1	54.9	8.00%	-2.9%
OH New Lexington	Perry County Transit	TOTAL	NA	4.8	4.4	4.3	53.3	4.7	3.7	4.1	54.9	8.00%	-2.9%
OH Toledo	Toledo Area Reg Transit Auth	DR	0.9	24.9	22.0	20.3	270.9	26.6	24.1	22.1	293.0	-7.69%	-7.5%
OH Toledo	Toledo Area Reg Transit Auth	MB	6.5	171.2	145.2	133.0	1,734.1	223.6	185.5	185.6	2,279.4	-24.43%	-23.9%
OH Toledo	Toledo Area Reg Transit Auth	TOTAL	7.4	196.1	167.2	153.3	2,005.0	250.2	209.6	207.7	2,572.4	-22.61%	-22.0%
OH Youngstown	Western Reserve Trans Auth	DR	0.1	3.2	2.6	2.9	35.9	3.8	3.4	3.0	39.7	-14.71%	-9.5%
OH Youngstown	Western Reserve Trans Auth	MB	5.1	138.3	117.9	109.7	1,474.0	140.6	120.8	113.2	1,434.0	-2.32%	2.7%
OH Youngstown	Western Reserve Trans Auth	TOTAL	5.2	141.5	120.5	112.6	1,509.9	144.4	124.2	116.2	1,473.7	-2.65%	2.4%
OK Lawton	Lawton Area Tr System (LATS)	MB	1.1	30.0	26.7	25.4	322.5	31.1	29.4	25.1	334.6	-4.09%	-3.6%
OK Lawton	Lawton Area Tr System (LATS)	TOTAL	1.1	30.0	26.7	25.4	322.5	31.1	29.4	25.1	334.6	-4.09%	-3.6%
OK Oklahoma City	Central Oklahoma TA	DR	0.2	5.3	4.5	4.5	59.1	5.1	4.9	4.4	59.1	-0.69%	0.0%
OK Oklahoma City	Central Oklahoma TA	MB	10.0	273.5	240.0	247.0	3,032.1	262.7	237.8	215.0	2,911.8	6.29%	4.1%
OK Oklahoma City	Central Oklahoma TA	TOTAL	10.2	278.8	244.5	251.5	3,091.2	267.8	242.7	219.4	2,970.9	6.15%	4.0%
OR Eugene	Lane Transit District	DR	0.6	13.2	11.5	12.8	160.4	14.9	13.2	12.6	160.0	-7.86%	0.2%
OR Eugene	Lane Transit District	MB	35.4	1,009.8	866.0	755.8	9,925.9	1,001.5	868.8	692.9	10,222.9	2.67%	-2.9%
OR Eugene	Lane Transit District	TOTAL	36.0	1,023.0	877.5	768.6	10,086.3	1,016.4	882.0	705.5	10,382.9	2.50%	-2.8%
OR Portland	Tri-County Metro Trp Dist	CR	1.4	34.5	28.0	25.1	361.6	38.0	30.7	25.0	398.5	-6.51%	-9.2%
OR Portland	Tri-County Metro Trp Dist	DR	3.2	84.2	75.5	76.6	946.6	87.4	79.2	77.0	996.2	-3.00%	-4.9%
OR Portland	Tri-County Metro Trp Dist	LR	119.6	3,442.5	3,114.1	3,022.7	38,388.2	3,482.1	3,198.7	2,987.8	38,953.1	-0.92%	-1.4%
OR Portland	Tri-County Metro Trp Dist	MB	186.0	5,281.7	4,660.2	4,531.6	57,373.5	5,156.2	4,633.8	4,254.4	56,727.1	3.06%	1.1%
OR Portland	Tri-County Metro Trp Dist	TOTAL	310.1	8,842.9	7,877.8	7,656.0	97,069.9	8,763.7	7,942.4	7,344.2	97,074.9	1.36%	-0.0%
OR Salem	Salem-Keizer Transit	DR	0.5	13.0	10.1	10.8	137.4	13.2	11.1	10.4	140.3	-2.31%	-2.0%
OR Salem	Salem-Keizer Transit	MB	18.3	332.8	275.8	266.9	3,167.8	282.0	234.8	211.6	2,956.7	20.19%	7.1%
OR Salem	Salem-Keizer Transit	TOTAL	18.8	345.8	285.9	277.7	3,305.2	295.2	245.9	222.0	3,097.0	19.17%	6.7%
PA Allentown	Lehigh & Northampton Trp Auth	DR	1.3	32.1	27.3	25.1	346.9	34.5	28.2	27.5	362.6	-6.32%	-4.3%
PA Allentown	Lehigh & Northampton Trp Auth	MB	14.3	414.7	368.1	341.0	4,375.1	419.9	359.8	356.7	4,397.1	-1.11%	-0.5%
PA Allentown	Lehigh & Northampton Trp Auth	TOTAL	15.6	446.8	395.4	366.1	4,722.0	454.4	388.0	384.2	4,759.7	-1.49%	-0.7%

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PA Altoona	Altoona Metro Transit	DR	NA	0.8	0.7	0.7	9.5	1.1	0.9	0.9	11.6	-24.14%	-18.10%
PA Altoona	Altoona Metro Transit	MB	2.0	54.2	47.0	42.3	550.9	58.2	47.2	42.2	544.3	-2.78%	1.21%
PA Altoona	Altoona Metro Transit	TOTAL	NA	55.0	47.7	43.0	560.4	59.3	48.1	43.1	555.9	-3.19%	0.81%
PA Harrisburg	Cumberland-Dauphin-Harrisburg TA	DR	NA	19.8	18.0	16.9	220.7	20.8	17.3	16.4	209.9	0.37%	5.15%
PA Harrisburg	Cumberland-Dauphin-Harrisburg TA	MB	NA	193.7	159.9	154.0	2,044.7	186.0	151.6	148.1	1,992.8	4.51%	2.60%
PA Harrisburg	Cumberland-Dauphin-Harrisburg TA	TOTAL	NA	213.5	177.9	170.9	2,265.4	206.8	168.9	164.5	2,202.7	4.09%	2.85%
PA Harris-Phil	Penn DOT (Keystone)	CR	5.1	145.3	135.4	140.5	1,584.6	143.6	138.2	130.1	1,532.5	2.26%	3.40%
PA Harris-Phil	Penn DOT (Keystone)	TOTAL	5.1	145.3	135.4	140.5	1,584.6	143.6	138.2	130.1	1,532.5	2.26%	3.40%
PA Johnsonburg	Area Transp Auth NC PA	DR	0.5	14.7	11.9	11.6	148.1	13.8	12.8	11.7	148.4	-0.26%	-0.20%
PA Johnsonburg	Area Transp Auth NC PA	MB	8.9	27.6	23.6	21.3	238.1	21.0	18.2	14.9	210.4	34.01%	13.17%
PA Johnsonburg	Area Transp Auth NC PA	VP	NA	NA	NA	NA	NA	0.7	0.6	0.6	8.3	NA	1.00%
PA Johnsonburg	Area Transp Auth NC PA	TOTAL	NA	NA	NA	NA	NA	35.5	31.6	27.2	367.1	NA	1.00%
PA Johnstown	Cambria County Transit Auth	DR	0.0	0.6	0.6	0.5	6.9	0.6	0.6	0.6	7.0	-5.56%	-1.43%
PA Johnstown	Cambria County Transit Auth	IP	0.1	6.6	4.0	3.2	64.6	5.7	2.6	2.8	53.1	24.32%	21.66%
PA Johnstown	Cambria County Transit Auth	MB	3.0	96.4	87.3	84.4	1,049.0	93.2	84.4	84.1	997.8	2.45%	5.13%
PA Johnstown	Cambria County Transit Auth	TOTAL	3.1	103.6	91.9	88.1	1,120.5	99.5	87.6	87.5	1,057.9	3.28%	5.92%
PA Lancaster	Red Rose Transit Authority	DR	1.0	24.1	19.8	19.7	279.3	27.2	23.7	21.4	290.6	-12.03%	-3.89%
PA Lancaster	Red Rose Transit Authority	MB	7.2	169.5	149.8	137.9	1,785.9	169.0	145.9	140.2	1,774.3	0.46%	0.65%
PA Lancaster	Red Rose Transit Authority	TOTAL	8.1	193.6	169.6	157.6	2,065.2	196.2	169.6	161.6	2,064.9	-1.25%	0.01%
PA Lebanon	County of Lebanon Tr Auth	DR	0.2	4.5	3.9	3.8	49.9	4.7	4.0	3.6	48.3	-0.81%	3.31%
PA Lebanon	County of Lebanon Tr Auth	MB	1.0	27.1	23.3	23.1	306.3	28.6	23.6	26.4	314.3	-6.49%	-2.55%
PA Lebanon	County of Lebanon Tr Auth	TOTAL	1.2	31.6	27.2	26.9	356.2	33.3	27.6	30.0	362.6	-5.72%	-1.77%
PA Philadelphia	Southeastern Penn TA	CR	134.6	3,393.8	2,994.4	3,029.4	35,594.8	3,165.1	2,885.3	2,756.2	34,373.4	6.94%	3.55%
PA Philadelphia	Southeastern Penn TA	DR	5.2	122.3	145.3	111.2	1,514.6	124.3	140.0	113.7	1,502.6	0.21%	0.80%
PA Philadelphia	Southeastern Penn TA	HR	329.2	8,523.3	7,626.2	7,566.8	90,240.8	8,596.3	7,825.4	7,331.1	93,546.4	-0.15%	-3.53%
PA Philadelphia	Southeastern Penn TA	LR	89.4	2,346.6	2,071.0	2,023.2	24,321.2	2,375.7	2,165.5	2,053.9	24,868.2	-2.34%	-2.20%
PA Philadelphia	Southeastern Penn TA	MB	491.5	13,020.0	11,252.6	11,118.4	137,328.2	13,207.8	11,641.0	11,048.8	141,806.7	-1.41%	-3.16%
PA Philadelphia	Southeastern Penn TA	TB	16.9	434.4	392.0	388.4	4,715.6	465.8	417.8	393.9	4,262.2	-4.91%	10.64%
PA Philadelphia	Southeastern Penn TA	TOTAL	1,066.8	27,840.4	24,481.5	24,237.4	293,715.2	27,935.0	25,075.0	23,697.6	300,359.5	-0.19%	-2.21%
PA Pittsburgh	Port Auth of Allegheny Co	DR	NA	122.1	107.4	106.8	1,379.6	127.1	112.7	108.1	1,428.6	-3.33%	-3.43%
PA Pittsburgh	Port Auth of Allegheny Co	IP	NA	86.5	77.4	67.4	1,013.0	97.9	77.5	82.9	1,202.6	-10.45%	-15.77%
PA Pittsburgh	Port Auth of Allegheny Co	LR	NA	681.9	600.2	568.0	7,364.3	669.3	576.2	544.1	7,328.1	3.38%	0.49%
PA Pittsburgh	Port Auth of Allegheny Co	MB	NA	5,234.2	4,419.6	4,185.1	54,832.8	5,331.7	4,536.6	4,119.6	54,871.9	-1.07%	-0.07%
PA Pittsburgh	Port Auth of Allegheny Co	TOTAL	NA	6,124.7	5,204.6	4,927.3	64,589.7	6,226.0	5,303.0	4,854.7	64,831.2	-0.78%	-0.37%

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PA Reading	Berks Area Reading Trp Auth	DR	0.9	23.2	18.8	17.4	238.4	22.0	19.3	18.0	231.3	0.17%	3.07
PA Reading	Berks Area Reading Trp Auth	MB	10.8	254.5	225.5	212.8	2,720.2	262.0	224.7	223.6	2,849.3	-2.46%	-4.53
PA Reading	Berks Area Reading Trp Auth	TOTAL	11.7	277.7	244.3	230.2	2,958.6	284.0	244.0	241.6	3,080.6	-2.26%	-3.96
PA Rochester	Beaver County Transit Authority	DR	0.3	7.2	6.1	5.8	79.4	7.6	6.9	6.5	81.0	-9.05%	-1.98
PA Rochester	Beaver County Transit Authority	MB	2.3	61.6	51.7	49.6	704.0	73.7	63.4	58.7	800.6	-16.80%	-12.07
PA Rochester	Beaver County Transit Authority	TOTAL	2.6	68.8	57.8	55.4	783.4	81.3	70.3	65.2	881.6	-16.05%	-11.14
PA Scranton	County of Lackawanna Transit Syst	DR	0.6	17.0	14.2	12.3	167.7	14.7	11.4	12.8	152.8	11.83%	9.75
PA Scranton	County of Lackawanna Transit Syst	MB	3.6	93.5	82.6	74.9	1,003.5	91.0	79.5	75.0	943.8	2.24%	6.33
PA Scranton	County of Lackawanna Transit Syst	TOTAL	4.2	110.5	96.8	87.2	1,171.2	105.7	90.9	87.8	1,096.6	3.55%	6.80
PA State College	Centre Area Transp Auth	DR	NA	2.7	2.4	2.3	28.4	2.7	2.3	2.3	30.7	1.37%	-7.49
PA State College	Centre Area Transp Auth	MB	23.8	861.9	646.2	513.0	6,454.6	849.8	623.9	347.2	6,508.9	10.99%	-0.83
PA State College	Centre Area Transp Auth	VP	NA	12.7	11.4	10.3	151.8	14.0	12.6	11.5	164.5	-9.71%	-7.72
PA State College	Centre Area Transp Auth	TOTAL	NA	877.3	660.0	525.6	6,634.8	866.5	638.8	361.0	6,704.1	10.53%	-1.03
PA Williamsport	Williamsport Bureau of Tr	DR	0.1	0.1	0.1	0.1	1.2	0.1	0.1	0.1	1.2	0.00%	0.00
PA Williamsport	Williamsport Bureau of Tr	MB	4.5	115.9	110.0	104.2	1,352.6	118.0	107.7	103.6	1,326.9	0.24%	1.94
PA Williamsport	Williamsport Bureau of Tr	TOTAL	4.6	116.0	110.1	104.3	1,353.8	118.1	107.8	103.7	1,328.1	0.24%	1.94
PR San Juan	Puerto Rico DOT	HR	20.3	516.3	422.6	406.3	5,233.9	538.0	455.3	405.1	5,192.9	-3.80%	0.79
PR San Juan	Puerto Rico DOT	MB	5.7	140.7	117.7	118.3	1,480.0	89.1	76.4	71.2	942.4	59.15%	57.09
PR San Juan	Puerto Rico DOT	TOTAL	26.0	657.0	540.3	524.6	6,713.9	627.1	531.7	476.3	6,135.3	5.31%	9.43
SC Charleston	Charleston Area RTA	DR	0.2	6.9	6.2	6.1	76.4	6.6	6.2	5.8	72.9	3.23%	4.80
SC Charleston	Charleston Area RTA	MB	10.2	304.8	258.6	237.2	3,155.6	299.8	254.2	216.3	3,064.4	3.93%	2.98
SC Charleston	Charleston Area RTA	TOTAL	10.5	311.7	264.8	243.3	3,232.0	306.4	260.4	222.1	3,137.3	3.92%	3.02
SC Clemson	Clemson Area Transit	MB	NA	67.7	56.8	40.1	667.8	83.4	67.1	47.2	730.0	-16.74%	-8.52
SC Clemson	Clemson Area Transit	TOTAL	NA	67.7	56.8	40.1	667.8	83.4	67.1	47.2	730.0	-16.74%	-8.52
SC Columbia	Central Midlands Regional Transit A	DR	0.4	15.5	14.1	12.1	111.4	6.2	6.1	5.5	68.3	>100%	63.10
SC Columbia	Central Midlands Regional Transit A	MB	8.4	229.6	202.9	196.3	2,566.1	245.8	218.7	196.7	2,637.4	-4.90%	-2.70
SC Columbia	Central Midlands Regional Transit A	VP	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.00%	↑
SC Columbia	Central Midlands Regional Transit A	TOTAL	8.8	245.1	217.0	208.4	2,679.0	252.0	224.8	202.2	2,705.7	-1.25%	-0.99
SC Greenville	Greenville Transit Authority	DR	0.0	0.8	0.7	0.7	8.8	0.8	0.6	0.5	9.9	15.79%	-11.11
SC Greenville	Greenville Transit Authority	MB	2.5	70.2	52.8	53.2	825.7	81.5	60.9	53.9	897.5	-10.24%	-8.00
SC Greenville	Greenville Transit Authority	TOTAL	2.5	71.0	53.5	53.9	834.5	82.3	61.5	54.4	907.4	-9.99%	-8.03
SD Sioux Falls	Sioux Area Metro	DR	0.3	7.6	6.6	6.9	82.6	8.6	7.6	7.0	91.2	-9.05%	-9.43
SD Sioux Falls	Sioux Area Metro	MB	2.5	71.2	63.3	61.0	769.3	74.5	67.2	57.4	781.9	-1.81%	-1.61
SD Sioux Falls	Sioux Area Metro	TOTAL	2.8	78.8	69.9	67.9	851.9	83.1	74.8	64.4	873.1	-2.56%	-2.43

Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

Modes: MB - Bus, DR - Demand Response, CR - Commuter Rail, HR - Heavy Rail, LR - Light Rail, AG - Automated Guideway, CC - Cable Car, FB - Ferry Boat, IP - Inclined Plane, IR - Intermediate Rail,

MO - Monorail, TB - Trolleybus, VP - Vanpool

APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
TN Chattanooga	Chattanooga Area RTA	DR	NA	5.3	4.9	4.8	57.0	5.3	4.8	4.3	53.8	4.17%	5.9%
TN Chattanooga	Chattanooga Area RTA	IP	NA	46.7	34.1	23.1	508.9	51.4	28.5	22.0	490.9	1.96%	3.6%
TN Chattanooga	Chattanooga Area RTA	MB	NA	197.3	169.4	153.8	2,120.8	191.6	160.5	154.1	2,131.6	2.82%	-0.5%
TN Chattanooga	Chattanooga Area RTA	TOTAL	NA	249.3	208.4	181.7	2,686.7	248.3	193.8	180.4	2,676.3	2.71%	0.3%
TN Franklin	Franklin Transit Authority	DR	NA	2.9	2.3	2.0	27.9	2.7	2.3	2.1	26.5	1.41%	5.2%
TN Franklin	Franklin Transit Authority	MB	NA	4.7	3.5	11.1	59.6	7.6	3.7	5.0	49.2	18.40%	21.1%
TN Franklin	Franklin Transit Authority	TOTAL	NA	7.6	5.8	13.1	87.5	10.3	6.0	7.1	75.7	13.25%	15.5%
TN Knoxville	Knoxville Area Transit	DR	0.3	6.2	5.6	5.5	67.6	6.6	5.5	4.8	65.0	2.37%	4.0%
TN Knoxville	Knoxville Area Transit	MB	9.5	251.0	227.9	209.7	2,722.4	254.0	217.9	198.6	2,684.7	2.70%	1.4%
TN Knoxville	Knoxville Area Transit	TOTAL	9.8	257.2	233.5	215.2	2,790.0	260.6	223.4	203.4	2,749.7	2.69%	1.4%
TN Memphis	Memphis Area Transit Auth	DR	NA	NA	NA	NA	NA	17.3	15.2	14.2	193.6	NA	↑
TN Memphis	Memphis Area Transit Auth	LR	NA	NA	NA	NA	NA	34.5	22.8	21.7	302.0	NA	↑
TN Memphis	Memphis Area Transit Auth	MB	18.7	493.7	404.5	452.4	5,590.7	561.2	471.9	474.2	6,055.7	-10.40%	-7.6%
TN Memphis	Memphis Area Transit Auth	TOTAL	NA	NA	NA	NA	NA	613.0	509.9	510.1	6,551.3	NA	↑
TN Murfreesboro	City of Murfreesboro	MB	0.8	16.9	13.4	14.7	195.0	20.7	15.7	14.1	220.9	-10.89%	-11.7%
TN Murfreesboro	City of Murfreesboro	TOTAL	0.8	16.9	13.4	14.7	195.0	20.7	15.7	14.1	220.9	-10.89%	-11.7%
TN Nashville	Metropolitan Transit Auth	DR	NA	36.6	29.7	29.2	384.7	38.2	32.2	30.1	425.5	-4.98%	-9.5%
TN Nashville	Metropolitan Transit Auth	MB	28.8	808.2	701.2	681.1	9,118.5	862.4	755.0	716.2	9,372.7	-6.13%	-2.7%
TN Nashville	Metropolitan Transit Auth	TOTAL	NA	844.8	730.9	710.3	9,503.2	900.6	787.2	746.3	9,798.2	-6.08%	-3.0%
TN Nashville	Regional Transp Auth	CR	NA	28.7	23.1	23.1	292.5	27.4	22.7	21.6	298.8	4.46%	-2.1%
TN Nashville	Regional Transp Auth	MB	0.7	16.2	13.1	12.4	178.6	17.1	14.2	12.6	184.9	-5.01%	-3.4%
TN Nashville	Regional Transp Auth	VP	0.2	6.4	5.1	5.4	75.7	11.0	8.7	7.2	118.8	-37.17%	-36.2%
TN Nashville	Regional Transp Auth	TOTAL	NA	51.3	41.3	40.9	546.8	55.5	45.6	41.4	602.5	-6.32%	-9.2%
TX Austin	Capital Metropolitan Trp Auth	CR	2.2	49.0	43.9	44.1	671.2	82.5	60.1	52.8	807.8	-29.89%	-16.9%
TX Austin	Capital Metropolitan Trp Auth	DR	2.4	69.9	62.1	61.8	730.8	61.4	55.3	53.0	694.7	14.20%	5.2%
TX Austin	Capital Metropolitan Trp Auth	MB	94.7	2,849.5	2,412.0	2,231.0	29,365.4	2,817.4	2,412.3	2,091.0	27,822.2	2.35%	5.5%
TX Austin	Capital Metropolitan Trp Auth	VP	2.2	48.9	44.3	46.0	552.2	51.5	48.5	40.5	534.5	-0.93%	3.3%
TX Austin	Capital Metropolitan Trp Auth	TOTAL	101.5	3,017.3	2,562.3	2,382.9	31,319.6	3,012.8	2,576.2	2,237.3	29,859.2	1.74%	4.8%
TX Bryan	Brazos Transit District	DR	0.2	6.5	5.6	5.5	68.7	6.7	5.7	4.5	66.5	4.14%	3.3%
TX Bryan	Brazos Transit District	MB	1.1	27.6	22.5	22.0	299.3	36.8	30.7	26.6	398.9	-23.38%	-24.9%
TX Bryan	Brazos Transit District	TOTAL	1.3	34.1	28.1	27.5	368.0	43.5	36.4	31.1	465.4	-19.19%	-20.9%

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
TX Corpus Christi	Corpus Christi Regional TA	DR	0.8	19.2	16.2	16.0	210.4	18.7	16.6	15.8	197.6	0.59%	6.4%
TX Corpus Christi	Corpus Christi Regional TA	MB	19.0	458.1	389.9	374.7	4,975.2	491.5	420.5	396.5	5,095.2	-6.56%	-2.3%
TX Corpus Christi	Corpus Christi Regional TA	VP	0.2	6.1	6.0	6.4	59.0	2.0	2.2	2.0	12.3	>100%	>100%
TX Corpus Christi	Corpus Christi Regional TA	TOTAL	20.0	483.4	412.1	397.1	5,244.6	512.2	439.3	414.3	5,305.1	-5.36%	-1.14%
TX Dallas	Dallas Area Rapid Transit	DR	2.1	75.9	65.0	63.2	828.7	74.0	67.0	61.9	785.1	0.59%	5.5%
TX Dallas	Dallas Area Rapid Transit	LR	92.0	3,210.2	2,092.3	2,084.3	28,069.0	3,162.4	2,350.1	2,139.8	28,759.2	-3.47%	-2.4%
TX Dallas	Dallas Area Rapid Transit	MB	124.2	3,517.8	3,041.0	3,054.4	38,598.5	2,705.0	2,450.5	2,185.1	29,631.1	30.96%	30.2%
TX Dallas	Dallas Area Rapid Transit	VP	1.6	41.0	38.6	35.8	487.8	39.4	39.4	39.3	476.3	-2.29%	2.41%
TX Dallas	Dallas Area Rapid Transit	TOTAL	219.9	6,844.9	5,236.9	5,237.7	67,984.0	5,980.8	4,907.0	4,426.1	59,651.7	13.10%	13.97%
TX Dallas-Ft Worth	Trinity Railway Express	CR	7.2	226.9	155.9	155.1	1,987.6	208.0	153.9	135.6	1,980.5	8.12%	0.3%
TX Dallas-Ft Worth	Trinity Railway Express	TOTAL	7.2	226.9	155.9	155.1	1,987.6	208.0	153.9	135.6	1,980.5	8.12%	0.3%
TX El Paso	El Paso Mass Transit Dept	DR	0.9	24.2	21.4	20.7	269.3	23.4	20.9	19.5	265.0	3.92%	1.6%
TX El Paso	El Paso Mass Transit Dept	LR	1.6	28.1	32.2	34.9	271.9	0.0	0.0	66.7	66.7	42.73%	>100%
TX El Paso	El Paso Mass Transit Dept	MB	33.6	1,119.1	1,014.8	1,053.3	12,304.5	1,124.9	1,056.7	985.1	12,806.6	0.65%	-3.9%
TX El Paso	El Paso Mass Transit Dept	TOTAL	36.0	1,171.4	1,068.4	1,108.9	12,845.7	1,148.3	1,077.6	1,071.3	13,138.3	1.56%	-2.2%
TX Fort Worth	Trinity Metro	CR	NA	41.9	44.7	51.2	545.0	0.0	0.0	0.0	0.0	NA	NA
TX Fort Worth	Trinity Metro	DR	NA	35.6	31.3	31.0	401.4	32.7	29.5	27.6	360.4	9.02%	11.3%
TX Fort Worth	Trinity Metro	MB	NA	471.4	414.5	413.9	5,121.0	443.6	417.1	381.0	5,155.9	4.68%	-0.6%
TX Fort Worth	Trinity Metro	VP	NA	16.7	14.3	13.2	190.3	15.3	15.2	13.6	202.4	0.23%	-5.9%
TX Fort Worth	Trinity Metro	TOTAL	NA	565.6	504.8	509.3	6,257.7	491.6	461.8	422.2	5,718.7	14.84%	9.4%
TX Houston	Metro Tr Auth of Harris Co	DR	7.1	195.7	169.3	171.7	2,110.7	188.6	172.3	165.7	2,053.3	1.92%	2.8%
TX Houston	Metro Tr Auth of Harris Co	LR	60.3	1,689.5	1,341.6	1,370.3	18,409.1	1,728.7	1,483.2	1,337.0	18,806.3	-3.24%	-2.1%
TX Houston	Metro Tr Auth of Harris Co	MB	224.0	6,323.4	5,480.4	5,425.3	67,353.1	6,237.0	5,457.2	5,163.4	66,930.7	2.20%	0.6%
TX Houston	Metro Tr Auth of Harris Co	VP	6.5	164.2	128.7	117.9	1,799.7	177.2	147.5	126.2	1,896.1	-8.89%	-5.0%
TX Houston	Metro Tr Auth of Harris Co	TOTAL	297.9	8,372.8	7,120.0	7,085.2	89,672.6	8,331.5	7,260.2	6,792.3	89,686.4	0.87%	-0.0%
TX Lewisville	Denton County Transportation Auth	CR	1.5	44.5	30.6	26.4	382.4	45.4	36.6	25.5	407.3	-5.58%	-6.1%
TX Lewisville	Denton County Transportation Auth	DR	0.1	3.9	3.1	2.9	39.8	3.5	2.9	1.4	34.7	26.92%	14.7%
TX Lewisville	Denton County Transportation Auth	MB	9.8	317.6	230.4	109.5	2,340.7	344.6	275.6	123.5	2,389.9	-11.59%	-2.0%
TX Lewisville	Denton County Transportation Auth	TOTAL	11.4	366.0	264.1	138.8	2,762.9	393.5	315.1	150.4	2,831.9	-10.49%	-2.4%
TX Lubbock	Citibus	DR	0.4	9.8	8.3	8.1	102.9	8.5	7.7	7.1	95.4	12.45%	7.8%
TX Lubbock	Citibus	MB	16.4	523.9	393.1	143.1	3,486.7	537.7	442.3	130.7	3,646.0	-4.56%	-4.3%
TX Lubbock	Citibus	TOTAL	16.8	533.7	401.4	151.2	3,589.6	546.2	450.0	137.8	3,741.4	-4.21%	-4.0%

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TX Port Arthur	Port Arthur Transit	DR	NA	2.0	1.6	1.6	19.2	1.7	1.3	1.2	16.9	23.81%	13.61
TX Port Arthur	Port Arthur Transit	MB	NA	9.6	7.6	7.6	102.1	7.3	5.1	6.2	84.4	33.33%	20.97
TX Port Arthur	Port Arthur Transit	TOTAL	NA	11.6	9.2	9.2	121.3	9.0	6.4	7.4	101.3	31.58%	19.74
TX San Antonio	VIA Metropolitan Transit	DR	4.0	102.2	90.5	90.0	1,120.3	102.5	88.7	80.2	1,135.2	4.16%	-1.31
TX San Antonio	VIA Metropolitan Transit	MB	80.9	3,268.2	2,968.7	2,911.1	35,350.1	3,107.1	2,892.2	2,745.4	34,921.2	4.61%	1.23
TX San Antonio	VIA Metropolitan Transit	TOTAL	84.9	3,370.4	3,059.2	3,001.1	36,470.4	3,209.6	2,980.9	2,825.6	36,056.4	4.60%	1.15
TX Sugar Land	Fort Bend County Public Transporta	DR	0.6	13.3	10.4	10.3	136.6	12.4	9.9	9.3	131.5	7.59%	3.88
TX Sugar Land	Fort Bend County Public Transporta	MB	0.8	26.6	19.6	18.6	275.4	26.1	19.7	16.9	261.1	3.35%	5.48
TX Sugar Land	Fort Bend County Public Transporta	TOTAL	1.3	39.9	30.0	28.9	412.0	38.5	29.6	26.2	392.6	4.77%	4.94
TX Waco	Waco Transit System	DR	0.3	6.8	5.7	5.8	70.0	6.5	5.6	5.1	66.8	6.40%	4.79
TX Waco	Waco Transit System	MB	4.5	126.3	97.1	67.4	1,148.6	143.3	107.9	52.6	1,204.7	-4.28%	-4.66
TX Waco	Waco Transit System	TOTAL	4.8	133.1	102.8	73.2	1,218.6	149.8	113.5	57.7	1,271.5	-3.71%	-4.16
UT Salt Lake City	Utah Transit Authority	CR	19.2	503.8	428.0	410.3	5,193.8	500.1	442.1	406.0	5,082.1	-0.45%	2.20
UT Salt Lake City	Utah Transit Authority	DR	3.2	78.2	64.1	61.5	803.2	77.2	68.7	59.7	835.6	-0.88%	-3.88
UT Salt Lake City	Utah Transit Authority	LR	56.9	1,640.1	1,409.2	1,394.1	16,871.8	1,592.0	1,480.5	1,404.9	17,899.6	-0.76%	-5.74
UT Salt Lake City	Utah Transit Authority	MB	72.6	1,959.9	1,659.0	1,542.2	20,303.0	1,940.5	1,667.8	1,456.9	19,216.6	1.89%	5.65
UT Salt Lake City	Utah Transit Authority	VP	3.5	77.9	86.5	72.1	1,065.2	82.8	98.3	85.1	1,182.3	-11.16%	-9.90
UT Salt Lake City	Utah Transit Authority	TOTAL	155.5	4,259.9	3,646.8	3,480.2	44,237.0	4,192.6	3,757.4	3,412.6	44,216.2	0.21%	0.05
VA Alexandria	Virginia Railway Express	CR	17.2	423.8	329.0	317.6	4,517.0	410.2	346.0	290.5	4,528.0	2.26%	-0.24
VA Alexandria	Virginia Railway Express	TOTAL	17.2	423.8	329.0	317.6	4,517.0	410.2	346.0	290.5	4,528.0	2.26%	-0.24
VA Blacksburg	Blacksburg Transit	DR	0.1	2.7	2.1	2.0	27.5	2.8	2.4	1.9	29.5	-4.23%	-6.78
VA Blacksburg	Blacksburg Transit	MB	21.6	659.2	469.4	326.6	4,665.0	650.9	497.6	210.5	4,336.7	7.08%	7.57
VA Blacksburg	Blacksburg Transit	TOTAL	21.7	661.9	471.5	328.6	4,692.5	653.7	500.0	212.4	4,366.2	7.02%	7.47
VA Fairfax	City of Fairfax CUE Bus	MB	2.1	62.4	45.1	43.4	601.4	63.6	50.0	42.9	595.2	-3.58%	1.04
VA Fairfax	City of Fairfax CUE Bus	TOTAL	2.1	62.4	45.1	43.4	601.4	63.6	50.0	42.9	595.2	-3.58%	1.04
VA Fairfax	Fairfax County Dept of Transp	MB	26.9	777.0	678.6	573.2	8,298.7	756.2	679.7	618.1	8,287.9	-1.23%	0.13
VA Fairfax	Fairfax County Dept of Transp	TOTAL	26.9	777.0	678.6	573.2	8,298.7	756.2	679.7	618.1	8,287.9	-1.23%	0.13
VA Hampton	Hampton Roads Transit	DR	1.3	35.1	31.5	31.0	383.8	30.7	27.4	24.6	356.0	18.02%	7.81
VA Hampton	Hampton Roads Transit	FB	0.5	21.0	14.2	13.0	291.6	20.3	18.2	12.6	315.1	-5.68%	-7.46
VA Hampton	Hampton Roads Transit	LR	4.2	123.0	101.7	96.6	1,345.1	141.5	99.8	90.9	1,461.5	-3.28%	-7.96
VA Hampton	Hampton Roads Transit	MB	33.2	913.9	790.9	789.7	10,660.6	1,017.1	895.5	853.9	11,239.2	-9.83%	-5.15
VA Hampton	Hampton Roads Transit	VP	0.5	10.7	9.4	8.9	118.9	12.7	11.0	9.5	128.1	-12.65%	-7.18
VA Hampton	Hampton Roads Transit	TOTAL	39.7	1,103.7	947.7	939.2	12,800.0	1,222.3	1,051.9	991.5	13,499.9	-8.42%	-5.18

Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

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APTA PUBLIC TRANSPORTATION RIDERSHIP REPORT

State and Primary City	Transit Agency	Mode	Average Weekday (000's)	Trips for Oct '19 (000's)	Trips for Nov '19 (000's)	Trips for Dec '19 (000's)	Trips Thru Dec '19 (000's)	Trips for Oct '18 (000's)	Trips for Nov '18 (000's)	Trips for Dec '18 (000's)	Trips Thru Dec '18 (000's)	Quarterly Change	Year-to-Date Change
VA Williamsburg	Williamsburg Area Transport	DR	0.0	1.2	1.2	1.1	13.1	1.0	0.9	0.9	10.3	25.00%	27.1%
VA Williamsburg	Williamsburg Area Transport	MB	6.0	208.8	152.7	174.4	2,143.8	219.0	164.1	194.9	2,190.8	-7.28%	-2.1%
VA Williamsburg	Williamsburg Area Transport	TOTAL	6.0	210.0	153.9	175.5	2,156.9	220.0	165.0	195.8	2,201.1	-7.13%	-2.0%
VA Woodbridge	PRTC Omni-Ride	MB	NA	230.4	180.5	171.4	2,358.5	226.3	183.7	163.0	2,378.9	1.62%	-0.8%
VA Woodbridge	PRTC Omni-Ride	TOTAL	NA	230.4	180.5	171.4	2,358.5	226.3	183.7	163.0	2,378.9	1.62%	-0.8%
VT Burlington	Green Mountain Transit	DR	NA	4.6	3.8	4.9	50.1	4.3	4.0	3.9	43.6	9.02%	14.9%
VT Burlington	Green Mountain Transit	MB	NA	227.0	189.9	178.4	2,291.8	231.9	203.9	178.6	2,302.6	-3.11%	-0.4%
VT Burlington	Green Mountain Transit	TOTAL	NA	231.6	193.7	183.3	2,341.9	236.2	207.9	182.5	2,346.2	-2.87%	-0.1%
WA Bremerton	Kitsap Transit	DR	1.1	27.7	23.7	23.2	308.5	26.9	24.5	22.3	295.7	1.22%	4.3%
WA Bremerton	Kitsap Transit	FB	3.8	101.7	77.4	70.5	1,046.5	76.6	69.6	64.3	852.7	18.57%	22.7%
WA Bremerton	Kitsap Transit	MB	8.8	220.4	183.7	170.3	2,344.9	236.6	202.2	164.9	2,509.9	-4.85%	-6.5%
WA Bremerton	Kitsap Transit	VP	0.6	13.6	11.3	11.0	153.3	15.1	13.5	11.8	167.9	-11.14%	-8.7%
WA Bremerton	Kitsap Transit	TOTAL	14.2	363.4	296.1	275.0	3,853.2	355.2	309.8	263.3	3,826.2	0.67%	0.7%
WA Everett	Snohomish County PTBA	DR	0.7	17.9	15.6	14.8	190.6	18.4	16.4	15.2	200.1	-3.40%	-4.7%
WA Everett	Snohomish County PTBA	MB	36.1	989.5	847.3	772.9	10,078.2	922.2	800.5	679.7	9,576.0	8.63%	5.2%
WA Everett	Snohomish County PTBA	VP	3.1	75.3	66.2	61.8	863.6	79.3	73.6	65.4	886.3	-6.87%	-2.5%
WA Everett	Snohomish County PTBA	TOTAL	39.8	1,082.7	929.1	849.5	11,132.4	1,019.9	890.5	760.3	10,662.4	7.14%	4.4%
WA Olympia	Intercity Transit	DR	NA	19.3	16.7	17.4	209.4	17.5	15.9	15.9	187.3	8.32%	11.8%
WA Olympia	Intercity Transit	MB	12.7	363.0	317.7	309.5	4,029.8	337.6	295.8	262.5	3,763.4	10.53%	7.0%
WA Olympia	Intercity Transit	VP	5.7	42.7	35.9	39.9	459.8	42.3	36.3	35.2	492.3	4.13%	-6.6%
WA Olympia	Intercity Transit	TOTAL	NA	425.0	370.3	366.8	4,699.0	397.4	348.0	313.6	4,443.0	9.74%	5.7%
WA Richland	Ben Franklin Transit	DR	1.3	33.4	28.2	27.5	377.4	39.2	31.1	28.5	442.0	-9.82%	-14.6%
WA Richland	Ben Franklin Transit	MB	7.5	206.9	170.0	154.4	2,096.8	199.6	166.0	142.4	2,033.0	4.59%	3.1%
WA Richland	Ben Franklin Transit	VP	2.4	63.7	48.8	48.8	652.9	58.6	50.5	45.0	646.2	4.67%	1.0%
WA Richland	Ben Franklin Transit	TOTAL	11.2	304.0	247.0	230.7	3,127.1	297.4	247.6	215.9	3,121.2	2.73%	0.1%
WA Seattle	King County Dept of Trp	DR	2.8	103.7	89.4	87.1	1,084.4	96.2	87.9	82.2	1,027.0	5.22%	5.5%
WA Seattle	King County Dept of Trp	LR	6.0	175.5	148.0	136.6	1,863.4	161.1	139.7	131.2	1,685.7	6.50%	10.5%
WA Seattle	King County Dept of Trp	MB	332.6	9,624.6	8,508.6	7,876.6	103,934.8	9,538.5	8,423.4	7,700.7	104,261.4	1.35%	-0.3%
WA Seattle	King County Dept of Trp	TB	67.0	1,631.5	1,359.2	1,305.1	17,365.5	1,654.0	1,534.5	1,287.9	17,950.4	-4.03%	-3.2%
WA Seattle	King County Dept of Trp	VP	13.3	314.3	261.3	279.2	3,337.0	316.5	283.9	258.6	3,496.6	-0.49%	-4.5%
WA Seattle	King County Dept of Trp	TOTAL	421.6	11,849.6	10,366.5	9,684.6	127,585.1	11,766.3	10,469.4	9,460.6	128,421.1	0.64%	-0.6%

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WA Seattle	Sound Transit	CR	17.9	442.1	367.6	341.5	4,615.6	442.0	374.7	334.1	4,632.8	0.03%	-0.37
WA Seattle	Sound Transit	DR	0.2	6.4	5.7	5.9	69.3	6.1	5.5	5.4	65.3	5.88%	6.13
WA Seattle	Sound Transit	LR	83.2	2,289.3	2,134.1	1,991.8	26,010.4	2,237.8	2,091.8	1,857.7	25,348.7	3.68%	2.61
WA Seattle	Sound Transit	MB	58.1	1,600.9	1,354.9	1,268.6	17,435.9	1,650.2	1,429.1	1,321.1	18,181.6	-4.00%	-4.10
WA Seattle	Sound Transit	TOTAL	159.4	4,338.7	3,862.3	3,607.8	48,131.2	4,336.1	3,901.1	3,518.3	48,228.4	0.45%	-0.20
WA Seattle	Washington State Ferries	FB	59.3	1,870.0	1,789.0	1,796.5	23,881.2	1,907.8	1,809.9	1,828.1	24,690.4	-1.63%	-3.28
WA Seattle	Washington State Ferries	TOTAL	59.3	1,870.0	1,789.0	1,796.5	23,881.2	1,907.8	1,809.9	1,828.1	24,690.4	-1.63%	-3.28
WA Spokane	Spokane Transit Authority	DR	1.7	41.3	35.5	33.8	441.7	44.5	39.8	34.6	475.1	-6.98%	-7.03
WA Spokane	Spokane Transit Authority	MB	38.9	935.4	809.7	745.0	10,018.4	960.2	847.5	730.3	10,069.4	-1.89%	-0.51
WA Spokane	Spokane Transit Authority	VP	0.6	14.3	12.1	11.9	154.8	14.4	13.0	11.5	157.7	-1.54%	-1.84
WA Spokane	Spokane Transit Authority	TOTAL	41.1	991.0	857.3	790.7	10,614.9	1,019.1	900.3	776.4	10,702.2	-2.11%	-0.82
WA Tacoma	Pierce Transit	DR	1.0	26.8	23.4	22.5	289.8	26.5	24.0	22.6	298.9	-0.55%	-3.04
WA Tacoma	Pierce Transit	MB	27.5	769.9	671.2	621.8	8,376.5	799.8	714.3	636.5	8,653.6	-4.08%	-3.20
WA Tacoma	Pierce Transit	VP	2.8	68.4	57.4	54.2	739.9	71.0	63.4	52.9	783.2	-3.90%	-5.53
WA Tacoma	Pierce Transit	TOTAL	31.2	865.1	752.0	698.5	9,406.2	897.3	801.7	712.0	9,735.7	-3.96%	-3.38
WA Vancouver	Clark Co Pub Trp Benefit Area	DR	0.9	24.7	21.7	21.4	264.3	23.7	21.5	20.5	257.6	3.20%	2.60
WA Vancouver	Clark Co Pub Trp Benefit Area	MB	19.6	538.6	476.9	467.4	5,989.7	533.5	486.8	450.4	5,917.3	0.83%	1.22
WA Vancouver	Clark Co Pub Trp Benefit Area	VP	0.2	3.7	3.0	3.1	40.9	4.2	3.3	3.1	44.2	-7.55%	-7.47
WA Vancouver	Clark Co Pub Trp Benefit Area	TOTAL	20.7	567.0	501.6	491.9	6,294.9	561.4	511.6	474.0	6,219.1	0.87%	1.22
WA Wenatchee	Chelan-Douglas PTBA	DR	0.2	5.6	4.5	4.6	58.2	4.3	3.9	3.3	51.0	27.83%	14.12
WA Wenatchee	Chelan-Douglas PTBA	MB	3.7	95.7	78.1	78.9	941.7	90.8	76.4	67.1	910.4	7.85%	3.44
WA Wenatchee	Chelan-Douglas PTBA	TOTAL	3.9	101.3	82.6	83.5	999.9	95.1	80.3	70.4	961.4	8.79%	4.00
WI Green Bay	Green Bay Metro Transit	DR	0.1	3.0	2.5	2.4	31.5	3.0	2.7	2.4	34.2	-2.47%	-7.89
WI Green Bay	Green Bay Metro Transit	MB	4.3	128.0	110.3	105.2	1,292.1	121.4	107.6	102.9	1,275.7	3.50%	1.29
WI Green Bay	Green Bay Metro Transit	TOTAL	4.4	131.0	112.8	107.6	1,323.6	124.4	110.3	105.3	1,309.9	3.35%	1.05
WI Madison	Metro Transit	DR	0.4	10.8	9.7	9.3	113.2	10.5	9.6	8.9	154.8	2.76%	-26.87
WI Madison	Metro Transit	MB	49.3	1,419.6	1,229.3	977.1	12,856.5	1,445.0	1,288.5	987.9	13,230.6	-2.56%	-2.83
WI Madison	Metro Transit	TOTAL	49.7	1,430.4	1,239.0	986.4	12,969.7	1,455.5	1,298.1	996.8	13,385.4	-2.52%	-3.11
WI Milwaukee	Milwaukee County Tr Sys	DR	1.7	47.0	41.5	41.3	513.5	47.4	43.3	40.1	520.6	-0.76%	-1.36
WI Milwaukee	Milwaukee County Tr Sys	MB	86.1	2,455.3	2,166.4	2,028.9	26,447.3	2,710.9	2,367.4	2,181.5	29,071.3	-8.39%	-9.03
WI Milwaukee	Milwaukee County Tr Sys	TOTAL	87.8	2,502.3	2,207.9	2,070.2	26,960.8	2,758.3	2,410.7	2,221.6	29,591.9	-8.26%	-8.89
WI Port Washington	Ozaukee County Transit Services	DR	0.3	9.7	8.5	8.0	108.1	10.2	9.3	8.4	112.1	-6.09%	-3.57
WI Port Washington	Ozaukee County Transit Services	MB	0.2	4.9	3.8	3.5	51.3	5.8	4.8	3.9	63.0	-15.86%	-18.57
WI Port Washington	Ozaukee County Transit Services	TOTAL	0.5	14.6	12.3	11.5	159.4	16.0	14.1	12.3	175.1	-9.43%	-8.97

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WI Racine	Belle Urban System	DR	NA	3.7	3.4	3.1	38.5	3.4	3.0	2.8	36.7	10.87%	4.90%
WI Racine	Belle Urban System	MB	NA	86.6	74.0	72.7	952.7	104.6	90.7	83.4	1,073.8	-16.29%	-11.28%
WI Racine	Belle Urban System	TOTAL	NA	90.3	77.4	75.8	991.2	108.0	93.7	86.2	1,110.5	-15.42%	-10.74%
WV Morgantown	Mountain Line Transit Authority	DR	0.0	2.3	0.1	0.4	2.8	0.1	0.0	0.0	1.4	>100%	100.00%
WV Morgantown	Mountain Line Transit Authority	MB	3.6	101.3	78.1	62.6	873.1	113.4	81.9	46.4	988.4	0.12%	-11.67%
WV Morgantown	Mountain Line Transit Authority	TOTAL	3.7	103.6	78.2	63.0	875.9	113.5	81.9	46.4	989.8	1.24%	-11.51%

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			(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	Change	Chan
AB	Banff	Bow Valley Regional Transit Service MB	1.6	50.0	45.1	55.1	982.7	49.7	42.5	55.7	916.8	1.56%	7.19
AB	Banff	Bow Valley Regional Transit Service TOTAL	1.6	50.0	45.1	55.1	982.7	49.7	42.5	55.7	916.8	1.56%	7.19
AB	Calgary	Calgary Transit LR	313.8	8,595.8	8,609.8	7,592.4	91,604.6	8,566.9	8,449.0	7,661.9	91,029.1	0.49%	0.63
AB	Calgary	Calgary Transit MB	267.3	6,511.1	6,521.6	5,751.0	72,848.3	6,489.1	6,399.8	5,803.6	72,388.5	0.49%	0.64
AB	Calgary	Calgary Transit TOTAL	581.1	15,106.9	15,131.4	13,343.4	164,452.9	15,056.0	14,848.8	13,465.5	163,417.6	0.49%	0.63
AB	Edmonton	Edmonton Transit System LR	NA	3,796.7	3,806.0	3,573.7	39,264.8	3,757.5	3,713.7	3,763.8	39,448.7	-0.52%	-0.47
AB	Edmonton	Edmonton Transit System MB	NA	9,619.1	9,642.7	9,054.2	99,480.0	9,519.8	9,408.9	9,535.9	99,945.8	-0.52%	-0.47
AB	Edmonton	Edmonton Transit System TOTAL	NA	13,415.8	13,448.7	12,627.9	138,744.8	13,277.3	13,122.6	13,299.7	139,394.5	-0.52%	-0.47
AB	Leduc	City of Leduc, Leduc Transit Service MB	NA	12.2	11.7	7.8	107.1	11.0	10.3	6.8	95.0	12.81%	12.74
AB	Leduc	City of Leduc, Leduc Transit Service TOTAL	NA	12.2	11.7	7.8	107.1	11.0	10.3	6.8	95.0	12.81%	12.74
BC	Burnaby	Greater Vancouver Transp Auth AG	512.4	14,833.3	13,631.8	12,755.7	165,061.6	14,302.2	13,541.2	12,465.4	160,014.8	2.26%	3.15
BC	Burnaby	Greater Vancouver Transp Auth CR	10.3	242.7	218.5	179.9	2,606.8	235.8	225.2	165.8	2,484.2	2.28%	4.94
BC	Burnaby	Greater Vancouver Transp Auth FB	17.0	521.2	418.8	449.5	6,263.4	526.2	481.1	483.8	6,196.9	-6.81%	1.07
BC	Burnaby	Greater Vancouver Transp Auth MB	863.9	25,479.8	22,556.8	20,476.1	277,043.8	24,699.2	23,267.9	19,864.6	267,185.7	1.00%	3.69
BC	Burnaby	Greater Vancouver Transp Auth TB	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00%	1.00
BC	Burnaby	Greater Vancouver Transp Auth TOTAL	NA	41,077.0	36,825.9	33,861.2	450,975.6	39,763.4	37,515.4	32,979.6	435,881.6	1.37%	3.46
BC	Victoria	BC Transit DR	1.6	35.7	34.7	32.4	378.8	34.5	32.4	28.0	387.0	8.32%	-2.12
BC	Victoria	BC Transit MB	118.4	2,834.2	2,656.8	2,321.9	29,963.3	2,735.5	2,609.2	2,214.6	28,978.1	3.35%	3.40
BC	Victoria	BC Transit TOTAL	120.0	2,869.9	2,691.5	2,354.3	30,342.1	2,770.0	2,641.6	2,242.6	29,365.1	3.42%	3.33
MB	Brandon	City of Brandon MB	3.9	104.1	97.7	82.1	1,050.1	91.7	92.5	74.8	943.2	9.61%	11.33
MB	Brandon	City of Brandon TOTAL	3.9	104.1	97.7	82.1	1,050.1	91.7	92.5	74.8	943.2	9.61%	11.33
ON	Brampton	Brampton Transit MB	112.3	3,102.3	2,864.8	2,345.3	31,914.4	2,956.5	2,771.8	2,237.1	31,239.1	4.36%	2.16
ON	Brampton	Brampton Transit TOTAL	112.3	3,102.3	2,864.8	2,345.3	31,914.4	2,956.5	2,771.8	2,237.1	31,239.1	4.36%	2.16
ON	Oakville	Oakville Transit DR	0.6	13.0	12.8	11.7	144.9	12.3	12.2	10.5	142.6	7.14%	1.61
ON	Oakville	Oakville Transit MB	13.2	372.2	360.3	287.3	3,943.7	377.2	370.8	292.8	4,051.3	-2.02%	-2.66
ON	Oakville	Oakville Transit TOTAL	13.8	385.2	373.1	299.0	4,088.6	389.5	383.0	303.3	4,193.9	-1.72%	-2.51
ON	Richmond Hill	York Region Transit MB	75.1	2,053.2	1,900.4	1,576.3	21,666.6	2,031.8	1,954.7	1,622.1	21,772.7	-1.40%	-0.49
ON	Richmond Hill	York Region Transit TOTAL	75.1	2,053.2	1,900.4	1,576.3	21,666.6	2,031.8	1,954.7	1,622.1	21,772.7	-1.40%	-0.49
ON	Toronto	GO Transit CR	230.5	5,798.4	5,466.4	4,434.1	62,441.0	5,364.5	5,315.7	4,015.1	59,292.2	6.83%	5.31
ON	Toronto	GO Transit MB	56.1	1,662.4	1,572.5	1,216.6	17,001.7	1,692.2	1,632.4	1,223.3	16,914.5	-2.12%	0.52
ON	Toronto	GO Transit TOTAL	286.5	7,460.8	7,038.9	5,650.7	79,442.7	7,056.7	6,948.1	5,238.4	76,206.7	4.71%	4.25

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CANADA			Average	Trips for	Trips for	Trips for	Trips Thru	Trips for	Trips for	Trips for	Trips Thru	Year-	
Province and City	Transit Agency	Mode	Weekday	Oct '19	Nov '19	Dec '19	Dec '19	Oct '18	Nov '18	Dec '18	Dec '18	Quarterly	to-Da
			(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	(000's)	Change	Chan
ON Toronto	Toronto Transit Commission	DR	13.3	330.1	340.2	319.4	4,116.0	327.8	434.6	303.3	4,155.9	-7.13%	-0.9%
ON Toronto	Toronto Transit Commission	HR	1,557.7	41,563.1	41,278.8	35,901.2	461,103.3	35,504.6	35,446.4	30,836.4	400,551.5	16.66%	15.1%
ON Toronto	Toronto Transit Commission	IR	44.6	1,219.9	1,237.5	1,220.9	13,380.0	1,451.9	1,406.7	1,278.9	15,695.0	-11.10%	-14.7%
ON Toronto	Toronto Transit Commission	LR	530.6	14,523.6	14,896.1	14,168.7	165,690.6	5,612.5	5,605.4	4,935.0	64,917.0	>100%	>100%
ON Toronto	Toronto Transit Commission	MB	1,281.4	35,788.6	34,977.9	30,299.2	400,166.1	40,872.6	39,328.9	34,443.4	460,292.3	-11.84%	-13.0%
ON Toronto	Toronto Transit Commission	TOTAL	3,427.6	93,425.3	92,730.5	81,909.4	1,044,456.0	83,769.4	82,222.0	71,797.0	945,611.7	12.73%	10.4%
QC Montreal	Societe de transport de Montreal	DR	15.0	414.6	404.5	353.5	4,434.1	398.4	390.4	329.8	4,206.0	4.83%	5.4%
QC Montreal	Societe de transport de Montreal	HR	1,421.2	37,408.4	36,999.0	30,767.3	400,280.9	35,959.5	36,035.3	29,190.0	383,147.7	3.94%	4.4%
QC Montreal	Societe de transport de Montreal	MB	979.5	25,194.1	24,881.3	24,563.8	284,407.9	25,356.0	25,273.8	23,977.2	282,513.2	0.04%	0.6%
QC Montreal	Societe de transport de Montreal	TOTAL	2,415.7	63,017.1	62,284.8	55,684.6	689,122.9	61,713.9	61,699.5	53,497.0	669,866.9	2.30%	2.8%

Attachment: Attachment No. 10b - American Public Transportation Ridership Report (4th Quarter_2019)

**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF HOUSING POLICY DEVELOPMENT**

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August 22, 2019

Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017

Dear Executive Director Ajise:

RE: Regional Housing Need Determination

This letter provides the Southern California Association of Governments (SCAG) its determination of the Regional Housing Need Determination. Pursuant to Government Code (Gov. Code) section 65584.01, the Department of Housing and Community Development (HCD) is required to provide the determination of SCAG's existing and projected housing need.

In assessing SCAG's regional housing need, HCD and SCAG staff completed an extensive consultation process starting in March 2017 through August 2019 covering the methodology, data sources, and timeline. HCD also consulted with Walter Schwarm of the California Department of Finance (DOF) Demographic Research Unit.

Attachment 1 displays the minimum regional housing need determination of **1,344,740** total units among four income categories for SCAG to distribute among its local governments. Attachment 2 explains the methodology applied pursuant to Gov. Code section 65584.01.

As you know, SCAG is responsible for adopting a RHNA allocation methodology for the *projection* period beginning June 30, 2021 and ending October 15, 2029. Pursuant to Gov. Code section 65584(d), SCAG's RHNA allocation methodology must further the following objectives:

- (1) Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low income households.
- (2) Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region's greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080.
- (3) Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction.

- (4) Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey.
- (5) Affirmatively furthering fair housing.

Pursuant to Gov. Code section 65584.04(e), to the extent data is available, SCAG shall include the factors listed in Gov. Code section 65584.04(e)(1-12) to develop its RHNA allocation methodology, and pursuant to Gov. Code section 65584.04(f), SCAG must explain in writing how each of these factors was incorporated into the RHNA allocation methodology and how the methodology furthers the statutory objectives described above. Pursuant to Government Code section 65584.04(h), SCAG must consult with HCD and submit its draft allocation methodology to HCD for review.

HCD appreciates the active role of SCAG staff in providing data and input throughout the consultation period. Pursuant to Government Code section 65584.01(c)(1), HCD may accept or reject the information provided by the council of governments or modify its own assumptions based on this information.

The Department especially thanks Ping Chang, Ma'Ayn Johnson, Kevin Kane, and Sarah Jepson. The Department looks forward to its continued partnership with SCAG and its member jurisdictions and assisting SCAG in its planning efforts to accommodate the region's share of housing need.

If HCD can provide any additional assistance, or if you, or your staff, have any questions, please contact Megan Kirkeby, Assistant Deputy Director for Fair Housing, at megan.kirkeby@hcd.ca.gov.

Sincerely,



Megan Kirkeby
Assistant Deputy Director for Fair Housing

ATTACHMENT 1

HCD REGIONAL HOUSING NEED DETERMINATION

SCAG: June 30, 2021 – October 15, 2029 (8.3 years)

<u>Income Category</u>	<u>Percent</u>	<u>Housing Unit Need</u>
Very-Low*	26.1%	350,998
Low	15.3%	206,338
Moderate	16.7%	225,152
Above-Moderate	41.8%	562,252
Total	100.0%	1,344,740
* Extremely-Low	14.5%	Included in Very-Low Category

Notes:

Income Distribution:

Income categories are prescribed by California Health and Safety Code (Section 50093, et.seq.). Percents are derived based on ACS reported household income brackets and regional median income, then adjusted based on the percent of cost-burdened households in the region compared with the percent of cost burdened households nationally.

ATTACHMENT 2

HCD REGIONAL HOUSING NEED DETERMINATION SCAG: June 30, 2021 – October 15, 2029 (8.3 years)

Methodology

SCAG: June 30, 2021-October 15, 2029 (8.3 Years) HCD Determined Population, Households, & Housing Need				
1.	Population: DOF 6/30/2029 projection adjusted +3.5 months to 10/15/2029			20,455,355
2.	- Group Quarters Population: DOF 6/30/2029 projection adjusted +3.5 months to 10/15/2029			-363,635
3.	Household (HH) Population: October 15, 2029			20,079,930
	Household Formation Groups	HCD Adjusted DOF Projected HH Population	DOF HH Formation Rates	HCD Adjusted DOF Projected Households
		20,079,930		6,801,760
	under 15 years	3,292,955	n/a	n/a
	15 – 24 years	2,735,490	6.45%	176,500
	25 – 34 years	2,526,620	32.54%	822,045
	35 – 44 years	2,460,805	44.23%	1,088,305
	45 – 54 years	2,502,190	47.16%	1,180,075
	55 – 64 years	2,399,180	50.82%	1,219,180
	65 – 74 years	2,238,605	52.54%	1,176,130
	75 – 84 years	1,379,335	57.96%	799,455
	85+	544,750	62.43%	340,070
4.	Projected Households (Occupied Unit Stock)			6,801,760
5.	+ Vacancy Adjustment (2.63%)			178,896
6.	+ Overcrowding Adjustment (6.76%)			459,917
7.	+ Replacement Adjustment (.50%)			34,010
8.	- Occupied Units (HHs) estimated (June 30, 2021)			-6,250,261
9.	+ Cost Burden Adjustment (Lower Income: 10.63%, Moderate and Above Moderate Income: 9.28%)			120,418
6th Cycle Regional Housing Need Assessment (RHNA)				1,344,740

Explanation and Data Sources

- 1-4. Population, Group Quarters, Household Population, & Projected Households: Pursuant to Government Code Section 65584.01, projections were extrapolated from Department of Finance (DOF) projections. Population reflects total persons. Group Quarter Population reflects persons in a dormitory, group home, institution, military, etc. that do not require residential housing. Household Population reflects persons requiring residential housing. Projected Households reflect the propensity of persons, by age-groups, to form households at different rates based on Census trends.
5. Vacancy Adjustment: HCD applies a vacancy adjustment based on the difference between a standard 5% vacancy rate and the region's current "for rent and sale" vacancy percentage to provide healthy market vacancies to facilitate housing availability and resident mobility. The adjustment is the difference between standard 5% and region's current vacancy rate (2.37%) based on the 2013-2017 5-year American Community Survey (ACS) data. For SCAG that difference is 2.63%.
6. Overcrowding Adjustment: In region's where overcrowding is greater than the U.S overcrowding rate of 3.35%, HCD applies an adjustment based on the amount the region's overcrowding rate (10.11%) exceeds the U.S. overcrowding rate (3.35%) based on the 2013-2017 5-year ACS data. For SCAG that difference is 6.76%.

Continued on next page

7. Replacement Adjustment: HCD applies a replacement adjustment between .5% & 5% to total housing stock based on the current 10-year average of demolitions in the region's local government annual reports to Department of Finance (DOF). For SCAG, the 10-year average is .14%, and SCAG's consultation package provided additional data on this input indicating it may be closer to .41%; in either data source the estimate is below the minimum replacement adjustment so the minimum adjustment factor of .5% is applied.
8. Occupied Units: Reflects DOF's estimate of occupied units at the start of the projection period (June 30, 2021).
9. Cost Burden Adjustment: HCD applies an adjustment to the projected need by comparing the difference in cost-burden by income group for the region to the cost-burden by income group for the nation. The very-low and low income RHNA is increased by the percent difference ($70.83\% - 60.20\% = 10.63\%$) between the region and the national average cost burden rate for households earning 80% of area median income and below, then this difference is applied to very low- and low-income RHNA proportionate to the share of the population these groups currently represent. The moderate and above-moderate income RHNA is increased by the percent difference ($20.48\% - 11.20\% = 9.28\%$) between the region and the national average cost burden rate for households earning above 80% Area Median Income, then this difference is applied to moderate and above moderate income RHNA proportionate to the share of the population these groups currently represent. Data is from 2011-2015 Comprehensive Housing Affordability Strategy (CHAS).

Final RHNA Allocation Methodology

EXECUTIVE SUMMARY

SCAG is required to develop a final RHNA methodology to distribute existing and projected housing need for the 6th cycle RHNA for each jurisdiction, which will cover the planning period October 2021 through October 2029. Following extensive feedback from stakeholders during the proposed methodology comment period and an extensive policy discussion, SCAG’s Regional Council voted to approve the Draft RHNA Methodology on November 7, 2019, as described below, and provide it to the State Department of Housing and Community Development (HCD) for their statutory review. On January 13, 2020, HCD completed its review of the draft methodology and found that it furthers the five statutory objectives of RHNA and on March 4, 2020, SCAG’s Regional Council voted to approve the Final RHNA Methodology. The overall framework for this methodology is included in the table below and further described in the rest of this document.

Projected need	Existing need	Income categories
Household growth 2020-2030	Transit accessibility (HQTA population 2045)	150% social equity adjustment minimum
Future vacancy need	Job accessibility	0-30% additional adjustment for areas with lowest or highest resource concentration
Replacement need	Residual distribution within the county	

HOUSING CRISIS

There is no question that there is an ongoing housing crisis throughout the State of California. A variety of measures indicate the extent of the crisis including overcrowding and cost-burdened households, but the underlying cause is due to insufficient housing supply despite continuing population growth over recent decades.

As part of the RHNA process SCAG must develop a final RHNA methodology, which will determine each jurisdiction’s draft RHNA allocation as a share of the regional determination of existing and projected housing need provided by the California Department of Housing and Community Development (HCD). There are several requirements outlined by Government Code Section 65584.04, which will be covered in different sections of this packet:

- Allocation methodology, per Government Code 65584.04(a)
- How the allocation methodology furthers the objectives State housing law, per GC 65584.04(f)

- How local planning factors are incorporated into the RHNA methodology, per GC 65584.04(f)
- Furthering the objectives of affirmatively furthering fair housing (AFFH), per GC 65584.04(d)
- Public engagement, per GC 65584.04(d)

Additionally, SCAG has developed a dynamic estimator tool and data appendix that contains a full set of various underlying data and assumptions to support the methodology. Due to the size of the appendix, a limited number of printed copies are available. SCAG has posted the dynamic estimator tool and full methodology appendix, on its RHNA webpage: www.scag.ca.gov/rhna.

Per State housing law, the RHNA methodology must distribute existing and projected housing need to all jurisdictions. The following section provides the final methodology for distributing projected and existing need to jurisdictions from the RHNA regional determination provided by the California Department of Housing and Community Development (HCD) pursuant to Government Code Section 65584.01.

Guiding Principles for RHNA Methodology

In addition to furthering the five objectives pursuant to Government Code 65585(d), there are several guiding principles that SCAG staff has developed to use as the basis for developing the distribution mechanism for the RHNA methodology. These principles are based on the input and guidance provided by the RHNA Subcommittee during their discussions on RHNA methodology between February 2019 and June 2019.

1. The housing crisis is a result of housing building not keeping up with growth over the last several decades. The RHNA allocation for all jurisdictions is expected to be higher than the 5th RHNA cycle.
2. Each jurisdiction must receive a fair share of their regional housing need. This includes a fair share of planning for enough housing for all income levels, and consideration of factors that indicate areas that have high and low concentration of access to opportunity.
3. It is important to emphasize the linkage to other regional planning principles to develop more efficient land use patterns, reduce greenhouse gas emissions, and improve overall quality of life.

The jurisdictional boundaries used in the recommended RHNA methodology will be based on those as of August 31, 2016. Spheres of influence in unincorporated county areas are considered within unincorporated county boundaries for purposes of RHNA.

Proposed RHNA Allocation Methodology

The proposed RHNA methodology, which was released for public review on August 1, contained three (3) options to distribute HCD's regional determination for existing and projected need for the

SCAG region. HCD provided SCAG a final regional determination of 1,341,827 units for the 6th cycle RHNA on October 15, 2019.¹

The three options were developed based on RHNA Subcommittee feedback on various factors at their meetings between February and June 2019 and feedback from stakeholders. SCAG solicited formal public comment on the three options and any other factors, modifications, or alternative options during the public comment period, which commenced on August 1 and concluded on September 13, 2019.

Four public hearings were conducted to formally receive verbal and written comments on the proposed RHNA methodology, in addition to one public information session with a total participation of approximately 250 people. Almost 250 written comments were submitted to SCAG specifically on the proposed methodology and over 35 verbal comments were shared at four (4) public hearings held in August 2019.

Draft and Final RHNA Allocation Methodology

Based on comments received during the public comment period, staff recommended a combination of the three options in the proposed methodology further enhanced by factors specifically suggested by stakeholders.

On November 7, 2019, SCAG’s Regional Council voted to approve the Draft RHNA Methodology. The approved draft methodology included modifications to the staff-recommended draft methodology for calculating existing housing need to more closely align the methodology with job and transit accessibility factors.

On January 13, 2020, HCD completed their statutory review and found that SCAG’s Draft RHNA Methodology furthers the five statutory objectives of RHNA, which allows SCAG to finalize the RHNA methodology and issue draft RHNA allocations to each individual jurisdiction. HCD’s comment letter, which can be found at www.scag.ca.gov/rhna, notes:

“HCD has completed its review of the methodology and finds that the draft SCAG RHNA methodology furthers the five statutory objectives of RHNA. HCD acknowledges the complex task of developing a methodology to allocate RHNA to 197 diverse jurisdictions while furthering the five statutory objectives of RHNA. This methodology generally distributes more RHNA, particularly lower income RHNA, near jobs, transit, and resources linked to long term improvements of life outcomes. In particular, HCD applauds the use of objective factors specifically linked the statutory objectives in the existing need methodology.”

Following this finding, staff recommended the draft RHNA methodology as the final RHNA methodology. On March 5, 2020, SCAG’s Regional Council approved Resolution No. 20-619-2

¹ On September 5, 2019, the SCAG Regional Council voted to object to HCD the regional determination of 1,344,740, per Government Code Section 65584.01, that was provided on August 15, 2019. After review of SCAG’s objection letter, HCD provided a final regional determination of 1,341,827 units on October 15, 2019.

adopting the Final RHNA Methodology for the Sixth Housing Element Cycle. Following the formal distribution of draft RHNA allocations based on the Final RHNA methodology and a separate appeals phase described in Government Code 65584.05 et seq., RHNA allocations will be finalized in approximately October 2020.

The next section describes the final RHNA methodology mechanism to distribute the 1,341,827 housing units determined by HCD to all SCAG jurisdictions.

Determining Existing Need and Projected Need

SCAG's final RHNA methodology starts with the total regional determination provided by HCD and separates existing need from projected need.

Projected need is considered as household growth for jurisdictions between the RHNA projection period between July 1, 2021 and October 1, 2029, in addition to a calculated future vacancy need and replacement need. For projected household growth, SCAG's Connect SoCal growth forecast for the years 2020-2030 is used as the basis for calculating projected housing unit need for the region. The anticipated growth in households over this period is multiplied by 0.825 to approximate growth during the 8.25-year RHNA projection period of July 1, 2021 to October 1, 2029.

For several jurisdictions, SCAG's growth forecast includes projected household growth on tribal land. For these jurisdictions, SCAG's estimate of household growth on tribal land from July 1, 2021 to October 1, 2029 is subtracted from the jurisdictional projected household growth (see note in the accompanying dynamic estimator tool). A vacancy adjustment of 1.5% for owner-occupied units and 5% for renter-occupied units representing healthy-market vacancy will be applied to projected household growth to determine future vacancy need. Next a replacement need is added, which is an estimate of expected replacement need over the RHNA period. **Based on these components, the regional projected need is 504,970 units.**

Existing need is considered the remainder of the regional determination after projected need is subtracted. **Based on this consideration, the regional existing need is 836,857 units.**

Determining a Jurisdiction's RHNA Allocation (Existing and Projected Need)

In determining the existing need and projected need for the region, the methodology applies a three-step process to determine a jurisdiction's RHNA allocation by income category:

1. Determine a jurisdiction's projected housing need
 - a. Assign household growth to jurisdictions based on SCAG's Connect SoCal Regional Transportation Plan/Sustainable Communities Strategy Growth Forecast between 2020 and 2030
 - b. Calculate a jurisdiction's future vacancy need by applying a healthy market vacancy rate separately to the jurisdiction's owner and renter households
 - c. Assign a replacement need to jurisdictions based on each jurisdiction's share of regional net replacement need based on information collected from the replacement need survey submitted by local jurisdictions

2. Determine a jurisdiction’s existing housing need
 - a. Assign 50 percent of regional existing need based on a jurisdiction’s share of region’s population within the high quality transit areas (HQTAs) based on future 2045 HQTAs
 - b. Assign 50 percent of regional existing need based on a jurisdiction’s share of the region’s jobs that can be accessed within a 30-minute driving commute
 - c. For extremely disadvantaged communities (hereafter “DACs,” see definition below), identify residual existing need, which is defined herein as total housing need in excess of household growth between 2020 and 2045². DACs are jurisdictions with more than half of the population living in high segregation and poverty or low resource areas as defined by the California Tax Credit Allocation Committee (TCAC)/HCD Opportunity Index Scores further described in the document.
 - d. Reallocate residual existing need by county to non-DAC jurisdictions within the same county based on the formula in (a) and (b) above, i.e. 50% transit accessibility and 50% job accessibility.

3. Determine a jurisdiction’s total housing need
 - a. Add a jurisdiction’s projected housing need from (1) above to its existing housing need from (2) above to determine its total housing need.

4. Determine four RHNA income categories (very low, low, moderate, and above moderate)
 - a. Use a minimum 150% social equity adjustment
 - b. Add an additional percentage of social equity adjustment to jurisdictions that have a high concentration of very low or very high resource areas using the California Tax Credit Allocation Committee (TCAC)’s index scoring
 - i. Add a 10% social equity adjustment to areas that are designated as 70-80% very high or very low resource area
 - ii. Add a 20% social equity adjustment to areas that are designated as 81-90% very high or very low resource area
 - iii. Add a 30% social equity adjustment to areas that are designated as 91-100% very high or very low resource area

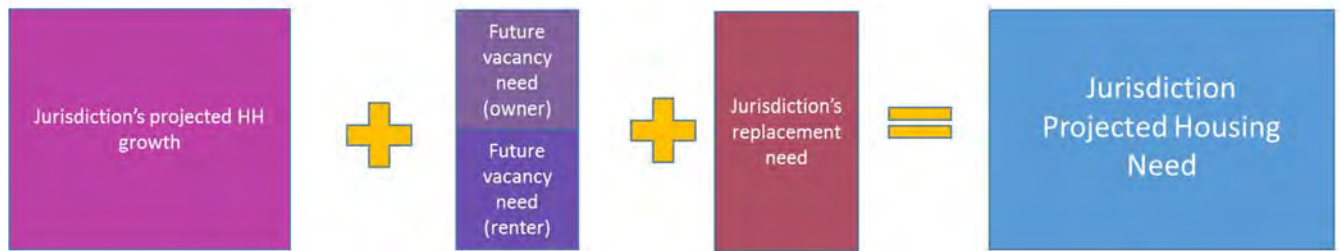
Methodology Component	Assigned units
Projected need: Household growth	466,958
Projected need: Future vacancy need	14,467
Projected need: Replacement need	23,545
Projected need subtotal	504,970

² Since HCD’s regional determination of 1,341,827 exceeds SCAG’s 2020-2045 household growth forecast of 1,297,000 by 3.46 percent, for the purposes of existing need allocation, exceeding “local input” or more accurately, Connect SoCal Growth Forecast, household growth shall mean exceeding 1.0368 times household growth.

	Percentage of Existing Need	Assigned units
Existing need: Transit accessibility	50%	418,429
Existing need: Job accessibility	50%	418,428
Existing need subtotal		836,857
Total regional need		1,341,827

Step 1: Determine Projected Housing Need

The first step of the RHNA methodology is to determine a jurisdiction’s projected need. From the regional determination, projected need is considered to be regional household growth, regional future vacancy need, and regional replacement need.



To determine a jurisdiction’s projected need, the methodology uses a three-step process:

- a. Determine the jurisdiction’s regional projected household growth based on local input
- b. Determine future vacancy need based on a jurisdiction’s existing composition of owner and renter households and apply a vacancy rate on projected household growth based on the following:
 - a. Apply a 1.5% vacancy need for owner households
 - b. Apply a 5.0% vacancy need for renter households
- c. Determine a jurisdiction’s net replacement need based on replacement need survey results

Step 1a: Projected Household Growth

SCAG’s Connect SoCal regional growth forecast reflects recent and past trends, key demographic and economic assumptions, and local, regional, state, and national policy. SCAG’s regional growth forecasting process also emphasizes the participation of local jurisdictions and other stakeholders. The growth forecast process kicked off on May 30, 2017 with a panel of experts meeting wherein fifteen academic scholars and leading practitioners in demographics and economics were invited to review key input assumptions for the growth forecast including expected job growth, labor force

participation, birth rates, immigration and household formation rates. SCAG staff then incorporated the recommendations of the panel of experts into a preliminary range of population, household, and employment growth figures for 2016, 2020, 2030, 2035, and 2045 for the region and six counties individually.

SCAG further projects jurisdiction-level and sub-jurisdiction-level employment, population, and households using several major data sources, including:

- California Department of Finance (DOF) population and household estimates;
- California Employment Development Department (EDD) jobs report by industry;
- 2015 existing land use and General Plans from local jurisdictions;
- 2010 Census and the latest ACS data (2013-2017 5-year samples);
- County assessor parcel databases;
- 2011 and 2015 Business Installment data from InfoGroup; and
- SCAG's 2016 RTP/SCS growth forecast.

On October 31, 2017, the preliminary small area (i.e. jurisdiction and sub-jurisdiction) growth forecasts were released to local jurisdictions for their comments and input. This kicked off SCAG's *Bottom-Up Local Input and Envisioning Process* which provided each local jurisdiction with their preliminary growth forecast information as well as several other data elements both produced by SCAG and other agencies which are related to the development of Connect SoCal. Data map books were generated and provided electronically and in hard copy format and included detailed parcel-level land use data, information on resource areas, farmland, transportation, geographical boundaries and the draft growth forecast. Complete information on the Data map books and the Bottom-Up Local Input and Envisioning Process can be found at <http://scagrtpsc.net/Pages/DataMapBooks.aspx>. Over the next eight months, SCAG staff conducted one-on-one meetings with all 197 local jurisdictions to explain methods and assumptions behind the jurisdiction and sub-jurisdiction growth forecast as well as to provide an opportunity to review, edit, and approve SCAG's preliminary forecast for population, employment, and households for 2016, 2020, 2030, 2035, and 2045.

Between October 2018 and February 2019, SCAG reviewed local input on the growth forecast and other data map book elements. The local input growth forecast was evaluated at the county and regional level for the base year of 2016 and the horizon year of 2045 and was found to be technically sound. Specifically, as it relates to SCAG's local input household forecast:

- The forecast generates a 2045 regional unemployment rate of 4.7 percent which is reasonable based on past trends and ensured that the forecast is balanced, i.e. there are not too many jobs for the number of anticipated workers
- The forecast generates a 2045 population-to-household ratio of 2.9 which is consistent with the preliminary forecast and reflects expert-anticipated decreases in this ratio, ensuring that there are not too many people for the anticipated number of households region-wide
- From 2020-2045, the forecast anticipates household growth of 21 percent and population growth of 15 percent, indicating an alleviation of the region's current housing shortage over this future period.

SCAG's growth forecast for the years 2020-2030 is used as the basis for calculating projected housing unit need. Because the 6th cycle RHNA projection period covers July 1, 2021 through October 15, 2029, it is necessary to adjust reported household growth between 2020 and 2030 and adjust it to an 8.25 year projection period. The anticipated growth in households over this period is multiplied by 0.825 to approximate growth during the 8.25-year RHNA projection period (July 1, 2021 to October 15, 2029).

Step 1b: Future Vacancy Need

The purpose of a future vacancy need is to ensure that there are enough vacant units to support a healthy housing market that can genuinely accommodate projected household growth. An undersupply of vacant units can prevent new households from forming or moving into a jurisdiction. Formulaically, future vacancy need is a percentage applied to the jurisdiction's household growth by tenure type (owner and renter households). While individual jurisdictions may experience different vacancy rates at different points in time, future vacancy need is independent of existing conditions and instead is a minimum need to support household growth.

To calculate a jurisdiction's future vacancy need, its proportion of owner-occupied units and renter-occupied units are determined using American Community Survey (ACS) 2013-2017 data—the most recent available at the time of the draft methodology's development. The percentages are applied to the jurisdiction's projected household growth from the previous step, which results in the number of projected households that are predicted to be owners and those that are predicted to be renters.

Next, two different vacancy rates are applied based on the regional determination provided by HCD. The recommended methodology uses 1.5 percent for owner-occupied units and a rate of 5 percent for renter-occupied units. The difference is due to the higher rates of turnover generally reported by renter units in comparison to owner-occupied units. The vacancy rates are applied to their respective tenure category to determine how many future vacant units are needed by tenure and then added together to get the total future vacancy need.

Step 1c: Replacement Need

Residential units are demolished for a variety of reasons including natural disasters, fire, or desire to construct entirely new residences. Each time a unit is demolished, a household is displaced and disrupts the jurisdiction's pattern of projected household growth. The household may choose to live in a vacant unit or leave the jurisdiction, of which both scenarios result in negative household growth through the loss of a vacant unit for a new household or subtracting from the jurisdictions number of households.

For these reasons, replacement need is a required component of the regional determination provided by HCD. The methodology's replacement need will be calculated using a jurisdiction's net replacement need based on data submitted for the replacement need survey, which was conducted between March and April 2019.

Each jurisdiction's data on historical demolitions between reporting years 2008 and 2018, which was collected from the California Department of Finance (DOF), was tabulated and provided to

jurisdictions in the replacement need survey. Jurisdictions were asked to provide data on units that replaced the reported demolished units. A net replacement need was determined based on this information for each jurisdiction.

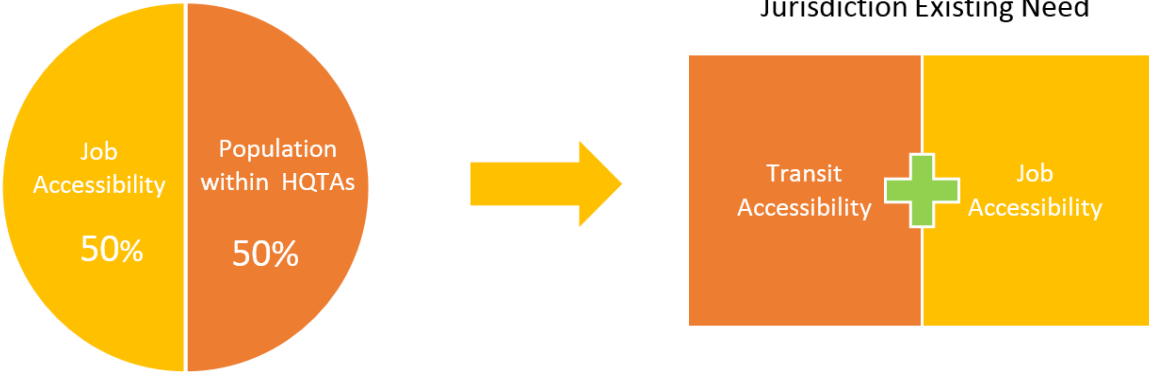
After determining each of the projected housing need components, they are combined to determine a jurisdiction’s projected housing need.

Step 2: Determine Existing Housing Need

After determining a jurisdiction’s projected need, the next step is to determine a jurisdiction’s existing need. Following the above discussion and based on HCD’s determination of total regional housing need, existing need is defined as the total need minus the projected need—approximately 62 percent of the entire regional determination. SCAG’s Regional Council determined that the regional existing need be split into two parts:

- Fifty (50) percent on population near transit (HQTAs), or 31 percent of total need
- Fifty (50) percent on job accessibility, or 31 percent of total need

Regional Existing Need



Step 2a: Share of Regional HQTAs Population

The next step involves the consideration of proximity to transit to distribute fifty (50) percent of the region’s existing housing need, in an effort to better align transportation and housing planning.

For several years, SCAG has developed a measure called High Quality Transit Areas (HQTAs) which are areas within a half-mile of transit stations and corridors with at least a fifteen (15) minute headway during peak hours for bus service. HQTAs are based on state statutory definitions of high-quality transit corridors (HQTcs) and major transit stops. For the development of Connect SoCal, freeway-running HQTcs have been excluded from HQTAs to better reflect the level of service they provide to nearby areas.

Planned HQTcs and major transit stops for future years are improvements that are expected to be implemented by transit agencies by the Connect SoCal horizon year of 2045. SCAG updates its inventory with the quadrennial adoption of each RTP/SCS; however, planning and environmental

impact studies may be completed by transit agencies more frequently. Therefore, HQTAs in future years reflect the best information currently available to SCAG regarding the location of future high-quality transit service accessibility. More detailed information on HQTAs-related definitions is available in the data appendix.

50 percent of the regional existing housing need will be distributed based on a jurisdiction's share of regional residential population within an HQTAs, based on the HQTAs boundaries used in the final Connect SoCal Plan anticipated to be adopted by SCAG in April 2020. Not all jurisdictions have an HQTAs within their jurisdictional boundaries and thus may not receive existing need based on this factor.

Step 2b: Job Accessibility

The concept behind job accessibility is to further the statewide housing objective and SCAG's Connect SoCal objective of improving the relationship between jobs and housing. While none of the three options presented in the proposed RHNA methodology included a factor directly based on job accessibility, an overwhelming number of public comments expressed support for the methodology to include this specific component.

The methodology assigns fifty (50) percent of regional existing need based on job accessibility. Job accessibility is based on the share of the region's jobs accessible by a thirty (30) minute commute by car in 2045. Importantly, the RHNA methodology's job access factor is *not* based on the number of jobs within a jurisdiction from SCAG's Connect SoCal Plan or any other data source. Rather, it is a measure based on of how many jobs can be *accessed* from that jurisdiction within a 30-minute commute, which includes jobs in other jurisdictions. Since over 80 percent of SCAG region workers live and work in different jurisdictions, genuinely improving the relationship between jobs and housing necessitates an approach based on job access rather than the number of jobs in a jurisdiction.

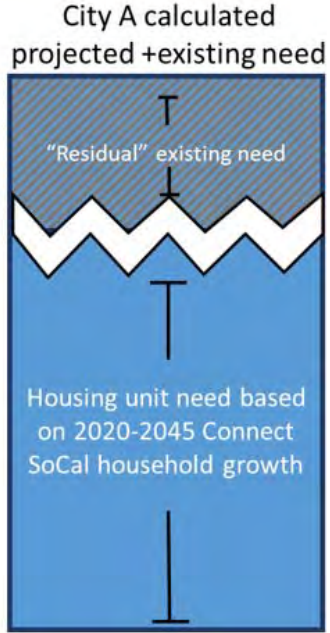
These job accessibility data are derived at the transportation analysis zone (TAZ) level from travel demand modelling output from SCAG's final Connect SoCal Plan. SCAG realizes that in many jurisdictions, especially larger ones, job access many not be uniform in all parts of the city or county. However, since the RHNA process requires allocating housing need at the jurisdictional-level, staff reviewed several ways to measure the typical commuter's experience in each jurisdiction. Ultimately, the share of the region's jobs that could be accessed by a jurisdiction's *median TAZ* was found to be the best available measure of job accessibility for that jurisdiction. Based on this measure, in central parts of the region, residents of some jurisdictions can access as much as 23 percent of the region's jobs in a 30 minute car commute, while the average across all the region's jurisdictions was 10.5 percent.

This measure is multiplied by a jurisdiction's share of total population in order to allocate housing unit need to jurisdictions. This important step ensures that the potential beneficiaries of greater accessibility (i.e., the population in a jurisdiction with good job access) are captured in the methodology. Based on this approach, jurisdictions with limited accessibility to jobs will receive a smaller RHNA allocation based on this component.

Step 2c: "Residual" Adjustment Factor for Existing Need

In many jurisdictions defined as “disadvantaged communities (DACs)”, the calculated projected and existing need is higher than its household growth between 2020 and 2045, as determined by the SCAG Growth Forecast used in the final Connect SoCal regional plan. Those DAC jurisdictions that have a need as determined by the RHNA methodology as higher than its 2020 to 2045 household growth³ will be considered as generating “residual” existing need. Residual need will be subtracted from jurisdictional need in these cases so that the maximum a DAC jurisdiction will receive for existing need is equivalent to its 2020 to 2045 household growth. Not all DAC jurisdictions will have a residual existing need.

Extremely Disadvantaged Communities:



County “residual” existing need



A county total of residual existing need will be calculated and then redistributed with the same county to non-DAC jurisdictions. The redistribution will be assigned to jurisdictions based on transit accessibility (50%) and job accessibility (50%), and will exclude DAC jurisdictions which have over 50% of their populations in very low resource areas using California Tax Credit Allocation Committee (TCAC)/HCD Opportunity Indices.

Very low resource areas are areas that have least access to opportunity as measured by indicators such as poverty levels, low wage job proximity, math and reading proficiency, and pollution levels. This mechanism will help to further AFFH objectives since residual existing RHNA need, which includes additional affordable units, will be assigned to areas that are not identified as those with the

³ Since HCD’s regional determination of 1,341,827 exceeds SCAG’s 2020-2045 household growth forecast of 1,297,000 by 3.68 percent, for the purposes of existing need allocation, exceeding “local input” or “Connect SoCal” household growth shall mean exceeding 1.0368 times household growth.

lowest resources, which will increase access to opportunity. A full discussion on the TCAC opportunity indicators is provided in the following section on social equity adjustment. Data relating to the TCAC opportunity indicator categories for each jurisdiction can be found in the RHNA methodology data appendix and in the accompanying RHNA allocation estimator tool on the RHNA webpage: www.scag.ca.gov/rhna.

Step 3: Determining Total Housing Need

After determining a jurisdiction’s projected housing need from step 1 and its existing housing need from step 2, the sum of the projected and existing need becomes a jurisdiction’s total housing need.



Step 4: Determining Four Income Categories through Social Equity Adjustment

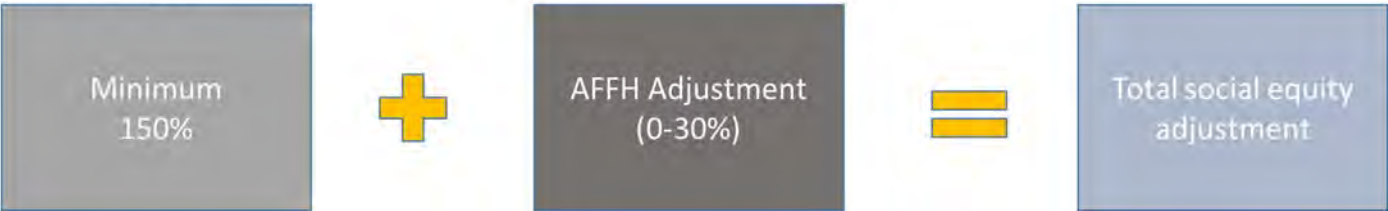
After determining a jurisdiction’s total RHNA allocation, the next step is to assign the total into four RHNA income categories. The four RHNA income categories are:

- Very low (50 percent or less of the county median income);
- Low (50-80 percent);
- Moderate (80 to 120 percent); and
- Above moderate (120 percent and above)

The fourth RHNA objective specifically requires that the RHNA methodology allocate a lower proportion of housing need in jurisdictions that already have a disproportionately high concentration of those households in comparison to the county distribution. Additionally, the fifth objective, affirmatively furthering fair housing (AFFH), requires that the RHNA methodology further the objectives of addressing significant disparities in housing needs and access to opportunity in order to overcome patterns of segregation.

To further these two objectives, the RHNA methodology includes a minimum 150 percent social equity adjustment and an additional 10 to 30 percent added in areas with significant populations that are defined as very low or very high resource areas, referred to as an AFFH adjustment. This determines the distribution of four income categories for each jurisdiction.

Social equity adjustment



A social equity adjustment ensures that jurisdictions accommodate their fair share of each income category. First, the percentage of each jurisdiction’s distribution of four income categories is determined using the county median income as a benchmark. For example, in Los Angeles County, a household earning less than \$30,552 annually, or 50 percent of the county median income, would be considered a very low income household. A household in Los Angeles County earning more than \$73,218 annually, or 120 percent of the county median income, would be counted in the above moderate category. The number of households in each category is summed and then a percentage of each category is then calculated.

For reference, below is the median household income by county.

- Imperial County: \$44,779
- Los Angeles County: \$61,015
- Orange County: \$81,851
- Riverside County: \$60,807
- San Bernardino County: \$57,156
- Ventura County: \$81,972
- SCAG region: \$64,114

Source: American Community Survey (ACS) 2013-2017 5-year estimates

Once a jurisdiction’s household income distribution by category is determined, the percentage is compared to the county’s percentage of existing household income distribution. For example, if a jurisdiction has an existing distribution of 30 percent of very low income households while the county is 25 percent, the jurisdiction is considered as having an overconcentration of very low income households compared to the county. A social equity adjustment ensures that the jurisdiction will be assigned a smaller percentage of very low income households for its RHNA allocation than both what it and the county currently experience.

If the jurisdiction is assigned a social equity adjustment of 150 percent, the formula to calculate its very low income percentage is:

Household Income Level	Formula to Calculate City A Social Equity Adjustment of 150%
Very Low Income	$30\% - [(30\% - 25\%) \times 1.5] = 22.5\%$

In this example, 22.5 percent of the jurisdiction’s total RHNA allocation would be assigned to the very low income category. This adjustment is lower than both its existing household income distribution (30 percent) and the existing county distribution (25 percent).

The inverse occurs in higher income categories. Assuming 20 percent of a jurisdiction’s households are above moderate income while 25 percent of the county’s households are above moderate income, the jurisdiction will be assigned a distribution of 27.5 percent for above moderate income need.

Household Income Level	Formula to Calculate City A Social Equity Adjustment of 150%
Above moderate income	$20\% - [(20\% - 25\%) \times 1.5] = 27.5\%$

If the adjustment was 100 percent a jurisdiction’s distribution would be exactly the same as the County’s distribution. Conceptually a 150 percent adjustment means that the City meets the County distribution and goes beyond that threshold by 50 percent, resulting in a higher or lower distribution than the County depending on what existing conditions are in the City. The higher the adjustment, the more noticeable the difference between the jurisdiction’s existing household income distribution and its revised distribution.

The RHNA methodology recommends a minimum of 150 percent social equity adjustment with an additional 10, 20, or 30 percent added depending on whether the jurisdiction is considered a very low or very high resource area based on its Opportunity Index score.

In 2015 the U.S. Department of Housing and Urban Development (HUD) developed a set of “Opportunity Indices” to help states and localities identify factors that contribute to fair housing issues in their region and comply with the federal Fair Housing Act. In late 2017, a Task Force convened by HCD and the California Tax Credit Allocation Committee (TCAC) released an “Opportunity mapping” tool based on these HUD indices to identify areas in California that can “offer low-income children and adults the best chance at economic advancement, high educational attainment, and good physical and mental health.”⁴

The TCAC and HCD Opportunity mapping tool includes a total of eleven (11) census-tract level indices to measure exposure to opportunity in local communities. The indices are based on measures of economic, environmental, and educational opportunities within communities. Regional patterns of segregation are also identified based on this tool. Below is a summary table of the 11 indices sorted by type:

Economic	Environment	Education
Poverty	CalEnviroScreen 3.0 indicators	Math proficiency
Adult education		Reading proficiency
Employment		High school graduation rates
Low-wage job proximity		Student poverty rate
Median home value		<ul style="list-style-type: none"> • <i>Ozone</i> • <i>PM2.5</i> • <i>Diesel PM</i> • <i>Drinking water contaminates</i> • <i>Pesticides</i> • <i>Toxic releases from facilities</i> • <i>Traffic density</i> • <i>Cleanup sites</i> • <i>Groundwater threats</i> • <i>Hazardous waste</i> • <i>Impaired water bodies</i> • <i>Solid waste sites</i>

⁴ California Fair Housing Taskforce Revised opportunity Mapping Technology, Updated November 27, 2018: <https://www.treasurer.ca.gov/ctcac/opportunity/final-opportunity-mapping-methodology.pdf>

Based on its respective access to opportunity, each census tract is given a score that designates it under one of the following categories:

- High segregation & poverty
- Low resource
- Moderate resource
- High resource
- Highest resource

Tract-level indices were summed to the jurisdictional-level by SCAG using area-weighted interpolation. Using 2013-2017 American Community Survey population data, SCAG determined the share of each jurisdiction’s population in each of these five categories. For example:

	Lowest Resource				Very High Resource
Opportunity Indicator Category	High segregation & poverty	Low resource	Moderate resource	High resource	Highest resource
City A Percentage of population	10%	10%	30%	30%	20%
City B Percentage of population	90%	5%	5%	0%	0%
City C Percentage of population	0%	0%	10%	15%	75%

The recommended methodology determines high resource concentration using the “very high” resource area score. The recommended methodology determines “lowest” resource areas by combining the two lowest measures. In the above table, City B would be considered to have a much higher concentration of lower resource areas than City A. City C would be considered to have a much higher concentration of highest resource areas.⁵

- High segregation & Poverty + Low Resource = Lowest Resource
- Highest Resource

Jurisdictions that are identified as having between 70 and 100 percent of the population within a lowest or very high resource area are assigned an additional 10 and 30 percent social equity adjustment:

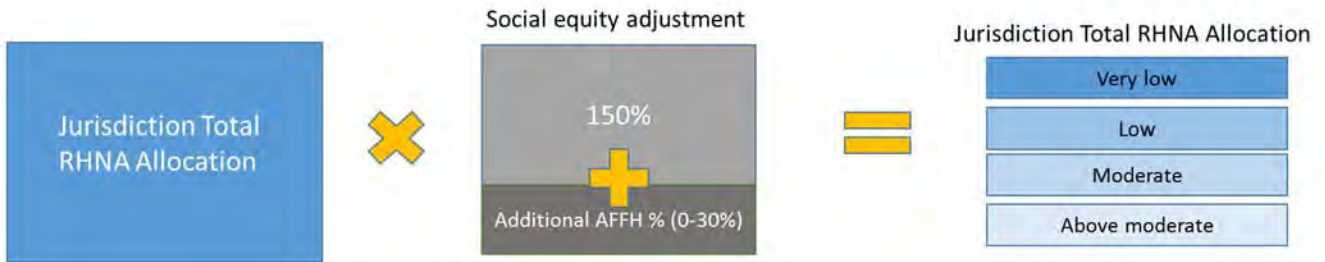
⁵ As a cross-reference, if City B has both a high job and transit accessibility it would be exempt from the redistribution of residual existing need from the RHNA methodology’s Step 2d because more than 50 percent of its population is within a very low resource area. On the other hand City A and City C, if they have a high job and transit access, would not be exempt from receiving regional residual need because they have only 20 percent and 0 percent of their respective population within a very low resource area.

Concentration of population within very low or very high resource area	Additional social equity adjustment
70-80%	+10%
80-90%	+20%
90-100%	+30%

In the example table, City B would receive an additional social equity adjustment of 30% because 95% of its population is within a lowest resource area (sum of high segregation & poverty and low resource measures). City C would receive an additional social equity adjustment of 10% because 75% of its population is within a very high resource area. City A would not receive a further adjustment because it does not have a high enough concentration of population within either the lowest or very high resource categories.

Assigning a higher social equity adjustment based on Opportunity Indices will result in a higher percentage of affordable housing units to areas that have higher resources. Concurrently, it will assign a lower percentage of affordable housing in areas where they is already an overconcentration. Because Opportunity Indices consider factors such as access to lower wage jobs, poverty rates, and school proficiency, the social equity adjustment in the RHNA methodology will result in factors beyond simply household income distribution. This additional adjustment will help to adjust the disparity in access to fair housing across the region, furthering the AFFH objective required in State housing law.

Once the social equity adjustment is determined, it is used to assign need to the four income categories.



Final Adjustments

On a regional level the final RHNA allocation plan must be the same as the regional determination, by income category, provided by HCD. The final RHNA methodology will result in slight differences, among income categories, since income categories are required to use county distributions as benchmarks and the HCD determination does not include county-level benchmarks. For this reason, after the initial income categories are determined for jurisdictions, SCAG will apply a normalization adjustment to the draft fsRHNA allocation to ensure that the regional total by income category is maintained.

Additionally, in the event that a jurisdiction receives an allocation of zero (0) units under the RHNA methodology a minimum RHNA allocation of eight (8) units would be assigned. Government Code Section 65584.04(m)(2) requires that the final RHNA allocation plan ensure that each jurisdiction receive an allocation of units for low- and very low income households. Under these circumstances, SCAG will assign those jurisdictions a minimum of four (4) units in the very low income category and four (4) units in the low income category for a draft RHNA allocation of eight (8) units.

Meeting the Objectives of RHNA

Government Code Section 65584.04(a) requires that the RHNA methodology furthers the five objectives of the Regional Housing Needs Assessment:

- (1) Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low income households.
- (2) Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region's greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080.
- (3) Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction.
- (4) Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey.
- (5) Affirmatively furthering fair housing.
 - (e) For purposes of this section, "affirmatively furthering fair housing" means taking meaningful actions, in addition to combating discrimination, that overcome patterns of segregation and foster inclusive communities free from barriers that restrict access to opportunity based on protected characteristics. Specifically, affirmatively furthering fair housing means taking meaningful actions that, taken together, address significant disparities in housing needs and in access to opportunity, replacing segregated living patterns with truly integrated and balanced living patterns, transforming racially and ethnically concentrated areas of poverty into areas of opportunity, and fostering and maintaining compliance with civil rights and fair housing laws.

On January 13, 2020, HCD completed its review of SCAG's draft RHNA methodology and found that it furthers the five statutory objectives of RHNA.

Local Planning Factors

As part of the development of the proposed RHNA methodology, SCAG must conduct a survey of planning factors that identify local conditions and explain how each of the listed factors are incorporated into the RHNA methodology. This survey, also known as the “Local Planning Factor” survey, is a specific requirement for the RHNA methodology process and is separate from the local review process of the Growth Forecast used as the basis for determining future growth in the Connect SoCal plan.

The survey was distributed to all SCAG jurisdictions in mid-March 2019 with a posted due date of May 30, 2019. One-hundred and nine (109) jurisdictions, or approximately 55%, submitted a response to the local planning factor survey. To facilitate the conversation about local planning factors, between October 2017 and October 2018 SCAG included these factors as part of the local input survey and surveyed a binary yes/no as to whether these factors impacted jurisdictions. The formal local planning factor survey was pre-populated with the pre-survey answers to help facilitate survey response. The full packet of local planning factor surveys can be downloaded at www.scag.ca.gov/rhna.

SCAG staff reviewed each of the submitted surveys to analyze planning factors opportunities and constraints across the region. The collected information was used to ensure that the methodology will equitably distribute housing need and that underlying challenges as a region are collectively addressed.

- (1) Each member jurisdiction’s existing and projected jobs and housing relationship. This shall include an estimate, based on readily available data, of the number of low-wage jobs within the jurisdiction and how many housing units within the jurisdiction are affordable to low-wage workers as well as an estimate, based on readily available data, of projected job growth and projected household growth by income level within each member jurisdiction during the planning period.*

The RHNA methodology directly considers job accessibility and determines a portion of housing need for each jurisdiction based on this factor. Using transportation analysis zones as a basis, the percentage of jobs accessible within a 30 minute drive for a jurisdiction’s population is determined and then weighted based on the jurisdiction’s population size to determine individual shares of regional jobs accessible. Based on a review of other potential mechanisms to factor in jobs into the RHNA methodology, SCAG staff has determined that this mechanism most closely aligns with the goals of State housing law.

A supplemental analysis of the impact of the draft RHNA methodology’s impact on jobs-housing relationships and low-wage jobs-housing relationships was provided to the Regional Council on February 5, 2020.

(2) The opportunities and constraints to development of additional housing in each member jurisdiction, including all of the following:

- (A) Lack of capacity for sewer or water service due to federal or state laws, regulations or regulatory actions, or supply and distribution decisions made by a sewer or water service provider other than the local jurisdiction that preclude the jurisdiction from providing necessary infrastructure for additional development during the planning period.*
- (B) The availability of land suitable for urban development or for conversion to residential use, the availability of underutilized land, and opportunities for infill development and increased residential densities. The council of governments may not limit its consideration of suitable housing sites or land suitable for urban development to existing zoning ordinances and land use restrictions of a locality, but shall consider the potential for increased residential development under alternative zoning ordinances and land use restrictions. The determination of available land suitable for urban development may exclude lands where the Federal Emergency Management Agency (FEMA) or the Department of Water Resources has determined that the flood management infrastructure designed to protect that land is not adequate to avoid the risk of flooding.*
- (C) Lands preserved or protected from urban development under existing federal or state programs, or both, designed to protect open space, farmland, environmental habitats, and natural resources on a long-term basis, including land zoned or designated for agricultural protection or preservation that is subject to a local ballot measure that was approved by the voters of that jurisdiction that prohibits or restricts conversion to non-agricultural uses.*
- (D) County policies to preserve prime agricultural land, as defined pursuant to Section 56064, within an unincorporated area and land within an unincorporated area zoned or designated for agricultural protection or preservation that is subject to a local ballot measure that was approved by the voters of that jurisdiction that prohibits or restricts its conversion to non-agricultural uses.*

Consideration of the above planning factors have been incorporated into the Growth Forecast process and results by way of analysis of aerial land use data, general plan, parcel level property data, open space, agricultural land and resource areas, and forecast surveys distributed to local jurisdictions. The bottom-up Local Input and Envisioning Process, which is used as the basis for both RHNA and SCAG's Connect SoCal (Regional Transportation Plan/Sustainable Communities Strategy) started with an extensive outreach effort involving all local jurisdictions regarding their land use and development constraints. All local jurisdictions were invited to provide SCAG their respective growth perspective and input. The RHNA methodology directly incorporates local input on projected household growth, which should be a direct reflection of local planning factors such as lack of water or sewer capacity, FEMA-designated flood sites, and open space and agricultural land protection.

Prior RHNA cycles did not promote direct linkage to transit proximity and the methodology encourages more efficient land use patterns by utilizing existing as well as future planned transportation infrastructure and preserves areas designated as open space and agricultural

lands. In particular the inclusion of transit proximity places an increased emphasis on infill opportunities and areas that are more likely to support higher residential densities.

- (3) The distribution of household growth assumed for purposes of a comparable period of regional transportation plans and opportunities to maximize the use of public transportation and existing transportation infrastructure.*

As indicated above, the Growth Forecast used as the basis for the Connect SoCal Plan is also used as the basis for projected household growth in the RHNA methodology. The weighting of a jurisdiction's population share within an HQTAs directly maximizes the use of public transportation and existing transportation infrastructure.

- (4) Agreements between a county and cities in a county to direct growth toward incorporated areas of the county, and land within an unincorporated area zoned or designated for agricultural protection or preservation that is subject to a local ballot measure that was approved by the voters of the jurisdiction that prohibits or restricts conversion to nonagricultural uses.*

This planning factor has been identified through the local input process and local planning factor survey collection as affecting growth within Ventura County. The urban growth boundary, known as Save Our Agricultural Resources (SOAR), is an agreement between the County of Ventura and its incorporated cities to direct growth toward incorporated areas, and was recently extended to 2050. Based on the input collected, SCAG staff has concluded that this factor is already reflected in the RHNA methodology since it was considered and incorporated into the local input submitted by jurisdictions.

- (5) The loss of units contained in assisted housing developments, as defined in paragraph (9) of subdivision (a) of Section 65583 that changed to non-low-income use through mortgage prepayment, subsidy contract expirations, or termination of use restrictions.*

The conversion of low income units into non-low income units is not explicitly addressed through the distribution of existing and projected housing need. Staff has provided statistics in the RHNA methodology appendix on the potential loss of units in assisted housing developments. The loss of such units affects the proportion of affordable housing needed within a community and the region as a whole.

Local planning factor survey responses indicate that the impact of this factor is not regionally uniform. Many jurisdictions that replied some units are at-risk for losing their affordability status in the near future have indicated that they are currently reviewing and developing local resources to address the potential loss. Based on this, SCAG staff has determined that at-risk units are best addressed through providing data on these units as part of the RHNA methodology and giving local jurisdictions the discretion to address this factor and adequately plan for any at-risk unit loss in preparing their housing elements.

(6) The percentage of existing households at each of the income levels listed in subdivision (e) of Section 65584 that are paying more than 30 percent and more than 50 percent of their income in rent.

An evaluation of survey responses reveals that cost-burdened households, or those who pay at least 30 percent of their household income on housing costs, is a prevalent problem throughout the region. The RHNA methodology also includes in its appendix data from the ACS 2013-2017 on cost-burdened statistics for households who pay more than 30 percent of their income on housing by owner and renter, and for renter households who pay 50 percent or more of their income on housing. The general trend is seen in both high and low income communities, suggesting that in most of the SCAG region high housing costs are a problem for all income levels.

Nonetheless a large number of jurisdictions indicated in the survey that overpaying for housing costs disproportionately impacts lower income households in comparison to higher income households. This issue is exacerbated in areas where there is not enough affordable housing available, particularly in higher income areas. For this reason, the RHNA methodology incorporates not only a 150 percent social equity adjustment, but also uses the TCAC Opportunity Indices to distribute the RHNA allocation into the four income categories in areas identified as being the highest resource areas of the region. The Opportunity Indices include a proximity to jobs indicator, particularly for low-wage jobs, which identifies areas with a high geographical mismatch between low wage jobs and affordable housing. Increasing affordable housing supply in these areas can help alleviate cost-burden experienced by local lower income households because more affordable options will be available.

The reason for using social equity adjustment and opportunity indices to address cost-burdened households rather than assigning total need is because it is impossible to determine through the methodology how and why the cost-burden is occurring in a particular jurisdiction. Cost-burden is a symptom of housing need and not its cause. A jurisdiction might permit a high number of units but still experiences cost-burden because other jurisdictions restrict residential permitting. Or, a jurisdiction might have a large number of owner-occupied housing units that command premium pricing, causing cost-burden for high income households and especially on lower income households due to high rents from high land costs. An analysis of existing need indicators by jurisdiction, which is part of the RHNA methodology data appendix, does not reveal a single strong trend to base a distribution methodology for cost-burden and thus the RHNA methodology distributes this existing need indicator regionally using social equity adjustment and Opportunity Indices rather than to where the indicators exist.

(7) The rate of overcrowding.

An evaluation of survey responses indicates that there is a variety of trends in overcrowding throughout the region. Overcrowding is defined as more than 1.01 persons per room (not bedroom) in a housing unit. Some jurisdictions have responded that overcrowding is a severe issue, particularly for lower income and/or renter households, while others have

responded that overcrowding is not an issue at all. At the regional determination level HCD applied an overcrowding component, which is a new requirement for the 6th RHNA cycle. Because

Similar to cost-burden, overcrowding is caused by an accumulated housing supply deficit and is considered an indicator of existing housing need. The reason for not assigning need directly based on this indicator is because it is impossible to determine through the methodology how and why the overcrowding is occurring in a particular jurisdiction. A jurisdiction that has an overcrowding rate higher than the regional average might be issuing more residential permits than the regional average while the surrounding jurisdictions might not have overcrowding issues but issue fewer permits than the regional average. An analysis of existing need indicators by jurisdiction, which is part of the RHNA methodology data appendix, does not reveal a single strong trend to base a distribution methodology for overcrowding and thus the methodology distributes this existing need indicator regionally rather than to where the indicators exist.

While not specifically surveyed, several jurisdictions have indicated that density has affected their jurisdictions and have requested that the methodology should consider this as a factor. While density is not directly addressed as a factor, the social equity adjustment indirectly addresses density particularly for lower income jurisdictions. In housing elements, jurisdictions most demonstrate that a site is affordable for lower income households by applying a “default density”, defined in State housing law as either 20 or 30 dwelling units per acre depending on geography and population. In other words, a site that is zoned at 30 dwelling units per acre is automatically considered as meeting the zoning need for a low income household.

However there is not a corresponding default density for above moderate income zoning. Assigning a lower percentage of lower income households than existing conditions indirectly reduces future density since the jurisdiction can zone at lower densities if it so chooses. While this result does not apply to higher income jurisdictions, directing growth toward less dense areas for the explicit purpose of reducing density is in direct contradiction to the objectives of state housing law, especially for promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development pattern.

(8)The housing needs of farmworkers.

The RHNA methodology appendix provides data on agricultural jobs by jurisdiction as well as workers by place of residence. The survey responses indicate that most jurisdictions do not have agricultural land or only have small agricultural operations that do not necessarily require designated farmworker housing. For the geographically concentrated areas that do have farmworker housing, responses indicate that many jurisdictions already permit or are working to allow farmworker housing by-right in the same manner as other agricultural uses are allowed. Jurisdictions that are affected by the housing needs of farmworkers can be assumed to have considered this local factor when submitting feedback on SCAG’s Growth

Forecast. A number of jurisdictions reiterated their approach in the local planning factor survey response.

Similar to at-risk units, the RHNA methodology does not include a distribution mechanism to distribute farmworker housing. However, SCAG has provided data in its RHNA methodology appendix related to this factor and encourages local jurisdictions to adequately plan for this need in their housing elements.

(9) The housing needs generated by the presence of a private university or a campus of the California State University or the University of California within any member jurisdiction.

SCAG staff has prepared a map outlining the location of four-year private and public universities in the SCAG region along with enrollment numbers from the California School Campus Database (2018). Based on an evaluation of survey responses that indicated a presence of a university within their boundaries, SCAG staff concludes that most housing needs related to university enrollment are addressed and met by dormitories provided by the institution both on- and off-campus. No jurisdiction expressed concern in the surveys about student housing needs due to the presence of a university within their jurisdiction.

However, some jurisdictions have indicated outside of the survey that off-campus student housing is an important issue within their jurisdictions and are in dialogue with HCD to determine how this type of housing can be integrated into their local housing elements. Because this circumstance applies to only a handful of jurisdictions, it is recommended that housing needs generated by a public or private university be addressed in the jurisdiction's housing element if it is applicable.

(10) The loss of units during a state of emergency that was declared by the Governor pursuant to the California Emergency Services Act (Chapter 7 (commencing with Section 8550) of Division 1 of Title 2), during the planning period immediately preceding the relevant revision pursuant to Section 65588 that have yet to be rebuilt or replaced at the time of the analysis.

Replacement need, defined as units that have been demolished but not yet replaced, are included as a component of projected housing need in the RHNA methodology. To determine this number, HCD reviewed historical demolition permit data between 2008 and 2017 (reporting years 2009 and 2018) as reported by the California Department of Finance (DOF), and assigned SCAG a regional replacement need of 0.5% of projected and existing need, or 34,010 units.

There have been several states of emergency declared for fires in the SCAG region that have destroyed residential units, as indicated by several jurisdictions in their local planning factor survey responses. Survey responses indicate that a total of 1,785 units have been lost regionally from fires occurring after January 1, 2018. Units lost from fires that occurred prior to January 1, 2018, have already been counted in the replacement need for the 6th RHNA cycle.

In spring 2019, SCAG conducted a replacement need survey with jurisdictions to determine units that have been replaced on the site of demolished units reported. Region wide 23,545 of the region's demolished units still needed to be replaced based on survey results. The sum of the number of units needing to be replaced based on the replacement need survey and the number of units reported as lost due to recent states of emergency, or 25,330, is lower than HCD's regional determination of replacement need of 34,010. One can reasonably conclude that units lost based on this planning factor are already included in the regional total and distributed, and thus an extra mechanism to distribute RHNA based on this factor is not necessary to meet the loss of units.

(11)The region's greenhouse gas emissions targets provided by the State Air Resources Board pursuant to Section 65080.

An assessment of survey responses indicate that a number of jurisdictions in the SCAG region are developing efforts for more efficient land use patterns and zoning that would result in greenhouse gas emissions. These include a mix of high-density housing types, neighborhood based mixed-use zoning, climate action plans, and other local efforts to reduce greenhouse gas emissions at the regional level.

The RHNA methodology includes a distribution of 50 percent of regional existing need based on a jurisdiction's share of regional population within an HQT. The linkage between housing planning and transportation planning will allow for a better alignment between the RHNA allocation plan and the Connect SoCal RTP/SCS. It will promote more efficient development land use patterns, encourage transit use, and importantly reduce greenhouse gas emissions. This will in turn support local efforts already underway to support the reduction of regional greenhouse gas emissions.

Moreover the RHNA methodology includes the Growth Forecast reviewed with local input as a distribution component, particularly for projected housing need. Local input is a basis for SCAG's Connect SoCal Plan, which addresses greenhouse gas emissions at the regional level since it is used to reach the State Air Resources Board regional targets. An analysis of the consistency between the RHNA and Connect SoCal Plan is included as an attachment to this document.

(12)Any other factors adopted by the council of governments that further the objectives listed in subdivision (d) of Section 65584, provided that the council of governments specifies which of the objectives each additional factor is necessary to further. The council of governments may include additional factors unrelated to furthering the objectives listed in subdivision (d) of Section 65584 so long as the additional factors do not undermine the objectives listed in subdivision (d) of Section 65584 and are applied equally across all household income levels as described in subdivision (f) of Section 65584 and the council of governments makes a finding that the factor is necessary to address significant health and safety conditions.

No other planning factors were adopted by SCAG to review as a specific local planning factor.

Affirmatively Furthering Fair Housing (AFFH)

Among a number of changes due to recent RHNA legislation is the inclusion of affirmatively furthering fair housing (AFFH) as both an addition to the listed State housing objectives of Government Section 65588 and to the requirements of RHNA methodology as listed in Government Code Section 65584.04(b) and (c), which includes surveying jurisdictions on AFFH issues and strategies and developing a regional analysis of findings from the survey.

AFFH Survey

The AFFH survey accompanied the required local planning factor survey and was sent to all SCAG jurisdictions in mid-March 2019 with a posted due date of May 30, 2019. Ninety (90) of SCAG's 197 jurisdictions completed the AFFH survey, though some jurisdictions indicated that they would not be submitting the AFFH survey due to various reasons. The full packet of surveys submitted prior to the development of the proposed methodology packet can be downloaded at www.scag.ca.gov/rhna.

Jurisdictions were asked various questions regarding fair housing issues, strategies and actions. These questions included:

- Describe demographic trends and patterns in your jurisdiction over the past ten years. Do any groups experience disproportionate housing needs?
- To what extent do the following factors impact your jurisdiction by contributing to segregated housing patterns or racially or ethnically-concentrated areas of poverty?
- To what extent do the following acts as determinants for fair housing and compliance issues in your jurisdiction?
- What are your public outreach strategies to reach disadvantaged communities?
- What steps has your jurisdiction undertaken to overcome historical patterns of segregation or remove barriers to equal housing opportunity?

The survey questions were based on the U.S. Department of Housing and Urban Development (HUD) Analysis of Impediments to Fair Housing Choice survey that each jurisdiction, or their designated local Housing Authority, must submit to HUD to receive Community Development Block Grant (CDBG) funds. For the AFFH survey, jurisdictions were encouraged to review their HUD-submitted surveys to obtain data and information that would be useful for submitting the AFFH survey.

Pursuant to Government Code Section 65584.04(c), the following is an analysis of the survey results.

Themes

Several demographic themes emerged throughout the SCAG region based on submitted AFFH surveys. A high number of jurisdictions indicated that their senior populations are increasing and many indicated that the fixed income typically associated with senior populations might have an effect on housing affordability. Other jurisdictions have experienced an increase in minority populations, especially among Latino and Asian groups. There is also a trend of the loss of young adults (typically younger than 30) and a decrease in the number of families with children in more suburban locations due to the rise in housing costs.

Barriers

There was a wide variety of barriers reported in the AFFH survey, though a number of jurisdictions indicated they did not have any reportable barriers to fair access to housing. Throughout the SCAG region, communities of all types reported that community opposition to all types of housing was an impediment to housing development. Sometimes the opposition occurred in existing low income and minority areas. Some jurisdictions indicated that high opportunity resource areas currently do not have a lot of affordable housing or Section 8 voucher units while at the same time, these areas have a fundamental misunderstanding of who affordable housing serves and what affordable housing buildings actually look like. Based on these responses, it appears that community opposition to housing, especially affordable housing and the associated stigma with affordable housing, is a prevalent barrier throughout the SCAG region.

Other barriers to access to fair housing are caused by high land and development costs since they contribute to very few affordable housing projects being proposed in higher opportunity areas. The high cost of housing also limits access to fair housing and is a significant contributing factor to disparities in access to opportunity. Increasing property values were reported across the region and some jurisdictions indicated that they are occurring in existing affordable neighborhoods and can contribute to gentrification and displacement. Additionally, during the economic downturn a large number of Black and Latino homeowners were disproportionately impacted by predatory lending practices and therefore entered foreclosure in higher numbers than other populations.

Other barriers reported in the AFFH survey include the lack of funding available to develop housing after the dissolution of redevelopment agencies in 2012. Moreover, some jurisdictions indicated that the lack of regional cooperation contributes to segregation.

Strategies to Overcome Barriers

All submitted AFFH surveys indicated that their respective jurisdictions employed at least a few strategies to overcome barriers to access fair housing. These strategies ranged from local planning and zoning tools to funding assistance to innovative outreach strategies.

In regard to planning and zoning tools, a number of jurisdictions indicated they have adopted inclusionary zoning ordinances or an in-lieu fee to increase the number of affordable units within their jurisdictions. Others have adopted an accessory dwelling unit (ADU) ordinance with accommodating standards to allow for higher densities in existing single-family zone neighborhoods. A few jurisdictions indicated that they have adopted an unpermitted dwelling unit (UDU) ordinance, which legalizes unpermitted units instead of removing them provided that the units meet health and safety codes. In addition to ADU and UDU ordinances, some jurisdictions have also adopted density bonuses, which allow a project to exceed existing density standards if it meets certain affordability requirements. Some responses in the survey indicate that the establishment of some of these tools and standards have reduced community opposition to projects. In addition, some jurisdictions responded that they have reduced review times for residential permit approvals and reduced or waived fees associated with affordable housing development.

To combat gentrification and displacement, some jurisdictions have established rent-stabilization ordinances while others have established a rent registry so that the jurisdiction can monitor rents

and landlord practices. Some jurisdictions have adopted relocation plans and others are actively seeking to extend affordability covenants for those that are expiring.

In regard to funding, SCAG jurisdictions provide a wide variety of support to increase the supply of affordable housing and increase access to fair housing. A number of jurisdictions provide citywide rental assistance programs for low income households and some indicated that their programs include favorable home purchasing options. Some of these programs also encourage developers to utilize the local first-time homebuyer assistance program to specifically qualify lower income applicants.

Other jurisdictions indicate that they manage housing improvement programs to ensure that their existing affordable housing stock is well maintained. Some AFFH surveys describe local multiple rental assistance programs, including Section 8 Housing Choice vouchers and financial support of tenant/landlord arbitration or mediation services.

Some jurisdictions indicated that they have focused on mobile homes as a way to increase access to fair housing. There are programs described that assist households that live in dilapidated and unsafe mobile homes in unpermitted mobile home parks by allowing the household to trade in their mobile home in exchange for a new one in a permitted mobile park. Other programs include rental assistance specifically for households who live in mobile homes.

In regard to community outreach, a large number of jurisdictions in the SCAG region have established or are seeking to establish innovative partnerships to increase access to fair housing and reduce existing barriers. Many jurisdictions work with fair housing advocacy groups such as the Housing Rights Center, which provide community workshops, counseling, and tenant-landlord mediation services. Other jurisdictions have established landlord-tenant commissions to resolve housing disputes and provide services to individuals with limited resources. Some jurisdictions have partnered with advocacy groups, such as the League of United Latin American Citizens (LULAC), to hold community-based workshops featuring simultaneous multi-lingual translations. Other innovative partnerships created by jurisdictions include those with local schools and school districts and public health institutions to engage disadvantaged groups and provide services to areas with limited resources.

A large number of jurisdictions have also indicated that they have increased their social media presence to reach more communities. Others have also increased their multi-lingual outreach efforts to ensure that limited-English proficiency populations have the opportunity to engage in local fair housing efforts.

Based on the AFFH surveys submitted by jurisdictions, while there is a wide range of barriers to fair housing opportunities in the SCAG region there is also a wide range of strategies to help overcome these barriers at the local level.

Meeting AFFH Objectives on a Regional Basis

To work towards the objective of AFFH, several benchmarks were reviewed as potential indicators of increasing access to fair housing and removing barriers that led to historical segregation patterns.

Opportunity Indices

The objectives of affirmatively furthering fair housing are to not only overcome patterns of segregation, but to also increase access to opportunity for historically marginalized groups, particularly in racially and ethnically concentrated areas of poverty. In 2015 the U.S. Department of Housing and Urban Development (HUD) developed a set of indices, known as “Opportunity Indices” to help states and jurisdictions identify factors that contribute to fair housing issues in their region and comply with the federal Fair Housing Act.

In 2015 the U.S. Department of Housing and Urban Development (HUD) developed a set of indices, known as “Opportunity Indices” to help states and jurisdictions identify factors that contribute to fair housing issues in their region and comply with the federal Fair Housing Act. In late 2017, a Task Force convened by HCD and the California Tax Credit Allocation Committee (TCAC) released an “Opportunity mapping” tool based on these HUD indices to identify areas in California that can “offer low-income children and adults the best chance at economic advancement, high educational attainment, and good physical and mental health.”

The TCAC and HCD Opportunity mapping tool includes a total of eleven (11) census-tract level indices to measure exposure to opportunity in local communities. Regional patterns of segregation can be identified based on this tool. The indices are based on indicators such as poverty levels, low wage job proximity, pollution, math and reading proficiency. Below is a summary table of the 11 indices sorted by type:

Economic	Environment	Education
Poverty	CalEnviroScreen 3.0 indicators <ul style="list-style-type: none"> • <i>Ozone</i> • <i>PM2.5</i> • <i>Diesel PM</i> • <i>Drinking water contaminates</i> • <i>Pesticides</i> • <i>Toxic releases from facilities</i> • <i>Traffic density</i> • <i>Cleanup sites</i> • <i>Groundwater threats</i> • <i>Hazardous waste</i> • <i>Impaired water bodies</i> • <i>Solid waste sites</i> 	Math proficiency
Adult education		Reading proficiency
Employment		High school graduation rates
Low-wage job proximity		Student poverty rate
Median home value		

To further the objectives of AFFH, SCAG utilizes the Opportunity indices tool at multiple points in the RHNA methodology. Jurisdictions that have the highest concentration of population in low resource areas are exempted from receiving regional residual existing need, which will result in fewer units

assigned to areas identified as having high rates of poverty and racial segregation. Additionally, jurisdictions with the highest concentration of population within highest resource areas will receive a higher social equity adjustment, which will result in more access to opportunity for lower income households.

Public Engagement

The development of a comprehensive RHNA methodology requires comprehensive public engagement. Government Code Section 65584.04(d) requires at least one public hearing to receive oral and written comments on the proposed methodology, and also requires SCAG to distribute the proposed methodology to all jurisdictions and requesting stakeholders, along with publishing the proposed methodology on the SCAG website. The official public comment period on the proposed RHNA methodology began on August 1, 2019 after Regional Council action and concluded on September 13, 2019.

To maximize public engagement opportunities, SCAG staff hosted four public workshops to receive verbal and written comment on the proposed RHNA methodology and an additional public information session in August 2019:

- August 15, 6-8 p.m. Public Workshop, Los Angeles (View-only webcasting available)
- August 20, 1-3 p.m. Public Workshop, Los Angeles (Videoconference at SCAG regional offices and View-only webcasting available)
- August 22, 1-3 p.m., Public Workshop, Irvine
- August 27, 6-8 p.m., Public Workshop, San Bernardino (View-only webcasting available)
- August 29, 1-3pm Public Information Session, Santa Clarita

Approximately 250 people attended the workshops in-person, at videoconference locations, or via webcast. Over 35 individual verbal comments were shared over the four workshops.

To increase participation from individuals and stakeholders that are unable to participate during regular working hours, two of the public workshops were held in the evening hours. One of the workshops was held in the Inland Empire. SCAG worked with its Environmental Justice Working Group (EJWG) and local stakeholder groups to reach out to their respective contacts in order to maximize outreach to groups representing low income, minority, and other traditionally disadvantaged populations.

Almost 250 written comments were submitted by the comment deadline and included a wide range of stakeholders. Approximately 50 percent were from local jurisdictions and subregions, and the other 50 percent were submitted by advocacy organizations, industry groups, residents and resident groups, and the general public. All of the comments received, both verbal and written, were reviewed by SCAG staff, and were used as the basis for developing the RHNA methodology.

The increased involvement by the number of jurisdictions and stakeholders beyond the municipal level compared to prior RHNA cycles indicate an increased level of interest by the public in the housing crisis and its solutions, and the efforts of SCAG to meet these interests. As part of its housing

program initiatives, SCAG will continue to reach out to not only jurisdictions, but to advocacy groups and traditionally disadvantaged communities that have not historically participated in the RHNA process and regional housing planning. These efforts will be expanded beyond the RHNA program and will be encompassed into addressing the housing crisis at the regional level and ensuring that those at the local and community level can be part of solutions to the housing crisis.

Additional RHNA Methodology Supporting Materials

Please note that additional supporting materials for the RHNA Methodology have been posted on SCAG's RHNA website at www.scag.ca.gov/rhna including Data Appendix, Local Planning Factor Survey Responses and Affirmatively Furthering Fair Housing Survey Responses.



STUDENT HOUSING MASTER PLAN

2016-2026





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EXECUTIVE SUMMARY

The UCLA Student Housing Master Plan — consistent with predecessor UCLA Student Housing Master Plans — outlines a set of long-term strategic aspirations for the housing program at UCLA. Together with key planning principles described in the document, the updated Master Plan is intended to directly link housing program goals to institutional objectives in support of the campus academic mission.

In light of increasing demand for University-owned housing, the Master Plan acknowledges the importance of university housing to support undergraduate students during their transition to UCLA. In addition, university housing provides much needed academic, leadership, and personal growth experiences to support retention and to enrich the quality of the undergraduate experience at UCLA. The Master Plan also endorses the importance of housing as a resource to support recruitment of graduate and professional students and to provide assistance during their transition to the University.

UCLA Housing & Hospitality Services' primary mission is to continue the transformation of UCLA from a commuter to a residential campus minimizing the need for vehicle trips to and from campus and ensuring affordable housing options for Bruin generations to come.

Our secondary mission is to create environments that empower residents, guests, and team members to reach their fullest potential. We do this by investing in healthy and innovative dining concepts, and building and renovating our facilities to ensure that living in university accommodations is a pleasant, safe, and healthy experience. We also provide exceptional fitness and recreational facilities in convenient locations, and offer a wide variety of study spaces to enhance the living and learning experience at UCLA.

KEY PLANNING PRINCIPLES

There are seven key planning principles to guide the Master Plan:

1. *University housing is a vital resource to support the recruitment, transition, personal growth and development, academic achievement, retention, and graduation of undergraduate students.*
2. *Affordability and living options must be considered in developing the student housing program.*
3. *Limited land and resources require a high density living model in order to maximize the number of students housed, with a focus on a high quality living experience.*
4. *Housing is a vital resource used to support the recruitment and retention of graduate and professional students.*
5. *University housing helps create a supportive and cohesive student community by integrating the housing program with other aspects of campus life.*
6. *Allocation strategies must be refined to ensure that housing resources support both academic program objectives and student recruitment and retention goals.*
7. *Housing needs of postdoctoral scholars should be addressed after the campus has met the housing needs of graduate and professional students.*

HOUSING GOALS

The seven key planning principles led to the following four overarching goals with respect to the campus housing program:

GOAL 1: University housing will be guaranteed to all entering first-year students for a period of four years.

GOAL 2: University housing will be guaranteed to all new transfer students for a period of two years.

GOAL 3: University housing will be guaranteed to new graduate and professional students for a period of two years. University housing will be guaranteed to new graduate and professional student families with dependent children for as long as the student is making normal progress to degree conferment for up to seven years.

GOAL 4: University housing will be available to single postdoctoral scholars for a period of two years, as supply is available. University housing will be available to new postdoctoral scholars with dependent children for as long as the individual is participating in a postgraduate program for up to seven years, as supply is available.

OVERVIEW

In 1986, UCLA drafted its first comprehensive Student Housing Master Plan, designed to provide direction to the campus in addressing student housing needs in support of the institution’s academic mission. Subsequent revisions of the Student Housing Master Plan were completed in 1990, 2000, 2007, 2010, and 2011.

In 2016, an updated housing supply and demand analysis was conducted to assess changes in critical assumptions concerning campus enrollment projections, available student housing inventory, and occupancy expectations.

The assumptions were as follows:

- Accommodate the proposed increase of undergraduate students.
- Align triple projections to meet current trend information and assist in understanding when final guarantees can be met.
- Update take-rate percentages to match evolved trends for housing for both graduate and undergraduate students.

THE CAMPUS PLANNING ENVIRONMENT

Since the last Master Plan was approved in 2011, the campus planning environment has significantly changed. While the planning principles and goals remain consistent with institutional objectives, housing enrollment and guaranteed student housing acceptance rates for first, third-year undergraduate students, first-year transfer students, and graduate students have increased significantly. All UC campuses are increasing enrollment of California residents over the next four years. It is assumed that the current projected enrollment increases for the next four years would be 1,500 Full Time Enrolled Students (FTE) or 2,100 headcount over the 28,500 base in fall 2015, which represents a 7 percent increase. More specifically, the fall 2016 cohort would grow by 600 freshman and 150 transfer students, all of the increases coming from the California resident component of UCLA incoming students. These numbers continue to be evaluated by the Office of the President at UC campuses and could evolve in response to California resident enrollment targets.

Normally, a 7 percent increase in student enrollment would not necessarily place a significant stress on the existing campus facilities. However, when coupled with the 14 percent enrollment increase that occurred between fall 2010 and fall 2014, which the campus is still in the process of absorbing, the cumulative impact presents serious challenges.

For undergraduate students, the continued increase in housing demand highlights the success of the housing program, which has transformed UCLA from what was once predominantly a commuter campus to a residential campus. In a span of approximately 25 years, the campus has fostered the development of a unique residential environment, one in which the majority of undergraduates – and nearly all lower division students – live on or within walking distance of campus in a combination of University-owned housing and in private sector housing in Westwood.

As the residential campus has evolved, the College of Letters and Science, Residential Life, and Housing & Hospitality Services have developed a collaborative partnership focused on a wide array of academic-oriented opportunities and academic support services for on-campus housing residents and, to some extent, for undergraduate students who live off campus. These programs and support services are offered within campus residential facilities, providing a unique benefit to students living on or adjacent to campus.

UCLA has aspired to provide a four-year guarantee of housing for all first year undergraduate students and a two-year guarantee for all new transfer students, while concurrently reducing the number of triple accommodations. In pursuit of these objectives, an additional 1,500 bed spaces were constructed and added to the on-campus housing inventory, along with additional recreation and dining space. Originally, it was anticipated that the addition of these 1,500 beds would enable UCLA to increase the guarantee for transfer students to a two-year standard, while freshmen would remain at the three-year guarantee. As a result of the student enrollment increase of FY 2011 through FY 2014, however, these additional bed spaces were utilized to absorb this enrollment expansion, at the expense of increasing the housing guarantees. Concurrently, the undergraduate off-campus apartment inventory was being increased. Landfair Vista was acquired in 2014, adding 178 beds. Landfair and Glenrock Apartments were both redeveloped to add a net of 131 beds in fall 2014. Gayley Court, formerly Faculty Gayley, was converted in 2013 to undergraduate housing, netting 284 beds. The Margan Apartments will also be redeveloped starting in 2017, and return to inventory in 2019 with an additional 143 beds. Thus, the total incremental off-campus apartment inventory increase by 2019 will be 736 beds.

Housing has also concluded an aggressive systems renovation cycle for the on-campus housing inventory. Over the last decade, buildings were taken offline during the academic year in order to complete necessary systems improvements: mechanical, electrical, plumbing, and infrastructure refurbishments to existing buildings. Decreasing the inventory while enrollment has been simultaneously growing, resulted in higher than desired triple occupancy percentages. This cycle is concluding with completion of the Delta Terrace renovation this academic year. All on-campus inventory will be online for the 2016-2017 academic year. With systems renovations complete, the planned renovations over the next two decades will be light in nature, targeting: carpet, paint, wall vinyl, and when possible incorporating energy efficient elements. These light renovations will typically be initiated during the summer and will be completed prior to fall student move-in.

Dining is an essential element in providing a quality residential experience. The housing program has not only focused on adding additional seating to accommodate recent enrollment increases, but has also invested in infrastructure improvements to gain efficiencies in food production and increase quality. As part of the phased buildout in 2013, an all-you-care-to-eat dining facility, *Bruin Plate*, in Carnesale Commons was added. Bruin Plate innovated platform dining, featuring locally-sourced produce and meats from nearby farms, sustainable seafood, unprocessed and preservative-free items, organic foods, cage-free eggs, nutrient-packed ingredients, and expanded vegetarian and vegan options, in a light-filled venue with a capacity of 710 seats.

In Winter 2017, Housing introduced a new boutique, *The Study at Hedrick*. This new space innovates how students can eat and study together. The Study is an artisanal bakery with flexible study space that adds 350 seats. It will be the first 24-hour eatery and study space of its kind in higher education.

For graduate students, additional graduate housing must continue to be a campus priority. With the completion of Weyburn Terrace II in 2013 and the Hilgard Houses in 2010, which collectively provide 1,960 apartment-style beds for single graduate students, the campus is able to provide housing to approximately 24 percent of graduate and professional students. In addition, the campus is able to provide academic departments with a limited number of bed spaces to allocate to graduate students, but does not have sufficient inventory to guarantee housing to all graduate students. The University's inability to offer guaranteed housing to all newly recruited graduate students presents a serious challenge to the campus when competing against other educational institutions.

CHALLENGES FOR THE FUTURE

Despite the notable success in planning for and meeting student housing needs, several challenges face the campus housing program. Of greatest significance is that the current demand for housing significantly exceeds existing supply. While UCLA is able to guarantee university housing for three years to every new freshman student who currently requests such housing, a large portion of the guarantees are being met by housing three students in rooms originally designed for two (referred to as "triples"). Between the mid-1970s and the late 1980s, the on-campus housing program operated at 100 percent occupancy. Since the early 1990s, occupancy with triple rooms has exceeded 125 percent. Even with the additional beds from new developments, redevelopments, conversion of faculty buildings, and renovations, Housing is meeting current guarantees by maintaining higher than desired triple occupancy percentages.

Without additional beds, the projected enrollment increases for FY 2017 through FY 2020 will result in triple occupancy that will exceed 75 percent.

This result is in stark comparison to the aspiration to provide a four-year guarantee for freshmen and a two-year guarantee for transfers with triple occupancy in the range of 60-65 percent. Cuts in state funding and the resulting increases in tuition have put a strain on financial resources for students and families. To lessen the impact, UCLA Housing continues to contain costs to keep university housing affordable and accessible.

Finally, meeting the demands for graduate student housing remains a priority for the housing program. The Weyburn Terrace Phase II Graduate Student Housing Project added 500 apartment-style beds and reduced the current shortfall of beds for single graduate students. It is clear that to resolve the graduate housing shortfall, the campus will need to continue to supplement existing inventory with the purchase and development of additional apartment buildings.

KEY PLANNING PRINCIPLES

A fundamental tenet underlying the Master Plan is the aspiration to continue the significant progress made to date in transforming UCLA to a residential campus. Eight key planning principles dealing with the philosophy and intent of the UCLA housing program support the continuing transformation process as well as other institutional goals for student recruitment, retention, and academic progress. These principles are summarized below.

1

On-campus housing is a vital resource to support the recruitment, transition, personal growth and development, academic achievement, retention, and graduation of undergraduate students.

UCLA's excellent academic reputation continues to attract undergraduate students to the campus — in fact, the number of undergraduate applications far exceeds available admissions space each year. As competition has increased for students of the very highest caliber, the campus has begun to use more sophisticated recruitment strategies to help attract the most sought-after students. Top high school graduates, especially students from under-represented minority backgrounds and non-residents, typically receive offers of admission from multiple highly-selective institutions. To be competitive, UCLA must be able to offer these students an array of campus services, support, and resources designed to enhance the attractiveness of campus life at UCLA.

Many institutions with which UCLA competes offer guaranteed housing for entering undergraduates for varying lengths of time up to four years. Thus, the availability of on-campus housing at UCLA is vital to recruiting highly desirable entering undergraduate students. For entering undergraduate students, on-campus housing helps ease the transition to university life by providing numerous benefits in addition to convenience and affordability.

On-campus housing facilities are within walking distance of classrooms, libraries, laboratories, recreation facilities, and other campus resources. In addition, within on-campus housing facilities, undergraduate students can take advantage of numerous types of academic programs, academic support services, personal growth and leadership opportunities, community activities, and a wide range of employment opportunities. For example, programs such as the Faculty-in-Residence program help break down the barriers associated with attending a large university and make one-to-one interaction with faculty not only possible, but common. Additionally, the majority of the parents of these entering undergraduates want their children to live on campus because of UCLA's reputation for providing safe accommodations with a variety of programs and services that promote academic success, personal growth, and development opportunities.

Unlike graduate and professional students who typically have some experience living on their own, most new undergraduate students come to the University with little or no independent living experience. They must learn to be successful in a highly competitive academic environment, while adjusting to the challenges of living independently and making decisions that will impact their personal lives. Similarly, transfer students come to the University in the middle of their educational program. These entering UCLA students must quickly adjust to the rigors of academia while adapting to their new residential environment.

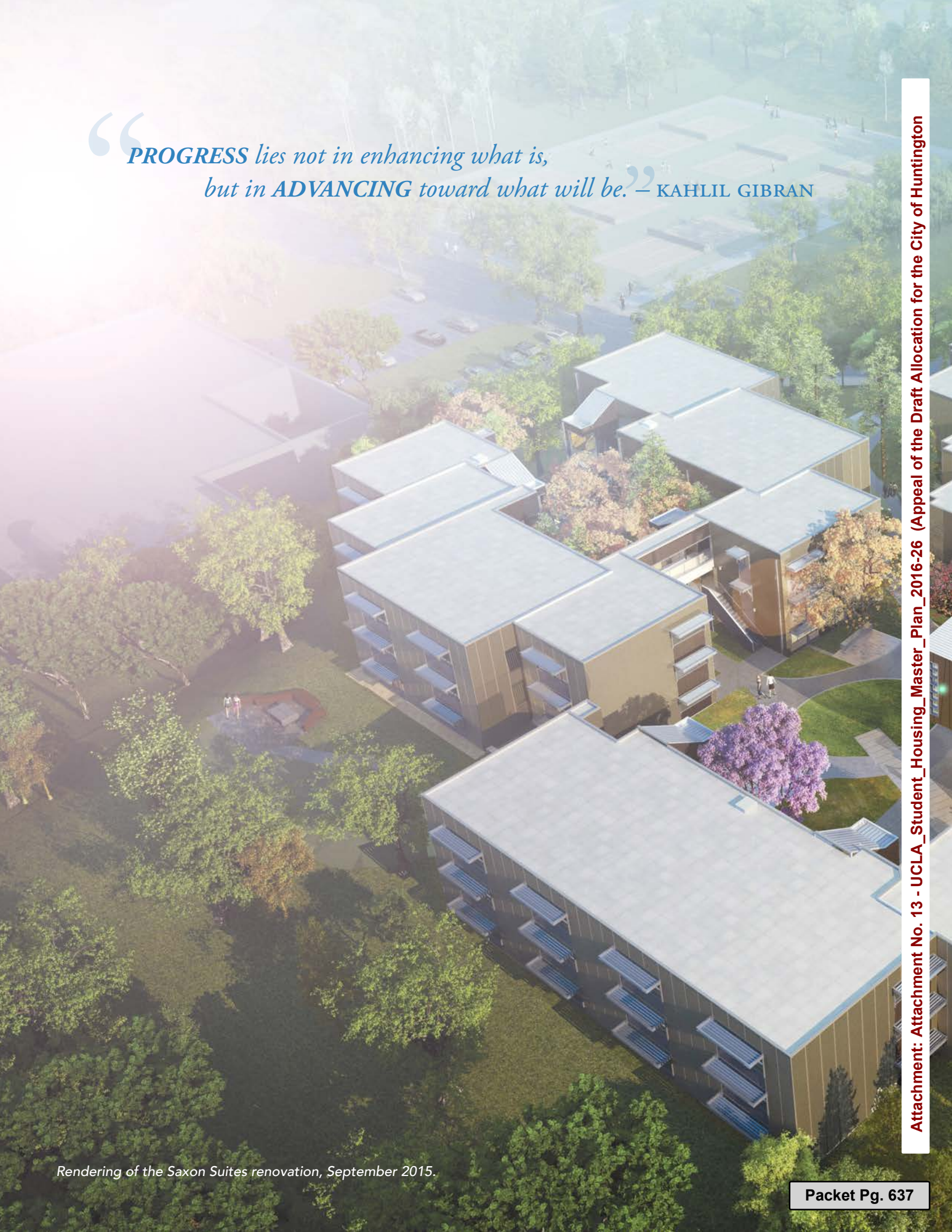
Additionally, dedicated space is available within residential facilities specifically for academic counseling, tutoring services, and for regularly scheduled classes, seminars, and review sessions. This intellectually and socially rich living environment nurtures academic achievement, retention, cognitive development, intellectual growth, and personal maturation. Substantial amounts of research show that living on campus has a significant positive influence on completion of a bachelor's degree, improvement of critical thinking skills and intellectual aptitude, and an increase in personal autonomy and independence.

The Master Plan acknowledges the importance of housing as a primary resource to support undergraduate student recruitment and transition to the University. The provisions and guarantees incorporated into the Master Plan ensure that institutional recruitment needs for undergraduates are addressed and that new undergraduate students and transfer students are supported during their transition period to the University. Furthermore, the provisions contained in the Master Plan acknowledge the importance of supporting student retention and academic achievement for all undergraduates who continue living on campus.

2

Affordability and living options must be considered in developing the student housing program.

Of primary importance to the success of a student housing program is the relative affordability of University-owned housing compared to housing available in the private sector. Given the nature of the community surrounding UCLA, the types and amount of housing available proximate to campus, and the competition by non-students for housing in these desirable neighborhoods, it seems likely that student demand for affordable University-owned housing will continue to be strong in the foreseeable future.



*“PROGRESS lies not in enhancing what is,
but in ADVANCING toward what will be.”* —KAHLIL GIBRAN

Rendering of the Saxon Suites renovation, September 2015.



Current University housing options generally meet the criteria of being lower in cost than most comparable alternatives in the community. Similarly, UCLA's on-campus housing program, which includes various dining options, is very competitive with similar room and board programs offered at other University of California campuses. The Westwood housing market for rental properties is becoming unreachable for the vast majority of students. Studies¹ indicate that Westwood market rents could increase as much as 46 percent within the next eight years. Additionally, most of the inventory was constructed in the 1940s and 1950s. Limitations imposed by the Westwood Site Specific Plan leave little financial incentive for owners of existing inventory to renovate or redevelop their parcels into more modern facilities. Thus, it is probable that the Westwood housing inventory will be stagnant in terms of availability and quality but rapidly escalating in terms of cost.

3

Limited land and resources require a high density living model in order to maximize the number of students housed, with a focus on a high quality living experience.

To meet the demands for proximate on-campus student housing, a model of high density living was implemented to maximize the number of students that could be accommodated. The UCLA Housing program has invested in four key areas to provide a high-quality, holistic living experience:

1. Diverse & Healthy Dining Options

We are continuing to invest in the health of our students and guests with innovative dining concepts like *Bruin Plate*. This anchor facility focuses on fresh, wholesome, nutritionally-balanced food and beverage options, and best practices in sustainability in food service operations. Other award-winning and popular dining concepts include *FEAST at Rieber* with a daily rotating pan-Asian menu and a Mediterranean-based menu featured at *Covel Residential Restaurant*.

2. Convenient Fitness & Recreation Facilities

As part of our on campus residential community, the *Bruin Fitness Center (BFit)* opened in fall 2015 on the ground floor of Carnesale Commons. Other facilities include Hedrick basketball courts, Spieker Aquatic Center, and Sunset Canyon Recreation Center, which features an Olympic size pool. The close proximity of fitness facilities to on-campus housing supports the university's Healthy Campus Initiative.

3. Clean & Well-maintained Living Spaces

The 20-year plan at H&HS is to keep every residential building on a continual renovation and refurbishment schedule. By fall quarter 2016, all on- and off-campus inventory will be new or freshly renovated (within the last seven to eight years) with a business model to ensure this work can continue for decades without requiring dramatic year over year increases to housing fees.

¹ Chiland, Elijah. "Rents Already Soaring Along L.A.'s Unopened Expo Line." March 18, 2016. www.lacurbed.com

4. Flexible & Proximate Study Spaces

Opening Winter 2017, *The Study at Hedrick* will be specially designed to meet the needs of today's students and their demand for late night study space. The Study will feature natural light, around-the-clock coffee and snacks, power outlets, reliable WiFi access, and a variety of comfortable options for private, communal, and group studying. The Study complements other study spaces created within and adjacent to on-campus housing.

4

Housing is a resource that should be used to support the recruitment of graduate and professional students.

In 2013, Phase II of the Weyburn Terrace Single Graduate Student Housing Project was completed. This project provided much needed on-campus guaranteed housing, increasing capacity to 1,960 single graduate bed spaces.

The need for additional housing for graduate students is closely linked to UCLA's position as a worldwide leader in graduate education and research. UCLA seeks to recruit and retain the very best graduate students worldwide, and the quality, affordability, and proximity of housing to campus is integral to successfully recruiting new graduate students in all academic disciplines and professions. This is especially true for graduate students from outside southern California, where the availability of housing is beneficial to their adjustment to the Los Angeles metropolitan area and lifestyle.

While undergraduate students have been predominantly from California, many graduate and professional students come to UCLA from all over the world. Moreover, creation of dedicated on-campus graduate student housing provides an opportunity to create a graduate student community where traditional learning experiences can evolve and support new and creative levels of interdisciplinary focus and exchange. This potential is yet another means by which UCLA can continue to distinguish itself in graduate education.

Guaranteed housing for graduate students is also a critical recruitment mechanism. Students coming to campus from outside the Los Angeles basin value the availability of University-owned housing to help them become established in Los Angeles while adjusting to coursework at UCLA. Furthermore, housing on or proximate to campus benefits graduate and professional students by reducing commuting and transportation challenges and promotes access to and use of resources available to students on campus. Finally, University-owned housing is more affordable than comparable private sector housing, so graduate and professional student's benefit from the associated cost savings of living in University housing.

In acknowledgement of the critical role housing plays in supporting graduate and professional student recruitment, the Master Plan contains provisions to address the ongoing housing needs of incoming graduate and professional students and student families.

5

On-campus housing helps create a supportive and cohesive student community.

An important benefit of University-owned housing is the cohesive nature of the community formed by groups of students living in close proximity to one another. Opportunities for interactions among students from different personal backgrounds, interests, and academic pursuits contribute to the richness of the living environment. The student community formed within University-owned housing facilities contributes to the discovery and learning process. Student residents meet other students, form friendships, and participate in intellectual discussions that add to the quality of student life at UCLA.

Students who live on campus in the residential community benefit greatly from the various academic, social, and learning programs that are available. They also benefit from physical proximity to campus facilities and to services and programs such as libraries, health and counseling centers, recreation programs, student organization activities, and other campus-based academic and support services. These opportunities make for a richer educational experience and enhance the depth and breadth of student life. The Master Plan continues to support the development of on-campus housing which fosters a cohesive student community.

6

A successful residential campus integrates housing programs with other aspects of campus life.

The concept of a residential campus must extend beyond the physical facilities of residence halls, apartment buildings, and meeting places. Like any master planned community, a residential campus is an integrated approach to the total student experience. At UCLA, the residential community comprises of nearly all entering undergraduates and approximately 80 percent of second-year undergraduates (100 percent of those who have lived in on-campus housing their first-year and apply for a second year), and about 40 percent of third-year undergraduates. In the future, increasing percentages of transfer and upper division students, as well as single graduate and professional students, will join this community.

The sheer size of the residential community dictates that consideration be given to the impact of the community on campus programs, activities, and facilities that serve not only student residents, but the entire UCLA community of students, faculty and staff. Of critical consideration is the impact of an increasing student community on recreation facilities and programs. The capacities of existing facilities — including both indoor facilities, such as the John Wooden Center, and outdoor facilities, such as the Sunset Canyon Recreation Center — are likely to be exceeded by the introduction of additional campus residents, and the impact will be noted by all users. Development of new

facilities, particularly facilities in close proximity to student housing, is essential to ensure that the entire campus community will continue to have reasonable access to recreation facilities.

The development of new academic support facilities (that promote student counseling, tutoring, study groups, student-faculty interactions, student services, etc.) will be essential to compliment those currently available. These existing facilities are used with increasing frequency for both formal and informal undergraduate instruction. Additional space with the flexibility to accommodate academic programs will be required to support the growing student community on or near the northwest quadrant of campus. Additionally, in-room computing and additional computer labs will still be required to provide for the increasing convergence of technology and academic instruction/research, even at the undergraduate level.

Other services and programs that may be impacted by the growing student residential community include parking, campus transportation, campus-wide student programming, and commercial retail services. The impact of a growing residential campus on recreation and academic facilities as well as on other campus services and programs must be carefully evaluated as programmatic and physical goals for the campus housing program are developed.

Another factor key to the success of the student housing program is the array of housing options available to students. While residence hall-style housing is ideal for nearly all entering undergraduates who have just completed high school, it is not preferred by graduate students, older students, those returning to school after an absence, or those with families. And — while triple room accommodations are preferred by some students for a variety of reasons, including their lower cost— these should only be offered to those students who specifically request them.

For these reasons, University-owned housing must remain affordable and an array of different types of housing options must be available to meet the needs of a diverse group of UCLA students. The quality and type of housing provided by the campus will directly impact the success of the housing program in addressing student needs and preferences. The Master Plan includes, as a critical planning premise, the consideration of cost as a key attribute of existing and future University-owned housing, and includes provisions for a variety of housing options on- and off-campus to meet the unique needs of diverse groups of students.

7

Allocation strategies must be refined to ensure that housing resources support both academic program objectives and student recruitment and retention goals.

As additional housing is made available for students, advisory committees which have been appointed by the Chancellor to determine how such resources are allocated must also evolve. These committees of faculty, students, and administrators apply housing allocation methodologies consistent with academic program goals and student recruitment and retention strategies. As has been the practice in the past, advisory groups can assist the housing program in the development of appropriate allocation policies and procedures, particularly with respect to housing for graduate and professional students. Such policies and procedures will be subject to review and reconsideration as housing supply and needs change over time.

Housing needs of postdoctoral scholars should be addressed after the campus has met the housing needs of graduate and professional students.

Postdoctoral scholars participate in ongoing research and scholarly activities at UCLA. These individuals work with UCLA faculty members to advance their own academic careers while continuing to learn from others more senior in their field. Postdoctoral scholars are very often from foreign countries and are likely to be married or have children. They are highly recruited to come to UCLA and their contributions have immeasurable positive impact on the academic excellence of the institution.

Postdoctoral scholars face challenges similar to those of graduate and professional students in finding affordable housing proximate to campus. The availability of University-owned housing provides essential support for the scholars who currently take advantage of the resource, helping to ease their transition to Los Angeles and minimizing commuting and transportation requirements. The Master Plan acknowledges the institutional benefit of providing affordable housing to postdoctoral scholars and includes provisions to continue to support these essential members of the UCLA academic community after the housing needs of graduate and professional students are satisfied.

HOUSING GOALS

Based on the principles discussed above, the following goals for housing provisions and guarantees for UCLA students are in place. These goals are meant to be long-term strategic aspirations for the housing program at UCLA and are directly linked to UCLA's academic mission. The goals will guide future changes and growth in the housing program. Actual implementation of the Master Plan will take place as programmatic and physical goals for the campus housing program are developed. These programmatic and physical goals will translate the underlying principles into actuality and will change over time as contemporary needs dictate.

These goals are consistent with the current evolution and planning for student housing into the next decade (2011-2021) while embracing the fundamental tenets of the earlier Master Plans.

GOAL 1: University housing will be guaranteed to all entering first-year students for a period of four years.

The benefits of living on campus for undergraduates are well documented. The UCLA housing program has been carefully designed to provide an environment that supports academic achievement and stimulates intellectual and personal growth. By extending the housing guarantee for entering freshman from three years to four years, UCLA will ensure that undergraduate students have available to them the best possible housing and programmatic options to sustain excellence for the duration of their academic studies.

GOAL 2: University housing will be guaranteed to all new transfer students for a period of two years.

To correspond with the four-year housing guarantee offered to entering freshmen, entering transfer students will be guaranteed University-owned housing for a period of two years. This guarantee will help ensure that transfer students have opportunities to access the myriad of programs and support services designed to facilitate their successful transition to the University and their timely completion of a degree.

GOAL 3: University housing will be guaranteed to new graduate and professional students for a period of two years. University housing will be guaranteed to new graduate and professional students with dependent children for as long as the student is making normal academic progress to degree for up to seven years.

By offering graduate and professional students, including health science and medical interns and residents, a guarantee of University-owned housing, the campus will improve its ability to recruit the very best students. The two-year guarantee will provide a resource for entering graduate and professional students to assist them in becoming established and adjusted to academic life at UCLA and will help promote a community of learning where returning residents can provide mentoring and support to entering graduate students. By extending the housing guarantee for students with dependent children, the campus will ensure that families are not disrupted during the normal course of graduate study as long as students are making satisfactory progress to degree. Graduate and professional students with children will remain eligible for housing as long as their department certifies that they are making normal academic progress for up to seven years.

GOAL 4: University housing will be available to single postdoctoral scholars for a period of two years, as supply is available. University housing will be available to new postdoctoral scholars with dependent children for as long as the individual is participating in a postgraduate program, for up to seven years, as supply is available.

The campus acknowledges the important contributions of postdoctoral scholars and the importance of housing as a resource to support postdoctoral scholars. After demand for housing among graduate and professional students has been met, UCLA will offer housing to postdoctoral scholars for a period of two years for single postdoctoral scholars and for the duration of the program up to seven years for postdoctoral scholars with dependent children.

IMPLICATIONS OF THE REVISED MASTER PLAN GOALS & RECOMMENDATIONS

Implementation of the updated Master Plan supports continued efforts to increase the supply of University-owned housing because of the real and perceived benefits for UCLA students, for the campus and surrounding communities, and, ultimately, for the educational effectiveness of the institution. While mindful of existing limitations in the Long-Range Development Plan (LRDP) and of the need to preserve a balance among the uses of limited campus space, including a balance between housing, recreation, academic purposes, and open space, it is clear that new beds must be obtained in order for the updated Master Plan goals to be met.

In 1986 when the first Master Plan was developed, UCLA was essentially a commuter campus, with only about 12 percent of the student population living on campus, and a total of about 32 percent of students living either in University-owned housing or in privately-owned housing within one mile of campus. With successful implementation of the Master Plan, with all guarantees met and triple accommodations reduced to meet need, the campus will house more than 51 percent of the student population.

Today, UCLA's residential community accommodates about 38 percent of the student population. Academic programs in the residential setting are thriving. Residential students, their families, faculty, and the surrounding community have praised the results. As the foregoing sections point out, to meet the projected housing demand, UCLA will need to implement the Master Plan goals and develop additional housing. In addition, the campus must continue to review the private sector apartment inventory adjacent to and within five miles of campus and be prepared to purchase available buildings when opportunities present themselves.

To estimate and assess future requirements for University-owned housing, information about the total planned and approved supply of University-owned housing was evaluated alongside the current and projected student demand for housing. Housing program staff developed projections of future demand based on actual UCLA student housing trends. These demand figures are preliminary estimates only and will be revised and updated prior to any decision to build more housing. Adequate assurance of sufficient future student demand will be factored into the detailed analysis that will be required for the approval of any future housing projects. Additionally, campus land use, LRDP, and Environment Impact Report (EIR) issues will be thoroughly addressed prior to the development of new student housing.

SUPPORTING FACTORS FOR INCREASING INVENTORY OF UNIVERSITY-OWNED STUDENT HOUSING

The most critical factor is that current housing inventory does not allow the campus to meet the housing guarantees of the Master Plan. In addition, rooms that were designed for double occupancy are currently housing three students. Triple rooms should be at the request of the student rather than the required option in order to meet high housing demands.

Further, second-year transfer students, fourth-year students, and students who have never lived in the residence halls and therefore not eligible for the three-year guarantee are not guaranteed housing. With regards to graduate students, the campus aspires to provide two years of guaranteed housing to all those who desire it.

IMPACT OF UPDATED STUDENT HOUSING MASTER PLAN RECOMMENDATIONS

Increasing the supply of University-owned housing would benefit UCLA immeasurably. Progress toward these goals will be made in a systematic, measured manner, as has been the case since implementation of the first Master Plan

in 1986. As indicated earlier, new housing will only be developed after careful planning and consultation about potential benefits, costs, and trade-offs. Furthermore, the allocation of future housing inventory among various categories of students will be carefully planned to meet the most pressing campus goals. These cautionary notes notwithstanding, additional new housing inventory will be needed in the near term to support current and projected demand.

THE RECOMMENDED PATH FORWARD

A fundamental tenet underlying the housing objectives is the aspiration to continue the significant progress achieved to date in transforming UCLA to a residential campus. To enhance current quality or in the event projected enrollment is further increased, the undergraduate housing capacity should be increased by at least 4,500 beds. With the addition of the 4,500 beds, assuming projected enrollment growth is not further increased, triple occupancy will be reduced to 60-70 percent, while increasing the guarantee to four years for freshmen students and two years for transfer students.

Potential building sites should be explored on the Northwest Campus Zone and the Southwest Campus Zone. The developments will need to focus on addressing the demand of upper division student preferences as well as developments that are aligned with single graduate student demand.

Planning for new housing, both on- and off-campus should begin immediately to allow UCLA to meet the updated Master Plan 2011-2025 guarantees to today's students and to the growing numbers of students who will matriculate through 2025. Planning must include an assessment of the potential impact of increased housing on the delivery of student services, recreation facilities and programs, on-campus parking and transportation programs, and other campus services and facilities. Collaboration between the housing program and other campus service providers will ensure the successful growth of the student housing program, while retaining high levels of service quality and access to campus facilities for the entire campus community.

The campus should also work toward developing and acquiring off-campus apartments, particularly in the north Westwood Village. Adding housing inventory via this paradigm could achieve an increase in guarantees, help ensure affordable housing for students in the future, and further UCLA's transition to a residential campus. An increase in off-campus housing also does not impact the dining program and thus would not need any additional dining capacity. In addition increasing inventory off-campus, we will begin to address the shortfall for the graduate student population.

Adding both on- and off-campus housing will help ensure that UCLA continues to provide high-quality, safe, and affordable housing to students and protect future generations of Bruins from rapidly escalating rates for Westwood area rentals.

Our vision is to accommodate all UCLA students who wish to reside in university-provided housing. By increasing bed inventory, UCLA Housing will be able offer options to any enrolled student that would best ensure their health, well-being and academic success while at UCLA.

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Attachment No. 14 - UCLA_LRDP_Amendment_Final_SEIR-January2018

Due to the large file size (118MB), this attachment cannot be included with the agenda packet. It can be downloaded at:

<https://www.dropbox.com/s/rt8mvi4n2gkhi5p/HuntingtonBeach-Attachment14.pdf?dl=0>



Attachment: Attachment No. 15 - Cal State University Basic Needs Initiative Study (Appeal of the Draft Allocation for the City of Huntington)

STUDY OF STUDENT BASIC NEEDS

January 2018

JANUARY 2018

This research was funded by the California State University Office of the Chancellor
Conducted and co-authored by:

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Executive Summary

A higher education degree is viewed by many as the greatest opportunity for long-term economic stability, a pathway toward asset growth, and debt management (Ma, Pender, & Welch, 2016). However, many students experience barriers to meeting their basic needs as they strive to earn a higher education degree. Phase 1 of the CSU Chancellor's Office study of basic needs was released in 2016. That study focused on *housing security* and *very low food security* for students, primarily from the perspectives of staff, faculty, and administrators.

Phase 2 is a mixed-methods study ($N=24,537$) that explored experiences of students with *homelessness*, *low* and *very low food security*. A survey was distributed to a census sample across 23 CSU campuses with an average participation rate of 5.76% ($n=24,324$). The sample was largely representative of the general student body. Student participants volunteered and were selected for focus groups and interviews based on reported levels of homelessness and food insecurity from the survey. Interview and focus group data were collected at 11 CSU campuses with students ($n=213$) who identified as either or both housing and food insecure on the quantitative survey.

This is the most comprehensive mixed-methods study of university students' unmet basic needs and the relationship to student success ever completed within a 4-year higher education system. Previous research either: (a) sampled from a different population, such as community college students (Goldrick-Rab, Richardson, & Hernandez, 2017), or unaccompanied homeless youth (Au & Hyatt, 2017); (b) only examined food security (Martinez, Webb, Frongillo, & Ritchie, 2017; Freudenberg, Manzo, Jone, Kwan, Tsui, & Gagnon, 2011; Martinez, Maynard, & Ritchie, 2016); (c) was conducted at a single campus (Chaparro, Zaghoul, Holck, & Dobbs, 2009; Patton-Lopez, Lopez-Cevallos, Cancel-Tirado, & Vazquez, 2014); or, (d) used a convenience sampling (Buch, Langley, Johnson, & Coleman, 2016; Davidson & Morrell, 2015). Findings from this study are groundbreaking and provide not only the prevalence of university student homelessness and food insecurity, but living examples from students about what they surmount in order to succeed at their dreams of earning a higher education degree.

Students who reported food insecurity, homelessness, or both also experienced physical and mental health consequences that were associated with lower academic achievement. They also reported higher rates of "inactive days," where poor physical or mental health kept them from their usual activities such as school, work, self-care, and recreational activities.

Students described how experiencing food insecurity and homelessness influenced most facets of life, including academic struggle, long work hours, and negative impact on mental and physical health.

Students who identified as Black/African-American and first-generation to attend college experienced the highest rates of food insecurity (65.9%) and homelessness (18%).

CalFresh and campus emergency food pantry use increased with students who reported low and very-low food security; however, utilization rates were still very low at the time of data collection.

41.6%

of CSU students reported food insecurity, of those 20% experienced *low food security* and 21.6% *very low food security*. National prevalence rates for food insecurity among U.S. households in 2016 was 12.3% (low and very low food security combined) (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2017), making the case for college students emerging as a new food insecure population of concern, having a far higher risk of food insecurity than the general U.S. population.

10.9%

of CSU students reported experiencing homelessness one or more times in the last 12 months based on the combined Housing and Urban Development and the U.S. Department of Education definitions

Recommendations

Student success is associated with students having their basic needs met. Food and housing security are social problems that are influenced by many factors. Therefore, responding to students who are homeless or food insecure will require complex, long-term approaches to solution building, including:

- Develop affordable housing and food options for students
- Targeted strategies to address the student populations that reported the highest levels of food insecurity and homelessness, particularly first generation African American college students
- Conduct longitudinal research exploring basic needs security as predictors and protective factors for persistence and degree completion in alignment with the CSU effort to increase graduation rates and decrease time to degree completion
- Incorporate staff as single points of contact who are trained in trauma-informed perspective in programmatic responses to students experiencing food and housing insecurity and co-locate space for the contact and students
- Identify and institute creative campaigns to develop a campus culture of awareness and response to support students who experience significant material hardships
- Utilize strategies like CalFresh enrollment and food pantries as preventative measures for food insecurity



Next Steps

The enormity of the level of unmet basic needs among CSU students is daunting; and yet, campuses across the CSU are making heroic efforts to increase support and resources for students who face material hardship to increase holistic student success. Phase 3 of the CSU study of basic needs will include a mixed-methods evaluation of student need and use of services, a reporting of the current status of available support across the 23 CSU campuses, and program evaluations of support programs at two campuses (California State University, Long Beach and Humboldt State University).

INTRODUCTION

The California State University (CSU) is the largest system of senior higher education in the country, with 23 campuses, 50,000 faculty and staff and 484,000 students. The CSU educates the most ethnically, economically and academically diverse student body in the nation. Created in 1960, the mission of the CSU is to provide high-quality, affordable education to meet the ever-changing needs of California. With its commitment to quality, opportunity, and student success, the CSU is renowned for superb teaching, innovative research and for producing job-ready graduates. Each year, the CSU awards more than 120,000 degrees. One in every 20 Americans holding a college degree is a graduate of the CSU and the alumni are 3.4 million strong.

A higher education degree is viewed by many as the greatest opportunity for long-term economic stability, a pathway to asset growth, and debt management (Ma, Pender, & Welch, 2016). Beyond this important financial stability, college facilitates personal and academic (Howard, 2003) growth and a sense of community membership (Holland, 2010; Perna, 2000; Rendón, Jalomo, & Nora, 2000; Renn & Arnold, 2003). This engenders cohesion both for the student and the community, fostering students' desire to continue to make commitments to the communities in which they live. In the last five decades, the gap in earnings between those with and without a degree has risen, making college degrees more important than ever (Pew Research Center, 2014). However, the price of college attendance and the cost of living have markedly increased. Even with a full financial aid package that often includes loans (or future college loan debt), college students with low incomes at 4-year public colleges in 2011-12 had \$12,000 in total expenses after financial aid options were exhausted (Ma & Baum, 2015). In order to close this price gap, students are cutting costs of their basic needs such as food and housing. The data provided in this report confirms the need for investment in policy and practice to support students experiencing food insecurity and homelessness. Advancements in improvements directed at basic needs are vital for the short and long term health and academic success of university students.

BACKGROUND

Food Security

Evidence demonstrates that when low income households are unable to meet their survival needs (i.e., food, housing, health, heating, and transportation), food budgets are sacrificed first (Nord, Andrews, & Carlson, 2005). Similarly, college students with limited resources are also skipping meals to make ends meet. Previous research conducted with college students found that between 21% and 52% of students experienced food insecurity including reduced intake of food, nutritional deficits, and/or worry about having access to enough food (Chaparro, Zaghoul, Holck, & Dobbs, 2009; Crutchfield, 2016; Freudenberg et al., 2011; Goldrick-Rab, Broton, & Eisenberg, 2015; Martinez, Maynard, & Ritchie, 2016). In a study of 10 community colleges across the United States, 39% of students were found to have low food security (Goldrick-Rab, Broton, & Eisenberg, 2015). Similarly, 39% of City University of New York (CUNY) students were found to be food insecure (Chaparro, Zaghoul, Holck, & Dobbs, 2009). In a study of the University of California system, Martinez, Maynard, and Ritchie (2016) found that 42% of students experienced food insecurity (23% low and 19% very low food security).

There is limited research about the effects of food insecurity on the health and academic performance of college students; however, research among children in K-12 education systems provides insight. For children, food insecurity has been linked with higher risk for adverse effects across multiple life domains, including greater risk for lower academic performance (Feeding America, 2017; Winicki & Jemison, 2003) and negative health outcomes (Casey, et. al, 2005). College students, many of whom are young adults, may be experiencing similar effects (Latiner, et al., 2016; O'Neill & Maguire, 2017; Cady, 2014). O'Neill and Maguire (2017) found that students experiencing food insecurity reported health issues such as headaches and low energy. They also reported having trouble concentrating in class and studying at home when they did not have access to enough food. Food insecurity

also negatively impacts energy levels and concentration and may make it more challenging to achieve academic success (Crutchfield, 2016; Goldrick-Rab, Richardson, & Hernandez, 2017; Martinez, Maynard, & Ritchie, 2016). Patton-López, et al. (2014) found that good academic performance was related to higher food security and having fair or poor health was associated with lower food security. One intervention that holds promise as a buffer against the negative effects of food insecurity is implementing CalFresh outreach on college campuses (the statewide version of the Supplemental Nutrition Assistance Program (SNAP) formerly known as food stamps). Frongillo, Jyoti and Jones (2006) found that using food stamps was associated with better learning outcomes among school-age children.

Empirical research is inadequate on the possible impacts of college student food insecurity on student success indicators related to academic performance, health, and mental health. In addition, evidence demonstrating interventions that may buffer negative outcomes are still missing from the literature. This study explores these areas in an effort to develop more effective support for students' holistic health, wellbeing, and academic achievement.

Homelessness and Housing Security

Students across the United States are experiencing homelessness and housing insecurity in higher education. Recent research suggests that housing insecurity impacts a significant number of college students in a variety of higher education institutions. Research at the University of Massachusetts Boston found that 5.4% of students experienced homelessness and 45% of participants reported housing insecurity (Silva et al., 2105). The City University of New York (CUNY) reported that 40% of students experienced housing instability (Tsui et al., 2011). Community colleges appear to have higher rates, ranging from 30% to 50% of students experiencing housing insecurity and 13% to 14% experiencing homelessness (Goldrick-Rab, Richardson, & Hernandez, 2017; Wood, Harris & Delgado, 2016). Research has also suggested that students who experience homelessness struggle to meet a variety of competing needs, including management of personal and financial responsibilities and navigating the college environment (Crutchfield, 2016; Goldrick-Rab, Broton, & Eisenberg, 2015; Goldrick-Rab, Richardson, & Hernandez, 2017; Gupton, 2017)

The issue of housing instability is complex in that students enter higher education with many competing budgetary requirements often not covered by financial aid (Goldrick-Rab, 2016). As affordable housing becomes less available across California, students have little to compete with against high market value rental environments. Further, stigmatization of homelessness may cause students to hide their unstable housing status (Gupton, 2017; Tierney & Hallett, 2012). Homelessness and housing security among college students may make it more challenging to achieve academic success (Crutchfield, 2016; Goldrick-Rab, Richardson, & Hernandez, 2017).

Due to the current gaps in knowledge regarding the issues of homelessness and food insecurity, this study provides quantitative and qualitative descriptions of the prevalence and scope of food insecurity and homelessness among CSU students, as they are related to academic performance and health.

METHODOLOGY

Quantitative Methods

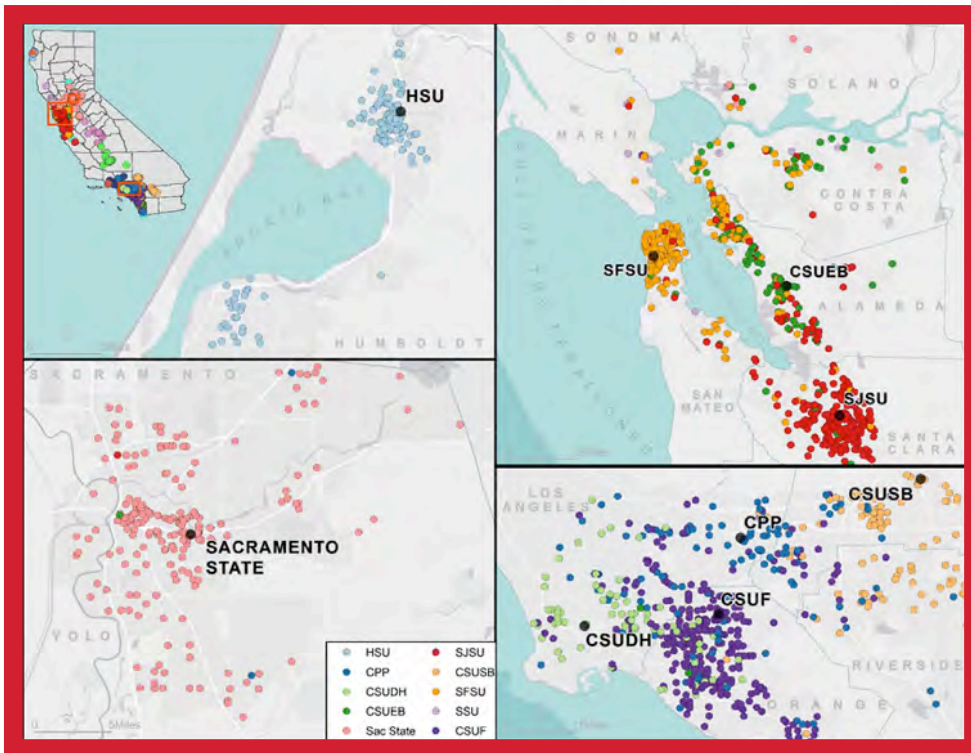


Figure 1

Survey respondents reported living locations based on their nearest major cross streets.

The Phase 2 survey was distributed to a census sample of students via email across all 23 CSU campuses an average of 5.76% participation across each campus for the survey ($n=24,324$) [see Appendix A for campus level response rates]. A total of 37,351 students began the survey and 27,805 completed the survey. Of those ($n=24,324$) completed the survey with no missing responses, which provided the most conservative estimate of food security and homelessness. The average completion rate, the percentage of students who started the survey and completed it, across campuses was 74.4%. The survey was administered on 21 campuses between late October and November, 2016; on one campus between late November and mid-December, 2016; and, on one campus in mid-January and early February, 2017. The surveys were open for approximately three weeks, with one email invitation and two reminders sent out (totaling three). Students were able to enter their names in a raffle to win one of two \$40 Target gift cards. A campus point person, identified by a campus

administrator, worked with the research team to recruit students and administer the survey electronically via campus email address. The marketing team through the CSU Office of the Chancellor created marketing materials (e.g., press release, flyer, social media template posts) for the campus point person to disseminate in order to encourage student participation. Students often lived in proximity to the campus where they attended classes, although in metro-areas there were neighborhoods where students from multiple campuses were represented [see Figure 1].

To measure *food security*, the United States Department of Agriculture Economic Research Service U.S. Adult Food Security Survey Module (10 items) was utilized, using a 30-day time frame. Administration of the type of food security scale was determined using a screening question about sharing meals. Individuals that reported sharing most of their meals were screened into the household food security survey module. All others were

administered the individual food security survey module. The USDA instrument is widely used to measure the concept of U.S. household food security (Bickel, Nord, Price, Hamilton, and Cook, 2000). In 2015, the U.S. Adult Food Security Survey Module (6 items) was piloted in a sample of students at Humboldt State University (HSU) ($N=1,504$). Representatives from USDA ERS conducted a psychometric assessment of the HSU food security scales (combined, household, and individual) that suggested that responses fit the measurement model adequately (Rabbitt and Colmen-Jensen, 2016). A recommendation was made to use the (10-item) for future surveys, which was implemented for this study.

There is no instrument being used to consistently measure housing insecurity among college students. The survey questions for this study were created directly from the definitions used to assess for *homelessness* based on the U.S. Housing and Urban Development (HUD) and the U.S. Department of Education (DOE) definitions, drawn from differing subsections of the McKinney-Vento Act. A 12-month timeframe was used to account for residential change patterns over breaks in the academic schedule. Measures of academic and personal concerns came from subscales of the Presenting Problems Scale. The measure has been validated in college student populations (Erdur-Baker, Aberson, Barrow, & Draper, 2006). Measures of physical health, mental health, and inactive days were drawn from the CORE Healthy Days Measures recommended by the U. S. Department of Health and Human Services (2000), which has been found to be valid and reliable among diverse populations (Center for Disease Control and Prevention, 2016).



A note about measuring homelessness: Many people, particularly youth who are homeless based on both the HUD and DOE definitions, may not identify using that label or be hesitant to do so (Farrugia, 2011; Tierney & Hallett, 2012; Toolis & Hammack, 2015). Therefore, this study included question sets that allowed students to recount where they lived as categorized under the HUD and DOE definitions without explicitly requiring that they label themselves as homeless.

Spatial Methods

Data were used from the Phase 2 survey in which students entered the city and location of two streets that intersected near their residence. Geographic data, along with scores on the USDA Adult Food Security Survey Module (10-item) and affirmative responses on the HUD and DOE indexes were then computed and entered into an enterprise-level relational database, PostgreSQL. The streets were correlated with spatial data collected from the State of California. The food and housing indexes were then interpolated between the individual responses to create continuous surfaces over the state of California. Cal Poly San Luis Obispo, Chico State University, CSU Long Beach, CSU Los Angeles, Maritime Academy and San Diego State University spatial data were not included.

Qualitative Methods

Qualitative data were collected at 11 CSU campuses with students ($n=213$) who identified as housing insecure, food insecure, or both on the quantitative survey between January and June 2016. Campuses were selected for qualitative data collection with the goal to represent experiences from northern, southern, and central California and to include perspectives from urban, rural, and suburban areas. Student participants volunteered and were selected for interviews and focus groups based on reported levels of food insecurity and homelessness from the survey. Participants were offered a \$15 gift card as an incentive to participate. Students participated in semistructured interviews and focus groups, which lasted 60-90 minutes. Participants were asked broad, open-ended questions about their experiences with food and housing insecurity. Interviews and focus groups took place between January and June, 2017 at Cal Poly San Luis Obispo (SLO), CSU Bakersfield (CSUB), Cal Dominguez Hills (CSUDH), CSU Long Beach, CSU Los Angeles (CSULA), CSU Northridge (CSUN), CSU San Bernardino (CSUSB), Fresno State University (FSU), Humboldt State University (HSU), San Diego State University (SDSU), and San Francisco State University (SFSU). Demographic information about the sample for qualitative methods is located in Appendix B. Students were asked to select pseudonyms to protect their privacy.

For a more in-depth description of the research tools and their construction, please refer to the Researching Basic Needs in Higher Education measurement guide (Crutchfield & Maguire, 2017).

SAMPLE

Comparison of Demographics of Survey Participants to Overall CSU Student Population

Overall survey sample characteristics were similar to the demographics of the CSU student body [see Appendix A]. Percentages of racial and ethnic groups were similar, with the percentage of White participants (39.5%) and Asian/Pacific Islander participants (22.9%) represented slightly higher within the sample. The distribution of class standing was similar between the sample and the CSU student body. The largest difference is regarding gender, where females are 56.2% of the student body, but 72.4% of the sample. Women often have much higher response rates than men on surveys (Sax, Gilmartin, & Bryant, 2003; Underwood, Kim, & Matier, 2000).

Defining Food Security

The USDA ERS Ranges of Food Security (Coleman-Jensen, Rabbitt, Gregory, & Singh, 2017) are described in the following manner:

Food security

- **High food security:** no reported indications of food-access problems or limitations.
- **Marginal food security:** one or two reported indications—typically of anxiety over food sufficiency or shortage of food in the house. Little or no indication of changes in diets or food intake.

Food insecurity

- **Low food security:** reports of reduced quality, variety, or desirability of diet. Little or no indication of reduced food intake.
- **Very low food security:** Reports of multiple indications of disrupted eating patterns and reduced food intake.

Understanding Low and Very Low Food Security in the Words of Students

Low Food Security

Phase 1 of the study highlighted a focus on *very low food security* for students. The Phase 2 study included an exploration of food insecurity of students experiencing both *low* and *very low food security*, emphasizing the important similarities and differences in the experiences of students across that end of the food security spectrum. Dilbert (CSUSB) experienced low food security in that he could afford food, but had a reduced quality of food and experienced ongoing stress and fear associated with access to food due to financial constraints.

“ I got food from [the pantry] once and I just, I remember leaving and thinking to myself, “Damn, this is meant for somebody who actually needs it.” In my head, I was like, “I don’t actually need it.” So, I tried to never go again, because to my understanding I was like, “Well, I can afford food. I can’t afford great food, but I can afford food.” Umm...It was tough.

Dilbert *CSUSB*

Very Low Food Security

Not all students experience food insecurity because they come to higher education with low income status. Like some of her peers, Tiffany (CSULB) had not previously experienced food insecurity. When Tiffany applied for financial aid, her mother had a successful job that provided a contribution for tuition so high that she was not eligible for financial aid. Unfortunately, her mother lost her job two months after the start of the semester which led to her diminished access to food.

“ It’s been difficult. Well, ‘cause in the beginning when I first got here I didn’t really have a lot of money and I didn’t have any grants. So basically what I used to eat 3 days out of the week was like Minute Maid and chips and that’d be it...I had maybe a dollar and then I had to make it like, stretch out of like, 2 days and then 3rd day...I wouldn’t eat anything cause I didn’t have any money.

Tiffany *CSULB*

Like many other participants, Dilbert felt guilty for utilizing his campus pantry because he felt that there was a hierarchy of need; he was not “needy” enough even though he had constant stress about having the food he needed. Alejandro (SDSU) was low food secure, but his concern led him to skip meals, “I do skip meals because it’s not necessarily I don’t have the money...I don’t want to waste the money because what if I need it for something else or I can use it for another thing I guess?”

Defining Homelessness

The instruments developed for this study assessed for both the definition of homelessness used by the U.S. Housing and Urban Development (HUD) and the U.S. Department of Education (DOE), both drawn from differing subtitles of the McKinney-Vento Act. HUD defines homelessness as sheltered (in a HUD funded emergency shelter, transitional housing, and supportive housing) and unsheltered (on the streets, in abandoned buildings, or other places not meant for human habitation) [Homeless Emergency Assistance and Rapid Transition to Housing Act of 2009 (P.L. 111-22, Section 1003)].

The U. S. Department of Education (DOE) uses the education sub-title of the McKinney-Vento Act's definitions of homelessness, which includes youth who lack a fixed, regular, and adequate nighttime residence; and unaccompanied, which includes youth not in the physical custody of a parent or guardian. This broader definition was used as the foundation for homelessness determinations for K-12 students and therefore allows for comparison of data with elementary and secondary educational studies, which have been shown to be more commonly descriptive of youth or young adult homelessness (Ausikaitis, et al., 2015; Dworsky, 2008; Mawhinney-Rhoads & Stahler, 2006; Tierney, Gupton, & Hallett, 2008). Public school officials (K-12) identified 88,966 unaccompanied homeless youth for the 2013-2014 school year (U.S. Department of Education, 2014). This DOE definition of homelessness is legally required as a determinant for rights and access for students in the K-12, but is also legally required for post-secondary programs under the Higher Education Act. Higher education requirements include stipulations for FAFSA financial needs analysis and eligibility for TRIO and GEAR UP programs.

Understanding Homelessness and Unstable Housing in the Words of Students

Students shared vividly about how living on the financial edge can quickly turn into a housing crisis. Elizabeth (FSU), explained the experience of becoming homeless after being unexpectedly evicted from what she thought was a stable living situation.

“**And then come June he tells us we need to be out of our house by the end of our lease, because he’s selling the house. And so that put me in a hard position ‘cause me paying for everything [out of pocket], I didn’t set aside money for a deposit anywhere or anything. And so, I ended up being homeless for about four months. Sleeping on friends’ couches, staying in my car.**”

Elizabeth *FSU*



When she started the semester, Elizabeth had budgeted very carefully to include her housing, but like many students, her budget did not include large unanticipated costs. At the time of his interview, Jaime (CSUDH) was housing insecure. He paid his rent regularly, but his landlord was pushing him out of his current housing to try to move someone in who could pay higher rent. Jamie (CSUDH) said, “My landlord is crazy, she’s turned off the water, turned off the light...she’s very strict, I feel like I live in a jail...especially now that’s when the one rooms are going above \$600 in LA County.” Despite living in a situation that felt like living in “jail,” at times without water or power, Jaime chose to stay in his living arrangement because he could not afford to move elsewhere. Jaime is housing insecure in that the landlord is taking action to push him out and there are no other fiscally available options.

FINDINGS

Prevalence of Food Insecurity

Overall, 41.6% of CSU students reported food insecurity ($N=24,324$), of those 20% ($n=4,875$) experienced low food security and 21.6% ($n=5,263$) very low food security. Conversely 36% ($n=8,732$) reported high food security and 22.4% ($n=5,454$) reported marginal food security. National prevalence rates for food insecurity for all U.S. households is 12.3% (USDA ERS, 2017), making the case for college students as an emerging population with a higher risk for food insecurity. The areas around some of the CSUs in more rural locations (HSU, CSUF, and CSUMB) showed higher levels of food insecurity while urban cities showed a complex mosaic of small areas of security next to areas of insecurity [see Figure 2].

Food Security by demographic groups

Overall, 41.6% of CSU students reported food insecurity in the low and very low food security ranges. The rate of food insecurity for women (42.6%) was slightly higher than for men (39.3%). First generation college students reported higher food insecurity (49.0%) than non-first generation college students (36.9%). Students who received Pell Grants (51.4%) reported higher rates of food insecurity than the CSU average. Transfer students (43.2%) had somewhat higher than average rates of food insecurity. Students who are former foster youth (62.9%) had much higher than average rates of food insecurity. EOP (57.8%) students also had much higher than average rates food insecurity. ESL (49.2%) students had higher than average rates food insecurity. Dreamers (46.7%) and DACA students (44.6%) had higher than average rates of food insecurity. Full time students (42.3%) had higher food insecurity than part time students (38.6%). Graduate students (33.8%) and freshmen (36.1%) had the lowest rates of food insecurity, while sophomores (41.8%), juniors (46.4%), and seniors (45.4%) had higher rates of food insecurity. The average rate of food security for Asian non-Hispanic was 64.7% and for White non-Hispanic was 62.7% and these two groups reported the highest levels of food security when compared to the CSU average (58.4%).

When the intersection of first generation students and race and ethnicity were examined, disparities become more obvious. Students who reported being both first generation to attend college and Black/African American showed the highest levels of food insecurity (65.9%). Students who identified as Asian and were not the first in their families to attend college were the most food secure [see Table 1]. Students who had their own children also reported a high level of food insecurity. Students who were former foster youth (62.9%) had much higher than average food insecurity.

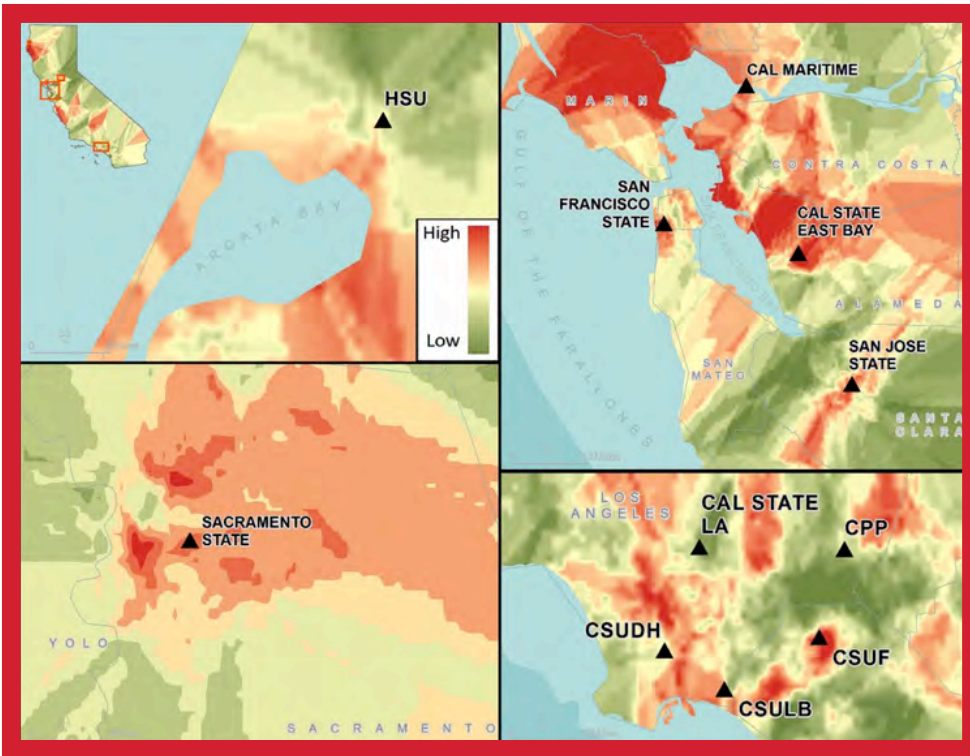


Figure 2
 CSU Student Food Insecurity. Interpolated surface for California from the food security index values. The more food secure students are represented by the green, while the less food secure students are represented by red.

	High Food Security %	Marginal Food Security %	Low Food Security %	Very Low Food Security %
White/First generation	30.8%	21.8%	21.2%	26.1%
Asian/First generation	32.2%	25.3%	21.2%	21.4%
Black/African American/First generation	17.6%	16.5%	25%	40.9%
Native Hawaiian or Other Pacific Islander /First generation	26%	20.7%	20.1%	33.1%
Hispanic Participants/First generation	26.8%	23.8%	23.9%	25.6%
Other/First generation	26%	24%	23.9%	26.1%

Table 1
 Percentage of student food security range by race/ethnicity and first generation college student status.

Prevalence of Homelessness

Overall, 10.9% ($n=2,661$) of CSU students reported being homeless ($n=24,324$). Homelessness was determined by one or more affirmative responses on the combined HUD and DOE definitions in the last 12 months. The heat map illustrates the actual number of students who reported one or more indicators of homelessness on the survey based on the HUD and DOE definitions and shows the density of students who were homeless across California. More students were homeless in urban areas, the primary exception being rural Humboldt County [see Figure 3].

Homelessness by demographic groups

Overall, 10.9% ($n=2,661$) of CSU students on average reported being homeless one or more times in the last 12 months. Students who identified as Black/African American on average experienced homelessness at higher rates (14%) than other racial groups (9.8-11.5%). Non-Hispanic students (11.2%) experienced homelessness at slightly higher rates on average than Hispanic students (10.1%). Men (14.1%) experienced homelessness more often than women (9.6%). First generation college students reported slightly higher than average rates of homelessness (11.2%), and higher rates than non-first generation college students (10.7%). Students who received Pell Grants had higher than average rates of homelessness (12.6%). Transfer students had higher than average rates of homelessness (12.9%). Students who were former foster youth (24.9%) had notably higher rates of homelessness. International (15.7%) students had higher than average homelessness. EOP (13.4%) students reported higher than average rates of homelessness. Students who speak English as a second language (12.6%) had higher than average rates of homelessness. Dreamers (10.1%) and Deferred Action for Childhood Action (DACA) students (9.1%) had lower than average rates of homelessness. Disparities among demographics were clearer when the intersection of first generation college students and race and ethnicity were examined. Students who identified as Black/

African American and first generation college students (18%) experienced homelessness at much higher rates than any other racial or ethnic group who were also the first in their generation to attend college (9.6-12.6%) [see Table 2]. Full-time students (11%) reported homelessness at similar rates as part time students (11.1%). Disparities in class standing existed where freshmen (8%) and sophomores (9.5%) had lower rates of homelessness, and juniors (11.8%), seniors (12.2%), and graduate students (11.4%) had higher rates.

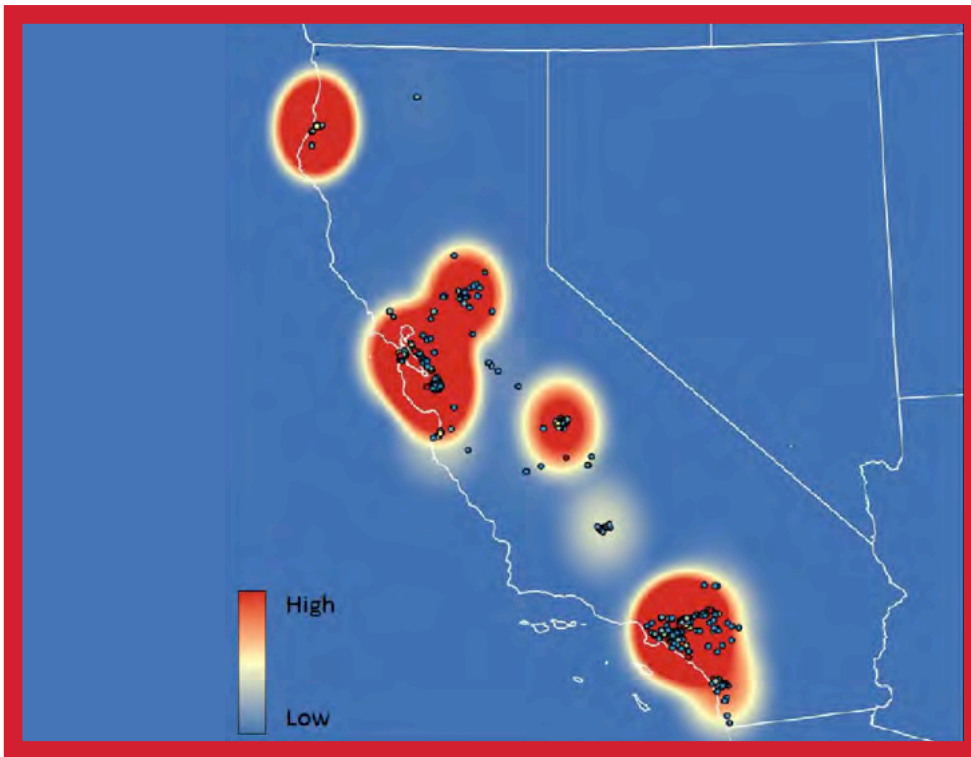


Figure 3
 CSU Student Homelessness. Red areas expand as the number of students who reported homelessness goes up. Dots darken when students indicated multiple indicators of homelessness.

	Homeless %	Housed %
White/First generation	12.6%	87.4%
Asian/First generation	9.6%	90.4%
Black/African American/ First generation	18%	82%
Native Hawaiian or Other Pacific Islander /First generation	8.9%	91.1%
Hispanic Participants/ First generation	10.1%	89.9%
Other/First generation	10.4%	89.6%

Table 2
 Percentage of student homelessness by race/ethnicity and first generation college student status.

ACADEMIC ACHIEVEMENT, MENTAL AND PHYSICAL HEALTH, AND PERSONAL CONCERNS

Findings of the current study suggest that students who report food insecurity and homelessness as a pattern scored more adversely on indicators of health, mental health, and days of inactivity. Qualitative data were consistent with data from the survey, as students described how having unmet basic needs negatively influenced most of the facets of life. They described working long hours, struggling academically, and having negative impacts on their mental and physical health.

Academics

Many students experiencing food insecurity, homelessness, or both had lower GPAs and higher academic concerns than students who reported being food secure and/or housed [see Figures 4 and 5].

As noted in the qualitative interviews, there was a strong connection between not having enough to eat and academic success. Susan (CSUDH), like so many of her peers, worked hard to make food stretch as long as possible. Both the stress to make food last and the lack of food consumption influenced her ability to function academically.

“ I would get bananas and I will cut it in half. I’d eat only half in the morning, and then I would wait five hours, then eat the other half, just so I have something in my stomach consistently...I would struggle to concentrate for sure, because sometimes that’s all I could think about was where was my next meal going to come from. At the same time, I would always push myself to just keep going, just keep going, just keep going. ”

Susan **CSUDH**

Brandon (SDSU) said that his peers in class had a “running joke” and would ask him if he had eaten each day. He said, “Because there are times where I just don’t. It’s just like I could definitely see that, whether it was class participation or quality of work, could have a direct effect.” Students found themselves working to balance college graduation as a long-term goal with work to ensure they had food to eat. Peter (CSUN) said,

“ It was one of those semesters all my classes were really intensive, to the point where I actually had to make the decision, do I sacrifice work so I can dedicate the time I need for these classes, and get started again? Or do I risk failing these classes so I have money? I went with the study side. I dedicated the time to the studies, and my belt went down two notches. ”

Peter **CSUN**

In interviews, students described a variety of ways in which housing insecurity or homelessness influenced their educational outcomes. Clark (SFSU) and Gabrielle (CSUDH) were clear that they had the academic skill to achieve, but that housing instability negatively impacted their GPAs. Clark felt he had to sacrifice a class to succeed in other classes and manage the challenges of housing instability. He said, “This semester when my housing was really insecure was rough. I got a D in one class...I just cut down one in order to get fairly good grades in the others...It’s better now and for the foreseeable future.” Gabrielle (CSUDH) also spoke of how being highly mobile influenced her grades. She said, “It affects my studying if I don’t know where I’m going to go, where am I studying or am I concentrating on studying because I’m not worried about where I’m going to go.” Surprisingly, other students who experienced homelessness talked of high overall GPAs because they had additional study time as they found refuge in the library and in other common spaces on campus because they had no other place to go. This was consistent with results that suggest that though students who experienced homelessness did have lower GPAs, the difference among their housed peers was small. Students said they spent long hours studying in the student union, the library, and other spaces around campus where they could arrive early and leave late without disruption and feel safe. Patricia (CSUDH) spoke about feeling lucky that she found a job in the library. She said, “That’s been awesome, because their hours are very flexible and it keeps me up and out, because...I would have been in the library anyway.” She, like many others, reported a strong GPA because she spent so much time on campus.

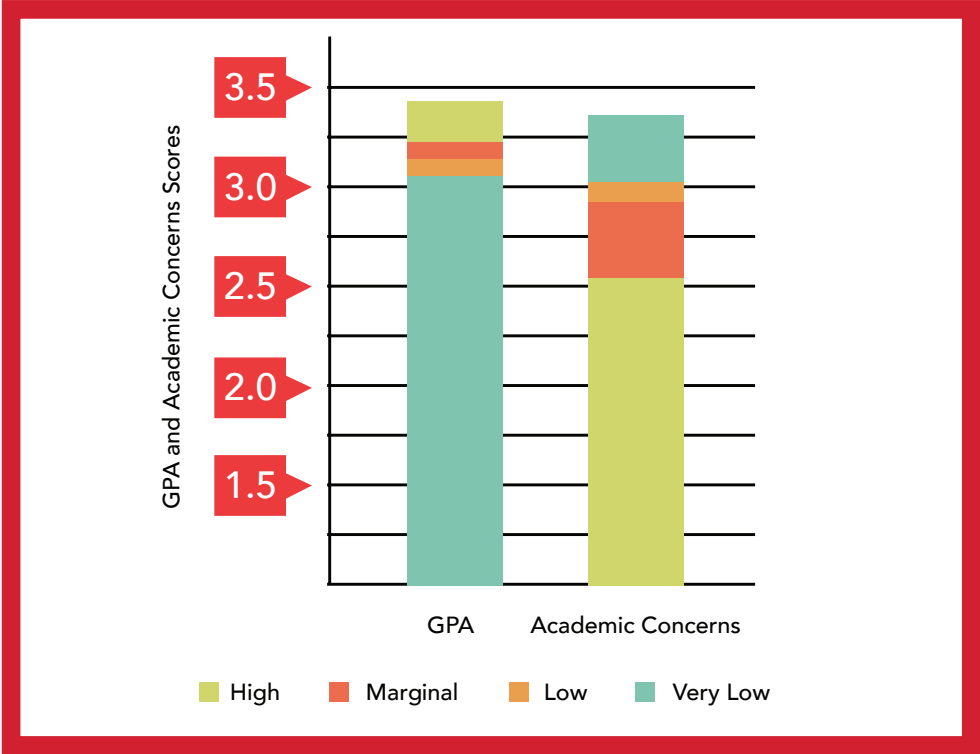


Figure 4
Food security as it is related to academics.

Note. GPA was based on self-report. Academic Concerns were created from the Presenting Problems Scale using a continuous variable from 1-5 based on current level of stress, where the score goes up with greater concern.

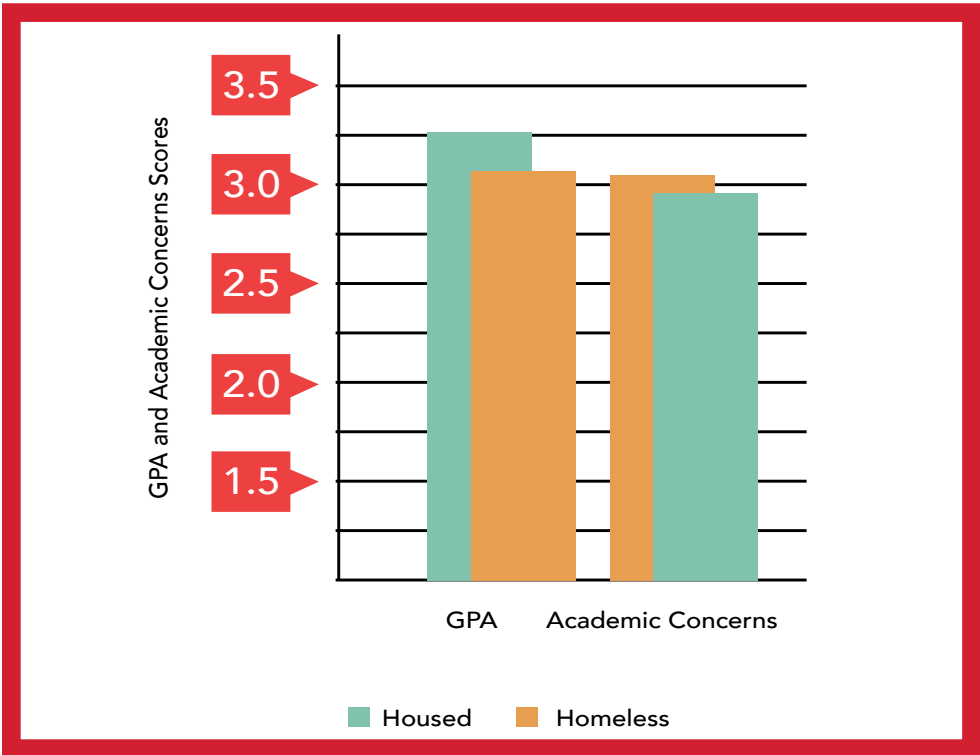


Figure 5
Homelessness as it is related to academics.

Note. GPA was based on self-report. Academic Concerns were created from the Presenting Problems Scale using a continuous variable from 1-5 based on current level of stress, where the score goes up with greater concern.

Students experiencing homelessness emphasized how difficult it was to make constant trade-offs, persistently being required to determine what to prioritize. Clark and Gabrielle reported that they had average or high GPAs; however, thinking about or seeking a place to stay was “like a job,” and caused stress, anxiety, lack of focus, and difficulty finding time and locations to study in a quiet place.

Mental and Physical Health and Personal Concerns

Further, the negotiation of needs often generated great stress for students, exacerbating challenges to their personal concerns and mental health, which was often inextricable from physical health. Students who were food insecure, homeless, or both reported poorer mental health more often in the past 30 days than students who were food secure or housed. Poor mental health was defined as the number of days per month students self-reported stress, depression, and problems with emotions [see Figures 6 and 7]. Students reported high levels of personal concerns on the survey when basic needs were unmet [see Figure 8]. Personal concerns were indicated on the survey with items such as anxiety, fear, irritability, depression, among other worries and real stressors were often described during interviews. Priscilla (CSUSB) discussed the mental and physical impact of low food security. Priscilla said, “I would save money and get the cheapest foods and, I started feeling really lethargic, just nasty, you don’t get the energy...We have this whole focus, this whole responsibility on our shoulders...”

There were also heavy tolls for homeless students’ physical health as well. Food insecure and homeless students as a pattern scored more adversely on physical health indicators. They reported having far more days with physical health issues,

such as physical illness and injury, than their secure peers [see Figures 6 and 7].

Bernard (SFSU), like most of his peers in the study, discussed the physical repercussions of eating on a minimal budget. He experienced food insecurity and homelessness, and discussed the challenges of working multiple jobs to make ends meet, taking courses, and finding time and money to eat.

“**Canned foods just don’t do it. Yesterday, all of a sudden I started with these tremors in my arms. Ugh, nutrition [laughs]. Just not enough time, not enough money. It’s very hard to concentrate. You’re exhausted. You couldn’t read a book and you fall asleep. It’s not easy, even in class.**”

Bernard *SFSU*

Charles (SLO) mentioned that he goes to bed hungry often in order to make his financial aid stretch, but realized it was having a physical impact. He said, “I was just incredibly dizzy. I just realized I need food to function.”

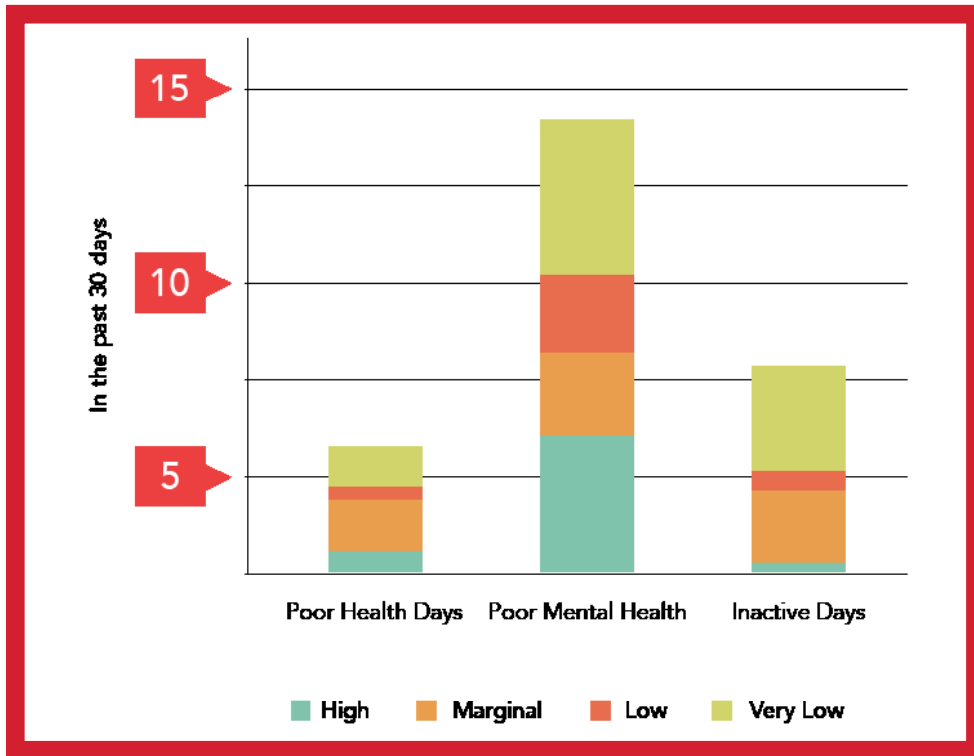


Figure 6
Food security as it is related to health.

In interviews and focus groups, students universally discussed how experiencing homelessness increased their stress and decreased their physical well-being because they were constantly looking for places to sleep. Many students also recounted poor health associated with the inability to access cooked food and showers and with sleeping in places not intended for human habitation, such as cars or storage units. Elizabeth’s (FSU) experience mirrored many others who lived in public spaces and who couch -or dorm- surfed.



Elizabeth and others discussed that experiencing homelessness had an influence on all aspects of their lives. Stress permeated their academic success, physical and mental health, and personal relationships. Like others, Elizabeth never considered that she would become homeless because she perceived that experience through the lens of a stereotype about what homelessness was. She found that her experiences, her ability to do something as basic as taking a shower, was challenged in ways she had never anticipated.

“

Friend's couches, ya know, a couple nights in my car. Thankfully it was warm enough to where I'm not freezing to death in the car...It was difficult... because when you think about being homeless you think about the people on the streets and whatnot. But really, it can be anybody. And I never thought it would happen to me. So my friends were willing enough to let me stay on their couches, which I am very appreciative of. What really got to me though, one morning when I stayed at a certain friend's house and her roommate was kind of getting annoyed I was there, and I didn't want to overstay my welcome...and I had left that day before showering, and so it really hit me like I didn't have a place to shower. Something I would never want to wish upon anybody to go through.

”

Elizabeth *FSU*

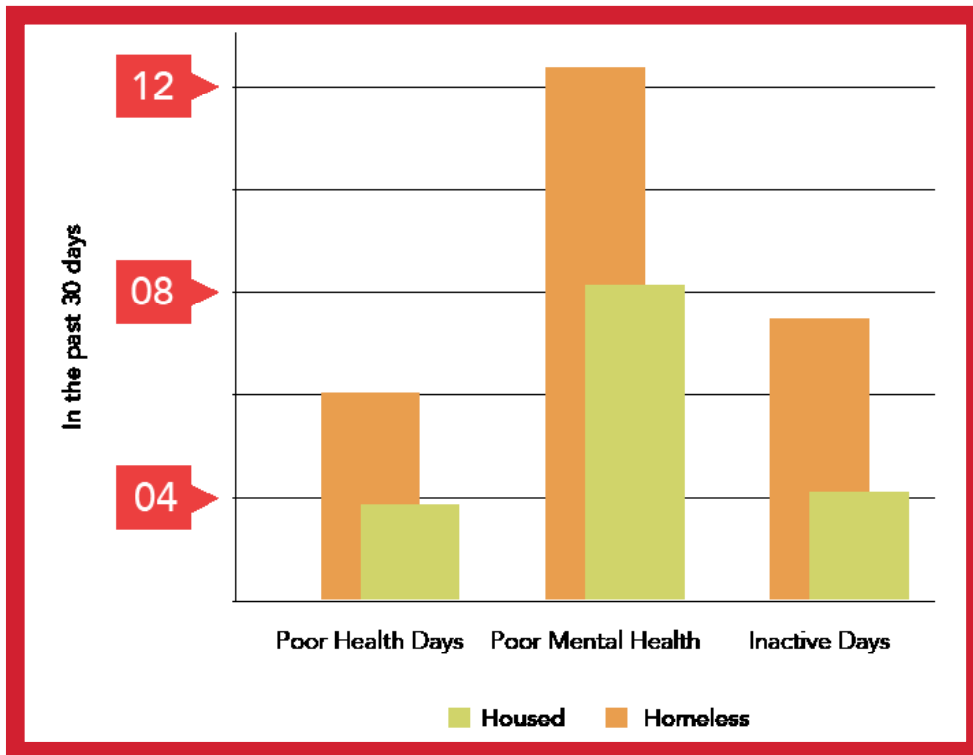


Figure 7
Homelessness as it is related to health.

Inactive Days

The student narratives illustrate the constant struggle to juggle the demands of not having enough time along with chronic material hardship of not having enough to eat or knowing where they were going to stay next while working hard to succeed in classes. For some the demands were untenable and this was clear in the data. Students who were food insecure, homeless, or both consistently indicated that they missed more days of school, work and recreation because of feeling mentally or physically down than their counterparts who were more food secure, housed or both [see Figure 7].

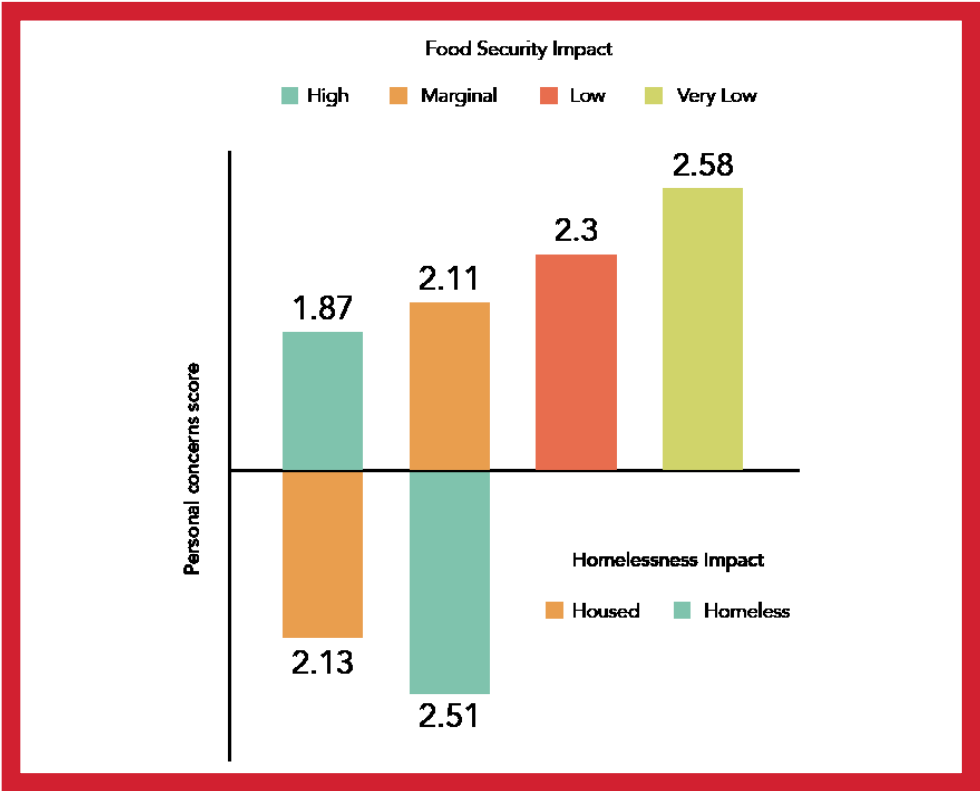


Figure 8
 Food security and homelessness as related to personal concerns.

CHALLENGES AND COPING STRATEGIES FOR MEETING BASIC NEEDS

Both quantitative and qualitative data indicated that students go to great lengths to meet their basic needs within their budgets. Some students experiencing food insecurity reported struggling to buy groceries because they did not know how to budget well (26.6%) or that paying bills was confusing (17.3%). However, the number one reason students experiencing food insecurity reported not being able to afford groceries was the lack of money (70.4%), compared with food secure students who reported a lack of money at a far lower rate (17.2%) [see Figure 9]. Students were also asked for reasons they may not buy groceries that go beyond financial reasons. Some food insecure students did not have access to desirable food (31.1%), or they were unable to shop and prepare a balanced meal (19.2%). Some were too busy or forgot to eat (10.2%), or were dieting (10.2%). However, most students could not afford groceries simply because they did not have enough money in their budgets.

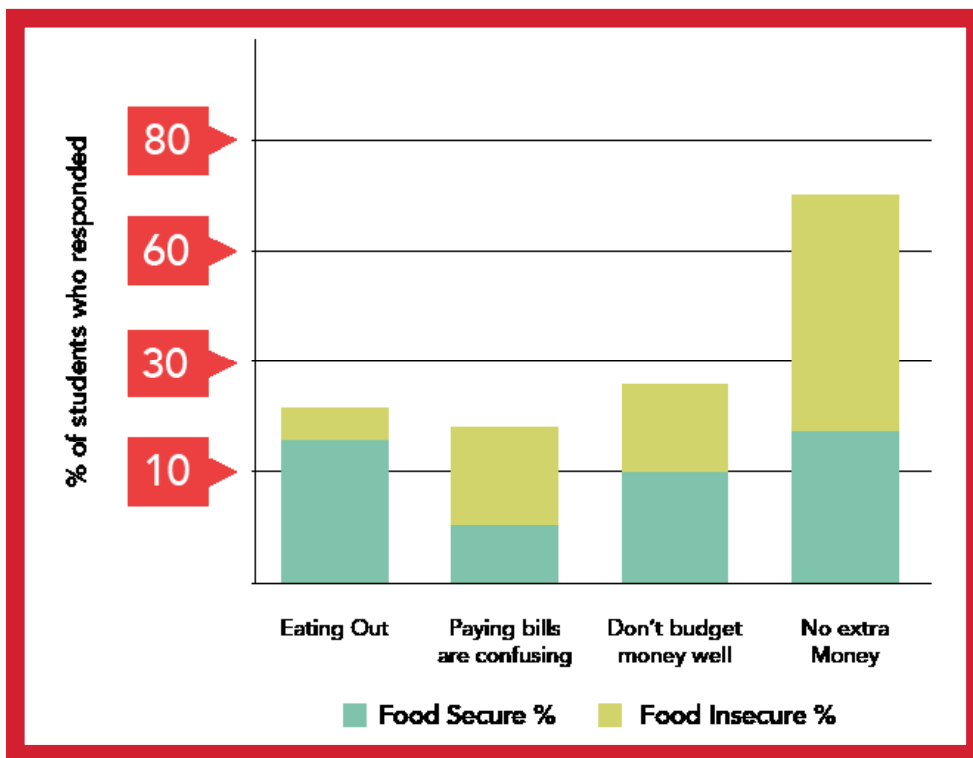


Figure 9
Budgeting explanations for why students could not buy groceries.

Work study was an opportunity for many students who qualify for financial aid to earn education and living costs for college. In interviews and focus groups, many students discussed how important on campus employment was, especially because on campus jobs often provided skill building and learning opportunities, linked them to campus resources, tended to be more flexible around course needs, and were close to class locations. In speaking about her work study position, Christy (SDSU) spoke about how helpful her supervisor was and that she was able to earn much needed experience and money. She said, “I usually do around 11 hours a week depending on the week, when they need me and stuff. It’s a very flexible job so I enjoy it.” Dolly (FSU) also had a work study employment, and this mitigated her anxiety about her financial well-being and allowed her more time to study. She said, “I think it was helpful because it was really, it didn’t really cause me that much stress. Especially being a full time college student. I couldn’t really find a full time job because that would be even more stress.”

However, few students were able to access this benefit. Only 7% of survey respondents reported securing a work study position. Many students

spoke about the difficulty in finding work study opportunities, or having work study employment, but being limited to very few hours, which sometimes meant they had to seek a second job off campus to make ends meet. Like Maggie (CSULA), work study opportunities were few and far between, “it’s really difficult to find a job on campus. It has been so hard for me, I’ve been applying since last semester and still, like I haven’t gotten anything.”

Participants were asked what resources they used if they ran out of money for food. Many students discussed how the end of the semester and breaks in the academic year were most challenging. Evelyn (SFSU) spoke about the summer, “By the end of the semester financial aid (was) gone...You might be able to increase your hours at your job but then that extra income you’re making has to be used for rent. The food doesn’t really happen...summer’s probably the toughest.” Both food secure and food insecure students reported that their friends, family, or roommates gave them money for food (29.3% and 31.8%, respectively). Similarly, 25.2% of food secure students and 35% of food insecure students reported that friends, family, or

roommates would provide them with food. Nadine (CSUB), who was experiencing both homelessness and food insecurity spoke about her reliance on friends, saying, “I was crashing on my friend’s couches, they were buying me dinner. So it’s one of those things like I know I have that option. I don’t like to use it, because you sort of start to feel like a mooch, and it’s not a good feeling, you know?”

Students listed other cost saving strategies to meet basic needs, including attending events where food was available, living in small apartments with many people, choosing inexpensive food options that last, and combining food with that of other struggling students. Abel (SFSU) said that he attended events on campus for free food. He said, “I feel bad taking it because I am manipulating for food to survive. I will stay for their entire event and get their information to ease my guilt.” Lalith (SDSU) discussed not buying a bed in order to live on \$500 a month, which included the cost of her rent, contribution to utilities, food, and educational expenses. He said, “I mean I didn’t purchase any furniture or anything. I even sleep in a sleeping bag... I got used to it because I feel like when I came here it’s like -- because of the tuition and stuff.”

Use of On-Campus Supports

On campus basic needs supports appeared to be underutilized at the time data was collected. CalFresh and campus emergency food pantry utilization increased for students reporting low and very low food security when compared with those who were food secure. However, only 10.1% of students who reported very low food security and 7.5% of students who reported low food security used CalFresh at the time of the survey. Food insecure students also reported low utilization of campus food pantries; only 12.7% of students who reported very low food security and 9.8% of students who reported low food security used this resource.

Students were asked about awareness and use of food pantries, CalFresh application assistance, Electronic Benefits Transfer (EBT) use, campus gardens, emergency housing, counseling and health centers [See Appendix C]. Many students reported that they had never heard of the on-campus services, or that they were not offered at their campus. The majority of students were unaware of emergency housing services being offered on their campus or reported these supports were not offered (71.4%). Of all students surveyed, many students indicated they were unaware of a food pantry located on their campus, or reported the service was not offered (51.9%); 35.8% had heard about a campus food pantry, but never used it. However, those students that did know about services welcomed support.

Tom (CSUN) discussed how welcome he felt at the food pantry at his campus after having some hesitation about going there. He said, “I remember the first time I went, I was like, ‘I really need this, I’m super hungry’ they’re like, ‘Trust me, we work here. We eat here too.’... I felt like I had to justify why I was there to them, and they don’t need that. They don’t need that information, they just want you to be happy and healthy.” However, students’ experiences with food pantries were mixed. One student was living in her car and chose to access a food pantry on her campus. Her experience there made her hesitant to return.

The student was living in her car, but felt like the pantry was not a place she could use. Many students suggested that food pantries were helpful; however, eligibility requirements or even just the message or tone of the person working there made a difference.

A similar trend was observed with access of CalFresh application assistance, where 39.5% of all surveyed students had never heard of this service and 49.5% had heard of CalFresh, but never applied. Students were asked to report on why on-campus services were not used. Approximately a third (31.7%) of the sample indicated that they did not need assistance from the services listed.

“

We have a food pantry that you're just supposed to be able go and get food from when you're hungry, but myself and other students have experience where you go in there and it's like, "You can't come in here." Or, "this is supposed to be a temporary solution. You're just not supposed to keep coming here and getting everything you want." ...The message was that I shouldn't keep coming down here, it was okay for me to come a few times but I need to move on.

”

Another 19.6% perceived that they did not qualify for these services. Students also reported not having time to access services (24%) and not knowing how to access services (30.2%). The number one reason services were not utilized was students had never heard of them (42%). Like many of her peers, Sunny (SDSU) mentioned that it would be helpful to have someone on campus to help facilitate accessing services. She said, "I just really want to advocate for someone who can act as a liaison between students and organizations... [like] someone who helped people [get] information regarding CalFresh. If we had that on campus, I think that would be super helpful (Sunny, SDSU)." Underutilization may indicate an opportunity to increase coordination, outreach and awareness-building on campus about services and supports offered, including how to qualify.

In interviews and focus groups, students were asked if they had hesitated to use services designated for those experiencing food or housing insecurity. While some said they did initially hesitate to use services, many discussed that their physical and mental well-being outweighed their desire to keep their circumstances private. In speaking about CalFresh, Jessica (HSU) said, "But it's very much like I would not survive without them, so I don't really care what the stigma is because it's a necessity."

Rain (CSULB) discussed that she felt it was vitally important to have services that stigma could not be an option. She spoke about how relieved she was after receiving emergency housing.

Many students discussed how having normalcy on campus about use of services allowed them to find out about and feel comfortable with using services.

“

I remember the first night, I remember just walking in there [crying] and there's two bunk beds or three bunk beds in the room they put me in. And its own restroom...[laughs], and before that I was jumping around, occasionally sleeping on a friends' floor, or whatever in a little corner, you know, whatever I could find. I'm walking into this big room and was like "oh my gosh this is for me, are you kidding? [and] The meals were heavenly, oh my gosh. I -- throughout this entire time I had a couple of different priorities. It was like definitely school, that was priority number one because even though my immediate needs were not being met that great I knew that in the long run it'd benefit me.

”

Rain CSULB

CalFresh: California's Federal Supplemental Nutrition Assistance Program (SNAP)

A small percentage of students reported not using campus support for basic needs, including CalFresh, due to feeling embarrassed (11.2%) or not believing in the use of social services (2.1%). However, of those students who knew about CalFresh, many understood that need outweighed stigma. Fernanda (CSUB) spoke about hearing about CalFresh and spreading the word to her peers. She said, "I see that they're struggling and I tell them. I'm very open about getting food stamps. I'm not embarrassed on that thing."

CalFresh is a potentially significant buffer against food insecurity for college students. CalFresh eligibility for students is primarily dependent on student status, the number of people in the household, household income, federal work rule, and the federal work rule exemptions. Results from the survey indicate that close to 70% of CSU students would be eligible for CalFresh by household income alone. When all factors were considered, less than half of those in financial need would receive these critical basic need funds.

Many students spoke about CalFresh as a fundamental way to access food. Fiona (SDSU) spoke about how critical CalFresh was to her physical and mental health and the impact it had on her academic success.

Although 6.1% of CSU wide respondents used the benefit in the past, only 4.9% reported that they were currently enrolled in the CalFresh program. One reason CalFresh may be largely underutilized is because federal and state eligibility criteria categorically disqualify most full time college

“ I don't remember how much I got a month, but that was the only semester in college I've ever made the dean's list. I was getting healthy food. When I think about money problems, obviously, it consumes you...I was getting the nutrition, I was getting the energy. I was awake and eating breakfast every morning. It made a difference. ”

Fiona SDSU

students from benefits. There are specific criteria that allow students to be exempt from disqualification (i.e., being employed 20 hours a week or an average of 80 hours a month, a single parent of a dependent household member under the age of 12, and enrolled full time [12 units], among others) (California Association of Food Banks, 2017). Elizabeth (HSU), like many others, spoke about how these restrictions made her choose between meeting requirements and attending college. She said, "It's hard being a student working on minimum wage and affording your food too. It's also hard being a student and working at the same time. But if you don't work, you can't get food stamps, so you've got to weigh your time pretty well."

Additionally, college student CalFresh eligibility is complicated and often leaves students and service providers confused. This might be explained by the inconsistency between the state and federal government guidelines about how college students qualify for CalFresh. When students were asked about their ability to qualify for CalFresh, 37.3% reported they thought they could qualify with the CalFresh student exemptions. Based on SNAP federal income guidelines, 68.4% of students reported they could qualify for CalFresh. Student response suggested that a conservative estimate of the percentage of CSU students that could qualify for CalFresh by both the state and federal criteria is 27.4% [See Table 3]. Given that only 4.9% of students

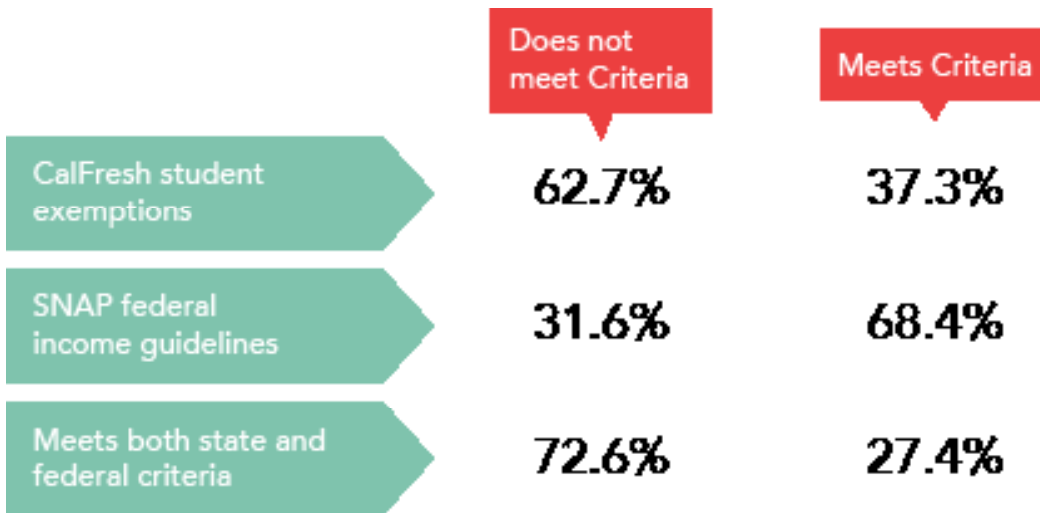


TABLE 3
College Student CalFresh Eligibility.

reported being current users, there are still many students who may qualify and benefit from this important support.

Another barrier to CalFresh use was the lack of awareness about benefits and how to apply. Although the state has a CalFresh Outreach program to increase awareness, help residents complete the CalFresh application, assist with the verification documents and follow-up over the 30-day application process, most CSU campuses are only just beginning to conduct CalFresh Application Assistance on their campuses (CSU, Chico, Center for Healthy Communities CalFresh Outreach Program, 2017). This lack of CalFresh awareness across the CSU system may help explain why 39.5% of all student respondents reported they had never heard of CalFresh or they believed it was not offered on their campus, and 49.5% of students had heard of it, but never used it. In interviews and focus groups, many students spoke about not knowing about CalFresh or had attempted to enroll in CalFresh off campus and received misleading or incorrect information about their eligibility. As Ella (CSUSB) noted, “I needed to prove that I worked and I needed to prove that I needed it. So it did take a while to

actually prove that I was a student and I was working ‘cause they have different requirements for students, so it’s not that simple.” Many were told that, as students, they were not eligible for CalFresh at all.

CONCLUSIONS AND RECOMMENDATIONS

It is clear that food and housing security shape the personal and academic progress of students. The enormity of the level of unmet basic needs among CSU students is daunting; and yet, campuses across the CSU are making heroic efforts to increase support and resources for students' who face material hardship to increase holistic student success. Further significant responses to student basic needs are required if students experiencing barriers to basic needs are to be retained to graduation. Responding to students who are housing or food insecure will require complex, long term approaches to solution building.

Develop affordable food and housing options for students.

Students who experience food and housing insecurity spoke at length about the negative repercussions of food and homelessness, including ramifications on their physical, mental, and academic success. By far, students responded that they simply did not have enough money to purchase groceries (70.4%). The overarching narrative about the problem must reflect the truth about what students are experiencing. Students need places to live that are within reasonable means. Continued work on the implementation of California House Bill 1228 to provide priority access to housing for students experiencing homelessness over breaks is required. Emergency responses to basic needs (i.e. food pantries, free on campus meals, emergency housing) must include healthy and affordable food options. Long-term responses to food security may include developing food and housing options within the economic means of the student population.

Target strategies to address the student populations that reported the highest levels of food insecurity and homeless, first generation Black/African American college students.

The disproportionate incidence of food and housing insecurity is clear. Initiatives to address educational opportunity gaps for students of color and first generation college students must include the linkage to basic needs. Linkages across programs intended to enhance educational

and interpersonal experiences can be made by single points of contact, facilitating support for students.

Conduct longitudinal research exploring basic needs security as predictors and protective factors that may promote persistence and degree completion in alignment with the CSU effort to increase graduation rates and decrease time to degree completion.

This report is focused on the current status of students, but longitudinal research is required to determine educational, professional, health and personal outcomes for students beyond today. Congruent with the CSU's ongoing efforts to increase graduation rates and decrease time to degree completion, longitudinal study is necessary to understand how food and housing insecurity impacts student success. Additionally, it is urgent that there be continued development and evaluation of interventions intended to increase basic needs security.

Incorporate single points of contact who are trained in trauma-informed perspective in programmatic responses to students experiencing food and housing insecurity and co-locate space for the contact and students.

Single points of contact must be instituted on campuses to lead in coordination of programs and services and linkage to a community of students with similar experiences. Single points of contact need to be trained in

trauma-informed approaches to ensure that interactions with students recognize their specific needs and honors their experiences. Further, students who experienced homelessness discussed needing spaces on campus to rest or study, where they spent long hours to avoid unsafe or unstable housing. Associated space for programs and services is needed so that students have areas to seek support, convene, study, and find respite.

Identify and institute creative campaigns to develop a campus culture of awareness and response to support students who experience significant material hardships.

Students report navigating a variety of challenges on their own. The vast majority of students sought thoughtful, high touch support networks on campus. For these support networks to exist in more idiosyncratic ways, it is essential that institutions attend to the climate and culture around food and housing security so that staff, faculty, and administrators are able to identify and support students in need. Institutional agents must be educated on how to identify indicators of food and housing insecurity, be up-to-date on campus resources and support structures, and develop the skills needed to create a safe environment for students to come forward.

Utilize campus-based CalFresh enrollment and other strategies as a preventative measure for

food insecurity. Results suggest that enrollment in CalFresh can be a mitigating factor for food insecurity. Unfortunately, students report barriers to accessing CalFresh. Advocacy and collaborative work continues to support increased access to CalFresh for students. State support with the signing of AB 1930 and AB 1747 and state funding for “hunger free campuses” supports movement in a positive direction. Strategies for continued support for CalFresh enrollment and other long term responses to food security are required. On campus enrollment for CalFresh would help facilitate navigation of barriers. Continued advocacy to increase college student eligibility exemptions are needed. Going to school is work, and enrolled college units need to be counted as ‘work’ toward the 20 hours per week or more exemption. Further, students reported availability of emergency food on campus as helpful. Continuing to offer emergency food for students and marketing availability to the whole student body may reduce food insecurity in the short-term while longer-term more sustainable practices are developed.

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Appendices

Appendix A

Table 4
Campus Survey Participation Rates

<u>Campus</u>	<u>%</u>	<u>Survey Administration Dates</u>
Bakersfield	4.5%	10/31-11/21/2016
Channel Islands	3.3%	11/28-12/19/2016
Chico	5.8%	10/31-11/21/2016
Dominguez Hills	3.7%	10/31-11/21/2016
East Bay	4.9%	10/31-11/21/2016
Fullerton	4.6%	10/31-11/21/2016
Fresno	6.2%	10/31-11/21/2016
Humboldt	16.6%	10/3-10/24/16
Long Beach	5.2%	10/26-11/16/2016
Los Angeles	2.09%	11/4-11/25/2016
*Maritime	4.8%	1/11-2/2/2017
Monterey	9.16%	10/31-11/21/2016
Northridge	3.03%	11/8-11/21/2016
Pomona	4.2%	10/31-11/20/2016
Sacramento	5.9%	10/31-11/21/2016
San Bernardino	6.3%	10/26-11/16/2016
San Diego	4.29%	11/8-11/29/2016
San Francisco	4.5%	11/1-11/21/2016
San Jose	6.8%	10/31-11/21/2016
San Marcos	7.8%	10/31-11/21/2016
Stanislaus	3.1%	10/31-11/21/2016
Sonoma	5.4%	11/2-11/21/2016
San Luis Obispo	10.3%	10/31-11/21/2016

Note. Surveys administered fall, 2016.

*Maritime survey administered spring, 2017.

Appendix B
Qualitative Data Collection Sample

Table 5
Qualitative data collection n

<u>Campus</u>	<u>n = Interviews</u>	<u>n = Focus Group</u>	<u>Total</u>
CSUB	11	3	14
CSUDH	10	9	19
CSULA	5	13	18
CSUN	12	17	29
CSUSB	4	13	17
FSU	5	9	14
HSU	5	11	16
CSULB	14	16	30
SDSU	8	21	29
SFSU	11	6	17
SLO	7	3	10
Total	92	121	213

Table 6
Qualitative sample

<u>Campus</u>	<u>Numbers by race</u>						
	<u>Black/African American</u>	<u>White</u>	<u>Latinx</u>	<u>Asian</u>	<u>Bi/multi</u>	<u>Native American</u>	<u>Decline to state</u>
CSUB	1	6	5	1	1	0	0
CSUDH	6	5	6	0	2	0	0
CSULA	2	3	10	0	3	0	0
CSUN	4	9	8	3	4	0	1
CSUSB	5	3	7	0	1	1	0
FSU	1	4	7	1	0	0	1
HSU	0	10	3	0	2	0	1
CSULB	3	9	8	5	4	0	1
SDSU	1	8	7	6	6	0	1
SFSU	1	3	6	1	6	0	0
SLO	0	6	0	1	3	0	0
Total	24	66	67	18	32	1	5

Table 7

Qualitative sample gender and age

Campus	Gender				Age			
	Male	Female	Trans/gender atypical	Decline to state	18-20	21-25	26-30	Over 30
CSUB	2	11	0	1	4	6	3	1
CSUDH	5	14	0	0	3	3	8	5
CSULA	2	16	0	0	5	7	1	5
CSUN	11	18	0	0	6	11	6	6
CSUSB	5	12	0	0	3	11	1	2
FSU	5	9	0	0	2	5	0	7
HSU	3	13	0	0	3	12	1	0
CSULB	5	24	1	0	8	11	7	4
SDSU	11	18	0	0	5	10	7	7
SFSU	5	12	0	0	2	4	4	7
SLO	4	5	1	0	3	7	0	0
Total	58	152	2	1	44	87	38	44

Appendix C

Table 8
Sample and CSU student population demographics compared

<u>Demographics</u>	<u>Study Sample</u> n = 24,324	<u>CSU 2016-2017</u> <u>Academic Year</u> n = 478,638
Race		
Asian/Other Pacific Islander	22.9%	16.3%
Black/African American	5.7%	4.2%
White	39.5%	24.6%
Ethnicity		
Hispanic	40.7%	38.6%
Non-Hispanic	59.3%	-
Gender		
Male	25.9%	43.8%
Female	72.4%	56.2%
Transgender	0.5%	-
Do not identify as any of the above	0.6%	-
Class Standing		
Freshman	16.7%	19%
Sophomore	11.4%	12.2%
Junior	26.8%	24.3%
Senior	31.2%	33%
Graduate Student	13.9%	11.6%
PT/FT Status		
Full time	89.1%	83.7%
Part time	10.4%	16.3%
First Generation Student		
Yes	39.2%	33.3%
No	60.8%	66.6%
Age		
Range	18-79	17-Over 59
Mean	23.57	22.86
Median	22	

Appendix D

Table 9
Students report why they do not use support services

	<u>Campus supports %</u>	<u>Off-campus supports %</u>
Does not qualify for services	19.6	22.9
Has not heard of services	42	43
Does not have time to access services	24	12.5
Does not have transportation to access services	4	3.2
Does not know how to access services	30.2	20.6
Does not believe in using services	2.1	1.8
Feels embarrassed to use services	11.2	5.8
Already uses one or more the services	15.2	8.9
Does not need assistance	31.7	31.7

Appendix E

Table 9

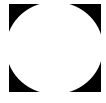
Food Security and CalFresh Use

	<u>Never heard of it %</u>	<u>Heard of it but never used it %</u>	<u>Used it in the past %</u>	<u>Currently use it %</u>
High Food Security	39.1	54.2	3.9	2.9
Marginal Food Security	36.3	52	6.4	5.3
Low Food Security	33	50.2	9.3	7.5
Very Low Food Security	32.5	46.2	11.2	10.1

Table 10

Food Security and Campus Food Pantry Use

	<u>Never heard of it %</u>	<u>Heard of it but never used it %</u>	<u>Used it in the past %</u>	<u>Currently use it %</u>
High Food Security	37.3	53.3	5.5	3.8
Marginal Food Security	33.8	50.2	8.8	7.2
Low Food Security	33.2	45.3	11.7	9.8
Very Low Food Security	37.1	38.2	12	12.7



MEMORANDUM

DATE: September 2, 2020
TO: City of Huntington Beach
FROM: Bitian Chen
RE: Community Housing Demand (2021-2030) of UC and CSU campuses in the SCAG Region

Terra Nova performed a preliminary analysis on the community housing demand of University of California (UC) and California State University (CSU) campuses within the Southern California Association of Governments (SCAG) region in the next ten years.

Within the SCAG region, there are three main UC campuses, plus UCR Palm Desert, and eight CSU campuses plus CSUSB Palm Desert (see full list below).

- UC Irvine
UCLA
UC Riverside
UC Riverside (Palm Desert)
Cal State Channel Islands
Cal State Dominguez Hills
Cal State Long Beach
Cal State Fullerton
Cal State Los Angeles
Cal State Northridge
Cal Poly Pomona
Cal State San Bernardino
Cal State San Bernardino (Palm Desert)

UC Irvine
Source: UCI 2007 Long Range Development Plan Final EIR; LRDP Student Housing Amendment approved by the Regents on September 18, 2019.

According to Table 4.10-8 in the FEIR, student enrollment will grow by 12,169 from year 2005-06 to year 2025-26. The 2007 LRDP envisions an increase of approximately 6,815 student bed spaces on campus, for a total of 17,637 beds (FEIR Table 4.10-9). The University amended the 2007 LRDP to increase the on-campus student housing program from 17,637 beds to 22,000 beds, an overall increase of 4,363 beds. This would result in a total of 11,178 additional beds to serve the growth increment.

Amortized: From 2005/06 to 2025/26, an additional 12,169 students
6,815 + 4,363 = 11,178 new beds
In the next 10 years: 12,169 - 11,178 = 991 students in non-university housing

UCLA

Source: UCLA Long Range Development Plan Amendment (2017) and Student Housing Projects Final Subsequent Environmental Impact Report SCH No. 2017051024.

According to the FEIR, by fall 2025, it is projected that there would be an increase in the 3-quarter weekday (regular session) on-campus population of approximately 9,158 individuals compared to 2014–2015 baseline conditions. This increase includes 1,237 students, 5,578 employees (academic and staff), and 2,343 other individuals.

The UCLA LRDP has identified a potential to develop up to 6,900 beds on five campus sites. With the exception of the Warren Hall site, which would also provide graduate student beds, each of the proposed housing projects would provide undergraduate beds. It is estimated that 1,962 of these would be occupied by current students living on campus in triple rooms designed for two beds. The remaining 4,938 student beds would be occupied by students not currently living on campus (new students, returning student residents, transfer students and graduate students).

Amortized: From 2014/15 to 2025, an additional 1,237 FTE students (UCLA do not have goals for staff/faculty housing)
4,938 of the 6,900 new beds would be occupied by students not currently living on campus (new students, returning student residents, transfer students and graduate students).
In the next 10 years: 1,237 - 4,938 = -3,701 students in non-university housing

UCLA will reduce community housing need by 3,701 beds. However, it may be less likely to continue adding as many new beds after 2025, the buildout of 2017 LRDP.

UC Riverside

Source: Initial Study (IS) for the University of California, Riverside 2021 Long Range Development Plan Project No. 958098.

According to the IS, approximately 6,395 new students and faculty/staff would be expected to reside in non-affiliated, off-campus housing units, conservatively assumed to all be either in the City of Riverside or Riverside County more broadly. In 2019, the persons per household rate for the City of Riverside was 3.28 and 3.2 for Riverside County (DOF 2019). Assuming those rates are maintained to 2035, the proposed 2021 Long Range Development Plan (LRDP) could generate a need for approximately 1,950 housing units over the proposed 15-year life of the LRDP. The contribution of new residents would be incremental; using a conservative estimate of even housing unit need year over year, approximately 130 housing units would be needed each year over the proposed 15-year life of the 2021 LRDP.

Amortized: $6395/15 = 426.3$ students and faculty/staff $1,950/15 = 130$ units
 In the next 10 years: $426.3*10 = 4,264$ students and faculty/staff in non-university housing
 $130*10 = 1,300$ housing units based on 2019 persons per household rate

This analysis may be conservative, as it assumes that it is possible that multiple students would cohabitate (based on the average household size of over 3 persons per household).

Cal State San Bernardino

Source: Final Environmental Impact Report 2016 Campus Master Plan California State University, San Bernardino.

CSU San Bernardino is primarily a commuter campus with the majority of students and faculty already residing within San Bernardino and Riverside counties and commuting to campus from their residences; this pattern will continue under the proposed Master Plan (85.2% of the students attending CSUSB in Fall 2014 resided in Riverside or San Bernardino counties). The purpose of the 2016 Master Plan is to support and advance the University's educational mission by providing a guide to the development of the physical campus and its facilities over the next twenty to twenty-five years in order to accommodate a projected enrollment of 25,000 FTE students (by 2035 in FEIR). Currently, the University's enrollment has already reached 18,070 FTEs.

The plan calls for greatly expanded student housing totaling around 3,300 new beds integrated into residential precincts complete with dining opportunities, new student amenities and additional and enhanced athletic playfields that combine to support a vibrant 24/7 LIVE- LEARN-WORK-PLAY campus life.

Amortized: $(25,000-18,070)/20 = 346.5$ students $3,300/20 = 165$ beds
 In the next 10 years: $(346.5-165)*10 = 1,815$ students in non-university housing

CSUSB Palm Desert

Source: CSUSB PDC Final EIR 2016 Campus Master Plan.

The Palm Desert campus currently serves as an off-campus center (satellite campus) for the California State University San Bernardino main campus and helps to reinforce the University's mission and its educational processes. The CSU San Bernardino Palm Desert 169.4-acre campus is part of a rapidly developing portion of the City of Palm Desert within the Coachella Valley. The existing campus development consists of four buildings within an approximately 55-acre campus area. The 2016 Master Plan provides concentrates campus development within an approximately 85-acre compact area at the southwestern corner of the PDC campus land, incorporating the existing PDC campus facilities and structuring the bulk of campus growth eastwards over the next 20 years. The remaining campus area will remain as unlandscaped open space.

The 2016 Master Plan provides a framework for implementation of the University's goals and programs, by identifying needed facilities and improvements to accommodate a gradual growth in student enrollment projected to reach 8,000 FTEs by 2035. Student Housing will add approximately 616 beds in new residence halls. Currently, the University's enrollment has already reached 1,200 FTEs.

Amortized: $(8,000 - 1,200)/20 = 340$ FTEs
 $616 \text{ beds}/20 = 30.8$ beds
 In the next 10 years: $(340 - 30.8)*10 = 3,092$ students in non-university housing

Note: The CSU system conducted a study on the system capacity for the potential need for an additional CSU campus among five potential locations, for which the near 170-acre CSUSB Palm Desert campus was a top candidate. However, the study found that projected 2035 enrollment demand alone does not justify the development of a new 7,500 FTES (Full-Time Equivalent Student) CSU campus at any of the five evaluated locations, assuming construction of the physical capacity identified in the approved Master Plans at all 23 campuses is funded. Given the study results and recent budget cuts due to the COVID-19 pandemic, the CSU board and chancellor responded to the study that looked at Palm Desert, Stockton/Stanislaus County, Concord, Chula Vista and San Mateo County, that if a new campus is built, it will be well into the future, if at all. Therefore, the 2016 Master Plan is a more likely future scenario for the Palm Desert campus and is thus used in this analysis of community housing demand.

Cal State Northridge

Source: Final CSUN 2005 Master Plan Update (Updated Feb. 24, 2006).

In the Fall of 2005, there were 25,139 full-time equivalent students, and the campus has reached its limit of 25,000 FTES. California State University Northridge determined that it would need to increase its cap to 35,000 FTES, allowing for the possibility of adding 10,000 new FTES over the course of that 30-year period. The Master Plan allocates space for up to 2,688 new student residential bed-spaces.

Amortized: $(35,000 - 25,139)/30 = 328.7$ FTES
 $2,688/30 = 89.6$ new beds
In the next 10 years: $(328.7 - 89.6)*10 = 2,391$ off-campus student residents

Cal State Fullerton

Source: California State University, Fullerton Master Plan Update Final Environmental Impact Report State Clearinghouse No. 2019080575.

The Campus Master Plan would add approximately 7,000 total FTE students by 2039 compared to the 2016/2017 academic year: 3,000 on-campus student residents and 4,000 off-campus student residents.

Amortized: $4,000/(2039-2017) = 181.8$
In the next 10 years: $181.8*10 = 1,819$ off-campus student residents

Cal State Channel Islands

Source: CI 2025 Vision Plan (updated in 2014); 32 Acre Development Update, Site Authority Board, April 17, 2017.

The CI 2025 Vision Plan (equivalent to a campus master plan in most other campuses) is intended to guide the growth of the campus from approximately 4,300 full-time equivalent students (FTES) 2013-2014 to 15,000 FTES in 2025. The plan allows 4,500 beds on campus in the long term to accommodate approximately 30% of the 15,000 FTES. In 2013-2014, on-campus housing had a design capacity of 820 beds. Due to an increase in students and increased demand for on-campus housing, singles have converted to doubles and doubles have converted to triples for a total of 1,155 students living on-campus. Off-campus, in University Glen, an additional 124 students are housed in singles and doubles even though the design capacity is 108 beds.

Under the existing CSUCI Specific Reuse Plan, the approximately 32-acre site within the East Campus Residential Neighborhood, or University Glen is entitled for 242 single-family residential units. Under the proposed CSUCI Specific Reuse Plan Amendment and Phase 2 Development of the East Campus Residential Neighborhood Project, up to 600 residential units would be developed on the 32 acres of vacant land. The 600 residential units would include 66 town houses (for sale), 54 single family houses (for sale), 310 market rate apartments, and 170 senior living apartments (age restricted). While University Glen was intended to provide housing for faculty, some units were set aside as student beds. Therefore, the Phase 2 University Glen would provide a maximum of 620 student beds (assume the market rate apartments are 2-bedroom units based on alternative plans).

Amortized: $(15,000 - 4,300)/(2025-2013) = 891.7$ students
 $(4,500 + 620 - 1,155)/(2025-2013) = 330.4$ beds
 In the next 10 years: $(891.7 - 330.4)*10 = 5,613$ students in non-university housing

Cal Poly Pomona

Source: California State Polytechnic University Pomona Campus Master Plan Revision (21 February 2012); California State Polytechnic University, Pomona Master Plan Update, MP Advisory Committee Update, May 1, 2019 (Part 2); Headcount and FTES by Term, Academic and College Year Averages, 2000-2001 through 2019-2020, California State Polytechnic University, Pomona Academic Research and Resources 4/2/2020; Personal communication with Julie Tsang, University Planner at Cal Poly Pomona, August 27th 2020.

The Campus Master Plan updated in 2012 anticipates a campus buildout to accommodate 20,000 full-time equivalent (FTE) students by 2030. Based on the university's Academic Research and Resources FTES data, the 20,000 FTE goal was exceeded in 2016-2017 academic year (21,377 FTE). The university is in the process of updating the campus master plan and completed preliminary analysis and workshops by 2020. However, the draft plan is not yet available as confirmed by the university planner due to delays caused by the pandemic. A new future enrollment cap is not yet available.

The 2019-2020 academic year average enrollment was 23,795 FTE. Assuming linear growth from 2000 to 2020 based on the academic year average FTES data, in 2029-2030 academic year the enrollment would be 26,358 FTE, an increase of 2,563 from the 2019-2020 academic year.

According to the Master Plan Update, MP Advisory Committee Update presentation dated May 1, 2019, completion of Phase I (open 2020), Phase II (open 2023-24) and Phase III (tentative open 2028-29) potentially adds 1,500 beds to on-campus housing capacity.

Amortized: $2,563/10 = 256.3$ students
 $1,500/10 = 150$ beds
 In the next 10 years: $(256.3 - 150)*10 = 1,063$ students in non-university housing

Cal State Long Beach

Source: California State University, Long Beach Campus Master Plan Revision May 2018; Addendum to The Final Environmental Impact Report (State Clearinghouse #2007061092) Campus Master Plan Housing Expansion Phase I – Parkside North Housing Project, July 2019; Personal communication with Michael Gardner, Director of Campus Planning & Sustainability, California State University, Long Beach, August 27th 2020.

The 2008 Campus Master Plan anticipated enrollment growth to 31,000 FTE through 2020, as noted in the FEIR Addendum for Housing Expansion Phase I (July 2019). An update schedule of the campus master plan or more recent information is not available. Mr. Gardner kindly provided the following data: The 2019-2020 enrollment was about 30,060 FTE; given the pandemic situation, the university is planning for roughly 1% growth over the next two years as of 2020, then 2% per year through 2030. The 2029-2030 enrollment is estimated at 35,929 FTE based on these data, an increase of 5,869 from the 2019-2020 level.

The 2008 Campus Master Plan provides for 2,014 new beds in both the Parkside and Hillside Residential Housing complexes in two phases. As of the FEIR Addendum for Housing Expansion Phase I (July 2019), none of these bed spaces had been built on the campus.

Amortized: $5,869/10 = 586.9$ students
 $2,014/10 = 201.4$ beds (assuming all student housing development under the 2008 campus master plan would be complete between 2020 and 2030)
 In the next 10 years: $(586.9 - 201.4)*10 = 3,855$ students in non-university housing

Cal State Dominguez Hills

Source: California State University Dominguez Hills Guidelines for 2018 Master Plan; Final Environmental Impact Report State Clearinghouse No. 2017081035, Cal State University, Dominguez Hills Campus Master Plan, September 2019.

The 2016-2017 enrollment was 11,004.1 full-time-equivalent students (FTES). CSUDH's 2018 Campus Master Plan provides a framework for development of the University's campus that accommodates growth from the current enrollment of approximately 11,000 FTES to the maximum enrollment of 20,000 FTES in the next twenty years (over a planning horizon extending to 2035 according to the FEIR).

The 2018 Campus Master Plan allows an estimated net 1,590 new beds. According to the FEIR, the existing Pueblo Domingo Student Housing with 649 student beds will be replaced by the new student apartment housing with approximately 990 student beds, resulting in a net increase of 341 student beds on campus. In addition to the replacement of the existing on-campus housing, the master plan includes approximately 2,150 campus apartment housing available for faculty, staff, students, and the general public with leasing priority as follows: university faculty and staff; students; employees of another CSU campus; employees of educational partners of the university which are covered by an agreement with the university, graduates from a CSU campus; and lastly members of the general public. The new campus Residence Halls (part of the new University Village) will include housing for 1,100 students and a dining facility.

Amortized: $(20,000-11,004.1)/20 = 449.8$ students
 $1,590/20 = 79.5$ beds (assuming 1,100 beds in new Residence Halls, 341 net beds at student apartments, and 149 beds from the 2,150-unit campus apartment housing together make up the 1,590 planned estimate student beds)
 In the next 10 years: $(449.8 - 79.5)*10 = 3,703$ students in non-university housing

Cal State Los Angeles

Source: Personal communication with R. Yancey Modesto, Director of Facilities Planning and Construction, California State University, Los Angeles, September 1st 2020; Cal State LA Housing and Residence Life website (<https://www.calstatela.edu/housing/new-housing-designed-student->

success-set-open-fall-2021), accessed September 1st 2020; Cal State LA Institutional Effectiveness website, (<https://www.calstatela.edu/InstitutionalEffectiveness/student-enrollment>), accessed September 1st 2020.

According to the student enrollment data on the Institutional Effectiveness website, Spring 2020 enrollment was 20,187.6 FTE. Mr. Yancey Modesto kindly provided the following information: CSU LA is in the process of starting a campus master/academic plan which may take several years to complete; CSU LA is planned for a capacity of 25,000 FTE's with a modest projection of 1.5% -2% in the next 5 years as dictated by the CSU Chancellor's Office.

Student Housing East, an eight-story facility offering 1,500 beds for freshmen and sophomores, is currently under construction and expected to open fall 2021. Mr. Modesto confirmed that CSU LA does not have any other planned housing facilities in the foreseeable future.

Amortized: $(20,187.6 * (1+2\%)^{10} - 20,187.6) / 10 = 442.1$ students
 $1,500 / 10 = 150$ beds

In the next 10 years: $(442.1 - 150) * 10 = 2,921$ students in non-university housing

Results and Conclusion

Amortized for the next ten years (2021-2030), UC Irvine, UC Riverside, UCLA, Cal Poly Pomona, and seven other Cal State Universities (Fullerton, Northridge, Channel Islands, San Bernardino and the Palm Desert campus, Long Beach, Dominguez Hills, Los Angeles) in the SCAG region are projected to add a total of 27,826 students (including staff/faculty for UCR) in non-university housing. This represents 2.07% of the total RHNA for SCAG, and 5.5% of the total Projected Need as calculated by SCAG.

It should be noted that the aggregated demand is an estimate based on assumptions and averaging over time. For example, the impact of future student enrollment in UCLA on community housing demand may be underestimated based on the current addition of housing units. While the on-campus housing capacity is based on master plan buildout, funding availability and other factors may affect the actual completion time of housing development. It should also be noted that some colleges (e.g. Cal State San Bernardino) may have a higher number of commuting students from their own homes, some of whom may not need on- or off-campus housing. The results herein may assist the City in determining the impact of the community housing demand of local colleges on housing resources/lands available as it relates to SCAG's allocation of the RHNA without consideration of university demand for off-campus housing.

CALIFORNIA COASTAL COMMISSION

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W6g

May 1, 2020

TO: California Coastal Commissioners and Interested Public

FROM: John Ainsworth, Executive Director
Susan Hansch, Chief Deputy Director
Madeline Cavalieri, Statewide Coastal Program Manager
Kelsey Ducklow, Environmental Scientist

SUBJECT: Briefing and consideration of adopting “Making California’s Coast Resilient to Sea Level Rise: Principles for Aligned State Action”

SUMMARY OF STAFF RECOMMENDATION

In early 2020, Secretary Crowfoot (California Natural Resources Agency) and Secretary Blumenfeld (CalEPA) convened state entities with coastal climate resilience responsibilities, including the Coastal Commission, to develop “Making California’s Coast Resilient to Sea Level Rise: Principles for Aligned State Action” ([Exhibit 1](#)). This effort recognizes that California’s coast, bays, estuaries, and ocean are critical to the state’s environmental and economic security, integral to our quality of life, and an iconic part of the state’s legacy, but face ongoing and increasing threats from climate change and sea level rise. The participating agencies developed the Principles for Aligned State Action in order to improve effectiveness in addressing this immediate challenge.

The principles fall into six main categories: Develop and utilize best available science; build coastal resilience partnerships; improve coastal resilience communications; support local leadership and address local conditions; strengthen alignment around coastal resilience; and implement and learn from coastal resilience projects.

These principles are meant to guide unified, effective action towards sea level rise resilience for California’s coastal communities, ecosystems, and economies, and are consistent with and complementary to the Coastal Commission’s ongoing work to address sea level rise.

Staff is recommending **adoption** of “Making California’s Coast Resilient to Sea Level Rise: Principles for Aligned State Action”.

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EXHIBITS

[Exhibit 1 – Making California’s Coast Resilient to Sea Level Rise: Principles for Aligned State Action](#)

I. MOTION AND RESOLUTION

Motion:

I move that the Commission adopt “Making California’s Coast Resilient to Sea Level Rise: Principles for Aligned State Action”.

Staff Recommendation of Approval:

Staff recommends a **YES** vote. Passage of this motion will result in the Commission’s adoption of the attached state sea level rise planning principles. The motion passes only by an affirmative vote by a majority of the Commissioners present.

Resolution of Approval:

The Commission hereby adopts “Making California’s Coast Resilient to Sea Level Rise: Principles for Aligned State Action”.

II. DISCUSSION

A. Background

In early 2020, Secretary Crowfoot (California Natural Resources Agency) and Secretary Blumenfeld (CalEPA) convened state entities with coastal, bay, and shoreline climate resilience responsibilities, with the broad goal of developing a set of principles for use in planning, policy setting, project development, and decision making that will guide a unified approach to addressing sea level rise throughout California. Participants included CNRA, CalEPA, SF Bay Conservation and Development Commission, California Coastal Commission, California Energy Commission, California Department of Fish and Wildlife, Caltrans, Delta Stewardship Council, Department of Water Resources, Ocean Protection Council, Governor’s Office of Planning and Research, Office of Emergency Services, State Coastal Conservancy, State Lands Commission, State Parks, State Water Resources Control Board, and Strategic Growth Council.

Together, these agencies recognized that California’s coast, bays, estuaries, and ocean are critical to the state’s environmental and economic security, integral to our quality of life, and an iconic part of the state’s legacy. Yet these coastal areas, and in turn Californians’ safety, local and state economies, critical infrastructure, and natural resources are at risk from sea level rise that could be as much as 7 feet or more by 2100. Combined with shorter-term changes such as extreme storms, King Tides, and El Niño events, many coastal areas are already feeling the effects of sea level rise. Without planning and adaptation, future sea level rise will result in significant impacts to communities, with considerable environmental justice implications, upwards of hundreds of billions of dollars in impacts to property and development, impacts to statewide and

regional water supplies, and damage to or loss of beaches, tidepools, wetlands, and other coastal habitats.

In order to improve effectiveness in addressing this immediate challenge, the participating agencies co-developed and endorsed a set of sea level rise principles for aligned state action. These principles will support and enhance California's ongoing efforts related to climate change mitigation and adaptation, enabling the State to scale up its coastal resiliency efforts by creating consistent, efficient decision-making processes and improving collaboration across state, local, tribal, and federal partners. Such enhanced alignment will support proactive adaptation planning and implementation that will save money, allow communities to test and leverage adaptation solutions, prevent impacts, and improve resiliency of coastal areas and frontline communities. The principles for aligned state action are summarized below and included as [Exhibit 1](#).

B. Summary of Principles for Aligned State Action

1. Develop and utilize best available science
 - Apply best available science to planning, decision-making, project design, and implementation
 - Utilize a minimum target of 3.5 feet of sea level rise by 2050, and more protective targets for 2050/2100 for critical infrastructure
2. Build coastal resilience partnerships
 - Coordinate regularly on SLR resilience issues, policies, planning, processes, mandates, permitting, information, funding, and projects
 - Collaboratively collect, share, and publicize the latest information on SLR
 - Build strong relationships with all partners at all levels of government, and with the public, nonprofits, businesses, and other stakeholders
 - Coordinate and partner with tribes to ensure inclusive and multicultural stewardship of lands and waters subject to SLR
3. Improve coastal resilience communications
 - Align SLR messaging and implement a coordinated public awareness and education campaign
 - Increase transparency, efficiency, and alignment of state and local coastal resilience processes, policymaking, and decision-making
4. Support local leadership and address local conditions
 - Support local planning and adaptation policies and projects that address local and regional conditions
 - Evaluate and learn from local conditions
 - Prioritize early protection of and capacity building for the most under-resourced and vulnerable frontline communities
5. Strengthen alignment around coastal resilience

W6g (Sea Level Rise Principles)

- Develop and apply baseline, Administration-wide SLR assumptions, projections, targets, terms, and standards into coastal projects, retrofits, planning, funding, regulatory, and permitting initiatives
 - Ensure that up-to-date SLR resilience planning is in place coastwide
 - Collaboratively work to pursue and develop specific funding sources
 - Avoid creating unnecessary duplication of existing state agency authority
6. Implement and learn from coastal resilience projects
- Protect and enhance public trust natural and cultural resources
 - Protect critical public water-dependent infrastructure, ports, harbor districts, and other evolving public trust needs and uses
 - Prioritize the use of nature-based adaptation measures
 - Build coastal resilience by increasing the number of restoration and adaptation projects
 - Prevent impacts from SLR to public access

C. Relationship to Ongoing CCC Sea Level Rise Work

These Principles for Aligned State Action are consistent with and complementary to the Coastal Commission's ongoing efforts to address sea level rise, and adoption of these principles will support and enhance the Commission's efforts to work with local governments, state agencies, tribes, members of the public, and others to ensure protection of coastal resources even as sea levels rise.

In 2015, the Coastal Commission adopted its Sea Level Rise Policy Guidance, which was updated in 2018 to incorporate new sea level rise science and projections. The Policy Guidance includes a set of Guiding Principles that are similar to many of the Principles for Aligned State Action. Some of these include direction to use best available science; to use a precautionary approach by considering high or extreme sea level rise projections, particularly for high-risk decisions like those for critical infrastructure; to consider local conditions, goals, and priorities when developing adaptation strategies; to account for the social and economic needs of the people of the state, including by considering environmental justice implications; to maximize protection of public access, recreation, and sensitive coastal resources, including public trust and water-dependent uses; to maximize natural shoreline values and processes, including through encouraging nature-based adaptation solutions; to coordinate planning and regulatory decision making with appropriate local, state, and federal partners; and to maximize public participation in planning and regulatory processes.

These Guiding Principles guide the Commission's approach to addressing sea level rise, and the new Principles for Aligned State Action will further support these efforts. A critical component of this work is providing best available science on sea level rise projections to use in planning and decision-making. Consistent with the OPC State Sea-Level Rise Guidance, the Commission's Sea Level Rise Policy Guidance, and the Principles for Aligned State Action, the Commission will continue to recognize the 2017

Rising Seas Report and the 2018 State Sea-Level Rise Guidance as best available science, and will work with planners and project applicants to assess an appropriate range of sea level rise scenarios. As reflected in both the OPC and CCC guidance documents, sea level rise analyses should account for the anticipated life of the project/planning horizon, project-specific characteristics such as adaptive capacity and risk tolerance, and acute increases in sea level from extreme storms, tidal events, and other temporary phenomena. Importantly, the statewide guidance and Principles for Aligned State Action recognize the need to incorporate a precautionary approach by considering higher amounts of sea level rise, particularly for high-risk projects like critical infrastructure. The Principles for Aligned State Action also include a target of 3.5 feet of sea level rise by 2050 for planning purposes, which sets a precautionary minimum baseline and which will provide a metric by which to measure statewide progress on adapting to sea level rise.

The Coastal Commission is also committed to coordinating with local governments, state and federal agency partners, tribes, and other stakeholders as called for in the Principles. The Coastal Commission has a long history of working with local governments to address coastal hazards and protect coastal resources. Over the last seven years, the LCP Grant Program has helped support local government efforts to complete sea level rise vulnerability assessments, develop adaptation plans, and update LCPs to better address sea level rise in a way the considers local context as well as statewide goals. The grant program also has and will continue to provide an important information-sharing resource with respect to best practices for planning, consideration of environmental justice challenges, development of specific policy approaches, and implementation of adaptation options.

The Coastal Commission also routinely works with other state and federal partners on projects to plan for and address sea level rise. Examples include coordination with an interagency team to support alignment of LCPs, General Plans, Local Hazard Mitigation Plans and others to ensure coastal resiliency; work with the State Lands Commission on an ongoing project to understand the public trust implications of sea level rise; a formalized Plan for Improved Agency Partnering with Caltrans that includes a focus on addressing sea level rise; and coordination with multiple state agencies to support the Commission's development of adaptation guidance for critical infrastructure. Additionally, the Commission is an active participant in several interagency groups like the State Coastal Leadership Group on Sea Level Rise and various Climate Action Teams that play an integral role in supporting climate change planning and adaptation.

Similarly, the Coastal Commission has and will continue to work with state agencies, local governments, and other project applicants in developing and permitting adaptation solutions and projects that account for sea level rise. Recent adaptation success stories include a managed retreat project at Surfer's Point in Ventura, which included the relocation of a parking lot and bike path, along with beach and dune restoration; the realignment of a portion of Highway 1 near Piedras Blancas to allow for the removal of riprap and restoration of natural shoreline processes; and a living shoreline and dune restoration project in Cardiff to provide protection for a portion of Highway 101. The Coastal Commission also recently certified an amendment to the San Francisco LCP

W6g (Sea Level Rise Principles)

that lays the foundation for implementing multiple sea level rise adaptation strategies, including the eventual removal of the southern portion of the Great Highway, enhancement of bike and pedestrian access opportunities, and beach and dune restoration. Each of these examples highlight the critical need for strong coordination and alignment between the Coastal Commission and other stakeholders to encourage and support successful coastal resilience strategies.

Lastly, the Coastal Commission has recently adopted both a Tribal Consultation Policy and an Environmental Justice Policy, which both speak to the need to maximize outreach and participation in planning and decision-making more broadly, and in particular to consider underrepresented, vulnerable, differently impacted, and other unique persons or communities. The Principles for Aligned State Action reflect the need to support and work with these communities to ensure adaptation planning is carried out in an equitable and inclusive manner.

The Coastal Commission is encouraged by the enhanced focus on statewide efforts to address sea level rise and support coastal resilience that is reflected in the Principles for Aligned State Actions and staff recommends adoption of these principles.

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Sea Level Rise Principles

May 1, 2020

EXHIBITS

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EXHIBIT 1 – “MAKING CALIFORNIA’S COAST RESILIENT TO SEA LEVEL RISE: PRINCIPLES FOR ALIGNED STATE ACTION”2

Attachment: Attachment No. 17b - Exhibits (Appeal of the Draft Allocation for the City of Huntington Beach)

Making California's Coast Resilient to Sea Level Rise: Principles for Aligned State Action

Background

- California's coast, bays, estuaries, and ocean are critical to the state's environmental and economic security, integral to our quality of life, and an iconic part of the state's legacy. Each generation of Californians has an obligation to be strong stewards of the coast and ocean for future generations.
- However, Californians' safety, local and state economies, critical infrastructure, and natural resources face increasing threats from sea level rise (SLR). Every scientific assessment since California's 2009 Climate Adaptation Strategy has revealed that coastal impacts from climate change-caused SLR will occur more quickly and be more severe than previously projected. California's coast faces a significant risk of experiencing SLR of up to 1.0 feet by 2030 and 7.6 feet by 2100.
- Warming temperatures and a higher frequency of extreme weather, in conjunction with high tide events, have already resulted in SLR impacts at Imperial Beach, Seal Beach, Del Mar, Pacifica, Arcata, areas along San Francisco Bay, and elsewhere.
- Projections of future SLR point to significant impacts to California communities, with considerable environmental justice implications, upwards of hundreds of billions of dollars in impacts to property and development, impacts to statewide and regional water supplies, as well as significant damage to and loss of many miles of beaches, tidepools, coastal rivers, estuaries, and wetlands.
- To improve effectiveness in addressing this immediate challenge, state and regional agencies co-developed and endorsed the following Principles for Aligned State Action.

Photo: Embarcadero, San Francisco, "King Tides," Mike Filippoff



Goal

- As California has repeatedly demonstrated, a bold, statewide climate agenda benefits our natural resources, health and safety, economy, critical infrastructure, and communities. Our state has led global efforts on climate change mitigation and is poised to do so on climate change adaptation.
- These Principles will enable California to scale up its coastal resiliency efforts through aligned strategies that create consistent, efficient decision-making processes and actions coastwide and improve collaboration across state, local, tribal, and federal partners.
- Action now saves up to six times the cost of action later, allows time for the state and communities to test and leverage needed solutions, and prevents untold impacts.
- By enhancing alignment and partnerships now, we will significantly improve the climate resiliency of our coast, bays, shorelines, and communities, particularly frontline communities most vulnerable to the impacts of SLR.

California state agencies with coastal, bay, and shoreline climate resilience responsibilities, including for coastal infrastructure and Californians' safety, endorse the following Principles around Best Available Science, Partnerships, Alignment, Communications, Local Support, and Coastal Resilience Projects. These Principles will guide unified, effective action toward SLR resilience for California's coastal communities, ecosystems, and economies.



Principles

1. Develop and Utilize Best Available Science

- Apply best available science to planning, decision-making, project design, and implementation. Prioritize frequent engagement with stakeholders to ensure the science is actionable.
- Utilize SLR targets based on the best available science and a minimum of 3.5 feet of SLR by 2050. Develop and utilize more protective baseline 2050 and 2100 targets for road, rail, port, power plants, water and waste systems, and other critical infrastructure.

2. Build Coastal Resilience Partnerships

- Partner and coordinate regularly on SLR resilience issues, policies, planning, processes, mandates, permitting, information, funding, and projects, including with federal and local government bodies and tribes, and across issue areas and mandates.
- Regularly and collaboratively collect, share, and publicize the latest information on SLR and how agencies are using SLR projections to reduce risks to safety, property, infrastructure, natural ecosystems, and native species.
- Build strong relationships with all partners at all levels of government, and with the public, nonprofits, businesses, and other stakeholders.
- Consult, learn from, and coordinate and partner with tribes to ensure inclusive and multicultural stewardship of lands and waters subject to SLR.



Photo: Coyote Creek Flood, San Jose, Santa Clara Valley Water District

3. Improve Coastal Resilience Communications

- Enhance SLR and coastal resilience communications and engagement, including alignment on SLR messaging and implementation of a coordinated public awareness and education campaign.
- Increase transparency, efficiency, and alignment of state and local coastal resilience processes, policymaking, and decision-making.

4. Support Local Leadership and Address Local Conditions

- Support local planning and adaptation policies and projects that address local and regional conditions, meet baseline standards for climate impacts, and consider acute increases in SLR caused by storm surges, El Niños, and other events.
- Evaluate and learn from local conditions, including community priorities, health and safety, critical infrastructure, housing, culture, economies, patterns of development, local environment, and other characteristics, to inform risk tolerance and adaptation.
- Particularly in light of the fact that the environmental burdens of development and industry are often borne by under-resourced communities, prioritize early protection of and capacity building for the most under-resourced and vulnerable frontline communities in developing and implementing adaptation plans, projects, and strategies, toward greater social equity and environmental justice.

Photo: Rockaway Beach, Pacifica, "King Tides," Alan Grinberg



5. Strengthen Alignment around Coastal Resilience

- Develop and apply baseline, Administration-wide SLR assumptions, projections, targets, terms, and standards into coastal projects, retrofits, planning, funding, regulatory, and permitting initiatives. Consider statewide decision-making guidelines to help identify the strongest solutions, establish priorities, and ensure baseline success. Prioritize avoidance of initiatives that shift hazards and impacts elsewhere along the coast or shoreline.
- Ensure that up-to-date SLR resilience planning is in place coastwide and includes alignment on: consistent, minimum baseline targets; vulnerability assessments for communities (particularly frontline communities), infrastructure, property, and natural ecosystems and native species; SLR economic impact assessments, including the cost of resiliency projects and the potential cost of no action; and identification of multi-benefit SLR resiliency strategies.
- Plan for SLR impacts to regional and statewide water supplies and water management.
- Collaboratively work to pursue and develop specific funding sources for state, regional, and local coastal resilience planning, projects, and public outreach.
- Where possible, avoid creating unnecessary duplication of existing state agency authority.

6. Implement and Learn from Coastal Resilience Projects

- Protect and enhance public trust natural and cultural resources, such as beaches, wetlands, other habitats, biodiversity, and culturally important areas.
- Protect critical public water-dependent infrastructure, ports, harbor districts, and other evolving public trust needs and uses, given the unique characteristics, significance, constraints, and values of these public trust uses.
- Prioritize the use of nature-based adaptation measures where appropriate.
- Build coastal resilience by increasing the number of restoration and adaptation projects, such as wetland restoration; ensure that adaptation projects do not shift hazards and impacts elsewhere along the coast or shoreline.
- Streamline permitting for high-need coastal restoration projects.
- Realize multiple benefits from coastal resilience projects where feasible.
- Take action to prevent impacts from SLR to public access as feasible, toward the continued protection and enhancement of public coastal access for all.



Photo: Dune Restoration, Cardiff State Beach. NOAA

Endorsing and Participating Entities

In early 2020 Secretary Crowfoot, California Natural Resources Agency (CNRA) and Secretary Blumenfeld, California Environmental Protection Agency (CalEPA) convened two high-level meetings of 17 state agencies (listed below under Participating Entities) to develop and approve Sea Level Rise Principles for use in planning, policy setting, project development, and decision making. The Principles have been endorsed by both CNRA and CalEPA secretaries and all departments within these agencies. The Principles are a living document, and formal endorsement of the Principles from other agencies will be added as received.

Endorsing Entities

Wade Crowfoot, Secretary, CNRA, and CNRA Agencies
Jared Blumenfeld, Secretary, CalEPA, and CalEPA Agencies
Betty Yee, State Controller

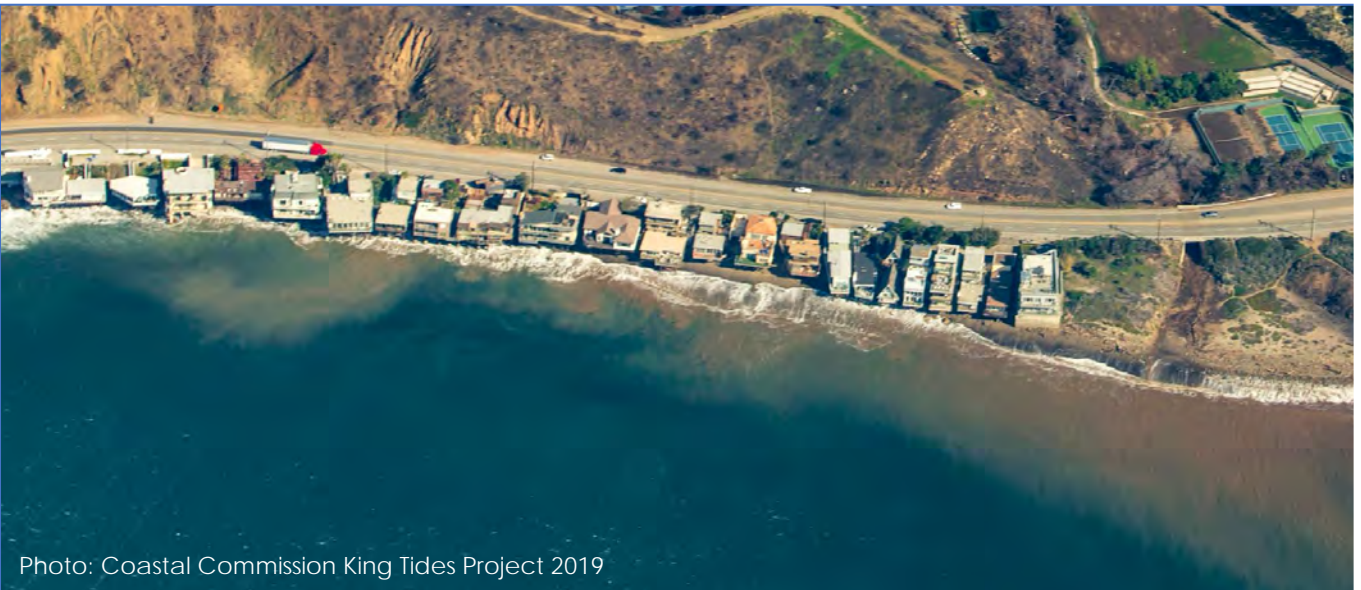


Photo: Coastal Commission King Tides Project 2019

Participating Entities

CNRA
CalEPA
SF Bay Conservation and Development
Commission
California Coastal Commission
California Energy Commission
California Department of Fish and Wildlife
Caltrans
Delta Stewardship Council

Department of Water Resources
Ocean Protection Council
Governor's Office of Planning and Resear
Office of Emergency Services
State Coastal Conservancy
State Lands Commission
State Parks
State Water Resources Control Board
Strategic Growth Council



Chapter 5

Addressing Sea Level Rise in Local Coastal Programs

The Coastal Act requires that the 61 cities and 15 counties in coastal California prepare Local Coastal Programs (LCPs) to govern land use and development in the coastal zone inland of the mean high tide. LCPs become effective only after the Commission certifies their conformity with the policies of Chapter 3 of the Coastal Act.

LCPs contain the ground rules for future development and protection of resources in the coastal zone. Each LCP includes a Land Use Plan (LUP) and an Implementation Plan (IP). The LUP specifies the kinds, locations, and intensity of uses, and contains a required Public Access Component to ensure that maximum recreational opportunities and public access to the coast is provided. The IP includes measures to implement the LUP, such as zoning ordinances. LCPs are prepared by local governments and submitted to the Coastal Commission for review for consistency with Coastal Act requirements.²⁴

Once an LCP's certification becomes effective, the local government becomes responsible for reviewing most Coastal Development Permit (CDP) applications. However, the Commission retains continuing permit authority over some lands (for example, over tidelands, submerged lands, and public trust lands) and authority to act on appeals for certain categories of local CDP decisions.

To be consistent with the Coastal Act hazard avoidance and resource protection policies, it is critical that local governments with coastal resources at risk from sea level rise certify or update Local Coastal Programs that provide a means to prepare for and mitigate these impacts. The overall LCP update and certification process has not changed. Now, however, the impacts of accelerated sea level rise should be addressed in the hazard and coastal resource analyses, alternatives analyses, community outreach, public involvement, and regional coordination. This Guidance is designed to complement and enhance the existing LCP certification and update steps. Although the existing LCP certification and update processes are still the same, sea level rise calls for new regional planning approaches, new strategies, and enhanced community participation.

LCPs are essential tools to fully implementing sea level rise adaptation efforts. Since many existing LCPs were certified in the 1980s and 1990s, it is important that future amendments of the LCPs consider sea level rise and adaptation planning at the project and community level, as appropriate. The [California Climate Adaptation Strategy](#) (CNRA 2009) and [Safeguarding California](#) (CNRA 2014) specifically identify LCPs as a mechanism for adaptation planning along the California coast. For general guidance on updating LCPs, see the LCP Update Guide, available here: <https://www.coastal.ca.gov/rflg/>.

²⁴ In addition there are other areas of the coast where other plans may be certified by the Commission, including Port Master Plans for ports governed by Chapter 8 of the Coastal Act, Long Range Development Plans for state universities or colleges, and Public Works Plans for public infrastructure and facilities. Following certification of these types of plans by the Commission, some permitting may be delegated pursuant to the Coastal Act provisions governing the specific type of plan.

Steps for Addressing Sea Level Rise in Local Coastal Programs and Other Plans

The Commission recommends the following six steps to address sea level rise as part of the development of an LCP, LCP Amendment, or other plan.²⁵ These steps can be modified and adapted to fit the needs of individual planning efforts and communities and to address the specific coastal resource and development issues of a community, such as addressing bluff erosion or providing for effective redevelopment, infill, and concentration of development in already developed areas. At the start of an LCP update to address sea level rise or a new LCP project, local government planners should contact their local Coastal Commission district office to discuss the LCP goals and to establish a plan for Coastal Commission staff coordination and public involvement throughout the entire process. A key element of any LCP project is public involvement. This can include establishing technical and community stakeholder advisory committees, establishing an interdepartmental sea level rise team of City and County staff representatives, and planning a series of public workshops to gather feedback, in addition to the required public hearings on the LCP.

The steps of this process are illustrated in [Figure 9](#) and described below. They are similar to the standard steps of a long-range planning process and should be familiar to local planners. Steps 1-3 are often referred to as a “sea level rise vulnerability assessment” in other sea level rise planning contexts and therefore are similar to other sea level rise-related resources.

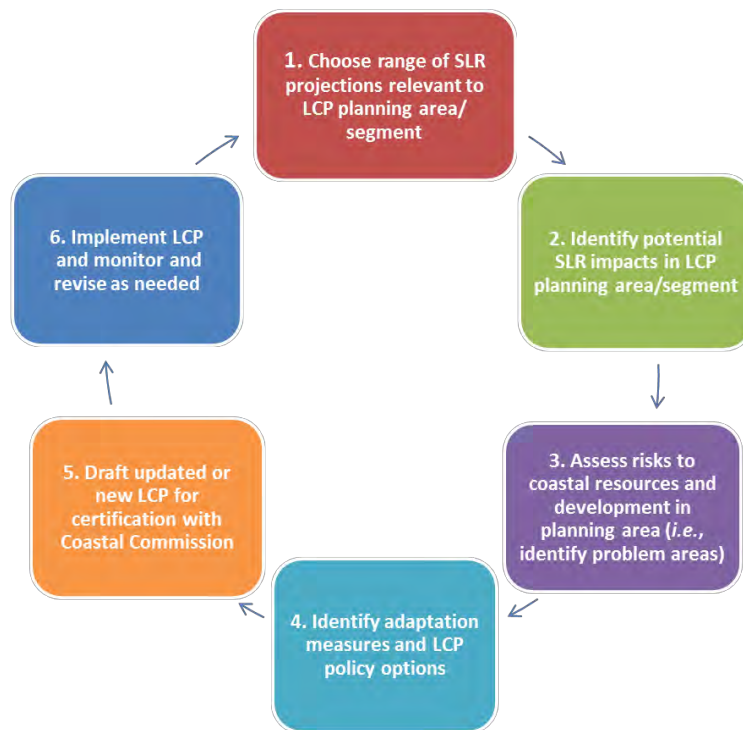


Figure 9. Sea level rise adaptation planning process for new and updated Local Coastal Programs

²⁵ This Guidance uses the term ‘LCP process’ to refer to the LCP process, but many of the concepts included here are applicable to other planning processes, including Long Range Development Plans, Public Works Plans, and Port Master Plans. For example, recommendations for how to analyze sea level rise impacts and perform a vulnerability assessment are broadly applicable. Many adaptation strategies may also be applicable, though in all cases, individual actions taken will vary based on relevant policies, local conditions, feasibility, and other factors.

The Coastal Commission also offers a [Local Coastal Program \(LCP\) Update Guide](#) (2013b) that outlines the broad process for amending or certifying an LCP, and there is naturally some overlap between the content of that document and this Sea Level Rise Policy Guidance document. The general LCP amendment steps are outlined below, in a flow chart (see [Appendix D](#)), and in the [LCP Tips/Best Practices document](#) (2013c), which is available in the [Resources for Local Governments](#) section of the Commission’s website. Local governments should contact the Coastal Commission planner for their area when pursuing a new LCP or LCP amendment.

1. **Initial Amendment scoping and development:** Conduct issues assessment, identify need for amendment, prepare preliminary draft, coordinate with Commission staff, and share early drafts
2. **Local Amendment process:** Notify public, conduct local outreach and hearings, meet with Commission staff to discuss any issues, and adopt LCP at the local level
3. **Prepare Submittal:** assemble LCP materials, discuss with Commission staff prior to submittal, transmit to Coastal Commission, and make available to public
4. **Process Amendment at Coastal Commission:** Commission staff will review submittal within 10 working days for completeness; will address outstanding information needs; will prepare and write staff report; hold public hearing and vote; and transmit action to local government
5. **Effectuate Amendment:** Local acceptance of any modifications or resubmittal within 6 months, finalize local approval, and complete Coastal Commission Executive Director check-off
6. **Implement LCP Amendment, monitor and revise as necessary.**

The step-by-step process for incorporating sea level rise into LCPs outlined in the rest of this chapter fits into these broader LCP amendment steps. Local government planners should use the LCP Update Guide in conjunction with the Sea Level Rise Policy Guidance to inform the LCP.

Use scenario-based analysis

The Guidance recommends using a method called “scenario-based analysis” (described in [Chapter 3](#) of this Guidance). Since sea level rise projections are not exact, but rather presented in ranges, scenario-based planning includes examining the consequences of multiple sea level rise amounts, plus extreme water levels from storms and El Niño events. The goal of scenario-based analysis for sea level rise is to understand where and at what point sea level rise, and the combination of sea level rise and storms, pose risks to coastal resources or threaten the health and safety of a developed area. This approach allows planners to understand the full range of possible impacts that can be reasonably expected based on the best available science, and build an understanding of the overall risk posed by potential future sea level rise. For example, if there are large changes in the hazard zones between two sea level rise amounts, additional analyses may help determine the tipping points when viable land uses will change. In general, scenario-based analyses can help determine the long-term compatibility of certain areas with certain land uses. For further description of this method, see [Chapter 3](#).

Include other topics as applicable or desired

This Guidance recommends a number of analyses that will generate useful information related to sea level rise and other environmental vulnerabilities. Performing these analyses (and the overall planning process) may provide a useful opportunity to include other studies that will complement the goals of Local Coastal Programs and provide valuable insights for community concerns. For example, planners should expand the Coastal Act consideration of lower cost visitor serving facilities to include considerations of social equity and environmental justice in the analyses by determining how climate hazards or the adaptation measures might differentially impact various demographics. Additionally, planners may want to incorporate analysis of the economic implications of various options for adaptation. Important topics such as these should be incorporated into the analyses already underway for the sake of efficiency.

Leverage analyses and share information with other planning-related processes and documents

Sea level rise is addressed in many other planning-related documents and by many other agencies and organizations. Planners should be aware of these documents and the on-going work of state and federal agencies and make an effort to share information in cases where analyses required for some of these documents may overlap with the studies appropriate for sea level rise planning in LCPs. Additionally, these agencies, organizations, and planning efforts may be good resources from which to gather information when performing these analyses for LCP updates.

For example, there is overlap between the required elements of a Local Hazard Mitigation Plan (LHMP) and Local Coastal Programs, and the Commission recommends coordinating an LHMP update with an LCP update if possible. As part of an LHMP, local governments identify the natural hazards that impact their community, identify actions to reduce the losses from those hazards, and establish a coordinated process to implement the plan.²⁶ In order to be eligible for certain types of non-emergency disaster assistance, including funding for hazard mitigation projects, local governments are required by FEMA to complete an LHMP²⁷ and to update the plan every 5 years. Any sea level rise hazard avoidance strategies included in an LCP certification or update, such as relocation of critical facilities must be included in the LHMP narrative to be eligible for funding from FEMA to implement future projects. If a local government has recently updated their LHMP, the city or county can add narrative information on sea level rise strategies through an addendum to the plan, referred to by FEMA as an annex.²⁸

In many cases, the analyses and adaptation options identified in this Guidance could be used for hazard mitigation plans or vice versa, as the goal of each of these planning processes is to

²⁶ <http://www.fema.gov/media-library-data/20130726-1524-20490-5927/67fr8844.pdf>

²⁷ Note that recent revisions to the [State Mitigation Plan Review Guide](#), set to go into effect in March 2016, will require states to analyze the probability and possible impacts due to future hazard events in a way that includes the projected changes in natural hazards resulting from climate change. Failure to include such considerations may result in a state's ineligibility for certain non-emergency mitigation grants.

²⁸ For more information on how to complete or update an LHMP, visit <http://hazardmitigation.calema.ca.gov/> or contact the Cal OES office and a hazard mitigation technical expert can assist local governments with the planning process. For contact information, visit <http://www.caloes.ca.gov/cal-oes-divisions/hazard-mitigation/contacts>.

minimize or avoid impacts from coastal hazards. As a result, there may be opportunities to leverage funding and share work efforts.

A number of other similar planning processes, projects, and documents are listed in [Figure 10](#), and planners may be able to use these studies in the LCP planning process, or, alternatively, share analyses and information performed for LCP planning with the groups working on related projects. Additionally, the forthcoming State of California Planning for Sea Level Rise Database (established by Assembly Bill 2516 and pursuant to Public Resources Code Sections 30961-30968) may become an important tool for identifying past and/or ongoing actions that stakeholders have implemented to address sea level rise. In any case, information sharing is highly recommended to promote efficiency.

Coordinate regionally as appropriate

Many impacts of sea level rise will transcend jurisdictional boundaries. Similarly, the adaptation decisions made by coastal communities could themselves have consequences that affect areas outside the local jurisdiction. For these reasons, regional coordination will often enhance the effectiveness of local adaptation decisions. Indeed, many of the projects identified in [Figure 10](#) have taken this regional approach. Planners should keep this concept in mind as they work through these steps and coordinate regionally where appropriate and possible.

Representative Adaptation Planning Stakeholders

Agencies	<p><u>Local/Regional:</u></p> <ul style="list-style-type: none"> • City/county governments • League of Cities • Association of Counties • Regional entities (e.g., air districts, water boards, metropolitan planning organizations, regional transportation planning agencies) 	<p><u>State:</u></p> <ul style="list-style-type: none"> • Natural Resources Agency • Ocean Protection Council • CA Coastal Commission • State Coastal Conservancy • State Lands Commission • SF Bay Conservation & Development Commission • Office of Planning & Research • Caltrans • Office of Emergency Services • CA Geologic Survey • Dept. of Parks and Rec. • Dept. of Fish and Wildlife • Dept. of Water Resources • State Water Resources Control Board • Air Resources Board • Dept. of Conservation 	<p><u>Federal:</u></p> <ul style="list-style-type: none"> • FEMA • EPA • US Fish and Wildlife Service • NOAA • Gulf of the Farallones NMS • Monterey Bay NMS • SF Bay NERR • Elkhorn Slough NERR • Tijuana River NERR • US Geologic Survey • US Army Corps of Engineers • BOEM, BSEE • National Park Service • Sea Grant
Partner Organizations	<ul style="list-style-type: none"> • Non-Government Organizations (e.g., environmental, social) • Professional organizations (e.g., agricultural, fisheries, communications) • Science organizations • Universities • Private consultants/industry <p><i>Examples include:</i></p> <ul style="list-style-type: none"> • The Nature Conservancy • Surfrider Foundation • Coastkeeper Alliance • Center for Ocean Solutions • Point Blue Conservation Science • Pacific Institute • Natural Capital Project • American Society of Adaptation Professionals 	Coordinated Planning Efforts	<p><u>Regional Environmental Efforts</u></p> <ul style="list-style-type: none"> • Our Coast Our Future (CoSMoS) • So. CA Coastal Impacts Project (CoSMoS) • Humboldt Bay SLR Adaptation Working Group • Monterey Bay Adaptation Group • LA Regional Adaptation Group • Coastal Resilience Ventura • San Diego Regional Climate Collaborative • Santa Barbara and Ventura Co. resilience planning <p><u>Local/Regional Plans</u></p> <ul style="list-style-type: none"> • Local Hazard Mitigation Plans • General Plans • Climate Action Plans • Capital Improvement Plans/Programs • Climate Change Adaptation Plans • Integrated Regional Water Management Plans • Regional Sediment Management Plans • Sustainable Community Plans • Regional Transportation Plans

Figure 10. Agencies, organizations, and planning efforts related to sea level rise adaptation

Step 1 – Determine range of sea level rise projections relevant to LCP planning

The first step in incorporating sea level rise into the LCP planning process is to identify locally relevant sea level rise scenarios that may occur at given time steps into the future. These scenarios will be carried through the rest of the steps in the sea level rise LCP planning process. Follow these steps to determine the locally relevant sea level rise projections to use in the subsequent steps:

- **Determine planning horizons of concern:** The Coastal Commission recommends taking a long-term view when analyzing sea level rise impacts because the land use decisions made today will affect what happens over the long-term. For example, development constructed today is likely to remain in place over the next 75-100 years, or longer. In practice, many jurisdictions have completed assessments that look at sea level rise vulnerabilities through approximately 2100. Understanding short-term vulnerabilities is also important, and the Coastal Commission recommends assessing vulnerabilities in intermediate planning horizons. For example, many jurisdictions have assessed sea level rise scenarios that correspond to years 2030 and 2050, in line with information provided in the 2012 National Research Council (NRC) [report](#). These time periods may be used, or local governments may identify other relevant planning horizons for their plans and development scenarios, as long as the projections for those time frames are based on the best available and relevant scientific projections.
- **Determine the full range of sea level rise projections from the best available science:** Using best available science, currently the 2018 OPC SLR Guidance (or other comparable study, provided that it is peer reviewed, widely accepted within the scientific community, and locally relevant), determine the range of sea level rise for the planning horizons of concern. The sea level rise projections for the San Francisco tide gauge from the 2018 OPC SLR Guidance are presented in [Table 4](#) below (projection tables for all 12 California tide gauges are presented in [Appendix G](#))²⁹. See below for a discussion of scenario-based planning in the LCP context. The LCP should include a policy to use the best available science about sea level rise.

²⁹ More detailed refinement of sea level rise projections is not considered necessary at this time, as variations from the nearby tide gauges will often be quite small, and may be insignificant compared to other sources of uncertainty. However, the Coastal Commission recognizes that other studies exist with localized data, for example those completed in the Humboldt Bay region, which may also be appropriate for use.

Table 4. Sea Level Rise Projections for the San Francisco Tide Gauge³⁰ (OPC 2018)

Projected Sea Level Rise (in feet): <i>San Francisco</i>			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.8	1.0
2040	0.8	1.3	1.8
2050	1.1	1.9	2.7
2060	1.5	2.6	3.9
2070	1.9	3.5	5.2
2080	2.4	4.5	6.6
2090	2.9	5.6	8.3
2100	3.4	6.9	10.2
2110*	3.5	7.3	11.9
2120	4.1	8.6	14.2
2130	4.6	10.0	16.6
2140	5.2	11.4	19.1
2150	5.8	13.0	21.9

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

³⁰ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

- **Choose multiple sea level rise scenarios based on range of sea level rise projections.**
The Coastal Commission recommends that all communities evaluate the impacts from the “medium-high risk aversion” scenario. Local governments should also include the “extreme risk aversion” scenario to evaluate the vulnerability of planned or existing assets that have little to no adaptive capacity, that would be irreversibly destroyed or significantly costly to repair, and/or would have considerable public health, public safety, or environmental impacts should that level of sea level rise occur. Planners may also consider evaluating the lower projections (those with a higher probability) to gain an understanding on what is likely to be vulnerable regardless of modeling uncertainty and future greenhouse gas emissions.

In addition to evaluating the worst-case scenario, planners need to understand the minimum amount of sea level rise that will cause impacts for their community, and how these impacts will change over time, with different amounts of sea level rise. Planners should evaluate enough scenarios to be able to answer the following:

- What are the impacts from the worst-case scenario of the highest possible sea level rise plus elevated water levels from high tide, El Niño and a 100-year storm?
- What is the minimum amount of sea level rise that causes inundation, flooding, or erosion concerns?
- How do inundation, flooding, and erosion concerns change with different amounts of sea level rise?
- Are there any tipping points where sea level rise impacts become more severe? (For example, is there a point at which seawalls or levees are overtopped?)

There are two main ways to choose scenarios from which to evaluate sea level rise: by sea level rise amount or by time-period. Tools that provide maps by sea level rise amount can then be linked to the relevant time period, as shown below in the *Our Coast Our Future* example. There is no single accepted sea level rise mapping methodology for the state of California. Local governments can choose whether to use existing sea level rise tools or to develop their own scenarios and maps. See below for information on scenarios and modeling outputs generated by existing sea level rise modeling tools.

Examples of Choosing Scenarios with Existing Sea Level Rise Modeling Tools

For California, there are two primary methods for identifying sea level rise scenarios, based on two of the currently available SLR mapping tools: CoSMoS (Our Coast Our Future) and Coastal Resilience Ventura (The Nature Conservancy). The type of tool available for sea level rise mapping in a planning area can be a deciding factor for which scenarios to use in the analysis. The Coastal Commission recommends using as many scenarios as necessary to fully analyze the potential impacts to coastal resources, human health, and safety rather than a specific tool or number of scenarios. Examples for choosing scenarios based on the tools available are described below.

Example 1: Identify SLR amounts, then relate to likely time period(s) of occurrence

This method involves first examining different amounts of sea level rise and storm events, and second, looking at the 2018 OPC SLR Guidance projections to determine the range of years during which those impacts could potentially occur. For example, the Our Coast Our Future CoSMoS-based tool provides sea level rise maps for 9 different amounts in 25 cm (0.8 ft) intervals, three different storm scenarios (annual, 20-year, and 100-year), and a king tide scenario. With this tool, users can first evaluate different amounts of sea level rise and storms, determine how different amounts of sea level rise and storm situations affect the planning area, and then determine when the increased water level is likely to occur based on the OPC Guidance projections. The CosMoS tool is currently available from Point Arena (in Mendocino County) through the Mexico border, and an expansion throughout the rest of the state is planned for 2018/2019. The NOAA Sea Level Rise and Coastal Flooding Impacts viewer similarly provides maps for different amounts of sea level rise (in this case, in 1-ft increments), but does not include impacts from storms, erosion or waves. A methodology for adding in these additional impacts is described in [Appendix B](#).

Example 2: Choose applicable years, then identify high, intermediate, and low scenarios

For this method, planners pick specific years, determine the range of sea level rise amounts that could occur by that year, and examine the consequences of three or more sea level rise amounts within that range. For example, the Coastal Resilience Ventura Tool (The Nature Conservancy) provides maps showing inundation, flooding, wave impact zone, and erosion risk zones with low, medium, and high sea level rise scenarios for the years 2030, 2060, and 2100. For local governments within Ventura County, planners may choose to evaluate scenarios according to the 2030, 2060, and 2100 time periods. The model provides maps for both flooding and erosion.

Expected outcomes from Step 1: Upon completing this step, a range of regionally- or locally-relevant sea level rise projections for the time periods of concern should be established. Based on the range of projections, planners will have identified a low, high, and one or more intermediate projections. These projections are the sea level rise scenarios that will be carried through the rest of the planning process.

Step 2 – Identify potential physical sea level rise impacts in LCP planning

The next step is to identify the physical hazards and impacts (referred to comprehensively as sea level rise impacts) associated with current and future sea level. As described in Section C of [Chapter 3](#) of this Guidance, broad categories of sea level rise impacts may include inundation, flooding, wave impacts, erosion, and saltwater intrusion. In this step, planners should analyze these physical impacts and their various sub-components in order to understand current and future local hazard conditions. The analysis should answer the following basic questions:

- What are the existing hazard conditions that threaten the planning area?
- What is the projected change in hazard conditions due to locally appropriate sea level rise projections and planning horizons of concern?

This analysis should include the following topics, as applicable:

- Local Water Conditions (See [Appendix B](#) for a detailed methodology)
 - Current tidal datum³¹ and future inundation
 - Water level changes from storm surge, atmospheric pressure, the Pacific Decadal Oscillation (PDO), the El Niño Southern Oscillation (ENSO), and/or other basin-wide phenomena
 - Wave impacts and wave runup, including wave runup from a 100-year storm, and based on tides, other water level changes, and future beach and bluff erosion
 - Flooding from extreme events such as storms with intervals greater than 100 years, tsunamis, *etc.*
- Shoreline change (See [Appendix B](#) for more information)
 - Current shoreline erosion rates. For future cliff and dune erosion rates, modify historic erosion rates, to account for the influence of sea level rise (*e.g.*, work by the Pacific Institute – Heberger *et al.* 2009; Revell *et al.* 2011). If possible, modify long-term beach erosion rates to account for changes in El Niño frequency, storm intensity, sediment supply or changing transport conditions. Analyzing wetland responses to sea level rise may require site-specific analyses of various physical and biological factors as described in Heberger *et al.* 2009.
 - Sedimentation rates
- Water quality
 - Current and future saltwater intrusion areas

³¹ Tidal datums are based on the latest National Tidal Datum Epoch (NTDE) published by NOAA and are the mean of the observed sea levels over a 19-year period. The latest published epoch is 1983-2001. This tidal epoch can be considered equivalent to the year 2000 baseline for the OPC projections.

- Current and potential future coastal water pollution issues due to inundation of toxic soils, rising water tables, and increases in nonpoint source pollution

Use existing models, tools, reports, historic records, and other materials ([Table 5](#)) to develop or double check the identified hazard areas. Document the current and future hazard areas in the Land Use Plan using maps, GIS products, graphics, tables, charts, figures, descriptions, or other means. This process should be repeated for each planning horizon and/or sea level rise scenario defined in Step 1.

Expected outcomes from Step 2: Upon completing this step, the potential current and future impacts to the planning area from sea level rise hazards should be identified based on sea level rise projections. These should include impacts from the high, low, and intermediate sea level rise scenarios for the planning horizon(s) of concern. Maps, GIS layers, graphics, figures, charts, tables, descriptions, or another system should be developed to communicate the impacts of current and future hazards.

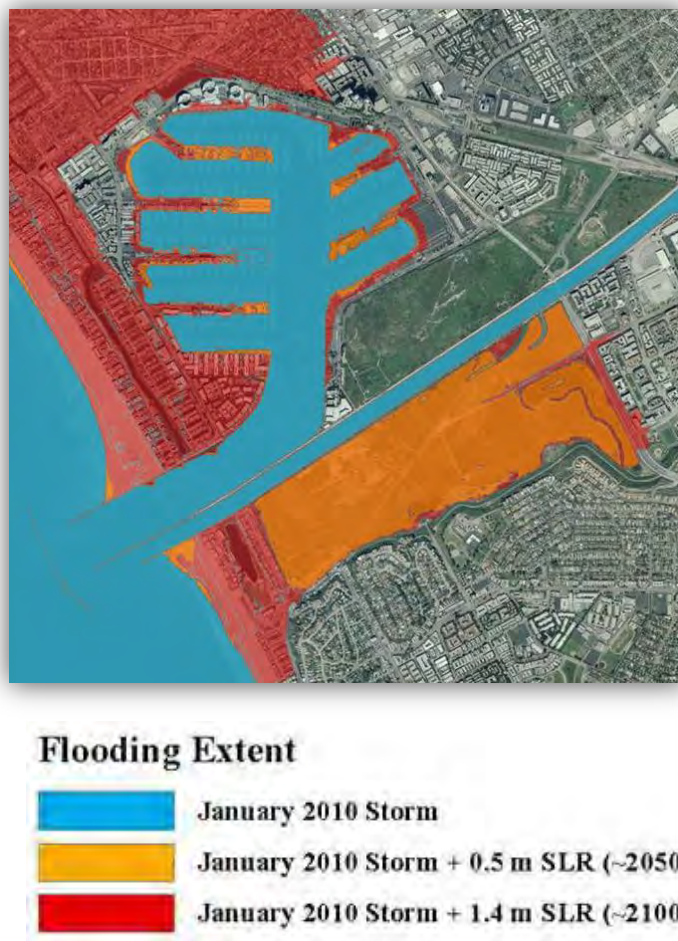


Figure 11. Example of analysis of SLR impacts. Flooding hazards predicted from the CoSMoS hindcast of the January 2010 storm, with and without sea level rise (SLR) scenarios, in the region of Venice and Marina del Rey, CA. (Source: [Barnard et al. 2014](#)).

Resources for Sea Level Rise Mapping

[Table 5](#) includes a list of sea level rise mapping tools. The tools vary in their complexity: some are considered “bathtub models,” because they show future inundation with simple rise in sea level (and no changes to the shoreline caused by other forces). Others include factors like erosion, storms, and fluvial inputs. These tools provide a useful first look at possible sea level rise impacts, but may need to be supplemented with additional, site- or topic-specific analyses, depending on the region. See [Appendix B](#) for additional information on determining hazard impacts and tools for mapping sea level rise.

Table 5. Sea Level Rise Mapping Tools

Tool	Description	Link
Statewide		
NOAA Sea Level Rise and Coastal Flooding Impacts Viewer	Displays potential future sea levels with a slider bar. Communicates spatial uncertainty of mapped sea level rise, overlays social and economic data onto sea level rise maps, and models potential marsh migration due to sea level rise. Maps do not include any influence of beach or dune erosion.	NOAA Office for Coastal Management, http://coast.noaa.gov/digitalcoast/tools/slr
Cal-Adapt – Exploring California’s Climate	Represents inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting from different increments of sea level rise coupled with extreme storm events. Incorporates real, time series water level data from past (near 100 year) storm events to capture the dynamic effect of storm surges in modeling inundation using a three dimensional hydrodynamic model (per Radke, 2017).	http://cal-adapt.org/tools/slr-calflod-3d/
Pacific Institute Sea Level Rise Maps	Downloadable PDF maps showing the coastal flood and erosion hazard zones from the 2009 study. Data are overlaid on aerial photographs and show major roads. Also available are an interactive online map and downloadable maps showing sea level rise, population and property at risk, miles of vulnerable roads and railroads, vulnerable power plants and wastewater treatment plants, and wetland migration potential.	http://www.pacinst.org/reports/sea_level_rise/maps/ For the 2009 report <i>The Impacts of Sea-Level Rise on the California Coast</i> visit: http://pacinst.org/publication/the-impacts-of-sea-level-rise-on-the-california-coast/

<p>Climate Central Surging Seas</p>	<p>Overlays sea level rise data with socio-economic information and ability to analyze property values, population, socio-economic status, ethnicity, and income or areas at risk. Can compare exposure across the state or a county.</p>	<p>http://sealevel.climatecentral.org/ssrf/california</p>
<p>Coastal Storm Modeling System (CoSMoS); tool hosted by Our Coast Our Future</p>	<p>Currently available for Point Arena to the Mexico border, with a statewide expansion anticipated in 2018/2019. The Coastal Storm Modeling System (CoSMoS) is a dynamic modeling approach that allows detailed predictions of coastal flooding due to both future sea level rise and storms, and integrated with long-term coastal evolution (i.e., beach changes and cliff/bluff retreat)</p>	<p>https://walrus.wr.usgs.gov/coastal_processes/cosmos/ http://data.pointblue.org/apps/ocof/cms/</p>
<p>TNC Coastal Resilience</p>	<p>An online mapping tool showing potential impacts from sea level rise and coastal hazards designed to help communities develop and implement solutions that incorporate ecosystem-based adaptation approaches. Available statewide with more detailed modelling for Monterey Bay, Santa Barbara, Ventura, and Santa Monica.</p>	<p>http://maps.coastalresilience.org/california/</p>
<p>Humboldt Bay Sea Level Rise Adaptation Project</p>	<p>This project is a multi-phased, regional collaboration. Phase I produced the <i>Humboldt Bay Shoreline Inventory, Mapping, and Sea Level Rise Vulnerability Assessment</i> which describes current shoreline conditions and vulnerabilities under the current tidal regime. Phase II included hydrodynamic modeling to develop vulnerability maps of areas surrounding Humboldt Bay vulnerable to inundation from existing and future sea levels. Phase II produced the <i>Humboldt Bay Sea Level Rise Modeling Inundation Mapping Report</i> and the <i>Humboldt Bay Sea Level Rise Conceptual Groundwater Model</i>.</p>	<p>All reports are available at: http://humboldtbay.org/humboldt-bay-sea-level-rise-adaptation-planning-project</p>

Step 3 – Assess potential risks from sea level rise to coastal resources and

After sea level rise impacts are identified and mapped in Step 2, the next Step is to determine whether sea level rise poses any risks, or potential problems, for coastal resources and development in the LCP planning area (refer to [Chapter 4](#) for a description of the potential consequences of sea level rise for coastal resources). Next, assess whether the LCP planning area’s current and planned land uses are appropriate or consistent with Coastal Act or LCP policies given those impacts, or if those land uses should be revised. This step requires an understanding of several characteristics of the coastal resources and development typically found within various land use types. (Much of this information can be produced in a vulnerability assessment, an analysis that is commonly conducted in the planning and climate change adaptation field. See [Appendix C](#) for a list of recent sea level rise vulnerability assessments.) Account for potential impacts to vulnerable, low-income communities and consider coastal development and resources, including but not limited to:

- Existing and planned development
- Coastal-dependent development and uses such as harbors, wharfs, ports, marinas, and commercial and recreational fishing areas and facilities
- Critical infrastructure³² such as wastewater treatment plants, transportation infrastructure, and some power plants and energy transmission infrastructure
- Public accessways, beaches and other recreation areas, and the California Coastal Trail
- State Highway 1, 101, and other state and local roads that provide access to the coast
- Wetlands, environmentally sensitive habitat area (ESHA), and other coastal habitats and sensitive species
- Agricultural areas
- Cultural sites and archaeological or paleontological resources
- Visitor-serving development and uses

Conduct the following tasks for each planning horizon (*e.g.*, the years 2030, 2050, and 2100, or other planning horizons):

1. For the planning horizon of interest, determine what development and coastal resources may be subjected to the sea level rise impacts expected for that time period. Map the coastal resources and development that lie within the sea level rise impact areas for the given time period. (Remember to address the wide range of resources listed above, including both natural resources and development.)

³² Critical infrastructure can vary widely from community to community, and may also include fire stations, police stations, and hospitals. For planning purposes, a jurisdiction should determine criticality based on the relative importance of its various assets for the delivery of vital services, the protection of special populations, and other important functions, as well as the social, environmental, and economic risks associated with loss of or damage to such assets.

2. Determine if sea level rise impacts are a problem or benefit for each resource, and if so, when and to what degree the resource will be impacted. In some instances, sea level rise may result in the creation of new habitat areas that could help to alleviate impacts from the loss of similar habitat in other locations. However, it is more likely, especially in heavily urbanized areas, that sea level rise will result in a net loss of habitat unless steps are taken to preserve these systems.

To accomplish this, consider a wide range of characteristics of each resource, including the following. The questions listed under each characteristic might help guide the consideration of each of these characteristics. These questions are meant to be suggestions rather than a standardized approach, and planners may use scientific literature, best professional judgment, or a variety of other resources to gain a conceptual understanding of the important resources and vulnerabilities in their jurisdictions.

- a. **Exposure.** Will sea level rise impacts affect the resource/development at all?
 - i. Are coastal resources and community assets exposed to sea level rise impacts?
 - ii. Is the resource already exposed to hazards such as waves, flooding, erosion, or saltwater intrusion? If it is, will sea level rise increase hazard exposure?
- b. **Sensitivity.** If resources are exposed, to what degree will coastal resources/development be affected by sea level rise impacts? A simple way to think about this concept is to consider *how easily affected* the resource or development is in regard to sea level rise impacts.
 - i. How quickly will the resource respond to the impact from sea level rise?
 - ii. Will the resource/development be harmed if environmental conditions change just a small amount? What are the physical characteristics of resource/asset (*e.g.*, geology, soil characteristics, hydrology, coastal geomorphology, topography, bathymetry, land cover, land use)? Do any of those characteristics make the resource especially sensitive?
 - iii. Are there thresholds or tipping points beyond which sensitivity to sea level rise increases?
- c. **Adaptive Capacity.** How easily can the resource successfully adapt to sea level rise impacts?
 - i. How well can the resource/development accommodate changes in sea level?
 - ii. Is rate of change faster than the ability of the resource/development to adapt?
 - iii. How easily can development be modified to cope with flooding, inundation, and/or erosion? Can structures be elevated or relocated?

- iv. Are there adaptation efforts already underway? Are there any factors that limit the success of adaptation efforts?
 - v. Do beaches, wetlands and other coastal habitats have room to migrate inland? What is the overall health of existing wetlands and coastal habitats?
 - vi. Are there any other climate change-related impacts to consider? Are there any non-climate stressors that could impair ability to adapt to sea level rise?
 - vii. Is there potential for habitat creation as a result of sea level rise?
 - viii. What are the options to protect, redesign (*e.g.*, elevate), or relocate inland any existing public accessways, recreational beaches, and segments of the Coastal Trail to cope with rising sea levels? Is lateral access compromised with sea level rise?
- d. **Consequences.** When sea level rise and/or sea level rise adaptation measures have impact(s) upon a resource, what are the economic, ecological, social, cultural, and legal consequences?
- i. How severely could each resource be affected? At what scale?
 - ii. Are there cumulative consequences?
 - iii. Are there ripple effects, or secondary consequences to consider?
 - iv. Will human responses cause further adverse impacts?
- e. **Land Use Constraints.** Given the location of sea level rise impacts and the resources currently located in those areas, should the types and intensities of land use be altered to minimize hazards and protect coastal resources?
- i. What is the current pattern of development? Is the area largely developed or does it have significant areas of undeveloped land?
 - ii. Is the area served by infrastructure that is vulnerable to sea level rise impacts?
 - iii. Are large areas of land under common ownership or is land mostly subdivided into smaller lots in separate ownership?
 - iv. What conditions does the land use type, development, or resource require to either exist or fulfill its intended purpose?
 - v. Is it a coastal-dependent use? What is its ideal proximity to the coast?
 - vi. For new development, what is the expected lifespan? Is it economically feasible to locate it in a sea level rise impact area for a certain period of time before it is removed or relocated?
 - vii. For existing development, what are the options available to minimize hazards to the development and protect coastal resources? Note that in

- certain situations, the Coastal Act allows existing structures to be protected (Coastal Act Section 30235). What are the coastal resource impacts of such protection, and are there feasible alternatives that avoid shoreline armoring, such as options to provide incentives to property owners to relocate or remove at-risk structures?
- viii. For a natural resource or habitat, what conditions does it require to persist?
 - ix. Where would resources/development ideally be located after sea level rise causes environmental conditions to shift?
 - x. What changes to existing LCP requirements or other land use restrictions are necessary to maximize opportunities for avoiding hazards or relocating threatened existing development?

After going through the questions listed above, and others that may be relevant to the planning exercise, synthesize the information and determine where sea level rise impacts currently pose problems for coastal resources, what problems may develop over time as sea level rises, and how urgent the problems are. Create maps illustrating the location and extent of vulnerable land uses, such as critical facilities, wastewater infrastructure, and State Highway 1 and other coastal access roadways. This information can also be summarized in narrative form. The analysis should identify resources and development likely to be impacted by sea level rise at various periods in the future, and thus the issues that need to be resolved in the LCP planning process.

Remember that these assessments are not static; existing risks will change and new risks will arise with changes in a community, the emergence of new threats, new information, and the implementation of adaptation actions. For this reason, the analysis should be updated as needed to reflect changes in sea level rise projections, changes in land use patterns, or new threats.

***Expected outcomes from Step 3:** Descriptions of the characteristics that influence risk, including exposure, sensitivity, and adaptive capacity of each coastal resource to sea level rise impacts under each sea level rise scenario identified in Step 1 at the selected planning horizons, along with the expected consequences of those impacts for the resource and broader community. Maps of resources and/or land uses at risk could be produced.*

Example for Step 3

To illustrate the process described in Step 3, consider a hypothetical planning area that includes multiple coastal resources and land use types, including a coastal wetland, bluff-top residential development with a fronting beach, and a wastewater treatment facility, that need to be addressed in the planning process. After Steps 1 and 2, portions of the planning area are found to be subject to current and future sea level rise impacts.

Step 3.1: Map the coastal resources (in this case the wetland, development, and wastewater treatment facility) for the range of time periods and sea level rise projections.

Step 3.2

a. **Exposure**

- *Wetland:* The wetland is highly exposed to flooding and inundation from sea level rise. By the year 2030, portions of the wetland will trap sediment at a rate such that the elevation keeps pace with sea level rise. By 2050, a portion of the wetland will become inundated and converted to open water, and by 2100 the entire area will be converted to open water. The wetland will be completely lost by this time period if it is not able to move inland.
- *Bluff-top Residential Development:* Houses in the residential development are not exposed to sea level rise impacts in 2030. However, a high rate of retreat along the fronting beach and bluff will put front-line houses in danger of being undermined by the year 2050, and the entire development may be lost by 2100.
- *Wastewater Treatment Facility:* Given that the wastewater treatment plant is set back somewhat from the water, it will not be exposed to impacts from sea level rise until 2050. By 2050, however, portions of the infrastructure will be exposed to impacts from elevated water levels due to 100-year storm events and El Niño occurrences. By 2100, significant portions of the facility will be exposed to flooding as the surrounding area is eroded and inundated.

b. **Sensitivity**

- *Wetland:* The wetland has high sensitivity to changes in sea level because its functioning is highly-dependent on local physical parameters such as water flow, tidal fluctuation, sediment supply, and water quality. Although it currently has good sediment supply, good water quality, and a number of other characteristics, small changes in sea level rise by 2050 may alter the function of the wetland. In addition, there are concerns that beyond 2050 the wetland will not be able to keep up with accelerated sea level rise, thus increasing sensitivity to further changes in sea level.
- *Bluff-top Residential Development:* The residential development has moderate to high sensitivity to longer-term sea level rise changes. By 2050, the front-line houses will no longer be safe enough for occupancy. Moreover, infrastructure such as roads, sewage systems, and power networks may be damaged as the bluff-face erodes.
- *Wastewater Treatment Facility:* The facility is moderately sensitive to sea level rise. Flooding and erosion from sea level rise could cause damage of the facility, pumps and

other equipment, but the facility was initially built to withstand a high degree of storm and related impacts.

c. **Adaptive Capacity**

- *Wetland:* Unlike many wetlands in the State of California, this particular wetland has a moderate-high adaptive capacity because it has the ability to both accumulate sediment and grow upwards, and, given that the land upland of the wetland is preserved as open space, it can migrate inland. However, by 2050, a part or all of the existing wetland area could be converted to open water if the wetland is not able to migrate inland or accumulate sediment at a rate that keeps pace with sea level rise. In this case, for example, a public trail will need to be relocated to allow inland migration of the new intertidal zone. Additionally, adaptive capacity may be reduced if pollution increases (*e.g.*, as a result of damage to adjacent development) and disrupts the normal functioning of the wetland.
- *Bluff-top Residential Development:* The residential development has a moderate adaptive capacity. As houses become threatened over time, a scenario of managed retreat would allow houses to be removed incrementally and eventually be relocated to safer areas. The feasibility of managed retreat can depend upon lot sizes, ownership patterns, land use restrictions in the safer areas, and the availability of public or private financing. In addition, a protective structure such as a seawall would minimize threats to the residence due to erosion, though if the development is protected by shoreline structures, the fronting beach will eventually be lost.
- *Wastewater Treatment Facility:* The wastewater treatment facility has a very low adaptive capacity. It is large and has expensive infrastructure so it cannot be elevated, and relocation is costly and difficult. In order to be protected in its current location, new structures will need to be built.

d. **Consequences**

- *Wetland:* In many situations, the loss of wetland area is a high risk since wetlands provide flood protection, water quality enhancement, and essential habitat for fish and bird species. However, in this case, wetland migration is not restricted by inland development, so the risks for this wetland are slight to moderate, depending upon the suitability of the inland area for establishment of wetland plants and potential changes in water temperature and water quality. In the short term, the wetland will likely continue to function at normal levels. However, if it eventually can't keep up with sea level rise or if there are barriers to migration, loss of the habitat will result in a loss of important ecosystem services.
- *Bluff-top Residential Development:* The housing development has medium to high risk through 2100. The option to either relocate houses or protect them with a seawall means that they could continue to exist. Importantly, a system of managed retreat will allow for the continued existence of the fronting beach and all of its social, economic, and environmental benefits, whereas the construction of a seawall will result in the loss of the beach and these benefits.

- *Wastewater Treatment Facility:* Given its low adaptive capacity and high sensitivity to higher levels of sea level rise, the wastewater treatment facility is at high risk. Loss or damage to the facility could result in serious social, economic, and environmental consequences. Flooding of the facility and surrounding areas will cause damage to infrastructure and loss of facility function. This could lead to discharge of untreated sewage, which would have adverse impacts to water quality and could impair the health of nearshore ecosystems. Sea level rise could also cause outflow pipes to back up with seawater, leading to inland flooding and additional water quality problems. However, efforts to protect the structure may have unintended consequences including loss of surrounding habitat areas.

e. **Land Use Constraints (discussed further in Step 4)**

- *Wetland:* The high adaptive capacity of the wetland means that minimizing risk to this resource may be accomplished by ensuring that there is space available for it to move into. Land use policies designed to protect areas inland of the current wetland area will be necessary.
- *Bluff-top Residential Development:* The area in question will eventually become incompatible with the current use. Development will not begin to be exposed to sea level rise impacts until 2050, but it is important to start planning now about how best to address the risks to the houses. Managed retreat would necessitate identifying feasible locations into which houses could be moved or a plan to abandon and remove houses. Such a plan might include a Transfer of Development Rights program in which homes are encouraged in less hazardous areas. If a managed retreat strategy is not in place, existing structures may qualify for shoreline protection. Shoreline protection would likely exacerbate beach erosion, degrade public access, impair shoreline habitat, and alter visual character.
- *Wastewater Treatment Facility:* The biggest risk in this scenario is to the wastewater treatment facility. It should be determined how likely it is that the facility will be able to be protected throughout the rest of its expected lifespan under even the highest sea level rise scenarios. It may be that the wastewater treatment facility becomes an incompatible use under future conditions. If so, plans should be made to relocate at-risk portions of the facility, as feasible, or to phase out the facility.

Note that this is a simplified example used to demonstrate the process described in Step 3. Decisions about how to address various challenges presented by sea level rise will be more complex than those illustrated above and may require prioritizing the different resources based on Coastal Act requirements taking into account the goals and circumstances of the community and the various characteristics of each resource. An understanding of the exposure, sensitivity, adaptive capacity, consequences, and land use constraints for the particular resources and scenarios will need to be kept in mind as planners move into Step 4 to identify possible adaptation strategies. Updated LCP policies and ordinances should be considered to support strategy implementation over the long term.

Step 4 – Identify LCP adaptation strategies to minimize risks

Whether as part of a new LCP or as part of an amendment to update an existing LCP, coastal planners should work with the Coastal Commission and relevant stakeholders at all steps, but particularly to evaluate potential options and adaptation strategies to address the sea level rise impacts identified in Step 2 and the risks to coastal resources identified in Step 3. Planners will then develop new or revised land use designations, policies, standards, or ordinances to implement the adaptation strategies in the LCP.

An LCP as certified by the Commission should already have land use policies, standards, and ordinances to implement Coastal Act Chapter 3 policies, including policies to avoid and mitigate hazards, and to protect coastal resources. However, in older LCPs, many of these policies may not address changing conditions adequately enough to protect coastal resources over time as sea level rises. Similarly, policies to protect resources and address coastal hazards may not reflect new techniques that can be utilized to adaptively manage coastal resources in a dynamic environment. As such, the LCP should be evaluated to identify the land use designations, policies, or ordinances that need to be amended. An LCP update may need to include a variety of adaptation measures depending on the nature and location of the vulnerability. In addition, local governments may need to add new “programmatic” changes to address sea level rise, such as transfer of development credit programs, regional sediment management programs, or a land acquisition program.

In Steps 1-3, planners will have analyzed several possible sea level rise scenarios, and this analysis will have revealed valuable information about areas and specific coastal resources that are especially vulnerable to sea level rise hazards under possible scenarios. The results should show areas that are particularly resilient to future change and trigger points at which sea level hazards will become particularly relevant to certain areas. Step 3d (identifying the *Consequences* of sea level rise impacts) and Step 3e (considering the *Land use constraints*) will be particularly useful in thinking through what resources are particularly vulnerable and what the local priorities may be.

In Step 4, planners should weigh information from the previous steps, keeping in mind the hazard avoidance and resource protection policies of the Coastal Act, and begin identifying, choosing, and/or developing adaptation strategies to be included in a new or updated LCP. The options available to minimize risks from sea level rise are dependent upon the specifics of the local community, and will vary widely depending on whether the area is an urban, fully-developed waterfront, or a rural, undeveloped coastline. In undeveloped areas, the options may be clear: strictly limit new development in sea level rise hazard zones.

However, in urban areas, sea level rise can present unprecedented challenges, and the options are less clear. The Coastal Act allows for protection of certain existing structures. However, armoring can pose significant impacts to coastal resources. To minimize impacts, innovative, cutting-edge solutions will be needed, such as the use of living shorelines to protect existing infrastructure, restrictions on redevelopment of properties in hazardous areas, managed retreat, partnerships with land trust organizations to convert at risk areas to open space, or transfer of development rights programs. Strategies will need to be tailored to the specific needs of each

community based on the resources at risk, should be evaluated for resulting impacts to coastal resources, and should be developed through a public process, in close consultation with the Coastal Commission and in line with the Coastal Act.

Adaptation strategies should be selected based upon the local conditions, the results of the scenario-based analysis, and Coastal Act requirements, taking into account the particular goals of the local community. If certain adaptation strategies should be implemented when conditions reach pre-identified trigger points, those caveats should be included in the LCP. Similarly, LCP adaptation policies should be developed and implemented in such a way as to be flexible and adaptive enough that they can be changed or updated as conditions change or if sea level rise impacts are significantly different than anticipated. Additionally, many adaptation strategies should be implemented in a coordinated way through both the LCP and individual CDPs. For example, current land uses that will conflict with future conditions may be amended through updated zoning designations in an LCP. In turn, zoning designations could carry out specific policies or requirements regarding new development or redevelopment that need to be addressed in a CDP to ensure that projects are resilient over time. Planners are encouraged to work with Coastal Commission staff to ensure compliance with the Coastal Act and to coordinate and share information with other local partners including those in charge of emergency management, law enforcement, and related services, and those identified in [Figure 10](#) as applicable and feasible.

A key issue that should be addressed in the LCP is the evaluation of strategies to minimize hazards related to existing development. Under the Coastal Act, certain improvements and repairs to existing development are exempt from CDP requirements. Non-exempt improvements and any repairs that involve the replacement of 50% or more of a structure, however, generally require a CDP and must conform to the standards of the relevant Local Coastal Program or Coastal Act.³³ Redevelopment, therefore, should minimize hazards from sea level rise. For existing structures currently sited in at-risk locations, the process of redeveloping the structure may require the structure to be moved or modified to ensure that the structure and coastal resources are not at risk due to impacts from sea level rise. As described in Guiding Principle 6, sequential renovation or replacement of small portions of existing development should be considered in total. LCPs should include policies that specify that multiple smaller renovations that amount to alteration of 50% or more of the original structure should require a Coastal Development Permit, and require that the entire structure to be brought into conformance with the standards of the Local Coastal Program or Coastal Act.³⁴

³³ Section § 13252(b) of the Commission’s regulations states that “unless destroyed by natural disaster, the replacement of 50 percent or more of a single family residence, seawall, revetment, bluff retaining wall, breakwater, groin or any other structure is not repair and maintenance under Coastal Act Section 30610(d) but instead constitutes a replacement structure requiring a Coastal Development Permit.”

³⁴ In addition, for existing structures located between the first public road and the sea or within 300 feet of the inland extent of a beach, improvements that increase the height or internal floor area by more than 10% normally require a CDP. (Cal. Code Regs., tit. 14, §§13250(b)(4), 13253(b)(4).) Depending upon the location of the structure, smaller improvements may also require a CDP. (Cal. Code Regs., tit. 14, §§ 13250(b), 13253(b).)

General Adaptation Strategies:

[Chapter 7](#) describes a number of adaptation policies and strategies and is organized by resource type to allow users to easily identify the types of policies that may be relevant to local resource vulnerabilities. However, there are a number of adaptation strategies or related actions that apply to a variety of resources or that may be generally useful when adopting or updating an LCP. Some of these adaptation strategies and actions are broadly described below.

- **Update resource inventory and maps:** An important first step for addressing sea level rise hazards and vulnerabilities in a new or updated LCP will be to compile a set of maps that clearly show the current locations of the range of coastal resources present in an LCP jurisdiction (*e.g.*, beaches and public accessways; agricultural land, wetlands, ESHA, and other coastal habitats; energy, wastewater, transportation, and other critical infrastructure; and archaeological and paleontological resources), as well as existing land use designations, and hazard areas. It may also be helpful to map possible future conditions based on the analysis done in Steps 1-3. Doing so will help planners begin to identify possible land use and zoning changes and other adaptation strategies that will be necessary to meet hazard avoidance and resource protection goals.
- **Update land use designations and zoning ordinances:** One of the most common methods of regulating land use is through zoning designations and ordinances, and updating these policies is one of the most fundamental ways of responding to sea level rise impacts. Planners may address particular vulnerabilities and local priorities by updating land use designations and zoning ordinances to protect specific areas and/or resources. For example, areas that are particularly vulnerable to sea level rise impacts can be designated as hazard zones and specific regulations can be used to limit new development and/or to encourage removal of existing development in such zones. Similarly, open areas can be designated as conservation zones in order to protect and provide upland areas for wetland and habitat migration or for additional agricultural land.
- **Update siting and design standards:** Updated siting and design standards may go hand in hand with updated land use designations and zoning ordinances in that specific standards may be required for development or projects in certain zones. For example, development in hazard zones may require additional setbacks, limits for first floor habitable space, innovative stormwater management systems, special flood protection measures, mitigation measures for unavoidable impacts, relocation and removal triggers and methodologies, and so on.
- **Establish methods to monitor local changes from sea level rise:** Add policies that establish actions to conduct long-term sea level rise monitoring and research on areas of key uncertainties, areas sensitive to small changes in sea level rise, or areas with high sea level rise risk.
- **Research and data collection:** Support research to address key data gaps and better utilize existing information. Local governments may find it useful to collaborate with local, regional, and state partners to pursue new research to better understand the factors controlling sea level rise, baseline shoreline conditions, ecosystem responses to sea level rise, potential impacts and vulnerabilities, and the efficacy of adaptation tools. Related efforts may include monitoring programs designed to track trends in local shoreline

change, flooding extent and frequency, or water quality. Monitoring of the results of various adaptation strategies and protective structures could be included as part of a Coastal Development Permit for projects in hazard zones.

- **Outreach and education:** Education and outreach efforts involve formal instruction and provision of information to stakeholders, and can help generate support for planning and action implementation. It is important to coordinate with partners and include all relevant stakeholders in these processes, particularly those that are typically isolated, such as low-income or underserved communities. For many people, sea level rise is a new issue. Information on sea level rise science and potential consequences may motivate stakeholders to take an active role in updating the LCP for sea level rise issues, or in the vulnerability and risk assessment efforts. Additionally, education efforts regarding the risks of sea level rise as well as possible adaptation strategies may encourage people to take proactive steps to retrofit their homes to be more resilient or to choose to build in less hazardous areas.

As stated above, a more extensive and detailed list of possible adaptation strategies can be found in [Chapter 7](#). The list should neither be considered a checklist from which all options need to be added to an LCP, nor is it an exhaustive list of all possible adaptation strategies. Sea level rise adaptation is still an evolving field and decision makers will need to be innovative and flexible to respond to changing conditions, new science, and new adaptation opportunities. The important point is to analyze current and future risks from sea level rise, determine local priorities and goals for protection of coastal resources and development, and identify what land use designations, zoning ordinances, and other adaptation strategies can be used to meet those goals within the context of the Coastal Act.

Expected outcomes from Step 4: Identified sections of the LCP that need to be updated, a list of adaptation measures applicable to the LCP, and new policies and ordinances to implement the adaptation measures.

Step 5 – Draft updated or new LCP for certification with the Coastal Commission

Once potential adaptation strategies have been identified, LCP policies that address sea level rise should be incorporated into a new LCP or LCP amendment. For jurisdictions with a certified LCP, adaptation measures will be implemented through development of amendments to the certified LCPs. For jurisdictions that currently do not have a certified LCP, the sea level rise policies will be part of the development of a new LCP. In areas without a certified LCP, the Coastal Commission generally retains permitting authority, and the standard of review for development is generally Chapter 3 of the California Coastal Act.

As noted in Step 4, sea level rise has the potential to affect many types of coastal resources in an LCP planning area/segment, and it is likely that policies throughout the LCP will need to be revised or developed to address impacts from sea level rise. Two major types of updates to the LCP will likely be needed to address sea level rise:

1. New or revised policies/ordinances that apply to all development in the planning area. For example, policies such as “All new development shall be sited and designed to minimize risks from sea level rise over the life of the structure.”
2. Updated land use and zoning designations, as well as programs to facilitate adaptive community responses, to reduce risks to specific coastal resources. For example, the LCP could modify the zoning of undeveloped land located upland of wetlands from residential to open space in order to provide the opportunity for wetlands to migrate inland, and protect wetlands for the future.

Local government staff should work closely with Coastal Commission staff and relevant stakeholders, including ensuring there is opportunity for public input, to develop the new LCP or LCP amendments. Once the updates and plans are complete, local governments will submit to the Commission for certification. The Commission may either certify or deny the LCP or LCP amendment as submitted, or it may suggest modifications. If the Commission adopts suggested modifications, the local government may adopt the modifications for certification or refuse the modifications and resubmit a revised LCP for additional Commission review. For more information on updating LCPs, see <https://www.coastal.ca.gov/rflg/>.

Expected outcomes from Step 5: Certified/updated LCP with policies and land use designations that address sea level rise and related hazards and ensure protection of coastal resources to the maximum extent feasible.

Step 6 – Implement LCP and monitor and revise as needed

Upon certification of the updated LCP, sea level rise adaptation strategies will be implemented through the certified implementing ordinances and related processes and actions (e.g., local review of CDPs, proactive action plans). Additionally, an important component of successful adaptation is to secure funds for implementation, regularly monitor progress and results, and update any policies and approaches as needed. Sea level rise projections should be re-evaluated and updated as necessary.

- **Secure resources for implementation:** There are a number of different sources of funds available to help local governments implement adaptation strategies. For example, the Coastal Commission, the Ocean Protection Council, and the Coastal Conservancy have grant programs designed to support local adaptation efforts (see [Chapter 1](#) for additional details on each of these programs).

As described previously there may also be overlap between LCP planning and Local Hazard Mitigation planning. FEMA’s Hazard Mitigation Assistance (HMA) grant programs provide significant opportunities to reduce or eliminate potential losses to State, Indian Tribal government, and local assets through hazard mitigation planning and project grant funding. Currently, there are three programs: the [Hazard Mitigation Grant Program \(HMGP\)](#); [Pre-Disaster Mitigation \(PDM\)](#); and [Flood Mitigation Assistance](#)

(FMA)³⁵. Cal OES administers the HMA and FMA programs. More information can be found at <http://www.caloes.ca.gov/cal-oes-divisions/recovery/disaster-mitigation-technical-support/404-hazard-mitigation-grant-program> or the FEMA HMA Web site at <https://www.fema.gov/hazard-mitigation-assistance>.

A list compiled by Cal OES of additional funding options for hazard mitigation can be found in [Appendix E](#). The Commission recognizes that funding opportunities are constantly evolving, that demand for funding is increasing, and that there is a significant need for the development of additional funding opportunities.

- **Identify key resources to monitor:** Certain species can be indicators of whether sea level rise is affecting an ecosystem. For instance, the presence of certain plant species can indicate the salinity of soils. Also, monitoring plans should reflect the outcome of the scenario-based analysis of sea level rise. Some adaptation measures might be earmarked for implementation when a certain amount of sea level rise (or a particular sea level rise impact) occurs. Monitoring programs should ensure that these triggers are recognized and responded to at the appropriate time.
- **Periodically Update LCPs:** Local governments should try to review their vulnerability and risk assessments on a regular basis as significant new scientific information becomes available and propose amendments as appropriate. Given the evolving nature of sea level rise science, policies may need to be updated as major scientific advancements are made, changing what is considered the best available science. Modify the current and future hazard areas on a five to ten year basis or as necessary to allow for the incorporation of new sea level rise science, monitoring results, and information on coastal conditions. Regular evaluation of LCPs is important to make sure policies and adaptation strategies are effective in reducing impacts from sea level rise.

Expected outcomes from Step 6: Plan to monitor the LCP planning area for sea level rise and other impacts and for effectiveness of various adaptation strategies that are implemented; plan to revise the LCP when conditions change or science is updated.

This six-step process discussed in this chapter is illustrated in the flowchart below ([Figure 12](#)). Notice that the process is circular. Because sea level rise science will be refined and updated in the future, planners should periodically repeat this six-step process to update and improve their LCPs.

For additional resources and examples of ways to incorporate sea level rise into the LCP, see [Appendix C](#).

³⁵ Each HMA program was authorized by separate legislative action, and as such, each program differs slightly in scope and intent.

Planning Process for Local Coastal Programs and Other Plans

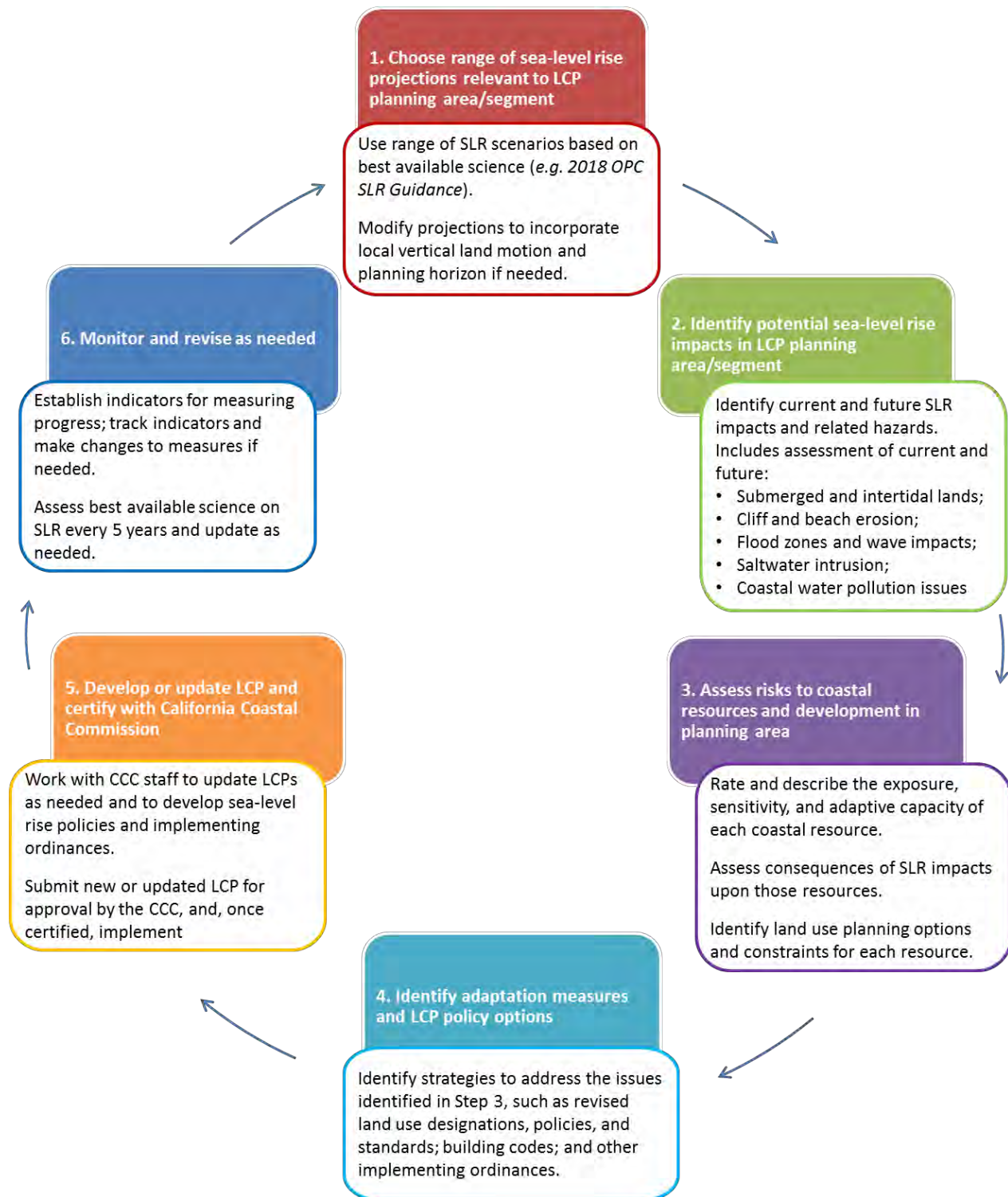


Figure 12. Flowchart for addressing sea level rise in Local Coastal Programs and other plans



Chapter 7

Adaptation Strategies

Chapters 5 and 6 provide guidance on the sequential processes for addressing sea level rise in Local Coastal Programs (LCPs) and Coastal Development Permits (CDPs). This chapter describes some of the specific adaptation strategies to consider in these planning and development review processes. Given the range of impacts that could occur as a result of sea level rise, and the uncertainties surrounding projections of sea level rise over the lifetimes of many coastal projects, communities, planners, coastal managers and project applicants will need to use adaptation strategies to effectively address coastal hazard risks, and protect coastal resources over time.

As described in Chapters [5](#) and [6](#), adaptation strategies should be chosen based on the specific risks and vulnerabilities of a region or project site and the applicable Coastal Act and LCP requirements, with due consideration of local priorities and goals. Adaptation strategies may involve modifications to land use plans, regulatory changes, project modifications, or permit conditions that focus on avoidance or minimization of risks and the protection of coastal resources.

Some adaptation strategies may require land use plans or proposed projects to anticipate longer-run impacts now, such as assuring that critical infrastructure is built to last a long time without being put in danger, or rezoning hazardous areas as open space. Other adaptation strategies may build adaptive capacity into the plan or project itself, so that future changes in hazard risks can be effectively addressed while ensuring long-term resource protection. In most cases, especially for LCP land use and implementation plans, multiple adaptation strategies will need to be employed. For projects, adaptation strategies may be addressed through initial siting and design and through conditions that provide for specific adaptation over time.

The next sections provide an overview of the general categories of adaptation options, followed by a description of various specific adaptation strategies organized by type of coastal resource, as outlined in Chapter 3 of the California Coastal Act.

The adaptation options described in this chapter are intended to provide guidance for potential LCP and permitting strategies. Not all strategies listed here will be appropriate for every jurisdiction, nor is this an exhaustive list of options. However, as described in Chapters 5 and 6, all local governments and all project applicants should analyze the possible effects of sea level rise and evaluate how the strategies in this chapter, or additional supplemental strategies, could be implemented in LCPs or CDPs to minimize the adverse effects of sea level rise.

GENERAL ADAPTATION CATEGORIES

There are a number of options for how to address the risks and impacts associated with sea level rise. Choosing to “do nothing” or following a policy of “non-intervention” may be considered an adaptive response, but in most cases, the strategies for addressing sea level rise hazards will require proactive planning to ensure protection of coastal resources and development. Such proactive adaptation strategies generally fall into three main categories: protect, accommodate, and retreat.

For purposes of implementing the Coastal Act, no single category or even specific strategy should be considered the “best” option as a rule. Different types of strategies will be appropriate in different locations and for different hazard management and resource protection goals. The effectiveness of different adaptation strategies will vary across both spatial and temporal scales. In many cases, a hybrid approach that uses strategies from multiple categories will be necessary,

and the suite of strategies chosen may need to change over time. As discussed later in the document, the legal context of various options will also need to be considered in each situation and ultimately, adaptive responses will need to be consistent with the Coastal Act. Nonetheless, it is useful to think about the general categories of adaptation strategies to help frame the consideration of land use planning and regulatory options in specific communities and places along the coast.

Protect: Protection strategies refer to those strategies that employ some sort of engineered structure or other measure to defend development (or other resources) in its current location without changes to the development itself. Protection strategies can be further divided into “hard” and “soft” defensive measures or armoring. “Hard” armoring refers to engineered structures such as seawalls, revetments, and bulkheads that defend against coastal hazards like wave impacts, erosion, and flooding. Such armoring is a fairly common response to coastal hazards, but it can result in serious negative impacts to coastal resources, particularly as sea level rises. Most significantly, hard structures form barriers that impede the ability of natural beaches and habitats to migrate inland over time. If they are unable to move inland, public recreational beaches, wetlands, and other habitats will be lost as sea level continues to rise. This process is commonly referred to as “passive erosion,” which is the narrowing of beaches due to the fact that the back of the beach on an eroding shoreline has been fixed in place (Flick *et al.* 2012). Other detrimental impacts may include negative visual impacts or interference with other ecosystem services.

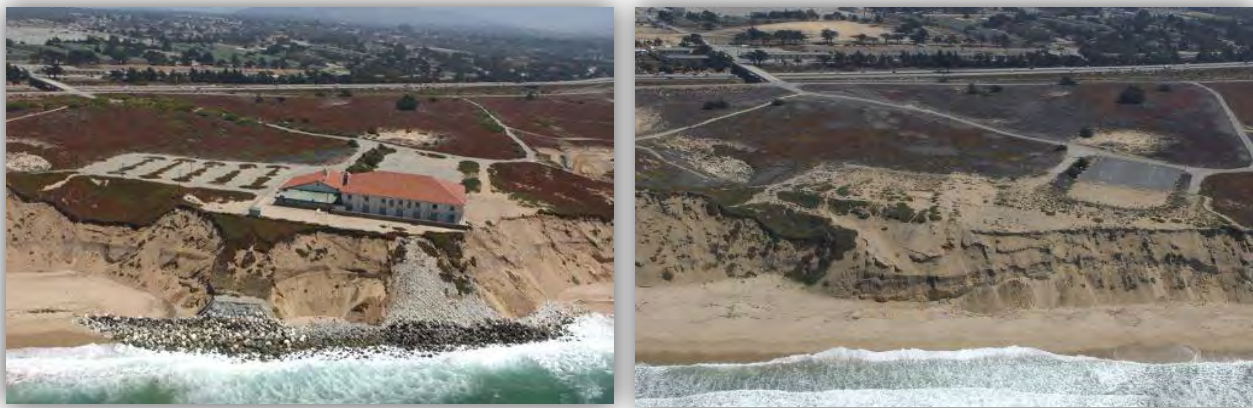


Figure 15. Photo depicting passive erosion. (Left) Passive erosion in front of a revetment at Fort Ord, illustrating the loss of beach where the development prevents the shoreline from migrating landward. The beach continues to migrate inland on either side of the revetment. (Right) Recovery of the beach following removal of the revetment and blufftop structure. (Source: [California Coastal Records Project](#)).

“Soft” armoring refers to the use of natural or “green” infrastructure like beaches, dune systems, wetlands, and other systems to buffer coastal areas. Strategies like beach nourishment, dune management, or the construction of “living shorelines” capitalize on the natural ability of these systems to protect coastlines from coastal hazards while also providing benefits such as habitat, recreation area, more pleasing visual impacts, and the continuation or enhancement of ecosystem services. The engineering of green infrastructure is a somewhat newer concept in some cases, and because of this, the effectiveness of different strategies in different types of environments is not necessarily well-known or tested. In cases in which natural infrastructure might not be

completely effective or may not be preferred, a hybrid approach using both hard and natural infrastructure could be considered. As described in Principle 10 of this Guidance and in the [Safeguarding California](#) plan (CNRA 2014), priority should be given to options that protect, enhance, and maximize coastal resources and access, including giving full consideration to innovative nature-based approaches such as living shoreline techniques or managed/planned retreat. Although the Coastal Act clearly provides for potential protection strategies for “existing development”, it also directs that new development be sited and designed to not require future protection that may alter a natural shoreline.

Accommodate: Accommodation strategies refer to those strategies that employ methods that modify existing developments or design new developments to decrease hazard risks and thus increase the resiliency of development to the impacts of sea level rise. On an individual project scale, these accommodation strategies include actions such as elevating structures, retrofits and/or the use of materials meant to increase the strength of development, building structures that can easily be moved and relocated, or using extra setbacks. On a community-scale, accommodation strategies include any of the land use designations, zoning ordinances, or other measures that require the above types of actions, as well as strategies such as clustering development in less vulnerable areas or requiring mitigation actions to provide for protection of natural areas even as development is protected. As with protection strategies, some accommodation strategies could result in negative impacts to coastal resources. Elevated structures may block coastal views or detract from community character; pile-supported structures may, through erosion, develop into a form of shore protection that interferes with coastal processes, blocks access, and, at the extreme, results in structures looming over or directly on top of the beach.



Figure 16. Photo depicting “managed retreat” and restoration. Surfers' Point Managed Shoreline Retreat project in which the parking lot was moved back and beach area was restored. (Aerial composite by Rick Wilborne (February 28, 2013); photo courtesy of Surfrider Foundation)

Retreat: Retreat strategies are those strategies that relocate or remove existing development out of hazard areas and limit the construction of new development in vulnerable areas. These strategies include land use designations and zoning ordinances that encourage building in more resilient areas or gradually removing and relocating existing development. Acquisition and buy-out programs, transfer of development rights programs, and removal of structures where the right to protection was waived (*i.e.*, via permit condition) are examples of strategies designed to encourage managed retreat.

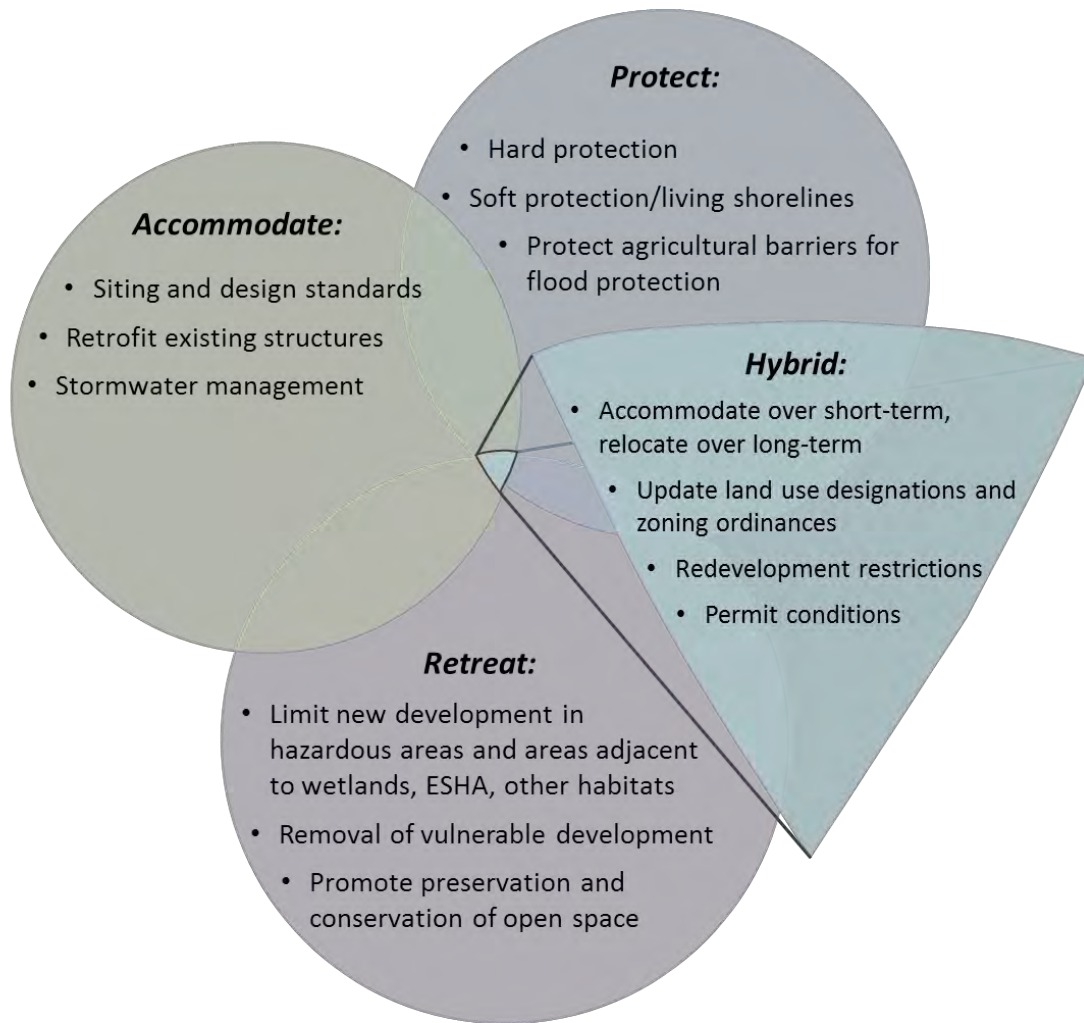


Figure 17. Examples of general adaptation strategies

SPECIFIC ADAPTATION STRATEGIES

The following sections, organized by category of coastal resource, present measures that local governments and coastal planners should consider including in their LCPs or individual CDPs. The purpose of this organization is to allow coastal managers and project applicants to easily find strategies that will help address the specific resource vulnerabilities identified in Steps 1-3 of the LCP and CDP processes laid out in Chapters [5](#) and [6](#). In the development of LCP policies, local governments should use adaptation measures that best implement the statewide resource protection and hazard policies of the Coastal Act at the local level given the diverse geography and conditions of different areas.

As part of identifying adaptation strategies, local governments should carefully examine the potential impacts to coastal resources that could occur from various adaptation strategies. Some adaptation strategies will need to be implemented incrementally over time as conditions change, and many strategies will need to be implemented through both the LCP and CDP to be effective. For each issue area, there is a description of potential impacts that could occur due to sea level rise and a list of adaptation tools or actions to minimize impacts. To skip to a topic, click on the links below.

- A. [Coastal Development and Hazards](#)
- B. [Public Access and Recreation](#)
- C. [Coastal Habitats, ESHA, and Wetlands](#)
- D. [Agricultural Resources](#)
- E. [Water Quality and Supply](#)
- F. [Archaeological and Paleontological Resources](#)
- G. [Scenic and Visual Resources](#)

The lists in these sections should be considered neither checklists from which all options need to be used, nor exhaustive lists of all possible adaptation strategies. Sea level rise adaptation is an evolving field, and policy language, cost considerations, effectiveness of various strategies, and other topics are continuing to be developed. Planners, applicants, and partners will need to think creatively and adaptively respond to changing conditions, new science, and new adaptation opportunities, and the Coastal Commission will continue to support and collaborate on these efforts.

Additionally, sea level rise planning may involve a number of trade-offs among various competing interests, and no single adaptation strategy will be able to accomplish all planning objectives. Economic and social implications of various adaptation options will likely play into the planning process at the local level. The important point is to analyze current and future risks from sea level rise, determine local priorities and goals for protection of coastal resources and development in light of Coastal Act requirements, and identify what land use designations, zoning ordinances, and other adaptation strategies can be used to meet those goals.

A. Coastal Development and Hazards

The Coastal Act requires that new development be sited and designed to be safe from hazards and to not adversely impact coastal resources (Coastal Act Sections 30235 and 30253). The main goals that relate to hazards and coastal development are:

- Update land use designations, zoning maps, and ordinances to account for changing hazard zones
- Include sea level rise in hazard analyses and policies
- Plan and locate new development to be safe from hazards, not require protection over its entire lifespan, and be protective of coastal resources
- Incorporate sea level rise adaptation into redevelopment policies
- Encourage the removal of development that is threatened by sea level rise
- Use “soft” or “natural” solutions as a preferred alternative for protection of existing endangered structures
- Limit bluff and shoreline protective devices to protect existing endangered structures
- Require special considerations for critical infrastructure and facilities
- Protect transportation infrastructure

[Chapter 3](#) of the Guidance covers the impacts to coastal development that might result from sea level rise. Certified LCPs should already have policies and standards to assure that coastal development is safe over its anticipated lifetime and that it does not adversely impact other coastal resources. However, LCP policies and standards may need to be updated in light of new knowledge and to consider sea level rise hazards. Adaptation options have been developed to support the development goals of the Coastal Act through both LCP policies and CDP conditions, and the following strategies cover a range of options for addressing the identified goals of the Coastal Act.

Goal: Update land use designations, zoning maps, and ordinances to account for changing hazard zones

A.1 Establish mapped hazard zones or overlays: Update land uses and zoning requirements to minimize risks from sea level rise in identified hazard zones or overlay areas. For example, limit new development in current and future sea level hazard zones and encourage removal of existing development when threatened.

A.1a Identify zones that require a more rigorous sea level rise hazards analysis: Specify areas where a closer analysis of sea level rise is necessary at the permit application stage to avoid or minimize coastal hazards and impacts to coastal

resources. Ensure that the most up-to-date information on sea level rise is incorporated in such analyses.

Goal: Include sea level rise in hazard analyses and policies

A.2 Update policies to require sea level rise to be included in hazard analyses and management plans: LCP policies should include requirements to analyze projected sea level rise. Consider specific projection scenarios to be analyzed. (See [Chapter 3](#) of the Guidance for a description of scenario planning.) LCPs could also specify which analyses are required for various types of projects/development (see Step 2 of Chapters [5](#) and [6](#) or [Appendix B](#) for suggested analyses).

A.2a **Site-specific evaluation of sea level rise:** Update policies, ordinances, and permit application requirements to include a required site-specific evaluation of coastal hazards due to sea level rise over the full projected life of any proposed development. Analyses should be conducted by a certified Civil Engineer or Engineering Geologist with expertise in coastal processes.

A.2b **Incorporate wave runup zones and sea level rise in coastal flood hazard maps:** Develop coastal flood maps that include areas that will be subject to wave action and flooding due to sea level rise. These maps may be able to rely upon existing flood maps, such as the FEMA Flood Insurance Rate Maps, for current flood areas and base conditions, but should be augmented to include future conditions, including sea level rise, likely to occur through the life of proposed new development.

A.2c **Incorporate sea level rise into calculations of the Geologic Setback Line:** Update geotechnical report requirements for establishing the Geologic Setback Line (bluff setback) to include consideration of bluff retreat due to sea level rise in addition to historic bluff retreat data, future increase in storm or El Niño events, and any known site-specific conditions. The report should be completed by a licensed Geotechnical Engineer or an Engineering Geologist.

A.2d **Include sea level rise in wave runup, storm surge, and tsunami hazard assessments⁴⁴:** Sea level rise should be included in wave runup analyses, including storm event and tsunami hazard assessments. This should include evaluating tsunami loads/currents on maritime facilities and coastal structures. Since tsunami wave runup can be quite large, sea level rise projections of only a few inches may not have a large impact on these assessments. However, for time periods or scenarios where sea level rise projections are large (perhaps 1 ft or more), it would be appropriate to include sea level rise because it could change the results to a significant degree.

⁴⁴ Tsunami evacuation maps are based upon current sea level conditions and they will need to be updated with changes in sea level.

A.3 Establish shoreline management plans to address long-term shoreline change due to sea level rise: Create policies that require a management plan for priority areas that are subject to sea level rise hazards, and incorporate the plan into the larger LCP if applicable. Similar to an LCP, shoreline management plans generally include the short and long term goals for the specified area, the management actions and policies necessary for reaching those goals, and any necessary monitoring to ensure effectiveness and success. Incorporate strategies necessary to manage and adapt to changes in wave, flooding, and erosion hazards due to sea level rise.

Goal: Plan and locate new development to be safe from hazards, not require protection over its entire lifespan, and be protective of coastal resources

A.4 Limit new development in hazardous areas: Restrict or limit construction of new development in zones or overlay areas that have been identified or designated as hazardous areas to avoid or minimize impacts to coastal resources and property from sea level rise impacts.

A.5 Cluster development away from hazard areas: Concentrate development away from hazardous areas. Update any existing policies that cluster development to reflect additional hazard zones due to sea level rise.

A.5a Concentration of development/smart growth: Require development to concentrate in areas that can accommodate it without significant adverse effects on coastal resources. This strategy is applicable for community wide planning through an LCP, but may also apply to CDPs for subdivisions or for larger developments involving large or multiple lots.

A.5b Transfer of Development Rights programs (TDR): Restrict development in one area (“sending area”) and allow for the transfer of development rights to another area more appropriate for intense use (“receiving area”). LCPs can establish policies to implement a TDR program to restrict development in areas vulnerable to sea level rise and allow for transfer of development rights to parcels with less vulnerability to hazards. A TDR program can encourage the relocation of development away from at-risk locations, and may be used in combination with a buy-out program.

A.6 Develop adequate setbacks for new development: Ensure structures are set back far enough inland from the beach or bluff edge such that they will not be endangered by erosion (including sea level rise induced erosion) over the life of the structure, *without the use of a shoreline protective device*. When used to address future risk, setbacks are normally defined by a measurable distance from an identifiable location such as a bluff edge, line of vegetation, dune crest, or roadway. Establish general guidance and criteria for setbacks in LCPs that consider changes in retreat due to sea level rise. Require detailed, site-specific analyses through LCPs and CDPs to determine the size of the setback, taking into consideration sea level rise and establish the expected life of the

structure (for example, the time period over which the setback should be effective).



Figure 18. Photo depicting a development setback in Pismo Beach. (Source: [California Coastal Records Project](#))

- A.7 Limit subdivisions in areas vulnerable to sea level rise:** Prohibit any new land divisions, including subdivisions, lot splits, lot line adjustments, and/or certificates of compliance that create new beachfront or blufftop lots unless the lots can meet specific criteria that ensure that when the lots are developed, the development will not be exposed to hazards or pose any risks to protection of coastal resources.
- A.8 Update development siting, code, and design standards to avoid, minimize, or reduce risks from coastal hazards and extreme events:** Establish and implement building codes and standards for building siting and construction that avoid or minimize risks from flooding and erosion and increase resilience to extreme events within sea level rise hazard zones. Such standards and applicable building code provisions should be included in LCPs as additional development controls in areas that are identified in the LCP as hazard areas, and applied in specific projects through a CDP.
- A.8a Update flood protection measures to incorporate both FEMA and Coastal Act requirements:** Require new development located in areas subject to current or future flood/wave action to be sited and designed to be capable of withstanding such impacts in compliance with both FEMA and Coastal Act requirements. For example, ensure that implementation of adaptation measures such as elevation of habitable areas, break-away walls, *etc.* will be consistent with both LCP and FEMA provisions.

- A.8b **Limit basements and first floor habitable space:** Where applicable, in areas likely to be subject to current or future flood/wave action, revise residential building standards to prohibit habitable space at elevations subject to wave/flood risk. Specifically address potential impacts of basements on long-range adaptation options such as landward relocation or removal.
 - A.8c **Evaluate impacts from flood protection measures:** Require new development that must be located in areas likely subject to current or future flood/wave action or elevated groundwater to evaluate potential impacts to adjacent or nearby properties from all proposed structural flood protection measures to ensure that these measures will not create adverse direct and/or cumulative impacts either on-site or off-site.
- A.9 Analyze options for removal when planning and designing new development:** Design options should not place an undue burden on future property owners or coastal resources. For new development in high hazard areas or resource-constrained areas where managed retreat might be an appropriate option at some time in the future, ensure that foundation designs or other aspects of the development will not preclude future incremental relocation or managed retreat. Foundation and building elements, such as deepened perimeter foundations, caissons or basements, may be difficult to remove in the future, or their removal may put adjacent properties at risk. Alternative design options should be considered, and employed if site conditions allow.
- A.9a **Develop a plan to remove or relocate structures that become threatened:** Require new development authorized through a CDP that is subject to wave action, erosion, or other hazards to be removed or relocated if it becomes threatened in the future.
 - A.9b **Identify triggers for incremental removal of structures on constrained lots:** When a lot is not large enough to accommodate development that avoids coastal hazards for the expected life of the development, develop a project option that minimizes hazards from the identified sea level rise scenarios for as long as possible, and then requires incremental retreat once certain triggers are met.

Triggers for relocation or removal of the structure would be determined by changing site conditions such as when erosion is within a certain distance of the foundation; when monthly high tides are within a certain distance of the finished floor elevation; when building officials prohibit occupancy; or when the wetland buffer area decreases to a certain width.
 - A.9c **Avoid shoreline protection for new development:** Require CDPs for new development in hazardous locations to include as a condition of approval a waiver of rights to future shoreline protection that would substantially alter natural landforms or cause other adverse coastal resource impacts.
 - A.9d **Limit the use of foundations or basements that can interfere with coastal processes:** In locations where foundation or building elements, such as deepened perimeter foundations, caissons or basements may be exposed to wave action through rising sea level or erosion, require analysis of less extensive foundation or building options.

- A.9e **Develop triggers for foundation and structure removal:** If no less damaging foundation alternatives are possible, ensure that the foundation design allows for incremental removal as the foundation elements become exposed, and develop pre-established triggers, for example when the bluff edge or shoreline comes within a certain distance of the foundation, for incremental or complete removal that will avoid future resource impacts.



Figure 19. Photo depicting eroding bluff and exposed caissons in Encinitas, CA. (Photograph by Lesley Ewing)

- A.10 Ensure that current and future risks are assumed by the property owner:** New development should be undertaken in such a way that the consequences from development in high hazard areas will not be passed on to public or coastal resources. Recognize that over time, sea level rise will cause the public trust boundary to move inland. Establish standards, permit conditions, and deed restrictions that ensure that current and future risks are assumed by the property owner. Consider policies that would encourage or require property owners to set aside money, such as in the form of a bond, as a contingency if it becomes necessary to modify, relocate, or remove development that becomes threatened in the future.
- A.11 Real estate disclosure:** Require sellers of real estate to disclose permit conditions related to coastal hazards, or property defects or vulnerabilities, including information about known current and potential future vulnerabilities to sea level rise, to prospective buyers prior to closing escrow.

Goal: Incorporate sea level rise adaptation into redevelopment policies

A.12 Avoid the expansion or perpetuation of existing structures in at-risk locations: On an eroding shoreline, the seaward portions of an existing structure may become threatened as the setback or buffer zone between the structure and the mean high tide line or bluff edge is reduced due to erosion of the beach or bluff. When the seaward portion of the structure no longer meets the standards or setback that would be required for new development, it becomes a “non-conforming” structure for purposes of redevelopment policies and regulations. The following should be considered, as consistent with the Coastal Act, FEMA policies, and other relevant standards, to address existing non-conforming development to avoid the need for shoreline or bluff protective devices and associated impacts to coastal resources.

- A.12a **Update non-conforming structure policies and definitions:** Develop policies and regulations to define non-conforming development in the area between the sea and the first coastal roadway or other known hazard zones to avoid perpetuating development that may become at risk and require a new protective device or extend the need for an existing protective device.
- A.12b **Limit redevelopment or upgrades to existing structures in at risk locations:** Use redevelopment policies or regulations to limit expansions, additions, or substantial renovations of existing structures in danger from erosion. Require removal of non-conforming portions of the existing structure, when possible, when a remodel or renovation is proposed.
- A.12c **Limit foundation work within the geologic setback area:** To facilitate removal of non-conforming portions of an existing structure, use LCP regulations and CDPs to limit new or replacement foundations or substantial improvements, other than repair and maintenance, to the existing foundation when located seaward of the Geologic Setback line. Approve significant new foundation work only when it is located inland of the setback line for new development and when it will not interfere with coastal processes in the future.
- A.12d **Limit increases to existing non-conformities:** Use LCP regulations and CDPs to allow non-exempt repair and maintenance and modifications only if they do not increase the size or degree of non-conformity of the existing structure. For shoreline or blufftop development, any decrease in the existing non-conforming setback would increase the degree of non-conformity.
- A.12e **Limit additions to non-conforming structures:** Use LCP regulations and CDPs to acknowledge that additions to existing structures should be considered new development that must conform to the standards for new development including but not limited to avoiding future protective devices. Consider limitations on the size of additions unless non-conforming portions of the structure are removed.
- A.12f **Address existing protection of non-conforming structures:** Use LCP regulations and CDP conditions to put current and future property owners on notice that if there is currently shoreline or bluff protection for an existing structure, the structure is likely at-risk and improvements to that structure in its current location may be limited. Also, consider acknowledging that any rights to

retain the existing protective device(s) apply only to the structure that existed at the time the protective device was constructed or permitted.

A.13 Redevelopment of existing structures: Define “redevelopment” as, at a minimum, replacement of 50% or more of an existing structure. Other options that may be used to define what constitutes redevelopment or a replacement structure could include 1) limits on the extent of replacement of major structural components such as the foundation or exterior walls, or 2) improvements costing more than 50% of the assessed or appraised value of the existing structure. The redevelopment definition should take into consideration existing conditions and pattern of development, potential impacts to coastal resources, and the need for bluff or shoreline protective devices if the structure remains in its current, non-conforming location.

A.13a **Require redevelopment to meet the standards for new development:** Use LCPs and CDPs to require that renovations meeting the threshold for redevelopment should not be approved unless the entire structure meets the standards for new development, including but not limited to a waiver of right to protection. Specify that if any existing non-conforming elements are permitted to remain, those non-conforming elements are not subject to rights to protection pursuant to Coastal Act Section 30235.

A.13b **Include cumulative improvement or additions to existing structures in the definition of redevelopment:** Use LCP regulations to acknowledge that demolition, renovation, or replacement of less than 50% (or less) of an existing structure constitutes redevelopment when the proposed improvements would result cumulatively in replacement of more than 50% of the existing structure from an established date, such as certification of the LUP.

A.14 Remove existing shoreline protective devices: On properties with existing shoreline protective devices, use regulations to require removal of the protective device when the structure requiring protection is redeveloped or removed. If removal is not possible, require a waiver of any rights to retain the protective device to protect any structure other than the one that existed at the time the protective device was constructed or permitted.

Goal: Encourage the removal of development that is threatened by sea level rise

A.15 Use Rolling Easements: The term “rolling easement” refers to the policy or policies intended to allow coastal lands and habitats including beaches and wetlands to migrate landward over time as the mean high tide line and public trust boundary moves inland with sea level rise. Such policies often restrict the use of shoreline protective structures (such as the “no future seawall” limitation sometimes used by the Commission), limit new development, and encourage the removal of structures that are seaward (or become seaward over time) of a designated boundary. This boundary may be designated based on such variables as the mean high tide line, dune vegetation line, or other dynamic line or legal requirement. Despite the term “rolling easements,” not all of the strategies related to rolling easements actually involve the use of recorded easements.

- A.16 Develop an incentive program to relocate existing development at risk:** Provide incentives to relocate development out of hazardous areas and to acquire oceanfront properties damaged by storms, where relocation is not feasible. Consider creating a relocation fund through increased development fees, *in lieu* fees, or other funding mechanisms.
- A.17 Transfer of Development Rights programs (TDR):** See Strategy A.5b above.
- A.18 Acquisition and buyout programs:** Acquisition includes the acquiring of land from the individual landowner(s). Structures are typically demolished or relocated, the property is restored, and future development on the land is restricted. Such a program is often used in combination with a TDR program that can provide incentives for relocation. Undeveloped lands are conserved as open space or public parks. LCPs can include policies to encourage the local government to establish an acquisition plan or buyout program to acquire property at risk from flooding or other hazards.

Goal: Use “soft” or “natural” solutions as a preferred alternative for protection of existing endangered structures

- A.19 Require the use of green infrastructure as a preferred alternative:** Under appropriate shoreline conditions, require or encourage development to use “soft” or “natural” solutions or “living shorelines” as an alternative to the placement of hard shoreline protection in order to protect development or other resources and to enhance natural resource areas. Examples of soft solutions include vegetative planting, dune restoration, and sand nourishment.
- A.19a Establish a beach nourishment program and protocols:** New policies may be needed to address increased demand or need for beach nourishment with sea level rise. Policies within an LCP may identify locations where nourishment may be appropriate; establish a beach nourishment program and protocols for conducting beach nourishment; establish criteria for the design, construction, and management of the nourishment area; and/or establish measures to minimize adverse biological resource impacts from deposition of material, such as sand compatibility specifications, timing or seasonal restrictions, and identification of environmentally preferred locations for deposits. Beach nourishment programs should also consider how nourishment options may need to change over time as sea level rises.
- A.19b Dune management:** Establish management actions to maintain and restore dunes and natural dune processes. Dunes provide buffers against erosion and flooding by trapping windblown sand, storing excess beach sand, and protecting inland areas, and they also provide habitat. This is likely most effective for areas with some existing dune habitat and where there is sufficient space to expand a foredune beach for sand exchange between the more active (beach) and stable (dune) parts of the ecosystem. LCPs can identify existing dune systems and develop or encourage management plans to enhance and restore these areas,

including consideration of ways that the system will change with rising sea level. CDPs for dune management plans may need to include periodic reviews so the permitted plans can be updated to address increased erosion from sea level rise, and the need for increased sand retention and replenishment.



Figure 20. Photo depicting dune restoration at Surfer's Point, Ventura. (Photograph courtesy of Surfrider Foundation)

- A.19c **Regional Sediment Management (RSM) programs:** Develop a Regional Sediment Management (RSM) program including strategies designed to allow the use of natural processes to solve engineering problems. To be most effective, RSM programs include the entire watershed, account for effects of human activities on sediment, protect and enhance coastal ecosystems, and maintain safe access to beaches for recreational purposes. LCPs can support development of an RSM program and its implementation, and the program should be periodically updated to address on-going changes from sea level rise. Natural boundaries for RSM may overlap within several LCPs, so regional cooperation may be needed for best implementation. Individual actions such as a beach nourishment project would be accomplished through a CDP. Many coastal RSM programs have already been developed and can be used as a resource. See the *Coastal Sediment Management Workgroup website* (and [Appendix C](#)) for more information.
- A.19d **Maintenance or restoration of natural sand supply:** Adjustment of the sediment supply has been one of the ways natural systems have accommodated

changes from sea level. Maintenance or restoration of sediment involves identifying natural sediment supplies and removing and/or modifying existing structures or actions that impair natural sand supply, such as dams or sand mining. LCPs could include policies and implementing standards that support nature-based responses to sea level rise by maintaining and restoring natural sand supply. Where applicable, develop policies and standards to prohibit sand mining, regulate sand replenishment, and promote removal of dams or the by-passing of sand around dams. Plans should take into consideration changes in sand supply due to sea level rise and may identify and designate high priority areas for restoring natural processes. These actions and policies can also be implemented through a Regional Sediment Management (RSM) program.

- A.19e **Beneficial reuse of sediment through dredging management:** Dredging involves the removal of sediment from harbor areas to facilitate boat and ship traffic or from wetland areas for restoration. Dredging management actions and plans may need to be updated to account for elevated water levels. Policies can be developed with an LCP and/or carried out through a CDP to facilitate delivery of clean sediment extracted from dredging to nearby beaches or wetland areas where needed. Beneficial reuse of sediment in this way can be coordinated through a Regional Sediment Management (RSM) program and/or through coordination with other jurisdictions.

Goal: Allow bluff and shoreline protective devices only to protect existing endangered structures

- A.20 Use hard protection only if allowable and if no feasible less damaging alternative exists:** “Hard” coastal protection is a broad term for most engineered features such as seawalls, revetments, cave fills, and bulkheads that block the landward retreat of the shoreline. In some cases, caissons and pilings may also be considered hard shoreline protective devices. Due to adverse effects on shoreline sand supply and beach area available for public use, such protective devices should be avoided when feasible. Under current law, shoreline protection for existing structures in danger from erosion may be allowed if coastal resource impacts are avoided or minimized and fully mitigated where unavoidable.

- A.20a **Retention of existing shoreline protection:** On intensely developed, urbanized shorelines, if the removal of armoring would put existing development at risk and not otherwise result in significant protection or enhancement of coastal resources, it may be appropriate to allow properly designed shoreline armoring to remain for the foreseeable future, subject to conditions that provide for potential future removal in coordination with surrounding development. However, the proper short term responses, longer term adaptation measures, and mitigation of on-going resource impacts should be determined through updated context-specific LCP planning and consideration of the existing rights and responsibilities of development in the area (see strategies A.21 – A.25).

- A.21 Require monitoring of the structure:** Require periodic monitoring of the shoreline protective device to examine for structural damage, excessive scour, or other impacts from coastal hazards and sea level rise. Ensure that the structures remain within the initial footprint and that they retain functional stability.
- A.22 Conditional approval of shoreline protective device:** Use LCP regulations and permit conditions to require monitoring of impacts to shoreline processes and beach width both at the project site and the broader area and/or littoral cell as feasible, and provide for such actions as removal or modification of armoring in the future if it is no longer needed for protection or if site conditions change.
- A.22a **Limit the authorization of shoreline protective devices to the development being protected:** Use LCP regulations and CDP conditions to require permits for bluff and shoreline protective devices to expire when the currently existing structure requiring protection is redeveloped, is no longer present, or no longer requires a protective device, whichever occurs first. Prior to expiration of the permit, the property owner should apply for a Coastal Development Permit to remove the protective device, or to modify or retain it if removal is not feasible at that time.
- A.22b **Require assessment of impacts from existing pre-Coastal Act or permitted shoreline armoring:** Use LCP regulations and permit conditions to specify that expansion and/or alteration of a pre-Coastal Act or legally permitted bluff or shoreline protective device requires a new CDP and the review should include an assessment of changes to geologic site and beach conditions including but not limited to, changes in beach width relative to sea level rise, implementation of any long-term, large scale sand replenishment or shoreline restoration programs, and any ongoing impacts to public access and recreation from the existing device.
- A.22c **Reassess impacts and need for existing armoring over time:** Use LCP regulations and CDPs to provide for reassessment of the impacts from protective devices at specific trigger points, including when substantial improvement or redevelopment of the structure requiring protection is proposed, or when existing armoring is being modified or expanded. Reassessment should consider the effect any significant improvement to a structure requiring protection will have on the length of time the protective device will remain, and if the existing armoring is still required, acknowledge that it is authorized to protect the existing structure only. The CDP review should assess existing site conditions and evaluate options to modify, replace, or remove the existing device in a manner that would eliminate or mitigate any identified impacts that may be occurring on public access and recreation, scenic views, sand supply, and other coastal resources, if feasible.
- A.23 Require mitigation for impacts of shoreline protective devices:** For unavoidable public resource impacts from shoreline structures permitted under the Coastal Act, require mitigation of resource impacts over the life of the structure as a condition of approval for the development permit. For example, require landowners to pay mitigation fees and/or complete other mitigation actions for the loss of sandy beach and other

adverse impacts on public access and recreation due to shoreline protection devices. Importantly, mitigation measures should be planned in such a way that sea level rise will not impair their efficacy over time. Other mitigation measures could include acquisition of other shoreline property for public recreational purposes, construction of public access and recreational improvements along the shoreline, and/or easements to protect lateral access along the shoreline in areas where seawalls eliminate sandy beach.

A.23a **Reassess mitigation over time as necessary:** Impacts of shoreline structures, including to shoreline and sand supply, public access and recreation, ecosystem values, and other relevant coastal resources, should be fully mitigated. Where reassessment of an approved structure is authorized, phasing of necessary mitigation may be appropriate.

A.24 Limit retention of existing shore protection: On lots with existing pre-Coastal Act or permitted armoring, consider requiring a waiver of rights to retain such protection for any structures other than the structure that existed at the time the armoring was constructed or permitted.

A.25 Removal of shoreline protection structures: The removal of shoreline protection structures can open beach or wetland areas to natural processes and provide for natural responses to sea level rise. LCPs can specify priority areas where shoreline protection structures should be removed if they are no longer needed or in a state of great disrepair, including areas where structures threaten the survival of wetlands and other habitats, beaches, trails, and other recreational areas. Once these priority areas have been identified, assessment of potential re-siting of structures and removal of armoring could be required by a CDP as redevelopment occurs.

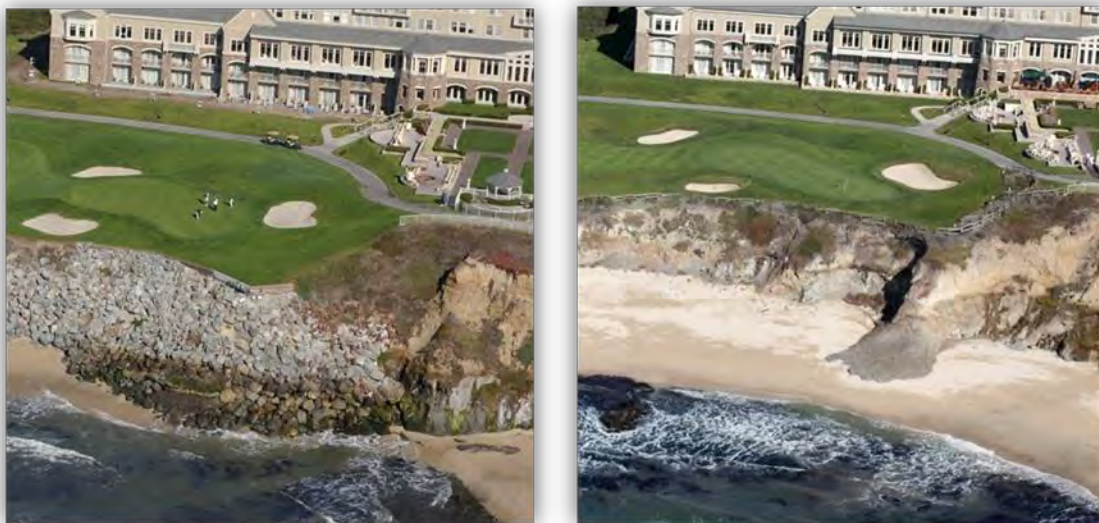


Figure 21. Photo depicting removal of shoreline protective structure. Removal of rock revetment restores access and allows natural bluff erosion at the Ritz Carlton in Half Moon Bay. (Source: [California Coastal Records Project](#))

A.25a **Remove shoreline protective structures located on public lands:** Over time, sea level rise will cause the public trust boundary to move inland. If the structures

as originally approved were located on uplands but that land becomes subject to the public trust in the future, the State Lands Commission or any local government or other entity acting as trustee for public trust lands could require the structures to be removed. The Commission or local governments could approve permit conditions to ensure permittees obtain authorization to retain or remove structures if they ever become located on public trust lands. Removal might also be accomplished through non-regulatory means such as offering incentives for removal to property owners or by incorporating removal of public structures into Capital Improvement Plans.

Goal: Require special considerations for critical infrastructure and facilities

- A.26 Plan ahead to preserve function of critical facilities:** Addressing sea level rise impacts to critical facilities and infrastructure will likely be more complex than for other resources and may require greater amounts of planning time, impacts analyses, public input, and funding. To address these complexities, establish measures that ensure continued function of critical infrastructure, or the basic facilities, service, networks, and systems needed for the functioning of a community. Programs and measures within an LCP could include identification of critical infrastructure that is vulnerable to SLR hazards, establishment of a plan for managed relocation of at-risk facilities, and/or other measures to ensure functional continuity of the critical services provided by infrastructure at risk from sea level rise and extreme storms. Repair and maintenance, elevation or spot-repair of key components, or fortification of structures where consistent with the Coastal Act may be implemented through CDPs.
- A.26a **Develop or update a long-term public works plan for critical facilities to address sea level rise:** Develop a long-term management plan to address the complexities of planning for sea level rise that incorporates any potential maintenance, relocation, or retrofits and structural changes to critical facilities to accommodate changes in sea level, and obtain Coastal Commission certification.
- A.27 Apply high sea level rise projections for siting and design of critical facilities:** Given the planning complexities, high costs, and potential impacts resulting from damage, there is reason to be particularly cautious when planning and designing new critical facilities and/or retrofitting existing facilities. Ensure that critical facilities are designed to function even if the highest projected amounts of sea level rise occur and that sites with hazardous materials are protected from worst-case scenario sea level rise impacts.
- A.27a **Design coastal-dependent infrastructure to accommodate worst case scenario sea level rise:** Include policies that would require proposals and/or expansion plans to address sea level rise for coastal dependent infrastructure that must necessarily be sited in potentially hazardous areas, such as industrial, energy, and port facilities. Such facilities should be designed to withstand worst case future impacts while minimizing risks to other coastal resources through initial siting, design, and/or inclusion of features that will allow for future adaptation.

- A.28 Site and design wastewater disposal systems to avoid risks from sea level rise:** Wastewater treatment and disposal systems are particularly challenging in that they are often located in areas that will be impacted by sea level rise. Ensure that these systems are not adversely affected by the impacts of sea level rise over the full life of the structure and ensure that damage to these facilities would not result in impacts to water quality or other coastal resources. Avoid locating new facilities in hazardous areas if possible. If complete avoidance is not possible, minimize elements of the system that are in hazardous areas (for example, locate the main facility on higher ground and only place pump stations in potentially hazardous areas), and design any facilities in hazardous areas to withstand worst-case scenario sea level rise impacts.

Goal: Protect transportation infrastructure

- A.29 Identify priorities for adaptation planning and response:** Carry out vulnerability analyses to identify chronic problem areas that are highly subject to erosion, wave impacts, flooding, or other coastal hazards or that maybe become so in the near future. Coordinate with Caltrans and local public works/transportation agencies to address high priority areas and increase monitoring efforts of chronic problem areas.
- A.30 Add policies to address impacts to transportation routes:** If transportation facilities are at risk from sea level rise, coordinate with Caltrans and local public works/transportation agencies to establish new alternative transportation routes or a plan to ensure continued alternative transportation and parking is available that allows for continued access to beaches and other recreation areas.
- A.30a Integrate LCP/land use planning processes with transportation planning processes:** Updates and changes to LCPs and other land use planning efforts should be jointly planned, evaluated, and implemented with Coordinated System Management Plans, Regional Transportation Plans, and other transportation planning efforts to ensure that long-term land use and access goals and needs are aligned.
- A.31 Allow for phased implementation of realignment and relocation projects:** In some cases it may be necessary to make incremental changes in transportation networks so that access to and along the coast can be maintained while also addressing coastal hazards over the long-term. For example, a phased approach may allow for interim shoreline protection to maintain an existing road alignment while future realignment plans are evaluated and pursued. Such phased approaches should be coordinated with Caltrans and local public works/transportation agencies and aligned with long-term LCP planning and adaptation goals. Individual projects will be implemented through CDPs.



Figure 22. Photo depicting planned retreat for major public infrastructure. The Piedras Blancas Highway 1 Realignment will move nearly 3 miles (5km) of Highway 1 500 ft (152 m) inland. (Source: [California Coastal Records Project](#))

A.32 Plan and design transportation systems to accommodate anticipated sea level rise impacts: Ensure that transportation networks are designed to function even if the highest projected sea level rise amounts occur. Efforts to realign, retrofit, and/or protect infrastructure should be coordinated with Caltrans, local public works/transportation agencies, and LCP planning efforts, and individual projects will be implemented through CDPs.

A.32a **Retrofit existing transportation infrastructure as necessary:** In instances where relocation is not an option, repair damage and/or retrofit existing structures to better withstand sea level rise impacts. For example, use stronger materials, elevate bridges or sections of roadways, and build larger or additional drainage systems to address flooding concerns.

A.32b **Build redundancy into the system:** Provide alternate routes, as possible, to allow for access to and along the coast in instances in which sections of roadways may become temporarily impassible as a result of coastal hazards. Ensure that alternate route information is provided to residents and visitors to coastal areas.

A.33 Incorporate sea level rise considerations into Port Master Plans and other port activities: Ensure that ports and related infrastructure are designed to function given anticipated sea level rise. In some cases, this may mean initially designing structures to accommodate projected sea level rise impacts. Other options may include planning for and ensuring capacity for future adaptive actions.

A.33a **Retrofit existing port infrastructure as necessary:** Given the coastal-dependent nature of many port structures, it may not be feasible to site or relocate development to avoid hazards. In these instances it may be more appropriate to include efforts to accommodate and withstand sea level rise during actions to

repair or retrofit existing structures. Options may include using more robust designs or materials or elevating structures.

- A.33b **Minimize resource impacts that may result from future use of shoreline protective structures:** If existing, coastal-dependent port structures require shoreline protective structures, minimize resource impacts as feasible and consistent with Chapter 3 and/or Chapter 8 of the Coastal Act, as applicable, by encouraging inland expansion of protective devices rather than further fill of coastal waters.
- A.33c **Ensure that linkages to overland transportation networks are able to adapt to sea level rise impacts:** Coordinate with relevant stakeholders to ensure that linkages between port infrastructure and overland transportation networks will be resilient to future sea level rise impacts.
- A.33d **Ensure that lessees and other parties understand sea level rise risks and vulnerabilities:** Coordinate with lessees and other stakeholders to ensure that they understand the risks associated with development in hazard areas as well as the responsibilities that come with such development.

B. Public Access and Recreation

One of the highest priorities in the Coastal Act is the mandate to maximize public access and recreational opportunities to and along the coast. The main goals and Coastal Act policies (Sections 30210, 30220, 30221, 30213) that relate to public access and recreation are to:

- Maximize public access and recreational use by protecting beaches and other coastal areas suitable for such use
- Protect lower cost visitor and recreational facilities and accessways

[Chapter 3](#) of the Guidance covers the impacts to public access and recreation that might result from sea level rise or the interaction of sea level rise with development patterns. Certified LCPs should already have policies and standards to assure that existing public access and visitor serving amenities are protected and that maximum public access is both planned for and provided with new development when warranted. However, LCP policies and standards may need to be updated to consider sea level rise hazards. Adaptation options have been developed to support the access goals of the Coastal Act through both LCP policies and CDP conditions, and the following strategies cover a range of options for addressing the identified goals of the Coastal Act.

Goal: Maximize public access and recreational use by protecting beaches and other coastal areas

B.1 Incorporate sea level rise into a comprehensive beach management strategy: Update or develop a new comprehensive beach management strategy to address loss of beach areas, including loss of lateral access, or changes in beach management due to sea level rise. Establish a program to minimize loss of beach area through, as may be appropriate, a beach nourishment program; restoring sand and sediment supply to the littoral cell; removal, adjustments, or maintenance to shoreline protection structures; use of man-made structures such as terminal groins or artificial reefs to retain sediment; or other actions.

B.1a Develop a sediment management and sand replenishment strategy: Identify natural sediment supplies and remove and/or modify existing structures or actions that impair natural sand supply, such as dams or sand mining. LCPs could include policies and implementing standards that support nature-based responses to sea level rise by maintaining and restoring natural sand supply. Where applicable, develop policies and standards to prohibit sand mining, regulate sand replenishment, and promote removal of dams or the by-passing of sand around dams. Plans should take into consideration changes in sand supply due to sea level rise. These actions and policies can also be implemented through a Regional Sediment Management (RSM) program.

- B.2 Plan ahead to replace loss of access and recreation areas:** Identify replacement opportunities or otherwise plan ahead for how to replace recreation areas and accessways that will be lost due to inundation or damage associated with sea level rise. An LCP could designate and zone lands for this through, for example, a phased overlay or other regulatory measures that ensure that access and recreational areas are available in the future. Local governments may choose to provide additional incentives to encourage creation of new recreation areas or opportunities. Such incentives could include grant for protection new recreation areas or tax breaks for recreation related businesses.
- B.2a **Protect existing open space adjacent to the coast:** Plan for future coastal recreational space and parkland by protecting open space adjacent to coastal habitats so that beaches and other habitats can migrate or so that there is open space available as parkland or other areas are lost.
- B.2b **Plan for removal of structures that limit inland migration of beaches:** Seawalls and other development adjacent to beaches and other coastal habitats will impede the ability of these habitats to migrate inland and will therefore result in the inundation and eventual loss of these areas. Consideration should be given to removing and relocating these structures to ensure that beaches and other habitats are able to persist over time. Additional detail on removal of structures can be found above in the “Coastal Development and Hazards” section of this chapter.

Goal: Protect lower cost visitor and recreational facilities and accessways

- B.3 Site and design access sites and facilities to minimize impacts:** Add policies that require public access sites, segments of the CCT, and recreation and visitor-serving facilities to be sited and designed to avoid impacts from sea level rise, while maximizing public access and recreation opportunities. Examples of siting and design standards for development can be found in section A. Where facilities can be safely sited for the near term but future impacts are likely, require an adaptive management plan detailing steps for maintenance, retrofitting, and/or relocation.
- B.3a **Require mitigation of any unavoidable impacts:** For unavoidable impacts to public access or recreation from shoreline armoring or other development, require mitigation of impacts through the addition of new public access, recreation opportunities, visitor-serving accommodations, or Coastal Trail segments, or payment of fees to fund such improvements. Importantly, mitigation measures should be planned in such a way that, if possible, sea level rise will not impair their efficacy over time.
- B.4 Plan ahead to replace loss of visitor-serving and recreational facilities:** Develop a plan to replace any visitor-serving facilities that are lost due to impacts from sea level rise, maximizing continued provision of affordable options and an appropriate mix of accommodations over time. For example, an LCP could include standards to re-site existing visitor-serving and recreational facilities when they become impacted by sea

level rise and/or could identify and zone for future areas to be reserved for these functions.

B.5 Add requirements for retrofit/relocation of public access and recreation sites at risk:

The LCP can add policies that require all new public access and recreation areas, sections of the CCT, visitor- serving accommodations, or related recreation facilities to be retrofitted or relocated if they become threatened from erosion, flooding, or inundation. For new facilities and public access sites, the CDP conditions of approval can specify how maintenance, retrofit, or relocation will take place. Policies and plans should be designed to be adaptive so that retrofits and or/relocations are implemented as sea level rise impacts occur.

B.5a Retrofit or relocate recreation and visitor-serving facilities: Consider options to retrofit existing recreation and visitor-serving facilities to better accommodate sea level rise impacts. Such retrofits could include use of different building materials and/or relocating facilities.

B.5b Retrofit or relocate vertical accessways: Consider options to retrofit existing accessways to reduce impacts from sea level rise. Such retrofits could include using different materials that can better withstand impacts, or re-orienting the layout or other features of accessways to lessen damage and other impacts. Also begin to plan for and identify triggers and options for relocating accessways over time as conditions change.

B.5c Retrofit or relocate sections of the Coastal Trail: Use boardwalks, bridges, and/or other design features to ensure continuity of the CCT in sections that are vulnerable to SLR hazards. Some sections may need to be relocated over time. An LCP could identify vulnerable sections of the CCT and establish a phased approach to relocate sections of the trail in such a way that is consistent with provisions of the Coastal Act and ensures that the CCT remains within sight, sound, or smell of the sea.

Goal: Foster efforts to better understand impacts of sea level rise

B.6 Support research on impacts to recreation and public access: Changes in sea level will affect wave conditions and sediment transport, but additional research is needed to understand how these changes will affect specific conditions for surfing and other recreation activities. While such research programs may be outside the scope of individual local jurisdictions, statements of support for the local issues that need to be addressed can help guide research agendas at the regional state or federal level. Or, such needs can serve to guide grant applications to undertake the needed projects within a jurisdiction. To the extent possible, add policies to promote research on sea level rise impacts to recreational activities like surfing or other coastal recreational uses in the LCP jurisdiction.

C. Coastal Habitats, ESHA, and Wetlands

The Coastal Act provides for the protection of both land and marine habitats. It mandates that ESHA and marine resources shall be protected against significant disruption of habitat value and shall be maintained, enhanced, and restored as feasible (Sections 30230, 30233, 30240, 30240(a), 30240(b)). The main goals and Coastal Act policies that relate to coastal habitats are to:

- Protect, enhance, and restore sensitive habitats
- Avoid significant disruption to sensitive habitats
- Avoid significant impacts to habitats from adjacent development
- Manage sediment in ways that benefit habitats

[Chapter 3](#) of the Guidance covers the impacts to coastal habitats and resources that might result from sea level rise or the interaction of sea level rise with development patterns. Certified LCPs should already have policies and standards to ensure that ESHA, wetlands, and other coastal habitats and resources are protected to the maximum extent feasible. However, LCP policies and standards may need to be updated to consider sea level rise hazards. Adaptation options have been developed to support the habitat protection goals of the Coastal Act through both LCP policies and CDP conditions, and the following strategies cover a range of options for addressing the identified goals of the Coastal Act.

Goal: Protect, enhance, and restore sensitive habitats

- C.1 Open space preservation and conservation:** Preserve land for its ecological or recreational value. This may involve limiting or prohibiting development and any uses that conflict with ecological preservation goals. LCPs can establish transfer of development rights programs to offset reduced development potential and can develop open space management plans that evaluate and consider the impacts of sea level rise, extreme events, and other climate change impacts. LCPs can establish open space and conservation areas through land use designations and zoning, redevelopment restrictions, acquisition and easement programs, and setback and buffer requirements.
- C.1a **Update policies to provide for new or restored coastal habitat:** Update policies to require new coastal habitat to be provided or for degraded areas to be restored to account for the expected loss of existing habitat that will occur when development blocks the necessary upland migration due to sea level rise. Use an adaptive management approach where applicable. Encourage policies that provide for conservation or restoration of multiple habitat types.
- C.1b **Identify areas for public acquisition:** New or updated LCPs can establish a program to partner with state, federal, and non-profit organizations to acquire and protect natural resource areas for public use, including areas that could serve as

refugia for species impacted by sea level rise, or areas that could be appropriate sites for coastal habitat creation or restoration.

- C.1c **Establish conservation easements or other development restrictions to protect habitat:** Establish a formalized program to identify, acquire, and manage areas appropriate for some form of conservation protection. Easements or other strategies may be used to limit or restrict development on portions of a lot parcel that are most vulnerable to SLR impacts. The program might develop standard agreements to be used for easements and identify the entities that could hold the easements. A conservation easement program could be established on a community wide basis through an LCP and implemented on a parcel by parcel basis through individual CDPs.
- C.1d **Require open space protection as a component of new development located adjacent to coastal habitats:** The LCP can require permit conditions for new development in certain areas that buffers around natural resource areas be protected through a conservation easement, deed restrictions, or other comparable mechanism.
- C.1e **Use Rolling Easements:** See Strategy A.15 above.
- C.1f **Transfer of Development Rights programs (TDR):** See Strategy A.5b above.

Goal: Avoid significant disruption to habitats

- C.2 **Use ecological buffer zones and/or increase the size of buffers:** Buffer zones are intended to protect sensitive habitats from the adverse impacts of development and human disturbance. An important aspect of buffers is that they are distinct ecologically from the habitat they are designed to protect. LCPs can establish requirements for ecological buffers and provide guidance on how to establish or adjust these buffers to accommodate sea level rise. CDPs should require buffers to be designed, where applicable, to provide “habitat migration corridors” that allow sensitive habitats and species to migrate inland or upland as sea level rises.
 - C.2a **Consider sea level rise buffer zones:** Update buffer zone policies to allow room for coastal habitats to migrate with changes in sea level. The size of the buffer needed to allow for migration will vary depending on the individual wetland or habitat type, as well as site-specific features such as natural or artificial topography and existing development. For instance, in flat areas, a larger buffer may be needed, but in steep areas, a smaller buffer may be acceptable.
- C.3 **Avoid impacts to Marine Protected Areas:** Recognize the importance of the State’s network of marine protected areas (MPAs) in protecting the diversity and abundance of marine life. Understand that planning and permitting decisions made on land could have impacts on these areas, particularly as conditions change with sea level rise, and avoid disruptions to these habitats as feasible and applicable.
- C.4 **Protect specific ESHA functions:** Environmentally Sensitive Habitat Areas (ESHA) are areas that are critically important for the survival of species or valuable for maintaining

biodiversity. These areas can include nursery grounds, spawning areas, or highly diverse areas. Where at risk from sea level rise, the LCP should establish measures to ensure the continued viability of the habitat areas, such as protection of migration zones, habitat corridors, and other applicable adaptation strategies, as listed below. ESHA that is not at risk from sea level rise should also be afforded special protection in the LCP to serve as refugia.

- C.4a **Protect wildlife corridors, habitat linkages, and land upland of wetlands to allow habitat migration:** Preserve open areas that are adjacent to wetlands to allow for migration of these habitats as sea levels rise.
- C.4b **Protect refugia areas:** Protect refugia, or areas that may be relatively unaltered by global climate change and thus can serve as a refuge for coastal species displaced from their native habitat due to sea level rise or other climate change impacts.
- C.4c **Promote increased habitat connectivity to allow species movement:** Connectivity refers to the degree to which the landscape facilitates animal movement and other ecological flows. Roads, highways, median barriers, fences, walls, culverts, and other structures can inhibit movement of animals. Develop LCP policies that will enable identification of important animal movement corridors. Develop regulations to protect these corridors for present and future conditions, taking into account habitat shifts from climate change. In LCPs and through CDPs, require that new structures such as highways, medians, bridges, culverts, and other development are designed to facilitate movement of animals.
- C.4d **Facilitate wetland and other habitat migration:** Reserve space for a “habitat migration corridor” or areas into which wetlands and other habitats could migrate as sea level rise induced inundation of existing wetland areas occurs. In the LCP, identify potential habitat migration corridors. These areas could be reserved for this purpose in an LCP through land acquisition, use designations, zoning buffers, setbacks, conservation easement requirements, and clustering development. LCPs should also consider developing a plan for acquisition of important habitat migration corridors.

Goal: Avoid significant impacts to habitats from adjacent development

- C.5 **Limit new development in areas adjacent to wetlands, ESHA, and other coastal habitats:** Restrict the construction of new development in areas that are adjacent to wetlands, ESHA, and other coastal habitats in order to preserve buffers and open areas to allow for habitat migration.
 - C.5a **Cluster development away from coastal habitats:** Existing LCPs will likely have policies that already require clustering of development. To address sea level rise, these policies might need to be updated to include clustering development away from land where wetlands and other coastal habitats could migrate with sea level rise.

- C.5b **Limit subdivisions:** Update subdivision requirements to require provision for inland migration of natural resource areas or to require lots to be configured in a way that allows such migration. Lot line adjustments may sometimes be appropriate if they facilitate locating physical development further away from hazards or sensitive resources.



Figure 23. Photo depicting the preservation and conservation of open space along an urban-rural boundary. North end of Pismo Beach from 1972 (left) to 2002 (right). (Source: [California Coastal Records Project](#))

Goal: Manage sediment in ways that benefit habitats

- C.6 **Identify opportunities for Regional Sediment Management:** Sediment supplies will be important for the long-term sustainability of many beaches and wetland areas. Strategies to maintain or restore natural sediment supplies and to coordinate sediment removal efforts with opportunities for reuse can provide multiple benefits to coastal ecosystems. See Strategy A.19c above for more detail on RSM programs.
- C.6a **Restore natural sediment sources to wetlands:** Restoration of natural hydrodynamic systems will help to ensure the ability of wetlands to persist with sea level rise by ensuring that sediment is available for wetland accretion. Such actions may include restoring natural channels in streams and waterways that have been armored or channelized. Organizing and coordinating such efforts may be accomplished through a Regional Sediment Management Plan.
- C.6b **Identify opportunities for beneficial reuse of sediment to support wetland restoration:** Consider facilitating the delivery of clean, dredged sediment to areas where former wetlands have subsided or to areas where existing wetlands are or may become sediment-limited as sea levels rise.

Goal: Incorporate sea level rise into habitat management actions

- C.7 **Include sea level rise in site-specific evaluations:** Update policies to require site-specific biological evaluations and field observations of coastal habitat to include an evaluation of vulnerability to sea level rise where appropriate. Such an evaluation should consider both topographic features as well as habitat and species sensitivities (for example, sensitivity to inundation and saltwater intrusion).

- C.8 Incorporate sea level rise in restoration, creation, or enhancement of coastal habitats:** Update policies to require site-specific biological evaluations and field observations of coastal habitat to include an evaluation of vulnerability to sea level rise. Such an evaluation should consider both topographic features as well as habitat and species sensitivities (for example, sensitivity to inundation and saltwater intrusion). Habitat restoration, creation, or enhancement projects should be designed to withstand impacts of sea level rise and adapt to future conditions. As applicable, the LCP should contain policies to ensure restoration and management techniques account for future changes in conditions. CDPs for restoration projects should incorporate sea level rise and provisions to ensure habitats can adapt with changing future conditions.
- C.9 Update habitat management plans to address sea level rise:** Add policies stating that the effects of sea level rise should be addressed in management plans for coastal habitats. For example, plans should evaluate the full range of sea level rise impacts to coastal habitats, and develop a strategy for managing coastal habitats given changing sea level rise conditions. Existing management plans may need to be updated to add new monitoring and restoration requirements to address sea level rise. The strategies listed below are examples of strategies that could be included in habitat management plans.
- C.9a Use an adaptive management approach in ecosystem management, restoration, or design:** Habitat management plans and/or other habitat projects should establish an adaptive management approach, with clearly defined triggers for adaptive actions. Such an approach would allow for and ensure that coastal habitats are able to migrate and transition with changes in sea level.



Figure 24. Photo depicting habitat protection at Salinas River State Beach. Dunes are roped off to protect Snowy Plover nesting habitat. (Source: [California Coastal Records Project](#))

C.10 Pursue strategies to protect ecosystem function under a range of future sea level rise or climate change scenarios: The LCP and/or habitat management plans can recommend coastal habitat management strategies that strive to protect ecosystem function in the future. Strategies include protecting a wide range of ecosystem types, protecting refugia, protecting wildlife and habitat corridors, and establishing methods to monitor ecosystem change over time.

C.10a **Update monitoring requirements for coastal habitats:** As part of the LCP and/or habitat management plans, consider establishing a monitoring protocol and requirements for evaluating sea level rise impacts to coastal habitats over time. Such a protocol would also help identify triggers at which additional adaptation options are necessary.

D. Agricultural Resources

Agriculture is a priority use within the Coastal Act, which mandates that the maximum amount of prime agricultural land shall be protected and maintained (Sections 30231, 30241, 30242). The main goals and Coastal Act policies that relate to agriculture are to:

- Protect the maximum amount of prime agricultural land
- Limit conversion of lands suitable for agriculture to non-agricultural uses
- Minimize impacts to water quality that could result from agricultural practices
- Promote water conservation efforts

[Chapter 3](#) of the Guidance describes the impacts to agricultural resources that may result from sea level rise. Certified LCPs should already have policies and standards to ensure that agricultural resources are protected to the maximum extent feasible. However, LCP policies and standards may need to be updated to address sea level rise hazards. Adaptation options have been developed to support the agricultural protection goals of the Coastal Act through both LCP policies and CDP conditions, and the following strategies cover a range of options for addressing the identified goals of the Coastal Act.

Goal: Protect the maximum amount of prime agricultural land

D.1 Identify and designate areas suitable for agricultural production to replace agricultural production areas that could be lost to sea level rise: Identify any non-sensitive open or developed areas, both within and outside of the Coastal Zone, which could potentially be used to replace agricultural land that is lost to sea level rise. Update LCP designations and/or policies to protect these identified areas for agricultural production and, as applicable, to provide for their conversion to agricultural use. Encourage and support regional coordination as feasible and applicable.

D.1a Establish SLR-specific agricultural protection program: Establish a formal program to identify, acquire, incentivize, and manage areas appropriate for new/renewed agricultural use and/or for protection of current and/or future agricultural uses. Such program should target key areas and properties where agricultural conversion threats are highest, and should dovetail with existing agricultural protection programs. Easements and other legal restrictions may be used as part of such program to help limit or restrict development in areas where agricultural land and production are most vulnerable to sea level rise impacts. The program might develop standard language and/or legal documents that can be used for easements or other property restrictions. The program should be flexible enough to be able to be implemented on both a large scale (*e.g.*, though LCP policies and programs) as well as on a smaller scale (*e.g.*, through the CDP process).

D.2 Protection, maintenance, and adaptation of dikes and levees: Repairing and maintaining existing flood barriers such as dikes and levees may be a cost-effective way to continue to protect agricultural areas. While some repair and maintenance activities are exempt from the need for a CDP, the repair and maintenance exemption does not apply to repair and maintenance work that is located within an ESHA, within any sand area, within 50 feet of the edge of a coastal bluff or ESHA, or within 20 feet of coastal waters. LCPs could identify opportunities for these kinds of actions and ensure that they are appropriately permitted, with consideration to the environmental protection and restoration goals of the Coastal Act. While landowners have the right to repair and maintain existing legal levees in their current configurations, the Commission and local governments administering LCPs have the authority to regulate, via the CDP process, the proposed methods of repair and maintenance. To raise, reconfigure, enlarge, or widen levees is not repair and maintenance and requires a Coastal Development Permit. Such activities may not be consistent with the Coastal Act or certified LCP, such as in cases involving wetland fill impacts. However, where there are opportunities to restore marine resources and the biological productivity of wetlands and estuaries, it may be possible to permit a dike/levee reconstruction project that provides for substantial restoration.

Goal: Limit conversion of lands suitable for agriculture to non-agricultural uses

D.3 Limit conversion of agricultural land to other developed land uses: Develop policies to assure maximum environmentally feasible protection of rural agricultural land, open space, and other coastal resources, including areas that may be considered non-prime agricultural land at this time. Anticipate areas that could become more difficult to farm and identify strategies to avoid or mitigate the potential impacts.

Goal: Minimize impacts to water quality that could result from agricultural practices

D.4 Include sea level rise in water quality protection policies: Where needed, coordinate with regional water quality control boards to add policies to reduce water pollution from runoff should agricultural lands become flooded or inundated due to sea level rise.

D.4a Minimize water quality impacts from flooding of agricultural lands: Agricultural practices that are designed to minimize water quality impacts, such as those designed to minimize runoff, may need to be updated or enhanced to ensure water quality protection if sea level rise results in more frequent flooding of agricultural lands.

D.4b Add policies to address saltwater intrusion: Add policies to protect water supply for priority coastal agriculture, including policies to address saltwater intrusion, such as limits on groundwater withdrawal or diversification of water supplies. Strategies to pump freshwater and/or highly treated wastewater into aquifers to reduce saltwater intrusion should be minimized in areas with limited freshwater resources.

Goal: Promote water conservation efforts

- D.5 Maximize water conservation to protect priority agricultural water supplies:** Saltwater intrusion and other climate change impacts may result in reduced water availability. LCP policies should be updated to establish or enhance standards related to water conservation and/or to identify opportunities for water recycling, dual plumbing systems, and the like. For more information on options such as relocating wells and reducing pumping in sensitive aquifers, see the following section on Water Quality and Water Control Management.
- D.6 Identify alternate water sources for agriculture:** Establish a program to identify alternate water sources for agriculture.

E. Water Quality and Supply

The main water quality protection policy of the Coastal Act requires minimizing the adverse effects of wastewater discharges, runoff, and groundwater depletion in order to protect the biological productivity and quality of coastal waters, as described in Section 30231. The main goals related to water quality include:

- Control runoff and stormwater pollution
- Minimize adverse effects of wastewater discharges and entrainment
- Prevent depletion of groundwater supplies from saltwater intrusion
- Improve long-term water quality through research

[Chapter 3](#) of the Guidance covers the impacts to coastal waters from increased runoff, wastewater discharge and saltwater intrusion into groundwater sources from sea level rise. Adaptation options have been developed to limit the amount of pollutants that enter coastal waters through runoff or discharges.

Goal: Control runoff and stormwater pollution

E.1 Update water quality Best Management Practices (BMPs): Evaluate and update BMPs to account for changes in water quality and supply issues due to sea level rise, as applicable. Updates could include practices to provide greater infiltration/inflow of rainwater, increased stormwater capture and/or water recycling programs, the use of low impact development, improved maintenance procedures for public sewer mains, policies to address impaired private sewer laterals, and other proactive measures.

E.2 Include sea level rise in stormwater management plans and actions: Control the amount of pollutants, sediments, and nutrients entering water bodies through precipitation-generated runoff. LCPs should include sea level rise and extreme storms in stormwater management plans and actions. CDPs for stormwater infrastructure should consider sea level rise.

E.2a Increase capacity of stormwater infrastructure: Actions to reduce impacts from higher water levels could include widening drainage ditches, improving carrying and storage capacity of tidally-influenced streams, installing larger pipes and culverts, adding pumps, converting culverts to bridges, creating retention and detention basins, and developing contingency plans for extreme events. Encouraging and supporting these types of efforts upstream may also be important.

E.2b Use green stormwater infrastructure to the maximum extent feasible: Employ natural, on-site drainage strategies to minimize the amount of stormwater that flows into pipes or conveyance systems. These strategies include low impact development, green roofs, permeable pavements, bioretention (*e.g.*, vegetated

swales, rain gardens) and cisterns. LCPs can include policies that require green infrastructure be used whenever possible *in lieu* of hard structures. Incorporate sea level rise and extreme storms into the design.

- E.2c **Retrofit existing development with inadequate stormwater infrastructure:** Identify and prioritize development in low-lying or other at-risk areas with inadequate stormwater infrastructure and take steps to retrofit these systems to better accommodate sea level rise driven changes. Retrofits should incorporate the green infrastructure options detailed in strategy E.2c above as applicable.

Goal: Minimize adverse effects of wastewater discharges and entrainment

- E.3 **Add policies to address water quality risks from wastewater treatment plants, septic systems, and ocean outfalls:** Consider establishing a program to retrofit, relocate, or eliminate ocean outfalls and other wastewater infrastructure deemed at risk. Alternatives include modifications to outfall lines, the use of green infrastructure, and redesign of waste and stormwater systems.

- E.3a **Update siting and design policies:** Add policies to ensure that new ocean outfalls, wastewater treatment facilities, and other facilities that could negatively impact water quality if flooded or inundated, are sited and designed to minimize impacts from sea level rise. Avoid construction of new stormwater outfalls and direct stormwater to existing facilities with appropriate treatment and filtration where feasible. Where new outfalls cannot be avoided, plan, site, and design stormwater outfalls to minimize adverse impacts on coastal resources, including consolidation of existing and new outfalls where appropriate. Consolidate new and existing outfalls where appropriate.
- E.3b **Retrofit, relocate, or eliminate outfalls deemed "at risk":** An ocean outfall is a pipeline or tunnel that discharges municipal or industrial wastewater, stormwater, combined sewer overflows, cooling water, or brine effluents from desalination plants to the sea. LCPs should identify areas where sea level rise could affect flow of wastewater from outfalls and lead to backup and inland flooding, and plans should be made to retrofit, relocate, or eliminate these outfalls to prevent damage and impacts to water quality. Additionally, CDPs for new ocean outfalls should consider sea level rise in the design.
- E.3c **Reduce or find alternatives for septic systems in hazardous areas:** Flooding, inundation, and changing groundwater dynamics may result in impacts to septic systems, which rely on leach fields for dispersal of wastewater, that could cause water quality impairments. Options to reduce the potential for these impacts by redesigning or eliminating septic systems in hazardous areas should be identified. New development that will rely on septic systems should be limited in hazardous areas.

Goal: Prevent depletion of groundwater supplies from saltwater intrusion

- E.4 Groundwater Management:** Plan and coordinate monitoring, operation, and administration of a groundwater basin or portion of a groundwater basin with the goal of fostering long-term sustainability of the resource. The LCP can add policies that specify limits or establish other standards for the use of groundwater and sensitive aquifers. These policies should be made in accordance with other regional water planning efforts, such as Integrated Regional Water Plans as well as relevant state water policies. CDPs involving the use of groundwater should address groundwater management issues.
- E.4a Add policies to address saltwater intrusion into aquifers:** Consider adding policies that establish a long-term strategy for addressing saltwater intrusion in aquifers, including limiting development that would use sensitive aquifers as applicable. For some areas of the state, additional information is needed on the site-specific impacts of sea level rise on aquifers. For these areas, the LCP could identify the local information needs and promote the establishment of a research program to increase understanding of the vulnerability of coastal aquifers.
- E.4b Limit groundwater extraction from shallow aquifers:** Groundwater extraction from shallow aquifers can increase susceptibility to saltwater intrusion. Regulating development to limit or prevent extraction and avoid overdraft from vulnerable aquifers can reduce the impacts of saltwater intrusion and preserve fresh groundwater supplies. LCPs or CDPs can add restrictions to the use of aquifers susceptible to saltwater intrusion and can encourage measures to recharge shallow aquifers that are depleted.
- E.4c Relocate wells and water intake facilities:** Identify opportunities to relocate wells and water intake facilities away from hazards and/or areas where saltwater intrusion may be a problem.
- E.4d Restrict development of new wells in sensitive areas:** Require new water wells to be sited away from areas where saltwater intrusion could occur.
- E.4e Limit development that relies on vulnerable water supplies:** Limit or restrict new development in areas that are dependent on water supplies that are or will become susceptible to saltwater intrusion.
- E.4f Ensure adequate long term water supplies:** When siting and designing new development, ensure that adequate and sustainable water sources are available for the lifetime of the development and suitable for the intended use of the development, considering potential impacts of sea level rise and saltwater intrusion upon groundwater supplies.

Goal: Improve long-term water quality through research

E.5 Identify research and monitoring needs to more precisely understand local issues:

Research programs may be established to analyze the particular local challenges related to water quality and supply as a result of sea level rise. Opportunities for innovative solutions to these challenges should be identified.

E.5a **Clearly define areas at risk:** The LCP should include an updated inventory of potential pollutant sources due to sea level rise, including toxic waste sites, ocean outfalls and wastewater treatment facilities at risk of inundation, as well as aquifers and wells at risk of saltwater intrusion. Policies may also be added to prioritize low-lying contaminated sites for remediation and restoration.

F. Archaeological and Paleontological Resources

The Coastal Act provides for the protection of archaeological and paleontological resources, stating in Section 30244 that:

“Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.”

[Chapter 3](#) of the Guidance discusses the impacts to archaeological and paleontological resources that might result from sea level rise. Certified LCPs should already have policies and standards to ensure that these resources are protected to the maximum extent feasible, however, such policies and standards may need to be updated to consider sea level rise hazards. The following strategies cover a range of options for addressing the identified goals of the Coastal Act.

Goal: Protect archaeological and paleontological resources

- F.1 Add policies to protect archeological and paleontological resources from sea level rise:** Add policies to require site-specific evaluation of potential sea level rise impacts to archeological and paleontological resources on a development site. The LCP can also add requirements that a monitoring program and plan be established as a condition of approval for development located on a site with artifacts vulnerable to sea level rise. Adaptation or protection strategies used may depend on the significance of the archaeological resources in question.
- F.1a **Consult with relevant tribes for guidance:** If resources are at risk, the appropriate entity or Native American tribe(s) should be contacted to develop a coordinated management plan for artifacts. See, for example, the [California Natural Resources Agency Final Tribal Consultation Policy](#) for additional guidance.
- F.1b **Coordinate with the State Historic Preservation Officer (SHPO):** In line with the provisions of the Coastal Act, work with the State Historic Preservation Officer to identify actions to protect archaeological and paleontological resources.

G. Scenic and Visual Resources

The scenic value of the coast is a resource of public importance. As noted in Section 30251 of the Coastal Act, development shall be sited and designed to:

“Protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms...and to restore and enhance visual quality in visually degraded areas.”

As stated in [Chapter 3](#) of the Guidance, some options to address rising sea levels, such as elevating structures or utilizing seawalls or bluff retention devices, have the potential to alter or degrade the visual character of an area. Certified LCPs should already have policies and standards to ensure scenic and visual resources are protected to the maximum extent feasible, but these may need to be updated to consider sea level rise hazards. Coastal regions with scenic overlays or designated scenic corridors, or those areas designated as scenic in the California Coastal Preservation and Recreation Plan in particular should pay close attention to actions that could be used to minimize risks to development. The following adaptation options address some of the methods for protecting the scenic qualities of the coast.

Goal: Protect views to and along the ocean and scenic coastal areas

G.1 Establish design standards to protect visual resources: Update and/or add design standards to ensure that adaptation measures protect visual resources while minimizing hazards. Adaptation strategies such as shoreline armoring or elevation techniques should be designed such that the visuals are subordinate to, and in character with, the surrounding visual resources of an area.

G.1a **Establish standards for the use of caissons or other means of elevating structures:** Ensure that the use of caissons or other elevation techniques do not result in negative visual impacts. Develop policies regarding where elevation of structures may be allowable, and establish standards guiding the use of these techniques. Ensure that the appearance of caissons will not detract from the scenic character of an area if or when they become visible as a result of erosion or other processes.

G.1b **Maintain height limitations in scenic areas:** Avoid modifications to height limits in scenic areas and provide for options to modify roof-lines or elevate the lowest flood elevation for flood protection in a manner that is consistent with scenic character. In some cases it may be appropriate to update height limitations to allow for elevation in response to sea level rise hazards. However, such decisions will require trade-offs and will need to strike a balance in terms of adapting to sea level rise and protecting visual resources and community character in line with the requirements of the Coastal Act.

- G.1c **Develop or redevelop property to be safe from hazards without impairing scenic resources:** Emphasize the use of adaptation strategies that will not impact visual resources. Such strategies may include short-term retrofits with plans for longer term relocation or removal.
- G.1d **Establish new scenic communities:** Designate areas with significant visual resources that could be negatively impacted by adaptation responses (*e.g.*, due to seawalls or “spider” homes) as scenic communities with special protections. Establish standards in LCPs to specifically protect visual resources in these areas.



Figure 25. Photo depicting protection of visual resources and public access. A seawall visually blends in with the natural bluff while surfing access is also provided at Pleasure Point, Santa Cruz (2013). (Source: [California Coastal Records Project](#))



DATA/MAP BOOK

for the City of
HUNTINGTON BEACH

November 2017

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Founded in 1965, the Southern California Association of Governments (SCAG) holds a federal designation as a Metropolitan Planning Organization (MPO) and is a state-recognized Regional Transportation Planning Agency and Council of Governments. SCAG’s primary role is developing long-range plans for a region encompassing six counties (Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura) and 191 cities, an area covering more than 38,000 square miles.

Beginning in late October 2017, SCAG will be seeking local input and data from member jurisdictions to prepare for two major initiatives: The Regional Housing Needs Assessment (RHNA) and the 2020 Regional Transportation Plan/Sustainable Communities Strategy (2020 RTP/SCS). Both initiatives rely on the most current data from local jurisdictions for determining future projections, such as household growth and greenhouse gas emissions.

SCAG will be soliciting input in the form of an online survey as well as GIS data maps (via an interactive mapping tool or this Data/Map Book). This bottom-up approach ensures that local jurisdictions are actively involved in the development of these plans and that the data is accurate.

WHAT IS THE REGIONAL HOUSING NEEDS ASSESSMENT?

Under California law, SCAG and other regional councils of government in the state are required to determine projected housing needs for persons at all income levels. This process allows communities to anticipate growth, so that collectively the region can grow in ways that enhance quality of life, improve access to jobs, promote transportation mobility and address social equity and fair share housing needs. SCAG utilizes the data/input provided by each local jurisdiction to assess future housing needs for the RHNA.

WHAT IS THE REGIONAL TRANSPORTATION PLAN/SUSTAINABLE COMMUNITIES STRATEGY?

The RTP/SCS is an important planning document for the region, allowing transportation project sponsors to qualify for federal funding. In addition, the plan promotes smarter growth, using integrated transportation and land use strategies that will help the region achieve state-mandated greenhouse gas emission reduction goals and federal Clean Air Act requirements. This integration of transportation, land use and housing planning is mandated as part of Senate Bill 375, California’s Sustainable Communities Strategy and Climate Protection Act.

To meet the requirements under SB 375, SCAG prepares and provides a set of GIS maps to subregions and local jurisdictions for their review. Local data will assess how well the region is moving forward on implementing policies that reduce greenhouse gas emissions, as well as determine future mobility, environmental and economic challenges based on current development patterns.

INTRODUCTION



**PROVIDING SCAG
INPUT ON LOCAL
DATA SETS**



This Data/Map Book contains information specific to your local jurisdiction and is designed to help local planners better understand the sources, methodologies, and contents of each dataset, which will be incorporated in SCAG’s regional plans. The list of data/GIS maps included in this book include:

We ask that you please review the maps and data sets included in this Data/Map Book and compare to your jurisdiction’s most current data. Upon request, the maps can be provided in larger sizes for detailed review. SCAG may not be authorized to release certain datasets depending on the access/release constraints applied to each dataset. If you have changes, you can submit them in one of two ways:

1. Mark changes directly onto the maps in this book and email changes to: RTPLocalInput@scag.ca.gov.
2. SCAG has also created the Scenario Planning Model (SPM) Data Management Tool, an interactive online mapping tool, which you can use to both review and edit your jurisdiction’s map data directly. To access this tool, visit: <http://sp.scag.ca.gov/Pages/HomePage.aspx>.

If you would like to request larger maps, receive help on how to use the SPM Data Management Tool or have additional questions on the process, please email RTPLocalInput@scag.ca.gov.

LAND USE	General Plan, Zoning, Existing Land Use, Specific Plan
RESOURCE AREAS & FARMLAND	Open Space and Parks, Endangered Species and Plants, Flood areas, Natural Community & Habitat Conservation, Farmland, Sea Level Rise
TRANSPORTATION	Major Transit Stops, High Quality Transit Corridors, High Quality Transit Areas, Transit Priority Areas, Bikeways, Truck Routes
ADMIN BOUNDARY	City Boundary & Sphere of Influence, Census Tract, Transportation Analysis Zone (TAZ)
GROWTH	Estimates of Population, Households, and Employment for Base Year 2016 Projections of Population, Households, and Employment for 2020, 2030, 2035, 2045 Entitlements, Potential Infill Sites



SCAG staff prepared a set of land use maps at the parcel level as follows:

- Adopted General Plan land use with local jurisdiction's general plan designations and with 2016 SCAG Land Use Codes
- Adopted Zoning codes with local jurisdiction's zoning codes and with 2016 SCAG Land Use Codes
- 2016 Existing land use with 2016 SCAG Land Use Codes
- Adopted Specific Plan land use with 2016 SCAG Land Use Codes

The Anderson Land Use Classification was used as the standardized 2016 SCAG Land Use Code system. For more detailed information on the land use code system, please refer to Table 1: 2016 SCAG Land Use Codes Table. It should be noted that the land use datasets will be further reviewed and updated as SCAG continue to receive input and comments from subregions and local jurisdictions during the Local Input & Envisioning Process for the 2020 RTP/ SCS.

GENERAL PLAN LAND USE & ZONING

Beginning in March 2017, SCAG collected local general plan land use and zoning information. Through the process of collecting general plan and zoning documents, SCAG staff made every effort to ensure the data reflects the most current general plan land use and zoning data. The general plan land use and zoning documents, maps, and/or GIS files collected were coded into GIS format at the parcel level. Parcel boundary data were acquired from county assessor's offices. General plan land use and zoning data are shown at the parcel level and depict a local agency's adopted documents. However, the data shown in some areas may be generalized, because the parcel level database representing general plan land use and zoning data does not support multiple uses or designations on a single parcel (either splitting the parcel or representing overlays). Due to this limitation, if site specific data is necessary, users should always reference a local agency's adopted documents or field surveys to determine actual land use designations. At the jurisdiction level, both general plan land use and zoning maps are prepared with local land use or zoning codes, consistent with those used in each local jurisdiction, as well as with the SCAG's standardized 2016 Land Use Codes.

EXISTING LAND USE

The base year of the 2020 RTP/SCS is 2016. To develop the base year existing land use data, SCAG has used property land use information acquired from DMP and SCAG's 2016 existing land use data. Using a correspondence between DMP land use codes and SCAG's standardized 2016 Land Use Codes, DMP land use codes were converted to SCAG Land Use Code system. As noted for general plan land use and zoning data, existing land use data are shown at the parcel level and, in some areas, data may be generalized, because SCAG's parcel level database does not support multiple uses on a single parcel. Due to this limitation, if site specific data is necessary, users should always reference a local agency's adopted documents or field surveys to determine actual land use designations.

SPECIFIC PLAN LAND USE










Beginning in August 2016, SCAG collected local specific plan land use information. Through the process of collecting specific plan documents, SCAG staff made every effort to ensure the data reflects the most current specific plan land use data. The specific plan land use documents, maps, and/or GIS files collected were coded into GIS format at the parcel level. Parcel boundary data were acquired from county assessor's offices. Specific plan land use data are shown at the parcel level and depict a local agency's adopted documents. As noted for general plan land use and zoning data, specific plan land use data are shown at the parcel level and, in some areas, data may be generalized, because SCAG's parcel level database does not support multiple uses on a single parcel. Due to this limitation, if site specific data is necessary, users should always reference a local agency's adopted documents or field surveys to determine actual land use designations.

LAND USE






LAND USE

TABLE 1: 2016 SCAG Land Use Codes - Legend

LEGEND	LAND USE DESCRIPTION
 Single Family Residential	1110 Single Family Residential 1111 High Density Single Family Residential (9 or more DUs/ac) 1112 Medium Density Single Family Residential (3-8 DUs/ac) 1113 Low Density Single Family Residential (2 or less DUs/ac)
 Multi-Family Residential	1120 Multi-Family Residential 1121 Mixed Multi-Family Residential 1122 Duplexes, Triplexes and 2- or 3-Unit Condominiums and Townhouses 1123 Low-Rise Apartments, Condominiums, and Townhouses 1124 Medium-Rise Apartments and Condominiums 1125 High-Rise Apartments and Condominiums
 Mobile Homes and Trailer Parks	1130 Mobile Homes and Trailer Parks 1131 Trailer Parks and Mobile Home Courts, High-Density 1132 Mobile Home Courts and Subdivisions, Low-Density
 Mixed Residential	1140 Mixed Residential
 Rural Residential	1100 Residential 1150 Rural Residential
 General Office	1210 General Office Use 1211 Low- and Medium-Rise Major Office Use 1212 High-Rise Major Office Use 1213 Skyscrapers
 Commercial and Services	1200 Commercial and Services 1220 Retail Stores and Commercial Services 1221 Regional Shopping Center 1222 Retail Centers (Non-Strip With Contiguous Interconnected Off-Street Parking) 1223 Retail Strip Development 1230 Other Commercial 1231 Commercial Storage 1232 Commercial Recreation 1233 Hotels and Motels
 Facilities	1240 Public Facilities 1241 Government Offices 1242 Police and Sheriff Stations 1243 Fire Stations 1244 Major Medical Health Care Facilities 1245 Religious Facilities 1246 Other Public Facilities 1247 Public Parking Facilities 1250 Special Use Facilities 1251 Correctional Facilities 1252 Special Care Facilities 1253 Other Special Use Facilities
 Education	1260 Educational Institutions 1261 Pre-Schools/Day Care Centers 1262 Elementary Schools 1263 Junior or Intermediate High Schools 1264 Senior High Schools 1265 Colleges and Universities 1266 Trade Schools and Professional Training Facilities











Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)



LEGEND	LAND USE DESCRIPTION
 Military Installations	1270 Military Installations 1271 Base (Built-up Area) 1272 Vacant Area 1273 Air Field 1274 Former Base (Built-up Area) 1275 Former Base Vacant Area 1276 Former Base Air Field
 Industrial	1300 Industrial 1310 Light Industrial 1311 Manufacturing, Assembly, and Industrial Services 1312 Motion Picture and Television Studio Lots 1313 Packing Houses and Grain Elevators 1314 Research and Development 1320 Heavy Industrial 1321 Manufacturing 1322 Petroleum Refining and Processing 1323 Open Storage 1324 Major Metal Processing 1325 Chemical Processing 1330 Extraction 1331 Mineral Extraction - Other Than Oil and Gas 1332 Mineral Extraction - Oil and Gas 1340 Wholesaling and Warehousing
 Transportation, Communications, and Utilities	1400 Transportation, Communications, and Utilities 1410 Transportation 1411 Airports 1412 Railroads 1413 Freeways and Major Roads 1414 Park-and-Ride Lots 1415 Bus Terminals and Yards 1416 Truck Terminals 1417 Harbor Facilities 1418 Navigation Aids 1420 Communication Facilities 1430 Utility Facilities 1431 Electrical Power Facilities 1432 Solid Waste Disposal Facilities 1433 Liquid Waste Disposal Facilities 1434 Water Storage Facilities 1435 Natural Gas and Petroleum Facilities 1436 Water Transfer Facilities 1437 Improved Flood Waterways and Structures 1438 Mixed Utilities 1440 Maintenance Yards 1441 Bus Yards 1442 Rail Yards 1450 Mixed Transportation 1460 Mixed Transportation and Utility

LAND USE

TABLE 1: 2016 SCAG Land Use Codes - Legend *continued*

LEGEND	LAND USE DESCRIPTION
 Mixed Commercial and Industrial	1500 Mixed Commercial and Industrial
 Mixed Residential and Commercial	1600 Mixed Residential and Commercial 1610 Residential-Oriented Residential/Commercial Mixed Use 1620 Commercial-Oriented Residential/Commercial Mixed Use
 Open Space and Recreation	1800 Open Space and Recreation 1810 Golf Courses 1820 Local Parks and Recreation 1830 Regional Parks and Recreation 1840 Cemeteries 1850 Wildlife Preserves and Sanctuaries 1860 Specimen Gardens and Arboreta 1870 Beach Parks 1880 Other Open Space and Recreation 1890 Off-Street Trails
 Agriculture	2000 Agriculture 2100 Cropland and Improved Pasture Land 2110 Irrigated Cropland and Improved Pasture Land 2120 Non-Irrigated Cropland and Improved Pasture Land 2200 Orchards and Vineyards 2300 Nurseries 2400 Dairy, Intensive Livestock, and Associated Facilities 2500 Poultry Operations 2600 Other Agriculture 2700 Horse Ranches
 Vacant	3000 Vacant 3100 Vacant Undifferentiated 3200 Abandoned Orchards and Vineyards 3300 Vacant With Limited Improvements 3400 Beaches (Vacant) 1900 Urban Vacant
 Water	4000 Water 4100 Water, Undifferentiated 4200 Harbor Water Facilities 4300 Marina Water Facilities 4400 Water Within a Military Installation 4500 Area of Inundation (High Water)
 Specific Plan	7777 Specific Plan
 Under Construction	1700 Under Construction
 Undevelopable or Protected Land	8888 Undevelopable or Protected Land
 Unknown	9999 Unknown

Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)



SB 375 identifies as one of the guidelines on developing an SCS to “gather and consider the best practically available scientific information regarding resource areas and farmland in the region as defined in subdivision (a) and (b) of Section 65080.01.” The definitions of Resource areas and Farmland specified in Section 65080.01 are as following:

- (a) “Resource areas” include
- (1) all publicly owned parks and open space;
 - (2) open space or habitat areas protected by natural community conservation plans, habitat conservation plans, and other adopted natural resource protection plans;
 - (3) habitat for species identified as candidate, fully protected, sensitive, or species of special status by local, state, or federal agencies or protected by the federal Endangered Species Act of 1973, the California Endangered Species Act, or the Native Plant Protection Act;
 - (4) lands subject to conservation or agricultural easements for conservation or agricultural purposes by local governments, special districts, or nonprofit 501(c)(3) organizations, areas of the state designated by the State Mining and Geology Board as areas of statewide or regional significance pursuant to Section 2790 of the Public Resources Code, and lands under Williamson Act contracts;
 - (5) areas designated for open-space or agricultural uses in adopted open-space elements or agricultural elements of the local general plan or by local ordinance;
 - (6) areas containing biological resources as described in Appendix G of the CEQA Guidelines that may be significantly affected by the sustainable communities strategy or the alternative planning strategy; and
 - (7) an area subject to flooding where a development project would not, at the time of development in the judgment of the agency, meet the requirements of the National Flood Insurance Program or where the area is subject to more protective provisions of state law or local ordinance.
- (b) “Farmland” means farmland that is outside all existing city spheres of influence or city limits as of January 1, 2008, and is one of the following:
- (1) Classified as prime or unique farmland or farmland of statewide importance.
 - (2) Farmland classified by a local agency in its general plan that meets or exceeds the standards for prime or unique farmland or farmland of statewide importance.

To comply with the guidelines, SCAG prepared the relevant datasets of open space and park, endangered species and plants, flood areas, natural habitat, and farmland from various sources. To provide input on these datasets, please notify SCAG as well as the agencies listed as the primary owner of the database, discussed in detail here.

OPEN SPACE & PARK

For the 2020 RTP/SCS, “all publicly owned” open spaces need to be considered as prescribed in SB 375. Data on publicly owned open space and parks comes from the California Protected Areas Database (CPAD), a GIS inventory of all publicly owned protected open space lands in the State of California through fee ownership. GreenInfo Network has prepared CPAD by aggregating and cross-checking various open space data from state, local and other agencies.

For a clear understanding of the database, it is important to understand two basic definitions of the database. First, the “protected” status in CPAD does not refer to a specific level of conservation

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for biodiversity values, but a general commitment to maintain the property for open space uses. Second, by fee ownership mechanism, it means that 1) the lands in CPAD are defined based on the agencies that owns the fee title to the property, not the managing parties, and 2) CPAD is not the database of all public lands, but that of all “publicly owned” open space. The owning agencies include public and non-profits. Private owners are not currently included, except for parkland owned by some home owner associations. For more details on the inclusion criteria, see the CPAD manual from their website at <http://www.calands.org/uploads/docs/CPAD2017a-Manual.pdf>.

The database is prepared into three feature classes; Holdings, Units, and Super Units. Holdings are the parcel level open space information, which correspond to assessor or tax parcel boundaries. Units and Super Units are the aggregated features for the cartographic representation. (Units: the aggregation of Holdings into specific parks and reserves / Super Units: the aggregation of federal and state Holdings regardless county boundaries) All classes of data are downloadable through their website at <http://www.calands.org>. For user constraints, refer to the License Agreement. GreenInfo Network has released several versions of the CPAD since March, 2008. The most up-to-date version is CPAD v.2017a, which was released in August, 2017. For more information on CPAD update histories and changes, see their website at <http://www.calands.org/data>.

The map included in this book is presented by ownership. The lands in CPAD range from huge national forests to very small urban parks. Federal, state, county, city, special district and non-governmental agency holdings are included and have been mapped at the high levels of accuracy. The information included in this book reflects the latest version of the CPAD (v.2017a), plus local jurisdiction’s input received during the 2016-2040 RTP/SCS Local Input Process.

ENDANGERED SPECIES & PLANTS

SCAG obtained the California Natural Diversity Database (CNDDDB)¹ October 2017 version developed by the California Department of Fish and Wildlife’s Biogeographic Data Branch (BDB). The CNDDDB is a library of the location and condition of species of rare and sensitive plants, animals, and natural communities in California. It is updated on a continuous basis to be consistent and current, but cannot be an exhaustive and comprehensive inventory of rare species and natural communities. Field verification for the absence and presence of sensitive species is required by the end users.

The dataset is shown on the map is based on the combination of the three data fields; element type, accuracy and element occurrence count. Other fields in CNDDDB describe the listing status, ranking, location, site description and source references, to name a few.

The types of elements (ELMTYPE) are specified as four categories of plant, animal, terrestrial community, and aquatic community.

VALUE	DEFINITION
1	Plant (ELMCODEs beginning with “P” or “N”)
2	Animal (ELMCODEs beginning with “A” or “I”)
3	Terrestrial community (ELMCODEs beginning with “CT”)
4	Aquatic community (ELMCODEs beginning with “CA”, “CE”, “CL”, “CM” or “CR”)

¹ The CNDDDB is a “natural heritage program” and is part of a nationwide network of similar programs overseen by **NatureServe** (formerly part of The Nature Conservancy). All natural heritage programs provide location and natural history information on special status plants, animals, and natural communities to the public, other agencies, and conservation organizations. The data help drive conservation decisions, aid in the environmental review of projects and land use changes, and provide baseline data helpful in recovering endangered species and for research projects.



The precision or accuracy level (ACC_CLASS) represents spatial uncertainty on a scale of one to ten, indicating both accuracy type and accuracy value.

VALUE	DEFINITION
80 meters	1: Specific bounded area with an 80 meter radius
Specific	2: Specific bounded area
Nonspecific	3: Non-specific bounded area
1/10 mile	4: Circular feature with a 150 meter radius (1/10 mile)
1/5 mile	5: Circular feature with a 300 meter radius (1/5 mile)
2/5 mile	6: Circular feature with a 600 meter radius (2/5 mile)
3/5 mile	7: Circular feature with a 1000 meter radius (3/5 mile)
4/5 mile	8: Circular feature with a 1,300 meter radius (4/5 mile)
1 mile	9: Circular feature with a 1,600 meter radius (1 mile)
5 miles	10: Circular feature with a 8,000 meter radius (5 miles)

The element occurrence count (EOCOUNT) represents how many occurrences share the same spatial feature. An EOCOUNT greater than one indicates the presence of a “multiple.”

For more information on the CNDDDB, please refer to their website (<https://www.wildlife.ca.gov/Data/CNDDDB>). The CNDDDB is offered on a yearly subscription basis, and is prohibited from being distributed to anyone outside the subscribing organizations. The data can be ordered online at <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data>. Also, the web-based CNDDDB QuickView Tool which provides users with a list of all tracked elements that have been documented by the CNDDDB to occur in a selected USGS 7.5’ topographic quad or in a selected county is available at <https://www.wildlife.ca.gov/Data/CNDDDB/Maps-and-Data#43018410-cnddb-quickview-tool>.

FLOOD AREAS

The flood area maps are based on the Digital Flood Insurance Rate Map (DFIRM), obtained from Federal Emergency Management Agency (FEMA) in August 2017. The DFIRM Database is a digital version of the FEMA Flood Insurance Rate Maps (FIRM)² that is designed for use with digital mapping and analysis software. The FIRM is created by FEMA for the purpose of floodplain management, mitigation, and insurance activities for the National Flood Insurance Program (NFIP).

FEMA prepares the flood maps to show the extent of flood hazard in a flood prone community by conducting engineering studies called “Flood Insurance Studies (FISs). From the study, FEMA delineate Special Flood Hazard Areas (SFHAs), which are subject to inundation by a flood that has a 1 percent or greater chance of being equaled or exceeded during any given year. This type of flood is commonly referred to as ‘the 100-year flood’ or base flood. The 100-year flood has a 26 percent chance of occurring during a 30 year period, the length of many mortgages. The 100-year flood is a regulatory standard used by Federal and most State agencies to administer floodplain management programs.

² The FIRM is the official map of a community on which FEMA has delineated both the special hazard areas and the risk premium zones applicable to the community. Since 1970s, the FEMA has created and updated the flood hazard maps for National Flood Insurance Program (NFIP). NFIP was created by the US Congress in 1968 to reduce future damage and to provide protection for property owners from potential loss through an insurance mechanism.

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The FIRM includes data on the 100-year (1% annual chance of occurring) and 500-year (0.2% annual chance of occurring) floodplains. The flood maps developed by FEMA are primary tools for state and local governments to mitigate the effects of flooding in their communities. The data are available to the public at FEMA's Map Service Center (<https://msc.fema.gov/portal/>). You may also request the related documents or other maps, such as FIS result report, or a Flood Boundary and Floodway Map (FBFM). For more information on the FIRM, refer to their website at <https://www.fema.gov/flood-insurance-rate-map-firm>.

NATURAL COMMUNITY & HABITAT CONSERVATION PLAN

The data on natural community and habitat conservation plan are from the Natural Community Conservation Planning (NCCP) program of California Department of Fish and Wildlife. With partnerships with public and private organizations, NCCP is an effort for the protection and perpetuation of biological diversity, while allowing compatible and appropriate economic activity. The NCCP program started in 1991 under the State's Natural Community Conservation Planning Act, which has broader orientation and objectives than the previous laws limited to the protection of species already declined in number significantly.

The primary objective is to conserve natural communities at the ecosystem level, while accommodating compatible land use. By considering the long-term stability of wildlife and plant communities, and including key interests in the planning process, it aims at anticipating and preventing the controversies in the surrounding areas of the species.

A local agency is in charge of monitoring the development of a conservation plan in cooperation with landowners, environmental organizations and other interest parties. The Department of Fish and Wildlife provides necessary support, direction, and guidance to NCCP participants.³ For more information on the NCCP phases and guidance, refer to their website at <https://www.wildlife.ca.gov/Conservation/Planning/NCCP>.

FARMLAND

Farmland information was obtained from the Farmland Mapping & Monitoring Program (FMMP) in the Division of Land Resource Protection in the California Department of Conservation. Established in 1982, the FMMP is to provide consistent and impartial data and analysis of agricultural land use and land use changes throughout the State of California.⁴

The FMMP updates and releases the Important Farmland Map by county every two years and SCAG obtained the most up-to-date version.⁵ The study area is in accordance to the soil survey developed by NRCS (National Resources Conservation Service) in the United States Department of Agriculture. Important Farmland Map is biennially updated based on a computer mapping system, aerial imagery, public review, and field interpretation.

The minimum land use mapping unit is 10 acres. The classification system of the map was developed by combining technical soil rating and current land use. For more information, refer to the website at <http://www.conservation.ca.gov/dlrp/fmmp/Pages/Index.aspx>.

³ Department of Fish and Game sponsors two grant programs for NCCP/HCPs; Local Assistance Grants (LAG) with the state funds for urgent tasks associated with implementing approved NCCPs or NCCPs anticipated to be approved within 12 months of grant application, and ESA SECTION 6 GRANTS program through the federal grant from the U.S. Fish and Wildlife Service (FWS).

⁴ The FMMP was signed by the Legislature in 1982, and the first Important Farmland Maps were produced in 1984, covering 30.3 million acres. Through 12 biennial mapping cycles, data has expanded to 48.1 million acres as modern soil surveys were completed by USDA.

⁵ The most up-to-date Important Farmland data is 2016 version, except Orange county (2014 version), as of October 2017.



PRIME FARMLAND (P)	Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
FARMLAND OF STATEWIDE IMPORTANCE (S)	Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the four years prior to the mapping date.
UNIQUE FARMLAND (U)	Farmland of lesser quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the four years prior to the mapping date.
FARMLAND OF LOCAL IMPORTANCE (L)	Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
GRAZING LAND (G)	Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.
URBAN AND BUILT-UP LAND (D)	Land occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
OTHER LAND (X)	Land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land. The Rural Land Mapping Project provides more detail on the distribution of various land uses within the Other Land category. The Rural Land categories include: Rural Residential Land (R), Semi-Agricultural and Rural Commercial Land (sAC), Vacant or Disturbed Land (V), Confined Animal Agriculture (CI), and Nonagricultural or Natural Vegetation (nv).
WATER (W)	Perennial water bodies with an extent of at least 40 acres.
NOT SURVEYED (Z)	Large government land holdings, including National Parks, Forests, and Bureau of Land Management holdings are not included in FMMP's survey area.

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The map included in this book is prepared based on the guidelines in (b) of Section 65080.01.

(c) "Farmland" means farmland that is outside all existing city spheres of influence or city limits as of January 1, 2008, and is one of the following:

- (1) Classified as prime or unique farmland or farmland of statewide importance.
- (2) Farmland classified by a local agency in its general plan that meets or exceeds the standards for prime or unique farmland or farmland of statewide importance.

COASTAL INUNDATION (SEA LEVEL RISE)

The Coastal Inundation data were obtained from the National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center's online mapping viewer depicting potential sea level rise and its associated impacts on the nation's coastal areas. These data depict the potential inundation of coastal areas resulting from a projected 2 feet rise in sea level above current Mean Higher High Water (MHHW) conditions.

The process used to produce the data can be described as a modified bathtub approach that attempts to account for both local/regional tidal variability as well as hydrological connectivity. The process uses two source datasets to derive the final inundation rasters and polygons and accompanying low-lying polygons for each iteration of sea level rise: the Digital Elevation Model (DEM) of the area and a tidal surface model that represents spatial tidal variability. The tidal model is created using the NOAA National Geodetic Survey's VDATUM datum transformation software (<http://vdatum.noaa.gov>) in conjunction with spatial interpolation/extrapolation methods and represents the MHHW tidal datum in orthometric values (North American Vertical Datum of 1988). The model used to produce these data does not account for erosion, subsidence, or any future changes in an area's hydrodynamics. It is simply a method to derive data in order to visualize the potential scale, not exact location, of inundation from sea level rise.



MAJOR TRANSIT STOPS & HIGH QUALITY TRANSIT CORRIDORS

According to SB 375, 'a transit priority project' can be exempt from, or subject to a limited review of CEQA (the California Environmental Quality Act). The implementation of the SCS only includes 'a transit priority project' that is 'consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, for which the State Air Resources Board, pursuant to subparagraph (H) of paragraph (2) of subdivision (b) of Section 65080 of the Government Code, has accepted a metropolitan planning organization's determination that the sustainable communities strategy or the alternative planning strategy would, if implemented, achieve the greenhouse gas emission reduction targets.' [Section 21155.(a)]

The bill specifically states that the transit priority project should:

- (1) contain at least 50 percent residential use, based on total building square footage and, if the project contains between 26 percent and 50 percent nonresidential uses, a floor area ratio of not less than 0.75;
- (2) provide a minimum net density of at least 20 dwelling units per acre; and
- (3) be within one-half mile of a major transit stop or high-quality transit corridor included in a regional transportation plan. A major transit stop is as defined in Section 1064.3, except that, for purposes of this section, it also includes major transit stops that are included in the applicable regional transportation plan. For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours. A project shall be considered to be within one-half mile of a major transit stop or high-quality transit corridor if all parcels within the project have no more than 25 percent of their area farther than one-half mile from the stop or corridor and if not more than 10 percent of the residential units or 100 units, whichever is less, in the project are farther than one-half mile from the stop or corridor. [Section 21155.(b)]

A transit priority project, which meets all the requirements of subdivision (a) and (b), and one of the requirements of subdivision (c) in Section 21155.1, can be declared by the legislative body of the jurisdiction, after conducting a public hearing, to be a Sustainable Communities Project (SCP). Once the project is designated as SCP, it can benefit from CEQA streamlining. For detailed information on SCP, refer to Appendix 1: Sustainable Communities Project (SCP) Criteria.

To assist in identifying transit priority project areas, SCAG identifies major transit stops and high quality transit corridors, and their surrounding areas in one-half mile radius distance, as specified in Section 21155.(b)(3). Major transit stops and high quality transit corridors are extracted from 2040 plan year data of the 2016-2040 RTP/SCS Amendment #2 and modified by inputs from transit operators and local jurisdictions. This inventory is based on available information at the time regarding existing and planned transit service. However, transit agencies make adjustments to bus service on a regular basis. Local jurisdictions are encouraged to consult with their appropriate transit provider(s) to obtain the latest information on existing transit routes and frequencies.

SCAG's High Quality Transit Area (HQTA) is within one-half mile from major transit stops and high quality transit corridors and developed based on the language in SB375. The definitions of major transit stops and high quality transit corridors are as follows:

- **Major transit stop:** A site containing a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods (CA Public Resource Code Section 21064.3). It also includes major transit stops that are included in the applicable regional transportation plan.

TRANSPORTATION



TRANSPORTATION

- **High quality transit corridor:** A corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

Please note that this map may undergo changes as SCAG continues to update its transportation network as part of the 2020 RTP/SCS development process and SCAG shall not be responsible for local jurisdiction's use of this map. Updates to this information will be forthcoming as information becomes available.

TRANSIT PRIORITY AREAS

Senate Bill (SB) 743, signed into law on 9/27/2013, provides opportunities for California Environmental Quality Act (CEQA) exemption and streamlining to facilitate transit-oriented development. Specifically, certain types of projects within the "transit priority areas" could benefit from a CEQA exemption if it is also consistent with an adopted specific plan and the regional Sustainable Communities Strategy. In addition, aesthetic and parking impacts of certain infill projects within a transit priority area shall not be considered significant impacts on the environment. The State Office of Planning and Research (OPR) is required to develop guidelines for streamlined CEQA analysis for transportation impacts of projects within transit priority areas (draft by July 1, 2014). Finally, SB 743 also provides congestion management plan relief for a larger infill opportunity zone. SB 743 focuses the CEQA exemption and other streamlining opportunities in areas with good transit access, i.e. "Transit Priority Areas (TPAs)."

As defined in SB 743, "Transit Priority Area" means an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations.

To assist in identifying the transit priority areas, SCAG identifies the major transit stops and their surrounding areas in one-half mile radius distance. Major transit stops are extracted from 2040 plan year data of the 2016-2040 RTP/SCS Amendment #2 and modified by inputs from transit operators and local jurisdictions. This inventory is based on available information at the time regarding existing and planned transit service. However, transit agencies make adjustments to bus service on a regular basis. Local jurisdictions are encouraged to consult with their appropriate transit provider(s) to obtain the latest information on existing transit routes and frequencies.

The definition of major transit stops is as follows:

- **Major transit stop:** A site containing a rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods (CA Public Resource Code Section 21064.3). It also includes major transit stops that are included in the applicable regional transportation plan.

Please note that this map may undergo changes as SCAG continues to update its transportation network as part of the 2020 RTP/SCS development process and SCAG shall not be responsible for local jurisdiction's use of this map. Updates to this information will be forthcoming as information becomes available.

REGIONAL BIKEWAYS

The Southern California Regional Bikeway Shapefile (RBS) has been compiled in coordination with each of the six County Transportation Commissions (Imperial, Orange, Los Angeles, Riverside, San Bernardino, and Ventura). SCAG has developed standard data fields using existing fields from each county and others identified by stakeholders and consultants. Definitions of each field can be found in the data dictionary for the project which is currently under development.



The RBS includes both existing and planned facilities and was compiled from shapefiles provided by each county transportation commission. Commissions use different strategies for compiling their files so some counties may be more up to date and contain different amounts of data than others. Existing routes are facilities that currently are installed upon city streets or paths. Planned facilities are those contained in city or county level plans that have not yet been constructed. Each route is classified based on definitions for bicycle routes as outlined below. Class 1-4 are defined by the California Highway Design Manual. Class 5 is a SCAG defined route type.

Class Definitions:

- Class I Bikeway (Bike Path): Provides a completely separated facility for the exclusive use of bicycles and pedestrians with crossflow by vehicles minimized.
- Class II Bikeway (Bike Lane): Provides a striped lane for one-way bike travel on a street or highway.
- Class III Bikeway (Bike Route): Provides for shared use with pedestrian or motor vehicle traffic.
- Class IV Bikeway (Separated Bikeway): Provides for the exclusive use of bicycles and includes a separation (e.g., grade separation, flexible posts, inflexible physical barrier, or on-street parking) required between the separated bikeway and the through vehicular traffic.
- Class V Bikeway (Bicycle Friendly Boulevard): Bicycle Friendly Boulevard are facilities parallel to major corridors and that provide a calmer, safer alternative for bicyclists of all ages and skill levels. Bicycle Friendly Streets include traffic calming elements beyond traditional signage, such as roundabouts, diverters, curb extensions, etc.

REGIONAL TRUCK ROUTES

The Southern California Regional Truck Route Shapefile (RTRS) has been compiled using the general plans and municipal codes of the jurisdictions in areas of each of the six County Transportation Commissions (Imperial, Orange, Los Angeles, Riverside, San Bernardino, and Ventura). SCAG has developed standard data fields based on information found in local general plan and municipal codes to identify roadways and roadway segments that are designated as truck routes by the cities.

The RTRS includes truck routes on existing local facilities. Jurisdictions use different criteria (e.g., weight, axles, time of day, etc.) to designate a truck route for their city. For the purposes of the RTRS, weight was used as the factor to determine truck route locations as this was the most commonly used criterion. Existing truck routes are those that are specifically identified as facilities where trucks are generally permitted during all times, or the majority, of a day. It should be recognized that most jurisdictions permit truck to travel on any roadway segment with clear limitations to their movement (e.g., direct delivery to locations not on a designated route). Each route is at the discretion of its jurisdiction. Confirmation and updates to the RTRS will allow SCAG member cities to understand and develop policy regarding intra-city and intercity truck route connections and gaps, and connections to industrial uses within jurisdictional boundaries.

GEOGRAPHICAL BOUNDARIES

CITY BOUNDARY & SPHERE OF INFLUENCE

City boundary and sphere of influence information are originally from each County’s Local Agency Formation Commissions (LAFCO). The city boundary information included here are as of August 2016, the base year for the 2020 RTP/SCS. For inaccuracy or changes in city boundaries or sphere of influences, local jurisdictions need to contact LAFCO to reflect the most accurate city and sphere boundaries.

CENSUS TRACT BOUNDARY (FOR INFORMATION ONLY)

The census tract boundaries are the 2010 TIGER/Line Shapefiles version, downloaded from U.S. Census, TIGER (Topologically Integrated Geographic Encoding and Referencing) Products website (<https://www.census.gov/geo/maps-data/data/tiger.html>).

TRANSPORTATION ANALYSIS ZONE (TAZ) BOUNDARY

SCAG developed the Transportation Analysis Zones (TAZ) for the SCAG Region. This is used to facilitate Travel Demand and Land Use Modeling needs at SCAG.





ENTITLEMENT

Based on feedback from stakeholders, SCAG convened the Entitlement Working Group comprised of professionals in the building industry and development services to help inform the update of local data for use in the 2020 RTP/SCS and Regional Housing Needs Assessment (RHNA). The objectives of the working group include:

- Assessing and enhancing SCAG’s current entitlement database, specifically with regard to the density, intensity, and phasing of future development projects,
- Providing feedback on how best to engage with stakeholders to ensure the accuracy of SCAG’s local data, and
- Starting to build the foundation to develop the “Shared Vision” in growth forecast and land use for the 2020 RTP/SCS.

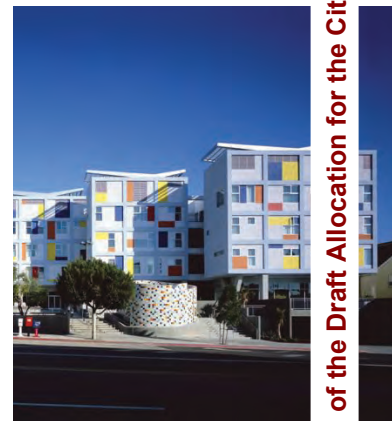
SCAG established its regional entitlement database based on inputs provided by this working group. Maps were made separately for better presentation of the entitlement projects and available for local jurisdiction’s review at <http://scagrtpscs.net/Pages/DataMapBooks.aspx>. It should be noted that the entitlement data will be further reviewed and updated as SCAG continue to receive input and comments from subregions and local jurisdictions during the Local Input & Envisioning Process for the 2020 RTP/SCS.

POTENTIAL INFILL SITES

In 2005, the Institute of Urban and Regional Development (IURD) at University of California, Berkeley, conducted the statewide infill study, designed to provide an assessment of infill opportunities, a robust estimate of how many housing units might reasonably be built on available infill sites, and an evaluation of the critical market and policy gaps that remain to be filled. Amongst the objectives of the IURD’s infill study is to develop a statewide, parcel-based inventory of potential infill sites. The study identified infill sites as vacant or potentially redevelopable parcels located in existing urban neighborhoods, based on an analysis of county assessors’ parcel data. A vacant parcel is defined as one that has no inhabitable structure or building, or is currently not in use for extractive purposes. Sites with structures too small to be inhabited, or for which the structure value is too small, are also deemed to be vacant. To be counted as infill-ready, a vacant parcel must also be privately owned and available and feasible for potential urban development. Redevelopable parcels, or henceforth, refill parcels, are privately owned, previously-developed parcels, but for which the improvement-value-to-land value (I/L) ratio is less than 1.0 for commercial and multi-family properties, and less than 0.5 for single-family properties.

To conduct the infill analysis for the SCAG Region, the similar approach was applied to identify potential infill sites by using the most recent county assessor’s property information obtained from the Digital Map Product (DMP) in October 2016. Additionally, SCAG utilized SCAG’s regional land use datasets and publicly available reference information, including but not limited to: California Protected Areas Database (CPAD), California Conservation Easement Database (CCED), California School Campus Database (CSCD) and important farmlands from Farmland Mapping and Monitoring Program (FMMP). Please note the quality of assessors’ parcel data varies by county, with land and structure assessments based on older transactions being particularly problematic, especially for properties that were last sold prior to 1990, or for properties that were renovated but not reassessed. It may seem fairly reasonable to believe that this study overestimates the number of potential infill parcels primarily due to inaccurate or outdated assessor’s property information. It is quite possible that many of the parcels identified as possibly economically underutilized, and therefore ripe for infill development, may be neither physically deteriorated nor economically under-valued. Based on the approach used to identify the infill sites, it is not known which, if any, of the identified infill sites might be made available by their current owners for sale or development. Therefore, it should be noted that the analysis presented in this study is essentially a starting point for more detailed analyses to be undertaken in collaboration with local governments and will be further reviewed and updated as SCAG continue to receive input and comments from subregions and local jurisdictions during the Local Input & Envisioning Process for the 2020 RTP/SCS.

GROWTH



SOCIOECONOMIC DATA

Orange County will develop its local growth forecast through the 2018 Orange County Projections (OCP-2018) update process conducted by the Center for Demographic Research (CDR) at Cal State Fullerton. OCP-2018 is an update of the Modified 2014 Orange County Projections (OCP-2014 MOD), which is the existing policy projections dataset for Orange County. These projections are recognized by the agencies that sponsor CDR as the uniform data set for use in local and regional planning applications. OCP-2018 is the 13th iteration and is being developed initially for incorporation in the Orange County Transportation Authority's (OCTA) Long Range Transportation Plan and the SCAG's growth forecast for the 2020 RTP/SCS. As in past iterations, the OCP will be submitted to SCAG for inclusion in the RTP/SCS process by CDR after the OCP process is completed with final approval by the OCCOG Board; this iteration will also include the development of the 2021 RHNA cycle.

Timeline for the OCP-2018 development process:

- **Summer 2016-Spring 2017:** development of the 2016 base year population, housing and employment estimates
- **Spring/Summer 2017:** development of county-wide growth assumptions and county control totals
- **Summer 2017:** Orange County jurisdiction review of the 2016 base year data
- **Fall/Winter 2017:** county control total approval process
- **Fall/Winter 2017:** development of draft small area (traffic analysis zone-TAZ) dataset
- **March 2018:** distribution of draft OCP dataset to OC jurisdictions for review, comment and approval; Orange County jurisdiction meetings
- **April 27, 2018:** deadline for OCP-2018 jurisdiction submission of comments and corrections to CDR
- **Summer 2018:** OCP approval process (CDR Technical Advisory and Management Oversight Committees; OCCOG TAC and Board)
- **September 2018:** submission of approved OCP-2018 to SCAG for inclusion in the 2020 RTP/SCS

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Sustainable Communities Project (SCP) Criteria
(Extracted from Senate Bill No. 375 Chapter 728)

Chapter 4.2. Implementation of the Sustainable Communities Strategy

21155.1. If the legislative body finds, after conducting a public hearing, that a transit priority project meets all of the requirements of subdivisions (a) and (b) and one of the requirements of subdivision (c), the transit priority project is declared to be a sustainable communities project and shall be exempt from this division.

(a) The transit priority project complies with all of the following environmental criteria:

(1) The transit priority project and other projects approved prior to the approval of the transit priority project but not yet built can be adequately served by existing utilities, and the transit priority project applicant has paid, or has committed to pay, all applicable in-lieu or development fees.

(2)

(A) The site of the transit priority project does not contain wetlands or riparian areas and does not have significant value as a wildlife habitat, and the transit priority project does not harm any species protected by the federal Endangered Species Act of 1973 (16 U.S.C. Sec. 1531 et seq.), the Native Plant Protection Act (Chapter 10 (commencing with Section 1900) of Division 2 of the Fish and Game Code), or the California Endangered Species Act (Chapter 1.5 (commencing with Section 2050) of Division 3 of the Fish and Game Code), and the project does not cause the destruction or removal of any species protected by a local ordinance in effect at the time the application for the project was deemed complete.

(B) For the purposes of this paragraph, "wetlands" has the same meaning as in the United States Fish and Wildlife Service Manual, Part 660 FW 2 (June 21, 1993).

(C) For the purposes of this paragraph:

(i) "Riparian areas" means those areas transitional between terrestrial and aquatic ecosystems and that are distinguished by gradients in biophysical conditions, ecological processes, and biota. A riparian area is an area through which surface and subsurface hydrology connect waterbodies with their adjacent uplands. A riparian area includes those portions of terrestrial ecosystems that significantly influence exchanges of energy and matter with aquatic ecosystems. A riparian area is adjacent to perennial, intermittent, and ephemeral streams, lakes, and estuarine-marine shorelines.

(ii) "Wildlife habitat" means the ecological communities upon which wild animals, birds, plants, fish, amphibians, and invertebrates depend for their conservation and protection.

(iii) Habitat of "significant value" includes wildlife habitat of national, statewide, regional, or local importance; habitat for species protected by the federal Endangered Species Act of 1973 (16 U.S.C. Sec. 1531, et seq.), the California Endangered Species Act (Chapter 1.5 (commencing with Section 2050) of Division 3 of the Fish and Game Code), or the Native Plant Protection Act (Chapter 10 (commencing with Section 1900) of Division 2 of the Fish and Game Code); habitat identified as candidate, fully protected, sensitive, or species of special status by local, state, or federal agencies; or habitat essential to the movement of resident or migratory wildlife.

(3) The site of the transit priority project is not included on any list of facilities and sites compiled pursuant to Section 65962.5 of the Government Code.

(4) The site of the transit priority project is subject to a preliminary endangerment assessment prepared by a registered environmental assessor to determine the existence of any release of a hazardous substance on the site and to determine the potential for exposure of future occupants to significant health hazards from any nearby property or activity.

(A) If a release of a hazardous substance is found to exist on the site, the release shall be removed or any significant effects of the release shall be mitigated to a level of insignificance in compliance with state and federal requirements.

(B) If a potential for exposure to significant hazards from surrounding properties or activities is found to exist, the effects of the potential exposure shall be mitigated to a level of insignificance in compliance with state and federal requirements.

(5) The transit priority project does not have a significant effect on historical resources pursuant to Section 21084.1.

(6) The transit priority project site is not subject to any of the following:

(A) A wildland fire hazard, as determined by the Department of Forestry and Fire Protection, unless the applicable general plan or zoning ordinance contains provisions to mitigate the risk of a wildland fire hazard.

(B) An unusually high risk of fire or explosion from materials stored or used on nearby properties.

(C) Risk of a public health exposure at a level that would exceed the standards established by any state or federal agency.

(D) Seismic risk as a result of being within a delineated earthquake fault zone, as determined pursuant to Section 2622, or a seismic hazard zone, as determined pursuant to Section 2696, unless the applicable general plan or zoning ordinance contains provisions to mitigate the risk of an earthquake fault or seismic hazard zone.

(E) Landslide hazard, flood plain, flood way, or restriction zone, unless the applicable general plan or zoning ordinance contains provisions to mitigate the risk of a landslide or flood.

(7) The transit priority project site is not located on developed open space.

(A) For the purposes of this paragraph, "developed open space" means land that meets all of the following criteria:

(i) Is publicly owned, or financed in whole or in part by public funds.

(ii) Is generally open to, and available for use by, the public.

(iii) Is predominantly lacking in structural development other than structures associated with open spaces, including, but not limited to, playgrounds, swimming pools, ballfields, enclosed child play areas, and picnic facilities.

(B) For the purposes of this paragraph, "developed open space" includes land that has been designated for acquisition by a public agency for developed open space, but does not include lands acquired with public funds dedicated to the acquisition of land for housing purposes.

(8) The buildings in the transit priority project are 15 percent more energy efficient than required by Chapter 6 of Title 24 of the California Code of Regulations and the buildings and landscaping are designed to achieve 25 percent less water usage than the average household use in the region.

(b) The transit priority project meets all of the following land use criteria:

(1) The site of the transit priority project is not more than eight acres in total area.

(2) The transit priority project does not contain more than 200 residential units.

(3) The transit priority project does not result in any net loss in the number of affordable housing units within the project area.

(4) The transit priority project does not include any single level building that exceeds 75,000 square feet.

(5) Any applicable mitigation measures or performance standards or criteria set forth in the prior environmental impact reports, and adopted in findings, have been or will be incorporated into the transit priority project.

(6) The transit priority project is determined not to conflict with nearby operating industrial uses.

(7) The transit priority project is located within one-half mile of a rail transit station or a ferry terminal included in a regional transportation plan or within one-quarter mile of a high-quality transit corridor included in a regional transportation plan.

APPENDIX 1 |

(c) The transit priority project meets at least one of the following three criteria:

(1) The transit priority project meets both of the following:

(A) At least 20 percent of the housing will be sold to families of moderate income, or not less than 10 percent of the housing will be rented to families of low income, or not less than 5 percent of the housing is rented to families of very low income.

(B) The transit priority project developer provides sufficient legal commitments to the appropriate local agency to ensure the continued availability and use of the housing units for very low, low-, and moderate-income households at monthly housing costs with an affordable housing cost or affordable rent, as defined in Section 50052.5 or 50053 of the Health and Safety Code, respectively, for the period required by the applicable financing. Rental units shall be affordable for at least 55 years. Ownership units shall be subject to resale restrictions or equity sharing requirements for at least 30 years.

(2) The transit priority project developer has paid or will pay in-lieu fees pursuant to a local ordinance in an amount sufficient to result in the development of an equivalent number of units that would otherwise be required pursuant to paragraph (1).

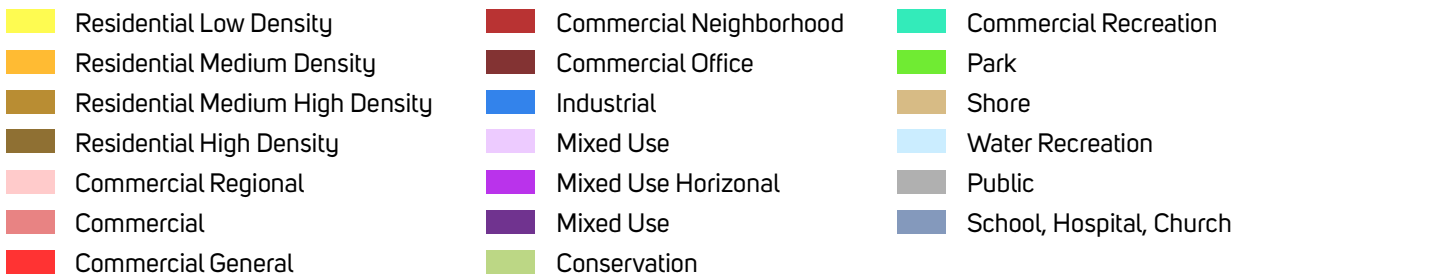
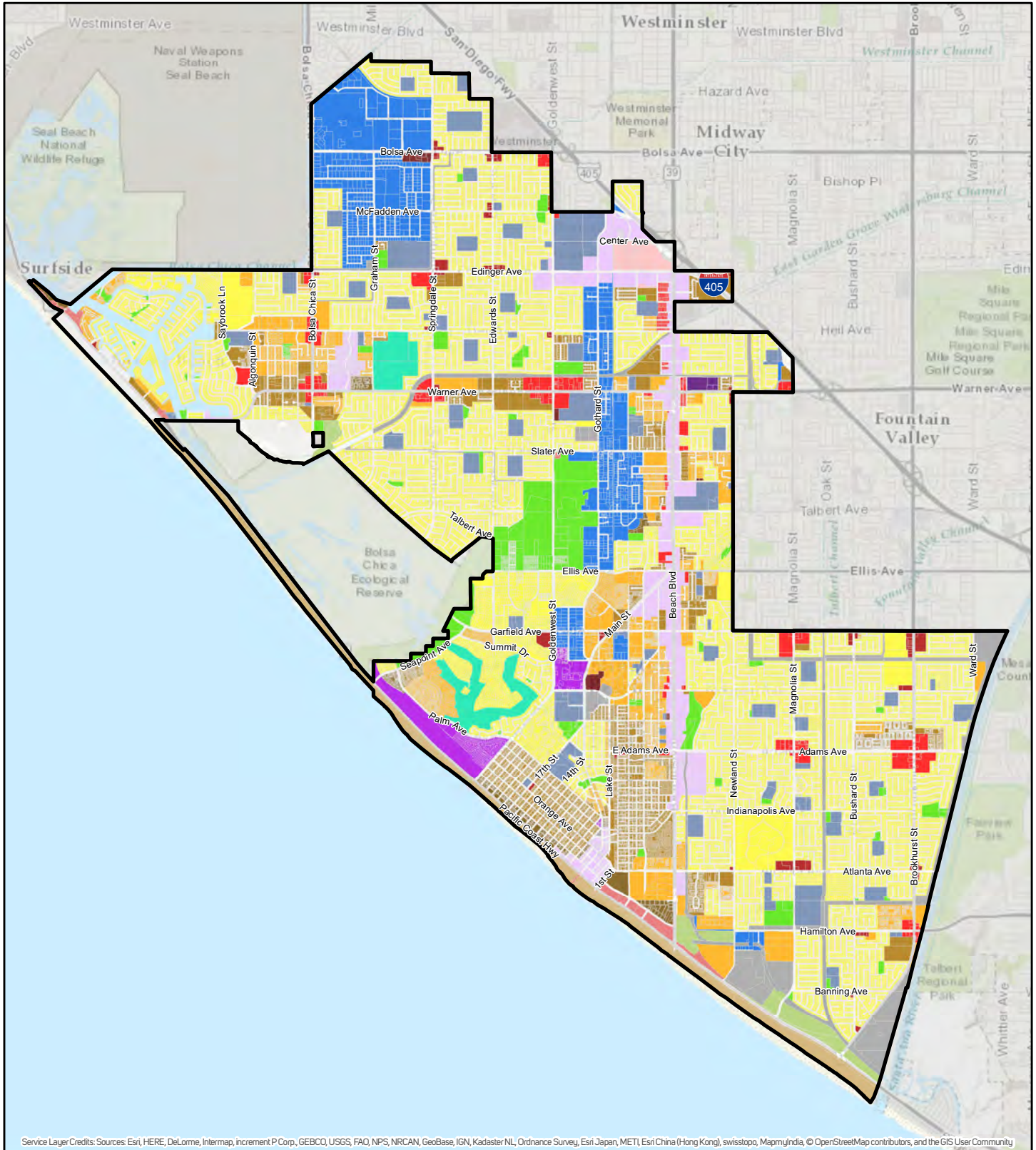
(3) The transit priority project provides public open space equal to or greater than five acres per 1,000 residents of the project.

THE LIST OF GIS MAPS INCLUDED:

- General Plan Land Use with Jurisdiction’s General Plan Designations
- General Plan Land Use with 2016 SCAG Land Use Codes
- Zoning Codes with Jurisdiction’s Zoning Codes
- Zoning Codes with 2016 SCAG Land Use Codes
- Existing Land Use with 2016 SCAG Land Use Codes
- Specific Plan Land Use with 2016 SCAG Land Use Codes
- Protected Open Space
- Endangered, Threatened, and Rare Plant and Animal Species
- Federally Designated Flood Hazard Zones
- Natural Community & Habitat Conservation Plans
- Farmland
- Coastal Inundation (Sea Level Rise)
- Major Transit Stops and High Quality Transit Corridors
- Transit Priority Areas
- Bikeways
- Truck Routes
- Jurisdiction Boundary and Sphere of Influence
- Census Tract boundary
- Transportation Analysis Zone (TAZ) boundary
- Potential Infill Site

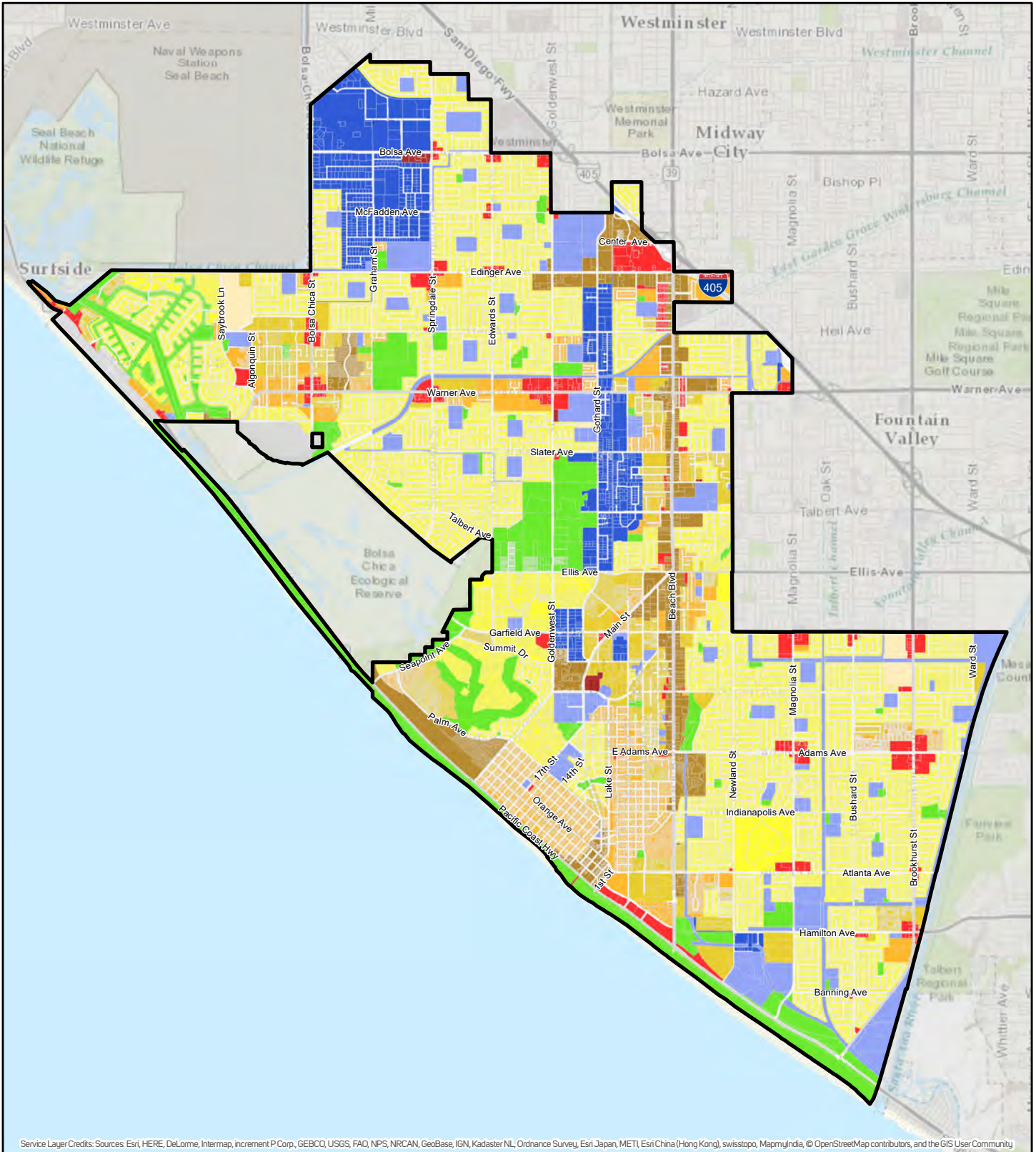
General Plan Land Use in City of Huntington Beach

(Local Jurisdiction's General Plan Land Use Designations)



Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

General Plan Land Use in City of Huntington Beach (2016 SCAG General Plan Land Use Codes)

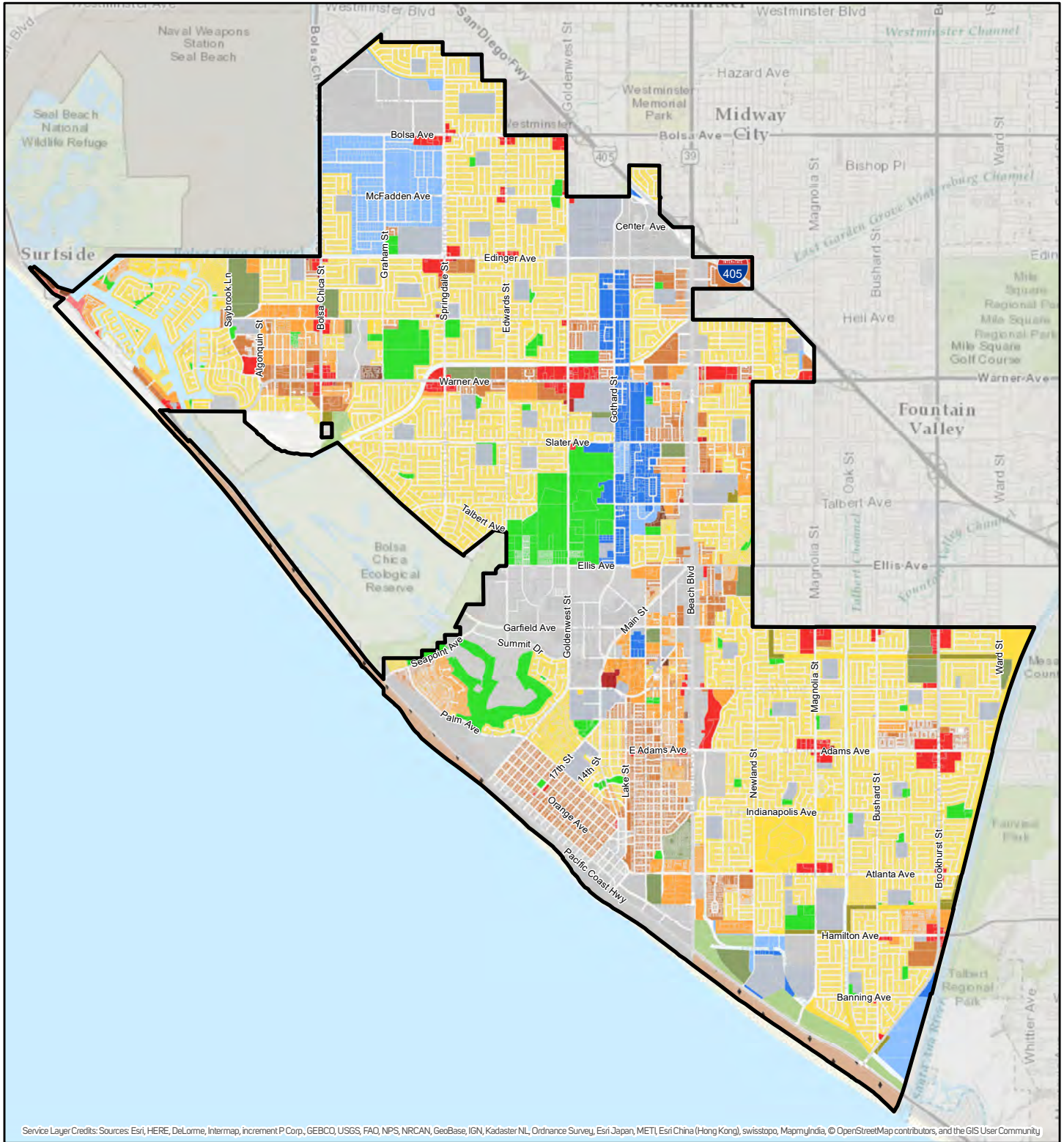


Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

- | | | |
|---|---|---|
| Single Family Residential | Facilities | Open Space and Recreation |
| Multi-Family Residential | Education | Agriculture |
| Mobile Homes and Trailer Parks | Military Installations | Vacant |
| Mixed Residential | Industrial | Water |
| Rural Residential | Transportation, Communications, and Utilities | Specific Plan |
| General Office | Mixed Commercial and Industrial | Undevelopable |
| Commercial and Services | Mixed Residential and Commercial | Unknown |

Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Zoning Codes in City of Huntington Beach (Local Jurisdiction's Zoning Codes)

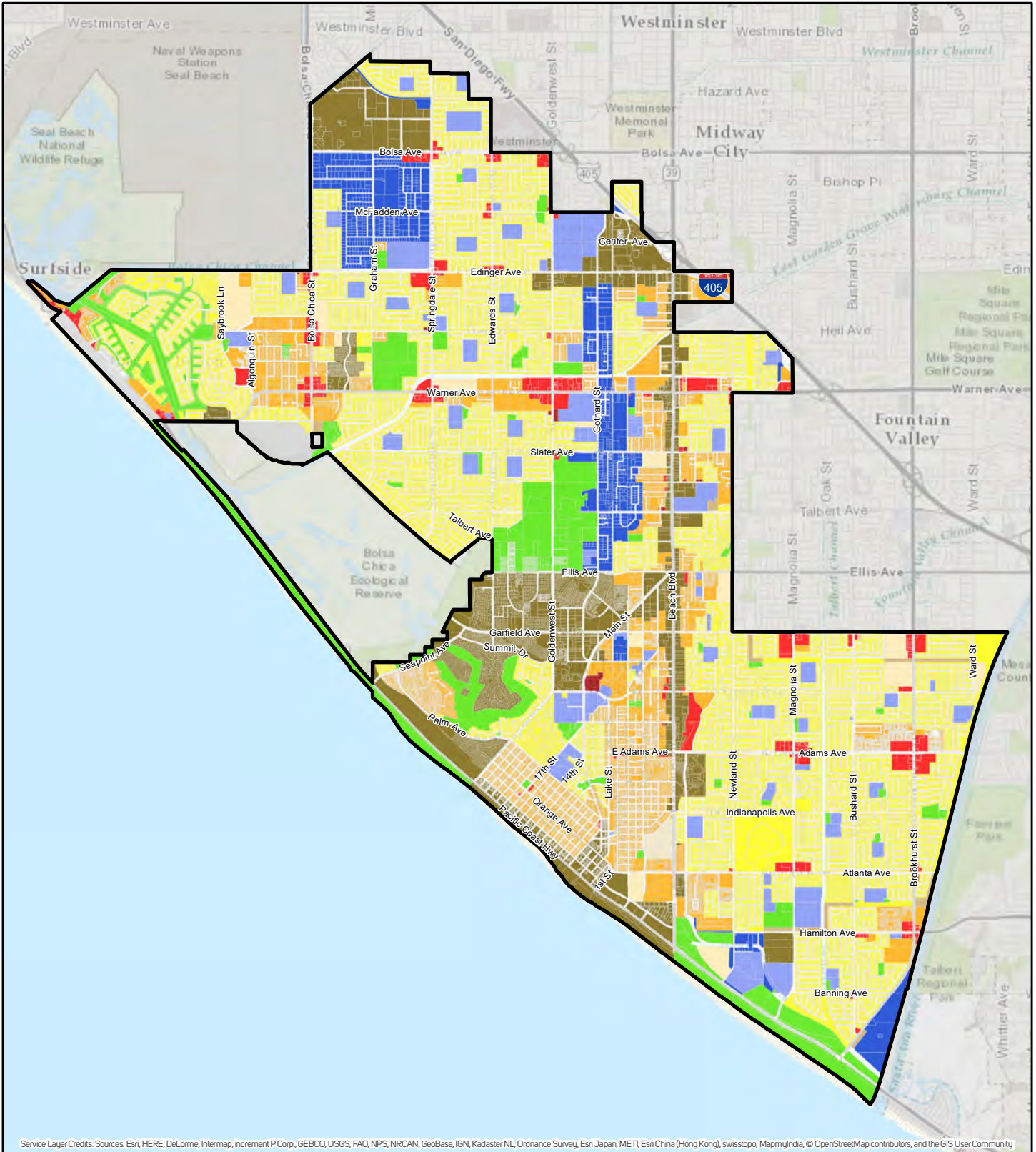


Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

- | | | |
|--|---|--|
| RL Residential Low Density | CV Commercial | PS Public-Semipublic |
| RM Residential Medium Density | CG Commercial General | OS-PR Open Space-Parks and Recreation Subdistrict |
| RMH Residential Medium High Density | CO Commercial Office | OS-S Shoreline Subdistrict |
| RMH-A Medium High Density Residential Subdistrict | IG Industrial General | OS-WR Water Recreation Subdistrict |
| RH Residential High Density | IL Industrial Limited | SP Specific Plan Designations |
| RA Residential Agricultural | MU-TC Mixed Use-Transit Center District | (Q)- Qualified Classification |
| RMP Manufactured Home Park | CC Coastal Conservation | |

Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Zoning Codes in City of Huntington Beach (2016 SCAG Zoning Land Use Codes)

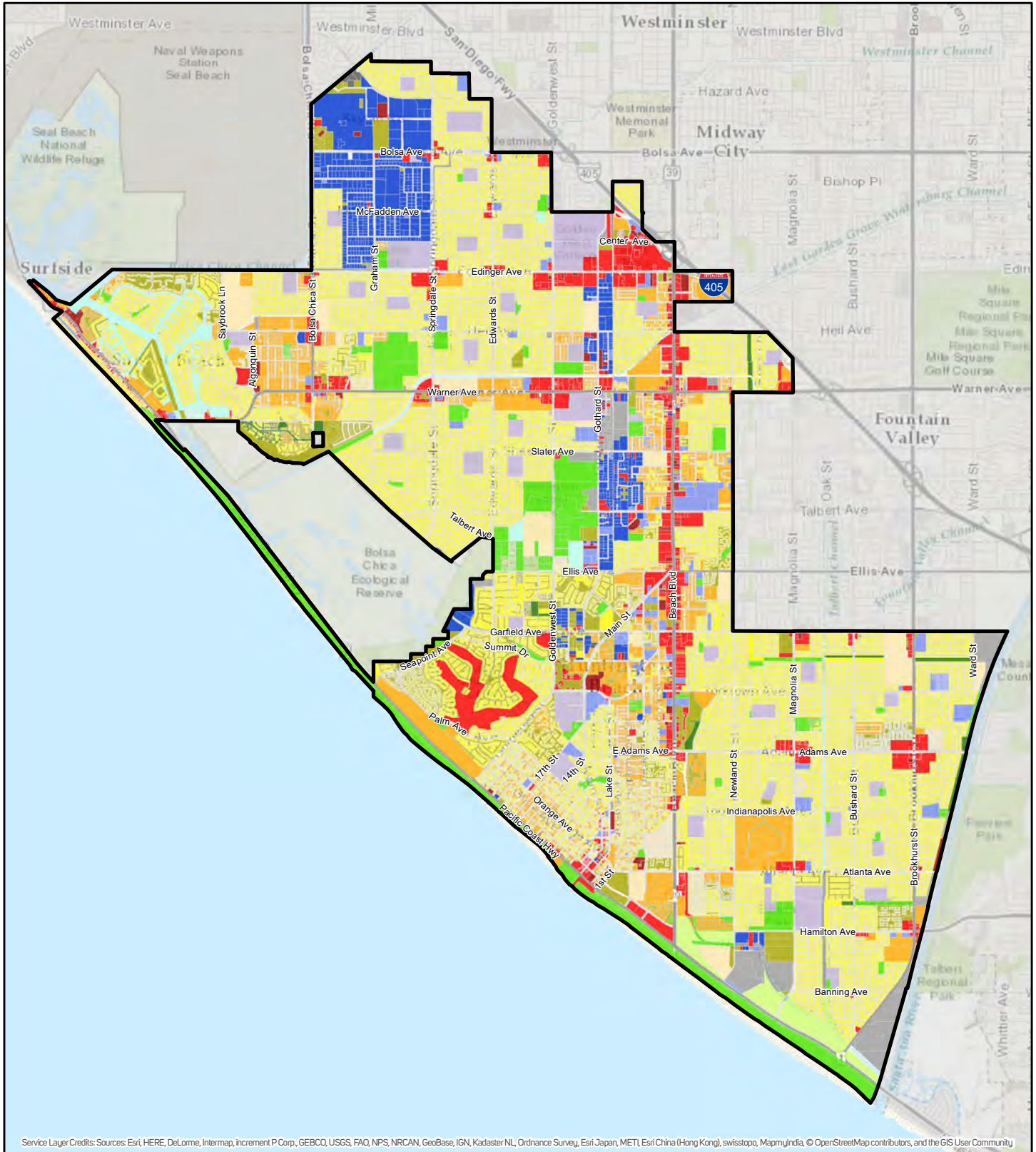


Single Family Residential	Facilities	Open Space and Recreation
Multi-Family Residential	Education	Agriculture
Mobile Homes and Trailer Parks	Military Installations	Vacant
Mixed Residential	Industrial	Water
Rural Residential	Transportation, Communications, and Utilities	Specific Plan
General Office	Mixed Commercial and Industrial	Undevelopable
Commercial and Services	Mixed Residential and Commercial	Unknown

Source: City of Huntington Beach, SCAG, 2017
 P:\DataMap_Guide\RTP_2020\mxds\Zoning\ZN_Portrait.mxd | Date: 10/24/2017

Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

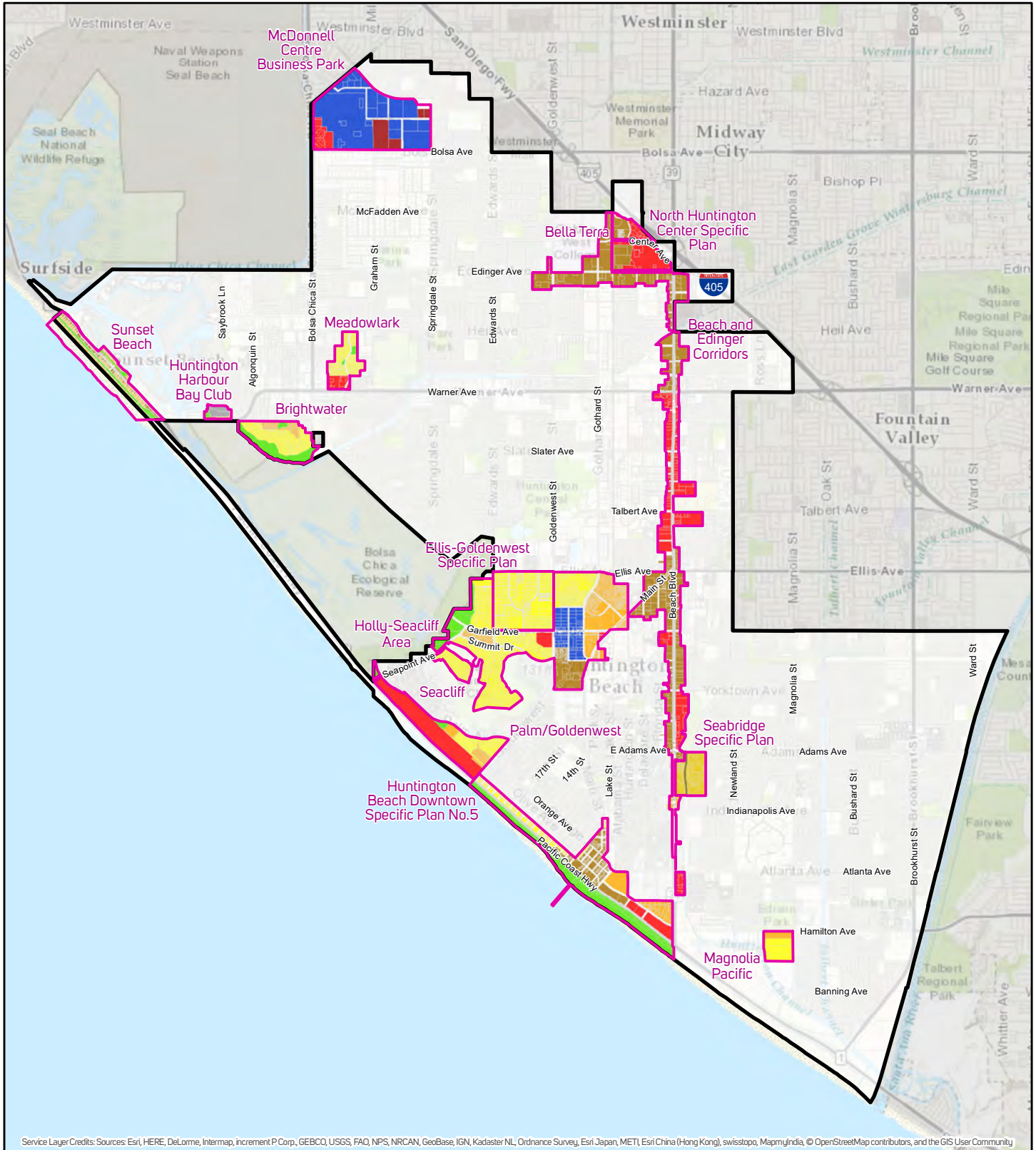
Existing Land Use in City of Huntington Beach (2016 SCAG Existing Land Use Codes)



Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

- | | | |
|--------------------------------|---|---------------------------|
| Single Family Residential | Facilities | Open Space and Recreation |
| Multi-Family Residential | Education | Agriculture |
| Mobile Homes and Trailer Parks | Military Installations | Vacant |
| Mixed Residential | Industrial | Water |
| Rural Residential | Transportation, Communications, and Utilities | Specific Plan |
| General Office | Mixed Commercial and Industrial | Under Construction |
| Commercial and Services | Mixed Residential and Commercial | Undevelopable |

Specific Plan Land Use in City of Huntington Beach (2016 SCAG Specific Plan Land Use Codes)

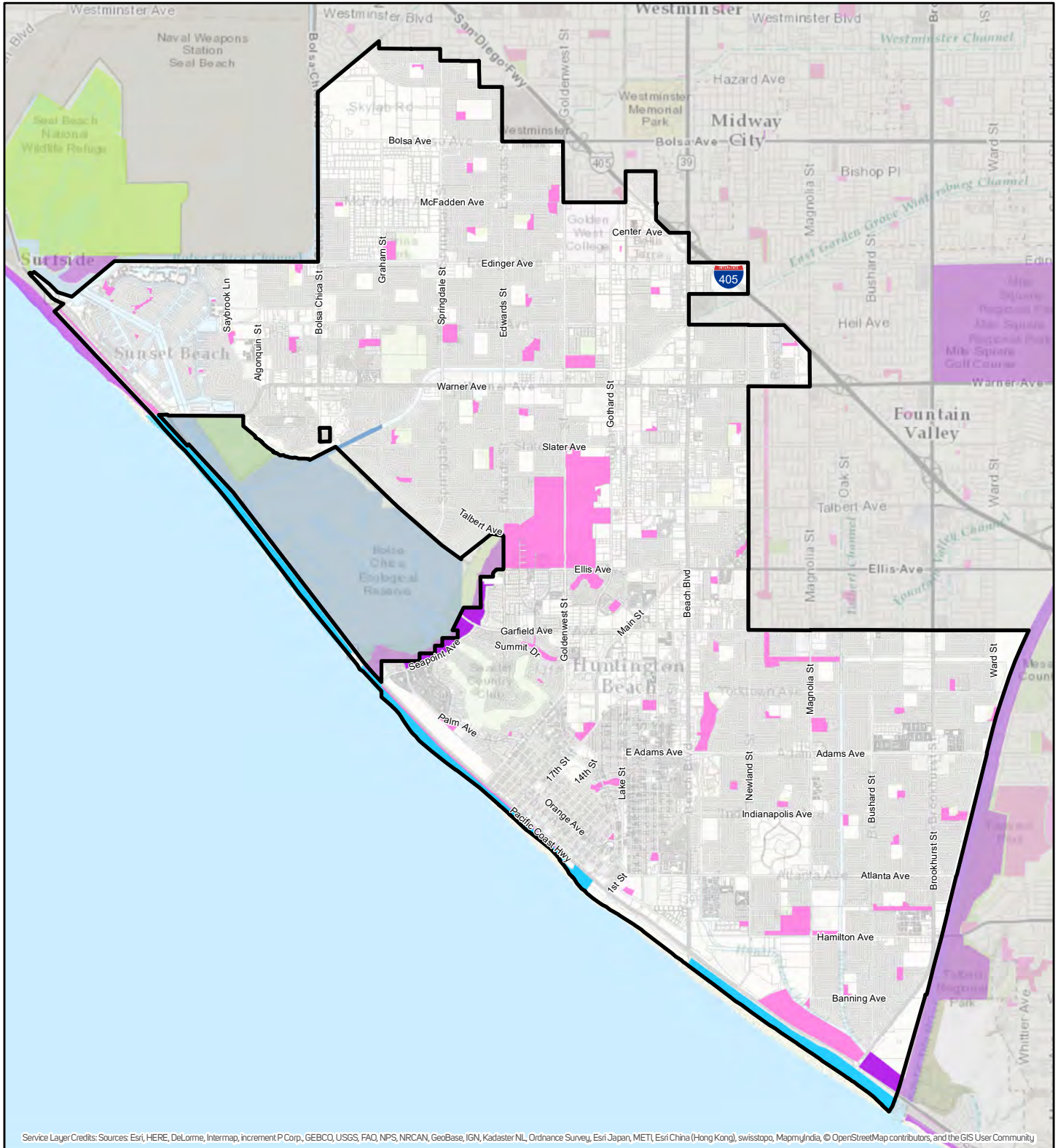


Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

Single Family Residential	Facilities	Open Space and Recreation
Multi-Family Residential	Education	Agriculture
Mobile Homes and Trailer Parks	Military Installations	Vacant
Mixed Residential	Industrial	Water
Rural Residential	Transportation, Communications, and Utilities	Specific Plan
General Office	Mixed Commercial and Industrial	Undevelopable
Commercial and Services	Mixed Residential and Commercial	Unknown

Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Protected Open Space in City of Huntington Beach

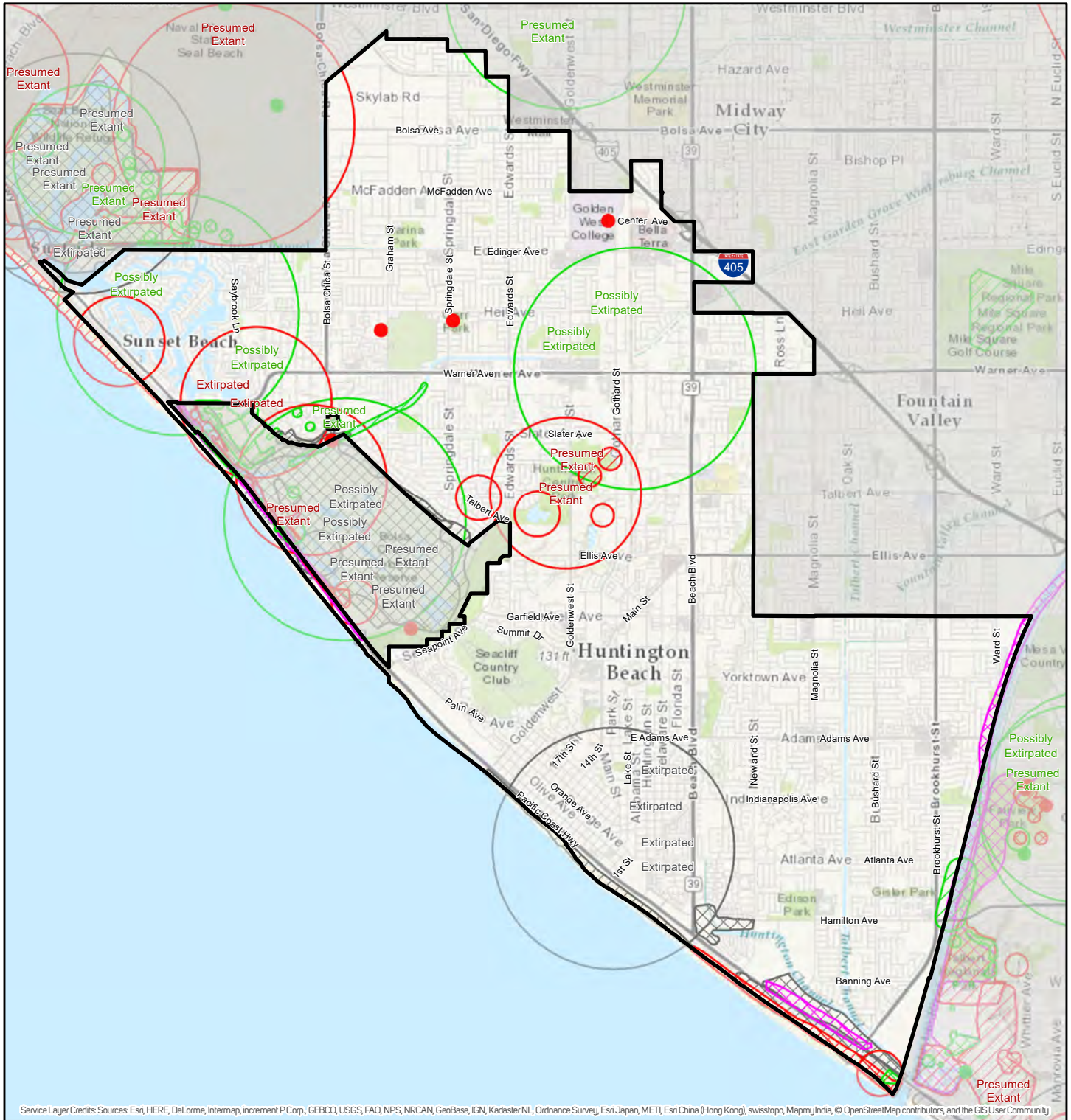


- | | | |
|--|---|--|
| US Forest Service | California Department of Parks and Recreation | Non Governmental Organization |
| US Bureau of Land Management | California Department of Fish and Wildlife | Special District |
| National Park Service | Other State | US Military/Defense |
| US Fish and Wildlife Service | County | Private |
| Other Federal | City | |

The lands in CPAD range from huge national forests to very small urban parks. Federal, state, county, city, special district and non-governmental agency holdings are included in this map. Please note private owners are not currently included in CPAD, except only a few of California's HOA parks.

Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Known Sightings of Endangered, Threatened, and Rare Plant and Animal Species in City of Huntington Beach

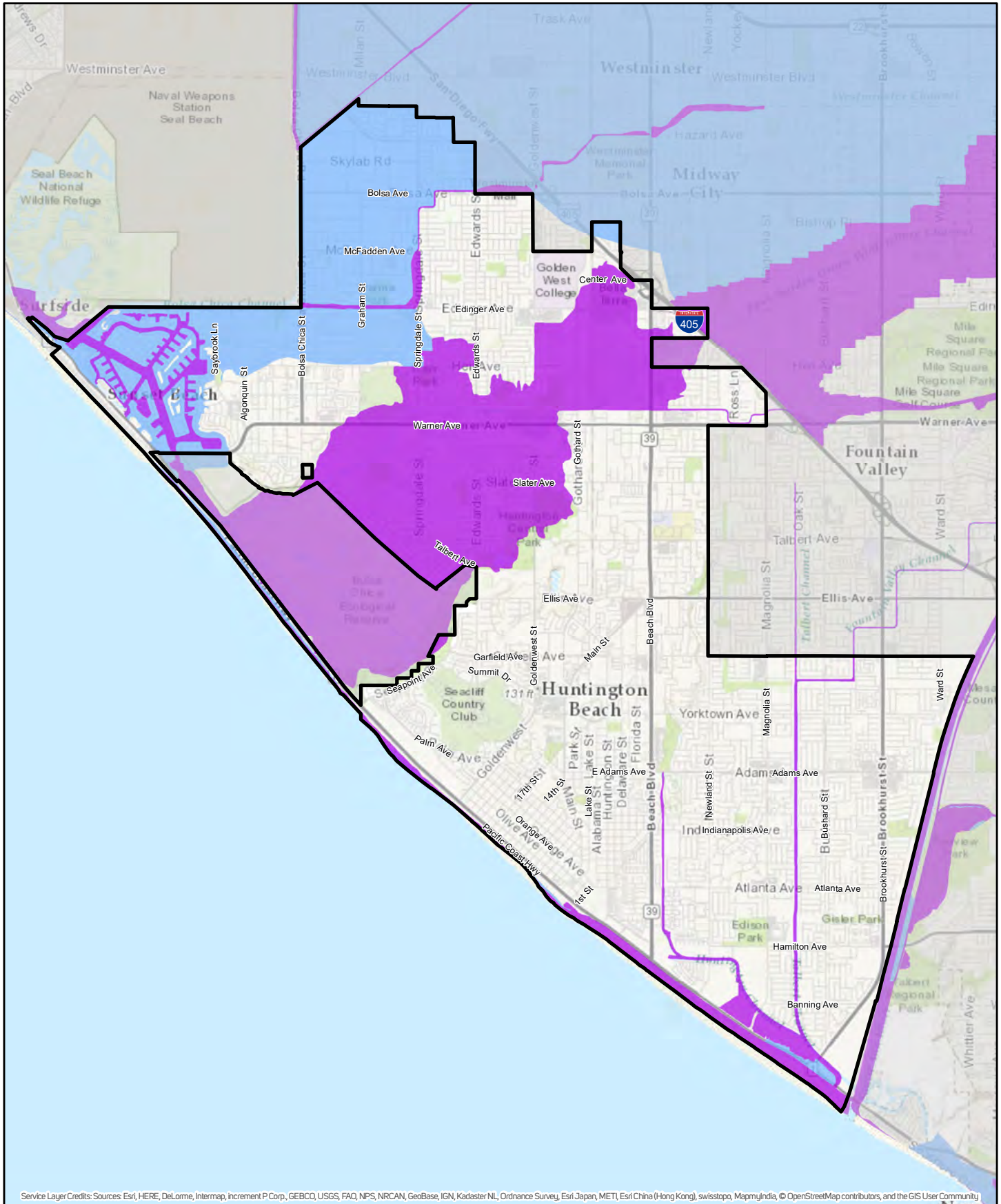


	Plant (80m)		Animal (specific)		Terrestrial Comm. (non-specific)		Aquatic Comm. (circular)
	Plant (specific)		Animal (non-specific)		Terrestrial Comm. (circular)		Multiple (80m)
	Plant (non-specific)		Animal (circular)		Aquatic Comm. (80m)		Multiple (specific)
	Plant (circular)		Terrestrial Comm. (80m)		Aquatic Comm. (specific)		Multiple (non-specific)
	Animal (80m)		Terrestrial Comm. (specific)		Aquatic Comm. (non-specific)		Multiple (circular)

The California Natural Diversity Database (CNDDDB) is a library of the location and condition of species of rare and sensitive plants, animals, and natural communities in California. The dataset shown on the map is based on the combination of the three data fields in CNDDDB; element type, accuracy and element occurrence count.

Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

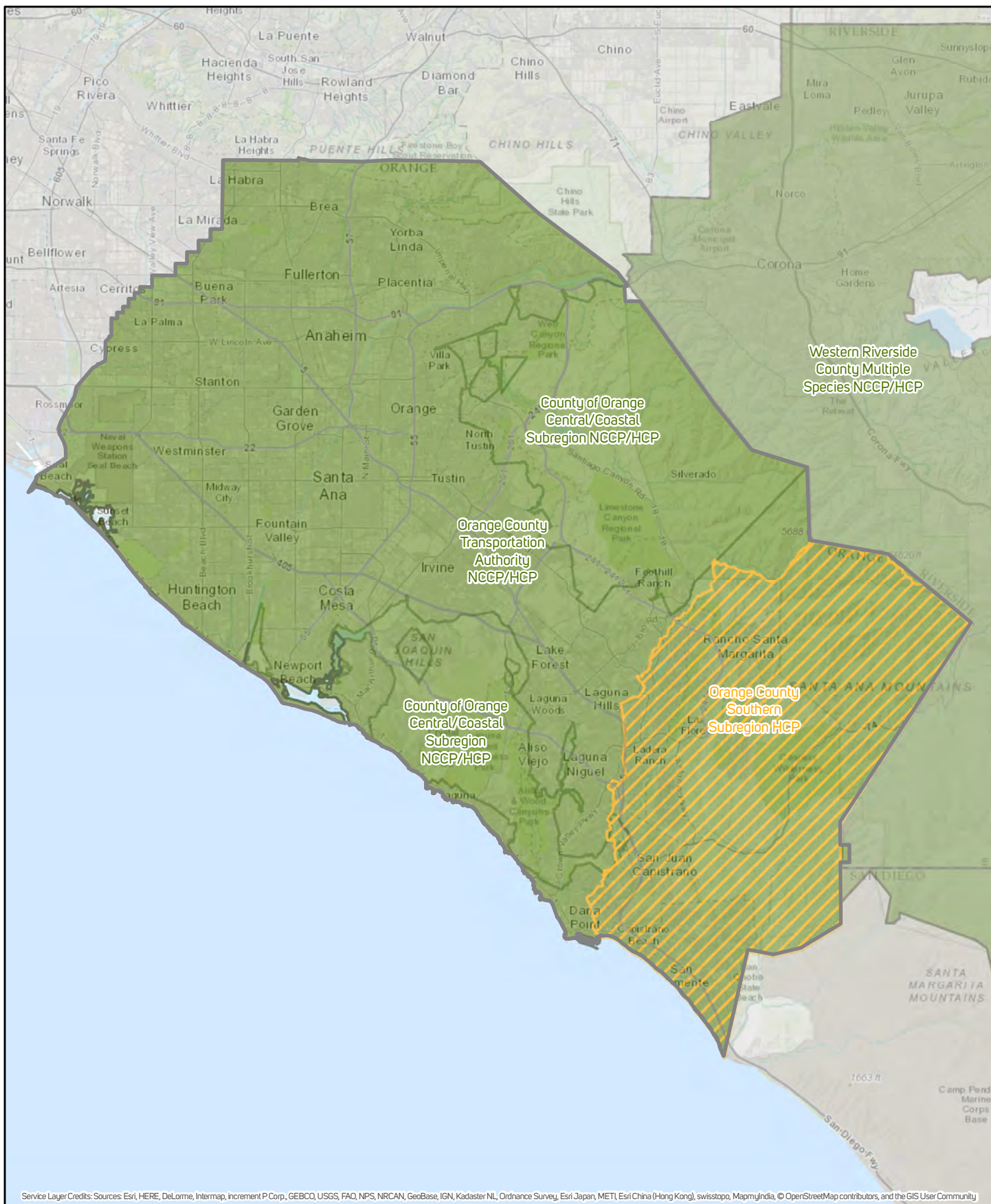
Federally Designated Flood Hazard Zones in City of Huntington Beach



Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

100-year Flood Hazard Zone
 500-year Flood Hazard Zone

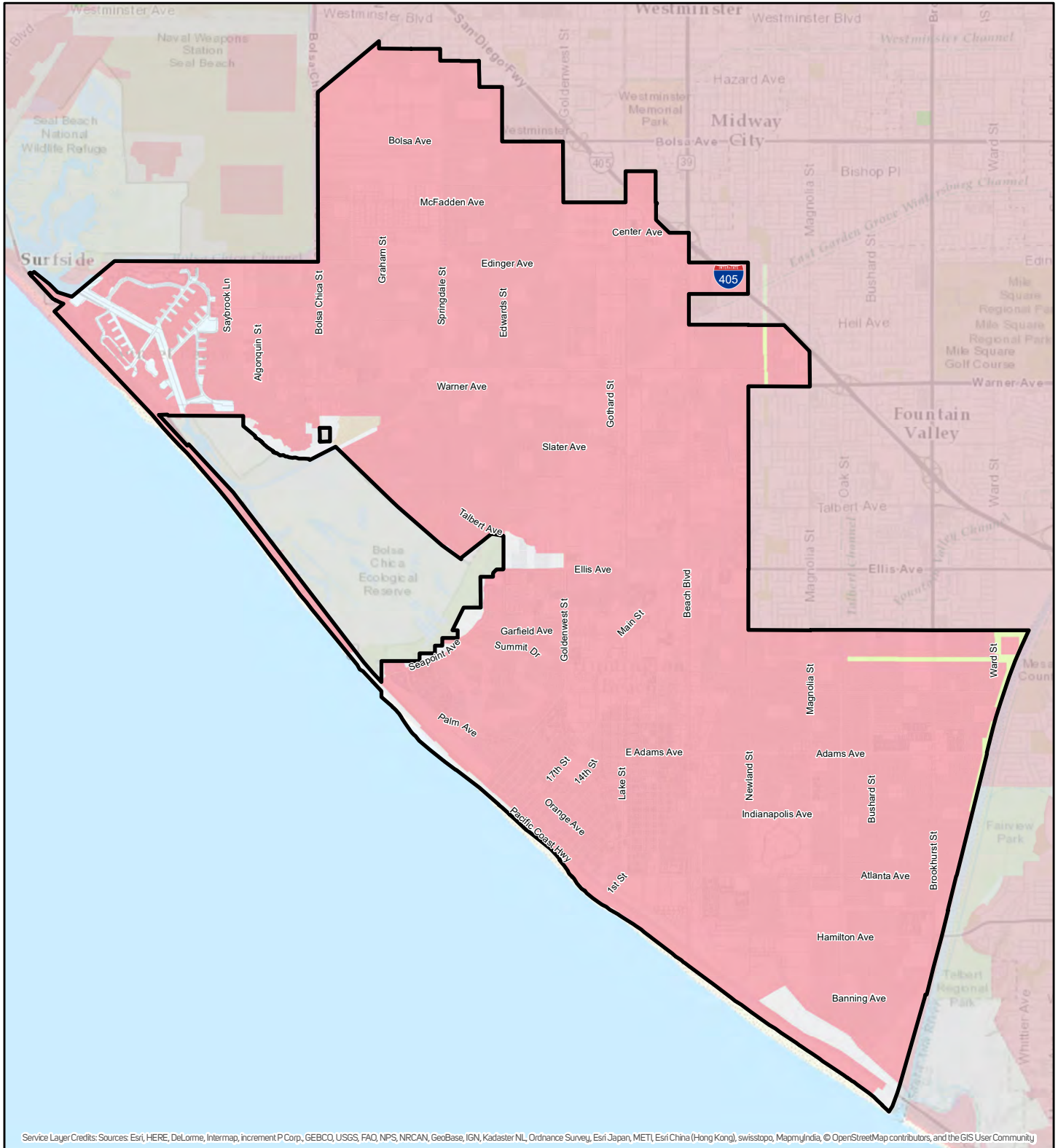
Natural Community & Habitat Conservation Plans (NCCP & HCP) in Orange County



Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

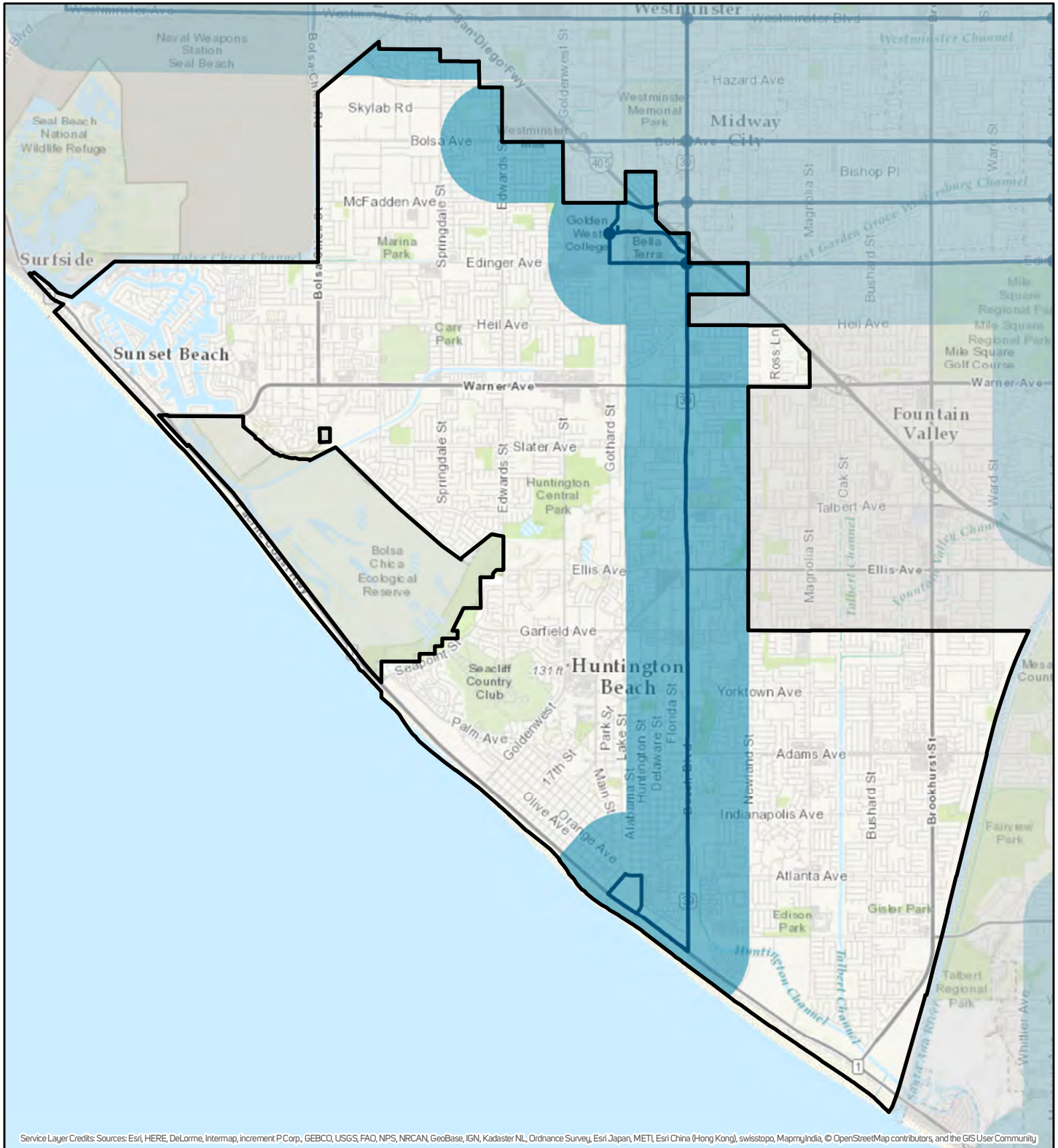
County Boundary
 Natural Community & Habitat Conservation Plans
 Habitat Conservation Plans

Farmland in City of Huntington Beach



- | | | |
|----------------------------------|---|-------------------------|
| Prime Farmland | Other Land | Urban and Built-Up Land |
| Farmland of Statewide Importance | Confined Animal Agriculture | Water Area |
| Unique Farmland | Nonagricultural or Natural Vegetation | Irrigated Farmland |
| Grazing Land | Vacant or Disturbed Land | Nonirrigated Farmland |
| Farmland of Local Importance | Rural Residential Land | |
| Farmland of Local Potential | Semi-agricultural and Rural Commercial Land | |

Major Transit Stops and High Quality Transit Corridors in City of Huntington Beach [Year 2040]



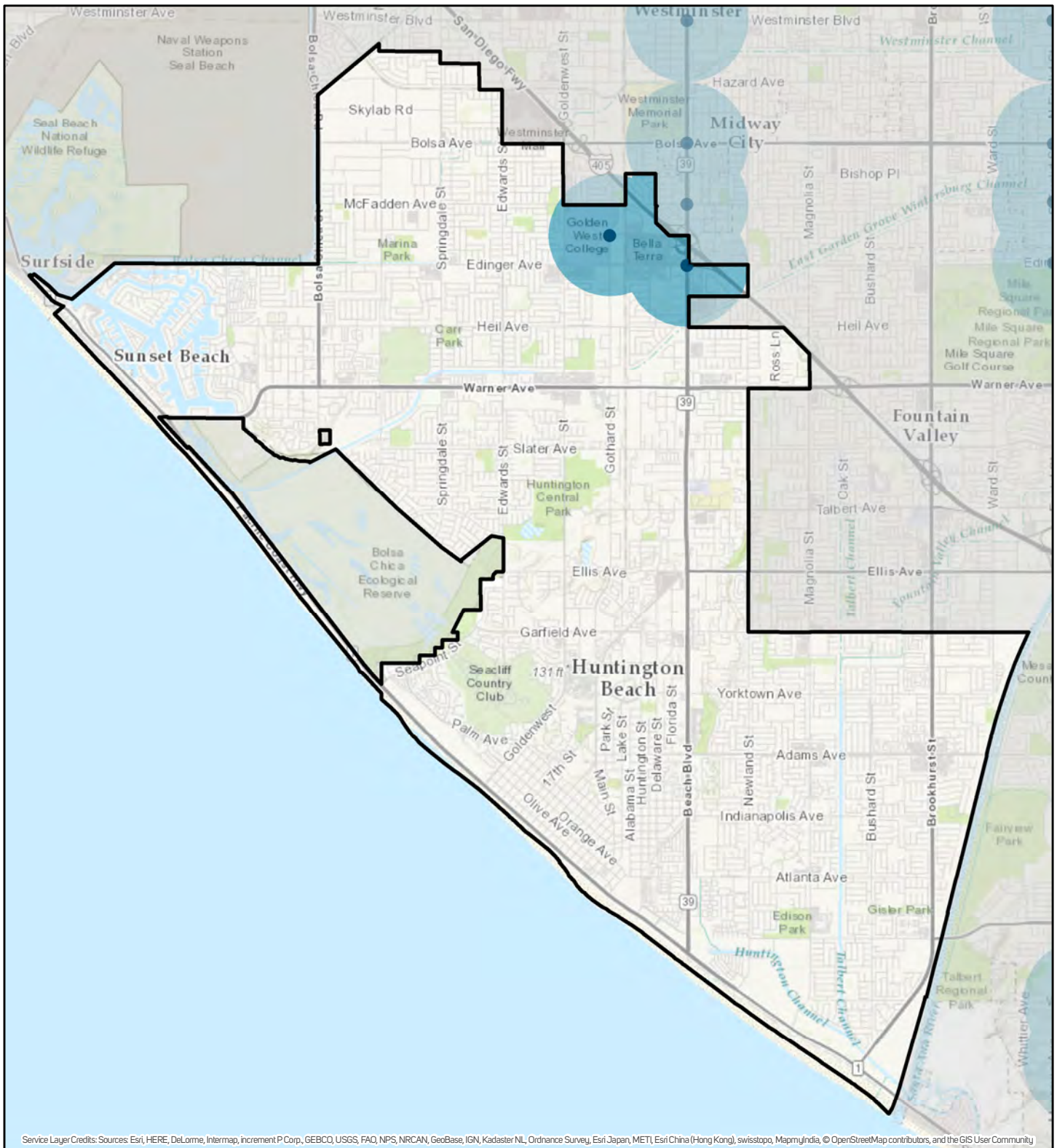
Service Layer Credits: Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User Community

- Major Transit Stops
- High Quality Transit Corridors (HQTCs)
- High Quality Transit Areas (HQTAs)

Note: To assist in identifying transit priority project areas, SCAG identifies Major Transit Stops and High Quality Transit Corridors (HQTCs), and their surrounding areas in one-half mile radius distance, as specified in Section 21155.(b)(3). Major transit stops and HQTCs are extracted from 2040 plan year data of the 2016-2040 RTP/SCS Amendment 2 and modified by inputs from transit operators and local jurisdictions. SCAG's High Quality Transit Area (HQTA) is within one-half mile from Major Transit Stops and HQTCs and developed based on the language in SB375. Please note that this map may undergo changes as SCAG continues to update its transportation network as part of the 2020 RTP/SCS development process and SCAG shall not be responsible for local jurisdiction's use of this map. Updates to this information will be forthcoming as information becomes available.

Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Major Transit Stops and Transit Priority Areas in City of Huntington Beach [Year 2040]



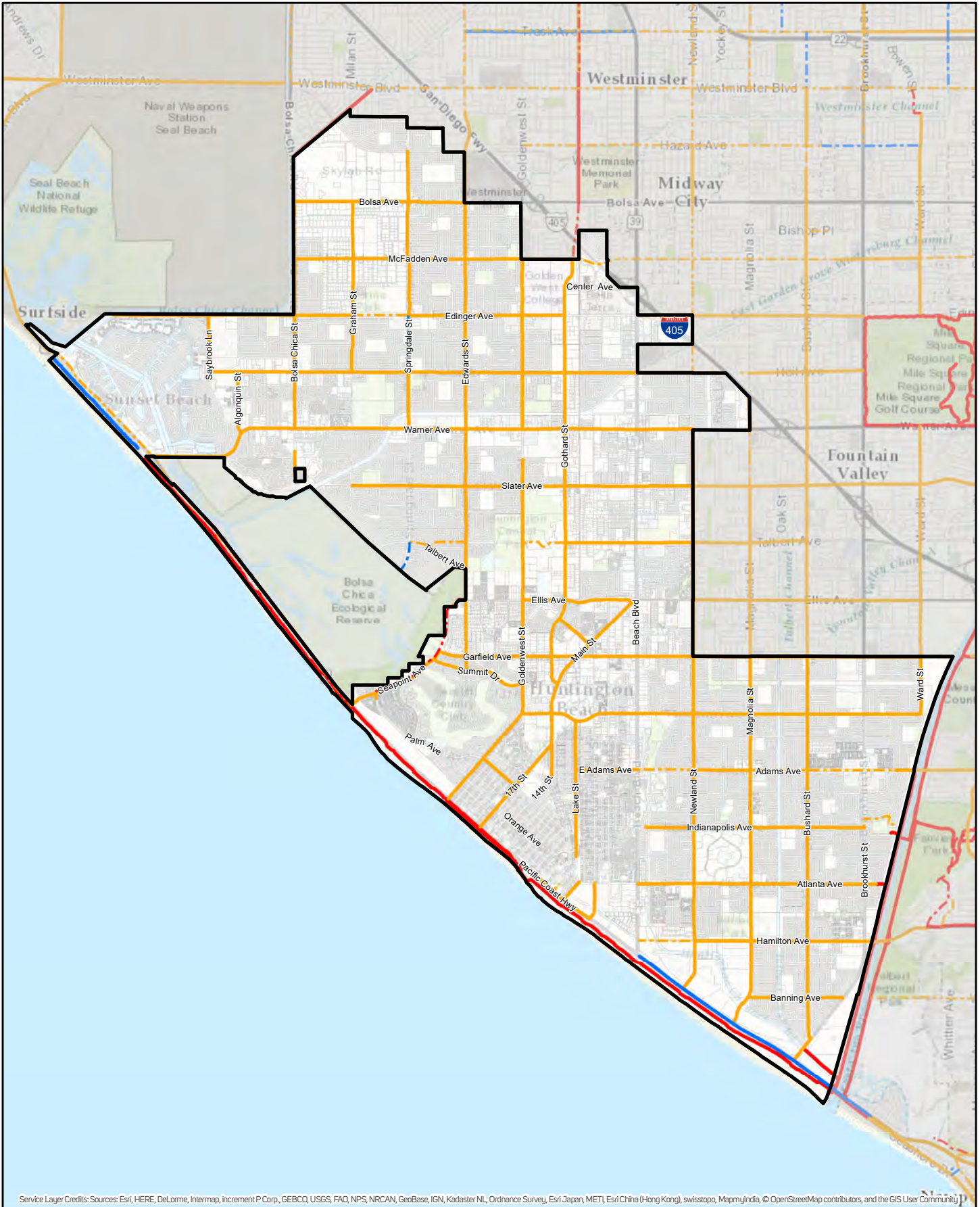
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- Major Transit Stops
- Transit Priority Areas (Areas within One-Half Mile from Major Transit Stops)

Note: As defined in SB 743, "Transit priority area" means an area within one-half mile of a major transit stop that is existing or planned, if the planned stop is scheduled to be completed within the planning horizon included in a Transportation Improvement Program adopted pursuant to Section 450.216 or 450.322 of Title 23 of the Code of Federal Regulations. Major transit stops are extracted from 2040 plan year data of the 2016-2040 RTP/SCS Amendment 2 and modified by inputs from transit operators and local jurisdictions. Please note that this map may undergo changes as SCAG continues to update its transportation network as part of the 2020 RTP/SCS development process and SCAG shall not be responsible for local jurisdiction's use of this map. Updates to this information will be forthcoming as information becomes available.

Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Bikeways in City of Huntington Beach (Existing and Proposed/Planned)



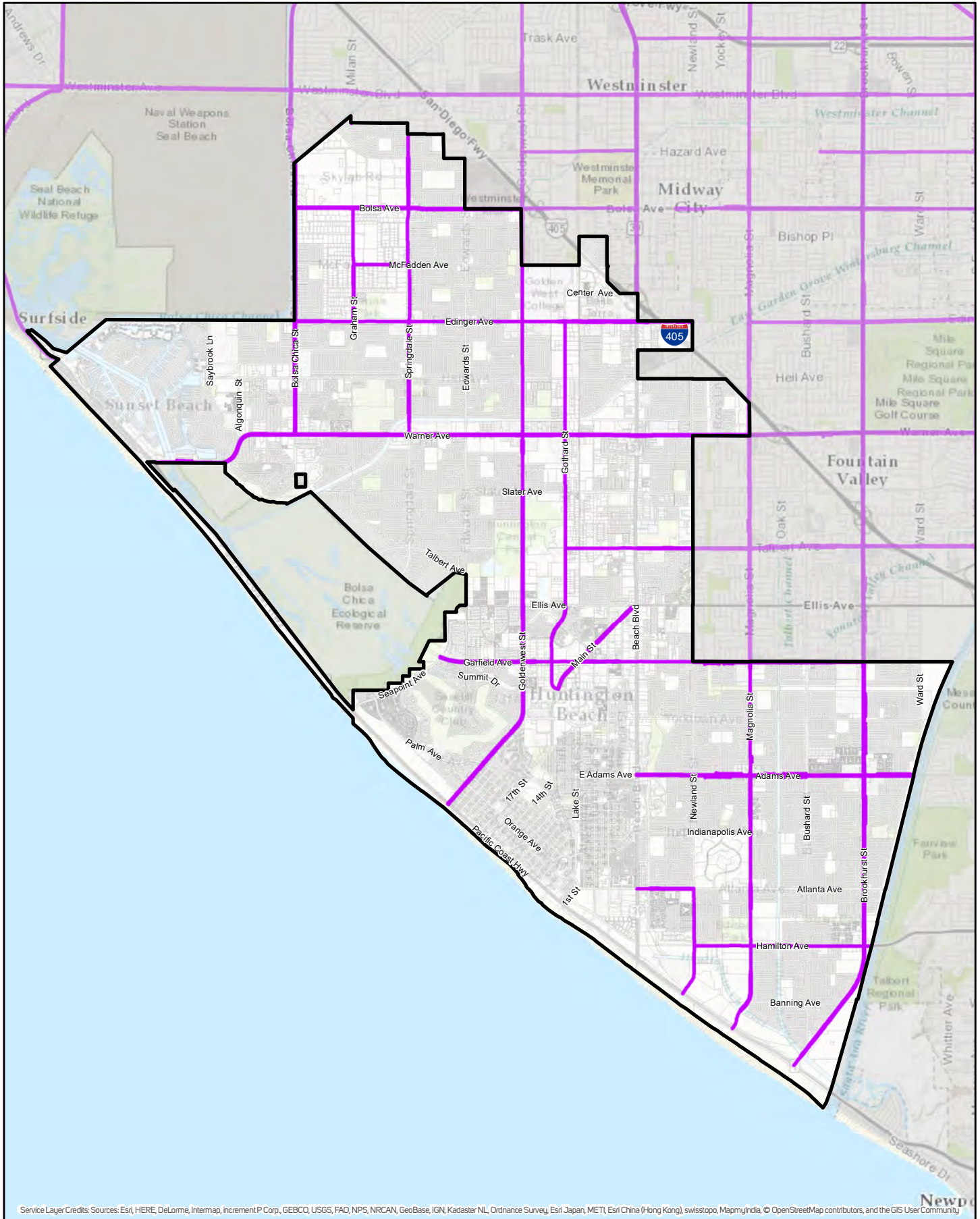
Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Existing Bikeways

Proposed/Planned Bikeways

- ↗↘ Class I
- ↗↘ Class II
- ↗↘ Class III
- ↗↘ Class IV
- - - Class I
- - - Class II
- - - Class III
- - - Class IV

Truck Routes in City of Huntington Beach

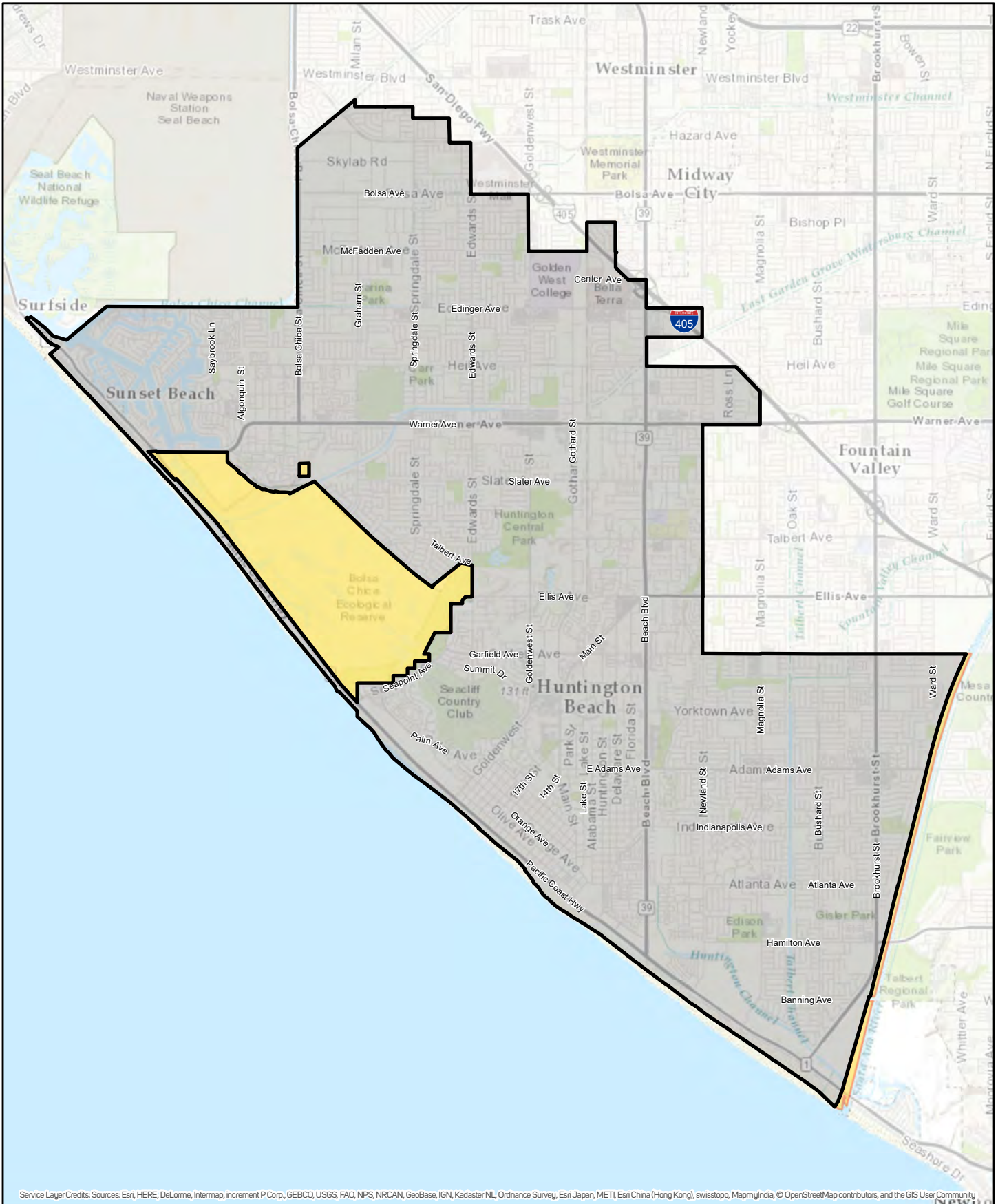


Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

 City Boundary

 Truck Routes

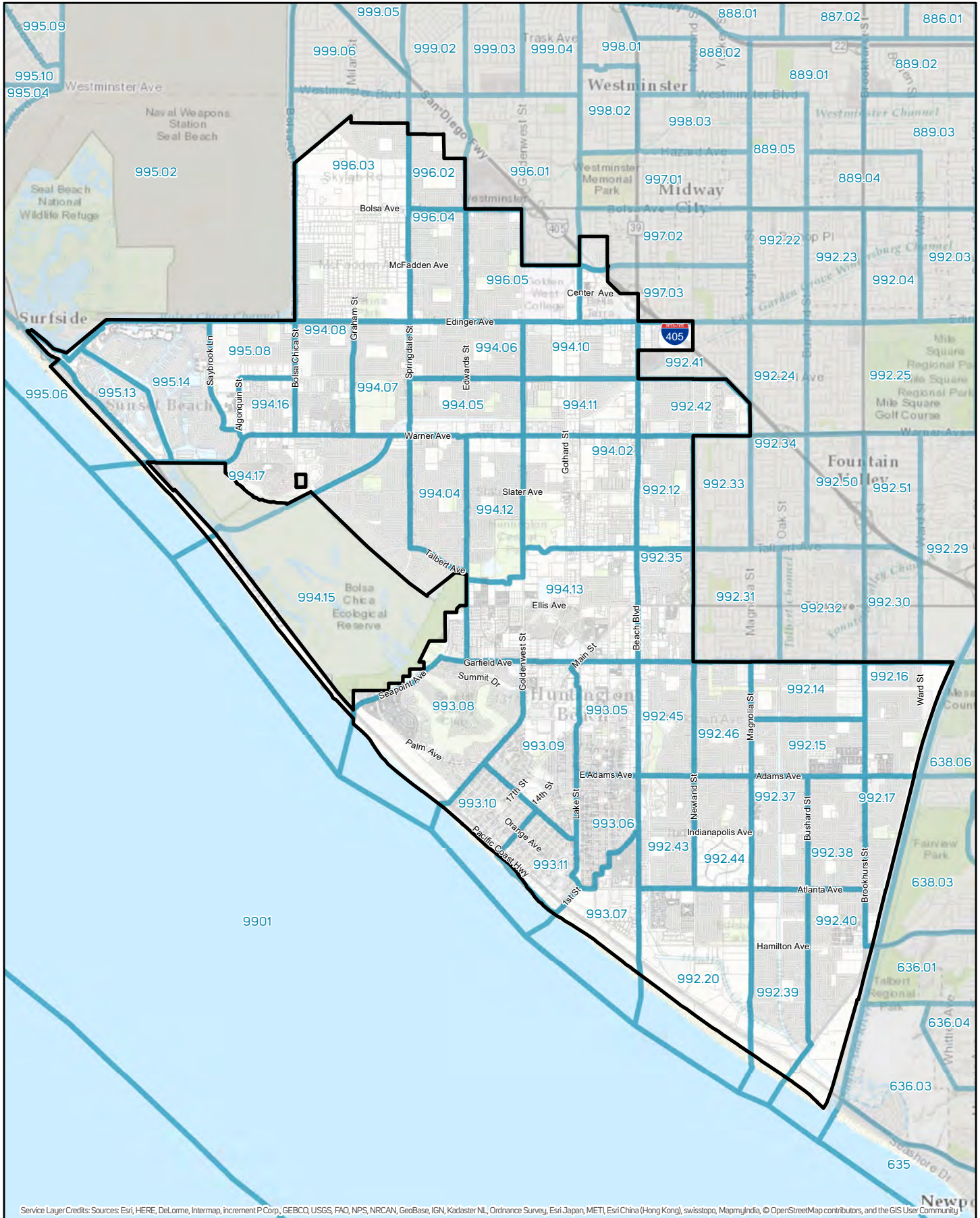
2016 City Boundary and Sphere of Influence for City of Huntington Beach



Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

City Boundary
 Sphere of Influence

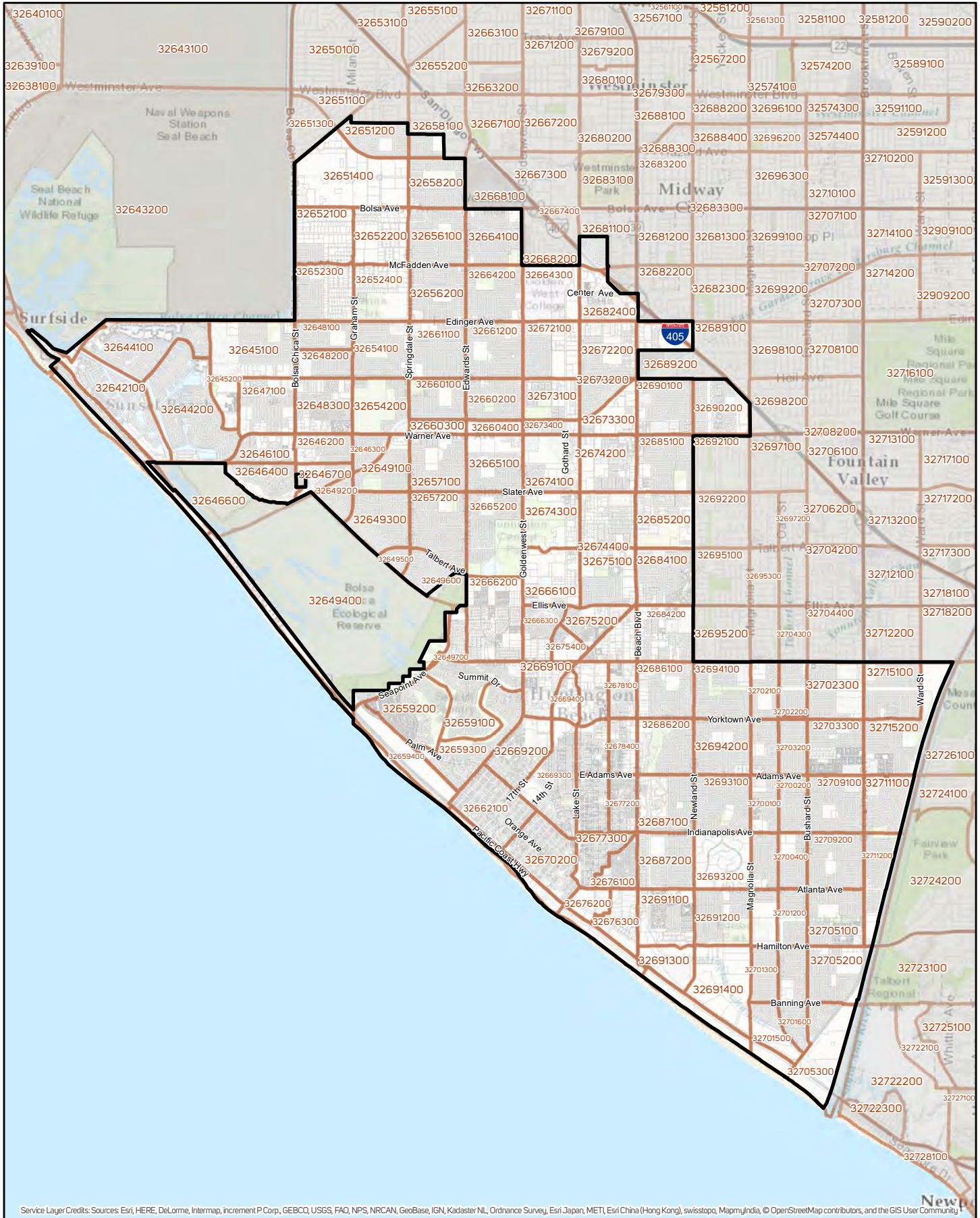
Census Tracts in City of Huntington Beach



Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

City Boundary
 2010 Census Tracts

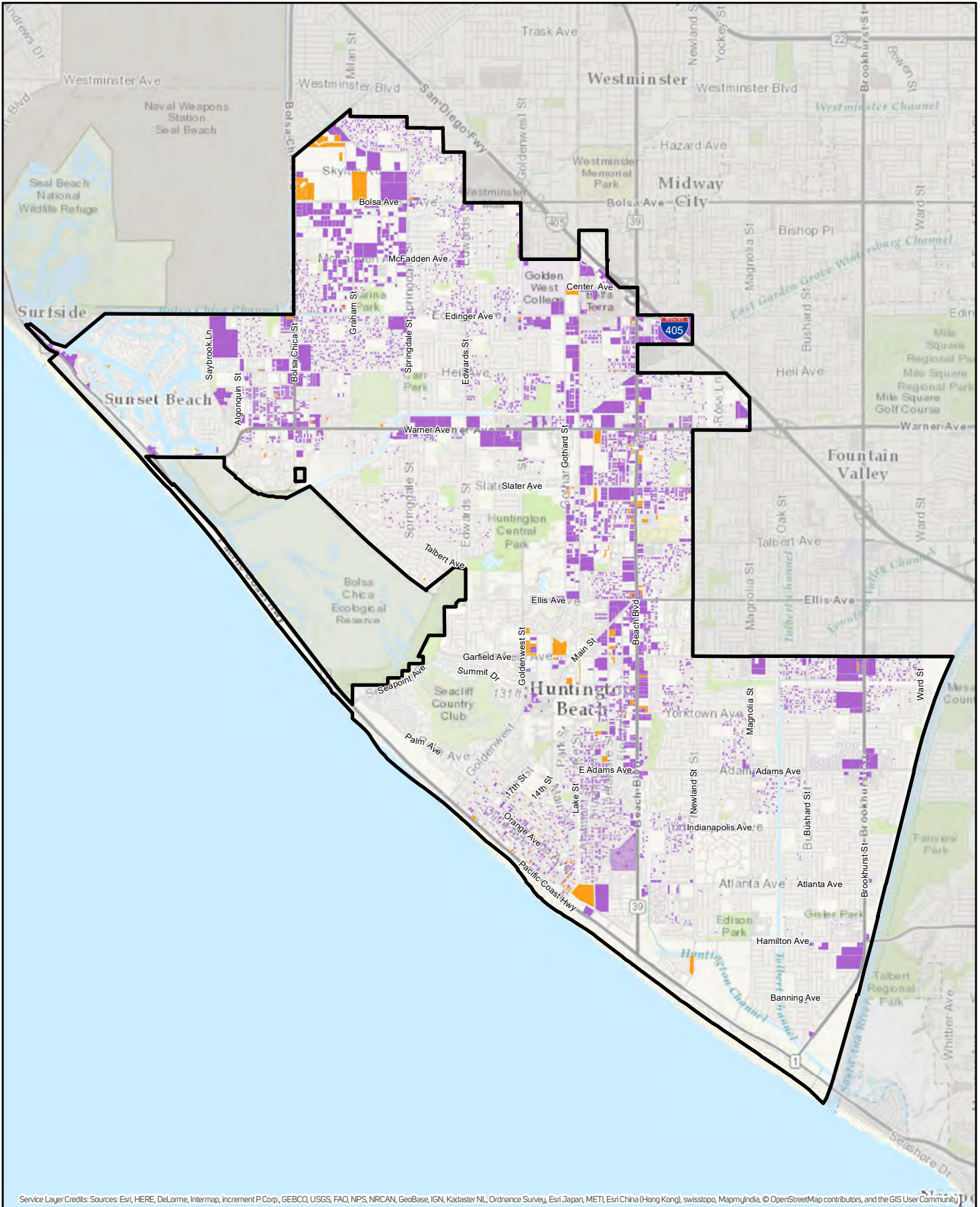
Transportation Analysis Zones in City of Huntington Beach



Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

City Boundary
 Transportation Analysis Zones (TAZ)

Potential Infill Parcels in City of Huntington Beach



Attachment: Attachment No. 20 - SCAG Data Map Book (Appeal of the Draft Allocation for the City of Huntington Beach)

Potential Infill Parcels

- Vacant Parcels
- Refill Parcels

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CALIFORNIA COASTAL COMMISSION SEA LEVEL RISE POLICY GUIDANCE

Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits



Sunset Beach, Photo by Mario Fernandez



Chula Vista, Photo by Lisa Cox



San Francisco, Photo by Mike Baird



Arcata, Photo by Humboldt Baykeeper

Original Guidance unanimously adopted – August 12, 2015
Science Update unanimously adopted – November 7, 2018

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The **original** *California Coastal Commission Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits* was unanimously adopted by the California Coastal Commission on August 12, 2015.

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A **Science Update** to the *California Coastal Commission Sea Level Rise Policy Guidance: Interpretive Guidelines for Addressing Sea Level Rise in Local Coastal Programs and Coastal Development Permits* was unanimously adopted by the California Coastal Commission on November 7, 2018.

Commissioners

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This report was prepared with financial assistance from the National Oceanic and Atmospheric Administration under the Coastal Zone Management Act Section 309 Enhancement Grant Program

SUMMARY OF DOCUMENT REVISIONS

A first draft of this Guidance was released for public review on October 14, 2013. The public comment period was open for 120 days, until February 14, 2014. During that time, the Commission received over 100 comment letters that broke down into over 800 distinct comments. A revised draft was released on May 27, 2015 and presented at the June 2015 Coastal Commission hearing in Newport Beach. Written comments were requested by July 10, 2015, and 28 comment letters were submitted.

On August 12, 2015 the Commission adopted the Recommended Final Draft (dated July 31, 2015 and updated with addenda August 10, 2015) as interpretive guidelines pursuant to Public Resources Code section 30620. The final draft has been posted on the Commission's website and used by the Commission, local governments, project applicants, and other stakeholders since its adoption.

Science-focused updates have now been developed to address evolving science. Acting on direction from Governor Brown, the Ocean Protection Council has released two reports that update our understanding of sea level rise science and best practices for planning for and addressing anticipated impacts. The first of these reports, *Rising Seas in California: An Update on Sea-Level Rise Science*, synthesizes recent evolving research on sea level rise science, and forms the foundation for the second report, the *State of California Sea-Level Rise Guidance: 2018 Update*. The 2018 OPC SLR Guidance provides higher level recommendations for how to plan for and address sea level rise impacts, notably including a set of projections recommended for use in planning, permitting, investment, and other decisions.

In order to reflect the updated best available science, a set of focused updates for the Coastal Commission SLR Policy Guidance have been developed. These include:

- *References to best available science throughout the document, including SLR projection tables, which formerly referenced the 2012 NRC Report, have been updated to reference the 2018 OPC SLR Guidance.*
- *Sections of the Guidance that provided extensive details about the NRC report and/or how to use the information provided within the NRC report (mainly in Chapters 3, 5, and 6 and Appendices A and B) have been removed. In their place, summaries of the Rising Seas science report (2017) and the 2018 OPC SLR Guidance have been added (Chapters 3, 5, and 6, and Appendices A, B, and G).*
- *Some updates have been made to tables of resources meant to assist interested parties in addressing sea level rise (e.g., SLR mapping and modeling tools, grant funding sources, and agency and other stakeholder guidance). However, these tables have not been exhaustively updated, and additional resources may be available.*

On November 7, 2018, the Commission unanimously adopted the Draft Science Update to the Coastal Commission Sea Level Rise Policy Guidance.

How to Use this Document

This document is:	This document is <u>NOT</u> :
Guidance	Regulations
<p><i>This Guidance is advisory and not a regulatory document or legal standard of review for the actions that the Commission or local governments may take under the Coastal Act. Such actions are subject to the applicable requirements of the Coastal Act, the federal Coastal Zone Management Act, certified Local Coastal Programs, and other applicable laws and regulations as applied in the context of the evidence in the record for that action.</i></p>	
Dynamic	Static
<p><i>This Guidance will be updated periodically to address new sea level rise science, information, and approaches regarding sea level rise adaptation, and new legal precedent. The Commission will also continue working on sea level rise through other projects and in a collaborative manner, as outlined in Chapter 9: Next Steps.</i></p>	
Multi-purpose for multiple audiences	Meant to be read cover-to-cover
<p><i>This Guidance is a comprehensive, multi-purpose resource and it is intended to be useful for many audiences. As such, it includes a high level of detail on many subjects. However, chapters were written as stand-alone documents to provide usable tools for readers.</i></p>	
A menu of options	A checklist
<p><i>Since this document is intended for use statewide, it is not specific to a particular geographic location or development intensity (e.g., urban or rural locations). Therefore, not all of the content will be applicable to all users, and readers should view the content as a menu of options to use only if relevant, rather than a checklist of required actions.</i></p>	

Reading Tips

- Look carefully at the Table of Contents and identify sections of interest.
- Do not expect all of the content to apply to your particular situation. As a statewide document, a wide variety of information is included to address the concerns of various users.
- Navigate to your desired level of detail: The *Executive Summary* provides a basic summary of the content; the body of the document provides a detailed discussion; and the *Appendices* provide more scientific and technical detail and a variety of useful resources.

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Commonly Used Acronyms and Agency Names

Terms:

CCT – California Coastal Trail

CDP – Coastal Development Permit

CoSMoS – Coastal Storm Modeling System

ENSO – El Niño Southern Oscillation

ESHA – Environmentally Sensitive Habitat Area

GHG – Greenhouse gas

IPCC – Intergovernmental Panel on Climate Change

LCP – Local Coastal Program

LUP – Land Use Plan

NRC Report – National Research Council Report “*Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future*”

PDO – Pacific Decadal Oscillation

SLR – Sea level rise

TNC – The Nature Conservancy

Agency Names:

BCDC – San Francisco Bay Conservation and Development Commission

BOEM – Bureau of Ocean Energy Management

BSEE – Bureau of Safety and Environmental Enforcement

Cal OES – California Governor’s Office of Emergency Services

Caltrans – California Department of Transportation

CCC/Commission – California Coastal Commission

CDFW – California Department of Fish and Wildlife

CNRA – California Natural Resources Agency

CO-CAT – Coast and Oceans Climate Action Team

Conservancy – California State Coastal Conservancy

EPA – Environmental Protection Agency

FEMA – Federal Emergency Management Agency

NERR – National Estuarine Research Reserve

NMS – National Marine Sanctuary

NOAA – National Oceanic and Atmospheric Administration

NPS – National Park Service

OPC – California Ocean Protection Council

OPR – California Governor’s Office of Planning and Research

State Lands – California State Lands Commission

State Parks – California Department of Parks and Recreation

SWRCB – State Water Resources Control Board

USACE – United States Army Corps of Engineers

USFWS – United States Fish and Wildlife Service

USGS – United States Geological Survey



Executive Summary

Climate change is upon us, affecting almost every facet of California’s natural and built environment. Increasing global temperatures are causing significant effects at global, regional, and local scales. In the past century, average global temperature has increased by about 0.8°C (1.4°F), and average global sea level has increased by 7 to 8 in (17 to 21 cm) (IPCC 2013). Sea level at the San Francisco tide gauge has risen 8 in (20 cm) over the past century, and recent reports developed by the California Ocean Protection Council (OPC) (in conjunction with the OPC Science Advisory Team) project that by the year 2100, sea levels may rise by approximately 2.4 to 6.9 feet, with the potential for rapid ice loss to result in an extreme scenario of 10.2 feet of sea level rise (Griggs *et al.*, 2017; OPC 2018). While the California coast regularly experiences erosion, flooding, and significant storm events, sea level rise will exacerbate these natural forces, leading to significant social, environmental, and economic impacts. The [third National Climate Assessment](#) notes that there is strong evidence showing that the cost of doing nothing to prepare for the impacts of sea level rise exceeds the costs associated with adapting to them by about 4 to 10 times (Moser *et al.* 2014). Therefore, it is critically important that California plan and prepare for the impacts of sea level rise to ensure a resilient California coast for present and future generations.

The California Coastal Act is one of the state’s primary coastal management laws for addressing land use, public access and recreation, and the protection of coast and ocean resources in the coastal zone. It is also the primary coastal hazards law governing development along the coast. Using the Coastal Act, the Coastal Commission and local governments have more than four decades of experience managing coastal development, including addressing the challenges presented by coastal hazards like storms, flooding, and erosion as well as responses to these hazards such as armoring. However, sea level rise and the changing climate present management challenges of a new magnitude, with the potential to significantly threaten many coastal resources, including shoreline development, coastal beach access and recreation, habitats, agricultural lands, cultural resources, and scenic resources, all of which are subject to specific protections and regulations in the Coastal Act. Therefore, effective implementation of the Coastal Act and the protection of California’s coast must address global sea level rise and the greater management challenges it will bring.

This document focuses specifically on how to apply the Coastal Act to the challenges presented by sea level rise through Local Coastal Program (LCP) certifications and updates and Coastal Development Permit (CDP) decisions. It organizes current science, technical, and other information and practices into a single resource to facilitate implementation of the Coastal Act by coastal managers at the state and local level. While the document is intended to guide LCP planning and development decisions to ensure effective coastal management actions, it is advisory and does not alter or supersede existing legal requirements, such as the policies of the Coastal Act and certified LCPs. However, one of the Commission’s priority goals is to coordinate with local governments to complete and update LCPs in a manner that adequately addresses sea level rise and reflects the recommendations in this Guidance.

This Guidance document is also part of a larger statewide strategy to respond to climate change that includes both emissions reductions and adaption planning to address the impacts of a changing climate. In 2008, Governor Schwarzenegger issued an Executive Order (S-13-08) directing state agencies to consider sea level rise as part of planning projects and to support the

preparation of the National Research Council report on sea level rise. Additionally, on April 29, 2015, Governor Brown issued an Executive Order (B-30-15) to establish a new greenhouse gas emission reduction target and called for further action on adaptation. This Guidance is also being coordinated with many statewide initiatives to address climate change and sea level rise, including the 2014 [Safeguarding California](#) plan (an update to the 2009 [California Adaptation Strategy](#); CNRA 2009, 2014), the ongoing update to the [General Plan Guidelines](#) (Cal OPR 2015), the 2013 update to the California Governor’s Office of Emergency Services’ (Cal OES) [State Hazard Mitigation Plan](#), and others.¹ Commission staff has also been and will continue to participate in multi-agency partnerships, including the Coast and Ocean Workgroup of the multi-state agency Climate Action Team and the *State Coastal Leadership Group on Sea-Level Rise*. For more detail on these efforts, see the [Introduction](#).

PRINCIPLES FOR ADDRESSING SEA LEVEL RISE IN THE COASTAL ZONE

This Guidance is rooted in certain fundamental guiding principles, many of which derive directly from the requirements of the Coastal Act. These Principles broadly lay out the common ideas and a framework by which sea level rise planning and permitting actions can be assessed, and as such represent the goals to which actions should aspire. Individual actions and outcomes may vary based on a variety of factors, including applicable policies and location- or project-specific factors that may affect feasibility. The Guiding Principles are summarized below and discussed in greater detail in Chapter 2.

Use Science to Guide Decisions [Coastal Act Sections 30006.5; 30335.5]

1. Acknowledge and address sea level rise as necessary in planning and permitting decisions.
2. Use the best available science to determine locally relevant and context-specific sea level rise projections for all stages of planning, project design, and permitting reviews.
3. Recognize scientific uncertainty by using scenario planning and adaptive management techniques.
4. Use a precautionary approach by planning and providing adaptive capacity for the higher end of the range of possible sea level rise.
5. Design adaptation strategies according to local conditions and existing development patterns, in accordance with the Coastal Act.

Minimize Coastal Hazards through Planning and Development Standards [Coastal Act Sections 30253, 30235; 30001, 30001.5]

6. Avoid significant coastal hazard risks to new development where feasible.
7. Minimize hazard risks to new development over the life of authorized structures.

¹ See the Governor’s Office of Planning and Research’s webpage for the [California Climate Change Document](#), which includes a matrix of additional efforts.

8. Minimize coastal hazard risks and resource impacts when making redevelopment decisions.
9. Account for the social and economic needs of the people of the state; assure priority for coastal-dependent and coastal-related development over other development.
10. Ensure that property owners understand and assume the risks, and mitigate the coastal resource impacts, of new development in hazardous areas.

Maximize Protection of Public Access, Recreation, and Sensitive Coastal Resources [Coastal Act Chapter 3 policies]

11. Provide for maximum protection of coastal resources in all coastal planning and regulatory decisions.
12. Maximize natural shoreline values and processes; avoid expansion and minimize the perpetuation of shoreline armoring.
13. Recognize that sea level rise will cause the public trust boundary to move inland. Protect public trust lands and resources, including as sea level rises. New shoreline protective devices should not result in the loss of public trust lands.
14. Address other potential coastal resource impacts (wetlands, habitat, agriculture, scenic, *etc.*) from hazard management decisions, consistent with the Coastal Act.
15. Address the cumulative impacts and regional contexts of planning and permitting decisions.
16. Require mitigation of unavoidable coastal resource impacts related to permitting and shoreline management decisions.
17. Consider best available information on resource valuation when mitigating coastal resource impacts.

Maximize Agency Coordination and Public Participation [Coastal Act Chapter 5 policies; Sections 30006; 30320; 30339; 30500; 30503; 30711]

18. Coordinate planning and regulatory decision making with other appropriate local, state, and federal agencies; support research and monitoring efforts.
19. Consider conducting vulnerability assessments and adaptation planning at the regional level.
20. Provide for maximum public participation in planning and regulatory processes.

BEST AVAILABLE SCIENCE AND CONSEQUENCES OF SEA LEVEL RISE

The Coastal Act directs the Coastal Commission and local governments to use the best available science in coastal land use planning and development. This Guidance recommends using the best available science on sea level rise projections to inform planning decisions and project design. The State of California has long supported the preparation and provision of scientific information on climate change and sea level rise to help guide appropriate and resilient planning, permitting, investment, and other decisions. For example, the State recently released [California's Fourth Climate Change Assessment](#) to advance actionable science that serves the needs of state and local-level decision-makers. Specific to sea level rise, the State also supported the preparation of the 2012 National Research Council's Report, [Sea-Level Rise for the Coasts of California, Oregon and Washington: Past, Present, and Future](#), as well as the 2017 [Rising Seas in California: An Update on Sea-Level Rise Science](#) (OPC Science Report) and the [State of California Sea-Level Rise Guidance: 2018 Update](#) (2018 OPC SLR Guidance). The 2018 OPC SLR Guidance contains a set of projections for 12 tide gauges throughout California, and the Coastal Commission recommends using these projections and related information as best available science on sea level rise in California (see [Table 1](#) for the projections at the San Francisco tide gauge, and [Appendix G](#) for projections for other tide gauges). The Coastal Commission will re-examine best available science periodically and as needed with the release of new information.

In addition to sea level rise projections, the 2012 NRC report, the 2017 OPC Science Report, and the 2018 OPC SLR Guidance provide information on the impacts of sea level rise in California². According to these reports, sea level rise will cause flooding and inundation, increased coastal erosion, changes in sediment supply and movement, and saltwater intrusion to varying degrees along the California coast. These effects in turn could have a significant impact on the coastal economy and could put important coastal resources and coastal development at risk, including ports, marine terminals, commercial fishing infrastructure, public access, recreation, wetlands and other coastal habitats, water quality, biological productivity in coastal waters, coastal agriculture, and archaeological and paleontological resources.

² Note that while the Coastal Commission now recognizes the 2018 OPC SLR Guidance as best available science on sea level rise projections, the 2012 NRC Report and other related studies still contain valuable information, and references to these documents and studies throughout this guidance remain relevant and applicable.

Table 1. Sea Level Rise Projections for the San Francisco Tide Gauge³ (OPC 2018)

Projected Sea Level Rise (in feet): <i>San Francisco</i>			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.8	1.0
2040	0.8	1.3	1.8
2050	1.1	1.9	2.7
2060	1.5	2.6	3.9
2070	1.9	3.5	5.2
2080	2.4	4.5	6.6
2090	2.9	5.6	8.3
2100	3.4	6.9	10.2
2110*	3.5	7.3	11.9
2120	4.1	8.6	14.2
2130	4.6	10.0	16.6
2140	5.2	11.4	19.1
2150	5.8	13.0	21.9

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

³ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

ADDRESSING SEA LEVEL RISE IN LOCAL COASTAL PROGRAMS

This document provides a step-by-step process for addressing sea level rise and adaptation planning in new and updated Local Coastal Programs. These Steps, summarized below in text and in [Figure 1](#), can be tailored to fit the needs of individual communities and to address the specific coastal resource and development issues of a community, such as dealing with bluff erosion or providing for effective redevelopment, urban infill, and concentration of development in already developed areas. Ideally, Commission and local government staff will establish regular coordination and work together in the early steps of any LCP planning process. For a detailed explanation of these LCP planning Steps, see [Chapter 5](#). Communities in areas where sea level rise vulnerability assessment work is already underway can start later in the process, at Step 4, or other relevant Step(s).

- Step 1. Determine a range of sea level rise projections relevant to LCP planning area/segment** using best-available science, which is currently the 2018 OPC SLR Guidance.
- Step 2. Identify potential physical sea level rise impacts in the LCP planning area/segment**, including inundation, storm flooding, wave impacts, erosion, and/or saltwater intrusion into freshwater resources.
- Step 3. Assess potential risks from sea level rise to coastal resources and development in the LCP planning area/segment**, including those resources addressed in Chapter 3 of the Coastal Act.
- Step 4. Identify adaptation measures and LCP policy options** to include in the new or updated LCP, including both general policies and ordinances that apply to all development exposed to sea level rise, and more targeted policies and land use changes to address specific risks in particular portions of the planning area.
- Step 5. Draft updated or new LCP for certification with California Coastal Commission**, including the Land Use Plan and Implementing Ordinances.
- Step 6. Implement the LCP and monitor and re-evaluate strategies as needed** to address new circumstances relevant to the area.

Planning Process for Local Coastal Programs and Other Plans

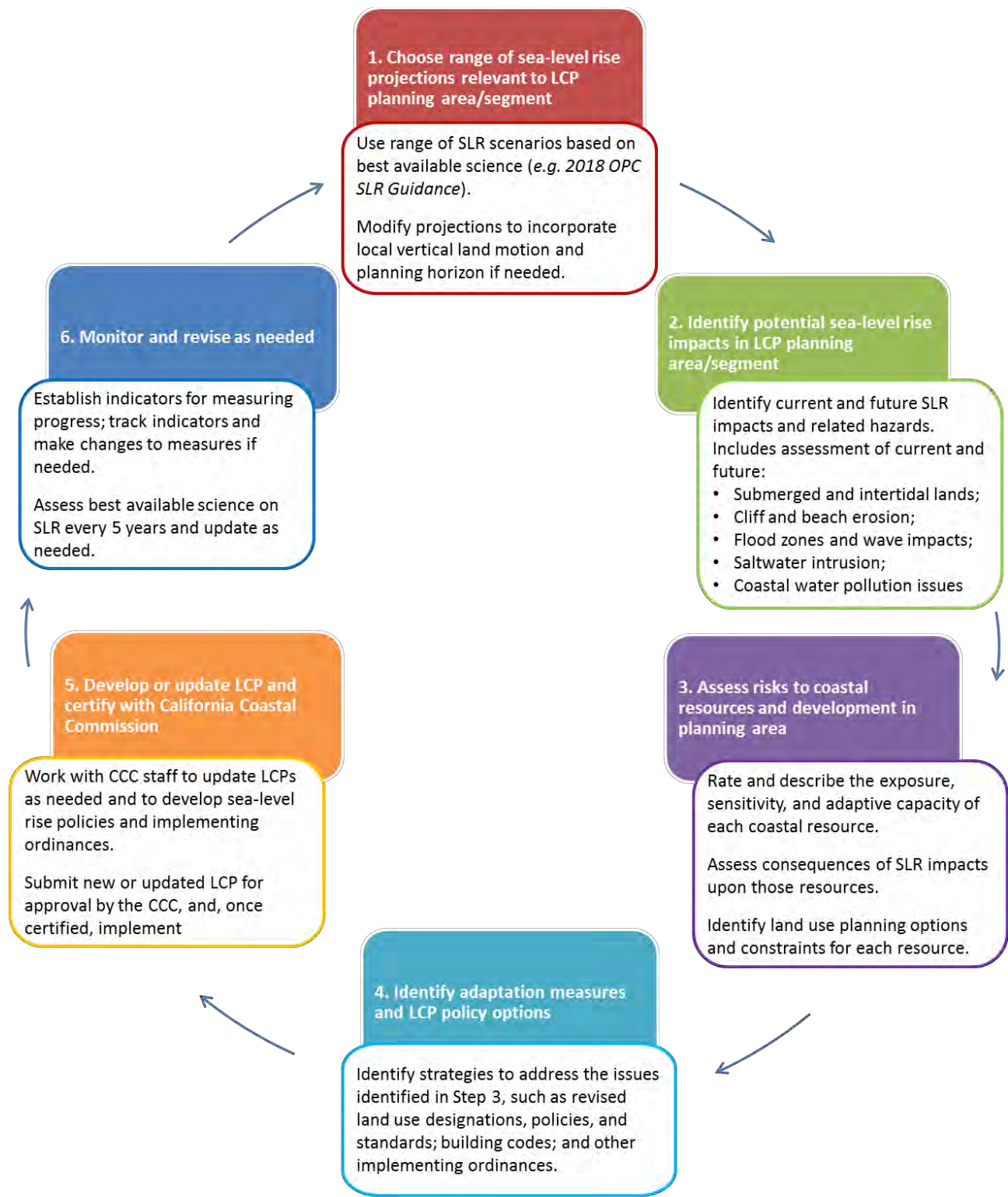


Figure 1. Flowchart for addressing sea level rise in Local Coastal Programs and other plans

ADDRESSING SEA LEVEL RISE IN COASTAL DEVELOPMENT PERMITS

New development within the coastal zone generally requires a Coastal Development Permit (CDP). Many projects reviewed through the CDP application process already examine sea level rise impacts as part of the hazards analysis, though not every CDP application will need to consider sea level rise. In general, sea level rise is only likely to affect those projects that are on low-lying land, on eroding coastal bluffs, are in close proximity to water, or rely upon a shallow aquifer for water supply. This document offers a step-by-step outline, summarized below in text and in [Figure 2](#), for how to conduct such an analysis as a standard part of the CDP application process. The goal of these Steps is to ensure careful attention to minimizing risk to development and avoiding impacts to coastal resources over the life of the project. Early coordination with the Coastal Commission staff is highly recommended, and staff will be available to consult with applicants during this process. Adopting or updating LCPs as recommended in this Guidance should facilitate subsequent review of CDPs. LCPs can identify areas where a closer review of sea level rise concerns is necessary. If kept up to date, they can also provide information for evaluation at the permit stage and specify appropriate mitigation measures for CDPs to incorporate. For a detailed explanation of these steps, see [Chapter 6](#) of this Guidance.

- Step 1. Establish the projected sea level rise range for the proposed project’s planning horizon** using the best available science, which is currently the 2018 OPC SLR Guidance.
- Step 2. Determine how physical impacts from sea level rise may constrain the project site**, including erosion, structural and geologic stability, flooding, and inundation.
- Step 3. Determine how the project may impact coastal resources, considering the influence of future sea level rise upon the landscape** as well as potential impacts of sea level rise adaptation strategies that may be used over the lifetime of the project.
- Step 4. Identify alternatives to avoid resource impacts and minimize risks** throughout the expected life of the development.
- Step 5. Finalize project design and submit CDP application.**

Planning Process for Coastal Development Permits

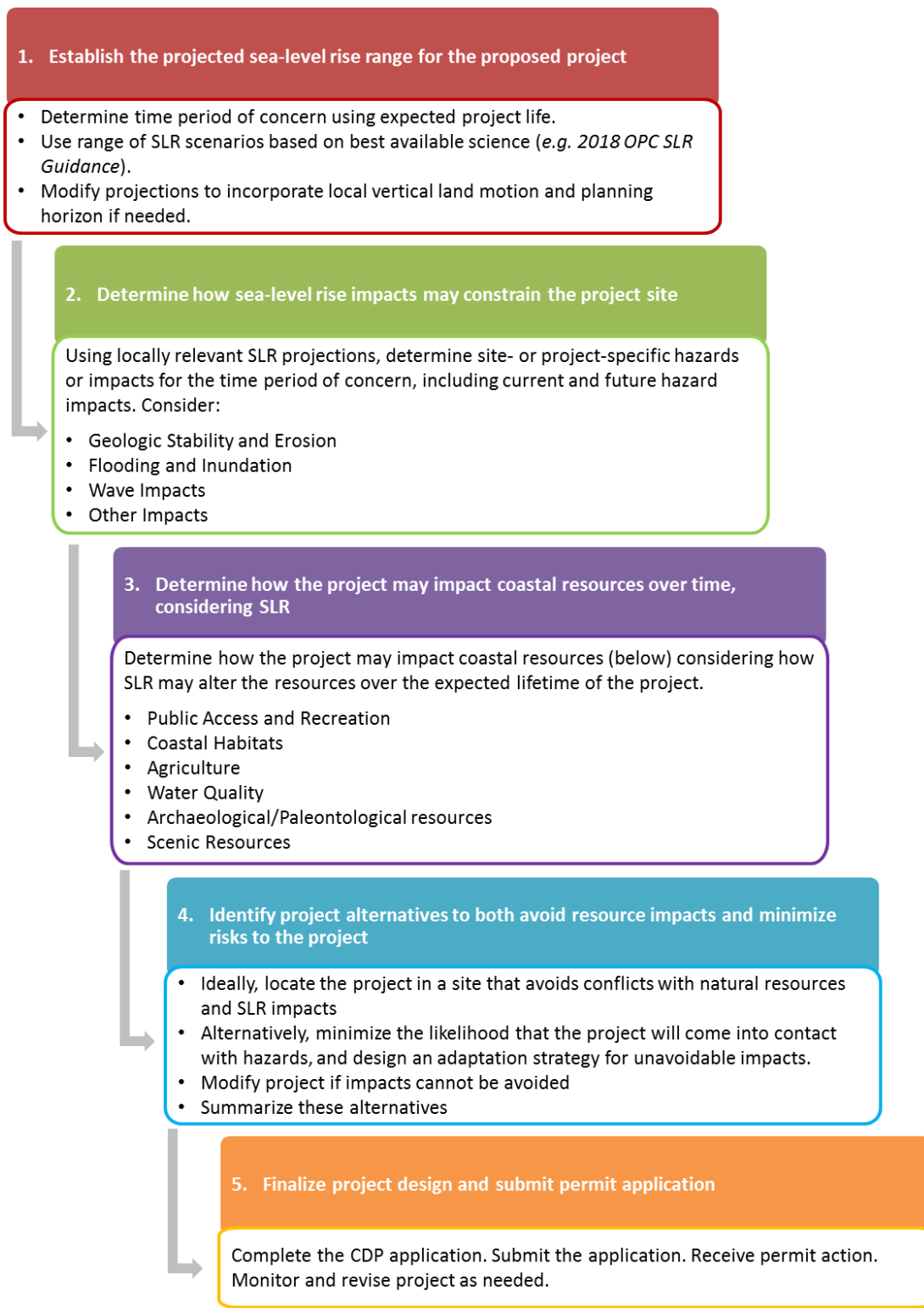


Figure 2. Flowchart for addressing sea level rise in Coastal Development Permits

ADAPTATION STRATEGIES

Steps 1 through 3 of the processes for addressing sea level rise in LCPs and CDPs will help planners and project applicants identify particular vulnerabilities to the planning region and specific project sites. Such vulnerabilities may include impacts to a number of resources identified in the Coastal Act, including development and infrastructure; public access and recreational opportunities; beaches, wetlands, environmentally sensitive habitat areas (ESHA), and other coastal habitats; agricultural resources; water quality; archaeological and paleontological resources; and scenic and visual resources. Planners and project applicants will need to identify, develop, and implement various adaptation strategies designed to protect coastal resources. These strategies should fulfill the hazard minimization and resource impact avoidance policies of the Coastal Act and should account for local conditions. In many cases, strategies will need to be implemented incrementally as conditions change, and planners, project applicants, and partners will need to think creatively and adaptively to ensure that coastal resources and development are protected over time. [Chapter 7](#) of this Guidance summarizes a number of strategies to protect different coastal resources and meet the goals and requirements of the Coastal Act.

ADDITIONAL INFORMATION

In addition to providing a summary of best available science on sea level rise, step-by-step approaches for addressing sea level rise in LCPs and CDPs, and a discussion of numerous adaptation strategies, the Guidance includes the following supplemental information:

- A brief discussion of the legal context of adaptation
- Next steps for Commission staff in coordination with other relevant partners and research institutions, based on objectives and actions from the Commission adopted [California Coastal Commission Strategic Plan 2013-2018](#) (2013a)
- Additional research needs directed toward research institutions at academic, state, federal, and local levels to help communities understand and prepare for sea level rise
- Detailed information on the drivers of sea level rise and sea level rise projections
- A step-by-step methodology for assessing local hazard conditions based on regional sea level rise projections, which is applicable to both LCPs and CDPs
- Lists of useful resources and references, including examples of sea level rise adaptation documents from other state agencies
- Key Coastal Act policies relevant to sea level rise and coastal hazards

CONTEXT OF THIS DOCUMENT

This Guidance is part of a larger body of work on climate change by State agencies, regional collaborations, local leadership, academic research, and other organizations. Many of these efforts are included as resources in [Appendix C](#). Users of the document should take advantage of these existing resources, collaborate with others, and share best practices as much as possible.

Finally, this document is intended to function as interpretive guidance for effective implementation of the Coastal Act and LCPs in light of sea level rise. It is not a regulatory document and does not contain any new regulations. Further, it does not amend or supersede existing legal authorities or the standard of review for Local Coastal Programs and coastal development permit decisions pursuant to the Coastal Act. Those actions are subject to the applicable requirements of the Coastal Act, the Coastal Zone Management Act, certified LCPs, and other applicable laws and regulations as applied in the context of the evidence in the records for those actions. The Commission is adopting this Guidance as interpretive guidelines pursuant to its authority under Public Resources Code Sections 30620.



Chapter 1

Introduction

Climate change is happening now. Rapidly melting ice caps, rising sea levels, floods, extreme heat waves, droughts, and fires are just a few of the effects of climate change. These effects are having profound impacts on our coast and are changing coastal management planning and decision making at global, national, state, regional, local, and individual scales.

Given current trends in greenhouse gas emissions, sea levels are expected to rise at an accelerating rate in the future, and scientists project an increase in California's sea level in coming decades. Until mid-century, the most damaging events for the California coast will likely be dominated by large El Niño-driven storm events in combination with high tides and large waves. Eventually, sea level will rise enough that even small storms will cause significant damage, and large events will have unprecedented consequences (Caldwell *et al.* 2013).

This Guidance provides a framework for addressing sea level rise in Local Coastal Programs (LCPs) and Coastal Development Permits (CDPs). The intended audience for this document includes the Commission and Commission staff, local governments, other public agencies, permit applicants, members of the public, and others who are interested in how to implement and comply with the California Coastal Act (Coastal Act) while taking steps to address sea level rise.

ENVIRONMENTAL, ECONOMIC, AND SOCIAL IMPACTS OF SEA LEVEL RISE

The potential environmental, economic, and social impacts of sea level rise in California underscore the importance of addressing the issue in land use planning and regulatory work. Just over 21 million people lived in California's coastal counties as of July 2014 (CDF 2014), and the state supports a \$40 billion coastal and ocean economy (NOEP 2010).

Many aspects of the coastal economy, as well as California's broader economy, are at risk from sea level rise, including coastal-related tourism, beach and ocean recreational activities, transfer of goods and services through ports and transportation networks, coastal agriculture, and commercial fishing and aquaculture facilities.

In addition to potential losses in revenue, Heberger *et al.* (2009) estimate that \$100 billion worth of property is at risk of flooding during a 100-year coastal flood with 4.6 ft (1.4 m) of sea level rise (the amount projected to occur by the year 2100 in their Pacific Institute study). This property includes seven wastewater treatment plants, commercial fishery facilities, marine terminals, Coastal Highway One, 14 power plants, residential homes, and other important development and infrastructure. More recently, the [Fourth California Climate Assessment](#) found that statewide damages could reach nearly \$17.9 billion from inundation of development under ~20 inches of sea level rise, and those damages would double with the addition of a 100-year flood (Bedsworth *et al.* 2018).

Sea level rise also poses environmental and social justice challenges. This is particularly true for communities that may be dependent upon at-risk industries, are already suffering from economic hardship, or which have limited capacity to adapt, including lower-income, linguistically isolated, elderly, and other vulnerable populations.

Proactive steps are needed to prepare for sea level rise and to protect the coastal economy, California livelihoods, and coastal resources and the ecosystem services they provide. The magnitude of the challenge is clear – not only might the impacts of sea level rise be severe, the costs and time associated with planning for them can be daunting. The [third National Climate Assessment](#), released in May 2014, notes that there is strong evidence to suggest that the costs of inaction are 4 to 10 times greater than the costs associated with proactive adaptation and hazard mitigation (Moser *et al.* 2014). It is critical for California to take proactive steps to address the impacts sea level rise may have on the state’s economy, natural systems, built environment, human health, and ultimately, its way of life.

SEA LEVEL RISE AND THE CALIFORNIA COASTAL ACT

The potential impacts of sea level rise fall directly within the Coastal Commission’s (and coastal zone local governments’) planning and regulatory responsibilities under the Coastal Act. Sea level rise increases the risk of flooding, coastal erosion, and saltwater intrusion into freshwater supplies, which have the potential to threaten many of the resources⁴ that are integral to the California coast, including coastal development, coastal access and recreation, habitats (*e.g.*, wetlands, coastal bluffs, dunes, and beaches), coastal agricultural lands, water quality and supply, cultural resources, community character, and scenic quality. In addition, many possible responses to sea level rise, such as construction of barriers or armoring, can have adverse impacts on coastal resources. For example, beaches, wetlands, and other habitat backed by fixed or permanent development will not be able to migrate inland as sea level rises, and will become permanently inundated over time, which in turn presents serious concerns for future public access and habitat protection.

The Coastal Act mandates the protection of public access and recreation along the coast, coastal habitats, and other sensitive resources, as well as providing priority visitor-serving and coastal-dependent or coastal-related development while simultaneously minimizing risks from coastal hazards. This Guidance document has been created to help planners, project applicants, and other interested parties continue to achieve these goals in the face of sea level rise by addressing its effects in Local Coastal Programs and Coastal Development Permits. Although the focus of the Guidance is on LCPs and CDPS, much of the information contained herein can be useful for other planning documents such as Port Master Plans⁵, Long Range Development Plans, and Public Works Plans. For example, the science applies regardless of the planning documents, and the discussions of how to analyze sea level rise impacts as well as a number of adaptation options may be applicable. In all cases, specific analyses performed and actions implemented will vary based on relevant policies, local conditions, feasibility, and other factors as described throughout the rest of this document.

⁴ The term “coastal resources” is used throughout this Guidance and is meant to be a general term for those resources addressed in Chapter 3 of the California Coastal Act including but not limited to beaches, wetlands, agricultural lands, and other coastal habitats; coastal development; public access and recreation opportunities; cultural, archaeological, and paleontological resources; and scenic and visual qualities.

⁵ Ports are generally subject to Chapter 8 of the Coastal Act. The policies of Chapter 8 acknowledge the special role and needs of ports and differ in significant ways from the Chapter 3 policies of the Act. Significant categories of development in ports, however, remain subject to Chapter 3, including categories of development listed as appealable pursuant to Section 30715 and development located within specified wetlands, estuaries, and recreation areas.

Coastal Commission reports and briefings on sea level rise: Sea level rise is not a new concern for the Commission. The Coastal Act policies on hazard avoidance and coastal resource protection provide the basis for the Commission to consider the impacts of sea level rise (see [Appendix F: Coastal Act Policies Relevant to Sea Level Rise and Coastal Hazards](#)), and the Commission has long considered sea level rise, erosion rates, and other effects of a dynamic climate in its analysis of permits and LCPs, staff recommendations, and Commission decisions. In 1992, Section 30006.5 was added to the Coastal Act which, among other things, directs the Commission to both develop its own expertise and interact with the scientific community on various technical issues, including coastal erosion and sea level rise. The Commission's staff also coordinates its work on sea level rise with other state and federal agencies, local governments, academic institutions, non-profit organizations, citizen groups, permit applicants, property owners, and others.

The Commission has documented its sea level rise adaptation and climate change efforts in numerous papers and briefings, including:

- 1989 Report: [Planning for Accelerated Sea Level Rise along the California Coast](#)
- 2001 Report: [Overview of Sea Level Rise and Some Implications for Coastal California](#)
- 2006 Briefing: [Discussion Draft: Global Warming and the California Coastal Commission](#)
- 2008 Briefing: [A Summary of the Coastal Commission's Involvement in Climate Change and Global Warming Issues for a Briefing to the Coastal Commission](#)
- 2008 White paper: [Climate Change and Research Considerations](#)
- 2010 Briefing: [A Summary of the Coastal Commission's Involvement in Sea Level Rise Issues for a Briefing to the Coastal Commission](#)⁶
- 2015 Report: [CCC Sea Level Rise Policy Guidance \(Adopted\)](#)
- 2016 Report: [CCC Statewide Sea Level Rise Vulnerability Synthesis](#)
- 2016 Briefing: [Implementation of the Adopted Sea Level Rise Policy Guidance](#)

THE IMPORTANCE OF ADDRESSING SEA LEVEL RISE IN LOCAL COASTAL PROGRAMS

The impacts of sea level rise will be felt at the local level, and therefore local responses will necessarily be part of effective management of these impacts. Fortunately, the California Coastal Act lays out a legal and planning framework for community climate preparedness and resiliency planning. LCPs, in combination with Coastal Development Permits (CDPs), provide the implementing mechanisms for addressing many aspects of climate change within coastal communities at the local level.

The goal of updating or developing a new LCP to prepare for sea level rise is to ensure that adaptation occurs in a way that protects both coastal resources and public safety and allows for

⁶ Verbal presentation to the Coastal Commission on December 17, 2010 by Susan Hansch (Item 4.5). This presentation can be viewed at the Cal-Span website (<[http://www.cal-span.org/media.php?folder\[\]=CCC](http://www.cal-span.org/media.php?folder[]=CCC)>) from approximately minute 22:00 to 24:30.

sustainable economic growth. This process includes identifying how and where to apply different adaptation mechanisms based on Coastal Act requirements, other relevant laws and policies, acceptable levels of risk, and community priorities. LCP and Coastal Act policies are also reflected in CDPs, which implement sea level rise management measures and adaptation strategies through individual development decisions. By planning ahead, communities can reduce the risk of costly damage from coastal hazards, can ensure the coastal economy continues to thrive, and can protect coastal habitats, public access and recreation, and other coastal resources for current and future generations.

The Coastal Commission has made it a priority to support the update of LCPs to address climate change, as demonstrated by Goal 3 of the Commission’s *Strategic Plan* (CCC 2013a), which is to “address climate change through LCP planning, coastal permitting, inter-agency collaboration, and public education.” Specifically, Objective 3.1.1 directs the Commission to “adopt general sea level rise (SLR) policy guidance for use in coastal permitting and LCP planning and amendment based on best available science....” This Guidance document fulfills Objective 3.1.1 and is one of multiple ongoing Commission efforts to support local governments in updating LCPs to address sea level rise.

Funding for LCP updates: Both the [California Climate Adaptation Strategy](#) (CNRA 2009) and the [Safeguarding California](#) plan (CNRA 2014) identified amendments to LCPs as a key strategy for addressing sea level rise in California. However, there are significant funding constraints at both the Commission and local government levels that limit the capacity to update LCPs. Fortunately, three grant programs have recently been funded to support California local governments in updating LCPs to address sea level rise. These grant programs have partially overlapping objectives, as described below. Grant-related information as of the publication of this Guidance is summarized below. For up-to-date information regarding grants, please visit the [Local Assistance Grant Program](#) page on the Coastal Commission website.

- **Coastal Commission LCP Local Assistance Grant Program:** This grant program provides funding to local governments to complete the certification of new and updated LCPs, with an emphasis on addressing impacts from sea level rise and climate change. For fiscal years (FY) 2013/14 and 2014/15, the Coastal Commission received \$1 million per year (\$2 million total) in local assistance funds for the LCP Grant Program. In January 2014, the Coastal Commission awarded \$1 million in LCP Grant funds to 11 jurisdictions throughout the state. In November 2014, the Coastal Commission awarded \$1 million to 12 jurisdictions. This second round of funding was coordinated through a joint application and review process with the OPC LCP Sea Level Rise Grant program (below) in order to maximize funding opportunities. Funding of \$3 million was provided in Commission’s FY 2015/16 Budget. This funding was awarded in two additional grant rounds to a total of 21 jurisdictions. Additional funding from the State’s Greenhouse Gas Reduction Fund is provided in the Commission’s FY 2017/18 and 2018/19 budgets for this grant program; however funding has not yet been awarded.
- **Ocean Protection Council LCP Sea Level Rise Grant Program:** The OPC grant program includes \$2.5 million to support local governments in updating LCPs to address sea level rise, including support of sea level rise modeling, vulnerability assessments, and

adaptation planning and policy development. The OPC is administering the program in partnership with the Coastal Commission and the Coastal Conservancy. In November 2013, the OPC awarded \$1,305,000 to seven jurisdictions based on recommendations from the three coordinating agencies. The remaining funds were awarded to seven jurisdictions in the second round of the grant program in December 2014. This second round of funding was coordinated through a joint application and review process with the Coastal Commission Grant Program, as described above.

- **State Coastal Conservancy Climate Ready Grant Program:** The Climate Ready Grant Program provides funding for climate change-related projects including projects to update LCPs to address sea level rise. Through three rounds of grants, the Conservancy has awarded \$7.3 million for 42 projects. Additional funding is available for this program through the Greenhouse Gas Reduction Fund for projects that use nature-based solutions to adapt to the impacts of climate change.

Coastal Commission Staffing Increase to Support LCP planning: Governor Brown and the California Legislature also approved temporary augmentations to the Coastal Commission’s FY 2013/2014, FY 2014/15 and FY 2015/16 budgets of \$3 million for state operations and 25 additional authorized positions for Coastal Commission staff to work with local governments to prepare, update, amend, and review LCPs with an emphasis on including climate change issues. In FY 2016/17, the \$3 million in funding was included in the Commission’s baseline budget, effectively making the additional \$3 million for state operations and 25 authorized positions a permanent part of the Commission’s budget.

COASTAL RESILIENCY AND PREPARING FOR SEA LEVEL RISE: THE FEDERAL AND STATE CONTEXT

Sea level rise planning efforts are currently taking place at the local, regional, state, and national levels. Framing the efforts in California is a federal strategy to address climate change by both reducing greenhouse gas emissions and adapting to climate change impacts. Recent efforts promoted by the White House include President Obama’s January 2015 Executive Order 13960, which modifies Executive Order 11988, Floodplain Management, by expanding the federal approach for establishing flood risk to include the consideration of climate change. Specifically, it recommends using a new flood standard that accounts for climate change in establishing flood elevation and hazard areas when federal funds are used to build, significantly retrofit, or repair structures.

Additionally, Governor Brown, Supervisor Carbajal (Santa Barbara County), Mayor Garcetti (Los Angeles), and Mayor Johnson (Sacramento) were on President Obama’s State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience, which recently released [recommendations](#) for how to modernize programs and policies to incorporate climate change.⁷ The Coastal Commission’s Guidance document implements many of the Task Force’s recommendations by providing tools and assistance to support sea level rise decision making, by establishing a framework for state, local, and federal partnership and coordination on sea level

⁷ <https://obamawhitehouse.archives.gov/administration/eop/ceq/initiatives/resilience/taskforce>

rise, and by providing guidance on how to improve the resilience of California’s coastal infrastructure, natural resources, human communities, and coastal industries.

The State of California has long been a leader in preparing for sea level rise, and in 2008, Governor Schwarzenegger issued an Executive Order (S-13-08) directing state agencies to prepare guidance on sea level rise and to address sea level rise in any state projects located in vulnerable areas. Since then, state agencies have worked collaboratively to accomplish a variety of different actions related to sea level rise adaptation, many of which are listed below. Ten state and federal agencies⁸ also commissioned the National Research Council’s report, *Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future* (2012), to improve understanding of sea level rise projections for California.

More recently, Governor Brown’s April 2015 Executive Order B-30-15 addresses climate change and sea level rise adaptation, stating that state agencies shall take climate change into account in their planning and investment decisions. The order requires agencies to ensure that priority is given to actions that build climate preparedness and reduce greenhouse gas emissions, provide flexible and adaptive approaches, protect the state’s most vulnerable populations, and promote natural infrastructure solutions. Additionally, AB2516, authored by Assemblymember Gordon and approved in September 2014, established a Planning for Sea Level Rise Database that is available [online](#). The database provides the public with an educational tool from which to learn about the actions taken by cities, counties, regions, and various public and private entities to address sea level rise.

Much of the state’s climate change adaptation work has been coordinated with the *Coast and Ocean Workgroup* of the *Climate Action Team* (CO-CAT), of which the Commission is a member. In addition, Commission staff has been involved in the *State Coastal Leadership Group on Sea-Level Rise*, which was established in early 2014 to develop and implement coordinated approaches to address sea level rise across state agencies. The partnership includes senior management from the Coastal Zone Management Agencies (Coastal Commission, San Francisco Bay Conservation and Development Commission, and State Coastal Conservancy) and land management agencies (State Lands Commission and State Parks) along with the Ocean Protection Council and Natural Resources Agency. This Guidance is being coordinated closely with this work⁹ to ensure that various initiatives do not conflict and to assure an effective response to challenges such as sea level rise.

To that end, the content of this Guidance is aligned with several key concepts in the *Safeguarding California* plan, including hazard avoidance for new development, encouraging innovative designs and adaptation strategies for structures in areas vulnerable to sea level rise hazards, and addressing climate impacts in Local Coastal Programs and General Plan updates,

⁸ The assessment of sea level rise was commissioned by California Department of Water Resources, California Energy Commission, California Department of Transportation, California State Water Resources Control Board, California Ocean Protection Council, Oregon Watershed Enhancement Board, Washington Department of Ecology, National Oceanic and Atmospheric Administration (NOAA), US Army Corps of Engineers (USACE), and US Geological Survey (USGS).

⁹ See the Governor’s Office of Planning and Research’s webpage for the [California Climate Change Document](#) which includes a matrix of additional efforts. Available at: http://opr.ca.gov/s_publications.php

among many others. *Safeguarding California* also calls out the need for state agencies to produce guidance documents addressing climate adaptation, and this sea level rise Guidance is part of the statewide effort to fulfill that mandate. As *Safeguarding California* promotes, this Guidance will be a living document that will be updated and revised as sea level rise science advances and new insights are gained regarding adaptation.

State agency policies and guidance on climate change and sea level rise: As a result of the Executive Order S-13-08 and agency needs for guidance, many state agencies have developed climate change and sea level rise policies and guidance documents. For example:

- The California Natural Resources Agency (CNRA) developed the 2009 [California Climate Adaptation Strategy](#) and the [2014](#) and [2018](#) updates (*Safeguarding California*)
- CNRA and the Governor’s Office of Emergency Services (Cal OES) collaboratively developed the [California Climate Adaptation Planning Guide](#) (2012)
- The Governor’s Office of Planning and Research is updating its [General Plan Guidelines](#) to address climate change (a draft update is anticipated in 2015)
- The Ocean Protection Council established *State Sea-Level Rise Guidance* ([interim](#), 2010, [2013](#), and update, [2018](#)) and passed a *State Sea-Level Rise Resolution* (March 11, 2011)
- The San Francisco Bay Conservation and Development Commission (BCDC) amended the [San Francisco Bay Plan](#) (1968) to update its policies regarding sea level rise (2011) and has been working on actions to reduce vulnerability to sea level rise throughout the San Francisco Bay through the [Adapting to Rising Tides](#) (ART) project
- The California State Coastal Conservancy (Conservancy) established [climate change policies](#), [application guidelines for sea level rise](#), and [climate ready principles](#) (2011)
- Cal OES updated the [State Multi-Hazard Mitigation Plan](#) in 2013
- The California Department of Transportation (Caltrans) developed guidance on incorporating sea level rise into the planning and development of Project Initiation Documents (2011), and how to address adaptation in Regional Transportation Plans (2013), and has completed numerous other [climate change related activities](#)

Other agencies including the California Department of Parks and Recreation and the California State Lands Commission are in the process of developing guidance. The California Department of Fish and Wildlife, the Division of Boating and Waterways, and the Department of Water Resources are all actively addressing sea level rise and have taken steps to conduct research on sea level rise impacts, integrate sea level rise into planning documents, and educate staff on climate change impacts (see [Appendix C](#) for a description of these efforts).

Other efforts: Sea level rise planning efforts taking place at all levels of government and across numerous sectors helped inform this Guidance. Commission staff reviewed scientific publications on sea level rise and climate change, adaptation guidebooks, and existing adaptation principles and best practices described in documents such as [Indicators of Climate Change in California](#) (Cal EPA 2013), [Adapting to Sea Level Rise: A Guide for California’s Coastal Communities](#) (Russell and Griggs 2012), [Climate Smart Conservation: Putting Adaptation Principles into Practice](#) (Stein *et al.* 2014), [Ecosystem Adaptation to Climate Change in](#)

[California: Nine Guiding Principles](#) (RLF 2012), and [Climate Smart Principles](#) (PRBO 2013), and applied relevant information to the Guidance where applicable and consistent with the Coastal Act.

LOOKING AHEAD: PLANNING AND PROJECT DESIGN WITH SEA LEVEL RISE

The coast has always been a place of change due to land modifications such as erosion and vertical land motion, and to water variability such as tides, waves, and storms. Despite this dynamic nature, many areas of the California coast have been developed with an expectation that there will be some permanence to the land area and site safety. Development efforts have used such techniques as setbacks, avoidance of existing floodplain areas, elevation above some base flood level, and compliance with design standards to reduce or minimize coastal risks and to ensure an acceptable level of safety.

However, hazards are rarely eliminated or avoided completely. Sea level rise will exacerbate existing hazards and reduce the period of time over which some existing development can remain relatively safe. As noted in [Governing California through Climate Change](#), “The notion of stable, predictable geography in which to live, work and build permanent buildings will be off the table in decades ahead” (Little Hoover Commission 2014, p. 2). Locations that might have seemed relatively safe from erosion or flooding 20 or 30 years ago may now be shown to have greater vulnerability due to sea level rise. Sites that might have seemed safe for 80 or 100 years might now only be safe for 40 or 50 years.

As coastal change accelerates, it will become more apparent that development close to the coast cannot be treated in the same way as more inland development, where hazardous conditions may be less dynamic. Coastal dynamics have long been part of land use planning considerations and project design; however, the focus on this change will grow in importance with rising sea level. This may mean that as properties are evaluated for proposed development, the type and intensity of the proposed development may need to change to address the dynamic nature of the property and changing nature of the hazards. As coastal areas erode, the carrying capacity of the area may need to be revised. The trend of redeveloping with additions and larger structures may need to change to one of maintaining what is there or redeveloping with smaller structures that better suit site constraints. The changing expectations are an important aspect of sea level rise adaptation and are an important part of the following discussions on how to include sea level rise in Local Coastal Programs, applications for Coastal Development Permits, and adaptation planning.

Sea level rise is one of many climate change effects that will have impacts on coastal resources and development along the California coast. Accelerated coastal erosion, changing precipitation patterns, increasing temperatures, and more extreme storms will pose planning challenges in concert with sea level rise. There are other climate change impacts in the coastal zone, such as changes in water supply, terrestrial habitats, and fire hazards, that are also important to consider in decision making, and the Commission intends to provide guidance on a range of anticipated climate change impacts in the future.

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Chapter 2

Principles for Addressing Sea Level Rise in the Coastal Zone

This chapter summarizes the Coastal Commission’s framing principles for addressing sea level rise, many of which derive directly from the requirements of the Coastal Act. These principles broadly lay out the common ideas and a framework by which sea level rise planning and permitting actions can be assessed, and as such, represent the goals to which actions should aspire. Individual actions and outcomes may vary based on a variety of factors, including applicable policies and location- or project-specific factors that may affect feasibility. There are four categories of principles: using science to guide decisions; minimizing coastal hazards through planning and development standards; maximizing protection of public access, recreation, and sensitive coastal resources; and maximizing agency coordination and public participation. Each category groups important and related concepts that are central to addressing the challenge of rising sea levels. Building on the cumulative knowledge and experience of the Commission, subsequent chapters of this Guidance use these principles to frame practical guidance for addressing sea level rise through planning and permitting decisions in the coastal zone, consistent with the statewide policies of the California Coastal Act as well as the statewide vision of climate resilience outlined in the 2014 [Safeguarding California](#) plan.

USE SCIENCE TO GUIDE DECISIONS [Coastal Act Sections 30006.5; 30335.5]

- 1. Recognize and address sea level rise as necessary in planning and permitting decisions.** Address sea level rise science in all applicable coastal management and decision-making processes, including Local Coastal Programs (LCPs), Port Master Plans (PMPs), Public Works Plans (PWP), Long Range Development Plans (LRDPs), Coastal Development Permits (CDPs), federal consistency reviews, and other Coastal Act decision processes. Sea level rise should be addressed in both hazard analyses and identification of adaptation strategies/alternative analyses, consistent with the policies of the Coastal Act and LCPs as applicable¹⁰.
- 2. Use the best available science to determine locally relevant (context-specific) sea level rise projections and potential impacts for all Coastal Act planning processes, project design, and permitting reviews.** Sea level rise science continues to evolve, and some processes that are not fully understood (e.g., ice sheet dynamics) could potentially have large effects on future sea level rise. At the time of this 2018 update, the best available science on sea level rise in California is the 2018 OPC Guidance, [State of California Sea-Level Rise Guidance: 2018 Update](#) (See [Table 2](#) and [Appendix G](#)). As discussed in greater detail in [Chapter 3](#) of this Guidance, these projections should be used in a scenario-based analysis to

¹⁰ This Guidance document is intended to help implement the Coastal Act and LCPs in the context of sea level rise concerns. However, the standard of review for Commission actions remains the California Coastal Act or applicable certified LCPs. In particular, the recommendations of this Guidance do not constitute “enforceable policies” for purposes of CZMA federal consistency reviews. The enforceable policies for conducting federal consistency reviews will remain the policies of Chapter 3 of the Coastal Act. Also, for federal agency activities, the standard is consistency “to the maximum extent practicable,” with Chapter 3, *i.e.*, federal agency activities must be fully consistent unless existing law applicable to the federal agency prohibits full consistency. See 15 CFR. §§ 930.32 and 930.43(d). However, the Commission looks at sea level rise as one part of determining the coastal effects from an activity through CZMA federal consistency reviews and the use of this Guidance by all parties should help determine what those coastal effects may be or how effects from sea level rise may be mitigated. Pursuant to 15 CFR § 930.11(h), implementation of this guidance would not be grounds for an objection (because it is not an “enforceable policy”) but it might be one means that “would allow the activity to be conducted consistent with the enforceable policies of the program” in order to avoid an objection.

identify potential local impacts from sea level rise, incorporating storms, extreme water levels, and shoreline change. Other authoritative sea level science and projections may also be used, in part or in full, provided they are peer-reviewed, widely accepted within the scientific community, and locally relevant.

The Commission will re-examine the best available science periodically and as needed with the release of new information on sea level rise.¹¹ In addition, Commission staff intends to submit a periodic status report to the Commission describing updates on the best available science and adaptation practices, and any potential recommended changes to the Guidance document.

3. **Recognize and address scientific uncertainty using scenario planning and adaptive management techniques.** Given the uncertainty in the magnitude and timing of future sea level rise, particularly over longer time periods, planners and project designers should use scenario-based analysis to examine a range of possible shoreline changes and sea level rise risks to shape LCPs and other plans and project development designs. As appropriate, development projects, resource management plans, and LCP and other planning updates should incorporate an adaptive management framework with regular monitoring, reassessments, and dynamic adjustment in order to account for uncertainty.
4. **Use a precautionary approach by planning and providing adaptive capacity for the higher end of the range of possible sea level rise.** LCPs and CDPs should analyze the medium-high and/or extreme risk aversion projections (from the 2018 OPC SLR Guidance) of sea level rise, as appropriate, in order to understand the implications of a worst case scenario. In some cases, it may be appropriate to *design* for the local hazard conditions that will result from more moderate sea level rise scenarios, as long as decision makers and project applicants *plan* for adaptation pathways that would allow for the implementation of alternative strategies if conditions change more than anticipated in the initial design. Similar to the recommendation in the Ocean Protection Council's [2011 State Sea-Level Rise Resolution](#) as well as the [2018 OPC SLR Guidance](#), the Commission does not recommend using values solely from the lower end of the ranges as this does not give a full picture of the risks. Looking instead at both high and low projections allows users to build an understanding of the overall risk sea level rise poses to the region or site. Chapters [5](#) and [6](#) have additional detail regarding how to choose appropriate sea level rise projections.
5. **Design adaptation strategies according to local conditions and existing development patterns, in accordance with the Coastal Act.** Design adaptation strategies using best management practices for adaptation, and tailor the design to the specific conditions and development patterns of the area, in accordance with the Coastal Act and certified LCPs. LCPs should continue to serve as a key implementing mechanism for these adaptation strategies. Adaptation strategies should be evaluated for their ability to both minimize hazards and protect coastal resources.

¹¹ Major scientific reports include the release of National and State Climate Assessments, IPCC Assessment Reports, and/or State guidance.

Table 2. Sea Level Rise Projections for the San Francisco Tide Gauge¹² (OPC 2018)

Projected Sea Level Rise (in feet): <i>San Francisco</i>			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.8	1.0
2040	0.8	1.3	1.8
2050	1.1	1.9	2.7
2060	1.5	2.6	3.9
2070	1.9	3.5	5.2
2080	2.4	4.5	6.6
2090	2.9	5.6	8.3
2100	3.4	6.9	10.2
2110*	3.5	7.3	11.9
2120	4.1	8.6	14.2
2130	4.6	10.0	16.6
2140	5.2	11.4	19.1
2150	5.8	13.0	21.9

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹² Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

MINIMIZE COASTAL HAZARDS THROUGH PLANNING AND DEVELOPMENT STANDARDS [Coastal Act Sections 30253; 30235; 30001, 30001.5]

6. **Avoid significant coastal hazard risks to new development where feasible.** Section 30253 of the Coastal Act requires new development to minimize risks to life and property in areas of high geologic and flood hazard. The strongest approach for minimizing hazards is to avoid siting new development within areas vulnerable to flooding, inundation, and erosion, thus ensuring stable site conditions without the need for long-term financial and resource commitments for protective devices. Methods to direct new development away from hazardous locations are included in [Chapter 7](#) of this Guidance.
7. **Minimize hazard risks to new development over the life of the authorized development.** Coastal Act Section 30253 requires that new development minimize coastal hazard risks without the use of bluff retaining or shoreline protection devices that would substantially alter natural landforms. When hazards from sea level rise cannot be avoided, new development should include provisions to ensure that hazard risks are minimized for the life of the development without shoreline protection, including through future modification, relocation, or removal when they become threatened by natural hazards, including sea level rise.
8. **Minimize coastal hazard risks and resource impacts when making redevelopment decisions.** LCPs should encourage and require, as applicable, existing at-risk structures to be brought into conformance with current standards when redeveloped. Improvements to existing at-risk structures should be limited to basic repair and maintenance activities and not extend the life of such structures or expand at-risk elements of the development, consistent with the Coastal Act.
9. **Account for the social and economic needs of the people of the state, including environmental justice; assure priority for coastal-dependent and coastal-related development over other development.** In planning and project development concerning sea level rise, assure that the social and economic needs of the people of the state are accounted for in accordance with Coastal Act Section 30001.5(b), with special consideration for working persons employed within the coastal zone (Coastal Act Section 30001(d)). Recognize that low-income communities are less equipped to prepare for and respond to the impacts of sea level rise and ensure that LCP and CDP decisions account for environmental justice concerns and include low-income persons and communities in planning efforts.
10. **Ensure that property owners understand and assume the risks, and mitigate the coastal resource impacts, of new development in hazardous areas.** Property owners should assume the risks of developing in a hazardous location (often referred to as internalizing risk). They should be responsible for modifying, relocating or removing new development if it is threatened in the future. Any actions to minimize risks to new development should not result in current and/or future encroachment onto public lands or in impacts to coastal resources inconsistent with the Coastal Act. LCPs and Coastal Development Permits should require recorded assumptions of risk, “no future seawall” conditions, and/or other appropriate mitigation measures to internalize risk decisions with the private land owner.

MAXIMIZE PROTECTION OF PUBLIC ACCESS, RECREATION, AND SENSITIVE COASTAL RESOURCES [Coastal Act Chapter 3 policies]

- 11. Provide for maximum protection of coastal resources in all coastal planning and regulatory decisions.** New and existing development, redevelopment, and repair and maintenance activities as well as associated sea level rise adaptation strategies should avoid or minimize impacts to coastal resources, including public access, recreation, marine resources, agricultural areas, sensitive habitats, archaeological resources, and scenic and visual resources in conformity with Coastal Act requirements. Impacts from development and related activities should be avoided or minimized; unavoidable impacts should be mitigated as necessary.
- 12. Maximize natural shoreline values and processes; avoid expansion and minimize the perpetuation of shoreline armoring.** If existing development (both private and public) is threatened by sea level rise hazards, it should employ the least environmentally damaging feasible alternatives and minimize hard shoreline protection. Priority should be given to options that enhance and maximize coastal resources and access, including innovative nature-based approaches such as living shoreline techniques or managed/planned retreat. If traditional hard shoreline protection is necessary and allowable under the Coastal Act, use the least-environmentally damaging feasible alternative, incorporate projections of sea level rise into the design of protection, and limit the time-period of approval, for example, to the life of the structure the device is protecting. Major renovations, redevelopment, or other new development should not rely upon existing shore protective devices for site stability or hazard protection. Where feasible, existing shoreline protection that is no longer being relied upon in this way, or no longer needed otherwise, should be phased out.
- 13. Recognize that sea level rise will cause the public trust boundary to move inland. Protect public trust lands and resources, including as sea level rises. New shoreline protective devices should not result in the loss of public trust lands.** Where allowed under the Coastal Act or the relevant LCP, shoreline protective devices should be sited, designed, and conditioned to ensure that they do not result in the loss of public trust lands¹³ or encroach onto public trust lands without the permission of the appropriate trustee agency. When sea level rise causes the public trust boundary to move inland such that a protective device that was located on uplands becomes subject to the public trust, the permittee should either obtain permission from the appropriate trustee agency for the encroachment or apply for a permit to remove any encroachments.
- 14. Address potential secondary coastal resource impacts (to wetlands, habitat, agriculture, scenic and visual resources, etc.) from hazard management decisions, consistent with the Coastal Act.** Actions to address sea level rise in LCPs or permits should not exacerbate other climate-related vulnerabilities or undermine conservation/protection goals and broader ecosystem sustainability. For example, siting and design of new development should not only

¹³ The State holds and manages all tidelands, submerged lands, and beds of navigable waterways for the benefit of all people of the State for statewide purposes consistent with the common law Public Trust Doctrine (“public trust”). In coastal areas, the landward location and extent of the State’s trust lands are generally defined by reference to the ordinary high water mark, as measured by the mean high tide line. Public trust uses include such uses as maritime commerce, navigation, fishing, boating, water-oriented recreation, and environmental preservation and restoration.

avoid sea level rise hazards, but also ensure that the development does not have unintended adverse consequences that impact sensitive habitats or species in the area.

15. **Address the cumulative impacts and regional contexts of planning and permitting decisions.** Sea level rise will have impacts at both the site-specific and regional scales. In addition to the evaluation of site-specific sea level rise impacts, LCPs and projects should include an evaluation of the broader region-wide impacts, in two different contexts. First, the LCP or project should consider how sea level rise impacts throughout an entire littoral cell or watershed could affect the LCP jurisdiction or project. Second, the LCP or project should consider how options to adapt to sea level rise could result in cumulative impacts to other areas in the littoral cell or watershed. Actions should be taken to minimize any identified impacts.
16. **Require mitigation of unavoidable coastal resource impacts related to permitting and shoreline management decisions.** Require mitigation for unavoidable public resource impacts over the life of the structure as a condition of approval for the Coastal Development Permit. For example, for impacts to sand supply or public recreation due to armoring and the loss of sandy beach from erosion in front of shoreline protection devices, require commensurate in-kind mitigations, a sand mitigation fee, and other necessary mitigation fees (for example, public access and recreation mitigation). Because the longer term effects can be difficult to quantify, especially given uncertainty about the exact rate of future sea level rise, consider requiring periodic re-evaluation of the project authorization and mitigation for longer term impacts.
17. **Consider best available information on resource valuation when planning for, managing, and mitigating coastal resource impacts.** Planning, project development, and mitigation planning should evaluate the societal and ecosystem service benefits of coastal resources at risk from sea level rise or actions to prepare for sea level rise. These benefits can include flood protection, carbon sequestration, water purification, tourism and recreation opportunities, and community character. Resource values can be quantified through restoration costs or various economic valuation models.

MAXIMIZE AGENCY COORDINATION AND PUBLIC PARTICIPATION [Coastal Act Chapter 5; Sections 30006; 30320; 30339; 30500; 30503; 30711]

18. **Coordinate planning and regulatory decision making with other appropriate local, state, and federal agencies; support research and monitoring efforts.** Given the multitude of sea level rise planning, research, and guidance efforts occurring in California, it is critical for agencies and organizations to share information, coordinate efforts, and collaborate where feasible to leverage existing work efforts and improve consistency. Additionally, since many sea level rise hazards affect multiple jurisdictions, their management may also need to be coordinated through multi-agency reviews and coordinated decision making. The Commission will continue to meet this goal through coordination, engagement with stakeholders, and trainings. However, ongoing financial support for these Commission efforts is critical.

19. **Consider conducting vulnerability assessments and adaptation planning at the regional level.** Where feasible, local governments should coordinate vulnerability assessments and adaptation planning with other jurisdictions in the region that face common threats from sea level rise. A regional vulnerability assessment provides an opportunity to evaluate impacts that span multiple jurisdictions, assess and implement regional adaptation strategies, coordinate responses, and leverage research and planning funds.
20. **Provide for maximum public participation in planning and regulatory processes.** The Coastal Commission will continue to provide avenues for maximum public participation in planning and regulatory processes, and will continue to establish and/or expand non-traditional alliances (*e.g.*, between/among public and private resource managers, tribal groups, scientists, decision makers), share knowledge openly and actively, and regularly and clearly communicate to the public on the science as well as on a range of solutions to prepare for sea level rise.

This document and its guiding principles both reflect and complement the priorities outlined in the State of California’s climate adaptation strategy, the 2014 *Safeguarding California* plan. While this Guidance specifically focuses on the California Coastal Act and the regulatory work of the Coastal Commission, it also echoes key concepts in *Safeguarding California* that apply statewide. For example, a central theme in *Safeguarding California* is to provide risk reduction measures for California’s most vulnerable populations, something that is addressed here in Guiding Principle #9. Similarly, this Guidance and *Safeguarding California* both emphasize the use of best available science (Guiding Principle #2) and the need for communication, outreach, and public participation to increase understanding of climate risks and adaptation options (Guiding Principle #20).

Safeguarding California’s Coast and Oceans chapter also states that “new development and communities must be planned and designed for long-term sustainability in the face of climate change,” which captures a central purpose and focus of this Guidance. It goes on to specify that “California must ensure public access to coastal areas and protect beaches, natural shoreline, and park and recreational resources” and “the state should not build or plan to build, lease, fund, or permit any significant new structures or infrastructure that will require new protection from sea level rise, storm surges or coastal erosion during the expected life of the structure, beyond routine maintenance of existing levees or other protective measures, unless there is a compelling need.” Again, these values are reflected here, as Guiding Principles #6 and #12. In these ways, and through the shared goal of ensuring planning for and resilience against climate change impacts, the two documents are readily consistent and complementary.



Chapter 3

Sea Level Rise Science

This chapter provides information on sea level rise science and covers the following subjects:

- The best available science on sea level rise
- Using scenario-based analysis in response to sea level rise projection ranges
- The physical impacts of sea level rise
- Storms, extreme events, and abrupt change

Sea level rise science continues to evolve, and the discussion below reflects the best available science at the time this document was published.

BEST AVAILABLE SCIENCE ON SEA LEVEL RISE

Scientists widely agree that the climate is changing and that it has led to global increases in temperature and sea level. In the past century, global mean sea level (MSL) has increased by 7 to 8 in (17 to 21 cm; IPCC 2013). It is extremely likely (>95% probability of occurrence) that human influence has been the dominant cause of the observed warming of the atmosphere and the ocean since the mid-20th century (IPCC 2013).

There are a number of methods for projecting future changes in global sea level, including using extrapolations from historical trends and observations, estimations from physical models, and combinations of observations and modeling, known as semi-empirical methods. For a detailed description of these techniques, see [Appendix A](#).

Scientists also measure sea level change at a variety of scales, from the global down to the local level. For example, the sea level rise projections in Intergovernmental Panel on Climate Change (IPCC) reports are based on large scale models that give global projections. But sea level does not change uniformly around the globe, so modifications for local conditions are necessary for adaptation planning.

In particular, global average sea level rise is driven by the expansion of ocean waters as they warm, the addition of freshwater to the ocean from melting land-based ice sheets and glaciers, and from extractions in groundwater ([Figure 3](#)). However, regional and local factors such as tectonics and ocean and atmospheric circulation patterns result in relative sea level rise rates that may be higher or lower than the global average. As such, global-scale models are often “downscaled” through a variety of methods to provide locally relevant data.

For California, the 2018 OPC SLR Guidance, described below, provides sea level rise projections that have been refined for 12 tide gauges throughout California. More detailed refinement of sea level rise projections is not considered necessary at this time, as variations from the nearby tide gauges will often be quite small, and may be insignificant compared to other sources of uncertainty¹⁴. It is important to note, though, that while the sea level rise projections are fairly similar throughout the state, the physical impacts may be quite different,

¹⁴ Although the Commission believes that the OPC Guidance projections can be used without modification, it recognizes that other studies exist with localized data, for example those completed in the Humboldt Bay region, which may also be appropriate for use.

and locally-specific analysis of impacts will be very important. Detail on physical impacts and how to assess them is provided in Section C of this chapter and in [Appendix B](#).

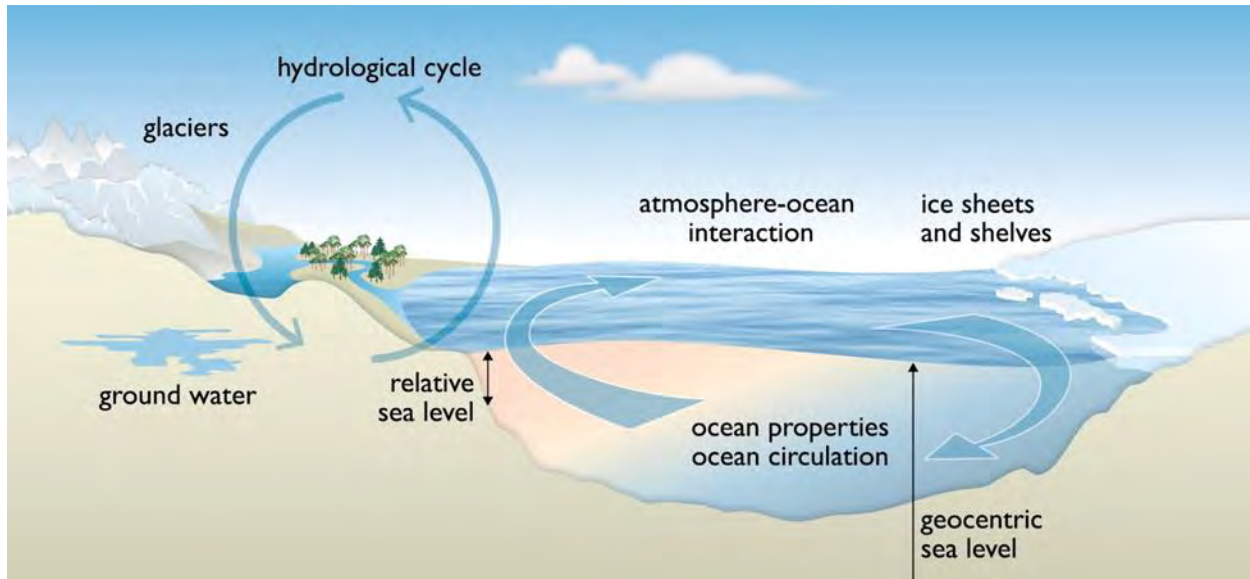


Figure 3. Climate-sensitive processes and components that can influence global and regional sea level. Changes in any one of the components or processes shown will result in a sea level change. The term “ocean properties” refers to aspects such as temperature, salinity, and density, which influence and are dependent on ocean circulation. (Source: IPCC 2013, Figure 13.1)

Global Sea Level Rise Projections

The IPCC [5th Assessment Report](#) (AR5), which was released in September 2013, is the most recent global scale assessment of sea level rise. The report projects a rise in *global* average sea level by 10-39 in (26 to 98 cm) by the year 2100 (relative to mean sea level from 1985 to 2005) depending on the emissions scenario¹⁵ ([Figure 4](#)). These projections are about 50% higher than the projections from the IPCC [4th Assessment Report](#) (AR4, released in 2007). This is because the IPCC changed the climate model inputs between AR4 and AR5. In particular, much of the increase in the amount of sea level rise projected in the AR5 is due to the inclusion of sea level rise resulting from the loss of ice sheets. Ice sheet dynamics were not included in the AR4, but enhancements in physical models that account for such ice sheet dynamics have allowed for a better understanding and greater confidence in this input, and as such were included in the AR5¹⁶. The IPCC also released a special report in October 2018 that discusses the impacts associated with limiting global warming to 1.5°C as compared to 2°C. This report found that sea level rise would be about 10cm less with only 1.5°C, enabling greater opportunities for adaptation in both human and ecological systems (IPCC 2018).

¹⁵ See Appendix A for more detail on emissions scenarios and the IPCC reports.

¹⁶ Many of the other reports and studies cited in this Guidance used the AR4 as a reference (and for this reason detail on the AR4 is included in Appendix A). It is important to note, though, that while these other reports relied on the AR4 scenarios and model outputs for some climatic changes, many (*e.g.*, the *National Climate Assessment* (Melillo *et al.* 2014) and the NRC (2012) reports highlighted below) accounted for the loss of ice sheets through the use of semi-empirical models or other methods, further honing their results.

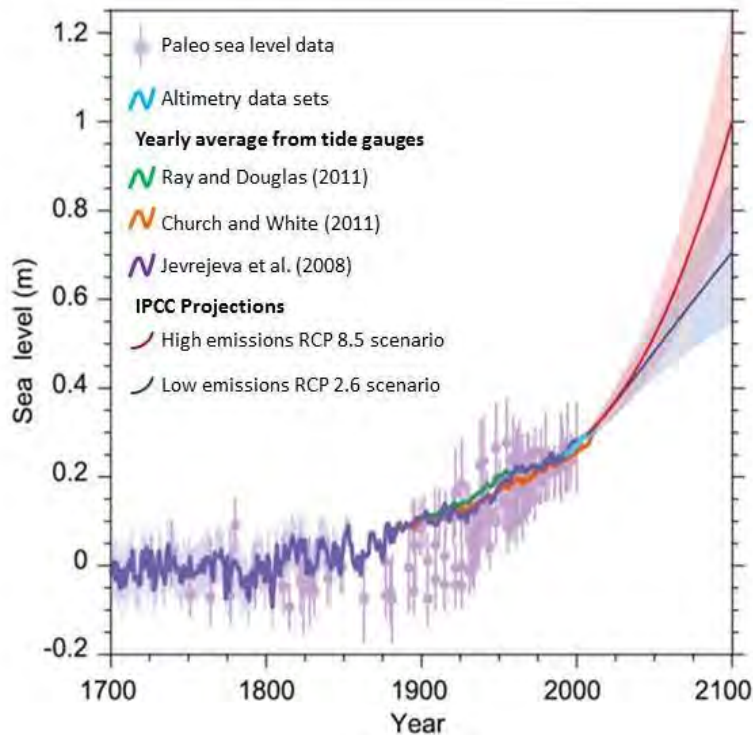


Figure 4. Past and projected future sea level trends (IPCC). Compilation of paleo sea level data, tide gauge data, altimeter data, and central estimates and likely ranges for projections of global mean sea level rise for low emissions RCP2.6 (blue) and high emissions RCP8.5 (red) scenarios, all relative to pre-industrial values. (Source: IPCC 2013, Figure 13.27)

National Sea Level Rise Projections

The [third National Climate Assessment](#) (NCA; Melillo *et al.*) was released in May 2014, and includes the current best-available science on climate change and sea level rise at the *national* scale¹⁷. The sea level rise projections in the NCA were informed by the 2012 NOAA report titled [Global Sea Level Rise Scenarios for the United States National Climate Assessment](#) (Parris *et al.* 2012). This report provides a set of four global sea level rise scenarios ranging from 8 in to 7 ft (0.2 to 2.0 m) by the year 2100 (using mean sea level in 1992 as a baseline) reflecting different amounts of future greenhouse gas emissions, ocean warming and ice sheet loss (Figure 5). The low and intermediate-low scenarios assume very significant reductions in greenhouse gas emissions, and limited changes in ocean warming and ice sheet loss. The intermediate-high scenario is based on the average of the high projections from semi-empirical models, which are based on the highest IPCC 4th Assessment Report (AR4; 2007) emissions scenario (A1FI).¹⁸ The highest scenario (2.0 m) combines the IPCC AR4 projections with the maximum possible ice

¹⁷ Note that the 4th National Climate Assessment is due to be released in late 2018. <https://www.globalchange.gov/nca4>

¹⁸ The IPCC emissions scenarios make assumptions about future changes in population growth, future economic growth and the introduction of clean and efficient technology. The A1FI scenario assumes continued intensive use of fossil fuels, high economic growth, and low population growth that peaks mid-century. The B1 scenario assumes significant reduction in fossil fuel use, an increase in clean technologies, and the same low population growth that peaks mid-century. The A1FI yields the highest CO₂ emissions by 2100 and the B1 scenario yields the lowest.

sheet melt that could occur by 2100. Given the recent studies that suggest that glacier and ice sheet loss could contribute significantly to rising sea levels (*e.g.*, Rahmstorf 2007; Vermeer and Rahmstorf 2009; IPCC 2013; McMillan *et al.* 2014; Morlighem *et al.* 2014) and evidence that current greenhouse gas emissions are tracking with intermediate IPCC AR4 scenarios (Rahmstorf *et al.* 2012), the low and intermediate-low scenarios likely underrepresent future sea level rise unless demonstrable reductions in global greenhouse gas emissions occur soon.

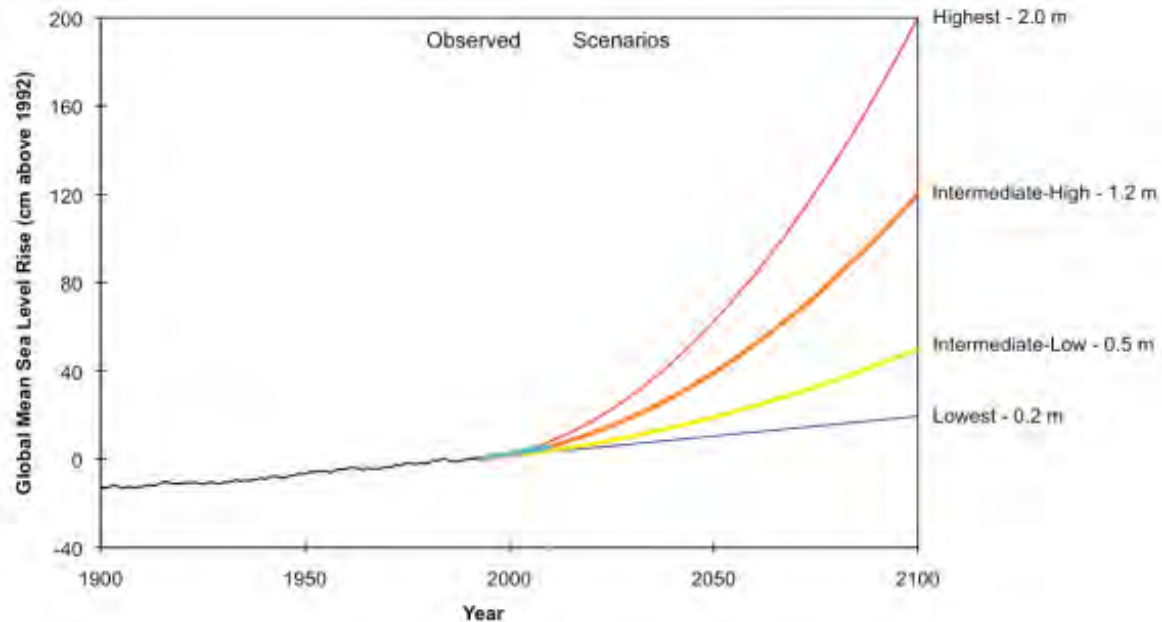


Figure 5. Observed and projected future sea level rise scenarios (Melillo *et al.* 2014). Global mean sea level rise scenarios used in the *US National Climate Assessment*. The Intermediate High Scenario is an average of the high end of ranges of global mean SLR reported by several studies using semi-empirical approaches. The Intermediate Low Scenario is the global mean SLR projection from the IPCC AR4 at 95% confidence interval. (Source: *Global Sea Level Rise Scenarios for the United States National Climate Assessment* (Parris *et al.* 2012))

Sea Level Rise Projections for California

Tide gauges and satellite observations show that in the past century, mean sea level in California has risen 8 in (20 cm), keeping pace with global rise. For the early portion of the 21st century (through approximately 2011), mean sea level in California remained relatively constant, and may have been suppressed due to factors such as offshore winds and other oceanographic complexities. Bromirski *et al.* (2011, 2012) postulated that persistent alongshore winds have caused an extended period of offshore upwelling that has both drawn coastal waters offshore and replaced warm surface waters with cooler deep ocean water. Both of these factors could offset the global sea level rise trend in this region. However, localized sea level suppression will not continue indefinitely. As the Pacific Decadal Oscillation, wind, and other conditions shift, California sea level will continue rising (NRC 2012; Bromirski *et al.* 2011, 2012). Indeed, satellite altimetry data shows that sea level along the west coast of the United States has increased over the past five years, and studies suggest that the shift in sea level in the Pacific Ocean will likely persist in the coming years, leading to substantially higher sea level off the west coast of the United States and lower sea level in the western tropical Pacific (Hamlington *et al.*, 2016).

The State of California has undertaken significant research to understand how much sea level rise to expect over the coming decades and the likely impacts of such sea level rise. In 2013, the Ocean Protection Council (OPC) recognized the National Research Council (NRC) report, *Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past Present and Future*, as best available science for the State of California, and recommended in its 2013 State Sea-Level Rise Guidance that state agencies and others use these projections in their planning processes. Likewise, when the Coastal Commission initially adopted this Sea Level Rise Policy Guidance in 2015, it recommended using the NRC report as best available science.

The NRC Report presents sea level rise projections in ranges due to several sources of uncertainty. One significant source of uncertainty is over future greenhouse gas emissions: researchers cannot know the amount or rate of greenhouse gas emissions that will be generated over the coming decades. Large-scale curtailment of greenhouse gas emissions would keep sea level rise towards the lower end of the projections, while business as usual emissions scenarios would result in the higher end of the projections. Because the rate of future greenhouse gas emissions is dependent on global policy decisions, researchers use various climate models that account for different emissions scenarios (business as usual, with little reduction in the current rate of greenhouse gas emissions; large-scale emissions reductions that begin in the near future; and various intermediate scenarios).

A second significant source of uncertainty is related to the dynamics of ice sheet loss. This topic has continued to be extensively researched since the NRC report was published, and recent studies have since informed updated statewide guidance. In April 2017, a Working Group of the Ocean Protection Council’s Science Advisory Team released a report synthesizing current sea level rise science. The report, titled *Rising Seas in California: An Update on Sea-Level Rise Science*, presents advances in sea level rise modeling, notably including improved understanding of the processes that could drive extreme global sea level rise from ice loss from the Greenland and Antarctic ice sheets. A significant finding from this report is that Antarctic ice sheet loss could have an outsized impact on sea level rise in California compared to the global average due to ocean circulation dynamics. Further, the report states that rapid ice sheet loss could result in upwards of 10 feet of sea level rise along the California coast by 2100 (this scenario is referred to as an “extreme scenario” or “H++ scenario” throughout the OPC Science Report and this Guidance).

The Science Report also includes new “probabilistic projections” which associate a likelihood of occurrence with the sea level rise amounts and rates. These probabilistic projections are based on the probabilities that the ensemble of climate models used to estimate contributions of sea level rise (from thermal expansion, ice sheet loss, oceanographic conditions, and other relevant factors) will predict a certain amount of sea level rise. A critical caveat is that these probabilistic projections did not account for the most recent science regarding the potential for rapid ice sheet loss, and therefore may underestimate the probability of higher sea level rise scenarios. It is understood that as inputs to climate models change (based on evolving science for example), so too will the probabilities associated with different projections.¹⁹

¹⁹ The 4th California Climate Assessment developed projections that present a broader range of SLR estimates than the Rising Seas science report and the 2018 OPC SLR Guidance. Both programs’ projections are based on estimates of contributions to SLR from primary sources using different methods, including model projections and expert input. However, the 4th Assessment

OPC incorporated these findings into updates to their 2013 State Sea-Level Rise Guidance. The new *State of California Sea-Level Rise Guidance: 2018 Update* (2018 OPC SLR Guidance) contains projections for 12 tide gauges throughout California (to account for localized variations in vertical land motion and other factors) for each decade from 2030 to 2150. The projection table for the San Francisco tide gauge is provided below in [Table 3](#), and the projection tables for the other tide gauges can be found in [Appendix G](#). The tables are adapted from the 2018 OPC SLR Guidance, and present the three scenarios that OPC recommends for use in planning, permitting, investment, and other decisions. These scenarios include:

1. *Low risk aversion scenario*: the upper value for the “likely range” (which has approximately a 17% chance of being exceeded); may be used for projects that would have limited consequences or a higher ability to adapt.
2. *Medium-high risk aversion scenario*: the 1-in-200 chance (or 0.5% probability of exceedance); should be used for projects with greater consequences and/or a lower ability to adapt.
3. *Extreme risk aversion (H++)*: accounts for the extreme ice loss scenario (which does not have an associated probability at this time); should be used for projects with little to no adaptive capacity that would be irreversibly destroyed or significantly costly to repair, and/or would have considerable public health, public safety, or environmental impacts should that level of sea level rise occur.

In accordance with this statewide guidance, the Coastal Commission considers the 2018 OPC Sea-Level Rise Guidance (and the related 2017 Rising Seas science report) as the best available science on sea level rise in California, and recommends using the above scenarios in relevant Coastal Commission planning and permitting decisions.²⁰ More information on which scenarios to use in certain circumstances can be found in Chapters 5 and 6. The Commission will continue to periodically re-examine and update sea level rise projections as they evolve with the release of new scientific reports and information on local and regional sea level trends. Additionally, as sea level rise science continues to evolve, equivalent resources may be used by local governments and applicants provided the sources are peer-reviewed, widely accepted within the scientific community, and locally relevant.

The Coastal Commission will be using and recommends that local governments and applicants use best available science, currently identified as the projections provided in the 2018 OPC Sea-Level Rise Guidance ([Table 3](#); [Appendix G](#)), in all relevant local coastal planning and coastal development permitting decisions.

incorporates the findings from the recent studies regarding the potential for rapid loss of Antarctic ice sheets (which results in the H++ scenario of about 10ft. of SLR by 2100) into its probabilistic projections whereas the OPC reports do NOT include this possibility in the probabilistic projections, as explained above.

²⁰ Note that while the Coastal Commission now recognizes the 2018 OPC SLR Guidance as best available science on sea level rise projections, the 2012 NRC Report and other related studies still contain valuable information, and references to these documents and studies throughout this guidance remain relevant and applicable.

Table 3. Sea Level Rise Projections for the San Francisco Tide Gauge²¹ (OPC 2018)

Projected Sea Level Rise (in feet): <i>San Francisco</i>			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.8	1.0
2040	0.8	1.3	1.8
2050	1.1	1.9	2.7
2060	1.5	2.6	3.9
2070	1.9	3.5	5.2
2080	2.4	4.5	6.6
2090	2.9	5.6	8.3
2100	3.4	6.9	10.2
2110*	3.5	7.3	11.9
2120	4.1	8.6	14.2
2130	4.6	10.0	16.6
2140	5.2	11.4	19.1
2150	5.8	13.0	21.9

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

²¹ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

USING SCENARIO-BASED ANALYSIS IN RESPONSE TO SEA LEVEL RISE PROJECTION RANGES

Despite the recent advances in sea level rise science, sea level rise projections, including those in the 2018 OPC SLR Guidance ([Table 3](#); [Appendix G](#)) and other state, national, and global reports, are typically presented in ranges due to several sources of significant uncertainty.

The two primary sources of uncertainty in global sea level projections include:

- 1) Uncertainty about future greenhouse gas emissions and concentrations of sulfate aerosols, which will depend on future human behavior and decision making, and
- 2) Uncertainty about future rates of land ice loss (NRC 2012; McMillan *et al.* 2014; Morlighem *et al.* 2014; Griggs *et al.* 2017; OPC 2018).

Additionally, the further into the future sea level rise is projected, the greater the uncertainty (and therefore the range in projections) becomes. This occurs because the longer the projection period, the greater the likelihood that models will deviate from the actual impacts of climate change (NRC 2012) and the more dependent projections become on the trajectory of greenhouse gas emissions (OPC 2018). This is reflected in the projections included in the 2018 OPC SLR Guidance, which includes single values for the years 2030, 2040, and 2050, but projections for both low and high emissions scenarios in 2060 and beyond. According to the 2018 OPC SLR Guidance, near-term sea level rise has been locked in by past greenhouse gas emissions whereas sea-level rise over the longer-term will become increasingly dependent on efforts to curtail greenhouse gas emissions.

This Guidance recommends using scenario-based analysis to address the uncertainty in sea level projections. Scenario-based analysis (or planning) refers to the idea of developing multiple scenarios from which to analyze vulnerabilities, generate new ideas and adaptation options, and/or test strategies. In the context of this Guidance, scenario-based analysis includes choosing several possible sea level rise amounts as a starting point to evaluate impacts to coastal resources and potential risks to development over time. This type of scenario-based approach is useful because it reveals the full range of possible consequences of sea level rise that can be reasonably expected for particular regions or sites according to the best available science. Additionally, a scenario-based analysis helps to reveal the tipping points indicating if or when sea level rise will become a serious issue in a particular location. In many cases, using multiple sea level rise scenarios will help to hone in on the types of hazards for which to prepare.

In general, the Coastal Commission recommends using best available science (currently the 2018 OPC SLR Guidance) to identify a range of sea level rise scenarios, including the low, medium-high, and, as appropriate, extreme risk aversion scenario²². In practice, the process for choosing scenarios and performing scenario-based analysis will be slightly different for LCP planning and

²² Similar to the recommendation in the OPC's 2011 *State Sea-Level Rise Resolution*, as well as the 2018 OPC SLR Guidance, the Commission does not recommend using projections solely from the lower end of the ranges, as this does not give a full picture of the risks. Looking instead at a range of projections allows users to build an understanding of the overall risk sea level rise poses to the region or site.

CDP applications due to the different planning goals and levels of technical detail required for each.

For a Local Coastal Program (LCP), the general goal is to assess the potential impacts from sea level rise over the entire planning area and over a range of time horizons so that both short and long term adaptation strategies can be identified and implemented. Another important facet of LCP planning is identifying locations that are particularly vulnerable so that additional, more detailed studies can be performed if necessary, and adaptation options and actions can be prioritized. Scenario-based analysis in the context of LCP planning includes choosing a range of sea level rise projections to analyze so as to understand the best and worst case scenarios and to identify amounts of sea level rise and related conditions that would trigger severe impacts and the associated time period for when such impacts might occur. Choosing sea level rise scenarios in the context of LCP planning is described in greater detail in [Chapter 5](#).

In the context of a Coastal Development Permit (CDP) application, the goal is to understand how sea level rise will impact a specific site and a specific project over its expected lifetime so as to ensure that the proposed development is safe from hazards and avoids impacts to coastal resources. Thus, in the context of a CDP, it is important to identify the amounts of sea level rise that could result in effects to a particular site as well as the time period(s) over which those effects could occur so that the proposed development can be safely sited and designed to avoid resource and development impacts. However, some sites will be completely safe from sea level rise under even the highest projection scenarios, while others will depend on the timing and magnitude of sea level rise to determine safety. Therefore, scenario-based planning analysis can be used as a screening process to identify if and when sea level rise might become a problem. Identifying sea level rise scenarios in the context of CDPs is described in greater detail in [Chapter 6](#).

Overall, scenario-based planning should help planners make reasonable and informed decisions about whether their projects or plans are compatible with the local hazards influenced by sea level rise, and identify the types of adaptation measures that might be appropriate given the local circumstances and requirements of the Coastal Act. By exploring the range of future scenarios based on the best available science, users of this document can make decisions based on full understanding of possible future hazards, ultimately achieve outcomes that are safer for both development and coastal resources, and avoid costly damages to projects.

For more information on scenario-based planning in the context of LCPs and CDPs see Chapters 5 and 6, respectively. A number of additional resources related to scenario-based planning are available, including a [handbook](#) from the National Park Service (2013) and [guidance](#) from Point Blue Conservation Science and the California Coastal Conservancy (Moore *et al.* 2013). See [Appendix C](#) for these and other resources related to scenario-based analysis and adaptation planning.

PHYSICAL EFFECTS OF SEA LEVEL RISE

Continued and accelerated sea level rise will have widespread adverse consequences for California's coastal resources (See summary in [Figure 8](#)). The main physical effects of sea level

rise include increased flooding, inundation, wave impacts, coastal erosion, changes in sediment dynamics, and saltwater intrusion. These impacts are interrelated and often occur together. Absent any preparatory action, an increase in sea level may have serious implications for coastal resources and development, as described in [Chapter 4](#). In addition, these physical effects could have disproportionate impacts on vulnerable communities that have lower capacity to adapt.

Physical effects from sea level rise to the coastal zone include the following:

- **Flooding and inundation:** Low lying coastal areas may experience more frequent flooding (temporary wetting) or inundation (permanent wetting), and the inland extents of 100-year floods may increase. Only a 10 cm rise in sea level could double the flooding potential along the west coast in locations such as San Francisco and Los Angeles (Vitousek *et al.* 2017). Riverine and coastal waters come together at river mouths, coastal lagoons, and estuaries, and higher water levels at the coast may cause water to back up and increase upstream flooding (Heberger *et al.* 2009). Drainage systems that discharge close to sea level could have similar problems, and inland areas may become flooded if outfall pipes back up with salt water. In addition, other climate change impacts such as increases in the amount of precipitation falling as rain rather than snow will add to river flooding in some areas.
- **Wave impacts:** Wave impacts can cause some of the more long-lasting consequences of coastal storms, resulting in high amounts of erosion and damage or destruction of structures. The increase in the extent and elevation of flood waters from sea level rise will also increase wave impacts and move the wave impacts farther inland. Erosion rates of coastal cliffs, beaches, and dunes will increase with rising sea level and are likely to further increase if waves become larger or more frequent (NRC 2012).
- **Erosion:** Large sections of the California coast consist of oceanfront bluffs that are often highly susceptible to erosion. With higher sea levels, the amount of time that bluffs are pounded by waves would increase, causing greater erosion (NRC 2012). This erosion could lead to landslides and loss of structural and geologic stability of bluff top development such as homes, infrastructure, the California Coastal Trail, Highway 1, and other roads and public utilities. The Pacific Institute (Heberger *et al.* 2009) estimated that 41 square miles (106 square km) of coastal land from the California-Oregon border through Santa Barbara County could be lost due to increased erosion with 4.6 ft (1.4 m) of sea level rise by the year 2100, and approximately 14,000 people now live in those vulnerable areas. Increased erosion will not occur uniformly throughout the state. Dunes in Humboldt County could erode a distance of approximately 2000 ft (nearly 600 m) by the year 2100 (Heberger *et al.* 2009; Revell *et al.* 2011). In southern California, higher sea level rise could result in a two-fold increase in bluff retreat rates over historic rates, causing a total land loss of 62 – 135 feet by 2100 (Limber *et al.* 2018 (in press)). Man-made structures like dikes and levees may also be impacted by erosion, increasing flooding risk of the areas protected by those structures, such as low-lying agricultural land. Over the long term, rising sea levels will also cause landward migration of beaches due to the combined effects inundation and loss of sediment due to erosion (NRC 2012).



Figure 6. Photo of Esplanade Apartments threatened by cliff erosion in 2013 in Pacifica, CA. (Source: [California Coastal Records Project](#))

- **Changes in beaches, sediment supply and movement:** Sediment is important to coastal systems in, for example, forming beaches and mudflats and as the substrate for wetlands. Sea level rise will result in changes to sediment availability. Higher water levels and changing precipitation patterns could change erosion and deposition patterns. Loss of sediment could worsen beach erosion and possibly increase the need for beach nourishment projects (adding sand to a beach or other coastal area), as well as decrease the effectiveness and long-term viability of beach nourishment if sand is quickly washed away after being placed on a beach (Griggs 2010). Shoreline change models predict that by 2100, without changes in coastal management, 30 to 67% of Southern California beaches may be completely lost due to rising sea level (Vitousek *et al.* 2017; Bedsworth *et al.* 2018). Sediment supplies in wetland areas will also be important for long-term marsh survival. Higher water levels due to sea level rise, however, may outpace the ability of wetlands to trap sediment and grow vertically (Titus 1988; Ranasinghe *et al.* 2012; Van Dyke 2012).
- **Saltwater intrusion and rising groundwater:** An increase in sea level could cause saltwater to enter into groundwater resources, or aquifers. Existing research suggests that rising sea level is likely to degrade fresh groundwater resources in certain areas, but the degree of impact will vary greatly due to local hydrogeological conditions. Generally, the most vulnerable hydrogeological systems are unconfined aquifers along low-lying coasts, or aquifers that have already experienced overdraft and saline intrusion. In California, saline intrusion into groundwater resources is a problem in multiple areas, including but not limited to the Pajaro Valley (Hanson 2003), Salinas Valley (Hanson *et al.* 2002a; MCWRA 2012), Oxnard Plain (Izbicki 1996; Hanson *et al.* 2002b), and the heavily urbanized coastal plains of Los Angeles and Orange Counties (Edwards and Evans 2002; Ponti *et al.* 2007; Nishikawa *et al.* 2009; Barlow and Reichard 2010). Groundwater sources for coastal agricultural lands may also be susceptible to saltwater intrusion. Sea level rise can also result in higher groundwater, presenting another source of flood rise (Hoover *et al.* 2016).

STORMS, EXTREME EVENTS, AND ABRUPT CHANGE

Much of the California coast is currently vulnerable to flooding and wave damage during large storm events, and even more of the coast is vulnerable to storm impacts when they occur during times of heightened water levels, such as high tides, El Niño events, a warm phase of the Pacific Decadal Oscillation, or a combination of these factors. Sea level rise will increase vulnerability to storms even more because rising water levels will result in more areas being impacted.

Climate change will likely modify or change much more than just sea level. One potential climate change-related impact that will interact most directly with sea level rise hazards is a change in frequency or intensity of coastal storms (storminess) and extreme events. The extremes associated with high-intensity events may be particularly devastating since they have the potential to cause broad-scale damage, as seen from recent events such as Hurricanes Katrina and Rita, Superstorm Sandy, and the Tohoku tsunami. Abrupt change in sea levels is another potential impact of climate change. Both potential impacts are described below.

Extreme Events and Storms

There are several ways to describe extreme events, and most definitions tend to frame these events in terms of consequences or past observations. Kruk *et al.* 2013 define extreme events as “the floods that displace us from our homes, the high waves that wash out coastal roads, or the toppling of trees and power poles from a passing storm.” The IPCC defines climate extremes as “the occurrence of a value of a weather or climate variable above (or below) a threshold value near the upper (or lower) ends of the range of observed values of the variables” (IPCC 2012, p. 5). In general, extreme events, by their very nature, are those beyond the normal events that are considered in most shoreline studies. For example, for storm waves and flood conditions, an extreme event will normally be anything worse than the 100-year event.

Extreme events are of particular concern to the examination of coastal vulnerability and damage because they tend to cause the greatest community upheaval and can result in irreversible changes to the coastal landscape. In the El Niño winter of 1982-1983, for example, a series of storms, several of which coincided with high tide, caused more than \$200 million in damage (in 2010 dollars) to coastal California (OPC 2013). Similarly, the 2015/16 El Niño was one of the strongest on record, resulting in significant changes to the shoreline. The 2012 NRC report notes that “waves riding on these higher water levels will cause increased coastal damage and erosion—more than that expected by sea level rise alone” (NRC 2012, p.107), and the 4th California Climate Assessment found that a 100-year coastal flood would almost double the damages associated with just 20 inches of sea level rise alone (Bedsworth *et al.* 2018). These impacts result because a rise in sea level will mean that flooding and damage will likely reach further inland. The IPCC *Fifth Assessment Report* (2013) states that it is very likely²³ that there will be a significant increase in the occurrence of future sea level extremes primarily as a result of an increase in mean sea level, with the frequency of a particular sea level extreme increasing by an order of magnitude or more in some regions by the end of the 21st century.

²³ The IPCC has assigned quantitative levels to various terms of confidence and likelihood. High confidence means there is about an 8 out of 10 chance of being correct. Very likely has a greater than 90% probability of occurrence. Other terms that will be used later in this discussion are likely (> 66% probability of occurrence), medium confidence (about a 5 out of 10 chance), low confidence (about a 2 out of 10 chance). *Source of terms:* http://www.ipcc.ch/pdf/supporting-material/uncertainty-guidance-note_ar4.pdf

According to the 2012 NRC report, if the frequency or intensity of storms changes, then so will the frequency and intensity of extreme sea level events. However, the evidence that storminess will change in the North Pacific Ocean is conflicting and inconclusive (Cayan *et al.* 2009; Lowe *et al.* 2010; Dettinger 2011). Still, even if storminess does not change, sea level rise will exacerbate storm surge and high waves, magnifying their impact on the coastline. For this reason, it is important to include these factors in the analysis of sea level rise hazards. Methodologies for these analyses are included in [Appendix B](#).

Abrupt change

Currently, the best available science is inconclusive as to whether sea level could change abruptly. Thermal expansion and direct melting of land ice is expected to be gradual, leading to slow and steady sea level rise. However, rapid collapse of land-based ice sheets could lead to sudden acceleration of sea level rise, as discussed in the 2017 Rising Seas science report and the 2018 OPC SLR Guidance. Specifically, the science report explains that if greenhouse gas emissions are not curtailed, “glaciological processes could cross thresholds that lead to rapidly accelerating and effectively irreversible ice loss.” Recent ice sheet observations and model simulations that consider positive feedback loops associated with ice sheet melting and related non-linear acceleration of sea level rise have attempted to estimate the maximum physically plausible amount of sea level rise. These studies informed the extreme/H++ scenario included in the OPC science report and 2018 SLR OPC Guidance (of approximately 10 feet by 2100). Importantly, it will be difficult to determine if the world is on track for extreme and irreversible ice loss for some time because the processes that drive extreme ice loss in the later part of the century or beyond are different than those that are driving ice loss now. Thus, the likelihood of extreme sea level rise is uncertain and remains an area in need of future research (NRC 2012; Griggs *et al.* 2017; OPC 2018).

Rapid change in land elevation during an earthquake is another potential cause of an abrupt sea level change in a localized area. A large earthquake in the Cascadia Subduction Zone could cause land in northern California, Oregon, and Washington to suddenly subside relative to sea level, causing a sudden rise in relative sea level by 3-6.5 ft (NRC 2012). Large earthquakes in this zone are expected to occur about every several hundred to one thousand years, and the most recent such earthquake occurred in 1700. The sudden rise or drop in land elevation would occur in a matter of minutes. If the land were to subside, the relative rise in sea level would be rapid and it would add to sea level rise already occurring from climate-related forcing.

There is also potential for oceanographic conditions to lead to a relatively rapid rate of sea level rise in California. Examination of the tidal gauge records indicate that there was no significant interannual rise in California’s sea level from 1983 to 2011, despite a rise in global sea level over the same time period. One explanation, presented by Bromirski *et al.* (2011, 2012), links this suppression of sea level rise with persistent alongshore winds and an extended period of offshore upwelling that has both drawn coastal waters offshore and replaced warm surface waters with cooler deep ocean water. However, this suppression will not continue indefinitely and as the Pacific Decadal Oscillation, wind, and other conditions shift, California sea level will continue rising, likely at an accelerated rate (NRC 2012; Bromirski *et al.* 2011, 2012).



Chapter 4

Consequences of Sea Level Rise for Communities, Coastal Resources, and Development

The physical effects of sea level rise described in the previous chapter could have significant consequences for California’s citizens, coastal communities and the resources protected by the Coastal Act. This chapter describes some of these consequences and notes the relevant Coastal Act policies for convenience. It is important to consider both the direct impacts of sea level rise on coastal resources and what these impacts mean for the people and communities who use and enjoy these coastal resources. It is also important to consider environmental justice when analyzing sea level rise impacts, as described in greater detail in the section below.

SEA LEVEL RISE ADAPTATION PLANNING AND ENVIRONMENTAL JUSTICE

Sea level rise and how we respond to it may result in significant changes in the distribution of environmental benefits, or environmental justice, in California. General planning law in California specifically recognizes and defines environmental justice as “the fair treatment of people of all races, culture and income with respect to the development, adoption, implementation and enforcement of environmental laws, regulations, and policies” (Government Code Section 65040.12; and see Public Resources Code Section 71110-71116). Environmental justice demands that all people, regardless of their race, ethnicity, or level of income, are able to enjoy the benefits of our environmental protection programs and our environment generally. [Safeguarding California](#) (CNRA 2018) identifies climate justice as an important cross-sector theme in the state’s climate adaptation and resilience planning efforts. Additionally, the 2018 OPC SLR Guidance recommends prioritizing social equity, environmental justice, and the needs of vulnerable communities in adaptation planning.

The California Coastal Act also recognizes the fundamental importance of the fair distribution of environmental benefits in Section 30001:

The Legislature hereby finds and declares: (a) That the California coastal zone is a distinct and valuable natural resource of vital and enduring interest to all the people and exists as a delicately balanced ecosystem. (b) That the permanent protection of the state's natural and scenic resources is a paramount concern to present and future residents of the state and nation. (c) That to promote the public safety, health, and welfare, and to protect public and private property, wildlife, marine fisheries, and other ocean resources, and the natural environment, it is necessary to protect the ecological balance of the coastal zone and prevent its deterioration and destruction. (d) That existing developed uses, and future developments that are carefully planned and developed consistent with the policies of this division, are essential to the economic and social well-being of the people of this state and especially to working persons employed within the coastal zone.

The Act thus declares that the protection of the coast is of vital interest to *all* the people, of paramount concern to *present and future residents* of the state and nation, and that careful planning and development is essential to *the economic and social well-being* of the people. This broad direction to protect the coast for everyone is underscored in Section 30006, which declares:

. . . the public has a right to fully participate in decisions affecting coastal planning, conservation and development; that achievement of sound coastal conservation and development is dependent upon public understanding and support; and that the

continuing planning and implementation of programs for coastal conservation and development should include the widest opportunity for public participation.

Hence, everyone is entitled to participate in the management decisions that determine how the benefits and burdens of managing California’s coast will be distributed. Ensuring low-income and underserved communities are included in environmental decisions is a key tenet of environmental justice and will minimize disproportionate environmental and public health impacts. Furthermore, in 2016, the Governor signed AB 2616 (Burke), which amended the Coastal Act and gives the Commission new authority to specifically consider environmental justice when making permit decisions. This legislation also cross-references existing non-discrimination and civil rights law in the government code and requires the governor to appoint an environmental justice Commissioner to our board.

The Coastal Act’s broad concern for all the people is best borne out in its public access policies, which require the maximum provision and protection of the public’s rights of access to and along the shoreline (Sections 30210-214). These policies reflect the judgement of the people of California in passing Proposition 20 in 1972 that public access and recreation along our coast is a fundamental environmental benefit to be protected for and enjoyed by all, not just by those with the good fortune or means to live along the shoreline. Public access to the coast is important to the health and well-being of the public, and promoting public access for all citizens provides low-cost, outdoor recreation that can improve the overall quality of life of the public, including low-income and underserved communities.

Unfortunately, public access is also one of the coastal resources most at risk from accelerating sea level rise. As discussed elsewhere in this Guidance, beaches, accessways, recreational amenities, and even surfing resources may be dramatically impacted by rising seas. Where development already exists, and particularly where there is substantial shoreline armoring to protect this development, California stands to lose significant recreational beach areas. These places that are at increased risk provide environmental benefits for everyone, generally at very low cost, or even free. Thus, the potential loss of beach and shoreline recreation areas represents a significant potential impact to a resource that both is especially important to those with fewer economic resources and one that we endeavor to provide for everyone without discrimination, no matter their income levels, ethnicities or cultures; no matter if they are from coastal or inland areas or from outside the state.

The exacerbation of environmental injustices by anticipated sea level rise may be particularly concerning when the Commission and local governments need to make decisions about shoreline protection and hazard mitigation. As discussed elsewhere in this Guidance, the Coastal Act provides for the protection and mitigation of coastal hazards for existing and new development. But some hazard mitigation, such as seawall development or elevated development on beaches, may have significant impacts to public trust shoreline resources. Thus, we face a situation where widely available public beach resources may be diminished in order to protect private or public development along the shoreline – potentially a significant environmental justice concern. Because of this, it will be important for decision makers to proactively consider all aspects of this Guidance in an effort to avoid and mitigate the potential impacts to coastal resources from hazard response. This is particularly true for recommendations to consider alternatives to

shoreline structure development and, where shoreline structures must be approved, for recommendations to fully mitigate the impacts of such structures on public shoreline resources.

A May 2015 decision made by the Coastal Commission emphasizes the importance of analyzing low-cost recreational opportunities in addition to other coastal resource impacts when evaluating shoreline protection and other responses to sea level rise and coastal hazards. The Coastal Commission approved a revetment at the west end of the Goleta Beach County Park to provide protection against erosion. This park is an important public resource in Santa Barbara County and receives up to 1.5 million visitors each year, a large fraction of which are low-income visitors. Park facilities include picnic areas, open parkland, and access to the ocean and a recreational beach for no or low cost. The revetment was approved contingent upon specific conditions, including continued free public access and vehicle parking for the term of the permit. This decision highlights the importance of protecting wide accessibility to shoreline resources even as sea level rises.

The potential impacts of adaptation responses on public shoreline resources, and thus the potential environmental justice impacts of such actions, will need to be considered for all resources protected under the Coastal Act. It is also true that due to current development patterns along the coast, sea level rise hazards may affect various sections of the population differently, as could the implementation and effectiveness of various adaptation measures. The number of people living along the open coast in areas exposed to flooding from a 100-year flood would increase to 210,000 with a 4.6 ft (1.4 m) increase in sea level; approximately 27% or 56,000 of these are lower income people (those earning less than \$30,000 annually); 45,000 are renters; and 4,700 are linguistically isolated and less likely to understand flood warnings (Heberger *et al.* 2009). According to Heberger *et al.* (2009), the greatest increases in the number of people vulnerable to flooding will occur in Los Angeles, San Diego, Ventura, Humboldt, and San Luis Obispo counties. Sea level rise will likely result in the loss of key infrastructure, intrusion of saltwater into water sources, and the creation of additional coastal hazards. Hazards in vulnerable areas will have disproportionate impacts on communities with the least capacity to adapt, which could deepen and expand existing environmental injustice if adaptation responses are not managed appropriately.

For example, lower-income communities and those who live in rental units are more likely to be displaced by flooding or related impacts as compared to property owners because they lack the funds and/or abilities to rebuild, have less control over their safety, and often have limited access to insurance. Relatedly, these same populations are less likely to be able to take proactive steps to adapt to sea level rise. Additionally, loss of local public beaches or a reduction in public access and recreation opportunities would disproportionately affect low-income communities that have few alternative lower cost recreational opportunities. Tribal communities are also vulnerable to sea level rise because they are often tied to specific locations, and therefore can't easily relocate.

Overall, it will be important for planners and decision makers to not only consider the direct impacts and consequences of sea level rise on coastal resources, but to also consider what those consequences mean for the distribution of environmental benefits and burdens along the coast, and the communities that use and rely on those resources, including those who do not live in the

coastal zone but are still impacted by coastal resource management, including workers and visitors. Low-income and underserved communities are less equipped to prepare for and respond to sea level rise, but community engagement and social cohesion can improve coastal resilience and lead to more equitable adaptation planning. Planners and decision makers should consider environmental justice concerns in the analysis of alternative project designs and adaptation measures and ensure low-income and underserved communities are involved in decision-making and planning efforts. This will better ensure that adaptation efforts benefit all Californians, fairly, and that they do not increase vulnerability to sea level rise among any particular group or demographic, and do not have any unintended consequences that lead to social or environmental injustices. In particular, it will be important to consider the potential impacts of hazard mitigation actions to protect development that may only benefit a few, on the public access and shoreline resources that are available for all Californians to enjoy.

CONSEQUENCES OF SEA LEVEL RISE FOR COASTAL ACT RESOURCES

- **Coastal development (Coastal Act Sections 30235, 30236, 30250, 30253):** Sea level rise will increase the likelihood of property damage from flooding, inundation, or extreme waves, and will increase the number of people living in areas exposed to significant flooding. Increased erosion and loss or movement of beach sand will lead to an increase in the spatial extent of eroding bluffs and shorelines, and could increase instability of coastal structures and recreation areas. Levee systems could also experience damage and overtopping from an increase in water levels, extreme wave conditions, or a loss of wetlands, which buffer impacts from high water. The replacement value of property at risk from sea level rise for the California coast is approximately \$36.5 billion (in 2000 dollars, not including San Francisco Bay) (Heberger *et al.* 2009).

Impacts to public infrastructure, ports, and industrial development include:

- **Public infrastructure:** Low-lying roads, wastewater treatment facilities, energy facilities, stormwater infrastructure, and utility infrastructure such as potable water systems and electricity transfer systems are at risk of impaired function due to erosion, flooding, and inundation. Heberger *et al.* (2009) estimated that 7 wastewater treatment plants, 14 power plants, including one in Humboldt County and 13 in Southern California, and 250 miles (402 km) of highways, 1500 miles (2414 km) of roads, and 110 miles (177 km) of railways could be at risk from a 100-year flood with 1.4-m rise in sea level (Heberger *et al.* 2009). Facilities and highways located on coastal bluffs subject to erosion will become more susceptible in the future. Sections of Highway 1 have already had to be realigned due to erosion or are in the planning stages for realignment projects, including areas in San Luis Obispo County, Monterey Bay, Half Moon Bay, and Marin County and the sections at risk in the future will likely increase.



Figure 7. Photo of infrastructure at risk near Rincon Beach, Ventura, CA, during the King Tide in December 2012. (Photo courtesy of David Powdrell, California King Tides Initiative)

- **Ports (Coastal Act Sections 30703 – 30708):** Sea level rise could cause a variety of impacts to ports, including flooding and inundation of port infrastructure and damage to piers and marina facilities from wave action and higher water levels. A possible benefit could be a decreased need for dredging. But, unless facilities have already included accommodations for larger ships than they currently service, higher water levels could increase the difficulty for cargo handling facilities due to the higher vessel position (CCC 2001; CNRA 2014). Increased water heights could reduce bridge clearance, reducing the size of ships that can access ports or restricting movement of ships to low tides, and potentially increasing throughput times for cargo delivered to ports. Heberger *et al.* (2009) found that significant flooding from sea level rise is possible at the Ports of Los Angeles and Long Beach. Given that these two ports handle 45-50% of the containers shipped into the United States, and 77% of goods that leave the state, sea level rise could affect the efficiency of goods movement, and have serious economic implications for California and the nation (Heberger *et al.* 2009).
- **Industrial development, refineries, and petrochemical facilities (Coastal Act Sections 30260-30266.5):** Sea level rise could reduce areas available for siting or expansion of industrial development. Inundation of contaminated lands near industrial development could lead to problems with water quality and polluted runoff. Sea level rise could lead to an increase in flooding damage of refineries or petrochemical facilities, and impacts from sea level rise could be an issue when locating or expanding refineries or petrochemical facilities, or when mitigating any adverse environmental effects.
- **Construction altering natural shorelines (Coastal Act Section 30235):** Sea level rise may lead to an increase in demand for construction of shoreline protection for existing development, public access, and coastal-dependent uses in danger of erosion. Shoreline protection devices alter natural shorelines and also generally have negative impacts on beaches, near-shore marine habitat, and scenic and visual qualities of coastal areas.

- **Public access and recreation (Coastal Act Sections 30210, 30211, 30213, 30220, 30221):** One of the highest priorities in the Coastal Act is the mandate to protect and maximize public access to the coast. Sea level rise could lead to a loss of public access and recreational opportunities due to permanent inundation, episodic flooding, or erosion of beaches, recreational areas, or trails. In areas where beaches cannot migrate inland due to development or more resistant landforms, beaches will become narrower or will disappear completely. Access and functionality of water-oriented activities may also be affected. For instance, sea level rise, by increasing water levels and altering sediment patterns, could lead to a change in surfing conditions or affect the safety of harbors and marinas (Kornell 2012).
- **Coastal habitats (Coastal Act Sections 30230, 30231, 30233, 30240):** Coastal habitat areas likely to be affected by sea level rise include bluffs and cliffs, rocky intertidal areas, beaches, dunes, wetlands, estuaries, lagoons and tidal marshes, tidal flats, eelgrass beds, and tidally-influenced streams and rivers.

Importantly, there are many endemic and endangered species in California that are dependent on these coastal environments. For example, grunion need a sandy beach environment in order to reproduce and survive, the California clapper rail is dependent on marshes and wetlands, and the black abalone requires rocky intertidal habitat. Nesting habitat, nursery areas, and haul-out sites important for birds, fish, marine mammals and other animals could also disappear as sea levels rise (Funayama *et al.* 2012).

Impacts to wetlands, intertidal areas, beaches, and dunes include:

- **Beaches, dunes, and intertidal areas:** Inundation and increased erosion from sea level rise could convert habitats from one type to another and generally reduce the amount of nearshore habitat, such as sandy beaches and rocky intertidal areas. Sea level rise will cause landward migration of beaches over the long term, and could lead to a rapid increase in the retreat rate of dunes. Beaches with seawalls or other barriers will not be able to migrate landward and the sandy beach areas will gradually become inundated (NRC 2012). A loss of beach and dune areas will have significant consequences for beach and adjacent inland ecosystems. Beaches and dunes provide critical habitat for species and act as buffers to interior agricultural lands and habitat during storms (CNRA 2009).
- **Wetlands:** Sea level rise will lead to wetland habitat conversion and loss as the intertidal zone shifts inland. Of particular concern is the loss of saltwater marshes from sea level rise, which have already decreased by about 90% from their historical levels in California (CNRA 2010). California's 550 square miles (885 km) of critical coastal wetland habitat (Heberger *et al.* 2009, including wetlands in San Francisco Bay) could be converted to open water by 4.6 ft (1.4 m) rise of sea level if they are not able accrete upward or to migrate inland due to natural or anthropogenic barriers. Although barriers are plentiful, inland migration of these wetlands is possible for over 50% of the potentially inundated wetland area based on land use compatibility alone (Heberger *et al.* 2009). Consideration of adequate sediment supply and additional barriers to inland migration would further constrain wetland migration potential. A 4.6 ft (1.4 m) increase in sea level would flood 150 square miles (241 km) of land immediately adjacent to wetlands, which

could become future wetlands if that land remains undeveloped. Loss or reduction of wetland habitat would impact many plant and animal species, including migratory birds that depend on these habitats as part of the Pacific Flyway. Species that are salt-tolerant may have an advantage as sea level rise occurs and exposes new areas to salt water, while species that have narrow salinity and temperature tolerances may have difficulty adapting to changing conditions.

- **Biological productivity of coastal waters (Coastal Act Sections 30230, 30231):** Sea level rise could affect biological productivity of coastal waters by changing the types of habitats that are available. This change could alter species composition, and could potentially result in cascading effects through the coastal food chain. Changes in water quality can have differing impacts on biological productivity. For instance, decreased water quality due to increased nutrient pollution has been found to increase biological productivity at the base of the food chain to undesirable levels, and has been linked to harmful algal blooms which result in hypoxic conditions for other marine species (Kudela *et al.* 2010; Ryan *et al.* 2010; Caldwell *et al.* 2013).
- **Water quality (Coastal Act Section 30231):** Sea level rise could lead to declines in coastal water quality in several ways. First, coastal water quality could be degraded due to inundation of toxic soils and an increase in nonpoint source pollution from flooding. In particular, the presence of facilities or land containing hazardous materials in coastal areas susceptible to flooding or permanent inundation presents toxic exposure risks for human communities and ecosystems. Second, rising seas could impact wastewater facility infrastructure and other methods and structures designed to protect water quality near the coast. In addition to damaging equipment and blocking discharge from coastal outfall structures, floods could force facilities to release untreated wastewater, threatening nearby water quality (Heberger *et al.* 2009). Salt water draining into sewer lines as part of extreme weather flooding might also damage biological systems at wastewater facilities if the organisms present in these systems are not salt-tolerant. Third, sea level rise could lead to saltwater intrusion into valuable groundwater aquifers, potentially rendering some existing wells unusable and decreasing the total groundwater supply in coastal areas. The extent of saltwater intrusion will likely vary based upon local hydrological conditions, with the worst impacts occurring in unconfined aquifers along low-lying coasts that have already experienced overdraft and saline intrusion. This change could force affected communities to turn to more costly water sources such as surface water transfers or desalination. Finally, loss of wetlands could decrease water quality given that wetlands act to improve water quality by slowing and filtering water that flows through them.
- **Coastal agriculture (Coastal Act Sections 30241- 30243):** Sea level rise could lead to an increase in flooding and inundation of low-lying agricultural land, saltwater intrusion into agricultural water supplies, and a decrease in the amount of freshwater available for agricultural uses. Flooding of agricultural lands can cause major impacts on local businesses, national food supplies, and the state's economy.
- **Archaeological and paleontological resources (Coastal Act Section 30244):** Archaeological or paleontological resources could be put at risk by inundation, flooding, or by an increase in erosion due to sea level rise. Areas of traditional cultural significance to California Native American tribes, including villages, religious and ceremonial locations, middens, burial sites, and other areas, could be at risk from sea level rise. For

example, the Santa Barbara Channel area has thousands of archaeological sites dating over 13,000 years that are at risk of being destroyed or altered from small amounts of sea level rise (Reeder *et al.* 2010).

For a summary of some of the sea level rise impacts and potential consequences for the coast, see [Figure 8](#). Many of these consequences are conditions that coastal managers already deal with on a regular basis, and strategies already exist for minimizing impacts from flooding, erosion, saltwater intrusion, and changing sediment patterns. Preparing for sea level rise involves integrating future projections of sea levels into existing hazard analyses, siting, design, and construction processes, ecosystem management, and community planning practices. Processes for integrating sea level rise in Local Coastal Programs and Coastal Development Permit applications are described in the following chapters.

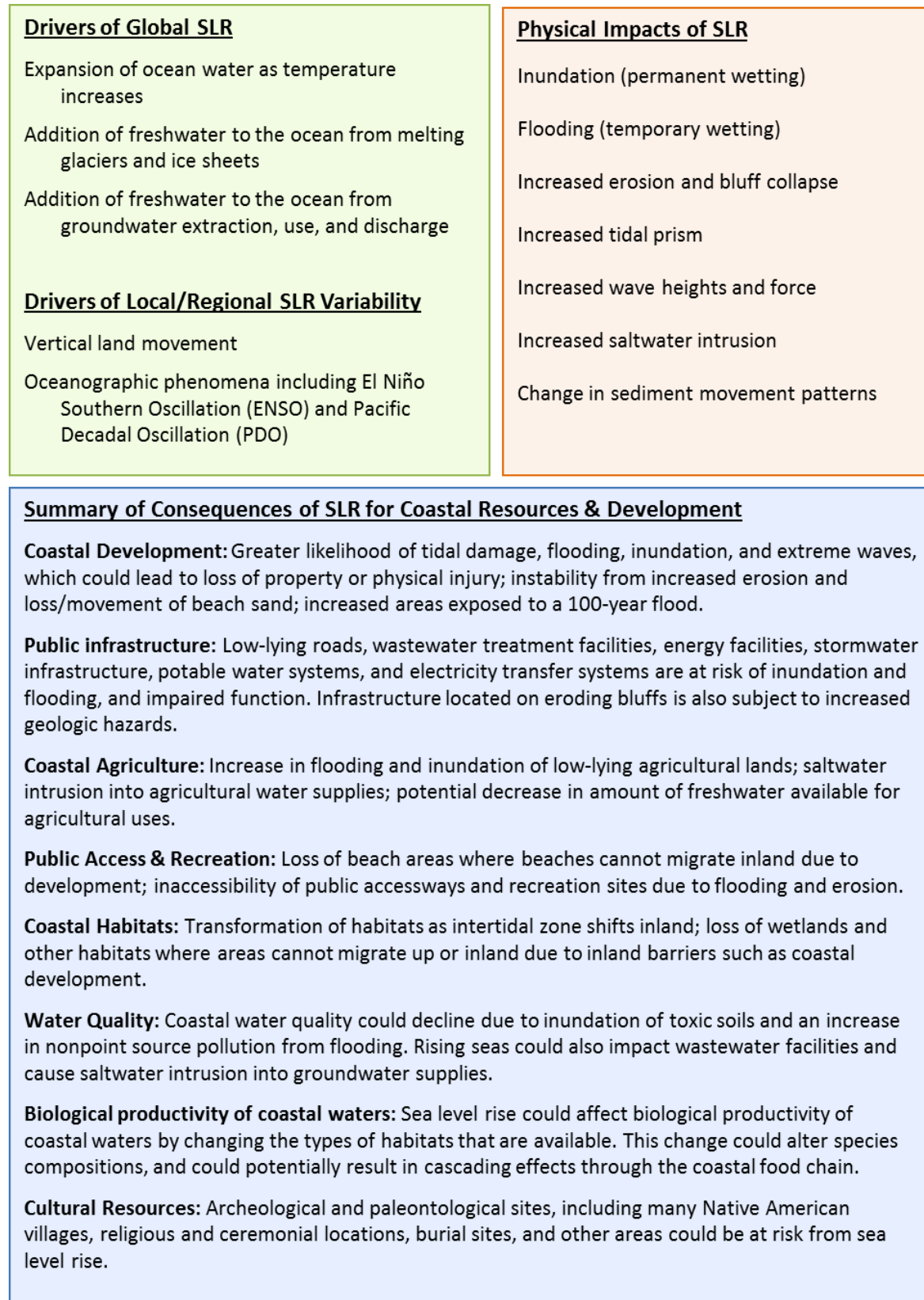


Figure 8. Summary of sea level rise impacts and consequences



Chapter 5

Addressing Sea Level Rise in Local Coastal Programs

The Coastal Act requires that the 61 cities and 15 counties in coastal California prepare Local Coastal Programs (LCPs) to govern land use and development in the coastal zone inland of the mean high tide. LCPs become effective only after the Commission certifies their conformity with the policies of Chapter 3 of the Coastal Act.

LCPs contain the ground rules for future development and protection of resources in the coastal zone. Each LCP includes a Land Use Plan (LUP) and an Implementation Plan (IP). The LUP specifies the kinds, locations, and intensity of uses, and contains a required Public Access Component to ensure that maximum recreational opportunities and public access to the coast is provided. The IP includes measures to implement the LUP, such as zoning ordinances. LCPs are prepared by local governments and submitted to the Coastal Commission for review for consistency with Coastal Act requirements.²⁴

Once an LCP's certification becomes effective, the local government becomes responsible for reviewing most Coastal Development Permit (CDP) applications. However, the Commission retains continuing permit authority over some lands (for example, over tidelands, submerged lands, and public trust lands) and authority to act on appeals for certain categories of local CDP decisions.

To be consistent with the Coastal Act hazard avoidance and resource protection policies, it is critical that local governments with coastal resources at risk from sea level rise certify or update Local Coastal Programs that provide a means to prepare for and mitigate these impacts. The overall LCP update and certification process has not changed. Now, however, the impacts of accelerated sea level rise should be addressed in the hazard and coastal resource analyses, alternatives analyses, community outreach, public involvement, and regional coordination. This Guidance is designed to complement and enhance the existing LCP certification and update steps. Although the existing LCP certification and update processes are still the same, sea level rise calls for new regional planning approaches, new strategies, and enhanced community participation.

LCPs are essential tools to fully implementing sea level rise adaptation efforts. Since many existing LCPs were certified in the 1980s and 1990s, it is important that future amendments of the LCPs consider sea level rise and adaptation planning at the project and community level, as appropriate. The [California Climate Adaptation Strategy](#) (CNRA 2009) and [Safeguarding California](#) (CNRA 2014) specifically identify LCPs as a mechanism for adaptation planning along the California coast. For general guidance on updating LCPs, see the LCP Update Guide, available here: <https://www.coastal.ca.gov/rflg/>.

²⁴ In addition there are other areas of the coast where other plans may be certified by the Commission, including Port Master Plans for ports governed by Chapter 8 of the Coastal Act, Long Range Development Plans for state universities or colleges, and Public Works Plans for public infrastructure and facilities. Following certification of these types of plans by the Commission, some permitting may be delegated pursuant to the Coastal Act provisions governing the specific type of plan.

Steps for Addressing Sea Level Rise in Local Coastal Programs and Other Plans

The Commission recommends the following six steps to address sea level rise as part of the development of an LCP, LCP Amendment, or other plan.²⁵ These steps can be modified and adapted to fit the needs of individual planning efforts and communities and to address the specific coastal resource and development issues of a community, such as addressing bluff erosion or providing for effective redevelopment, infill, and concentration of development in already developed areas. At the start of an LCP update to address sea level rise or a new LCP project, local government planners should contact their local Coastal Commission district office to discuss the LCP goals and to establish a plan for Coastal Commission staff coordination and public involvement throughout the entire process. A key element of any LCP project is public involvement. This can include establishing technical and community stakeholder advisory committees, establishing an interdepartmental sea level rise team of City and County staff representatives, and planning a series of public workshops to gather feedback, in addition to the required public hearings on the LCP.

The steps of this process are illustrated in [Figure 9](#) and described below. They are similar to the standard steps of a long-range planning process and should be familiar to local planners. Steps 1-3 are often referred to as a “sea level rise vulnerability assessment” in other sea level rise planning contexts and therefore are similar to other sea level rise-related resources.

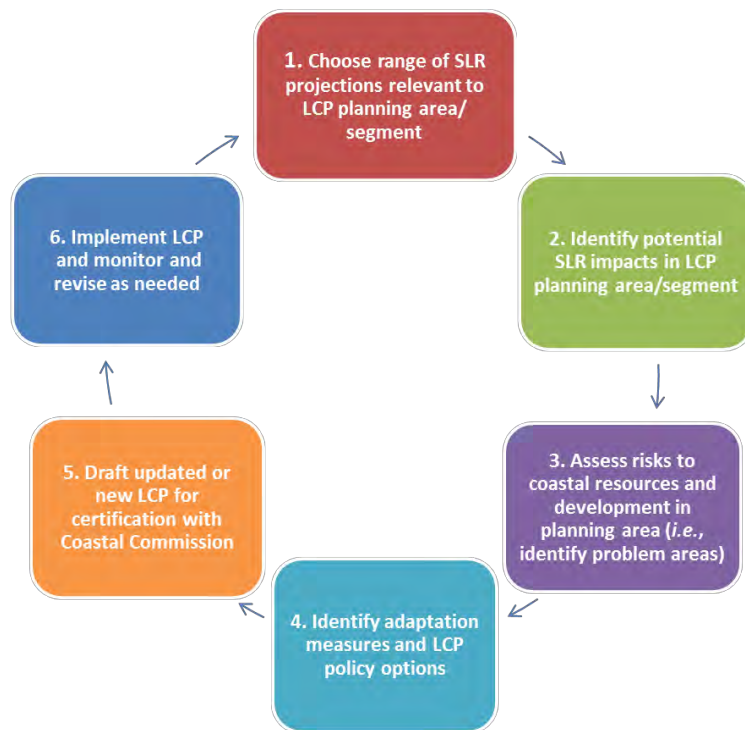


Figure 9. Sea level rise adaptation planning process for new and updated Local Coastal Programs

²⁵ This Guidance uses the term ‘LCP process’ to refer to the LCP process, but many of the concepts included here are applicable to other planning processes, including Long Range Development Plans, Public Works Plans, and Port Master Plans. For example, recommendations for how to analyze sea level rise impacts and perform a vulnerability assessment are broadly applicable. Many adaptation strategies may also be applicable, though in all cases, individual actions taken will vary based on relevant policies, local conditions, feasibility, and other factors.

The Coastal Commission also offers a [Local Coastal Program \(LCP\) Update Guide](#) (2013b) that outlines the broad process for amending or certifying an LCP, and there is naturally some overlap between the content of that document and this Sea Level Rise Policy Guidance document. The general LCP amendment steps are outlined below, in a flow chart (see [Appendix D](#)), and in the [LCP Tips/Best Practices document](#) (2013c), which is available in the [Resources for Local Governments](#) section of the Commission’s website. Local governments should contact the Coastal Commission planner for their area when pursuing a new LCP or LCP amendment.

1. **Initial Amendment scoping and development:** Conduct issues assessment, identify need for amendment, prepare preliminary draft, coordinate with Commission staff, and share early drafts
2. **Local Amendment process:** Notify public, conduct local outreach and hearings, meet with Commission staff to discuss any issues, and adopt LCP at the local level
3. **Prepare Submittal:** assemble LCP materials, discuss with Commission staff prior to submittal, transmit to Coastal Commission, and make available to public
4. **Process Amendment at Coastal Commission:** Commission staff will review submittal within 10 working days for completeness; will address outstanding information needs; will prepare and write staff report; hold public hearing and vote; and transmit action to local government
5. **Effectuate Amendment:** Local acceptance of any modifications or resubmittal within 6 months, finalize local approval, and complete Coastal Commission Executive Director check-off
6. **Implement LCP Amendment, monitor and revise as necessary.**

The step-by-step process for incorporating sea level rise into LCPs outlined in the rest of this chapter fits into these broader LCP amendment steps. Local government planners should use the LCP Update Guide in conjunction with the Sea Level Rise Policy Guidance to inform the LCP.

Use scenario-based analysis

The Guidance recommends using a method called “scenario-based analysis” (described in [Chapter 3](#) of this Guidance). Since sea level rise projections are not exact, but rather presented in ranges, scenario-based planning includes examining the consequences of multiple sea level rise amounts, plus extreme water levels from storms and El Niño events. The goal of scenario-based analysis for sea level rise is to understand where and at what point sea level rise, and the combination of sea level rise and storms, pose risks to coastal resources or threaten the health and safety of a developed area. This approach allows planners to understand the full range of possible impacts that can be reasonably expected based on the best available science, and build an understanding of the overall risk posed by potential future sea level rise. For example, if there are large changes in the hazard zones between two sea level rise amounts, additional analyses may help determine the tipping points when viable land uses will change. In general, scenario-based analyses can help determine the long-term compatibility of certain areas with certain land uses. For further description of this method, see [Chapter 3](#).

Include other topics as applicable or desired

This Guidance recommends a number of analyses that will generate useful information related to sea level rise and other environmental vulnerabilities. Performing these analyses (and the overall planning process) may provide a useful opportunity to include other studies that will complement the goals of Local Coastal Programs and provide valuable insights for community concerns. For example, planners should expand the Coastal Act consideration of lower cost visitor serving facilities to include considerations of social equity and environmental justice in the analyses by determining how climate hazards or the adaptation measures might differentially impact various demographics. Additionally, planners may want to incorporate analysis of the economic implications of various options for adaptation. Important topics such as these should be incorporated into the analyses already underway for the sake of efficiency.

Leverage analyses and share information with other planning-related processes and documents

Sea level rise is addressed in many other planning-related documents and by many other agencies and organizations. Planners should be aware of these documents and the on-going work of state and federal agencies and make an effort to share information in cases where analyses required for some of these documents may overlap with the studies appropriate for sea level rise planning in LCPs. Additionally, these agencies, organizations, and planning efforts may be good resources from which to gather information when performing these analyses for LCP updates.

For example, there is overlap between the required elements of a Local Hazard Mitigation Plan (LHMP) and Local Coastal Programs, and the Commission recommends coordinating an LHMP update with an LCP update if possible. As part of an LHMP, local governments identify the natural hazards that impact their community, identify actions to reduce the losses from those hazards, and establish a coordinated process to implement the plan.²⁶ In order to be eligible for certain types of non-emergency disaster assistance, including funding for hazard mitigation projects, local governments are required by FEMA to complete an LHMP²⁷ and to update the plan every 5 years. Any sea level rise hazard avoidance strategies included in an LCP certification or update, such as relocation of critical facilities must be included in the LHMP narrative to be eligible for funding from FEMA to implement future projects. If a local government has recently updated their LHMP, the city or county can add narrative information on sea level rise strategies through an addendum to the plan, referred to by FEMA as an annex.²⁸

In many cases, the analyses and adaptation options identified in this Guidance could be used for hazard mitigation plans or vice versa, as the goal of each of these planning processes is to

²⁶ <http://www.fema.gov/media-library-data/20130726-1524-20490-5927/67fr8844.pdf>

²⁷ Note that recent revisions to the [State Mitigation Plan Review Guide](#), set to go into effect in March 2016, will require states to analyze the probability and possible impacts due to future hazard events in a way that includes the projected changes in natural hazards resulting from climate change. Failure to include such considerations may result in a state's ineligibility for certain non-emergency mitigation grants.

²⁸ For more information on how to complete or update an LHMP, visit <http://hazardmitigation.calema.ca.gov/> or contact the Cal OES office and a hazard mitigation technical expert can assist local governments with the planning process. For contact information, visit <http://www.caloes.ca.gov/cal-oes-divisions/hazard-mitigation/contacts>.

minimize or avoid impacts from coastal hazards. As a result, there may be opportunities to leverage funding and share work efforts.

A number of other similar planning processes, projects, and documents are listed in [Figure 10](#), and planners may be able to use these studies in the LCP planning process, or, alternatively, share analyses and information performed for LCP planning with the groups working on related projects. Additionally, the forthcoming State of California Planning for Sea Level Rise Database (established by Assembly Bill 2516 and pursuant to Public Resources Code Sections 30961-30968) may become an important tool for identifying past and/or ongoing actions that stakeholders have implemented to address sea level rise. In any case, information sharing is highly recommended to promote efficiency.

Coordinate regionally as appropriate

Many impacts of sea level rise will transcend jurisdictional boundaries. Similarly, the adaptation decisions made by coastal communities could themselves have consequences that affect areas outside the local jurisdiction. For these reasons, regional coordination will often enhance the effectiveness of local adaptation decisions. Indeed, many of the projects identified in [Figure 10](#) have taken this regional approach. Planners should keep this concept in mind as they work through these steps and coordinate regionally where appropriate and possible.

Representative Adaptation Planning Stakeholders

Agencies	<p><u>Local/Regional:</u></p> <ul style="list-style-type: none"> • City/county governments • League of Cities • Association of Counties • Regional entities (e.g., air districts, water boards, metropolitan planning organizations, regional transportation planning agencies) 	<p><u>State:</u></p> <ul style="list-style-type: none"> • Natural Resources Agency • Ocean Protection Council • CA Coastal Commission • State Coastal Conservancy • State Lands Commission • SF Bay Conservation & Development Commission • Office of Planning & Research • Caltrans • Office of Emergency Services • CA Geologic Survey • Dept. of Parks and Rec. • Dept. of Fish and Wildlife • Dept. of Water Resources • State Water Resources Control Board • Air Resources Board • Dept. of Conservation 	<p><u>Federal:</u></p> <ul style="list-style-type: none"> • FEMA • EPA • US Fish and Wildlife Service • NOAA • Gulf of the Farallones NMS • Monterey Bay NMS • SF Bay NERR • Elkhorn Slough NERR • Tijuana River NERR • US Geologic Survey • US Army Corps of Engineers • BOEM, BSEE • National Park Service • Sea Grant
Partner Organizations	<ul style="list-style-type: none"> • Non-Government Organizations (e.g., environmental, social) • Professional organizations (e.g., agricultural, fisheries, communications) • Science organizations • Universities • Private consultants/industry <p><i>Examples include:</i></p> <ul style="list-style-type: none"> • The Nature Conservancy • Surfrider Foundation • Coastkeeper Alliance • Center for Ocean Solutions • Point Blue Conservation Science • Pacific Institute • Natural Capital Project • American Society of Adaptation Professionals 	Coordinated Planning Efforts	<p><u>Regional Environmental Efforts</u></p> <ul style="list-style-type: none"> • Our Coast Our Future (CoSMoS) • So. CA Coastal Impacts Project (CoSMoS) • Humboldt Bay SLR Adaptation Working Group • Monterey Bay Adaptation Group • LA Regional Adaptation Group • Coastal Resilience Ventura • San Diego Regional Climate Collaborative • Santa Barbara and Ventura Co. resilience planning <p><u>Local/Regional Plans</u></p> <ul style="list-style-type: none"> • Local Hazard Mitigation Plans • General Plans • Climate Action Plans • Capital Improvement Plans/Programs • Climate Change Adaptation Plans • Integrated Regional Water Management Plans • Regional Sediment Management Plans • Sustainable Community Plans • Regional Transportation Plans

Figure 10. Agencies, organizations, and planning efforts related to sea level rise adaptation

Step 1 – Determine range of sea level rise projections relevant to LCP planning

The first step in incorporating sea level rise into the LCP planning process is to identify locally relevant sea level rise scenarios that may occur at given time steps into the future. These scenarios will be carried through the rest of the steps in the sea level rise LCP planning process. Follow these steps to determine the locally relevant sea level rise projections to use in the subsequent steps:

- **Determine planning horizons of concern:** The Coastal Commission recommends taking a long-term view when analyzing sea level rise impacts because the land use decisions made today will affect what happens over the long-term. For example, development constructed today is likely to remain in place over the next 75-100 years, or longer. In practice, many jurisdictions have completed assessments that look at sea level rise vulnerabilities through approximately 2100. Understanding short-term vulnerabilities is also important, and the Coastal Commission recommends assessing vulnerabilities in intermediate planning horizons. For example, many jurisdictions have assessed sea level rise scenarios that correspond to years 2030 and 2050, in line with information provided in the 2012 National Research Council (NRC) [report](#). These time periods may be used, or local governments may identify other relevant planning horizons for their plans and development scenarios, as long as the projections for those time frames are based on the best available and relevant scientific projections.
- **Determine the full range of sea level rise projections from the best available science:** Using best available science, currently the 2018 OPC SLR Guidance (or other comparable study, provided that it is peer reviewed, widely accepted within the scientific community, and locally relevant), determine the range of sea level rise for the planning horizons of concern. The sea level rise projections for the San Francisco tide gauge from the 2018 OPC SLR Guidance are presented in [Table 4](#) below (projection tables for all 12 California tide gauges are presented in [Appendix G](#))²⁹. See below for a discussion of scenario-based planning in the LCP context. The LCP should include a policy to use the best available science about sea level rise.

²⁹ More detailed refinement of sea level rise projections is not considered necessary at this time, as variations from the nearby tide gauges will often be quite small, and may be insignificant compared to other sources of uncertainty. However, the Coastal Commission recognizes that other studies exist with localized data, for example those completed in the Humboldt Bay region, which may also be appropriate for use.

Table 4. Sea Level Rise Projections for the San Francisco Tide Gauge³⁰ (OPC 2018)

Projected Sea Level Rise (in feet): <i>San Francisco</i>			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.8	1.0
2040	0.8	1.3	1.8
2050	1.1	1.9	2.7
2060	1.5	2.6	3.9
2070	1.9	3.5	5.2
2080	2.4	4.5	6.6
2090	2.9	5.6	8.3
2100	3.4	6.9	10.2
2110*	3.5	7.3	11.9
2120	4.1	8.6	14.2
2130	4.6	10.0	16.6
2140	5.2	11.4	19.1
2150	5.8	13.0	21.9

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

³⁰ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

- **Choose multiple sea level rise scenarios based on range of sea level rise projections.**
The Coastal Commission recommends that all communities evaluate the impacts from the “medium-high risk aversion” scenario. Local governments should also include the “extreme risk aversion” scenario to evaluate the vulnerability of planned or existing assets that have little to no adaptive capacity, that would be irreversibly destroyed or significantly costly to repair, and/or would have considerable public health, public safety, or environmental impacts should that level of sea level rise occur. Planners may also consider evaluating the lower projections (those with a higher probability) to gain an understanding on what is likely to be vulnerable regardless of modeling uncertainty and future greenhouse gas emissions.

In addition to evaluating the worst-case scenario, planners need to understand the minimum amount of sea level rise that will cause impacts for their community, and how these impacts will change over time, with different amounts of sea level rise. Planners should evaluate enough scenarios to be able to answer the following:

- What are the impacts from the worst-case scenario of the highest possible sea level rise plus elevated water levels from high tide, El Niño and a 100-year storm?
- What is the minimum amount of sea level rise that causes inundation, flooding, or erosion concerns?
- How do inundation, flooding, and erosion concerns change with different amounts of sea level rise?
- Are there any tipping points where sea level rise impacts become more severe? (For example, is there a point at which seawalls or levees are overtopped?)

There are two main ways to choose scenarios from which to evaluate sea level rise: by sea level rise amount or by time-period. Tools that provide maps by sea level rise amount can then be linked to the relevant time period, as shown below in the *Our Coast Our Future* example. There is no single accepted sea level rise mapping methodology for the state of California. Local governments can choose whether to use existing sea level rise tools or to develop their own scenarios and maps. See below for information on scenarios and modeling outputs generated by existing sea level rise modeling tools.

Examples of Choosing Scenarios with Existing Sea Level Rise Modeling Tools

For California, there are two primary methods for identifying sea level rise scenarios, based on two of the currently available SLR mapping tools: CoSMoS (Our Coast Our Future) and Coastal Resilience Ventura (The Nature Conservancy). The type of tool available for sea level rise mapping in a planning area can be a deciding factor for which scenarios to use in the analysis. The Coastal Commission recommends using as many scenarios as necessary to fully analyze the potential impacts to coastal resources, human health, and safety rather than a specific tool or number of scenarios. Examples for choosing scenarios based on the tools available are described below.

Example 1: Identify SLR amounts, then relate to likely time period(s) of occurrence

This method involves first examining different amounts of sea level rise and storm events, and second, looking at the 2018 OPC SLR Guidance projections to determine the range of years during which those impacts could potentially occur. For example, the Our Coast Our Future CoSMoS-based tool provides sea level rise maps for 9 different amounts in 25 cm (0.8 ft) intervals, three different storm scenarios (annual, 20-year, and 100-year), and a king tide scenario. With this tool, users can first evaluate different amounts of sea level rise and storms, determine how different amounts of sea level rise and storm situations affect the planning area, and then determine when the increased water level is likely to occur based on the OPC Guidance projections. The CosMoS tool is currently available from Point Arena (in Mendocino County) through the Mexico border, and an expansion throughout the rest of the state is planned for 2018/2019. The NOAA Sea Level Rise and Coastal Flooding Impacts viewer similarly provides maps for different amounts of sea level rise (in this case, in 1-ft increments), but does not include impacts from storms, erosion or waves. A methodology for adding in these additional impacts is described in [Appendix B](#).

Example 2: Choose applicable years, then identify high, intermediate, and low scenarios

For this method, planners pick specific years, determine the range of sea level rise amounts that could occur by that year, and examine the consequences of three or more sea level rise amounts within that range. For example, the Coastal Resilience Ventura Tool (The Nature Conservancy) provides maps showing inundation, flooding, wave impact zone, and erosion risk zones with low, medium, and high sea level rise scenarios for the years 2030, 2060, and 2100. For local governments within Ventura County, planners may choose to evaluate scenarios according to the 2030, 2060, and 2100 time periods. The model provides maps for both flooding and erosion.

Expected outcomes from Step 1: Upon completing this step, a range of regionally- or locally-relevant sea level rise projections for the time periods of concern should be established. Based on the range of projections, planners will have identified a low, high, and one or more intermediate projections. These projections are the sea level rise scenarios that will be carried through the rest of the planning process.

Step 2 – Identify potential physical sea level rise impacts in LCP planning

The next step is to identify the physical hazards and impacts (referred to comprehensively as sea level rise impacts) associated with current and future sea level. As described in Section C of [Chapter 3](#) of this Guidance, broad categories of sea level rise impacts may include inundation, flooding, wave impacts, erosion, and saltwater intrusion. In this step, planners should analyze these physical impacts and their various sub-components in order to understand current and future local hazard conditions. The analysis should answer the following basic questions:

- What are the existing hazard conditions that threaten the planning area?
- What is the projected change in hazard conditions due to locally appropriate sea level rise projections and planning horizons of concern?

This analysis should include the following topics, as applicable:

- Local Water Conditions (See [Appendix B](#) for a detailed methodology)
 - Current tidal datum³¹ and future inundation
 - Water level changes from storm surge, atmospheric pressure, the Pacific Decadal Oscillation (PDO), the El Niño Southern Oscillation (ENSO), and/or other basin-wide phenomena
 - Wave impacts and wave runup, including wave runup from a 100-year storm, and based on tides, other water level changes, and future beach and bluff erosion
 - Flooding from extreme events such as storms with intervals greater than 100 years, tsunamis, *etc.*
- Shoreline change (See [Appendix B](#) for more information)
 - Current shoreline erosion rates. For future cliff and dune erosion rates, modify historic erosion rates, to account for the influence of sea level rise (*e.g.*, work by the Pacific Institute – Heberger *et al.* 2009; Revell *et al.* 2011). If possible, modify long-term beach erosion rates to account for changes in El Niño frequency, storm intensity, sediment supply or changing transport conditions. Analyzing wetland responses to sea level rise may require site-specific analyses of various physical and biological factors as described in Heberger *et al.* 2009.
 - Sedimentation rates
- Water quality
 - Current and future saltwater intrusion areas

³¹ Tidal datums are based on the latest National Tidal Datum Epoch (NTDE) published by NOAA and are the mean of the observed sea levels over a 19-year period. The latest published epoch is 1983-2001. This tidal epoch can be considered equivalent to the year 2000 baseline for the OPC projections.

- Current and potential future coastal water pollution issues due to inundation of toxic soils, rising water tables, and increases in nonpoint source pollution

Use existing models, tools, reports, historic records, and other materials ([Table 5](#)) to develop or double check the identified hazard areas. Document the current and future hazard areas in the Land Use Plan using maps, GIS products, graphics, tables, charts, figures, descriptions, or other means. This process should be repeated for each planning horizon and/or sea level rise scenario defined in Step 1.

Expected outcomes from Step 2: Upon completing this step, the potential current and future impacts to the planning area from sea level rise hazards should be identified based on sea level rise projections. These should include impacts from the high, low, and intermediate sea level rise scenarios for the planning horizon(s) of concern. Maps, GIS layers, graphics, figures, charts, tables, descriptions, or another system should be developed to communicate the impacts of current and future hazards.

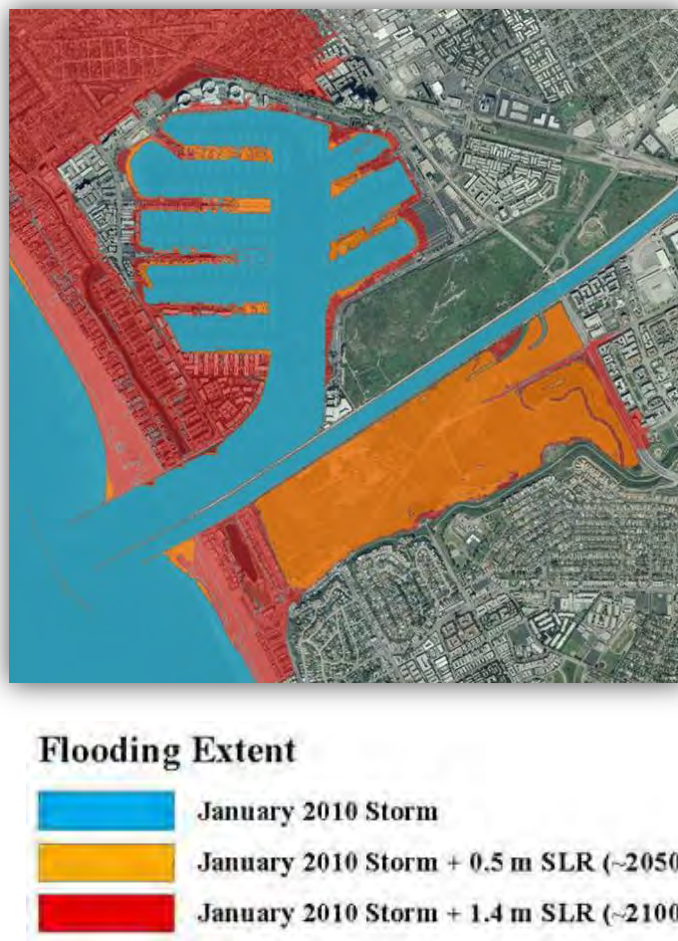


Figure 11. Example of analysis of SLR impacts. Flooding hazards predicted from the CoSMoS hindcast of the January 2010 storm, with and without sea level rise (SLR) scenarios, in the region of Venice and Marina del Rey, CA. (Source: [Barnard et al. 2014](#)).

Resources for Sea Level Rise Mapping

[Table 5](#) includes a list of sea level rise mapping tools. The tools vary in their complexity: some are considered “bathtub models,” because they show future inundation with simple rise in sea level (and no changes to the shoreline caused by other forces). Others include factors like erosion, storms, and fluvial inputs. These tools provide a useful first look at possible sea level rise impacts, but may need to be supplemented with additional, site- or topic-specific analyses, depending on the region. See [Appendix B](#) for additional information on determining hazard impacts and tools for mapping sea level rise.

Table 5. Sea Level Rise Mapping Tools

Tool	Description	Link
Statewide		
NOAA Sea Level Rise and Coastal Flooding Impacts Viewer	Displays potential future sea levels with a slider bar. Communicates spatial uncertainty of mapped sea level rise, overlays social and economic data onto sea level rise maps, and models potential marsh migration due to sea level rise. Maps do not include any influence of beach or dune erosion.	NOAA Office for Coastal Management, http://coast.noaa.gov/digitalcoast/tools/slr
Cal-Adapt – Exploring California’s Climate	Represents inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting from different increments of sea level rise coupled with extreme storm events. Incorporates real, time series water level data from past (near 100 year) storm events to capture the dynamic effect of storm surges in modeling inundation using a three dimensional hydrodynamic model (per Radke, 2017).	http://cal-adapt.org/tools/slr-calflod-3d/
Pacific Institute Sea Level Rise Maps	Downloadable PDF maps showing the coastal flood and erosion hazard zones from the 2009 study. Data are overlaid on aerial photographs and show major roads. Also available are an interactive online map and downloadable maps showing sea level rise, population and property at risk, miles of vulnerable roads and railroads, vulnerable power plants and wastewater treatment plants, and wetland migration potential.	http://www.pacinst.org/reports/sea_level_rise/maps/ For the 2009 report <i>The Impacts of Sea-Level Rise on the California Coast</i> visit: http://pacinst.org/publication/the-impacts-of-sea-level-rise-on-the-california-coast/

<p>Climate Central Surging Seas</p>	<p>Overlays sea level rise data with socio-economic information and ability to analyze property values, population, socio-economic status, ethnicity, and income or areas at risk. Can compare exposure across the state or a county.</p>	<p>http://sealevel.climatecentral.org/ssrf/california</p>
<p>Coastal Storm Modeling System (CoSMoS); tool hosted by Our Coast Our Future</p>	<p>Currently available for Point Arena to the Mexico border, with a statewide expansion anticipated in 2018/2019. The Coastal Storm Modeling System (CoSMoS) is a dynamic modeling approach that allows detailed predictions of coastal flooding due to both future sea level rise and storms, and integrated with long-term coastal evolution (i.e., beach changes and cliff/bluff retreat)</p>	<p>https://walrus.wr.usgs.gov/coastal_processes/cosmos/ http://data.pointblue.org/apps/ocof/cms/</p>
<p>TNC Coastal Resilience</p>	<p>An online mapping tool showing potential impacts from sea level rise and coastal hazards designed to help communities develop and implement solutions that incorporate ecosystem-based adaptation approaches. Available statewide with more detailed modelling for Monterey Bay, Santa Barbara, Ventura, and Santa Monica.</p>	<p>http://maps.coastalresilience.org/california/</p>
<p>Humboldt Bay Sea Level Rise Adaptation Project</p>	<p>This project is a multi-phased, regional collaboration. Phase I produced the <i>Humboldt Bay Shoreline Inventory, Mapping, and Sea Level Rise Vulnerability Assessment</i> which describes current shoreline conditions and vulnerabilities under the current tidal regime. Phase II included hydrodynamic modeling to develop vulnerability maps of areas surrounding Humboldt Bay vulnerable to inundation from existing and future sea levels. Phase II produced the <i>Humboldt Bay Sea Level Rise Modeling Inundation Mapping Report</i> and the <i>Humboldt Bay Sea Level Rise Conceptual Groundwater Model</i>.</p>	<p>All reports are available at: http://humboldtbay.org/humboldt-bay-sea-level-rise-adaptation-planning-project</p>

Step 3 – Assess potential risks from sea level rise to coastal resources and

After sea level rise impacts are identified and mapped in Step 2, the next Step is to determine whether sea level rise poses any risks, or potential problems, for coastal resources and development in the LCP planning area (refer to [Chapter 4](#) for a description of the potential consequences of sea level rise for coastal resources). Next, assess whether the LCP planning area’s current and planned land uses are appropriate or consistent with Coastal Act or LCP policies given those impacts, or if those land uses should be revised. This step requires an understanding of several characteristics of the coastal resources and development typically found within various land use types. (Much of this information can be produced in a vulnerability assessment, an analysis that is commonly conducted in the planning and climate change adaptation field. See [Appendix C](#) for a list of recent sea level rise vulnerability assessments.) Account for potential impacts to vulnerable, low-income communities and consider coastal development and resources, including but not limited to:

- Existing and planned development
- Coastal-dependent development and uses such as harbors, wharfs, ports, marinas, and commercial and recreational fishing areas and facilities
- Critical infrastructure³² such as wastewater treatment plants, transportation infrastructure, and some power plants and energy transmission infrastructure
- Public accessways, beaches and other recreation areas, and the California Coastal Trail
- State Highway 1, 101, and other state and local roads that provide access to the coast
- Wetlands, environmentally sensitive habitat area (ESHA), and other coastal habitats and sensitive species
- Agricultural areas
- Cultural sites and archaeological or paleontological resources
- Visitor-serving development and uses

Conduct the following tasks for each planning horizon (*e.g.*, the years 2030, 2050, and 2100, or other planning horizons):

1. For the planning horizon of interest, determine what development and coastal resources may be subjected to the sea level rise impacts expected for that time period. Map the coastal resources and development that lie within the sea level rise impact areas for the given time period. (Remember to address the wide range of resources listed above, including both natural resources and development.)

³² Critical infrastructure can vary widely from community to community, and may also include fire stations, police stations, and hospitals. For planning purposes, a jurisdiction should determine criticality based on the relative importance of its various assets for the delivery of vital services, the protection of special populations, and other important functions, as well as the social, environmental, and economic risks associated with loss of or damage to such assets.

2. Determine if sea level rise impacts are a problem or benefit for each resource, and if so, when and to what degree the resource will be impacted. In some instances, sea level rise may result in the creation of new habitat areas that could help to alleviate impacts from the loss of similar habitat in other locations. However, it is more likely, especially in heavily urbanized areas, that sea level rise will result in a net loss of habitat unless steps are taken to preserve these systems.

To accomplish this, consider a wide range of characteristics of each resource, including the following. The questions listed under each characteristic might help guide the consideration of each of these characteristics. These questions are meant to be suggestions rather than a standardized approach, and planners may use scientific literature, best professional judgment, or a variety of other resources to gain a conceptual understanding of the important resources and vulnerabilities in their jurisdictions.

- a. **Exposure.** Will sea level rise impacts affect the resource/development at all?
 - i. Are coastal resources and community assets exposed to sea level rise impacts?
 - ii. Is the resource already exposed to hazards such as waves, flooding, erosion, or saltwater intrusion? If it is, will sea level rise increase hazard exposure?
- b. **Sensitivity.** If resources are exposed, to what degree will coastal resources/development be affected by sea level rise impacts? A simple way to think about this concept is to consider *how easily affected* the resource or development is in regard to sea level rise impacts.
 - i. How quickly will the resource respond to the impact from sea level rise?
 - ii. Will the resource/development be harmed if environmental conditions change just a small amount? What are the physical characteristics of resource/asset (*e.g.*, geology, soil characteristics, hydrology, coastal geomorphology, topography, bathymetry, land cover, land use)? Do any of those characteristics make the resource especially sensitive?
 - iii. Are there thresholds or tipping points beyond which sensitivity to sea level rise increases?
- c. **Adaptive Capacity.** How easily can the resource successfully adapt to sea level rise impacts?
 - i. How well can the resource/development accommodate changes in sea level?
 - ii. Is rate of change faster than the ability of the resource/development to adapt?
 - iii. How easily can development be modified to cope with flooding, inundation, and/or erosion? Can structures be elevated or relocated?

- iv. Are there adaptation efforts already underway? Are there any factors that limit the success of adaptation efforts?
 - v. Do beaches, wetlands and other coastal habitats have room to migrate inland? What is the overall health of existing wetlands and coastal habitats?
 - vi. Are there any other climate change-related impacts to consider? Are there any non-climate stressors that could impair ability to adapt to sea level rise?
 - vii. Is there potential for habitat creation as a result of sea level rise?
 - viii. What are the options to protect, redesign (*e.g.*, elevate), or relocate inland any existing public accessways, recreational beaches, and segments of the Coastal Trail to cope with rising sea levels? Is lateral access compromised with sea level rise?
- d. **Consequences.** When sea level rise and/or sea level rise adaptation measures have impact(s) upon a resource, what are the economic, ecological, social, cultural, and legal consequences?
- i. How severely could each resource be affected? At what scale?
 - ii. Are there cumulative consequences?
 - iii. Are there ripple effects, or secondary consequences to consider?
 - iv. Will human responses cause further adverse impacts?
- e. **Land Use Constraints.** Given the location of sea level rise impacts and the resources currently located in those areas, should the types and intensities of land use be altered to minimize hazards and protect coastal resources?
- i. What is the current pattern of development? Is the area largely developed or does it have significant areas of undeveloped land?
 - ii. Is the area served by infrastructure that is vulnerable to sea level rise impacts?
 - iii. Are large areas of land under common ownership or is land mostly subdivided into smaller lots in separate ownership?
 - iv. What conditions does the land use type, development, or resource require to either exist or fulfill its intended purpose?
 - v. Is it a coastal-dependent use? What is its ideal proximity to the coast?
 - vi. For new development, what is the expected lifespan? Is it economically feasible to locate it in a sea level rise impact area for a certain period of time before it is removed or relocated?
 - vii. For existing development, what are the options available to minimize hazards to the development and protect coastal resources? Note that in

- certain situations, the Coastal Act allows existing structures to be protected (Coastal Act Section 30235). What are the coastal resource impacts of such protection, and are there feasible alternatives that avoid shoreline armoring, such as options to provide incentives to property owners to relocate or remove at-risk structures?
- viii. For a natural resource or habitat, what conditions does it require to persist?
 - ix. Where would resources/development ideally be located after sea level rise causes environmental conditions to shift?
 - x. What changes to existing LCP requirements or other land use restrictions are necessary to maximize opportunities for avoiding hazards or relocating threatened existing development?

After going through the questions listed above, and others that may be relevant to the planning exercise, synthesize the information and determine where sea level rise impacts currently pose problems for coastal resources, what problems may develop over time as sea level rises, and how urgent the problems are. Create maps illustrating the location and extent of vulnerable land uses, such as critical facilities, wastewater infrastructure, and State Highway 1 and other coastal access roadways. This information can also be summarized in narrative form. The analysis should identify resources and development likely to be impacted by sea level rise at various periods in the future, and thus the issues that need to be resolved in the LCP planning process.

Remember that these assessments are not static; existing risks will change and new risks will arise with changes in a community, the emergence of new threats, new information, and the implementation of adaptation actions. For this reason, the analysis should be updated as needed to reflect changes in sea level rise projections, changes in land use patterns, or new threats.

***Expected outcomes from Step 3:** Descriptions of the characteristics that influence risk, including exposure, sensitivity, and adaptive capacity of each coastal resource to sea level rise impacts under each sea level rise scenario identified in Step 1 at the selected planning horizons, along with the expected consequences of those impacts for the resource and broader community. Maps of resources and/or land uses at risk could be produced.*

Example for Step 3

To illustrate the process described in Step 3, consider a hypothetical planning area that includes multiple coastal resources and land use types, including a coastal wetland, bluff-top residential development with a fronting beach, and a wastewater treatment facility, that need to be addressed in the planning process. After Steps 1 and 2, portions of the planning area are found to be subject to current and future sea level rise impacts.

Step 3.1: Map the coastal resources (in this case the wetland, development, and wastewater treatment facility) for the range of time periods and sea level rise projections.

Step 3.2

a. **Exposure**

- *Wetland:* The wetland is highly exposed to flooding and inundation from sea level rise. By the year 2030, portions of the wetland will trap sediment at a rate such that the elevation keeps pace with sea level rise. By 2050, a portion of the wetland will become inundated and converted to open water, and by 2100 the entire area will be converted to open water. The wetland will be completely lost by this time period if it is not able to move inland.
- *Bluff-top Residential Development:* Houses in the residential development are not exposed to sea level rise impacts in 2030. However, a high rate of retreat along the fronting beach and bluff will put front-line houses in danger of being undermined by the year 2050, and the entire development may be lost by 2100.
- *Wastewater Treatment Facility:* Given that the wastewater treatment plant is set back somewhat from the water, it will not be exposed to impacts from sea level rise until 2050. By 2050, however, portions of the infrastructure will be exposed to impacts from elevated water levels due to 100-year storm events and El Niño occurrences. By 2100, significant portions of the facility will be exposed to flooding as the surrounding area is eroded and inundated.

b. **Sensitivity**

- *Wetland:* The wetland has high sensitivity to changes in sea level because its functioning is highly-dependent on local physical parameters such as water flow, tidal fluctuation, sediment supply, and water quality. Although it currently has good sediment supply, good water quality, and a number of other characteristics, small changes in sea level rise by 2050 may alter the function of the wetland. In addition, there are concerns that beyond 2050 the wetland will not be able to keep up with accelerated sea level rise, thus increasing sensitivity to further changes in sea level.
- *Bluff-top Residential Development:* The residential development has moderate to high sensitivity to longer-term sea level rise changes. By 2050, the front-line houses will no longer be safe enough for occupancy. Moreover, infrastructure such as roads, sewage systems, and power networks may be damaged as the bluff-face erodes.
- *Wastewater Treatment Facility:* The facility is moderately sensitive to sea level rise. Flooding and erosion from sea level rise could cause damage of the facility, pumps and

other equipment, but the facility was initially built to withstand a high degree of storm and related impacts.

c. **Adaptive Capacity**

- *Wetland:* Unlike many wetlands in the State of California, this particular wetland has a moderate-high adaptive capacity because it has the ability to both accumulate sediment and grow upwards, and, given that the land upland of the wetland is preserved as open space, it can migrate inland. However, by 2050, a part or all of the existing wetland area could be converted to open water if the wetland is not able to migrate inland or accumulate sediment at a rate that keeps pace with sea level rise. In this case, for example, a public trail will need to be relocated to allow inland migration of the new intertidal zone. Additionally, adaptive capacity may be reduced if pollution increases (*e.g.*, as a result of damage to adjacent development) and disrupts the normal functioning of the wetland.
- *Bluff-top Residential Development:* The residential development has a moderate adaptive capacity. As houses become threatened over time, a scenario of managed retreat would allow houses to be removed incrementally and eventually be relocated to safer areas. The feasibility of managed retreat can depend upon lot sizes, ownership patterns, land use restrictions in the safer areas, and the availability of public or private financing. In addition, a protective structure such as a seawall would minimize threats to the residence due to erosion, though if the development is protected by shoreline structures, the fronting beach will eventually be lost.
- *Wastewater Treatment Facility:* The wastewater treatment facility has a very low adaptive capacity. It is large and has expensive infrastructure so it cannot be elevated, and relocation is costly and difficult. In order to be protected in its current location, new structures will need to be built.

d. **Consequences**

- *Wetland:* In many situations, the loss of wetland area is a high risk since wetlands provide flood protection, water quality enhancement, and essential habitat for fish and bird species. However, in this case, wetland migration is not restricted by inland development, so the risks for this wetland are slight to moderate, depending upon the suitability of the inland area for establishment of wetland plants and potential changes in water temperature and water quality. In the short term, the wetland will likely continue to function at normal levels. However, if it eventually can't keep up with sea level rise or if there are barriers to migration, loss of the habitat will result in a loss of important ecosystem services.
- *Bluff-top Residential Development:* The housing development has medium to high risk through 2100. The option to either relocate houses or protect them with a seawall means that they could continue to exist. Importantly, a system of managed retreat will allow for the continued existence of the fronting beach and all of its social, economic, and environmental benefits, whereas the construction of a seawall will result in the loss of the beach and these benefits.

- *Wastewater Treatment Facility:* Given its low adaptive capacity and high sensitivity to higher levels of sea level rise, the wastewater treatment facility is at high risk. Loss or damage to the facility could result in serious social, economic, and environmental consequences. Flooding of the facility and surrounding areas will cause damage to infrastructure and loss of facility function. This could lead to discharge of untreated sewage, which would have adverse impacts to water quality and could impair the health of nearshore ecosystems. Sea level rise could also cause outflow pipes to back up with seawater, leading to inland flooding and additional water quality problems. However, efforts to protect the structure may have unintended consequences including loss of surrounding habitat areas.

e. **Land Use Constraints (discussed further in Step 4)**

- *Wetland:* The high adaptive capacity of the wetland means that minimizing risk to this resource may be accomplished by ensuring that there is space available for it to move into. Land use policies designed to protect areas inland of the current wetland area will be necessary.
- *Bluff-top Residential Development:* The area in question will eventually become incompatible with the current use. Development will not begin to be exposed to sea level rise impacts until 2050, but it is important to start planning now about how best to address the risks to the houses. Managed retreat would necessitate identifying feasible locations into which houses could be moved or a plan to abandon and remove houses. Such a plan might include a Transfer of Development Rights program in which homes are encouraged in less hazardous areas. If a managed retreat strategy is not in place, existing structures may qualify for shoreline protection. Shoreline protection would likely exacerbate beach erosion, degrade public access, impair shoreline habitat, and alter visual character.
- *Wastewater Treatment Facility:* The biggest risk in this scenario is to the wastewater treatment facility. It should be determined how likely it is that the facility will be able to be protected throughout the rest of its expected lifespan under even the highest sea level rise scenarios. It may be that the wastewater treatment facility becomes an incompatible use under future conditions. If so, plans should be made to relocate at-risk portions of the facility, as feasible, or to phase out the facility.

Note that this is a simplified example used to demonstrate the process described in Step 3. Decisions about how to address various challenges presented by sea level rise will be more complex than those illustrated above and may require prioritizing the different resources based on Coastal Act requirements taking into account the goals and circumstances of the community and the various characteristics of each resource. An understanding of the exposure, sensitivity, adaptive capacity, consequences, and land use constraints for the particular resources and scenarios will need to be kept in mind as planners move into Step 4 to identify possible adaptation strategies. Updated LCP policies and ordinances should be considered to support strategy implementation over the long term.

Step 4 – Identify LCP adaptation strategies to minimize risks

Whether as part of a new LCP or as part of an amendment to update an existing LCP, coastal planners should work with the Coastal Commission and relevant stakeholders at all steps, but particularly to evaluate potential options and adaptation strategies to address the sea level rise impacts identified in Step 2 and the risks to coastal resources identified in Step 3. Planners will then develop new or revised land use designations, policies, standards, or ordinances to implement the adaptation strategies in the LCP.

An LCP as certified by the Commission should already have land use policies, standards, and ordinances to implement Coastal Act Chapter 3 policies, including policies to avoid and mitigate hazards, and to protect coastal resources. However, in older LCPs, many of these policies may not address changing conditions adequately enough to protect coastal resources over time as sea level rises. Similarly, policies to protect resources and address coastal hazards may not reflect new techniques that can be utilized to adaptively manage coastal resources in a dynamic environment. As such, the LCP should be evaluated to identify the land use designations, policies, or ordinances that need to be amended. An LCP update may need to include a variety of adaptation measures depending on the nature and location of the vulnerability. In addition, local governments may need to add new “programmatic” changes to address sea level rise, such as transfer of development credit programs, regional sediment management programs, or a land acquisition program.

In Steps 1-3, planners will have analyzed several possible sea level rise scenarios, and this analysis will have revealed valuable information about areas and specific coastal resources that are especially vulnerable to sea level rise hazards under possible scenarios. The results should show areas that are particularly resilient to future change and trigger points at which sea level hazards will become particularly relevant to certain areas. Step 3d (identifying the *Consequences* of sea level rise impacts) and Step 3e (considering the *Land use constraints*) will be particularly useful in thinking through what resources are particularly vulnerable and what the local priorities may be.

In Step 4, planners should weigh information from the previous steps, keeping in mind the hazard avoidance and resource protection policies of the Coastal Act, and begin identifying, choosing, and/or developing adaptation strategies to be included in a new or updated LCP. The options available to minimize risks from sea level rise are dependent upon the specifics of the local community, and will vary widely depending on whether the area is an urban, fully-developed waterfront, or a rural, undeveloped coastline. In undeveloped areas, the options may be clear: strictly limit new development in sea level rise hazard zones.

However, in urban areas, sea level rise can present unprecedented challenges, and the options are less clear. The Coastal Act allows for protection of certain existing structures. However, armoring can pose significant impacts to coastal resources. To minimize impacts, innovative, cutting-edge solutions will be needed, such as the use of living shorelines to protect existing infrastructure, restrictions on redevelopment of properties in hazardous areas, managed retreat, partnerships with land trust organizations to convert at risk areas to open space, or transfer of development rights programs. Strategies will need to be tailored to the specific needs of each

community based on the resources at risk, should be evaluated for resulting impacts to coastal resources, and should be developed through a public process, in close consultation with the Coastal Commission and in line with the Coastal Act.

Adaptation strategies should be selected based upon the local conditions, the results of the scenario-based analysis, and Coastal Act requirements, taking into account the particular goals of the local community. If certain adaptation strategies should be implemented when conditions reach pre-identified trigger points, those caveats should be included in the LCP. Similarly, LCP adaptation policies should be developed and implemented in such a way as to be flexible and adaptive enough that they can be changed or updated as conditions change or if sea level rise impacts are significantly different than anticipated. Additionally, many adaptation strategies should be implemented in a coordinated way through both the LCP and individual CDPs. For example, current land uses that will conflict with future conditions may be amended through updated zoning designations in an LCP. In turn, zoning designations could carry out specific policies or requirements regarding new development or redevelopment that need to be addressed in a CDP to ensure that projects are resilient over time. Planners are encouraged to work with Coastal Commission staff to ensure compliance with the Coastal Act and to coordinate and share information with other local partners including those in charge of emergency management, law enforcement, and related services, and those identified in [Figure 10](#) as applicable and feasible.

A key issue that should be addressed in the LCP is the evaluation of strategies to minimize hazards related to existing development. Under the Coastal Act, certain improvements and repairs to existing development are exempt from CDP requirements. Non-exempt improvements and any repairs that involve the replacement of 50% or more of a structure, however, generally require a CDP and must conform to the standards of the relevant Local Coastal Program or Coastal Act.³³ Redevelopment, therefore, should minimize hazards from sea level rise. For existing structures currently sited in at-risk locations, the process of redeveloping the structure may require the structure to be moved or modified to ensure that the structure and coastal resources are not at risk due to impacts from sea level rise. As described in Guiding Principle 6, sequential renovation or replacement of small portions of existing development should be considered in total. LCPs should include policies that specify that multiple smaller renovations that amount to alteration of 50% or more of the original structure should require a Coastal Development Permit, and require that the entire structure to be brought into conformance with the standards of the Local Coastal Program or Coastal Act.³⁴

³³ Section § 13252(b) of the Commission’s regulations states that “unless destroyed by natural disaster, the replacement of 50 percent or more of a single family residence, seawall, revetment, bluff retaining wall, breakwater, groin or any other structure is not repair and maintenance under Coastal Act Section 30610(d) but instead constitutes a replacement structure requiring a Coastal Development Permit.”

³⁴ In addition, for existing structures located between the first public road and the sea or within 300 feet of the inland extent of a beach, improvements that increase the height or internal floor area by more than 10% normally require a CDP. (Cal. Code Regs., tit. 14, §§13250(b)(4), 13253(b)(4).) Depending upon the location of the structure, smaller improvements may also require a CDP. (Cal. Code Regs., tit. 14, §§ 13250(b), 13253(b).)

General Adaptation Strategies:

[Chapter 7](#) describes a number of adaptation policies and strategies and is organized by resource type to allow users to easily identify the types of policies that may be relevant to local resource vulnerabilities. However, there are a number of adaptation strategies or related actions that apply to a variety of resources or that may be generally useful when adopting or updating an LCP. Some of these adaptation strategies and actions are broadly described below.

- **Update resource inventory and maps:** An important first step for addressing sea level rise hazards and vulnerabilities in a new or updated LCP will be to compile a set of maps that clearly show the current locations of the range of coastal resources present in an LCP jurisdiction (*e.g.*, beaches and public accessways; agricultural land, wetlands, ESHA, and other coastal habitats; energy, wastewater, transportation, and other critical infrastructure; and archaeological and paleontological resources), as well as existing land use designations, and hazard areas. It may also be helpful to map possible future conditions based on the analysis done in Steps 1-3. Doing so will help planners begin to identify possible land use and zoning changes and other adaptation strategies that will be necessary to meet hazard avoidance and resource protection goals.
- **Update land use designations and zoning ordinances:** One of the most common methods of regulating land use is through zoning designations and ordinances, and updating these policies is one of the most fundamental ways of responding to sea level rise impacts. Planners may address particular vulnerabilities and local priorities by updating land use designations and zoning ordinances to protect specific areas and/or resources. For example, areas that are particularly vulnerable to sea level rise impacts can be designated as hazard zones and specific regulations can be used to limit new development and/or to encourage removal of existing development in such zones. Similarly, open areas can be designated as conservation zones in order to protect and provide upland areas for wetland and habitat migration or for additional agricultural land.
- **Update siting and design standards:** Updated siting and design standards may go hand in hand with updated land use designations and zoning ordinances in that specific standards may be required for development or projects in certain zones. For example, development in hazard zones may require additional setbacks, limits for first floor habitable space, innovative stormwater management systems, special flood protection measures, mitigation measures for unavoidable impacts, relocation and removal triggers and methodologies, and so on.
- **Establish methods to monitor local changes from sea level rise:** Add policies that establish actions to conduct long-term sea level rise monitoring and research on areas of key uncertainties, areas sensitive to small changes in sea level rise, or areas with high sea level rise risk.
- **Research and data collection:** Support research to address key data gaps and better utilize existing information. Local governments may find it useful to collaborate with local, regional, and state partners to pursue new research to better understand the factors controlling sea level rise, baseline shoreline conditions, ecosystem responses to sea level rise, potential impacts and vulnerabilities, and the efficacy of adaptation tools. Related efforts may include monitoring programs designed to track trends in local shoreline

change, flooding extent and frequency, or water quality. Monitoring of the results of various adaptation strategies and protective structures could be included as part of a Coastal Development Permit for projects in hazard zones.

- **Outreach and education:** Education and outreach efforts involve formal instruction and provision of information to stakeholders, and can help generate support for planning and action implementation. It is important to coordinate with partners and include all relevant stakeholders in these processes, particularly those that are typically isolated, such as low-income or underserved communities. For many people, sea level rise is a new issue. Information on sea level rise science and potential consequences may motivate stakeholders to take an active role in updating the LCP for sea level rise issues, or in the vulnerability and risk assessment efforts. Additionally, education efforts regarding the risks of sea level rise as well as possible adaptation strategies may encourage people to take proactive steps to retrofit their homes to be more resilient or to choose to build in less hazardous areas.

As stated above, a more extensive and detailed list of possible adaptation strategies can be found in [Chapter 7](#). The list should neither be considered a checklist from which all options need to be added to an LCP, nor is it an exhaustive list of all possible adaptation strategies. Sea level rise adaptation is still an evolving field and decision makers will need to be innovative and flexible to respond to changing conditions, new science, and new adaptation opportunities. The important point is to analyze current and future risks from sea level rise, determine local priorities and goals for protection of coastal resources and development, and identify what land use designations, zoning ordinances, and other adaptation strategies can be used to meet those goals within the context of the Coastal Act.

Expected outcomes from Step 4: Identified sections of the LCP that need to be updated, a list of adaptation measures applicable to the LCP, and new policies and ordinances to implement the adaptation measures.

Step 5 – Draft updated or new LCP for certification with the Coastal Commission

Once potential adaptation strategies have been identified, LCP policies that address sea level rise should be incorporated into a new LCP or LCP amendment. For jurisdictions with a certified LCP, adaptation measures will be implemented through development of amendments to the certified LCPs. For jurisdictions that currently do not have a certified LCP, the sea level rise policies will be part of the development of a new LCP. In areas without a certified LCP, the Coastal Commission generally retains permitting authority, and the standard of review for development is generally Chapter 3 of the California Coastal Act.

As noted in Step 4, sea level rise has the potential to affect many types of coastal resources in an LCP planning area/segment, and it is likely that policies throughout the LCP will need to be revised or developed to address impacts from sea level rise. Two major types of updates to the LCP will likely be needed to address sea level rise:

1. New or revised policies/ordinances that apply to all development in the planning area. For example, policies such as “All new development shall be sited and designed to minimize risks from sea level rise over the life of the structure.”
2. Updated land use and zoning designations, as well as programs to facilitate adaptive community responses, to reduce risks to specific coastal resources. For example, the LCP could modify the zoning of undeveloped land located upland of wetlands from residential to open space in order to provide the opportunity for wetlands to migrate inland, and protect wetlands for the future.

Local government staff should work closely with Coastal Commission staff and relevant stakeholders, including ensuring there is opportunity for public input, to develop the new LCP or LCP amendments. Once the updates and plans are complete, local governments will submit to the Commission for certification. The Commission may either certify or deny the LCP or LCP amendment as submitted, or it may suggest modifications. If the Commission adopts suggested modifications, the local government may adopt the modifications for certification or refuse the modifications and resubmit a revised LCP for additional Commission review. For more information on updating LCPs, see <https://www.coastal.ca.gov/rflg/>.

Expected outcomes from Step 5: Certified/updated LCP with policies and land use designations that address sea level rise and related hazards and ensure protection of coastal resources to the maximum extent feasible.

Step 6 – Implement LCP and monitor and revise as needed

Upon certification of the updated LCP, sea level rise adaptation strategies will be implemented through the certified implementing ordinances and related processes and actions (e.g., local review of CDPs, proactive action plans). Additionally, an important component of successful adaptation is to secure funds for implementation, regularly monitor progress and results, and update any policies and approaches as needed. Sea level rise projections should be re-evaluated and updated as necessary.

- **Secure resources for implementation:** There are a number of different sources of funds available to help local governments implement adaptation strategies. For example, the Coastal Commission, the Ocean Protection Council, and the Coastal Conservancy have grant programs designed to support local adaptation efforts (see [Chapter 1](#) for additional details on each of these programs).

As described previously there may also be overlap between LCP planning and Local Hazard Mitigation planning. FEMA’s Hazard Mitigation Assistance (HMA) grant programs provide significant opportunities to reduce or eliminate potential losses to State, Indian Tribal government, and local assets through hazard mitigation planning and project grant funding. Currently, there are three programs: the [Hazard Mitigation Grant Program \(HMGP\)](#); [Pre-Disaster Mitigation \(PDM\)](#); and [Flood Mitigation Assistance](#)

(FMA)³⁵. Cal OES administers the HMA and FMA programs. More information can be found at <http://www.caloes.ca.gov/cal-oes-divisions/recovery/disaster-mitigation-technical-support/404-hazard-mitigation-grant-program> or the FEMA HMA Web site at <https://www.fema.gov/hazard-mitigation-assistance>.

A list compiled by Cal OES of additional funding options for hazard mitigation can be found in [Appendix E](#). The Commission recognizes that funding opportunities are constantly evolving, that demand for funding is increasing, and that there is a significant need for the development of additional funding opportunities.

- **Identify key resources to monitor:** Certain species can be indicators of whether sea level rise is affecting an ecosystem. For instance, the presence of certain plant species can indicate the salinity of soils. Also, monitoring plans should reflect the outcome of the scenario-based analysis of sea level rise. Some adaptation measures might be earmarked for implementation when a certain amount of sea level rise (or a particular sea level rise impact) occurs. Monitoring programs should ensure that these triggers are recognized and responded to at the appropriate time.
- **Periodically Update LCPs:** Local governments should try to review their vulnerability and risk assessments on a regular basis as significant new scientific information becomes available and propose amendments as appropriate. Given the evolving nature of sea level rise science, policies may need to be updated as major scientific advancements are made, changing what is considered the best available science. Modify the current and future hazard areas on a five to ten year basis or as necessary to allow for the incorporation of new sea level rise science, monitoring results, and information on coastal conditions. Regular evaluation of LCPs is important to make sure policies and adaptation strategies are effective in reducing impacts from sea level rise.

Expected outcomes from Step 6: Plan to monitor the LCP planning area for sea level rise and other impacts and for effectiveness of various adaptation strategies that are implemented; plan to revise the LCP when conditions change or science is updated.

This six-step process discussed in this chapter is illustrated in the flowchart below ([Figure 12](#)). Notice that the process is circular. Because sea level rise science will be refined and updated in the future, planners should periodically repeat this six-step process to update and improve their LCPs.

For additional resources and examples of ways to incorporate sea level rise into the LCP, see [Appendix C](#).

³⁵ Each HMA program was authorized by separate legislative action, and as such, each program differs slightly in scope and intent.

Planning Process for Local Coastal Programs and Other Plans

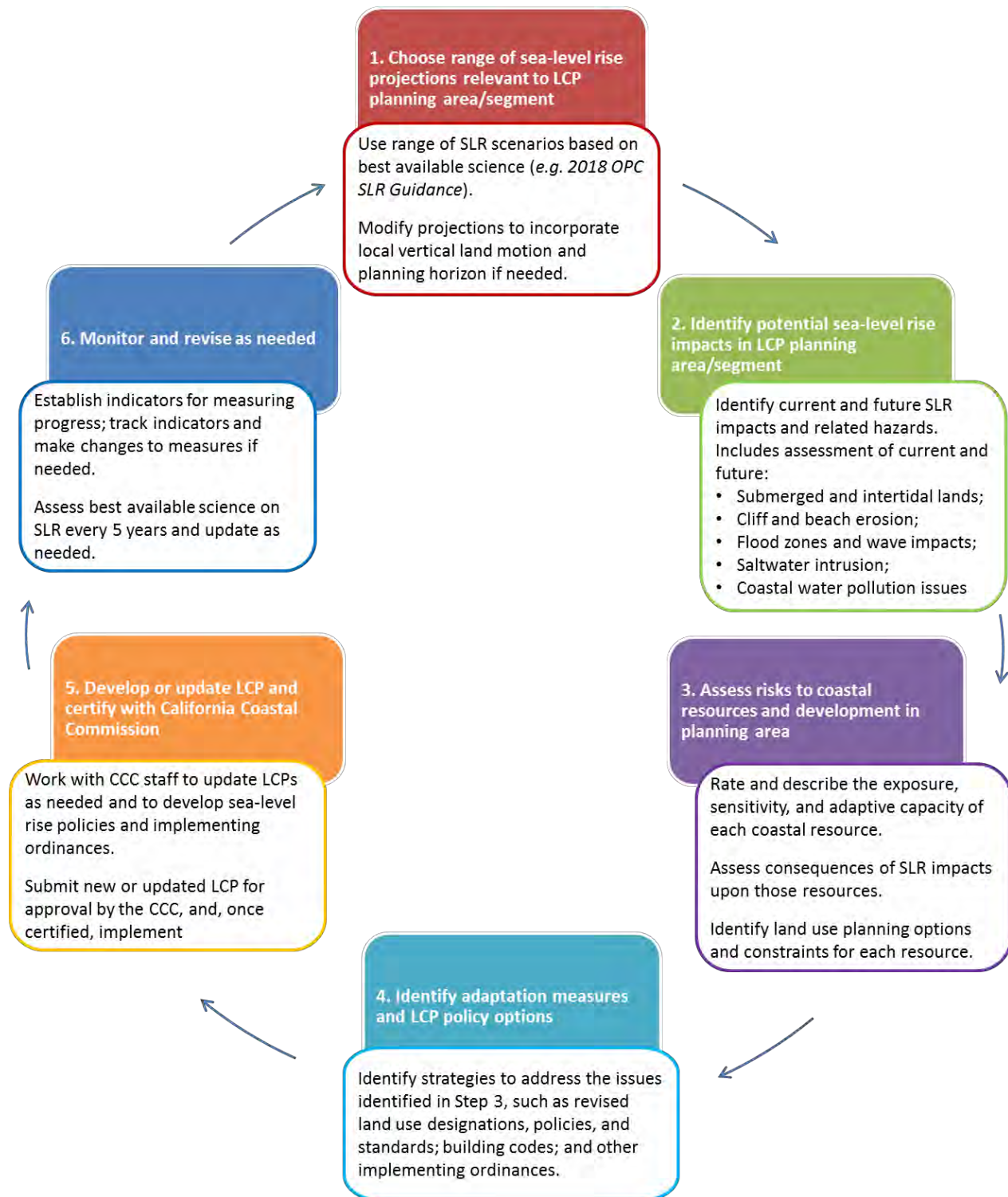


Figure 12. Flowchart for addressing sea level rise in Local Coastal Programs and other plans

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Chapter 6

Addressing Sea Level Rise in Coastal Development Permits

Development in the coastal zone generally requires a Coastal Development Permit (CDP).³⁶ In areas of retained jurisdiction and areas without a certified Local Coastal Program (LCP), the Commission is generally responsible for reviewing the consistency of CDP applications with the policies of Chapter 3 of the Coastal Act (Public Resources Code Sections 30200-30265.5).³⁷ In areas with a certified LCP, the local government is responsible for reviewing the compliance of CDP applications with the requirements of the certified LCP and, where applicable, the public access and recreation policies of the Coastal Act. Certain local government actions on CDP applications are appealable to the Commission. On appeal, the Commission also applies the policies of the certified LCP and applicable public access and recreation policies of the Coastal Act.³⁸ The Commission and local governments may require changes to the project or other mitigation measures in order to assure compliance with Coastal Act policies or LCP requirements by both minimizing risks to the development from coastal hazards and avoiding impacts to coastal resources.

The Coastal Act, the LCP, and the CDP Application cover the broad range of information and analyses that must be addressed in a CDP application. This CDP guidance focuses only on sea level rise and those conditions or circumstances that might change as a result of changing sea level. It does not address other Coastal Act or LCP requirements.

Adopting or updating LCPs as recommended in this Guidance should facilitate subsequent review of CDPs. LCPs can identify areas where close review of sea level rise concerns is necessary and where it is not. If kept up to date, they can also provide information for evaluation at the permit stage and specify appropriate mitigation measures for CDPs to incorporate.

Sea level rise will be important for some, but not all, of the projects reviewed through the CDP process. Locations currently subject to inundation, flooding, wave impacts, erosion, or saltwater intrusion will be exposed to increased risks from these coastal hazards with rising sea level and will require review for sea level rise effects. Locations close to or hydraulically connected to these at-risk locations, will themselves be at risk as sea level rises and increases the inland extent

³⁶ Coastal Act Section 30106 defines "Development" to be, "on land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973 (commencing with Section 4511)."

³⁷ The Commission retains CDP jurisdiction below mean high tide and on public trust lands.

³⁸ Local governments may assume permitting authority even without a fully certified LCP (*see* Public Resources Code, §§ 30600(b), 30600.5), but only the City of Los Angeles has done so. Any action on a CDP application by a local government without a fully certified LCP may be appealed to the Commission. (Public Resources Code, § 30602.)

of these hazards. The following box provides some of the general situations for which sea level rise will need to be included in the project analysis.

General Situations when sea level rise should be considered in the project analysis include when the project or planning site is:

- Currently in or adjacent to an identified floodplain
- Currently or has been exposed to flooding or erosion from waves or tides
- Currently in a location protected by constructed dikes, levees, bulkheads, or other flood-control or protective structures
- On or close to a beach, estuary, lagoon, or wetland
- On a coastal bluff with historic evidence of erosion
- Reliant upon shallow wells for water supply

Many of the projects reviewed through the CDP application process already examine sea level rise as part of the hazards analysis. Such examination will need to continue, and these guidelines offer direction and support for a thorough examination of sea level rise and its associated impacts based on current climate science, coastal responses to changing sea level, and consequences of future changes.

To comply with Coastal Act Section 30253 or the equivalent LCP section, projects will need to be planned, located, designed, and engineered for the changing water levels and associated impacts that might occur over the life of the development. In addition, project planning should anticipate the migration and natural adaptation of coastal resources (beaches, access, wetlands, *etc.*) due to future sea level rise conditions in order to avoid future impacts to those resources from the new development. As LCPs are updated to reflect changing conditions and to implement sea level rise adaptation strategies, it will be important that CDPs are also conditioned and approved in ways that similarly emphasize an adaptive approach to addressing sea level rise hazards. Such coordination between LCP and CDP adaptation policies and strategies will help ensure that coastal development and resources are resilient over time.

Steps for Addressing Sea Level Rise in Coastal Development Permits

The steps presented in [Figure 13](#) and described in more detail below, provide general guidance for addressing sea level rise in the project design and permitting process for those projects where sea level rise may contribute to or exacerbate hazards or impact coastal resources.

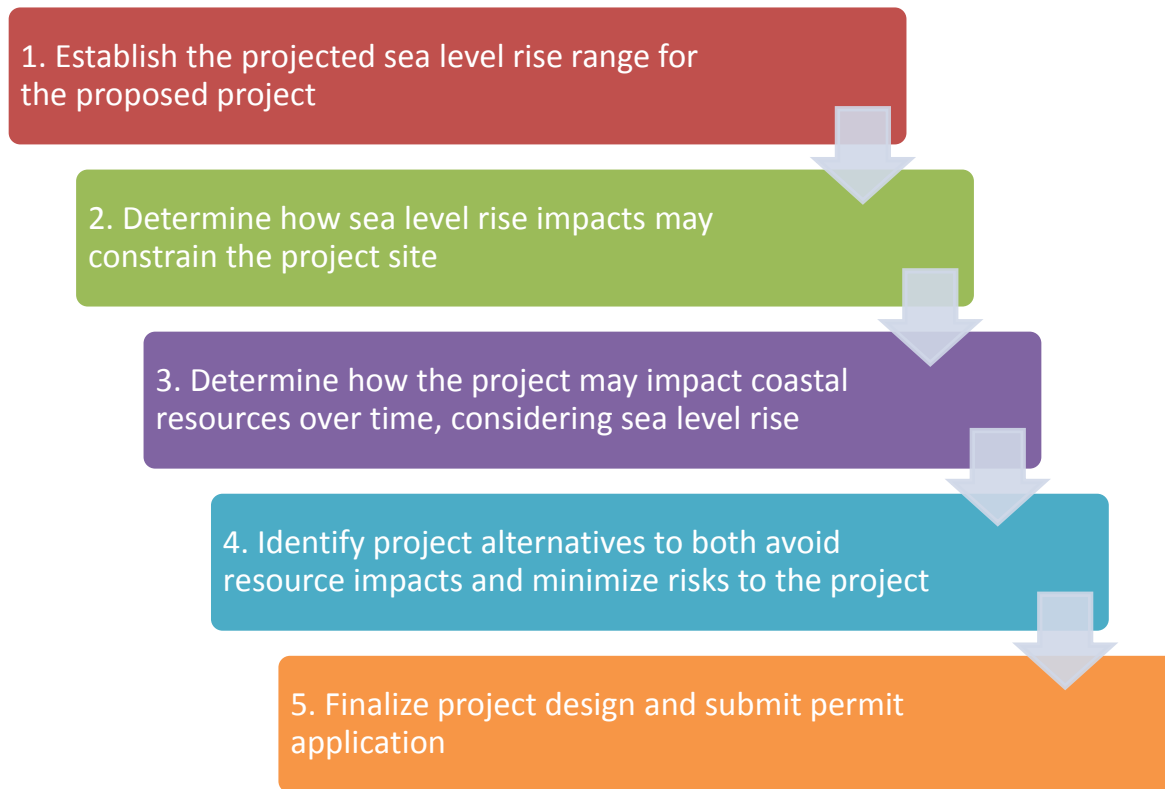


Figure 13. Process for addressing sea level rise in Coastal Development Permits

The goal of these steps is to ensure that projects are designed and built in a way that minimizes risks to the development and avoids impacts to coastal resources in light of current conditions and the changes that may arise over the life of the project. Many project sites and proposed projects may raise issues not specifically contemplated by the following guidance steps or the permit filing checklist at the end of this section. It remains the responsibility of the project applicant to adequately address these situations so that consistency with the Coastal Act and/or LCP may be fully evaluated. There are many ways to evaluate and minimize the risks associated with sea level rise, and the Commission understands that different types of analyses and actions will be appropriate depending on the type of project or planning effort.

Throughout the CDP analysis, applicants are advised to contact planning staff (either at the Commission or the local government, whichever is appropriate) to discuss the proposed project, project site, and possible resource or hazard concerns. The extent and frequency of staff coordination may vary with the scale of the proposed project and the constraints of the proposed project site. Larger projects and more constrained sites will likely necessitate greater coordination with local government and Commission staff.

Use scenario-based analysis

This process recommends using various sea level rise scenarios for the analysis of possible resource changes and site risks associated with sea level rise. Given the uncertainty about the magnitude and timing of future sea level rise, a scenario-based analysis will examine the consequences of a range of situations rather than basing project planning and design upon one sea level rise projection.

One approach for scenario-based analysis is to start with the highest possible sea level rise. If a developable area can be identified that has no long-term resource impacts, and is at no or low-risk from inundation, flooding, and erosion, then there may be no benefit to undertaking additional analysis for sea level rise and the project can continue with the rest of the analyses that are part of the Coastal Act or LCP (such as impacts to coastal habitats, public access, and scenic and visual qualities, and other issues unrelated to sea level rise).

If the site is constrained under a high sea level rise scenario, analysis of other, lower sea level rise amounts can help determine thresholds for varying impacts to coastal resources and types and extent of site constraints that need to be considered during project planning. The analysis of lower and intermediate sea level rise projections are used to better understand the timing and probability of the constraints. For further description of scenario-based analysis, see [Chapter 3](#) of this Guidance.

Step 1 – Establish the projected sea level rise range for the proposed project

A projected sea level rise range should be obtained from the best available science, such as the [2018 OPC SLR Guidance](#) or an equivalent resource. These projections should cover the expected life of the proposed project, as the ultimate objective will be to assure that the project is safe from coastal hazards, without the need for shoreline protection or other detrimental hazard mitigation measures, as long as it exists.

- **Define Expected Project Life:** The expected project life will help determine the amount of sea level rise to which the project site could be exposed while the development is in place. Importantly, the point of this step is not to specify exactly how long a project will exist (and be permitted for), but rather to identify a project life time frame that is typical for the type of development in question so that the hazard analyses performed in subsequent steps will adequately consider the impacts that may occur over the entire life of the development.

Some LCPs include a specified design life for new development. If no specified time frame is provided, a more general range may be chosen based on the type of development. For example, temporary structures, ancillary development, amenity structures, or moveable or expendable construction may identify a relatively short expected life such as 25 years or less. Residential or commercial structures will likely be around for some time, so a time frame of 75 to 100 years may be appropriate. A longer time frame of 100 years or more should be considered for critical infrastructure like bridges or industrial facilities. Resource protection or enhancement projects such as

coastal habitat conservation or restoration projects should also consider longer time frames of 100 years or more, as these types of projects are typically meant to last in perpetuity.³⁹

- **Determine Sea Level Rise Range:** Using the typical project life identified above, the project analysis should identify a range of sea level rise projections based on the best available science that may occur over the life of the project. At present, the 2018 OPC SLR Guidance is considered to be the best available science ([Table 6](#); [Appendix G](#)), though an equivalent resource may be used provided that it is peer-reviewed, widely accepted within the scientific community, and locally relevant⁴⁰.

As explained in Chapter 3, the 2018 OPC SLR Guidance recommends evaluating different scenarios depending on the type of project and the level of risk associated with the development type. These projections scenarios include:

1. *Low risk aversion scenario:* may be used for projects that would have limited consequences or have a higher ability to adapt, such as sections of unpaved coastal trail, public accessways, and other small or temporary structures that are easily removable and would not have high costs if damaged.
2. *Medium-high risk aversion scenario:* should be used for projects with greater consequences and/or a lower ability to adapt such as residential and commercial structures.
3. *Extreme risk aversion (H++):* should be used for projects with little to no adaptive capacity that would be irreversibly destroyed or significantly costly to repair, and/or would have considerable public health, public safety, or environmental impacts should that level of sea level rise occur. In the Coastal Commission’s jurisdiction, this could include new wastewater treatment plants, power stations, highways, or other critical infrastructure.

In general, the Coastal Commission recommends taking a precautionary approach by evaluating the higher sea level rise projections, such as the medium-high risk aversion scenario, for most development. For critical infrastructure, development with a very long project life (e.g., 100 years or greater), or assets that have little to no adaptive capacity, that would be irreversibly destroyed or significantly costly to repair, and/or would have considerable public health, public safety, or environmental impacts, the analysis should consider the “extreme risk aversion” scenario. If constraints are identified with the higher sea level rise scenario(s), a lower sea level rise scenario and/or one or more intermediate

³⁹ Determining an anticipated life for restoration activities or other related projects is somewhat more complex than for typical development projects because these activities are typically meant to exist in perpetuity. As such, assessing sea level rise impacts may necessitate analyzing multiple different time frames, including the present, near future, and very long term depending on the overall goals of the project. For restoration projects that are implemented as mitigation for development projects, an expected project life that is at least as long as the expected life of the corresponding development project should be considered.

⁴⁰ More detailed refinement of sea level rise projections is not considered necessary at this time, as variations from the nearby tide gauges will often be quite small, and may be insignificant compared to other sources of uncertainty. However, the Coastal Commission recognizes that other studies exist with localized data, for example those completed in the Humboldt Bay region, which may also be appropriate for use.

scenarios may also be used to develop a broader understanding of the overall risk sea level rise poses to the site or proposed development. These values should each be carried forward through the rest of the steps in this chapter.

Table 6. Sea Level Rise Projections for the San Francisco Tide Gauge⁴¹ (OPC 2018)

Projected Sea Level Rise (in feet): San Francisco			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.8	1.0
2040	0.8	1.3	1.8
2050	1.1	1.9	2.7
2060	1.5	2.6	3.9
2070	1.9	3.5	5.2
2080	2.4	4.5	6.6
2090	2.9	5.6	8.3
2100	3.4	6.9	10.2
2110*	3.5	7.3	11.9
2120	4.1	8.6	14.2
2130	4.6	10.0	16.6
2140	5.2	11.4	19.1
2150	5.8	13.0	21.9

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

⁴¹ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

Expected outcomes from Step 1: A proposed or expected project life and corresponding range of sea level projections—including the high, the low, and one or more intermediate sea level rise projections—that will be used in the following analytic steps.

Step 2 – Determine how physical impacts from sea level rise may constrain the

The Coastal Act requires that development minimize risks from coastal hazards. Sea level rise can both present new hazards and exacerbate hazards that are typically analyzed in CDP applications. In this step, project applicants determine the types and extent of sea level rise impacts that may occur now and into the future.

As described in [Chapter 3](#) of the Guidance, impacts associated with sea level rise generally include erosion, inundation, flooding, wave impacts, and saltwater intrusion. An assessment of these impacts is often required as part of a routine hazards assessment or the safety element of the LCP. Therefore, information in the local LCP can provide an initial determination of potential hazards for the project in question, if available. However, proposed development will often need a second, site-specific analysis of hazards to augment the more general LCP information.

Analyze relevant sea level rise impacts for each sea level rise scenario.

A CDP application for new development in a hazardous area should include reports analyzing the anticipated impacts to a project site associated with each sea level rise scenario identified in Step 1. Generally, the analyses pertinent to sea level rise include geologic stability, erosion, flooding/inundation, wave runup, and wave impacts, and these analyses are described in detail below. Depending on the site, however, different analyses may be required. Applicants should work with planning staff (Coastal Commission or local government staff) to perform a pre-application submittal consultation to determine what analyses are required for their particular project. Analysis of those hazards that will not be altered by sea level rise (such as the location of faults, fire zones, *etc.*) should be undertaken at the same time as the assessment of sea level rise affected hazards so a complete understanding of hazard constraints can be used for identification of safe or low-hazard building areas. After the submission of the CDP application, any additional analyses that are required will be listed in an application filing status review letter.

The professionals who are responsible for technical studies of geologic stability, erosion, flooding/inundation, wave runup, and wave impacts should be familiar with the methodologies for examining the respective impacts. However, the methodologies do not always adequately examine potential impacts under rising sea level conditions, as established by best available science. [Appendix B](#) goes through the various steps for incorporating the best available science on sea level rise into the more routine analyses, which are summarized below. The analyses should be undertaken for each of the sea level rise scenarios identified in Step 1.

- **Geologic Stability:** The CDP should analyze site-specific stability and structural integrity without reliance upon existing or new protective devices (including cliff-

retaining structures, seawalls, revetments, groins, buried retaining walls, and caisson foundations) that would substantially alter natural landforms along bluffs and cliffs. Geologic stability can include, among others, concerns such as landslides, slope failure, liquefiable soils, and seismic activity. In most situations, the analyses of these concerns will be combined with the erosion analysis (below) to fully establish the safe developable area.

- **Erosion:** Both bluff erosion and long-term shoreline change will increase as the time period increases. Thus, some estimate of project life is needed to determine expected bluff and shoreline change, and to fully assess the viability of a proposed site for long-term development. The CDP application should include an erosion analysis that establishes the extent of erosion that could occur from current processes, as well as future erosion hazards associated with the identified sea level rise scenarios over the life of the project. If possible, these erosion conditions should be shown on a site map, and the erosion zone, combined with the geologic stability concerns, can be used to help establish locations on the parcel or parcels that can be developed without reliance upon existing or new protective devices (including cliff-retaining structures, seawalls, revetments, groins, buried retaining walls, and caissons) that would substantially alter natural landforms along bluffs and cliffs.
- **Flooding and Inundation:** The CDP application should identify the current tidal datum and include analysis of the extent of flooding or inundation that potentially could occur from the identified sea level rise scenarios, and under a range of conditions that could include high tide, storm surge, water elevation due to El Niños, Pacific Decadal Oscillations, a 100-year storm event, and the combination of long-term erosion and seasonal beach erosion. If possible, this information and resulting flood zones should be shown on a site map.
 - **Flood Elevation Certificate:** If a site is within a FEMA-mapped 100-year flood zone, building regulations, in implementing the federal flood protection program, require new residences to have a finished floor elevation above Base Flood Elevation (BFE; generally 1 ft).⁴² The CDP application should include a flood elevation certificate prepared by a registered land surveyor, engineer, or architect, demonstrating that the finished floor foundation of the new structure will comply with the minimum FEMA guidelines and building standards. However, at this time, the Flood Certificate does not address sea level rise related flooding. In addition, designing to meet FEMA requirements may be in conflict with other resource constraints, such as protection of visual resources, community character, and public access and recreation. Thus, in general, a certificate is not adequate to

⁴² FEMA's proposed "[Revised Guidelines for Implementing Executive Order 11988, Floodplain Management](#)" (released for public review and comment on January 30, 2015) will modify the Federal Flood Risk Management Standard, in compliance with EO 13960, to address the need for federal agencies to include climate change considerations in floodplain management. It recommends that the elevation and flood hazard area be established by (i) using climate-informed science, (ii) adding 2 feet (for non-critical actions) or 3 feet (for critical actions) of freeboard to the Base Flood Elevation, or (iii) including the area subject to the 0.2% annual chance of flood. These Revised Guidelines could lead to future changes in the elevation required for Flood Elevation Certificates for new development.

address Coastal Act and LCP standards for demonstrating that future flood risk or other impacts to coastal resources have been minimized.

- **Wave Runup and Wave Impacts:** Building upon the analysis for flooding, the CDP application should include analysis of the wave runup and impacts that potentially could occur over the anticipated life of the project from a 100-year storm event, combined with the identified sea level rise scenarios, and under a range of conditions that could include high tide, storm surge, water elevation due to El Niño events, Pacific Decadal Oscillations, and the combination of long-term erosion and seasonal beach erosion. If possible, this information and resulting wave runup zones should be shown on a site map or site profile.
- **Other Impacts:** Any additional sea level rise related impacts that could be expected to occur over the life of the project, such as saltwater intrusion should be evaluated. This may be especially significant for areas with a high groundwater table such as wetlands or coastal resources that might rely upon groundwater, such as agricultural uses.

Expected outcomes from Step 2: Detailed information about the sea level rise related impacts that can occur on the site and changes that will occur over time under various sea level rise scenarios. High risk and low risk areas of the site should be identified. The scenario-based analyses should also provide information on the potential effects of sea level rise, such as coastal erosion, that could occur over the proposed development life, without relying upon existing or new protective devices.

Step 3 – Determine how the project may impact coastal resources, considering

The Coastal Act requires that development avoid impacts to coastal resources. Sea level rise will likely cause some coastal resources to change over time, as described in Chapters [3](#) and [4](#). Therefore, in this step, applicants should analyze how sea level rise will affect coastal resources now and in the future so that alternatives can be developed in Step 4 to minimize the project’s impacts to coastal resources throughout its lifetime.

This section discusses only those resources that might change due to rising sea level or possible responses to rising sea levels. As in Step 2, each sea level rise scenario (high, low, and intermediate values) should be carried through this step. A complete CDP application will need to assess possible impacts to all coastal resources – including public access and recreation, water quality, natural resources (such as ESHA and wetlands), agricultural resources, natural landforms, scenic resources, and archaeological and paleontological resources. Analysis of those resources that will not be affected by sea level rise should be undertaken at the same time as the assessment of the sea level rise affected resources so a complete map of resource constraints can be used for identification of a resource-protective building area.

3.1 Analyze coastal resource impacts and hazard risks for each sea level rise scenario

Analysis of resource impacts will require information about the type and location of the resources on or in proximity to the proposed project site and the way in which the proposed project will affect such resources initially and over time. The following discussion of each resource will help identify the key impacts to each that might result from either sea level rise or the proposed development. If coastal resources will be affected by sea level rise, such as changes to the area and extent of a wetland or riparian buffer, these changes must be considered in the analysis. Much of the following discussion recommends analysis of impacts from current and future inundation, flooding, erosion, and from the ways in which the project proposes to address such impacts. [Appendix B](#) provides guidance on how to undertake this analysis and includes lists of suggested resources that can provide data, tools, or other resources to help with these analyses. This analysis should be repeated for each sea level rise scenario identified in Step 1. Also, it may be important for local planners to coordinate and share information with other local partners – including those in charge of emergency management, law enforcement, and related services – in order to identify risks and vulnerabilities. Information on the following coastal resources is included. To skip to a section, click on the links below:

- New Development (addressed in Step 2, above)
- [Public Access and Recreation](#)
- [Coastal Habitats](#)
- [Natural Landforms](#)
- [Agricultural Resources](#)
- [Water Quality and Groundwater](#)
- [Scenic Resources](#)

Public Access and Recreation: Public access and recreation resources include lateral and vertical public accessways, public access easements, beaches, recreation areas, public trust lands,⁴³ and trails, including the California Coastal Trail. These areas may become hazardous or unusable during the project life due to sea level rise and/or due to the proposed project.

Approaches to identify potential risks to public access and recreation include:

- Identify all public access locations on or near the proposed project site and, if possible, map these resources in relation to the location of the proposed project. The analysis should also identify existing public trust areas in relation to the proposed project
- Determine whether any access locations or public trust lands will be altered or impacted by sea level rise and/or the proposed project for the identified sea level rise scenarios. Such impacts could result from flooding, inundation, or shoreline erosion, or from proposed project elements. At a minimum, establish the extent of likely and/or possible changes to public access and recreation and to public trust lands.

⁴³ The State Lands Commission has oversight of all public trust lands and many local governments are trustees of granted tidelands. The State Lands Commission or other appropriate trustee should be contacted if there is any possibility that public trust lands might be involved in the proposed project. As a general guide, public trust lands include tide and submerged lands as well as artificially filled tide and submerged lands.

- If any access locations will be altered by sea level rise and/or the proposed project, map or otherwise identify the potential changes to the location of these access resources for the identified sea level rise scenarios.
- Identify whether there are locations on the proposed project site that can support development without encroachment onto the existing or future locations of these access locations, and without impacts otherwise to public access and recreation. Overlay with development constraints (fault zones, landslides, steep slopes, property line setbacks, *etc.*) and with other coastal resource constraints.

Coastal Habitats (ESHA, wetlands, *etc.*): Coastal habitats, especially those that have a connection to water, such as beaches, intertidal areas, and wetlands, can be highly sensitive to changes in sea level. Ways to identify potential resource impacts associated with the project include:

- Identify all coastal habitats and species of special biological or economic significance on or near the proposed project site and, if possible, map these resources in relation to the location of the proposed project.
- Determine whether any coastal habitats will be altered or affected by sea level rise and/or the proposed project over the proposed life of the project. Such impacts could result from flooding, inundation, shoreline erosion, or changes to surface or groundwater conditions (see discussion below on water quality). At a minimum, use the identified sea level rise scenarios to establish the extent of likely and/or possible changes to coastal habitats.
- If any coastal habitats will be altered by sea level rise and/or the proposed project, map or otherwise identify potential changes to the location of these coastal resources for the identified sea level rise scenarios.
- Identify locations of the proposed project site that can support development without encroachment onto the existing or future locations of these coastal habitats, and without other impacts to coastal habitats. Overlay with development constraints (fault zones, landslides, steep slopes, property line setbacks, *etc.*) and with other coastal resource constraints.

Natural Landforms: Natural landforms can include coastal caves, rock formations, bluffs, terraces, ridges, and cliffs. Steps to identify natural landforms at risk include:

- Identify all natural landforms on or near the proposed project site and, if possible map these resources in relation to the location of the proposed project.
- Determine whether any natural landforms will be altered or impacted by sea level rise and/or the proposed project for the identified sea level rise scenarios. Such impacts could result from flooding, inundation or shoreline erosion. At a minimum, use the identified sea level rise scenarios to establish the zone of likely and/or possible changes to natural landforms.
- If any natural landforms will be altered by sea level rise and/or the proposed project, map or otherwise identify the likely changes to location of these coastal resources for the identified sea level rise scenarios.

- Identify locations of the proposed project site that can support development without encroachment onto the existing or future locations of these natural landforms and without other impacts to such landforms. Bluffs and cliffs can often require additional analysis for slope stability to determine the setback from the eroded bluff face that can safely support development. Overlay with development constraints (fault zones, landslides, steep slopes, property line setbacks, *etc.*) and with other coastal resource constraints.

Agricultural Resources: Agricultural resources may be affected by sea level rise through changes to surface drainage and the groundwater table. Other changes can result from flooding, inundation or saltwater intrusion. If agricultural lands are protected by levees or dikes, they can be affected by changes to the stability or effectiveness of these structures. Steps to identify risks to agricultural resources include:

- Identify whether the proposed project site is used for or zoned for agricultural uses, contains agricultural soils, or is in the vicinity of or upstream of lands in agricultural use.
- Identify surface water drainage patterns across the site or from the site to the agricultural use site.
- If any drainage patterns are closely linked to and potentially influenced by the elevation of sea level, examine changes in drainage patterns with rising sea level on the proposed site or the agricultural use site.

Water Quality and Groundwater: Sea level rise may cause drainages with a low elevation discharge to have water back-ups. It may also cause a rise in the groundwater table. Both of these changes could alter on-site drainage and limit future drainage options. If the proposed site must support an on-site wastewater treatment system, or if drainage and on-site water retention will be a concern, consider the following, as appropriate:

- Identify surface water drainage patterns across the site.
- Examine changes with rising sea level of any drainage patterns that are closely linked to and likely influenced by the elevation of sea level. At a minimum, use the identified sea level rise scenarios to establish the zone of likely changes to drainage patterns.
- Identify the elevation of the groundwater table. Since groundwater can fluctuate during periods of rain and drought, attempt to identify the groundwater zone.
- Estimate the likely future elevation of the groundwater zone, due to sea level rise. At a minimum, use the identified sea level rise scenarios to establish the zone of likely changes to groundwater.
- Evaluate whether changes in groundwater will alter the proposed site conditions.

Scenic Resources: Visual and scenic resources include views to and along the ocean and scenic coastal areas. Development modifications to minimize risks from sea level rise could have negative consequences for scenic resources, including creating a structure that is out of character with the surrounding area, blocks a scenic view, or alters natural landforms. Steps to identify impacts to scenic resources, including any impacts from possible adaptation measures, include:

- Identify all scenic views to and through the proposed project site from public vantage points such as overlooks, access locations, beaches, trails, the Coastal Trail, public roads, parks, and if possible, map these views and view lines in relation to the location and maximum allowable elevation of the proposed project.
- Identify locations of the proposed project site that can support development and avoid or minimize impacts to scenic views from current and future vantage points. Overlay with development constraints (fault zones, landslides, steep slopes, property line setbacks, etc.) and with other coastal resource constraints.

3.2 Synthesize and assess development and resource constraints

After completing the detailed analysis of each coastal resource, the applicant should summarize the potential resource impacts under each sea level rise scenario identified in Step 1. This set of results, when combined with potential impacts to those coastal resources not affected by sea level rise, should give the applicant valuable information about the degree of risk posed to each coastal resource and to the development itself. If practical, for each sea level rise scenario, applicants should produce a constraints map illustrating the location and the extent of resource impacts that could occur over the life of the development. Based on the analysis of resource impacts and potential hazard risks over the life of the development, the applicant should develop an overlay identifying the development and resource constraints.

3.3 Identify areas suitable for development

The final part of this step is to identify the locations of the project site that could support some level of development without impacts to coastal resources and without putting the development at risk.

Expected outcomes from Step 3: Upon completing this step, the applicant should have detailed information about the types of coastal resources on the project site and the level of risk that sea level rise poses to each resource under each sea level rise scenario, including resource locations and the extent of resource impacts that could occur over the life of the proposed project. This step should also provide an overlay of all development and resource constraints, and clearly identify the locations on the proposed project site that could support some level of development without impacts to coastal resources and without putting the development at risk.

Step 4 – Identify project alternatives that avoid resource impacts and minimize

By this step, applicants should have developed a set of factors based on the sea level rise hazards identified in Step 2, potential resource impacts identified in Step 3, and other site conditions (such as archaeological resources or fault lines) to identify the buildable areas that avoid both risk from coastal hazards and impacts to coastal resources. Hazard and resource avoidance is usually the preferred option, and, in many cases, applicants may find that the site is safe from sea level rise hazards for all the identified sea level rise scenarios and no further identification of project alternatives would be necessary in order to address sea level rise concerns.

For some cases, the site constraints may require consideration of project alternatives that fit with the available buildable area, without the use of protective structures. In these cases, one of the alternatives may be to replace what was initially being considered for the site. In other cases, development that is safe from hazards and is resource protective may be possible if certain adaptation strategies are used to modify the project over time and as the potential hazard areas increase or move closer to the project. For these cases, the possible adaptation pathways would be included as part of the proposed project, along with necessary monitoring and triggers for implementing the adaptation options. In still other cases, hazard minimization may be the only feasible option for development on hazard constrained-sites. In all cases, projects must be sited and designed to address all applicable Coastal Act and LCP requirements, including any new requirements within LCPs that have been updated to adapt to sea level rise.

The results from the analysis of sea level rise scenarios should factor into the decisions made in this step. In particular, after looking at the results from Steps 2 and 3 as a whole, applicants can better decide the project changes, types of adaptation strategies, and design alternatives that would be most appropriate given the degree of risk posed by possible sea level rise and how long the development might be free from risk. The applicant also might identify triggers (*e.g.*, a certain amount of sea level rise) when certain adaptation measures should be implemented to reduce risk and/or impacts to coastal resources.

Importantly, land divisions and lot line adjustments in high hazard areas can change hazard exposure and should therefore be undertaken only when they can be shown to not worsen or create new vulnerability. In particular, no new lots or reconfigured lots with new development potential should be created if they cannot be developed without additional shoreline hazard risks.

Strategies to Avoid Resource Impacts and Minimize Risks

The best way to minimize risks to development and coastal resources is to avoid areas that are or will become hazardous as identified by the sea level rise scenarios analysis in the previous steps. Such avoidance often includes changes to the proposed project to bring the size and scale of the proposed development in line with the capacity of the project site. However, if it is not feasible to site or design a structure to completely avoid sea level rise impacts, the applicant may need to modify or relocate the development to prevent risks to the development or to coastal resources. Some changes, such as the use of setbacks, may be necessary at the outset of the project. Other changes, such as managed retreat or added floodproofing, may be useful as adaptive strategies that can be used after the initial project completion. Considerations involved in choosing and designing an appropriate adaptation strategy may include those listed below. See [Chapter 7](#) for more information on specific adaptation measures. For a list of guidebooks, online clearinghouses, and other sea level rise adaptation resources, see [Appendix C](#).

- **Assess Design Constraints:** Determine whether there are any significant site or design constraints that might prevent future implementation of possible sea level rise adaptation measures. Some project locations may be constrained due to lot size, sea level related hazards, steep slopes, fault lines, the presence of wetlands or other ESHA, or other constraints such that no safe development area exists on the parcel. Ideally, such parcels would be identified during the LCP vulnerability analysis, and the land use and zoning

designations would appropriately reflect the constraints of the site. However, in some cases development may need to be permitted even if it cannot avoid all potential hazards. As stated above, care should be taken in these cases to avoid resource impacts and minimize risks as much as possible by developing and implementing a sea level rise adaptation plan for the proposed development. In creating this plan, it is important to identify any design constraints that will limit the ability to implement adaptation strategies in the future, as described below.

- **Identify Adaptation Options:** Identify possible adaptation strategies (such as those found in [Chapter 7](#)) for the proposed project, and evaluate each adaptation option for efficacy in protecting the development. Also, evaluate the consequences from each proposed adaptation measure to ensure it will not have adverse impacts on coastal and sensitive environmental resources, including visual impacts and public access.

For example, an option that is often considered for sea level rise is to elevate the development or the structures that are providing flood protection. However, elevated structures will change the scenic quality and visual character of the area. Also, elevation of the main development may be of little long-term utility to the property owner if the supporting infrastructure, such as the driveways, roads, utilities or septic systems are not also elevated or otherwise protected. Elevation of existing levees or dikes can provide flood protection for an area of land and all the development therein. However, the foundation of the levee or dike must have been designed to support the additional height or else it may have to be expanded and the increased footprint of the foundation could have impacts on intertidal area, wetlands, or other natural resources. Thus, the long-term options for adaptation should be considered as part of any permit action, to ensure that current development decisions are not predetermining resource impacts in the future.

- **Utilize Adaptation Pathways:** “Adaptation pathways” refers to a planning approach in which planners consider multiple possible futures and analyze the robustness and flexibility of various adaptation options across those multiple futures. In the context of sea level rise planning, if the likelihood of impacts is expected to increase with rising sea level, it may be necessary to design the initial project for some amount of sea level rise but to also include design flexibility that will allow future project changes or modifications to prevent impacts if the amount of sea level rise is more than anticipated in the initial design. Changes and modifications could include the use of foundation elements that will allow for building relocations or removal of portions of a building as it is threatened or reserving space to move on-site waste treatment systems away from eroding areas or areas that will be susceptible to a rising water table or increased flooding.
- **Develop Project Modifications:** Highly constrained sites may not be able to support the amount of development that an applicant initially plans for the site. Even a small building footprint may be at risk from flooding or erosion under high sea level rise scenarios. In such cases, it will be important to work closely with the appropriate planning staff to develop a project option that can minimize hazards from the identified sea level rise scenarios for as long as possible, and then incrementally retreat once certain triggers are met. Some examples of triggers could be that erosion is within some distance of the

foundation, or monthly high tides are within some distance of the finished floor elevation. The time period for relocation or removing the structure would be determined by changing site conditions but relocation would most likely occur prior to the time period used in Step 1 to determine long-term site constraints.

- **Plan for Monitoring:** Develop a monitoring program or links to other monitoring efforts to ensure that the proposed adaptation measures will be implemented in a timely manner. Following a monitoring protocol and requirements for evaluating sea level rise impacts to coastal habitats over time can help to identify the triggers that would lead to revising project life, other project modifications or additional adaptation efforts.

Expected outcomes from Step 4: This step may involve an iterative process of project modifications and reexamination of impacts, leading to one or more alternatives for the project site. The alternative that will minimize risks from coastal hazards and avoid or minimize impacts to coastal resources should be identified. Possible adaptation options could be identified and analyzed, if appropriate. If the site is very constrained, modifications to the expected project life might be suggested.

Step 5 – Finalize project design and submit CDP application

After Step 4, the applicant should have developed one or more project alternatives and identified a preferred alternative. The alternatives should include adaptation strategies to minimize impacts if hazards cannot be avoided entirely. The CDP application step involves the following:

- 1. Work with the planning staff to complete the CDP application.** Depending upon the proposed project and extent of prior interactions with the planning staff, the initial submittal may be the first time the planner has been provided with information about the general project or the preferred alternative. Once a proposed project is submitted, the coastal planner will need to become familiar with the project location, area around the project site, the proposed actions and the studies and analyses that have been undertaken in support of the application. The planner will review the application for completeness to ensure that there is sufficient information to analyze the project for all appropriate LCP or Coastal Act Chapter 3 policies. If analysis for sea level rise concerns is needed, the planner will also check that analyses for sea level rise risks have been included in the submittal. Much of the information developed in Steps 1-4 will be useful for the application process. The Suggested Filing Checklist for CDP Applications (located at the end of this chapter) covers the typical information that might be included in a CDP application necessary for planning review of the sea level rise aspects of the proposed project. Applicants who are unfamiliar with the permit process should consult the local government website, Coastal Commission website, or contact the appropriate district office for instructions on how to complete a CDP application.

The review of an application might involve an iterative process, wherein planning staff requests more information about the proposed project, project alternatives, analysis of the hazards or identification of potential resource impacts to help in the review for

compliance with the LCP or the Coastal Act. At the same time, planning staff may request that some of the technical staff review the submitted material to ensure that there is sufficient information in all technical information and analyses to support a decision on the proposed project. This process may be repeated until the application provides the studies, analysis and project review necessary for planning review.

- 2. Submit a complete CDP application.** Once a complete application has been accepted, the planning staff will do a more thorough review and analysis of the potential hazards and resource impacts associated with the proposed project. Ideally, the planner will have requested all necessary project information at the filing stage. In some instances, additional information may be needed after the application has been accepted. This is normally limited to clarifications of some of the information or further details about some of the possible, but not preferred alternatives. During this stage in the CDP application process, the planner may identify necessary project modifications that were not part of the initial application, or identify various conditions that will be needed if the project is to be approved. [Chapter 7](#) includes many of the possible project modifications and permit conditions that might be used to address sea level rise concerns and potential resource impacts.

During the project analysis, the planning staff will review all submitted material, discussing the proposed project with other staff members, and obtaining further technical review. Working with their supervisors and managers, they will also develop a staff recommendation and prepare a staff report that supports the proposed recommendation. Please consult the Coastal Commission website (<http://www.coastal.ca.gov/cdp/cdp-forms.html>) or contact your district office for instructions on how to complete a CDP application.

- 3. Permit action.** Once the proposed project has been through planning review and a staff recommendation has been prepared, the proposed project will be brought to hearing before either the local planning commission or the California Coastal Commission. The outcome of the hearing process will be project approval, approval with conditions, or denial. Based on the regulatory decision, the project may be constructed, or additional modifications and condition requirements may have to be met.
- 4. Monitor and revise.** CDP approvals may include conditions that require monitoring. Applicants should monitor the physical impacts of sea level rise on the project site, provide reports and updates to planning staff and introduce adaptive changes to the project in accordance with the permit and permit conditions.

Expected outcomes from Step 5: This step, combined with supporting documentation from the previous steps, should provide a basis for evaluating the proposed project's hazard risks and impacts that can result from sea level rise. Such an analysis will provide one of the bases for project evaluation and complements the other resource evaluations and analyses that are part of a complete CDP application.

Planning Process for Coastal Development Permits

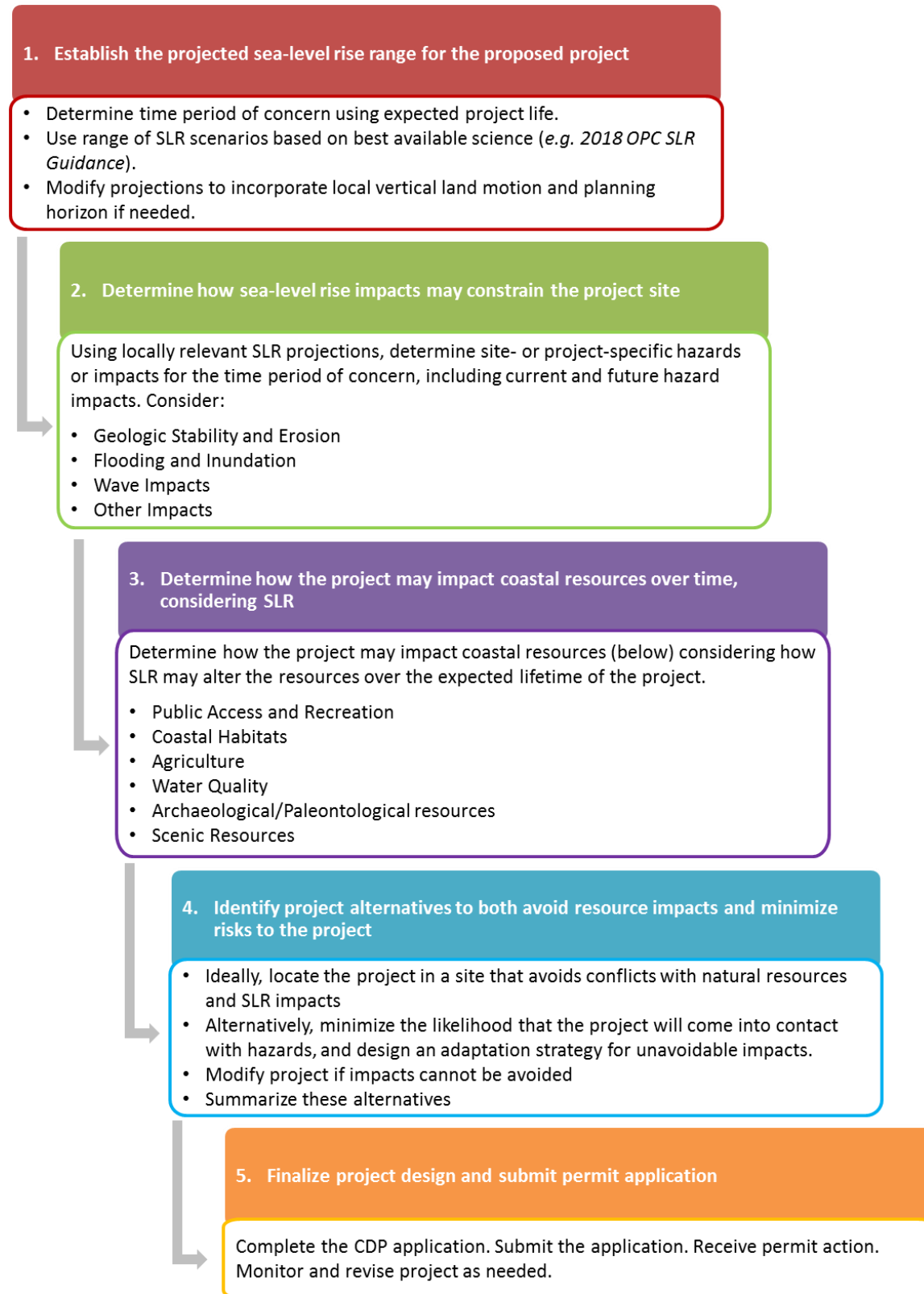


Figure 14. Flowchart for steps to address sea level rise in Coastal Development Permits

Suggested Filing Checklist for Sea Level Rise Analysis

- Proposed/Expected Project Life
- Sea Level Rise Projections used in Impacts Analyses
- Impacts Analyses (possibly from Vulnerability Assessment)
 - Structural and Geologic Stability
 - Identify current tidal datum
 - Perform Geotechnical Report and Erosion Analysis
 - Identify blufftop setback and safe building area
 - Show setback, safe building area and proposed project footprint (site maps)
 - Erosion Amount over Expected Project Life
 - Perform Coastal Processes Study and Erosion Analysis
 - Quantify total erosion amount for proposed project site
 - Show retreat along with proposed project footprint (site maps)
 - Flooding and Inundation Risks
 - Perform Coastal Processes Study and Wave Runup Analysis
 - Quantify flood elevation and flooding extent
 - Show flood extent with proposed project footprint (site map)
 - Show flood elevation on site profile, with proposed project elevation
 - Provide Flood Certificate if in FEMA designated 100-year Flood Zone
 - Tipping points for sea level rise impacts, specific to proposed project site
- Impacts to coastal resources (possibly from Environmental Assessment) for current conditions and changes due to sea level rise and related impacts
 - Public Access and Recreation
 - Show access resources and future changes (site maps)
 - Water Quality, surface and groundwater
 - Provide surface drainage patterns and runoff and future changes (site maps)
 - Provide zone of groundwater elevation
 - Coastal Habitats
 - Provide wetland delineation, ESHA determination, if appropriate
 - Provide boundary determinations or State Lands review, if appropriate
 - Show all coastal habitats and future changes (site maps)
 - Agricultural Resources
 - Show agricultural resources and future changes (site maps)
 - Natural Landforms
 - Show all natural landforms and future changes (site maps)
 - Scenic Resources
 - Show views from public access and future changes due to access changes
 - Overlay all coastal resources to establish areas suitable for development (site maps)
- Analysis of Proposed Project and Alternatives
 - Provide amount(s) of sea level rise used in project planning and design
 - Provide analysis of the proposed project and alternatives
 - Identify proposed current and future adaptation strategies
 - Show avoidance efforts (site map)
 - Identify hazard minimization efforts that avoid resource impacts (site maps)

Example for Addressing Sea Level Rise in Coastal Development Permits

To illustrate the process described in this chapter for how to address sea level rise in the CDP process, consider three example projects: a wetland restoration project, a new bluff-top residential development with a fronting beach, and a new wastewater treatment facility. These three examples will follow each of the recommended CDP steps, showing how the guidance could be applied in specific situations. Note that these are simplified examples used to demonstrate the process described in this chapter. Decisions about how to address various challenges presented by sea level rise will be more complex than those illustrated below, and the Coastal Commission encourages applicants to coordinate with staff as necessary and feasible throughout the process.

Step 1: Establish the projected sea level rise range for the proposed project

- *Wetland Restoration Project:* Sea level rise projection ranges should be chosen based on the goals of the project. For example, if wetland restoration efforts are intended as mitigation for a development project, the lifetime for the wetland restoration should be, at a minimum, the lifetime of the development project. For wetland restoration projects in which the desired outcome is the protection of the wetland in perpetuity, sea level rise ranges should be projected over a minimum of 100 years, with consideration of the intervening years as well as the even longer term for ongoing adaptive management.
- *Bluff-top Residential Development:* The lifetime of the project is assumed to be at least 75 years, unless the LCP specifies a different time period. High, low, and intermediate sea level rise projection ranges are established, appropriate for the proposed area over the assumed 75-year project life.
- *Wastewater Treatment Facility:* Wastewater treatment facilities are normally critical infrastructure. For this example, a minimum life of 100 years is assumed, unless the LCP specifies a different time period. High, low, and intermediate sea level rise projections ranges are established, appropriate for the proposed area over the assumed 100-year or longer project life.

Step 2: Determine how impacts from sea level rise may constrain the project site

- *Wetland Restoration Project:* Current topography of the wetland area is mapped, current barriers to inland migration are identified, and an analysis of erosion and flooding potential (and subsequent effects to wetland extent) is performed for various sea level rise scenarios. Potential changes to groundwater are evaluated. Potential changes in sediment flows or other physical properties as a result of changing conditions are examined. It is determined that in this case, open space exists behind the wetland to allow for inland migration over time.
- *Bluff-top Residential Development:* The average long-term beach and bluff retreat rate, erosion rate due to various sea level rise scenarios, and erosion potential from 100-year storms and other extreme events are determined. Beach and bluff erosion will vary with sea level rise rates. The geologic stability of the bluff over the life of the development is analyzed assuming that no protective structure (such as a seawall) either exists or will be built.

- *Wastewater Treatment Facility:* Erosion and flooding potential over the lifetime of the facility under both a low and a worst-case scenario sea level rise projection are analyzed, as are current and future wave runoff and storm impacts for 100-year storms. The geologic stability of the site over the life of the facility is analyzed assuming that no protective structure either exists or will be built. Potential damage to infrastructure (for example corrosion due to saltwater intrusion) is examined.

Step 3: Determine how the project may impact coastal resources, considering the influence of sea level rise upon the landscape over time

- *Wetland Restoration Project:* Coastal resources present in the proposed project site are mapped and sea level rise impacts to these resources are analyzed over the lifetime of the project. It is unlikely that the project will have any adverse impacts on coastal resources. Barriers to wetland migration are examined and it is determined in this case that enough open space currently exists to allow for the wetland to migrate inland over time. The few barriers that exist can be modified in the future, if necessary. This will allow for continued maintenance of habitat area and ecosystem services.
- *Bluff-top Residential Development:* Maps are developed that identify scenic viewsheds, the bluff extent, and adjacent coastal habitats including the fronting beach, and descriptions of each are provided. Opportunities for public access are identified. Impacts to each of these resources as a result of sea level rise are analyzed, as are impacts that would result from the development project. It is determined that the development has the potential to result in the loss of a fronting beach if a protective structure is installed. However, development setbacks are designed to ensure that no such structure is planned over the lifetime of the development under any sea level rise scenario.
- *Wastewater Treatment Facility:* Maps are developed that identify coastal resources in the area and impacts to these resources resulting from sea level rise are analyzed. As with the bluff-top development, any protective structure would have detrimental effects to the fronting beach, but no such structure is determined to be necessary. Any potential impacts to adjacent habitat areas or to water quality as a result of damage to infrastructure (for example sewage outflow or backup of seawater into the system) are examined under the range of sea level rise projections for the life of the facility.

Step 4: Identify project design alternatives that avoid resource impacts and minimize risks to the project

- *Wetland Restoration Project:* In this example, there are no concerns related to detrimental impacts to coastal resources as a result of this project. Natural barriers will be removed through grading and contouring of the land to ensure that the wetland has the ability to migrate inland with sea level rise and that hydrologic function will be maintained. Inland areas are protected into the future to ensure the space will be open for migration. Additionally, a plan is included to monitor changes in sea level, sediment dynamics, and overall health of the wetland so that adaptive management options can be applied as needed.

- *Bluff-top Residential Development:* The optimal site for a bluff-top residential development is one that avoids the hazards identified in Step 2 and impacts to coastal resources identified in Step 3 over the life-time of the project. If the proposed site does not avoid risks, alternative locations on the project sites should be identified and examined. If no such location exists, efforts should be made to minimize hazards and impacts to resources, or the project should be denied. Minimization efforts may include: building with an extra setback from the bluff-face, developing a managed retreat plan, and designing buildings to be easily relocated. If the safe building envelope will not be sufficient for a reasonable-sized building, local governments could consider allowing reduced setbacks on portions of the site located away from the bluff face (e.g., side or front yard setbacks), reduced off-street parking, additional height on safe portions of the site, or other development that doesn't require shore protection. No seawall is planned as such a device would result in the loss of the fronting beach. A plan to monitor rates of erosion at various places along the bluff as well as any impacts to adjacent resources is developed, and erosion rates/scenarios that would trigger the need for retreat are identified.
- *Wastewater Treatment Facility:* The optimal site for a wastewater treatment facility is one that avoids the hazards identified in Step 2 and impacts to coastal resources identified in Step 3 over the life-time of the project. If the proposed site does not avoid risks, alternative sites should be identified and examined. If no such site exists, efforts should be made to minimize hazards and impacts to resources. Minimization efforts may include: building the facility further back from the beach, elevating outflow pipes, and adding one-way valves to prevent backflow of sea-water into the system. A plan to monitor erosion rates along the beach as well as wave and storm impacts and any impacts to coastal resources caused by the facility is developed.

Step 5: Finalize project design and submit CDP application

- *Wetland Restoration Project:* The best site and design option is chosen and presented to the Commission or local government for the permit process. Application includes likely options for adaptive management to maintain wetlands and key monitoring needed to examine ongoing wetland function.
- *Bluff-top Residential Development:* The best site and design option is chosen and presented to the Commission or local government for the permit process. Application includes analyses of hazard and resource risks and any plans for adaptive project designs and proposed monitoring.
- *Wastewater Treatment Facility:* The best site and design option is chosen and presented to the Commission or local government for the permit process. Application includes analyses of hazards and resource risk and plans for site monitoring.

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Chapter 7

Adaptation Strategies

Chapters 5 and 6 provide guidance on the sequential processes for addressing sea level rise in Local Coastal Programs (LCPs) and Coastal Development Permits (CDPs). This chapter describes some of the specific adaptation strategies to consider in these planning and development review processes. Given the range of impacts that could occur as a result of sea level rise, and the uncertainties surrounding projections of sea level rise over the lifetimes of many coastal projects, communities, planners, coastal managers and project applicants will need to use adaptation strategies to effectively address coastal hazard risks, and protect coastal resources over time.

As described in Chapters [5](#) and [6](#), adaptation strategies should be chosen based on the specific risks and vulnerabilities of a region or project site and the applicable Coastal Act and LCP requirements, with due consideration of local priorities and goals. Adaptation strategies may involve modifications to land use plans, regulatory changes, project modifications, or permit conditions that focus on avoidance or minimization of risks and the protection of coastal resources.

Some adaptation strategies may require land use plans or proposed projects to anticipate longer-run impacts now, such as assuring that critical infrastructure is built to last a long time without being put in danger, or rezoning hazardous areas as open space. Other adaptation strategies may build adaptive capacity into the plan or project itself, so that future changes in hazard risks can be effectively addressed while ensuring long-term resource protection. In most cases, especially for LCP land use and implementation plans, multiple adaptation strategies will need to be employed. For projects, adaptation strategies may be addressed through initial siting and design and through conditions that provide for specific adaptation over time.

The next sections provide an overview of the general categories of adaptation options, followed by a description of various specific adaptation strategies organized by type of coastal resource, as outlined in Chapter 3 of the California Coastal Act.

The adaptation options described in this chapter are intended to provide guidance for potential LCP and permitting strategies. Not all strategies listed here will be appropriate for every jurisdiction, nor is this an exhaustive list of options. However, as described in Chapters 5 and 6, all local governments and all project applicants should analyze the possible effects of sea level rise and evaluate how the strategies in this chapter, or additional supplemental strategies, could be implemented in LCPs or CDPs to minimize the adverse effects of sea level rise.

GENERAL ADAPTATION CATEGORIES

There are a number of options for how to address the risks and impacts associated with sea level rise. Choosing to “do nothing” or following a policy of “non-intervention” may be considered an adaptive response, but in most cases, the strategies for addressing sea level rise hazards will require proactive planning to ensure protection of coastal resources and development. Such proactive adaptation strategies generally fall into three main categories: protect, accommodate, and retreat.

For purposes of implementing the Coastal Act, no single category or even specific strategy should be considered the “best” option as a rule. Different types of strategies will be appropriate in different locations and for different hazard management and resource protection goals. The effectiveness of different adaptation strategies will vary across both spatial and temporal scales. In many cases, a hybrid approach that uses strategies from multiple categories will be necessary,

and the suite of strategies chosen may need to change over time. As discussed later in the document, the legal context of various options will also need to be considered in each situation and ultimately, adaptive responses will need to be consistent with the Coastal Act. Nonetheless, it is useful to think about the general categories of adaptation strategies to help frame the consideration of land use planning and regulatory options in specific communities and places along the coast.

Protect: Protection strategies refer to those strategies that employ some sort of engineered structure or other measure to defend development (or other resources) in its current location without changes to the development itself. Protection strategies can be further divided into “hard” and “soft” defensive measures or armoring. “Hard” armoring refers to engineered structures such as seawalls, revetments, and bulkheads that defend against coastal hazards like wave impacts, erosion, and flooding. Such armoring is a fairly common response to coastal hazards, but it can result in serious negative impacts to coastal resources, particularly as sea level rises. Most significantly, hard structures form barriers that impede the ability of natural beaches and habitats to migrate inland over time. If they are unable to move inland, public recreational beaches, wetlands, and other habitats will be lost as sea level continues to rise. This process is commonly referred to as “passive erosion,” which is the narrowing of beaches due to the fact that the back of the beach on an eroding shoreline has been fixed in place (Flick *et al.* 2012). Other detrimental impacts may include negative visual impacts or interference with other ecosystem services.

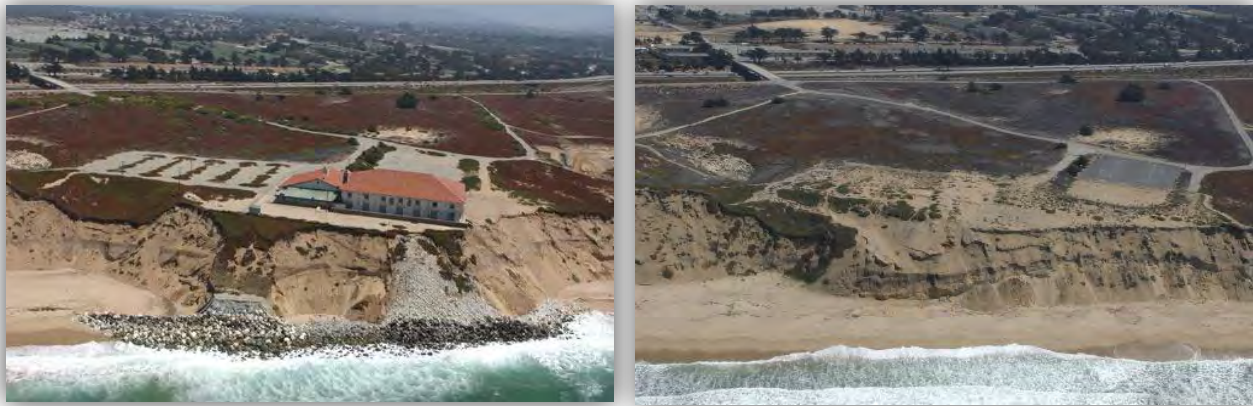


Figure 15. Photo depicting passive erosion. (Left) Passive erosion in front of a revetment at Fort Ord, illustrating the loss of beach where the development prevents the shoreline from migrating landward. The beach continues to migrate inland on either side of the revetment. (Right) Recovery of the beach following removal of the revetment and blufftop structure. (Source: [California Coastal Records Project](#)).

“Soft” armoring refers to the use of natural or “green” infrastructure like beaches, dune systems, wetlands, and other systems to buffer coastal areas. Strategies like beach nourishment, dune management, or the construction of “living shorelines” capitalize on the natural ability of these systems to protect coastlines from coastal hazards while also providing benefits such as habitat, recreation area, more pleasing visual impacts, and the continuation or enhancement of ecosystem services. The engineering of green infrastructure is a somewhat newer concept in some cases, and because of this, the effectiveness of different strategies in different types of environments is not necessarily well-known or tested. In cases in which natural infrastructure might not be

completely effective or may not be preferred, a hybrid approach using both hard and natural infrastructure could be considered. As described in Principle 10 of this Guidance and in the [Safeguarding California](#) plan (CNRA 2014), priority should be given to options that protect, enhance, and maximize coastal resources and access, including giving full consideration to innovative nature-based approaches such as living shoreline techniques or managed/planned retreat. Although the Coastal Act clearly provides for potential protection strategies for “existing development”, it also directs that new development be sited and designed to not require future protection that may alter a natural shoreline.

Accommodate: Accommodation strategies refer to those strategies that employ methods that modify existing developments or design new developments to decrease hazard risks and thus increase the resiliency of development to the impacts of sea level rise. On an individual project scale, these accommodation strategies include actions such as elevating structures, retrofits and/or the use of materials meant to increase the strength of development, building structures that can easily be moved and relocated, or using extra setbacks. On a community-scale, accommodation strategies include any of the land use designations, zoning ordinances, or other measures that require the above types of actions, as well as strategies such as clustering development in less vulnerable areas or requiring mitigation actions to provide for protection of natural areas even as development is protected. As with protection strategies, some accommodation strategies could result in negative impacts to coastal resources. Elevated structures may block coastal views or detract from community character; pile-supported structures may, through erosion, develop into a form of shore protection that interferes with coastal processes, blocks access, and, at the extreme, results in structures looming over or directly on top of the beach.



Figure 16. Photo depicting “managed retreat” and restoration. Surfers' Point Managed Shoreline Retreat project in which the parking lot was moved back and beach area was restored. (Aerial composite by Rick Wilborne (February 28, 2013); photo courtesy of Surfrider Foundation)

Retreat: Retreat strategies are those strategies that relocate or remove existing development out of hazard areas and limit the construction of new development in vulnerable areas. These strategies include land use designations and zoning ordinances that encourage building in more resilient areas or gradually removing and relocating existing development. Acquisition and buy-out programs, transfer of development rights programs, and removal of structures where the right to protection was waived (*i.e.*, via permit condition) are examples of strategies designed to encourage managed retreat.

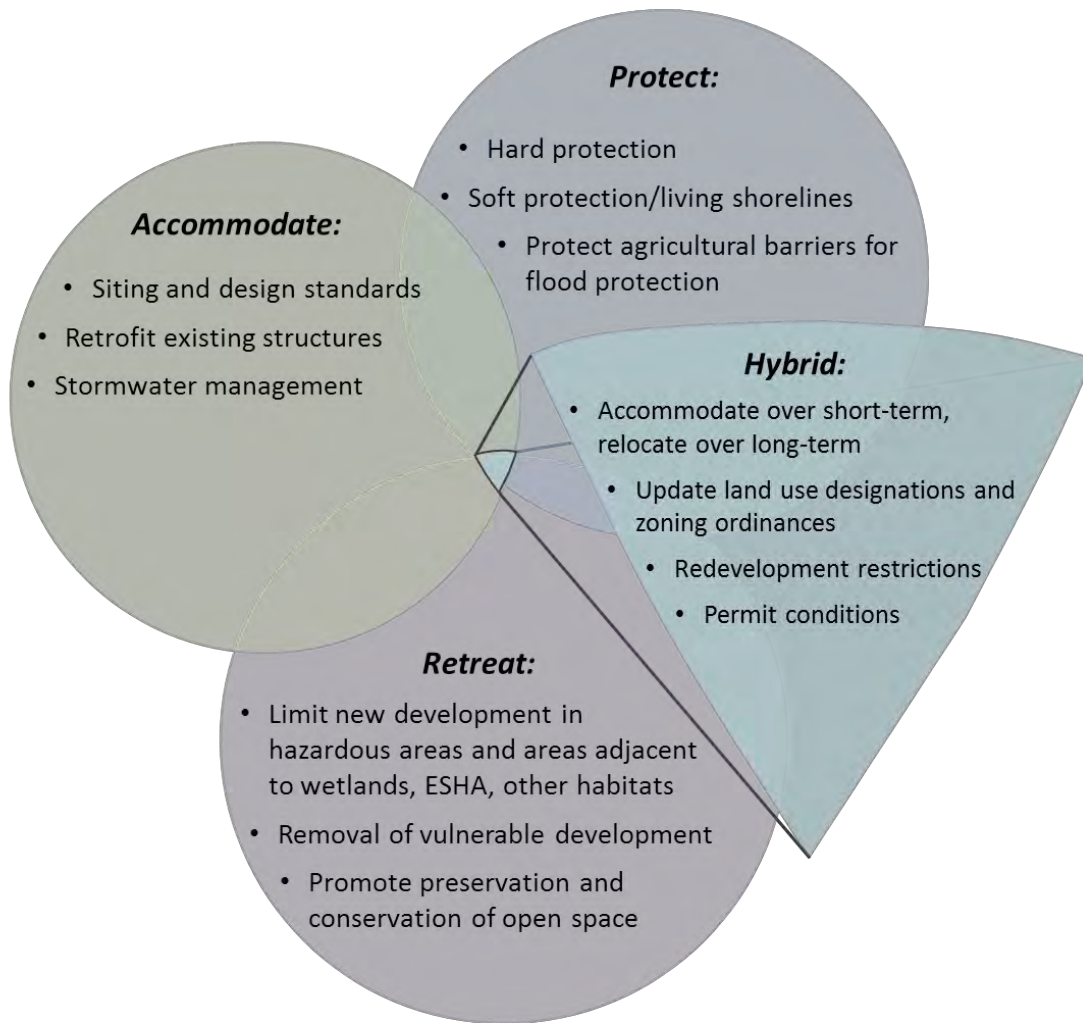


Figure 17. Examples of general adaptation strategies

SPECIFIC ADAPTATION STRATEGIES

The following sections, organized by category of coastal resource, present measures that local governments and coastal planners should consider including in their LCPs or individual CDPs. The purpose of this organization is to allow coastal managers and project applicants to easily find strategies that will help address the specific resource vulnerabilities identified in Steps 1-3 of the LCP and CDP processes laid out in Chapters [5](#) and [6](#). In the development of LCP policies, local governments should use adaptation measures that best implement the statewide resource protection and hazard policies of the Coastal Act at the local level given the diverse geography and conditions of different areas.

As part of identifying adaptation strategies, local governments should carefully examine the potential impacts to coastal resources that could occur from various adaptation strategies. Some adaptation strategies will need to be implemented incrementally over time as conditions change, and many strategies will need to be implemented through both the LCP and CDP to be effective. For each issue area, there is a description of potential impacts that could occur due to sea level rise and a list of adaptation tools or actions to minimize impacts. To skip to a topic, click on the links below.

- A. [Coastal Development and Hazards](#)
- B. [Public Access and Recreation](#)
- C. [Coastal Habitats, ESHA, and Wetlands](#)
- D. [Agricultural Resources](#)
- E. [Water Quality and Supply](#)
- F. [Archaeological and Paleontological Resources](#)
- G. [Scenic and Visual Resources](#)

The lists in these sections should be considered neither checklists from which all options need to be used, nor exhaustive lists of all possible adaptation strategies. Sea level rise adaptation is an evolving field, and policy language, cost considerations, effectiveness of various strategies, and other topics are continuing to be developed. Planners, applicants, and partners will need to think creatively and adaptively respond to changing conditions, new science, and new adaptation opportunities, and the Coastal Commission will continue to support and collaborate on these efforts.

Additionally, sea level rise planning may involve a number of trade-offs among various competing interests, and no single adaptation strategy will be able to accomplish all planning objectives. Economic and social implications of various adaptation options will likely play into the planning process at the local level. The important point is to analyze current and future risks from sea level rise, determine local priorities and goals for protection of coastal resources and development in light of Coastal Act requirements, and identify what land use designations, zoning ordinances, and other adaptation strategies can be used to meet those goals.

A. Coastal Development and Hazards

The Coastal Act requires that new development be sited and designed to be safe from hazards and to not adversely impact coastal resources (Coastal Act Sections 30235 and 30253). The main goals that relate to hazards and coastal development are:

- Update land use designations, zoning maps, and ordinances to account for changing hazard zones
- Include sea level rise in hazard analyses and policies
- Plan and locate new development to be safe from hazards, not require protection over its entire lifespan, and be protective of coastal resources
- Incorporate sea level rise adaptation into redevelopment policies
- Encourage the removal of development that is threatened by sea level rise
- Use “soft” or “natural” solutions as a preferred alternative for protection of existing endangered structures
- Limit bluff and shoreline protective devices to protect existing endangered structures
- Require special considerations for critical infrastructure and facilities
- Protect transportation infrastructure

[Chapter 3](#) of the Guidance covers the impacts to coastal development that might result from sea level rise. Certified LCPs should already have policies and standards to assure that coastal development is safe over its anticipated lifetime and that it does not adversely impact other coastal resources. However, LCP policies and standards may need to be updated in light of new knowledge and to consider sea level rise hazards. Adaptation options have been developed to support the development goals of the Coastal Act through both LCP policies and CDP conditions, and the following strategies cover a range of options for addressing the identified goals of the Coastal Act.

Goal: Update land use designations, zoning maps, and ordinances to account for changing hazard zones

A.1 Establish mapped hazard zones or overlays: Update land uses and zoning requirements to minimize risks from sea level rise in identified hazard zones or overlay areas. For example, limit new development in current and future sea level hazard zones and encourage removal of existing development when threatened.

A.1a **Identify zones that require a more rigorous sea level rise hazards analysis:** Specify areas where a closer analysis of sea level rise is necessary at the permit application stage to avoid or minimize coastal hazards and impacts to coastal

resources. Ensure that the most up-to-date information on sea level rise is incorporated in such analyses.

Goal: Include sea level rise in hazard analyses and policies

A.2 Update policies to require sea level rise to be included in hazard analyses and management plans: LCP policies should include requirements to analyze projected sea level rise. Consider specific projection scenarios to be analyzed. (See [Chapter 3](#) of the Guidance for a description of scenario planning.) LCPs could also specify which analyses are required for various types of projects/development (see Step 2 of Chapters [5](#) and [6](#) or [Appendix B](#) for suggested analyses).

- A.2a **Site-specific evaluation of sea level rise:** Update policies, ordinances, and permit application requirements to include a required site-specific evaluation of coastal hazards due to sea level rise over the full projected life of any proposed development. Analyses should be conducted by a certified Civil Engineer or Engineering Geologist with expertise in coastal processes.
- A.2b **Incorporate wave runup zones and sea level rise in coastal flood hazard maps:** Develop coastal flood maps that include areas that will be subject to wave action and flooding due to sea level rise. These maps may be able to rely upon existing flood maps, such as the FEMA Flood Insurance Rate Maps, for current flood areas and base conditions, but should be augmented to include future conditions, including sea level rise, likely to occur through the life of proposed new development.
- A.2c **Incorporate sea level rise into calculations of the Geologic Setback Line:** Update geotechnical report requirements for establishing the Geologic Setback Line (bluff setback) to include consideration of bluff retreat due to sea level rise in addition to historic bluff retreat data, future increase in storm or El Niño events, and any known site-specific conditions. The report should be completed by a licensed Geotechnical Engineer or an Engineering Geologist.
- A.2d **Include sea level rise in wave runup, storm surge, and tsunami hazard assessments⁴⁴:** Sea level rise should be included in wave runup analyses, including storm event and tsunami hazard assessments. This should include evaluating tsunami loads/currents on maritime facilities and coastal structures. Since tsunami wave runup can be quite large, sea level rise projections of only a few inches may not have a large impact on these assessments. However, for time periods or scenarios where sea level rise projections are large (perhaps 1 ft or more), it would be appropriate to include sea level rise because it could change the results to a significant degree.

⁴⁴ Tsunami evacuation maps are based upon current sea level conditions and they will need to be updated with changes in sea level.

A.3 Establish shoreline management plans to address long-term shoreline change due to sea level rise: Create policies that require a management plan for priority areas that are subject to sea level rise hazards, and incorporate the plan into the larger LCP if applicable. Similar to an LCP, shoreline management plans generally include the short and long term goals for the specified area, the management actions and policies necessary for reaching those goals, and any necessary monitoring to ensure effectiveness and success. Incorporate strategies necessary to manage and adapt to changes in wave, flooding, and erosion hazards due to sea level rise.

Goal: Plan and locate new development to be safe from hazards, not require protection over its entire lifespan, and be protective of coastal resources

A.4 Limit new development in hazardous areas: Restrict or limit construction of new development in zones or overlay areas that have been identified or designated as hazardous areas to avoid or minimize impacts to coastal resources and property from sea level rise impacts.

A.5 Cluster development away from hazard areas: Concentrate development away from hazardous areas. Update any existing policies that cluster development to reflect additional hazard zones due to sea level rise.

A.5a Concentration of development/smart growth: Require development to concentrate in areas that can accommodate it without significant adverse effects on coastal resources. This strategy is applicable for community wide planning through an LCP, but may also apply to CDPs for subdivisions or for larger developments involving large or multiple lots.

A.5b Transfer of Development Rights programs (TDR): Restrict development in one area (“sending area”) and allow for the transfer of development rights to another area more appropriate for intense use (“receiving area”). LCPs can establish policies to implement a TDR program to restrict development in areas vulnerable to sea level rise and allow for transfer of development rights to parcels with less vulnerability to hazards. A TDR program can encourage the relocation of development away from at-risk locations, and may be used in combination with a buy-out program.

A.6 Develop adequate setbacks for new development: Ensure structures are set back far enough inland from the beach or bluff edge such that they will not be endangered by erosion (including sea level rise induced erosion) over the life of the structure, *without the use of a shoreline protective device*. When used to address future risk, setbacks are normally defined by a measurable distance from an identifiable location such as a bluff edge, line of vegetation, dune crest, or roadway. Establish general guidance and criteria for setbacks in LCPs that consider changes in retreat due to sea level rise. Require detailed, site-specific analyses through LCPs and CDPs to determine the size of the setback, taking into consideration sea level rise and establish the expected life of the

structure (for example, the time period over which the setback should be effective).



Figure 18. Photo depicting a development setback in Pismo Beach. (Source: [California Coastal Records Project](#))

- A.7 Limit subdivisions in areas vulnerable to sea level rise:** Prohibit any new land divisions, including subdivisions, lot splits, lot line adjustments, and/or certificates of compliance that create new beachfront or blufftop lots unless the lots can meet specific criteria that ensure that when the lots are developed, the development will not be exposed to hazards or pose any risks to protection of coastal resources.
- A.8 Update development siting, code, and design standards to avoid, minimize, or reduce risks from coastal hazards and extreme events:** Establish and implement building codes and standards for building siting and construction that avoid or minimize risks from flooding and erosion and increase resilience to extreme events within sea level rise hazard zones. Such standards and applicable building code provisions should be included in LCPs as additional development controls in areas that are identified in the LCP as hazard areas, and applied in specific projects through a CDP.
- A.8a Update flood protection measures to incorporate both FEMA and Coastal Act requirements:** Require new development located in areas subject to current or future flood/wave action to be sited and designed to be capable of withstanding such impacts in compliance with both FEMA and Coastal Act requirements. For example, ensure that implementation of adaptation measures such as elevation of habitable areas, break-away walls, *etc.* will be consistent with both LCP and FEMA provisions.

- A.8b **Limit basements and first floor habitable space:** Where applicable, in areas likely to be subject to current or future flood/wave action, revise residential building standards to prohibit habitable space at elevations subject to wave/flood risk. Specifically address potential impacts of basements on long-range adaptation options such as landward relocation or removal.
 - A.8c **Evaluate impacts from flood protection measures:** Require new development that must be located in areas likely subject to current or future flood/wave action or elevated groundwater to evaluate potential impacts to adjacent or nearby properties from all proposed structural flood protection measures to ensure that these measures will not create adverse direct and/or cumulative impacts either on-site or off-site.
- A.9 Analyze options for removal when planning and designing new development:** Design options should not place an undue burden on future property owners or coastal resources. For new development in high hazard areas or resource-constrained areas where managed retreat might be an appropriate option at some time in the future, ensure that foundation designs or other aspects of the development will not preclude future incremental relocation or managed retreat. Foundation and building elements, such as deepened perimeter foundations, caissons or basements, may be difficult to remove in the future, or their removal may put adjacent properties at risk. Alternative design options should be considered, and employed if site conditions allow.
- A.9a **Develop a plan to remove or relocate structures that become threatened:** Require new development authorized through a CDP that is subject to wave action, erosion, or other hazards to be removed or relocated if it becomes threatened in the future.
 - A.9b **Identify triggers for incremental removal of structures on constrained lots:** When a lot is not large enough to accommodate development that avoids coastal hazards for the expected life of the development, develop a project option that minimizes hazards from the identified sea level rise scenarios for as long as possible, and then requires incremental retreat once certain triggers are met.

Triggers for relocation or removal of the structure would be determined by changing site conditions such as when erosion is within a certain distance of the foundation; when monthly high tides are within a certain distance of the finished floor elevation; when building officials prohibit occupancy; or when the wetland buffer area decreases to a certain width.
 - A.9c **Avoid shoreline protection for new development:** Require CDPs for new development in hazardous locations to include as a condition of approval a waiver of rights to future shoreline protection that would substantially alter natural landforms or cause other adverse coastal resource impacts.
 - A.9d **Limit the use of foundations or basements that can interfere with coastal processes:** In locations where foundation or building elements, such as deepened perimeter foundations, caissons or basements may be exposed to wave action through rising sea level or erosion, require analysis of less extensive foundation or building options.

- A.9e **Develop triggers for foundation and structure removal:** If no less damaging foundation alternatives are possible, ensure that the foundation design allows for incremental removal as the foundation elements become exposed, and develop pre-established triggers, for example when the bluff edge or shoreline comes within a certain distance of the foundation, for incremental or complete removal that will avoid future resource impacts.



Figure 19. Photo depicting eroding bluff and exposed caissons in Encinitas, CA. (Photograph by Lesley Ewing)

- A.10 Ensure that current and future risks are assumed by the property owner:** New development should be undertaken in such a way that the consequences from development in high hazard areas will not be passed on to public or coastal resources. Recognize that over time, sea level rise will cause the public trust boundary to move inland. Establish standards, permit conditions, and deed restrictions that ensure that current and future risks are assumed by the property owner. Consider policies that would encourage or require property owners to set aside money, such as in the form of a bond, as a contingency if it becomes necessary to modify, relocate, or remove development that becomes threatened in the future.
- A.11 Real estate disclosure:** Require sellers of real estate to disclose permit conditions related to coastal hazards, or property defects or vulnerabilities, including information about known current and potential future vulnerabilities to sea level rise, to prospective buyers prior to closing escrow.

Goal: Incorporate sea level rise adaptation into redevelopment policies

A.12 Avoid the expansion or perpetuation of existing structures in at-risk locations: On an eroding shoreline, the seaward portions of an existing structure may become threatened as the setback or buffer zone between the structure and the mean high tide line or bluff edge is reduced due to erosion of the beach or bluff. When the seaward portion of the structure no longer meets the standards or setback that would be required for new development, it becomes a “non-conforming” structure for purposes of redevelopment policies and regulations. The following should be considered, as consistent with the Coastal Act, FEMA policies, and other relevant standards, to address existing non-conforming development to avoid the need for shoreline or bluff protective devices and associated impacts to coastal resources.

- A.12a **Update non-conforming structure policies and definitions:** Develop policies and regulations to define non-conforming development in the area between the sea and the first coastal roadway or other known hazard zones to avoid perpetuating development that may become at risk and require a new protective device or extend the need for an existing protective device.
- A.12b **Limit redevelopment or upgrades to existing structures in at risk locations:** Use redevelopment policies or regulations to limit expansions, additions, or substantial renovations of existing structures in danger from erosion. Require removal of non-conforming portions of the existing structure, when possible, when a remodel or renovation is proposed.
- A.12c **Limit foundation work within the geologic setback area:** To facilitate removal of non-conforming portions of an existing structure, use LCP regulations and CDPs to limit new or replacement foundations or substantial improvements, other than repair and maintenance, to the existing foundation when located seaward of the Geologic Setback line. Approve significant new foundation work only when it is located inland of the setback line for new development and when it will not interfere with coastal processes in the future.
- A.12d **Limit increases to existing non-conformities:** Use LCP regulations and CDPs to allow non-exempt repair and maintenance and modifications only if they do not increase the size or degree of non-conformity of the existing structure. For shoreline or blufftop development, any decrease in the existing non-conforming setback would increase the degree of non-conformity.
- A.12e **Limit additions to non-conforming structures:** Use LCP regulations and CDPs to acknowledge that additions to existing structures should be considered new development that must conform to the standards for new development including but not limited to avoiding future protective devices. Consider limitations on the size of additions unless non-conforming portions of the structure are removed.
- A.12f **Address existing protection of non-conforming structures:** Use LCP regulations and CDP conditions to put current and future property owners on notice that if there is currently shoreline or bluff protection for an existing structure, the structure is likely at-risk and improvements to that structure in its current location may be limited. Also, consider acknowledging that any rights to

retain the existing protective device(s) apply only to the structure that existed at the time the protective device was constructed or permitted.

A.13 Redevelopment of existing structures: Define “redevelopment” as, at a minimum, replacement of 50% or more of an existing structure. Other options that may be used to define what constitutes redevelopment or a replacement structure could include 1) limits on the extent of replacement of major structural components such as the foundation or exterior walls, or 2) improvements costing more than 50% of the assessed or appraised value of the existing structure. The redevelopment definition should take into consideration existing conditions and pattern of development, potential impacts to coastal resources, and the need for bluff or shoreline protective devices if the structure remains in its current, non-conforming location.

A.13a **Require redevelopment to meet the standards for new development:** Use LCPs and CDPs to require that renovations meeting the threshold for redevelopment should not be approved unless the entire structure meets the standards for new development, including but not limited to a waiver of right to protection. Specify that if any existing non-conforming elements are permitted to remain, those non-conforming elements are not subject to rights to protection pursuant to Coastal Act Section 30235.

A.13b **Include cumulative improvement or additions to existing structures in the definition of redevelopment:** Use LCP regulations to acknowledge that demolition, renovation, or replacement of less than 50% (or less) of an existing structure constitutes redevelopment when the proposed improvements would result cumulatively in replacement of more than 50% of the existing structure from an established date, such as certification of the LUP.

A.14 Remove existing shoreline protective devices: On properties with existing shoreline protective devices, use regulations to require removal of the protective device when the structure requiring protection is redeveloped or removed. If removal is not possible, require a waiver of any rights to retain the protective device to protect any structure other than the one that existed at the time the protective device was constructed or permitted.

Goal: Encourage the removal of development that is threatened by sea level rise

A.15 Use Rolling Easements: The term “rolling easement” refers to the policy or policies intended to allow coastal lands and habitats including beaches and wetlands to migrate landward over time as the mean high tide line and public trust boundary moves inland with sea level rise. Such policies often restrict the use of shoreline protective structures (such as the “no future seawall” limitation sometimes used by the Commission), limit new development, and encourage the removal of structures that are seaward (or become seaward over time) of a designated boundary. This boundary may be designated based on such variables as the mean high tide line, dune vegetation line, or other dynamic line or legal requirement. Despite the term “rolling easements,” not all of the strategies related to rolling easements actually involve the use of recorded easements.

- A.16 Develop an incentive program to relocate existing development at risk:** Provide incentives to relocate development out of hazardous areas and to acquire oceanfront properties damaged by storms, where relocation is not feasible. Consider creating a relocation fund through increased development fees, *in lieu* fees, or other funding mechanisms.
- A.17 Transfer of Development Rights programs (TDR):** See Strategy A.5b above.
- A.18 Acquisition and buyout programs:** Acquisition includes the acquiring of land from the individual landowner(s). Structures are typically demolished or relocated, the property is restored, and future development on the land is restricted. Such a program is often used in combination with a TDR program that can provide incentives for relocation. Undeveloped lands are conserved as open space or public parks. LCPs can include policies to encourage the local government to establish an acquisition plan or buyout program to acquire property at risk from flooding or other hazards.

Goal: Use “soft” or “natural” solutions as a preferred alternative for protection of existing endangered structures

- A.19 Require the use of green infrastructure as a preferred alternative:** Under appropriate shoreline conditions, require or encourage development to use “soft” or “natural” solutions or “living shorelines” as an alternative to the placement of hard shoreline protection in order to protect development or other resources and to enhance natural resource areas. Examples of soft solutions include vegetative planting, dune restoration, and sand nourishment.
- A.19a Establish a beach nourishment program and protocols:** New policies may be needed to address increased demand or need for beach nourishment with sea level rise. Policies within an LCP may identify locations where nourishment may be appropriate; establish a beach nourishment program and protocols for conducting beach nourishment; establish criteria for the design, construction, and management of the nourishment area; and/or establish measures to minimize adverse biological resource impacts from deposition of material, such as sand compatibility specifications, timing or seasonal restrictions, and identification of environmentally preferred locations for deposits. Beach nourishment programs should also consider how nourishment options may need to change over time as sea level rises.
- A.19b Dune management:** Establish management actions to maintain and restore dunes and natural dune processes. Dunes provide buffers against erosion and flooding by trapping windblown sand, storing excess beach sand, and protecting inland areas, and they also provide habitat. This is likely most effective for areas with some existing dune habitat and where there is sufficient space to expand a foredune beach for sand exchange between the more active (beach) and stable (dune) parts of the ecosystem. LCPs can identify existing dune systems and develop or encourage management plans to enhance and restore these areas,

including consideration of ways that the system will change with rising sea level. CDPs for dune management plans may need to include periodic reviews so the permitted plans can be updated to address increased erosion from sea level rise, and the need for increased sand retention and replenishment.



Figure 20. Photo depicting dune restoration at Surfer's Point, Ventura. (Photograph courtesy of Surfrider Foundation)

- A.19c **Regional Sediment Management (RSM) programs:** Develop a Regional Sediment Management (RSM) program including strategies designed to allow the use of natural processes to solve engineering problems. To be most effective, RSM programs include the entire watershed, account for effects of human activities on sediment, protect and enhance coastal ecosystems, and maintain safe access to beaches for recreational purposes. LCPs can support development of an RSM program and its implementation, and the program should be periodically updated to address on-going changes from sea level rise. Natural boundaries for RSM may overlap within several LCPs, so regional cooperation may be needed for best implementation. Individual actions such as a beach nourishment project would be accomplished through a CDP. Many coastal RSM programs have already been developed and can be used as a resource. See the *Coastal Sediment Management Workgroup website* (and [Appendix C](#)) for more information.
- A.19d **Maintenance or restoration of natural sand supply:** Adjustment of the sediment supply has been one of the ways natural systems have accommodated

changes from sea level. Maintenance or restoration of sediment involves identifying natural sediment supplies and removing and/or modifying existing structures or actions that impair natural sand supply, such as dams or sand mining. LCPs could include policies and implementing standards that support nature-based responses to sea level rise by maintaining and restoring natural sand supply. Where applicable, develop policies and standards to prohibit sand mining, regulate sand replenishment, and promote removal of dams or the by-passing of sand around dams. Plans should take into consideration changes in sand supply due to sea level rise and may identify and designate high priority areas for restoring natural processes. These actions and policies can also be implemented through a Regional Sediment Management (RSM) program.

- A.19e **Beneficial reuse of sediment through dredging management:** Dredging involves the removal of sediment from harbor areas to facilitate boat and ship traffic or from wetland areas for restoration. Dredging management actions and plans may need to be updated to account for elevated water levels. Policies can be developed with an LCP and/or carried out through a CDP to facilitate delivery of clean sediment extracted from dredging to nearby beaches or wetland areas where needed. Beneficial reuse of sediment in this way can be coordinated through a Regional Sediment Management (RSM) program and/or through coordination with other jurisdictions.

Goal: Allow bluff and shoreline protective devices only to protect existing endangered structures

- A.20 Use hard protection only if allowable and if no feasible less damaging alternative exists:** “Hard” coastal protection is a broad term for most engineered features such as seawalls, revetments, cave fills, and bulkheads that block the landward retreat of the shoreline. In some cases, caissons and pilings may also be considered hard shoreline protective devices. Due to adverse effects on shoreline sand supply and beach area available for public use, such protective devices should be avoided when feasible. Under current law, shoreline protection for existing structures in danger from erosion may be allowed if coastal resource impacts are avoided or minimized and fully mitigated where unavoidable.

- A.20a **Retention of existing shoreline protection:** On intensely developed, urbanized shorelines, if the removal of armoring would put existing development at risk and not otherwise result in significant protection or enhancement of coastal resources, it may be appropriate to allow properly designed shoreline armoring to remain for the foreseeable future, subject to conditions that provide for potential future removal in coordination with surrounding development. However, the proper short term responses, longer term adaptation measures, and mitigation of on-going resource impacts should be determined through updated context-specific LCP planning and consideration of the existing rights and responsibilities of development in the area (see strategies A.21 – A.25).

- A.21 Require monitoring of the structure:** Require periodic monitoring of the shoreline protective device to examine for structural damage, excessive scour, or other impacts from coastal hazards and sea level rise. Ensure that the structures remain within the initial footprint and that they retain functional stability.
- A.22 Conditional approval of shoreline protective device:** Use LCP regulations and permit conditions to require monitoring of impacts to shoreline processes and beach width both at the project site and the broader area and/or littoral cell as feasible, and provide for such actions as removal or modification of armoring in the future if it is no longer needed for protection or if site conditions change.
- A.22a **Limit the authorization of shoreline protective devices to the development being protected:** Use LCP regulations and CDP conditions to require permits for bluff and shoreline protective devices to expire when the currently existing structure requiring protection is redeveloped, is no longer present, or no longer requires a protective device, whichever occurs first. Prior to expiration of the permit, the property owner should apply for a Coastal Development Permit to remove the protective device, or to modify or retain it if removal is not feasible at that time.
- A.22b **Require assessment of impacts from existing pre-Coastal Act or permitted shoreline armoring:** Use LCP regulations and permit conditions to specify that expansion and/or alteration of a pre-Coastal Act or legally permitted bluff or shoreline protective device requires a new CDP and the review should include an assessment of changes to geologic site and beach conditions including but not limited to, changes in beach width relative to sea level rise, implementation of any long-term, large scale sand replenishment or shoreline restoration programs, and any ongoing impacts to public access and recreation from the existing device.
- A.22c **Reassess impacts and need for existing armoring over time:** Use LCP regulations and CDPs to provide for reassessment of the impacts from protective devices at specific trigger points, including when substantial improvement or redevelopment of the structure requiring protection is proposed, or when existing armoring is being modified or expanded. Reassessment should consider the effect any significant improvement to a structure requiring protection will have on the length of time the protective device will remain, and if the existing armoring is still required, acknowledge that it is authorized to protect the existing structure only. The CDP review should assess existing site conditions and evaluate options to modify, replace, or remove the existing device in a manner that would eliminate or mitigate any identified impacts that may be occurring on public access and recreation, scenic views, sand supply, and other coastal resources, if feasible.
- A.23 Require mitigation for impacts of shoreline protective devices:** For unavoidable public resource impacts from shoreline structures permitted under the Coastal Act, require mitigation of resource impacts over the life of the structure as a condition of approval for the development permit. For example, require landowners to pay mitigation fees and/or complete other mitigation actions for the loss of sandy beach and other

adverse impacts on public access and recreation due to shoreline protection devices. Importantly, mitigation measures should be planned in such a way that sea level rise will not impair their efficacy over time. Other mitigation measures could include acquisition of other shoreline property for public recreational purposes, construction of public access and recreational improvements along the shoreline, and/or easements to protect lateral access along the shoreline in areas where seawalls eliminate sandy beach.

A.23a **Reassess mitigation over time as necessary:** Impacts of shoreline structures, including to shoreline and sand supply, public access and recreation, ecosystem values, and other relevant coastal resources, should be fully mitigated. Where reassessment of an approved structure is authorized, phasing of necessary mitigation may be appropriate.

A.24 Limit retention of existing shore protection: On lots with existing pre-Coastal Act or permitted armoring, consider requiring a waiver of rights to retain such protection for any structures other than the structure that existed at the time the armoring was constructed or permitted.

A.25 Removal of shoreline protection structures: The removal of shoreline protection structures can open beach or wetland areas to natural processes and provide for natural responses to sea level rise. LCPs can specify priority areas where shoreline protection structures should be removed if they are no longer needed or in a state of great disrepair, including areas where structures threaten the survival of wetlands and other habitats, beaches, trails, and other recreational areas. Once these priority areas have been identified, assessment of potential re-siting of structures and removal of armoring could be required by a CDP as redevelopment occurs.

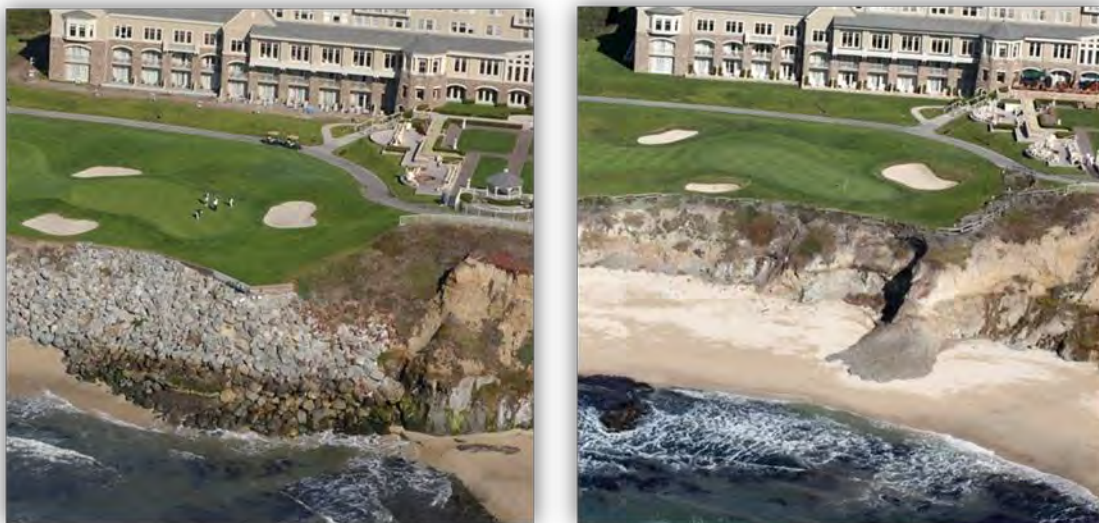


Figure 21. Photo depicting removal of shoreline protective structure. Removal of rock revetment restores access and allows natural bluff erosion at the Ritz Carlton in Half Moon Bay. (Source: [California Coastal Records Project](#))

A.25a **Remove shoreline protective structures located on public lands:** Over time, sea level rise will cause the public trust boundary to move inland. If the structures

as originally approved were located on uplands but that land becomes subject to the public trust in the future, the State Lands Commission or any local government or other entity acting as trustee for public trust lands could require the structures to be removed. The Commission or local governments could approve permit conditions to ensure permittees obtain authorization to retain or remove structures if they ever become located on public trust lands. Removal might also be accomplished through non-regulatory means such as offering incentives for removal to property owners or by incorporating removal of public structures into Capital Improvement Plans.

Goal: Require special considerations for critical infrastructure and facilities

A.26 Plan ahead to preserve function of critical facilities: Addressing sea level rise impacts to critical facilities and infrastructure will likely be more complex than for other resources and may require greater amounts of planning time, impacts analyses, public input, and funding. To address these complexities, establish measures that ensure continued function of critical infrastructure, or the basic facilities, service, networks, and systems needed for the functioning of a community. Programs and measures within an LCP could include identification of critical infrastructure that is vulnerable to SLR hazards, establishment of a plan for managed relocation of at-risk facilities, and/or other measures to ensure functional continuity of the critical services provided by infrastructure at risk from sea level rise and extreme storms. Repair and maintenance, elevation or spot-repair of key components, or fortification of structures where consistent with the Coastal Act may be implemented through CDPs.

A.26a Develop or update a long-term public works plan for critical facilities to address sea level rise: Develop a long-term management plan to address the complexities of planning for sea level rise that incorporates any potential maintenance, relocation, or retrofits and structural changes to critical facilities to accommodate changes in sea level, and obtain Coastal Commission certification.

A.27 Apply high sea level rise projections for siting and design of critical facilities: Given the planning complexities, high costs, and potential impacts resulting from damage, there is reason to be particularly cautious when planning and designing new critical facilities and/or retrofitting existing facilities. Ensure that critical facilities are designed to function even if the highest projected amounts of sea level rise occur and that sites with hazardous materials are protected from worst-case scenario sea level rise impacts.

A.27a Design coastal-dependent infrastructure to accommodate worst case scenario sea level rise: Include policies that would require proposals and/or expansion plans to address sea level rise for coastal dependent infrastructure that must necessarily be sited in potentially hazardous areas, such as industrial, energy, and port facilities. Such facilities should be designed to withstand worst case future impacts while minimizing risks to other coastal resources through initial siting, design, and/or inclusion of features that will allow for future adaptation.

- A.28 Site and design wastewater disposal systems to avoid risks from sea level rise:** Wastewater treatment and disposal systems are particularly challenging in that they are often located in areas that will be impacted by sea level rise. Ensure that these systems are not adversely affected by the impacts of sea level rise over the full life of the structure and ensure that damage to these facilities would not result in impacts to water quality or other coastal resources. Avoid locating new facilities in hazardous areas if possible. If complete avoidance is not possible, minimize elements of the system that are in hazardous areas (for example, locate the main facility on higher ground and only place pump stations in potentially hazardous areas), and design any facilities in hazardous areas to withstand worst-case scenario sea level rise impacts.

Goal: Protect transportation infrastructure

- A.29 Identify priorities for adaptation planning and response:** Carry out vulnerability analyses to identify chronic problem areas that are highly subject to erosion, wave impacts, flooding, or other coastal hazards or that maybe become so in the near future. Coordinate with Caltrans and local public works/transportation agencies to address high priority areas and increase monitoring efforts of chronic problem areas.
- A.30 Add policies to address impacts to transportation routes:** If transportation facilities are at risk from sea level rise, coordinate with Caltrans and local public works/transportation agencies to establish new alternative transportation routes or a plan to ensure continued alternative transportation and parking is available that allows for continued access to beaches and other recreation areas.
- A.30a Integrate LCP/land use planning processes with transportation planning processes:** Updates and changes to LCPs and other land use planning efforts should be jointly planned, evaluated, and implemented with Coordinated System Management Plans, Regional Transportation Plans, and other transportation planning efforts to ensure that long-term land use and access goals and needs are aligned.
- A.31 Allow for phased implementation of realignment and relocation projects:** In some cases it may be necessary to make incremental changes in transportation networks so that access to and along the coast can be maintained while also addressing coastal hazards over the long-term. For example, a phased approach may allow for interim shoreline protection to maintain an existing road alignment while future realignment plans are evaluated and pursued. Such phased approaches should be coordinated with Caltrans and local public works/transportation agencies and aligned with long-term LCP planning and adaptation goals. Individual projects will be implemented through CDPs.



Figure 22. Photo depicting planned retreat for major public infrastructure. The Piedras Blancas Highway 1 Realignment will move nearly 3 miles (5km) of Highway 1 500 ft (152 m) inland. (Source: [California Coastal Records Project](#))

A.32 Plan and design transportation systems to accommodate anticipated sea level rise impacts: Ensure that transportation networks are designed to function even if the highest projected sea level rise amounts occur. Efforts to realign, retrofit, and/or protect infrastructure should be coordinated with Caltrans, local public works/transportation agencies, and LCP planning efforts, and individual projects will be implemented through CDPs.

A.32a **Retrofit existing transportation infrastructure as necessary:** In instances where relocation is not an option, repair damage and/or retrofit existing structures to better withstand sea level rise impacts. For example, use stronger materials, elevate bridges or sections of roadways, and build larger or additional drainage systems to address flooding concerns.

A.32b **Build redundancy into the system:** Provide alternate routes, as possible, to allow for access to and along the coast in instances in which sections of roadways may become temporarily impassible as a result of coastal hazards. Ensure that alternate route information is provided to residents and visitors to coastal areas.

A.33 Incorporate sea level rise considerations into Port Master Plans and other port activities: Ensure that ports and related infrastructure are designed to function given anticipated sea level rise. In some cases, this may mean initially designing structures to accommodate projected sea level rise impacts. Other options may include planning for and ensuring capacity for future adaptive actions.

A.33a **Retrofit existing port infrastructure as necessary:** Given the coastal-dependent nature of many port structures, it may not be feasible to site or relocate development to avoid hazards. In these instances it may be more appropriate to include efforts to accommodate and withstand sea level rise during actions to

repair or retrofit existing structures. Options may include using more robust designs or materials or elevating structures.

- A.33b **Minimize resource impacts that may result from future use of shoreline protective structures:** If existing, coastal-dependent port structures require shoreline protective structures, minimize resource impacts as feasible and consistent with Chapter 3 and/or Chapter 8 of the Coastal Act, as applicable, by encouraging inland expansion of protective devices rather than further fill of coastal waters.
- A.33c **Ensure that linkages to overland transportation networks are able to adapt to sea level rise impacts:** Coordinate with relevant stakeholders to ensure that linkages between port infrastructure and overland transportation networks will be resilient to future sea level rise impacts.
- A.33d **Ensure that lessees and other parties understand sea level rise risks and vulnerabilities:** Coordinate with lessees and other stakeholders to ensure that they understand the risks associated with development in hazard areas as well as the responsibilities that come with such development.

B. Public Access and Recreation

One of the highest priorities in the Coastal Act is the mandate to maximize public access and recreational opportunities to and along the coast. The main goals and Coastal Act policies (Sections 30210, 30220, 30221, 30213) that relate to public access and recreation are to:

- Maximize public access and recreational use by protecting beaches and other coastal areas suitable for such use
- Protect lower cost visitor and recreational facilities and accessways

[Chapter 3](#) of the Guidance covers the impacts to public access and recreation that might result from sea level rise or the interaction of sea level rise with development patterns. Certified LCPs should already have policies and standards to assure that existing public access and visitor serving amenities are protected and that maximum public access is both planned for and provided with new development when warranted. However, LCP policies and standards may need to be updated to consider sea level rise hazards. Adaptation options have been developed to support the access goals of the Coastal Act through both LCP policies and CDP conditions, and the following strategies cover a range of options for addressing the identified goals of the Coastal Act.

Goal: Maximize public access and recreational use by protecting beaches and other coastal areas

B.1 Incorporate sea level rise into a comprehensive beach management strategy: Update or develop a new comprehensive beach management strategy to address loss of beach areas, including loss of lateral access, or changes in beach management due to sea level rise. Establish a program to minimize loss of beach area through, as may be appropriate, a beach nourishment program; restoring sand and sediment supply to the littoral cell; removal, adjustments, or maintenance to shoreline protection structures; use of man-made structures such as terminal groins or artificial reefs to retain sediment; or other actions.

B.1a Develop a sediment management and sand replenishment strategy: Identify natural sediment supplies and remove and/or modify existing structures or actions that impair natural sand supply, such as dams or sand mining. LCPs could include policies and implementing standards that support nature-based responses to sea level rise by maintaining and restoring natural sand supply. Where applicable, develop policies and standards to prohibit sand mining, regulate sand replenishment, and promote removal of dams or the by-passing of sand around dams. Plans should take into consideration changes in sand supply due to sea level rise. These actions and policies can also be implemented through a Regional Sediment Management (RSM) program.

- B.2 Plan ahead to replace loss of access and recreation areas:** Identify replacement opportunities or otherwise plan ahead for how to replace recreation areas and accessways that will be lost due to inundation or damage associated with sea level rise. An LCP could designate and zone lands for this through, for example, a phased overlay or other regulatory measures that ensure that access and recreational areas are available in the future. Local governments may choose to provide additional incentives to encourage creation of new recreation areas or opportunities. Such incentives could include grant for protection new recreation areas or tax breaks for recreation related businesses.
- B.2a **Protect existing open space adjacent to the coast:** Plan for future coastal recreational space and parkland by protecting open space adjacent to coastal habitats so that beaches and other habitats can migrate or so that there is open space available as parkland or other areas are lost.
- B.2b **Plan for removal of structures that limit inland migration of beaches:** Seawalls and other development adjacent to beaches and other coastal habitats will impede the ability of these habitats to migrate inland and will therefore result in the inundation and eventual loss of these areas. Consideration should be given to removing and relocating these structures to ensure that beaches and other habitats are able to persist over time. Additional detail on removal of structures can be found above in the “Coastal Development and Hazards” section of this chapter.

Goal: Protect lower cost visitor and recreational facilities and accessways

- B.3 Site and design access sites and facilities to minimize impacts:** Add policies that require public access sites, segments of the CCT, and recreation and visitor-serving facilities to be sited and designed to avoid impacts from sea level rise, while maximizing public access and recreation opportunities. Examples of siting and design standards for development can be found in section A. Where facilities can be safely sited for the near term but future impacts are likely, require an adaptive management plan detailing steps for maintenance, retrofitting, and/or relocation.
- B.3a **Require mitigation of any unavoidable impacts:** For unavoidable impacts to public access or recreation from shoreline armoring or other development, require mitigation of impacts through the addition of new public access, recreation opportunities, visitor-serving accommodations, or Coastal Trail segments, or payment of fees to fund such improvements. Importantly, mitigation measures should be planned in such a way that, if possible, sea level rise will not impair their efficacy over time.
- B.4 Plan ahead to replace loss of visitor-serving and recreational facilities:** Develop a plan to replace any visitor-serving facilities that are lost due to impacts from sea level rise, maximizing continued provision of affordable options and an appropriate mix of accommodations over time. For example, an LCP could include standards to re-site existing visitor-serving and recreational facilities when they become impacted by sea

level rise and/or could identify and zone for future areas to be reserved for these functions.

B.5 Add requirements for retrofit/relocation of public access and recreation sites at risk:

The LCP can add policies that require all new public access and recreation areas, sections of the CCT, visitor- serving accommodations, or related recreation facilities to be retrofitted or relocated if they become threatened from erosion, flooding, or inundation. For new facilities and public access sites, the CDP conditions of approval can specify how maintenance, retrofit, or relocation will take place. Policies and plans should be designed to be adaptive so that retrofits and or/relocations are implemented as sea level rise impacts occur.

B.5a Retrofit or relocate recreation and visitor-serving facilities: Consider options to retrofit existing recreation and visitor-serving facilities to better accommodate sea level rise impacts. Such retrofits could include use of different building materials and/or relocating facilities.

B.5b Retrofit or relocate vertical accessways: Consider options to retrofit existing accessways to reduce impacts from sea level rise. Such retrofits could include using different materials that can better withstand impacts, or re-orienting the layout or other features of accessways to lessen damage and other impacts. Also begin to plan for and identify triggers and options for relocating accessways over time as conditions change.

B.5c Retrofit or relocate sections of the Coastal Trail: Use boardwalks, bridges, and/or other design features to ensure continuity of the CCT in sections that are vulnerable to SLR hazards. Some sections may need to be relocated over time. An LCP could identify vulnerable sections of the CCT and establish a phased approach to relocate sections of the trail in such a way that is consistent with provisions of the Coastal Act and ensures that the CCT remains within sight, sound, or smell of the sea.

Goal: Foster efforts to better understand impacts of sea level rise

B.6 Support research on impacts to recreation and public access: Changes in sea level will affect wave conditions and sediment transport, but additional research is needed to understand how these changes will affect specific conditions for surfing and other recreation activities. While such research programs may be outside the scope of individual local jurisdictions, statements of support for the local issues that need to be addressed can help guide research agendas at the regional state or federal level. Or, such needs can serve to guide grant applications to undertake the needed projects within a jurisdiction. To the extent possible, add policies to promote research on sea level rise impacts to recreational activities like surfing or other coastal recreational uses in the LCP jurisdiction.

C. Coastal Habitats, ESHA, and Wetlands

The Coastal Act provides for the protection of both land and marine habitats. It mandates that ESHA and marine resources shall be protected against significant disruption of habitat value and shall be maintained, enhanced, and restored as feasible (Sections 30230, 30233, 30240, 30240(a), 30240(b)). The main goals and Coastal Act policies that relate to coastal habitats are to:

- Protect, enhance, and restore sensitive habitats
- Avoid significant disruption to sensitive habitats
- Avoid significant impacts to habitats from adjacent development
- Manage sediment in ways that benefit habitats

[Chapter 3](#) of the Guidance covers the impacts to coastal habitats and resources that might result from sea level rise or the interaction of sea level rise with development patterns. Certified LCPs should already have policies and standards to ensure that ESHA, wetlands, and other coastal habitats and resources are protected to the maximum extent feasible. However, LCP policies and standards may need to be updated to consider sea level rise hazards. Adaptation options have been developed to support the habitat protection goals of the Coastal Act through both LCP policies and CDP conditions, and the following strategies cover a range of options for addressing the identified goals of the Coastal Act.

Goal: Protect, enhance, and restore sensitive habitats

- C.1 Open space preservation and conservation:** Preserve land for its ecological or recreational value. This may involve limiting or prohibiting development and any uses that conflict with ecological preservation goals. LCPs can establish transfer of development rights programs to offset reduced development potential and can develop open space management plans that evaluate and consider the impacts of sea level rise, extreme events, and other climate change impacts. LCPs can establish open space and conservation areas through land use designations and zoning, redevelopment restrictions, acquisition and easement programs, and setback and buffer requirements.
- C.1a **Update policies to provide for new or restored coastal habitat:** Update policies to require new coastal habitat to be provided or for degraded areas to be restored to account for the expected loss of existing habitat that will occur when development blocks the necessary upland migration due to sea level rise. Use an adaptive management approach where applicable. Encourage policies that provide for conservation or restoration of multiple habitat types.
- C.1b **Identify areas for public acquisition:** New or updated LCPs can establish a program to partner with state, federal, and non-profit organizations to acquire and protect natural resource areas for public use, including areas that could serve as

refugia for species impacted by sea level rise, or areas that could be appropriate sites for coastal habitat creation or restoration.

- C.1c **Establish conservation easements or other development restrictions to protect habitat:** Establish a formalized program to identify, acquire, and manage areas appropriate for some form of conservation protection. Easements or other strategies may be used to limit or restrict development on portions of a lot parcel that are most vulnerable to SLR impacts. The program might develop standard agreements to be used for easements and identify the entities that could hold the easements. A conservation easement program could be established on a community wide basis through an LCP and implemented on a parcel by parcel basis through individual CDPs.
- C.1d **Require open space protection as a component of new development located adjacent to coastal habitats:** The LCP can require permit conditions for new development in certain areas that buffers around natural resource areas be protected through a conservation easement, deed restrictions, or other comparable mechanism.
- C.1e **Use Rolling Easements:** See Strategy A.15 above.
- C.1f **Transfer of Development Rights programs (TDR):** See Strategy A.5b above.

Goal: Avoid significant disruption to habitats

- C.2 **Use ecological buffer zones and/or increase the size of buffers:** Buffer zones are intended to protect sensitive habitats from the adverse impacts of development and human disturbance. An important aspect of buffers is that they are distinct ecologically from the habitat they are designed to protect. LCPs can establish requirements for ecological buffers and provide guidance on how to establish or adjust these buffers to accommodate sea level rise. CDPs should require buffers to be designed, where applicable, to provide “habitat migration corridors” that allow sensitive habitats and species to migrate inland or upland as sea level rises.
 - C.2a **Consider sea level rise buffer zones:** Update buffer zone policies to allow room for coastal habitats to migrate with changes in sea level. The size of the buffer needed to allow for migration will vary depending on the individual wetland or habitat type, as well as site-specific features such as natural or artificial topography and existing development. For instance, in flat areas, a larger buffer may be needed, but in steep areas, a smaller buffer may be acceptable.
- C.3 **Avoid impacts to Marine Protected Areas:** Recognize the importance of the State’s network of marine protected areas (MPAs) in protecting the diversity and abundance of marine life. Understand that planning and permitting decisions made on land could have impacts on these areas, particularly as conditions change with sea level rise, and avoid disruptions to these habitats as feasible and applicable.
- C.4 **Protect specific ESHA functions:** Environmentally Sensitive Habitat Areas (ESHA) are areas that are critically important for the survival of species or valuable for maintaining

biodiversity. These areas can include nursery grounds, spawning areas, or highly diverse areas. Where at risk from sea level rise, the LCP should establish measures to ensure the continued viability of the habitat areas, such as protection of migration zones, habitat corridors, and other applicable adaptation strategies, as listed below. ESHA that is not at risk from sea level rise should also be afforded special protection in the LCP to serve as refugia.

- C.4a **Protect wildlife corridors, habitat linkages, and land upland of wetlands to allow habitat migration:** Preserve open areas that are adjacent to wetlands to allow for migration of these habitats as sea levels rise.
- C.4b **Protect refugia areas:** Protect refugia, or areas that may be relatively unaltered by global climate change and thus can serve as a refuge for coastal species displaced from their native habitat due to sea level rise or other climate change impacts.
- C.4c **Promote increased habitat connectivity to allow species movement:** Connectivity refers to the degree to which the landscape facilitates animal movement and other ecological flows. Roads, highways, median barriers, fences, walls, culverts, and other structures can inhibit movement of animals. Develop LCP policies that will enable identification of important animal movement corridors. Develop regulations to protect these corridors for present and future conditions, taking into account habitat shifts from climate change. In LCPs and through CDPs, require that new structures such as highways, medians, bridges, culverts, and other development are designed to facilitate movement of animals.
- C.4d **Facilitate wetland and other habitat migration:** Reserve space for a “habitat migration corridor” or areas into which wetlands and other habitats could migrate as sea level rise induced inundation of existing wetland areas occurs. In the LCP, identify potential habitat migration corridors. These areas could be reserved for this purpose in an LCP through land acquisition, use designations, zoning buffers, setbacks, conservation easement requirements, and clustering development. LCPs should also consider developing a plan for acquisition of important habitat migration corridors.

Goal: Avoid significant impacts to habitats from adjacent development

- C.5 **Limit new development in areas adjacent to wetlands, ESHA, and other coastal habitats:** Restrict the construction of new development in areas that are adjacent to wetlands, ESHA, and other coastal habitats in order to preserve buffers and open areas to allow for habitat migration.
 - C.5a **Cluster development away from coastal habitats:** Existing LCPs will likely have policies that already require clustering of development. To address sea level rise, these policies might need to be updated to include clustering development away from land where wetlands and other coastal habitats could migrate with sea level rise.

- C.5b **Limit subdivisions:** Update subdivision requirements to require provision for inland migration of natural resource areas or to require lots to be configured in a way that allows such migration. Lot line adjustments may sometimes be appropriate if they facilitate locating physical development further away from hazards or sensitive resources.



Figure 23. Photo depicting the preservation and conservation of open space along an urban-rural boundary. North end of Pismo Beach from 1972 (left) to 2002 (right). (Source: [California Coastal Records Project](#))

Goal: Manage sediment in ways that benefit habitats

- C.6 **Identify opportunities for Regional Sediment Management:** Sediment supplies will be important for the long-term sustainability of many beaches and wetland areas. Strategies to maintain or restore natural sediment supplies and to coordinate sediment removal efforts with opportunities for reuse can provide multiple benefits to coastal ecosystems. See Strategy A.19c above for more detail on RSM programs.
- C.6a **Restore natural sediment sources to wetlands:** Restoration of natural hydrodynamic systems will help to ensure the ability of wetlands to persist with sea level rise by ensuring that sediment is available for wetland accretion. Such actions may include restoring natural channels in streams and waterways that have been armored or channelized. Organizing and coordinating such efforts may be accomplished through a Regional Sediment Management Plan.
- C.6b **Identify opportunities for beneficial reuse of sediment to support wetland restoration:** Consider facilitating the delivery of clean, dredged sediment to areas where former wetlands have subsided or to areas where existing wetlands are or may become sediment-limited as sea levels rise.

Goal: Incorporate sea level rise into habitat management actions

- C.7 **Include sea level rise in site-specific evaluations:** Update policies to require site-specific biological evaluations and field observations of coastal habitat to include an evaluation of vulnerability to sea level rise where appropriate. Such an evaluation should consider both topographic features as well as habitat and species sensitivities (for example, sensitivity to inundation and saltwater intrusion).

- C.8 Incorporate sea level rise in restoration, creation, or enhancement of coastal habitats:** Update policies to require site-specific biological evaluations and field observations of coastal habitat to include an evaluation of vulnerability to sea level rise. Such an evaluation should consider both topographic features as well as habitat and species sensitivities (for example, sensitivity to inundation and saltwater intrusion). Habitat restoration, creation, or enhancement projects should be designed to withstand impacts of sea level rise and adapt to future conditions. As applicable, the LCP should contain policies to ensure restoration and management techniques account for future changes in conditions. CDPs for restoration projects should incorporate sea level rise and provisions to ensure habitats can adapt with changing future conditions.
- C.9 Update habitat management plans to address sea level rise:** Add policies stating that the effects of sea level rise should be addressed in management plans for coastal habitats. For example, plans should evaluate the full range of sea level rise impacts to coastal habitats, and develop a strategy for managing coastal habitats given changing sea level rise conditions. Existing management plans may need to be updated to add new monitoring and restoration requirements to address sea level rise. The strategies listed below are examples of strategies that could be included in habitat management plans.
- C.9a Use an adaptive management approach in ecosystem management, restoration, or design:** Habitat management plans and/or other habitat projects should establish an adaptive management approach, with clearly defined triggers for adaptive actions. Such an approach would allow for and ensure that coastal habitats are able to migrate and transition with changes in sea level.



Figure 24. Photo depicting habitat protection at Salinas River State Beach. Dunes are roped off to protect Snowy Plover nesting habitat. (Source: [California Coastal Records Project](#))

C.10 Pursue strategies to protect ecosystem function under a range of future sea level rise or climate change scenarios: The LCP and/or habitat management plans can recommend coastal habitat management strategies that strive to protect ecosystem function in the future. Strategies include protecting a wide range of ecosystem types, protecting refugia, protecting wildlife and habitat corridors, and establishing methods to monitor ecosystem change over time.

C.10a **Update monitoring requirements for coastal habitats:** As part of the LCP and/or habitat management plans, consider establishing a monitoring protocol and requirements for evaluating sea level rise impacts to coastal habitats over time. Such a protocol would also help identify triggers at which additional adaptation options are necessary.

D. Agricultural Resources

Agriculture is a priority use within the Coastal Act, which mandates that the maximum amount of prime agricultural land shall be protected and maintained (Sections 30231, 30241, 30242). The main goals and Coastal Act policies that relate to agriculture are to:

- Protect the maximum amount of prime agricultural land
- Limit conversion of lands suitable for agriculture to non-agricultural uses
- Minimize impacts to water quality that could result from agricultural practices
- Promote water conservation efforts

[Chapter 3](#) of the Guidance describes the impacts to agricultural resources that may result from sea level rise. Certified LCPs should already have policies and standards to ensure that agricultural resources are protected to the maximum extent feasible. However, LCP policies and standards may need to be updated to address sea level rise hazards. Adaptation options have been developed to support the agricultural protection goals of the Coastal Act through both LCP policies and CDP conditions, and the following strategies cover a range of options for addressing the identified goals of the Coastal Act.

Goal: Protect the maximum amount of prime agricultural land

D.1 Identify and designate areas suitable for agricultural production to replace agricultural production areas that could be lost to sea level rise: Identify any non-sensitive open or developed areas, both within and outside of the Coastal Zone, which could potentially be used to replace agricultural land that is lost to sea level rise. Update LCP designations and/or policies to protect these identified areas for agricultural production and, as applicable, to provide for their conversion to agricultural use. Encourage and support regional coordination as feasible and applicable.

D.1a Establish SLR-specific agricultural protection program: Establish a formal program to identify, acquire, incentivize, and manage areas appropriate for new/renewed agricultural use and/or for protection of current and/or future agricultural uses. Such program should target key areas and properties where agricultural conversion threats are highest, and should dovetail with existing agricultural protection programs. Easements and other legal restrictions may be used as part of such program to help limit or restrict development in areas where agricultural land and production are most vulnerable to sea level rise impacts. The program might develop standard language and/or legal documents that can be used for easements or other property restrictions. The program should be flexible enough to be able to be implemented on both a large scale (*e.g.*, through LCP policies and programs) as well as on a smaller scale (*e.g.*, through the CDP process).

D.2 Protection, maintenance, and adaptation of dikes and levees: Repairing and maintaining existing flood barriers such as dikes and levees may be a cost-effective way to continue to protect agricultural areas. While some repair and maintenance activities are exempt from the need for a CDP, the repair and maintenance exemption does not apply to repair and maintenance work that is located within an ESHA, within any sand area, within 50 feet of the edge of a coastal bluff or ESHA, or within 20 feet of coastal waters. LCPs could identify opportunities for these kinds of actions and ensure that they are appropriately permitted, with consideration to the environmental protection and restoration goals of the Coastal Act. While landowners have the right to repair and maintain existing legal levees in their current configurations, the Commission and local governments administering LCPs have the authority to regulate, via the CDP process, the proposed methods of repair and maintenance. To raise, reconfigure, enlarge, or widen levees is not repair and maintenance and requires a Coastal Development Permit. Such activities may not be consistent with the Coastal Act or certified LCP, such as in cases involving wetland fill impacts. However, where there are opportunities to restore marine resources and the biological productivity of wetlands and estuaries, it may be possible to permit a dike/levee reconstruction project that provides for substantial restoration.

Goal: Limit conversion of lands suitable for agriculture to non-agricultural uses

D.3 Limit conversion of agricultural land to other developed land uses: Develop policies to assure maximum environmentally feasible protection of rural agricultural land, open space, and other coastal resources, including areas that may be considered non-prime agricultural land at this time. Anticipate areas that could become more difficult to farm and identify strategies to avoid or mitigate the potential impacts.

Goal: Minimize impacts to water quality that could result from agricultural practices

D.4 Include sea level rise in water quality protection policies: Where needed, coordinate with regional water quality control boards to add policies to reduce water pollution from runoff should agricultural lands become flooded or inundated due to sea level rise.

D.4a Minimize water quality impacts from flooding of agricultural lands: Agricultural practices that are designed to minimize water quality impacts, such as those designed to minimize runoff, may need to be updated or enhanced to ensure water quality protection if sea level rise results in more frequent flooding of agricultural lands.

D.4b Add policies to address saltwater intrusion: Add policies to protect water supply for priority coastal agriculture, including policies to address saltwater intrusion, such as limits on groundwater withdrawal or diversification of water supplies. Strategies to pump freshwater and/or highly treated wastewater into aquifers to reduce saltwater intrusion should be minimized in areas with limited freshwater resources.

Goal: Promote water conservation efforts

- D.5 Maximize water conservation to protect priority agricultural water supplies:** Saltwater intrusion and other climate change impacts may result in reduced water availability. LCP policies should be updated to establish or enhance standards related to water conservation and/or to identify opportunities for water recycling, dual plumbing systems, and the like. For more information on options such as relocating wells and reducing pumping in sensitive aquifers, see the following section on Water Quality and Water Control Management.
- D.6 Identify alternate water sources for agriculture:** Establish a program to identify alternate water sources for agriculture.

E. Water Quality and Supply

The main water quality protection policy of the Coastal Act requires minimizing the adverse effects of wastewater discharges, runoff, and groundwater depletion in order to protect the biological productivity and quality of coastal waters, as described in Section 30231. The main goals related to water quality include:

- Control runoff and stormwater pollution
- Minimize adverse effects of wastewater discharges and entrainment
- Prevent depletion of groundwater supplies from saltwater intrusion
- Improve long-term water quality through research

[Chapter 3](#) of the Guidance covers the impacts to coastal waters from increased runoff, wastewater discharge and saltwater intrusion into groundwater sources from sea level rise. Adaptation options have been developed to limit the amount of pollutants that enter coastal waters through runoff or discharges.

Goal: Control runoff and stormwater pollution

E.1 Update water quality Best Management Practices (BMPs): Evaluate and update BMPs to account for changes in water quality and supply issues due to sea level rise, as applicable. Updates could include practices to provide greater infiltration/inflow of rainwater, increased stormwater capture and/or water recycling programs, the use of low impact development, improved maintenance procedures for public sewer mains, policies to address impaired private sewer laterals, and other proactive measures.

E.2 Include sea level rise in stormwater management plans and actions: Control the amount of pollutants, sediments, and nutrients entering water bodies through precipitation-generated runoff. LCPs should include sea level rise and extreme storms in stormwater management plans and actions. CDPs for stormwater infrastructure should consider sea level rise.

E.2a Increase capacity of stormwater infrastructure: Actions to reduce impacts from higher water levels could include widening drainage ditches, improving carrying and storage capacity of tidally-influenced streams, installing larger pipes and culverts, adding pumps, converting culverts to bridges, creating retention and detention basins, and developing contingency plans for extreme events. Encouraging and supporting these types of efforts upstream may also be important.

E.2b Use green stormwater infrastructure to the maximum extent feasible: Employ natural, on-site drainage strategies to minimize the amount of stormwater that flows into pipes or conveyance systems. These strategies include low impact development, green roofs, permeable pavements, bioretention (*e.g.*, vegetated

swales, rain gardens) and cisterns. LCPs can include policies that require green infrastructure be used whenever possible *in lieu* of hard structures. Incorporate sea level rise and extreme storms into the design.

- E.2c **Retrofit existing development with inadequate stormwater infrastructure:** Identify and prioritize development in low-lying or other at-risk areas with inadequate stormwater infrastructure and take steps to retrofit these systems to better accommodate sea level rise driven changes. Retrofits should incorporate the green infrastructure options detailed in strategy E.2c above as applicable.

Goal: Minimize adverse effects of wastewater discharges and entrainment

- E.3 **Add policies to address water quality risks from wastewater treatment plants, septic systems, and ocean outfalls:** Consider establishing a program to retrofit, relocate, or eliminate ocean outfalls and other wastewater infrastructure deemed at risk. Alternatives include modifications to outfall lines, the use of green infrastructure, and redesign of waste and stormwater systems.

E.3a **Update siting and design policies:** Add policies to ensure that new ocean outfalls, wastewater treatment facilities, and other facilities that could negatively impact water quality if flooded or inundated, are sited and designed to minimize impacts from sea level rise. Avoid construction of new stormwater outfalls and direct stormwater to existing facilities with appropriate treatment and filtration where feasible. Where new outfalls cannot be avoided, plan, site, and design stormwater outfalls to minimize adverse impacts on coastal resources, including consolidation of existing and new outfalls where appropriate. Consolidate new and existing outfalls where appropriate.

E.3b **Retrofit, relocate, or eliminate outfalls deemed "at risk":** An ocean outfall is a pipeline or tunnel that discharges municipal or industrial wastewater, stormwater, combined sewer overflows, cooling water, or brine effluents from desalination plants to the sea. LCPs should identify areas where sea level rise could affect flow of wastewater from outfalls and lead to backup and inland flooding, and plans should be made to retrofit, relocate, or eliminate these outfalls to prevent damage and impacts to water quality. Additionally, CDPs for new ocean outfalls should consider sea level rise in the design.

E.3c **Reduce or find alternatives for septic systems in hazardous areas:** Flooding, inundation, and changing groundwater dynamics may result in impacts to septic systems, which rely on leach fields for dispersal of wastewater, that could cause water quality impairments. Options to reduce the potential for these impacts by redesigning or eliminating septic systems in hazardous areas should be identified. New development that will rely on septic systems should be limited in hazardous areas.

Goal: Prevent depletion of groundwater supplies from saltwater intrusion

- E.4 Groundwater Management:** Plan and coordinate monitoring, operation, and administration of a groundwater basin or portion of a groundwater basin with the goal of fostering long-term sustainability of the resource. The LCP can add policies that specify limits or establish other standards for the use of groundwater and sensitive aquifers. These policies should be made in accordance with other regional water planning efforts, such as Integrated Regional Water Plans as well as relevant state water policies. CDPs involving the use of groundwater should address groundwater management issues.
- E.4a Add policies to address saltwater intrusion into aquifers:** Consider adding policies that establish a long-term strategy for addressing saltwater intrusion in aquifers, including limiting development that would use sensitive aquifers as applicable. For some areas of the state, additional information is needed on the site-specific impacts of sea level rise on aquifers. For these areas, the LCP could identify the local information needs and promote the establishment of a research program to increase understanding of the vulnerability of coastal aquifers.
- E.4b Limit groundwater extraction from shallow aquifers:** Groundwater extraction from shallow aquifers can increase susceptibility to saltwater intrusion. Regulating development to limit or prevent extraction and avoid overdraft from vulnerable aquifers can reduce the impacts of saltwater intrusion and preserve fresh groundwater supplies. LCPs or CDPs can add restrictions to the use of aquifers susceptible to saltwater intrusion and can encourage measures to recharge shallow aquifers that are depleted.
- E.4c Relocate wells and water intake facilities:** Identify opportunities to relocate wells and water intake facilities away from hazards and/or areas where saltwater intrusion may be a problem.
- E.4d Restrict development of new wells in sensitive areas:** Require new water wells to be sited away from areas where saltwater intrusion could occur.
- E.4e Limit development that relies on vulnerable water supplies:** Limit or restrict new development in areas that are dependent on water supplies that are or will become susceptible to saltwater intrusion.
- E.4f Ensure adequate long term water supplies:** When siting and designing new development, ensure that adequate and sustainable water sources are available for the lifetime of the development and suitable for the intended use of the development, considering potential impacts of sea level rise and saltwater intrusion upon groundwater supplies.

Goal: Improve long-term water quality through research

E.5 Identify research and monitoring needs to more precisely understand local issues:

Research programs may be established to analyze the particular local challenges related to water quality and supply as a result of sea level rise. Opportunities for innovative solutions to these challenges should be identified.

E.5a **Clearly define areas at risk:** The LCP should include an updated inventory of potential pollutant sources due to sea level rise, including toxic waste sites, ocean outfalls and wastewater treatment facilities at risk of inundation, as well as aquifers and wells at risk of saltwater intrusion. Policies may also be added to prioritize low-lying contaminated sites for remediation and restoration.

F. Archaeological and Paleontological Resources

The Coastal Act provides for the protection of archaeological and paleontological resources, stating in Section 30244 that:

“Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.”

[Chapter 3](#) of the Guidance discusses the impacts to archaeological and paleontological resources that might result from sea level rise. Certified LCPs should already have policies and standards to ensure that these resources are protected to the maximum extent feasible, however, such policies and standards may need to be updated to consider sea level rise hazards. The following strategies cover a range of options for addressing the identified goals of the Coastal Act.

Goal: Protect archaeological and paleontological resources

- F.1 Add policies to protect archeological and paleontological resources from sea level rise:** Add policies to require site-specific evaluation of potential sea level rise impacts to archeological and paleontological resources on a development site. The LCP can also add requirements that a monitoring program and plan be established as a condition of approval for development located on a site with artifacts vulnerable to sea level rise. Adaptation or protection strategies used may depend on the significance of the archaeological resources in question.
- F.1a **Consult with relevant tribes for guidance:** If resources are at risk, the appropriate entity or Native American tribe(s) should be contacted to develop a coordinated management plan for artifacts. See, for example, the [California Natural Resources Agency Final Tribal Consultation Policy](#) for additional guidance.
- F.1b **Coordinate with the State Historic Preservation Officer (SHPO):** In line with the provisions of the Coastal Act, work with the State Historic Preservation Officer to identify actions to protect archaeological and paleontological resources.

G. Scenic and Visual Resources

The scenic value of the coast is a resource of public importance. As noted in Section 30251 of the Coastal Act, development shall be sited and designed to:

“Protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms...and to restore and enhance visual quality in visually degraded areas.”

As stated in [Chapter 3](#) of the Guidance, some options to address rising sea levels, such as elevating structures or utilizing seawalls or bluff retention devices, have the potential to alter or degrade the visual character of an area. Certified LCPs should already have policies and standards to ensure scenic and visual resources are protected to the maximum extent feasible, but these may need to be updated to consider sea level rise hazards. Coastal regions with scenic overlays or designated scenic corridors, or those areas designated as scenic in the California Coastal Preservation and Recreation Plan in particular should pay close attention to actions that could be used to minimize risks to development. The following adaptation options address some of the methods for protecting the scenic qualities of the coast.

Goal: Protect views to and along the ocean and scenic coastal areas

G.1 Establish design standards to protect visual resources: Update and/or add design standards to ensure that adaptation measures protect visual resources while minimizing hazards. Adaptation strategies such as shoreline armoring or elevation techniques should be designed such that the visuals are subordinate to, and in character with, the surrounding visual resources of an area.

G.1a Establish standards for the use of caissons or other means of elevating structures: Ensure that the use of caissons or other elevation techniques do not result in negative visual impacts. Develop policies regarding where elevation of structures may be allowable, and establish standards guiding the use of these techniques. Ensure that the appearance of caissons will not detract from the scenic character of an area if or when they become visible as a result of erosion or other processes.

G.1b Maintain height limitations in scenic areas: Avoid modifications to height limits in scenic areas and provide for options to modify roof-lines or elevate the lowest flood elevation for flood protection in a manner that is consistent with scenic character. In some cases it may be appropriate to update height limitations to allow for elevation in response to sea level rise hazards. However, such decisions will require trade-offs and will need to strike a balance in terms of adapting to sea level rise and protecting visual resources and community character in line with the requirements of the Coastal Act.

- G.1c **Develop or redevelop property to be safe from hazards without impairing scenic resources:** Emphasize the use of adaptation strategies that will not impact visual resources. Such strategies may include short-term retrofits with plans for longer term relocation or removal.
- G.1d **Establish new scenic communities:** Designate areas with significant visual resources that could be negatively impacted by adaptation responses (*e.g.*, due to seawalls or “spider” homes) as scenic communities with special protections. Establish standards in LCPs to specifically protect visual resources in these areas.



Figure 25. Photo depicting protection of visual resources and public access. A seawall visually blends in with the natural bluff while surfing access is also provided at Pleasure Point, Santa Cruz (2013). (Source: [California Coastal Records Project](#))



Chapter 8

Legal Context of Adaptation Planning

Land use law is dynamic and must be interpreted and applied based on case-specific factors at the time of decision. Nonetheless, sea level rise and adaptation planning raise a number of important legal issues that coastal managers should consider as they develop and apply adaptation strategies.

This section includes discussion of the legal contexts for addressing:

- Seawalls and other shoreline protective devices
- The public trust boundary
- Potential private property takings issues

SEAWALLS AND OTHER SHORELINE PROTECTIVE DEVICES

Section 30235 of the Coastal Act provides that seawalls and other forms of construction that alter natural shoreline processes “shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply.” Despite other Coastal Act provisions that could often serve as the basis for denial of shoreline protective devices (for example, new development requiring shoreline protection can also conflict with Coastal Act policies requiring protection of public access and recreation, coastal waters and marine resources, natural landforms, and visual resources), the Coastal Commission has interpreted Section 30235 as a more specific overriding policy that requires the approval of Coastal Development Permits for construction intended to protect coastal-dependent uses⁴⁵ or existing structures if the other requirements of Section 30235 are also satisfied.⁴⁶ The Commission thus will generally permit a shoreline protective device if (1) there is an existing structure, public beach, or coastal-dependent use that is (2) in danger from erosion; and (3) the shoreline protection is both required to address the danger (the least environmentally-damaging, feasible alternative) and (4) designed to eliminate or mitigate impacts on sand supply.

In contrast to Section 30235, Coastal Act Section 30253 requires that “new development...assure stability and structural integrity, and neither create nor contribute significantly to erosion...or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.” The Commission has long applied this policy to implement appropriate bluff-top and shoreline setbacks for new development. Such setbacks are based on an assessment of projected erosion and related hazards at the site for the life of the proposed development and help ensure that seawalls and other protective devices that could lead to adverse impacts would not be necessary in the future.

⁴⁵ Coastal-dependent uses are those that require a site on, or adjacent to, the sea to be able to function at all. (Public Resources Code, § 30101.)

⁴⁶ Some commenters argue that because shoreline armoring often conflicts with Coastal Act policies other than Section 30235, the Commission should evaluate proposed armoring under the conflict resolution provisions of the Act. (See Public Resources Code, § 30007.5, 30200(b).) Because the conflict resolution provisions require the Commission to resolve the conflict in a manner which on balance is the most protective of significant coastal resources, this approach could result in the more frequent denial of shoreline armoring, especially when it is intended to protect residential development or other uses that the Coastal Act does not identify as priority uses.

Additionally, from its earliest days, the Commission has also required that landowners “assume the risks” of developing along shoreline and coastal bluffs where risks of coastal hazards are present. Since at least the late 1990s, the Commission has approved many new developments with required deed restrictions that specifically prohibit any future construction of shoreline protection for these developments. These deed restrictions require that property owners waive any rights that may exist for a shoreline structure under Section 30235 and thus internalize the risks of building in an inherently hazardous location. This, in turn, will protect shoreline areas with natural resources or other access, recreational, or scenic value, including as required by Section 30253. If and when the approved development is threatened by erosion and becomes uninhabitable, these deed restrictions prevent the construction of a shoreline protective device and require property owners to remove the development, as well as clean up any debris that may result from erosion undermining the development.⁴⁷

Read together, the most reasonable and straight-forward interpretation of Coastal Act Sections 30235 and 30253 is that they evince a broad legislative intent to allow shoreline protection for development that was in existence when the Coastal Act was passed, but avoid such protective structures for new development now subject to the Act. In this way, the Coastal Act’s broad purpose to protect natural shoreline resources and public access and recreation would be implemented to the maximum extent when new, yet-to-be-entitled development was being considered, while shoreline development that was already entitled in 1976 would be “grandfathered” and allowed to protect itself from shoreline hazards if it otherwise met Coastal Act tests even if this resulted in adverse resource impacts. Such grandfathering of existing conditions is common when new land use and resource protection policies are put in place, and the existing development becomes “non-conforming.”

Even still, in the case of Coastal Act Section 30235, existing development is only entitled to shoreline protection if it is in fact in danger, and the proposed shoreline protection is the least environmentally-damaging alternative to abate such danger. It may be that in certain circumstances existing development can be modified or feasibly relocated, or that other non-structural alternatives such as reducing blufftop irrigation or pursuing beach replenishment, may effectively address the risk to the development without the need for a shoreline protective device.

In practice, implementing Sections 30235 and 30253 has been challenging because many urban areas are made up of both developed and undeveloped lots. In addition, many developments in existence in 1976 have since been “redeveloped” through renovations, remodeling, additions, and complete demolition and rebuild. The reality of effective shoreline management is that the Coastal Act and LCPs must address and be applied to a wide variety of physical and legal circumstances that may not be addressed by a simple application of the clean Coastal Act distinction between existing development that may be entitled to shoreline protection and new development that is not. In some urban areas, for example, one may find intermingled shoreline developments that pre-date the Coastal Act, both with and without shoreline protection, post-Coastal Act developments approved by the Coastal Commission or local governments pursuant to an LCP that theoretically won’t need shoreline protection (though some may have it), and

⁴⁷ This legal instrument is not an easement but it does provide for “planned retreat” into the future as a site erodes. Once a development is removed, a site may have potential for new development if it is once again set back and restricted against future shoreline protection device construction.

developments that may have pre-dated the Coastal Act but that were redeveloped pursuant to a coastal development permit. Moreover, some of the post-Coastal Act developments may have conditions that prohibit shoreline protection while adjacent properties may be eligible for or have a protective device because they pre-date the Act.

For purposes of implementing this Guidance, it is important that local governments, property owners, development applicants, and others take full advantage of available legal tools to mitigate hazards and protect resources, but to do so in way that considers the specific legal context and circumstances of LCP updates and individual development decisions in context and on a case-by-case basis. For example, although the Coastal Act does not explicitly define what qualifies as an “existing structure” for the purposes of Section 30235, how this term is interpreted in specific cases and through LCPs may be critical to the success of an adaptation strategy over the long-run.

The Commission has relatively infrequently evaluated whether structures built after 1976 should be treated as “existing” and thus entitled to shoreline protection pursuant to Section 30235. When it has, the shoreline protection being proposed to protect the structure has often also been identified as necessary to protect adjacent pre-Coastal Act structures.⁴⁸ In a few instances, however, the Commission has treated structures built after 1976 as existing structures entitled to shoreline protection even if no adjacent pre-Coastal Act structure also needed protection. Nonetheless, going forward, the Commission recommends the rebuttable presumption that structures built after 1976 pursuant to a coastal development permit are not “existing” as that term was originally intended relative to applications for shoreline protective devices, and that the details of any prior coastal development approvals should be fully understood before concluding that a development is entitled to shoreline protection under Section 30235.

As mentioned, in order to find new development consistent with Section 30253 or related LCP requirements and to limit the potential proliferation of armoring to protect newly approved structures, the Commission has long used setbacks, assumption of risk conditions and, over the last 15-20 years, generally required that applicants proposing new development in hazardous shoreline locations waive any rights under Section 30235 (or related LCP policies) to build shoreline protection for the proposed new development. Notably, no appellate decision addresses whether the term “existing structures” in this context includes only structures built prior to the Coastal Act or instead includes structures in existence at the time the Commission acts on an application for shoreline protection, or otherwise addresses the interplay between 30235 and 30253.

LCP updates are an opportunity to clarify how the distinction between existing and new development will be applied in specific areas, and some LCP’s have already done so. For example, local governments have sometimes specified a date by which a structure must have been constructed in order to qualify as an “existing structure” for the purpose of evaluating whether it may be eligible for shoreline protection. In Marin County, the Local Coastal Program

⁴⁸ For example, CDP A-3-CAP-99-023-A1, *Swan and Green Valley Corporation Seawall*. In this situation, repairs to maintain a seawall fronting the pre-coastal Swan Residence could only be undertaken by encroachment onto the adjacent property, Green Valley Corporation; however, the Green Valley Corporation development had been approved with a condition to prohibit any future shore protection.

policy that implements Section 30235 specifies that existing structures are those that existed on the date the LCP was originally adopted (May 13, 1982). LCPs can also codify the prohibition on shoreline protective devices for new development, such as the following provision from the San Luis Obispo County North Coast Area Plan standard:

***Seawall Prohibition.** Shoreline and bluff protection structures shall not be permitted to protect new development. All permits for development on blufftop or shoreline lots that do not have a legally established shoreline protection structure shall be conditioned to require that prior to issuance of any grading or construction permits, the property owner record a deed restriction against the property that ensures that no shoreline protection structure shall be proposed or constructed to protect the development, and which expressly waives any future right to construct such devices that may exist pursuant to Public Resources Code Section 30235 and the San Luis Obispo County certified LCP.⁴⁹*

The distinction between existing and new development inherent in the Coastal Act is often directly raised by proposals for redevelopment as well. This Guidance thus deals directly with potential approaches for managing shoreline hazards and protecting coastal resources as shorelines are redeveloped (see [Chapter 7](#), Strategy A.13). Most recently, the Commission approved a Land Use Plan for the City of Solana Beach that includes many policies designed to address the existing residential development pattern along the high, eroding bluffs of the City. Although further elaboration is yet to come through the City's work on the Implementation Plan, the Solana Beach LUP is a good example of an effort to pragmatically address the need to mitigate the risks to residential development, provide for some redevelopment potential while moving the line of new development inland, avoid and minimize new bluff protection and seawalls, and perhaps remove protective devices in the future to minimize impacts to natural landforms and to protect the beach for long-term public use.

Local governments and other shoreline managers should also take into account that although a public agency may not deny a Coastal Development Permit for a shoreline protective device that meets all of the tests under Section 30235 and equivalent LCP policies, this does not limit the authority of public agencies to refuse to allow construction of shoreline protective devices pursuant to some authority other than the Coastal Act. For example, if a private property owner requests permission from a public agency to build a structure on that agency's property (such as a local or State park or public beach) to protect adjacent private property, the public agency would generally have the authority as the landowner not to agree to the encroachment. Similarly, agencies that are trustees of public trust lands (such as the State Lands Commission and Port Districts) have the authority to prohibit structures that are not consistent with public trust uses and prioritized public trust needs, values, and principles. Public trust uses include maritime commerce, navigation, fishing, boating, water-oriented recreation, and environmental preservation and restoration, but do not typically include non-water dependent uses such as residential or general commercial and office uses. Thus, trustee agencies have the authority to refuse to allow, or to require removal of, shoreline armoring located on public trust lands, including if that armoring unreasonably interferes with public trust uses.

⁴⁹ Community-wide standard 15C.

Approval of a Coastal Development Permit for shoreline armoring under Section 30235 may be unavoidable in certain circumstances. Nonetheless, the construction of shoreline armoring will often cause impacts inconsistent with other Coastal Act requirements, including Section 30235's requirement that a shoreline protective device be the least-environmentally damaging, feasible alternative for addressing shoreline hazards. For example, as discussed above, Section 30253(b) prohibits *new development* from in any way requiring the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. Shoreline protective devices can also adversely affect a wide range of other coastal resources and uses that the Coastal Act protects. They often impede or degrade public access and recreation along the shoreline by occupying beach area or tidelands, by reducing shoreline sand supply, and by fixing the back of the beach, ultimately leading to the loss of the beach. Shoreline protection structures thus raise serious concerns regarding consistency with the public access and recreation policies of the Coastal Act. Such structures can fill coastal waters or tidelands and harm marine resources and biological productivity in conflict with Sections 30230, 30231, and 30233. They often degrade the scenic qualities of coastal areas and alter natural landforms in conflict with Section 30251. Finally, by halting shoreline erosion, they can prevent the inland migration of intertidal habitat, salt marshes, beaches, and other low-lying habitats that rising sea levels will inundate.

Even when an agency approves a Coastal Development Permit for shoreline armoring, the agency has the authority to impose conditions to mitigate impacts on shoreline sand supply and to minimize adverse impacts on other coastal resources. (See *Ocean Harbor House Homeowners Assn. v. California Coastal Comm.* (2008) 163 Cal.App.4th 215, 242; Public Resources Code, §30607.)⁵⁰ Any approved shoreline structure, therefore, must avoid or mitigate impacts that are inconsistent with Coastal Act policies.

Because of the wide range of adverse effects that shoreline protective devices typically have on coastal resources, this Guidance recommends avoidance of hard shoreline armoring whenever possible. This can entail denying development in hazardous locations, allowing only development that is easily removable as the shoreline erodes, or requiring new development to be set back far enough from wave runup zones or eroding bluff edges so that the development will not need shoreline armoring during its anticipated lifetime. The Commission's practice when reviewing proposed development in shoreline locations that are potentially vulnerable to shoreline erosion, wave runup, or inundation has been to require applicants to waive rights to shoreline protective devices in the future, and, more recently, to require relocation and/or removal should such development become endangered in the future. See [Chapter 7: Adaptation Strategies](#) for further details regarding alternatives to the use of hard armoring structures.

PUBLIC TRUST BOUNDARY

The State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable waterways upon its admission to the United States in 1850. The State holds and manages these lands for the benefit of all people of the State for statewide purposes consistent with the common law Public Trust Doctrine ("public trust"). The public trust ensures that title to sovereign land is held by the State in trust for the people of the State. Public trust

⁵⁰ Indeed, as noted above, 30235 itself clarifies that even when approvable, such structures should be designed to eliminate or mitigate any adverse impacts on local shoreline sand supply.

uses include maritime commerce, navigation, fishing, boating, water-oriented recreation, visitor-serving facilities and environmental preservation and restoration. Non-water dependent uses such as residential and general office or commercial uses are generally inconsistent with public trust protections and do not qualify as public trust uses.

In coastal areas, the landward location and extent of the State's sovereign fee ownership of these public trust lands are generally defined by reference to the ordinary high water mark (Civil Code §670), as measured by the mean high tide line (*Borax Consolidated v. City of Los Angeles* (1935) 210 U.S. 10); these boundaries remain ambulatory, except where there has been fill or artificial accretion. More specifically, in areas unaffected by fill or artificial accretion, the ordinary high water mark and the mean high tide line will generally be the same. In areas where there has been fill or artificial accretion, the ordinary high water mark (and the state's public trust ownership) is generally defined as the location of the mean high tide line just prior to the fill or artificial influence. It is important to note that such boundaries may not be readily apparent from present day site inspections (*Carpenter v. City of Santa Monica* (1944) 63 C. A. 2nd 772, 787).

The mean high tide line is the intersection of the shoreline with the elevation of the average of all high tides calculated over an 18.6-year tidal epoch. This property line is referred to as “ambulatory” for two reasons: first, gradual changes to the shoreline due to factors such as variations in the height and width of sandy beaches, shoreline erosion or accretion, and uplift or subsidence of land can change the location of where the mean high tide line meets the shoreline. Second, the elevation of the mean high tide line itself changes over time and is likely to increase at an accelerating rate in the future due to sea level rise. Over time, sea level rise will continue to gradually cause the public trust boundary to move inland. Boundaries between publicly-owned waterways and adjoining private properties (referred to as *littoral* along lakes and seas and *riparian* along rivers and streams) have always been subject to the forces of nature and property boundary law reflects these realities.

Accelerating sea level rise will likely lead to more disputes regarding the location of property boundaries along the shoreline, since lands that were previously landward of the mean high tide line have become subject to the State's ownership and protections of the public trust. These disputes, in turn, will affect determinations regarding what kinds of structures and uses may be allowed or maintained in areas that, because of sea level rise, either are already seaward of the mean high tide line, are likely to become seaward of the mean high tide line in the future, or would be seaward of the mean high tide line if it were not for artificial alterations to the shoreline.

California case law does not explicitly address how shoreline structures such as seawalls that artificially fix the shoreline temporarily and prevent inland movement of the mean high tide line affect property boundaries, if at all. The Ninth Circuit Court of Appeals, however, has interpreted federal common law as allowing the owner of tidelands to bring a trespass action against a neighboring upland property owner who built a revetment that prevented the natural inland movement of the mean high tide line. The court ruled that the actual property boundary was where the mean high tide line would have been if the revetment were not there and that the owner of the tidelands could require the upland owners to remove the portions of the revetment

that were no longer located on the upland owners' properties. (*United States v. Milner* (9th Cir. 2009) 583 F.3d 1174, 1189-1190.)

POTENTIAL PRIVATE PROPERTY TAKINGS ISSUES

The United States and California constitutions prohibit public agencies from taking private property for public use without just compensation. Section 30010 of the Coastal Act similarly prohibits public agencies implementing the Coastal Act from granting or denying a permit in a manner that takes or damages private property for public use without payment of just compensation. The classic "takings" scenario arises when a public agency acquires title to private property in order to build a public facility or otherwise devote the property to public use. In 1922, however, the United States Supreme Court ruled that regulation of private property can constitute a taking even if the regulation does not involve acquisition of title to the property. As Justice Oliver Wendell Holmes stated, "while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a taking," (*Pennsylvania Coal Co. v. Mahon* (1922) 260 U.S. 393, 415.)

Courts have struggled in the 90 years since then to give agencies and property owners a more definite sense of exactly when a regulation "goes too far." The Supreme Court has identified three basic categories of takings that can occur in the context of land use regulation. Different legal standards apply depending on what kind of taking is at issue. (See, generally, *Lingle v. Chevron USA, Inc.* (2005) 544 U.S. 528).

The most straightforward test applies to what is variously called a categorical, total, *per se*, or "Lucas" takings, which occurs when a regulation deprives an owner of all economically beneficial use of the property. (See *Lucas v. South Carolina Coastal Council* (1992) 505 U.S. 1003). An agency that completely deprives a property owner of all economically beneficial use of the property will likely be found liable for a taking unless background principles of nuisance or property law independently restrict the owner's intended use of the property. Courts have generally been very strict about when they apply this test. If any economically beneficial use remains after application of the regulation, even if the value of that use is a very small percentage of the value of the property absent the regulatory restriction, a *Lucas* taking has not occurred.

Where a regulation significantly reduces the value of private property but does not completely deprive the owner of all economically beneficial use, the multi-factor "*Penn-Central*" test applies (*Penn Central Transportation Co. v. City of New York* (1978) 438 U.S. 104). This test has no set formula, but the primary factors include the economic impact of the regulation, the extent to which the regulation interferes with distinct, reasonable investment-backed expectations, and the character of the governmental action. When evaluating the character of the governmental action, courts consider whether the regulation amounts to a physical invasion or instead more generally affects property interests through a program that adjusts the burdens and benefits of economic life for the common good. Whether a regulation was in effect at the time an owner acquired title is also a relevant factor, but is not by itself dispositive. (See *Palazzolo v. Rhode Island* (2001) 533 U.S. 606, 632-633 (O'Connor, J., concurring)). Because this test takes such a wide range of factors into account, caselaw does not provide clear guidance about the situations in which a regulation is likely to qualify as a "*Penn-Central*" taking. A *Penn-Central*

claim is unlikely to succeed, however, unless the plaintiff can establish that the regulation very substantially reduces the value of the property.

The third category of takings claims applies to “exactions,” that is, government permitting decisions that require a property owner either to convey a property interest or to pay a mitigation fee as a condition of approval. (See *Nollan v. California Coastal Comm.* (1987) 483 U.S. 825; *Dolan v. City of Tigard* (1994) 512 U.S. 374; *Koontz v. St. Johns River Water Management Dist.* (2013) 133 S.Ct. 2586). Under the *Nollan/Dolan* line of cases, the agency must establish a “nexus” between the condition requiring a property interest or payment and the effects of the project that that property interest or payment is mitigating. That property interest or payment must also be roughly proportional to the impact that it is intended to mitigate. In California, the *Ocean Harbor House* case is a good example of a shoreline structure impact mitigation requirement that was found by the courts to meet the relevant standards of nexus and proportionality.

Various recommendations of this Guidance may potentially give rise to takings concerns. Because the determination of whether a particular regulation may in some circumstances be applied in a way that constitutes a taking is so fact-intensive and context-specific, this Guidance cannot provide a simple set of parameters for when agencies should either allow exceptions to a land use regulation or consider purchasing a property interest. That said, land use restrictions that prevent all economically beneficial use of the entirety of a property⁵¹ are vulnerable to *Lucas* takings claims unless those uses would qualify as a nuisance or are prohibited by property law principles such as the public trust doctrine. Agencies can minimize the risk of these claims by allowing economically beneficial uses on some of the property and by exploring whether legal doctrines regarding nuisance, changing shoreline property lines, or the public trust independently allow for significant limitations on the use of the property. Establishing a transferrable development rights program for properties that are subject to significant development restrictions may also minimize potential exposure to takings claims.

Where a proposed development would be safe from hazards related to sea level rise in the near future, but cannot be sited so as to avoid those risks for the expected life of the structure, agencies may consider allowing the structure, but requiring removal once it is threatened. Property owners may argue that they have a right to protect threatened structures even if they have waived rights to shoreline protection under the Coastal Act, but a recent federal court of appeal ruling casts significant doubt on the existence of any common law right to attempt to fix an ambulatory shoreline boundary through artificial structures such as seawalls (see *United States v. Milner* (9th Cir. 2009) 583 F.3d 1174, 1189-1190).

If an agency is contemplating requiring property owners to dedicate open space easements or other property interests or requiring the payment of fees to mitigate project impacts, the agency should be careful to adopt findings explaining how requiring the property interest or payment is

⁵¹ What qualifies as the entirety of a property can also be the subject of dispute. The property will normally include all legal lots on which the proposed development would be located, but can also include other lots that are in common ownership and adjacent to, or in close proximity with, the lots that would be developed. (See *Norman v. United States* (Fed. Cir. 2005) 429 F.3d 1081, 1091; *District Intown Properties Limited Partnership v. District of Columbia* (D.C. Cir. 1999) 198 F.3d 874, 880.)

both logically related to mitigating an adverse impact of the project and roughly proportional to that impact. Legislatively adopting rules that establish the exact criteria for determining when to require these exactions and, if so, their magnitude, may also reduce an agency's exposure to takings claims.⁵² With respect to mitigation fees, California cities and counties should also comply with applicable requirements of the Mitigation Fee Act (Government Code, §66000 *et seq.*).

⁵² The California Supreme Court has ruled that courts should be more deferential towards agencies when reviewing fees imposed pursuant to legislatively enacted rules of general applicability than when reviewing fees imposed on an ad hoc basis. (*Ehrlich v. City of Culver City* (1996) 12 Cal.4th 854, 881.) The rationale is that fees imposed pursuant to rules of general applicability that involve little discretion are less likely to impose disproportionate burdens on property owners than fees determined on an ad hoc basis.



Chapter 9

Next Steps

CURRENT AND FUTURE COASTAL COMMISSION EFFORTS:

The Commission has a [Strategic Plan](#) for 2013-2018 (2013a) that identifies many action items that the Commission or partner organizations plan to take to address the challenges of sea level rise and climate change. The first priority in the Strategic Plan is for the Commission to adopt Sea Level Rise Policy Guidance for use in Local Coastal Program (LCP) planning and project design (Action 3.1.1), and this Guidance reflects significant progress toward accomplishing this task. The objectives and action items from the Strategic Plan related to sea level rise and climate change are presented within the following pages.

The Commission is also involved in a number of other efforts that meet the climate change planning goals laid out in its Strategic Plan. These include efforts related to the Commission's normal operating business, such as ongoing coordination with local government partners and other agencies, as well as specially funded projects designed to meet specific needs. Several of these efforts that are currently underway or that staff identified as next steps during the completion of this Guidance document are listed below. The Commission anticipates that these items will be completed over the next two to five years, in coordination with other relevant partners and research institutions, as staff capacity and funding allows.

1. **Continue an active program of public outreach on sea level rise.** The Commission will strive to provide public information about sea level rise issues through public workshops, the Commission's website, meetings, outreach, and our public education program. The Commission will work to enhance efforts to coordinate with low-income and underserved populations and communities.
2. **Develop methods for quantifying impacts to coastal resources from shoreline armoring projects.** The Coastal Commission staff has initiated a Project of Special Merit (funded by NOAA) to build upon the Commission's existing efforts to mitigate for the adverse impacts of shoreline development projects to public access and recreation by working with beach ecologists and a valuation economist to develop a method to quantify impacts to biological resources and beach ecology. The final product is anticipated to be a set of guidelines to use in assessing the impacts of proposed shoreline armoring projects and a method(s) for calculating the full value of recreational and ecological loss resulting from installation of shoreline armoring projects (where they may be approved as consistent with the Coastal Act).
3. **Adopt policy guidance and model ordinance language for resilient shoreline residential development in hazardous areas affected by sea level rise.** Under another NOAA-funded Project of Special Merit, the Coastal Commission will conduct a statewide survey to characterize physical shoreline conditions for residential areas along the coast. Informed by this assessment, staff will identify and analyze policy and legal issues for development and redevelopment in hazardous areas, factoring in sea level rise projections that will change shoreline conditions over time. Working collaboratively with local governments, staff will use the policy and legal analysis to develop policy guidance and model ordinance language. The project will build upon this Guidance and is consistent with the Coastal Commission's Strategic Plan goals.

4. **Enhance coordination and planning efforts related to developing adaptation strategies for critical infrastructure.** Addressing sea level rise impacts to critical infrastructure is particularly complex and will require greater amounts of planning time, stakeholder input, and funding. The Commission will support planning efforts in a number of ways including, for example:
 - a. Providing guidance or participating in working groups that examine managed retreat of critical infrastructure, including when to consider managed retreat rather than continue with repairs and maintenance in light of sea level rise.
 - b. Coordinating closely with Caltrans to address transportation issues. Planning efforts may include integrating LCP planning and regional transportation planning processes; coordinating and supporting phased approaches for realignment projects; and identifying priorities for adaptation response.
 - c. Coordinating with port and harbor authorities and other relevant stakeholders to address vulnerabilities specific to ports, harbors, fisheries, and navigation, and to develop and enhance adaptation strategies that are particularly applicable for coastal-dependent infrastructure and other port needs.
 - d. Coordinating with the State and Regional Water Quality Control Boards to consider vulnerability issues related to water supply and wastewater capacity infrastructure in California.

5. **Consider producing additional guidance documents, including:**
 - a. Broader climate change guidance addressing other climate change impacts to the coastal zone.
 - b. One-page fact sheets on some adaptation measures such as green infrastructure and conservation easements.
 - c. Guidance on the use of ‘living shorelines’, dune management, beach nourishment, and so on for California, including an assessment of areas or coastal situations where these strategies could be effective, what they need to succeed, monitoring requirements, and maintenance.
 - d. Guidance for how to address impacts to critical infrastructure, assets and resources that cross jurisdictional boundaries, and ports, harbors and other coastal-dependent resources.

6. **Implement the Coastal Commission’s responsibilities under other state efforts and legislation.**
 - a. Governor Brown’s April 2015 [Executive Order B-30-15](#) states that state agencies shall take climate change into account in their planning and investment decisions, and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives. The order requires agencies to ensure that priority is given to actions that build climate preparedness and reduce greenhouse gas emissions, provide flexible and adaptive approaches, protect the state's most vulnerable

- populations, and promote natural infrastructure solutions. The Coastal Commission will continue to integrate these principles into its planning and regulatory work.
- b. [AB2516](#), authored by Assemblymember Gordon and approved in September 2014, established a *Planning for Sea Level Rise Database* that is anticipated to be available online in early 2016. The database will provide the public with an educational tool from which to learn about the actions taken by cities, counties, regions, and various public and private entities to address sea level rise. The Coastal Commission will contribute data to this effort, including information about grant-funded LCP updates.
 - c. The Coastal Commission will also participate in the implementation of the 2014 [Safeguarding California](#) plan, along with the Ocean Protection Council's 2014 [Resolution on the Implementation of the Safeguarding California Plan](#). Key principles are and will continue to be incorporated into Coastal Commission work, including protection of California's most vulnerable populations the integration of risk reduction with emissions reductions, and the development of metrics and indicators of progress on efforts to reduce climate risk.

Coastal Commission Strategic Plan 2013-2018 Excerpts Actions Related to Sea Level Rise and Climate Change

GOAL 1: Maximize Public Access and Recreation

Objective 1.1 – Enhance Public Access through Updated Beach Access Assessment and Constraints Analysis

Actions:

- 1.1.5 Identify locations where access may be limited or eliminated in the future due to sea level rise and increased storm events and begin planning for other options such as new vertical accessways to maintain maximum beach access (see also Action 3.2.1).

Objective 1.4 – Expand the California Coastal Trail System through Enhanced Planning and Implementation

Actions:

- 1.4.4 Identify locations of the CCT that might be at risk from rising sea level and increased storm events and begin planning for trail relocations or other alternatives to insure continued functionality of the CCT (see also Action 3.2.1).

GOAL 3: Address Climate Change through LCP Planning, Coastal Permitting, Inter-Agency Collaboration, and Public Education

Objective 3.1 – Develop Planning and Permitting Policy Guidance for Addressing the Effects of Climate Change on Coastal Resources

Actions:

- 3.1.1 Adopt general sea level rise (SLR) policy guidance for use in coastal permitting and LCP planning, and amendments based on best available science, including the final report

from the National Research Council of the National Academy of Science entitled *Sea-Level Rise for the Coasts of California, Oregon, and Washington* (June 2012).

- 3.1.2 Based on the general SLR policy guidance, identify and develop specific regulatory guidance for addressing coastal hazards, including recommendations for analytic methods for accounting for SLR and increased storm events in project analysis, standards for redevelopment and development in hazard zones (*e.g.*, bluff top and flood zones), buffers for coastal wetlands, and policies for shoreline structure design and impact mitigation.
- 3.1.3 Develop a work program to produce policy guidance for coastal permitting and LCPs, to account for other climate change related impacts and adaptation planning including wetland, marine and terrestrial habitat protection, habitat migration, risk of wildfires, water supply and groundwater protection.
- 3.1.4 Provide public information and guidance through workshops, presentations to local government, *etc.* Assist local governments with interpretation of scientific or other technical information related to climate change and sea level rise that could be of use in adaptation planning.
- 3.1.5 Contribute to relevant state-wide efforts on climate change and adaptation as a member of the State's Climate Action Team – Coast and Ocean Working Group.
- 3.1.6 Coordinate with Natural Resources Agency, Office of Planning and Research, California Governor's Office of Emergency Services (Cal OES) and others to provide consistent guidance on climate change in updating general plans, hazard mitigation plans and other planning documents used by local governments.
- 3.1.7 Coordinate with the State Lands Commission to address sea level rise and shoreline change and implications for the management of public trust resources.

Objective 3.2 – Assess Coastal Resource Vulnerabilities to Guide Development of Priority Coastal Adaptation Planning Strategies

Actions:

- 3.2.1 Conduct a broad vulnerability assessment of urban and rural areas to identify priority areas for adaptation planning, such as community development, public infrastructure, public accessways, open space or public beaches at risk from sea level rise. Identify and participate in on-going vulnerability assessments and adaptation planning efforts as feasible.
- 3.2.2 Work with CalTrans and other public agency partners to assess and address roadway, rail, and other transportation infrastructure vulnerabilities, particularly along Highway One and other coastal roads and highways.
- 3.2.3 Work with the Department of Water Resources, State Water Resources Control Board, and local agencies to assess and address water and wastewater treatment plant vulnerabilities along the coast.
- 3.2.4 Work with the Conservancy, California Department of Fish and Game [*sic*], US Fish and Wildlife, and other partners to assess the vulnerability of wetlands and other sensitive habitat areas. Identify habitats that are particularly vulnerable climate change and/or

- habitats that may be important for future habitat migration (*e.g.*, wetland transitional areas).
- 3.2.5 Work with the Coastal Observing Systems, researchers, and others to identify and develop baseline monitoring elements to better understand and monitor changes in coastal conditions related to sea level rise and other climate change impacts.
- 3.2.6 With the Conservancy and OPC, develop and implement a competitive grant program to provide funding to selected local governments to conduct vulnerability assessments and/or technical studies that can be used to assess a community's risks from climate change and inform updates to LCPs.

ADDITIONAL RESEARCH NEEDS

Additional research is needed to more fully understand and prepare for sea level rise. The research needs are directed toward research institutions at academic, state, federal, and local levels. The Commission will strive to collaborate with and support research related to sea level rise science and adaptation, including with the efforts and ongoing work of the [California Climate Change Research Plan](#).

1. **Modeling.** Sea level rise science is an evolving field, and new science is expected to change and refine our understanding of the dynamics of sea level rise and its associated impacts to both natural and built environments. As such, there is a continual need for models to be developed, updated, and refined to ensure that we continue to have the best understanding of sea level rise-related impacts as possible. In some cases, the modelling capabilities already exist, but there is a need for such modelling to be applied to local areas to understand specific localized impacts. Several topics in particular that are in need of better or more refined modeling include:
 - a. Fluvial dynamics as they relate to and interact with rising sea levels
 - b. Habitat evolution models (*e.g.*, SLAMM) that project future locations of wetlands and other coastal habitats
 - c. The interaction of other climate change-related impacts with the impacts of sea level rise (*e.g.*, changing precipitation patterns, increased frequency and/or intensity of storms)
2. **Improved estimates of local vertical land motion.** Several independent processes – glacial isostatic rebound, groundwater withdrawals, plate movements and seismic activity – influence vertical land motion. Current guidance on sea level projections adjusts for large-scale vertical land motion north and south of Cape Mendocino. These adjustments do not properly address locations that are moving differently from the region, such as Humboldt Bay. A peer-reviewed methodology is needed to determine:
 - a. Instances when it will be important to modify the regional sea level rise projections for local vertical land motion
 - b. Types of existing information on land motion (*e.g.*, tide gauge records, satellite data, land-based GPS stations) that provide the best estimates of local land trends

- c. A procedure for adjusting state or regional sea level rise projections for sub-regional or local conditions
 - d. Additional data that are needed to implement this procedure
3. **Baseline data and monitoring systems.** Baseline monitoring data are needed for coastal and nearshore waters, beaches, bluffs, dune systems, nearshore reefs, tide pools, wetlands, and other habitat areas to better understand these systems, monitor trends, and detect significant deviations from historic conditions that may be related to sea level rise and other aspects of climate change. Better storm event monitoring data are also needed to support refinements and calibration of models used to project and analyze impacts.

A system for monitoring and tracking the cumulative impacts of projects in the coastal zone, including both new development and any adaptation strategies, is needed to better understand the impacts of development in the face of sea level rise and the efficacy of various adaptation methods. Monitoring systems may be needed at a variety of scales, including at the local, regional, and state level.

4. **Methods for estimating change in erosion rates and shoreline change due to future sea level rise.** There is a need for a peer-reviewed methodology for estimating change in erosion rates due to sea level rise for bluffs, beaches, and other shorelines exposed to erosion. An improved understanding of future erosion rates is necessary to better evaluate projects affected by such erosion, including in terms of calculating an appropriate setback distance.
5. **Analysis of sea level rise impacts to coastal access and recreation.** To improve public access planning efforts, more information is needed about how sea level rise could affect public access areas and recreation throughout the state, including changes to waves and surfing, and the potential economic costs of these impacts. Additional information about how these changes will affect lower-income populations and underserved communities is particularly important.

Many currently accessible beach areas have the potential to become inaccessible due to impacts from sea level rise. Shoreline armoring and emerging headlands could isolate connected beaches with sea level rise, which will block lateral access. Rising sea level will also tend to constrict beaches that are prevented from migrating landward by shoreline armoring and development. Some blufftop trails will become inaccessible as segments of trail are lost to erosion. In addition, changes in beach conditions and sediment dynamics due to sea level rise could affect waves and surfing, as can the rise itself by potentially ‘drowning out’ surf spots combined with the lack of space available for these spots to move (*e.g.*, where new ‘tripping’ elements can be encountered in the right depth of water to create surfable waves). Research on the specifics of these impacts will help the Commission and others understand the details of the potential impacts to coastal access and recreation.

6. **Methods to evaluate impacts to coastal resources from shoreline protection.** Research is needed to develop and improve methods to evaluate and mitigate for the adverse impacts to recreation, public access and beach ecology from shoreline armoring projects. This information will be used to determine a set of mitigation options that may be considered for use when evaluating individual permit applications to offset anticipated losses to beach

ecology and resources caused by shoreline armoring projects. The Coastal Commission staff is currently working on developing resource valuation guidelines as part of a Project of Special Merit (see Coastal Commission Effort #2).

7. **Analysis of sea level rise impacts to wetlands and strategies for preserving wetlands throughout the state.** Additional research is needed to assess the vulnerability of wetlands and other sensitive habitat areas to climate change, and to identify adjacent areas that may be important for future habitat migration (*e.g.*, wetland transitional areas). Further work is also needed to develop management strategies that are adaptable to local wetland conditions and sea level rise impacts, such as the following:
 - a. Methodologies for establishing natural resource area buffer widths in light of sea level rise
 - b. Approaches for identifying and protecting migration corridors
 - c. Guidance for increasing wetland sediment supply and retention
 - d. Techniques for developing an adaptive wetland restoration plan
 - e. Monitoring criteria
8. **Assessment of coastal habitat functions in light of sea level rise and other climate change impacts.** It is necessary to develop a better understanding of the value and benefits that intact natural habitats provide, especially as they relate to increasing coastal resiliency to sea level rise. In addition, further research is needed to identify the coastal habitats that are most likely to experience adverse impacts from sea level rise and extreme storms, and what the associated loss of ecosystem services will mean for coastal populations. Research is also needed to identify strategies to ameliorate the vulnerabilities.
9. **Potential effects of sea level rise on groundwater and coastal aquifers.** Additional research is needed to quantify the potential effect of sea level rise on freshwater aquifers located along the California coast, and the degree to which sea level rise could lead to new incidences of intrusion. Research should include: (a) an evaluation of the potential incidence and severity of saltwater intrusion at the scale of individual aquifers, under various sea level rise scenarios, (b) criteria to use when deciding if saltwater intrusion requires mitigation or response and (c) identification of strategies to address the impacts rising groundwater and saltwater intrusion have on agriculture.
10. **Analysis of non-environmental factors that influence sea level rise adaptation.** As suggested in a number of places throughout this Guidance, there are factors beyond just environmental concerns that will influence sea level rise planning. Such factors include environmental justice/social equity, economic, and legal considerations, among others. Understanding how these social concerns interact with environmental vulnerabilities will be important when assessing adaptation planning opportunities and challenges.



Glossary

The following terms were collected from the 2009 [California Climate Change Adaptation Strategy](#)⁵³, the [Intergovernmental Panel on Climate Change Third Assessment Report](#)⁵⁴, the Coastal Commission’s Beach Erosion and Response (BEAR) document,⁵⁵ and the [California Coastal Act](#), unless otherwise noted. Some of these definitions are not used in the text of the report, but are included as a resource on coastal-related adaptation issues.

Adaptation: Adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which minimizes harm or takes advantage of beneficial opportunities.

Adaptation Pathway: A planning approach addressing the uncertainty and challenges of climate change decision-making. It enables consideration of multiple possible futures, and allows analysis/exploration of the robustness and flexibility of various options across those multiple futures.⁵⁶

Adaptive capacity: The ability of a system to respond to climate change (including climate variability and extremes), to moderate potential damages, to take advantage of opportunities, and to cope with the consequences.⁵⁷

Adaptive management: Involves monitoring the results of a management decision, and updating actions as needed and as based on new information and results from the monitoring.

Ambulatory (*as used in public trust boundaries*): Moveable, subject to change, or capable of alteration.⁵⁸

Aquifer: An underground layer of porous rock, sand, or other earth material containing water, into which wells may be sunk.

Armor: To fortify a topographical feature to protect it from erosion (*e.g.*, constructing a wall to armor the base of a sea cliff), or to construct a feature (*e.g.*, a seawall, dike, or levee) to protect other resources (*e.g.*, development or agricultural land) from flooding, erosion, or other hazards.

Atmosphere-Ocean General Circulation Models (or Atmosphere-Ocean General Climate Models; ACGOM): Three-dimensional global models that dynamically link ocean density, circulation, and sea level using wind stress, heat transfer between air and sea, and freshwater fluxes as critical variables. (See also *General Circulation Models*)

Baseline (or Reference): Any datum against which change is measured. It might be a “current baseline,” in which case it represents observable, present-day conditions. It might also be a

⁵³ CNRA 2009

⁵⁴ IPCC 2001

⁵⁵ Many of these definitions were extracted from: USACE 2002, Griggs and Savoy 1985 and Flick 1994.

⁵⁶ Ocean Protection Council 2018

⁵⁷ Willows and Connell 2003

⁵⁸ *West's Encyclopedia of American Law* 2008

“future baseline”, which is a projected future set of conditions excluding the driving factor of interest (*e.g.*, how would a sector evolve without climate warming). It is critical to be aware of what change is measured against which baseline to ensure proper interpretation. Alternative interpretations of the reference conditions can give rise to multiple baselines.⁵⁹

Beach: The expanse of sand, gravel, cobble or other loose material that extends landward from the low water line to the place where there is distinguishable change in physiographic form, or to the line of permanent vegetation. The seaward limit of a beach (unless specified otherwise) is the mean low water line.

Beach nourishment: Placement of sand and/or sediment (*e.g.*, beneficial re-use of dredged sediment) on a beach to provide protection from storms and erosion, to create or maintain a wide(r) beach, and/or to aid shoreline dynamics throughout the littoral cell. The project may include dunes and/or hard structures as part of the design.

Bluff (or Cliff): A scarp or steep face of rock, weathered rock, sediment and/or soil resulting from erosion, faulting, folding or excavation of the land mass. The cliff or bluff may be a simple planar or curved surface or it may be step-like in section. For purposes of (the Statewide Interpretive Guidelines), “cliff” or “bluff” is limited to those features having vertical relief of ten feet or more and “seacliff” is a cliff whose toe is or may be subject to marine erosion.

Bluff top retreat (or Cliff top retreat): The landward migration of the bluff or cliff edge, caused by marine erosion of the bluff or cliff toe and subaerial erosion of the bluff or cliff face.

Caisson: A supporting piling constructed by drilling a casing hole into a geologic formation and filling it with reinforcing bar and concrete; used for foundations. (See also *Piling*)

Climate change: Any long-term change in average climate conditions in a place or region, whether due to natural causes or as a result of human activity.

Climate variability: Variations in the mean state of the climate and other statistics (*e.g.*, standard deviations, the occurrence of extremes) on all temporal and spatial scales beyond that of individual weather events.

Coastal-dependent development or use: Any development or use which requires a site on, or adjacent to, the sea to be able to function at all.⁶⁰

Coastal-related development: Any use that is dependent on a coastal-dependent development or use.⁶¹

Coastal resources: A general term used throughout the Guidance to refer to those resources addressed in Chapter 3 of the California Coastal Act, including beaches, wetlands, agricultural

⁵⁹ Moser 2008

⁶⁰ Public Resources Code § 30101

⁶¹ Public Resources Code § 30101.3

lands, and other coastal habitats; coastal development; public access and recreation opportunities; cultural, archaeological, and paleontological resources; and scenic and visual qualities.

Development: On land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice of 1973 (commencing with Section 4511).⁶²

Ecosystem-Based Management (EBM): An integrated approach to resource management that considers the entire ecosystem, including humans, and the elements that are integral to ecosystem functions.⁶³

Ecosystem services: Benefits that nature provides to humans. For example, plants, animals, fungi and micro-organisms produce services or goods like food, wood and other raw materials, as well as provide essential regulating services such as pollination of crops, prevention of soil erosion and water purification, and a vast array of cultural services, like recreation and a sense of place.⁶⁴

Emissions scenarios: Scenarios representing alternative rates of global greenhouse gas emissions growth, which are dependent on rates of economic growth, the success of emission reduction strategies, and rates of clean technology development and diffusion, among other factors.⁶⁵

Environmentally Sensitive [Habitat] Area (ESHA): Any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.⁶⁶

Erosion: The wearing away of land by natural forces; on a beach, the carrying away of beach material by wave action, currents, or the wind. Development and other non-natural forces (*e.g.*,

⁶² Public Resources Code § 30106

⁶³ NOC 2011

⁶⁴ Hassan *et al.* 2005

⁶⁵ Bedsworth and Hanak 2008

⁶⁶ Public Resources Code § 30107.5

water leaking from pipes or scour caused by wave action against a seawall) may create or worsen erosion problems.

Eustatic: Refers to worldwide changes in sea level.

Feasible (as used in “least environmentally damaging feasible alternative”): Capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors.⁶⁷

Flood (or Flooding): Refers to normally dry land becoming temporarily covered in water, either periodically (e.g., tidal flooding) or episodically (e.g., storm or tsunami flooding).⁶⁸

General Circulation Models (or General Climate Models; GCM): A global, three-dimensional computer model of the climate system which can be used to simulate human-induced climate change. GCMs are highly complex and they represent the effects of such factors as reflective and absorptive properties of atmospheric water vapor, greenhouse gas concentrations, clouds, annual and daily solar heating, ocean temperatures and ice boundaries. The most recent GCMs include global representations of the atmosphere, oceans, and land surface.⁶⁹ (See also *Atmospheric-Ocean General Circulation Models*)

Green infrastructure: Refers to the use of vegetative planting, dune management, beach nourishment or other methods that mimic natural systems to capitalize on the ability of these systems to provide flood and erosion protection, stormwater management, and other ecosystem services while also contributing to the enhancement or creation of natural habitat areas.

Greenhouse gases (GHGs): Any gas that absorbs infrared radiation in the atmosphere. Greenhouse gases include, carbon dioxide, methane, nitrous oxide, ozone, chlorofluorocarbons, hydrochlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride.⁷⁰

Hard protection: A broad term for most engineered features such as seawalls, revetments, cave fills, and bulkheads that block the landward retreat of the shoreline. (See also *Revetment, Seawall, Shoreline protective devices*)

Impact assessment: The practice of identifying and evaluating the detrimental and beneficial consequences of climate change on natural and human systems.

Inundation: The process of dry land becoming permanently drowned or submerged, such as from dam construction or from sea level rise.⁷¹

⁶⁷ California Coastal Act § 30108

⁶⁸ Flick *et al.* 2012

⁶⁹ NASA Earth Observatory Glossary

⁷⁰ UNFCCC 2004

⁷¹ Flick *et al.* 2012

Local Coastal Program (LCP): A local government's (a) land use plans, (b) zoning ordinances, (c) zoning district maps, and (d) within sensitive coastal resources areas, other implementing actions, which, when taken together, meet the requirements of, and implement the provisions and policies of, this division at the local level.⁷²

Mean sea level: The average relative sea level over a period, such as a month or a year, long enough to average out transients such as waves and tides. Relative sea level is sea level measured by a tide gauge with respect to the land upon which it is situated. (See also *Sea level change/sea level rise*)

Mitigation (as used in climate science): A set of policies and programs designed to reduce emissions of greenhouse gases.⁷³

Mitigation (as used in resource management): Projects or programs intended to offset impacts to resources.

Monitoring: Systematic collection of physical, biological, chemical, or economic data, or a combination of these data on a project in order to make decisions regarding project operation or to evaluate project performance.

Passive erosion: The process whereby erosion causes the shoreline to retreat and migrate landward of any hardened structures that have fixed the location of the back beach therefore resulting in the gradual loss of beach in front of the hardened structure.

Permit: Any license, certificate, approval, or other entitlement for use granted or denied by any public agency which is subject to the provisions of this division.⁷⁴

Piling (or Pile): A long, heavy timber or section of concrete or metal driven or drilled into the earth or seabed to serve as a support or protection. (See also *Caisson*)

Potential impacts: All impacts that may occur given a projected change in climate, including impacts that may result from adaptation measures.

Public Trust Lands: All lands subject to the Common Law Public Trust for commerce, navigation, fisheries, recreation, and other public purposes. Public Trust Lands include tidelands, submerged lands, the beds of navigable lakes and rivers, and historic tidelands and submerged lands that are presently filled or reclaimed and which were subject to the Public Trust at any time.⁷⁵ (See also *Tidelands, Submerged lands*)

⁷² Public Resources Code § 30108.6

⁷³ Luers and Moser 2006

⁷⁴ Public Resources Code § 30110

⁷⁵ Public Resources Code § 13577

Radiative forcing: Radiative forcing is a measure of the influence a factor has in altering the balance of incoming and outgoing energy in the Earth-atmosphere system and is an index of the importance of the factor as a potential climate change mechanism. In [the IPCC] report radiative forcing values are for changes relative to pre-industrial conditions defined at 1750 and are expressed in Watts per square meter (W/m^2).⁷⁶

Redevelopment: At a minimum, replacement of 50% or more of an existing structure. LCPs may also consider including limits on the extent of replacement of major structural components such as the foundation or exterior walls, or improvements costing more than 50% of the assessed or appraised value of the existing structure.

Revetment: A sloped retaining wall; a facing of stone, concrete, blocks, rip-rap, *etc.* built to protect an embankment, bluff, or development against erosion by wave action and currents. (See also *Hard protection, Seawall, Shoreline protective devices*)

Risk: Commonly considered to be the combination of the likelihood of an event and its consequences – *i.e.*, risk equals the probability of climate hazard occurring multiplied the consequences a given system may experience.⁷⁷

Scenario-based analysis: A tool for developing a science-based decision-making framework to address environmental uncertainty. In general, a range of plausible impacts based on multiple time scales, emissions scenarios, or other factors is developed to inform further decision-making regarding the range of impacts and vulnerabilities.⁷⁸

Sea level: The height of the ocean relative to land; tides, wind, atmospheric pressure changes, heating, cooling, and other factors cause sea level changes.

Sea level change/sea level rise: Sea level can change, both globally and locally, due to (a) changes in the shape of the ocean basins, (b) changes in the total mass of water and (c) changes in water density. Factors leading to sea level rise under global warming include both increases in the total mass of water from the melting of land-based snow and ice, and changes in water density from an increase in ocean water temperatures and salinity changes. Relative sea level rise occurs where there is a local increase in the level of the ocean relative to the land, which might be due to ocean rise and/or land level subsidence.⁷⁹ (See also *Mean sea level, Thermal expansion*)

Sea level rise impact: An effect of sea level rise on the structure or function of a system.⁸⁰

⁷⁶ IPCC 2007

⁷⁷ Burton *et al.* 2004

⁷⁸ NOAA 2010

⁷⁹ IPCC 2007

⁸⁰ PCGCC 2007

Seawall: A structure separating land and water areas, primarily designed to prevent erosion and other damage due to wave action. It is usually a vertical wood or concrete wall as opposed to a sloped revetment. (See also *Hard protection, Revetment, Shoreline protective devices*)

Sediment: Grains of soil, sand, or rock that have been transported from one location and deposited at another.

Sediment management: The system-based approach to the management of coastal, nearshore and estuarine sediments through activities that affect the transport, removal and deposition of sediment to achieve balanced and sustainable solutions to sediment related needs.

Sensitivity: The degree to which a system is affected, either adversely or beneficially, by climate-related stimuli. The effect may be direct (*e.g.*, a change in crop yield in response to a change in the mean, range, or variability of temperature) or indirect (*e.g.*, climatic or non-climatic stressors may cause people to be more sensitive to additional extreme conditions from climate change than they would be in the absence of these stressors).

Shore protection: Structures or sand placed at or on the shore to reduce or eliminate upland damage from wave action or flooding during storms.

Shoreline protective devices: A broad term for constructed features such as seawalls, revetments, riprap, earthen berms, cave fills, and bulkheads that block the landward retreat of the shoreline and are used to protect structures or other features from erosion and other hazards. (See also *Hard protection, Revetment, Seawall*)

Still water level: The elevation that the surface of the water would assume if all wave action were absent.

Storm surge: A rise above normal water level on the open coast due to the action of wind stress on the water surface. Storm surge resulting from a hurricane also includes the rise in water level due to atmospheric pressure reduction as well as that due to wind stress.

Submerged lands: Lands which lie below the line of mean low tide.⁸¹ (See also *Public Trust Lands, Tidelands*)

Subsidence: Sinking or down-warping of a part of the earth's surface; can result from seismic activity, changes in loadings on the earth's surface, fluid extraction, or soil settlement.

Tectonic: Of or relating to the structure of the earth's crust and the large-scale processes that take place within it.

Thermal expansion: An increase in water volume in response to an increase in temperature, through heat transfer.

⁸¹ Public Resources Code § 13577

Tidal prism: The total amount of water that flows into a harbor or estuary and out again with movement of the tide, excluding any freshwater flow.

Tidal range: The vertical difference between consecutive high and low waters. The Great Diurnal Range is the difference between mean higher high water and mean lower low water; the Mean Range of tide is the difference in height between mean high water and mean low water.⁸²

Tidelands: Lands which are located between the lines of mean high tide and mean low tide.⁸³
(See also *Public Trust Lands, Submerged lands*)

Transfer of Development Rights (TDR): A device by which the development potential of a site is severed from its title and made available for transfer to another location. The owner of a site within a transfer area may retain property ownership, but not approval to develop. The owner of a site within a receiving area may purchase transferable development rights, allowing a receptor site to be developed at a greater density.⁸⁴

Tsunami: A long period wave, or seismic sea wave, caused by an underwater disturbance such as an earthquake, submarine landslide, or subaerial landslide (slope failure from land into a water body). Tsunamis can cause significant flooding in low-lying coastal areas and strong currents in harbors. (Commonly misnamed a *Tidal wave*)

Vulnerability: The extent to which a species, habitat, ecosystem, or human system is susceptible to harm from climate change impacts. More specifically, the degree to which a system is exposed to, susceptible to, and unable to cope with, the adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of climate variation to which a system is exposed, as well as of non-climatic characteristics of the system, including its sensitivity, and its coping and adaptive capacity.

Vulnerability assessment: A practice that identifies who and what is exposed and sensitive to change and how able a given system is to cope with extremes and change. It considers the factors that expose and make people or the environment susceptible to harm and access to natural and financial resources available to cope and adapt, including the ability to self-protect, external coping mechanisms, support networks, and so on.⁸⁵

Wave: A ridge, deformation, or undulation of the surface of a liquid. On the ocean, most waves are generated by wind and are often referred to as wind waves.

Wave height: The vertical distance from a wave trough to crest.

Wave length (or Wavelength): The horizontal distance between successive wave crests or between successive troughs of waves.

⁸² NOAA 2013

⁸³ Public Resources Code § 13577

⁸⁴ Cal OPR 1987

⁸⁵ Tompkins *et al.* 2005

Wave period: The time for a wave crest to traverse a distance equal to one wavelength, which is the time for two successive wave crests to pass a fixed point.

Wave runup: The distance or extent that water from a breaking wave will extend up the shoreline, including up a beach, bluff, or structure.



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Appendix A

Sea Level Rise Science and Projections for Future Change

DRIVERS OF SEA LEVEL RISE

The main mechanisms driving increases in *global* sea level are: 1) expansion of sea water as it gets warmer (thermal expansion) and, 2) increases in the amount of water in the ocean from melting of land-based glaciers and ice sheets as well as human-induced changes in water storage and groundwater pumping (Chao *et al.* 2008; Wada *et al.* 2010; Konikow 2011).¹ The reverse processes can cause global sea level to fall.

Sea level at the *regional and local levels* often differs from the average global sea level.² Regional variability in sea level results from large-scale tectonics and ocean and atmospheric circulation patterns. The primary factors influencing local sea level include tides, waves, atmospheric pressure, winds, vertical land motion and short duration changes from seismic events, storms, and tsunamis. Other determinants of local sea level include changes in the ocean floor (Smith and Sandwell 1997), confluence of fresh and saltwater, and proximity to major ice sheets (Clark *et al.* 1978; Perette *et al.* 2013).

Over the long-term, sea level trends in California have generally followed global trends (Cayan *et al.* 2009; Cayan *et al.* 2012). However, global projections do not account for California's regional water levels or land level changes. California's water levels are influenced by large-scale oceanographic phenomena such as the El Niño Southern Oscillation (ENSO) and the Pacific Decadal Oscillation (PDO), which can increase or decrease coastal water levels for extended periods of time. [Figure A-1](#) shows how El Niño and La Niña events have corresponded to mean sea level in California in the past. California's land levels are also affected by plate tectonics and earthquakes. Changes to water as well as land levels are important factors in regionally down-scaled projections of future sea level. It follows that the sea level rise projections specific to California are more relevant to efforts in the coastal zone of California than projections of global mean sea level.

¹ Large movements of the tectonic plates have been a third major mechanism for changes in global sea level. The time periods for plate movements to significantly influence global sea level are beyond the time horizons used for even the most far-reaching land-use decisions. Plate dynamics will not be included in these discussions of changes to future sea level.

² For further discussion of regional sea level variations and regional sea level rise projections, see Yin *et al.* 2010, Slangen *et al.* 2012, and Levermann *et al.* 2013, as examples.

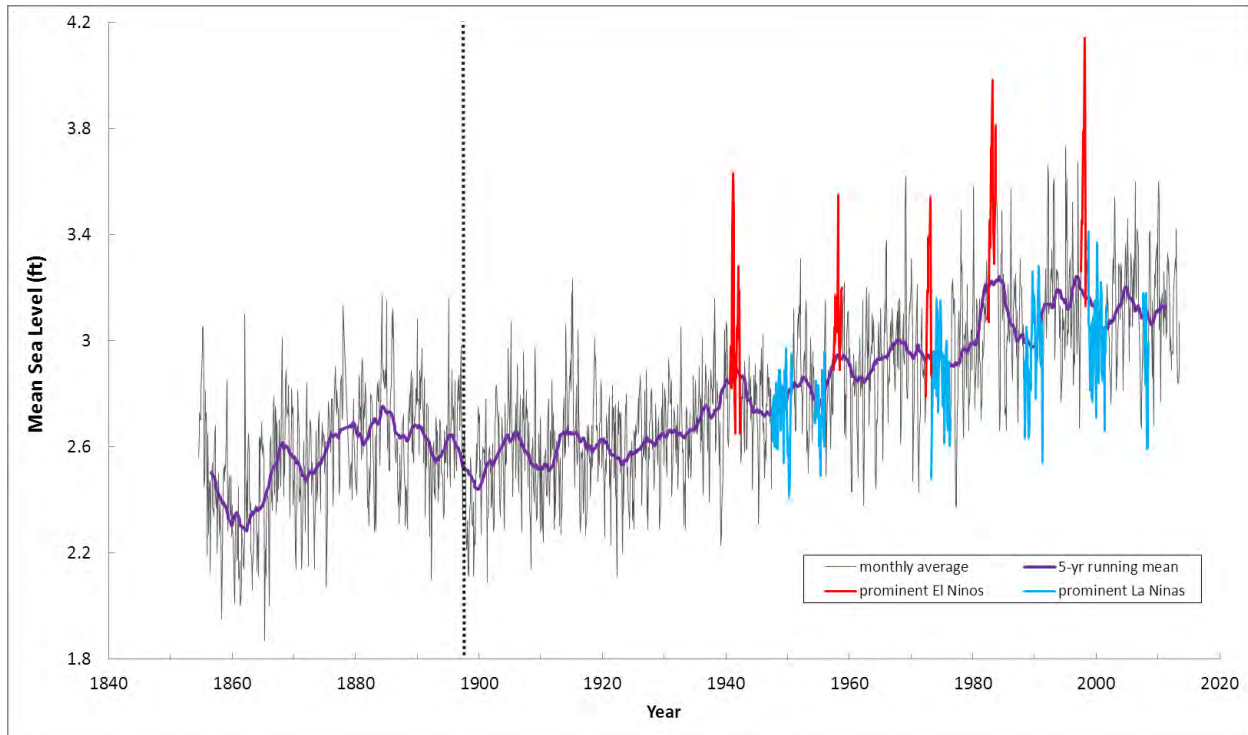


Figure A-1. Variations in monthly mean sea level at Fort Point, San Francisco, 1854 to 2013. Mean sea level heights (in ft) are relative to mean lower low water (MLLW). Purple line represents the 5-year running average. Note that the monthly mean sea level has varied greatly throughout the years and that several of the peaks occurred during strong El Niño events (red highlight). Periods of low sea level often occurred during strong La Niña events (blue highlight). The current “flat” sea level condition can also be seen in the 5-year running average. (Sources: NOAA CO-OPS data, Station 9414290, <http://tidesandcurrents.noaa.gov/> (sea level); NOAA Climate Prediction Center, <http://www.elnino.noaa.gov/> (ENSO data))

APPROACHES FOR PROJECTING FUTURE GLOBAL SEA LEVEL RISE

This section provides an overview of some of the more well-known approaches that have been used to project sea level changes and their relevance to California. [Appendix B](#) will cover how these projections can be used to determine water conditions at the local scale.

There is no single, well-accepted technique for projecting future sea level rise. Understanding future sea level rise involves projecting future changes in glaciers, ice sheets, and ice caps, as well as future groundwater and reservoir storage. Two subjects in particular present challenges in sea level rise modeling. First, future changes to glaciers, ice sheets, and ice caps are not well understood and, due to the potential for non-linear responses from climate change, they present many difficulties for climate models (Overpeck 2006; Pfeffer *et al.* 2008; van den Broecke *et al.* 2011; Alley and Joughin 2012; Shepherd *et al.* 2012; Little *et al.* 2013). Second, the actual magnitudes of the two human-induced changes – pumping of groundwater and storage of water in reservoirs – are poorly quantified, but the effects of these activities are understood and can be modeled (Wada *et al.* 2010). Despite these challenges, sea level rise projections are needed for many coastal management efforts and scientists have employed a variety of techniques to model sea level rise, including:

1. Extrapolation of historical trends;
2. Modeling the physical conditions that cause changes in sea level;
3. Empirical or semi-empirical methods; and
4. Expert elicitations

There are strengths and weaknesses to each approach, and users of any sea level rise projections should recognize that there is no perfect approach for anticipating future conditions. This section provides users of the Guidance document with a general understanding of several of the most widely used sea level rise projection methodologies and their respective advantages and disadvantages. [Figure A-2](#) provides a visual summary of several of the more commonly cited projections of future global and regional sea level rise.

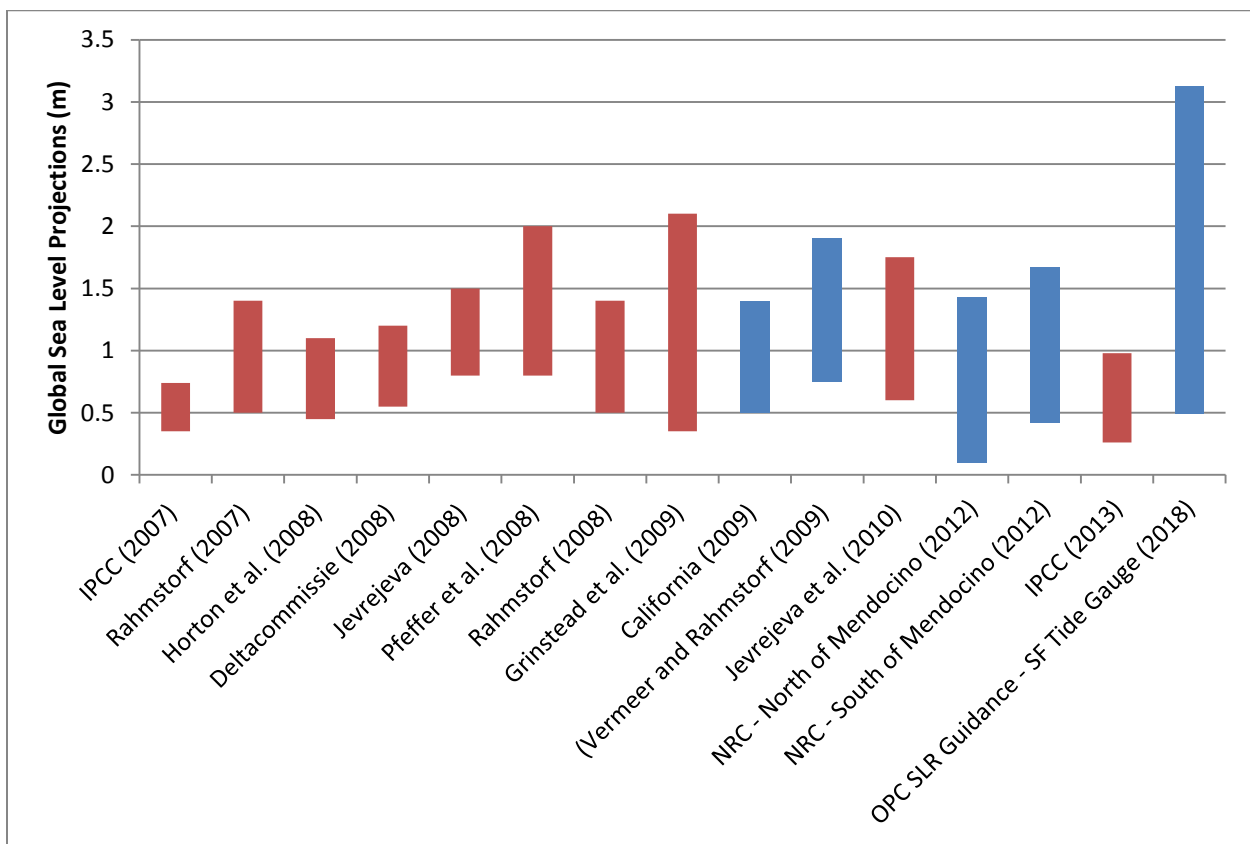


Figure A-2. Sea level rise projections for year 2100 from scientific literature. Graphic summary of the range of average sea level rise (SLR) projections by end of century (2090–2100) from the peer-reviewed literature as compared to the recent National Research Council report for California, Oregon and Washington. The light blue shaded boxes indicate projections for California. Ranges are based on the IPCC scenarios, with the low range represented by the B1 scenario (moderate growth and reliance in the future on technological innovation and low use of fossil fuels) and the high part of the range represented by the A1FI scenario (high growth and reliance in the future on fossil fuels). Details on the methods used and assumptions are provided in the original references.

Extrapolation of Historical Trends

Extrapolation of historical trends in sea level has been used for many years to project future changes in sea level. The approach assumes that there will be no abrupt changes in the processes that drive the long-term trend, and that the driving forces will not change. However, drivers of climate change and sea level rise, such as radiative forcing, are known to be changing, and this method is no longer considered appropriate or viable in climate science.

A recent modification to the historical trend method discussed above has been to estimate rates of sea level rise during the peak of the last interglacial (LIG) period (~125,000 years before present, when some drivers of sea level rise were similar to those today)³ and use these as proxy records to project sea level rise rates to the 21st Century. For example, Katsman *et al.* (2011) and Vellinga *et al.* (2008) used the reconstructed LIG record of sea level change (from Rohling *et al.* 2008) to reconstruct sea level rise rates during rapid climate warming, and applied these rates to estimate sea level at years 2100 and 2200. Similarly, Kopp *et al.* (2009) used sea level rise rates inferred from the LIG to estimate a range of sea level rise for Year 2100 between 1-3 ft (0.3-1 m). Compared to traditional historical trend extrapolation, this modified approach has the advantage of including the dynamic responses of ice sheets and glaciers to past global climates that were significantly warmer than the present, but is limited by the large uncertainties associated with proxy reconstructions of past sea level.

Physical Models

Physical climate models use mathematical equations that integrate the basic laws of physics, thermodynamics, and fluid dynamics with chemical reactions to represent physical processes such as atmospheric circulation, transfers of heat (thermodynamics), development of precipitation patterns, ocean warming, and other aspects of climate. Some models represent only a few processes, such as the dynamics of ice sheets or cloud cover. Other models represent larger scale atmospheric or oceanic circulation, and some of the more complex General Climate Models (GCMs) include atmospheric and oceanic interactions.

Physical models of sea level changes account for the thermal expansion of the ocean and the transfer of water currently stored on land, particularly from glaciers and ice sheets (Church *et al.* 2011). Currently, coupled Atmosphere-Ocean General Circulation Models (AOGCMs) and ice sheet models are replacing energy-balance climate models as the primary techniques supporting sea level projections (IPCC 2013). Ocean density, circulation and sea level are dynamically connected in AOGCMs as critical components of the models include surface wind stress, heat transfer between air and sea, and freshwater fluxes. AOGCM climate simulations have recently been used as input for glacier models (Marzeion *et al.* 2012) which project land-water contributions to sea level.

The Intergovernmental Panel on Climate Change (IPCC) is one of the main sources of peer-reviewed, consensus-based modeling information on climate change. The IPCC does not undertake climate modeling, but uses the outputs from a group of climate models that project

³ During the last interglacial, global mean temperature was 1-2°C warmer than the pre-industrial era (Levermann *et al.* 2013), while global mean sea level was likely 16.4-29.5 ft (5-9 m) above present mean sea level (Kopp *et al.* 2009; Dutton and Lambeck 2012; Levermann *et al.* 2013).

future temperature, precipitation patterns, and sea level rise, based on specific emission scenarios. Early in the 1990s, the IPCC developed basic model input conditions to ensure comparable outputs from the various models. The IPCC initially developed scenarios of future emissions, based on energy development, population and economic growth, and technological innovation. Four families of scenarios (A1, A2, B1, and B2) and subgroups (A1B, A1FI, A1T) were developed and used for climate and sea level rise projections for early IPCC reports (1990, 1995, 2001, 2007). IPCC used 4 new scenarios for the [5th Assessment Report](#) (AR5) in 2013, based on Representative Concentration Pathways (RCPs) that are different greenhouse gas concentration trajectories. These trajectories bear similarities to, but are not directly comparable to the earlier emission scenarios. Projections in IPCC AR5 (2013) differ from the earlier IPCC projections due to improvements in climate science, changes due to the new scenarios, and changes in the models to accommodate the new inputs, with improvements in climate science and model capabilities driving the bulk of the changes.

One finding of the earlier 2007 IPCC report called for improved modeling of ice dynamics. Focused research on ice dynamics to improve the ability of climate models to address the scale and dynamics of change to glaciers, ice sheets, and ice caps was subsequently undertaken (*e.g.*, Price *et al.* 2011; Shepherd *et al.* 2012; Winkelman *et al.* 2012; Bassis and Jacobs 2013; Little *et al.* 2013). Recent modeling results presented in the AR5 (IPCC 2013) reflect the scientific community’s increased understanding in, as well as advances in modeling of the impacts of glacier melting and ocean thermal expansion on sea level change. AR5 scenarios reflect a greater range of global sea level rise (28-98 cm) based on improved modelling of land-ice contributions.

Semi-Empirical Method

The semi-empirical method for projecting sea level rise is based on developing a relationship between sea level and some factor (a proxy) – often atmospheric temperature or radiative forcing – and using this relationship to project changes to sea level. An important aspect for the proxy is that there is fairly high confidence in models of its future changes; a key assumption that is made by this method is that the historical relationship between sea level and the proxy will continue into the future. One of the first projections of this kind was based on the historical relationship between global temperature changes and sea level changes (Rahmstorf 2007). This semi-empirical approach received widespread recognition for its inclusion of sea level rise projections. These projections looked at the temperature projections for two of the previous IPCC (2007) emission scenarios that span the likely future conditions within the report’s framework – B1, an optimistic, low-greenhouse gas emission future, and A1FI, a more “business-as-usual” fossil fuel intensive future.⁴ The Rahmstorf 2007 sea level rise projections were used in the California 2009 *Climate Change Scenarios Assessment* (Cayan 2009).

Since the initial semi-empirical projections for future sea level rise (Rahmstorf 2007), other researchers have published different projections based on the IPCC scenarios, using different

⁴ When the IPCC began examining climate change, the available models used a broad range of inputs. In an attempt to evaluate the different model outputs based on the different model characteristics rather than the inputs, the IPCC developed a number of standard greenhouse gas emission scenarios. These scenarios are described in *Response Strategies Working Group III* (IPCC 1990). In general, the B1 scenario projects the lowest temperature and sea level increases and the A1FI projects the highest increases.

data sets or best-fit relationships.⁵ Notably, Vermeer and Rahmstorf (2009) prepared a more detailed methodology that includes both short-term responses and longer-term responses between sea level rise and temperature. These 2009 projections of sea level rise were used in the *Interim Guidance on Sea Level Rise* (OPC 2010) and the California 2012 *Vulnerability and Assessment Report* (Cayan 2012).

There are also several new semi-empirical sea level rise projections based on scenarios other than those developed by the IPCC. For instance, Katsman *et al.* (2011) use a “hybrid” approach that is based on one of the newer radiative forcing scenarios and empirical relationships between temperature change and sea level. Future projections were then modified to include contributions from the melting of major ice sheets based on expert judgment⁶. This yields what they call “high end” SLR projections for Years 2100 and 2200 under several emissions scenarios.

Zecca and Chiari (2012) produced semi-empirical sea level rise projections based on their own scenarios of when fossil fuel resources would be economically exhausted. Though based on a different set of assumptions about human behavior/choices, in terms of global temperature and radiative forcing, the scenarios do not differ greatly from the IPCC scenarios. The results are identified as being “lower bound” sea level rise projections for high, medium, low fuel use scenarios, and “mitigation” (extreme and immediate action to replace fossil fuel use) scenarios. The report then provides projections for the 2000-2200 time period.

Expert Elicitation

Expert elicitation is one of the newer methods that have been used for projecting or narrowing ranges of future sea level rise. Using expert judgment has been an important aspect of scientific inquiry and the scientific method. The method of expert elicitation is a formalized use of experts in climate science and sea level change to help either narrow uncertainty for sea level projections, or to help with specifying extremes of a range. The elicitation method normally begins with experts refining model output information. One of the first attempts to use expert elicitation for sea level rise was a study by Titus and Narayanan (1996), when it was thought there was only 1% probability that sea level would exceed 3.3 ft (1 m) by Year 2100. In 2011, the Arctic Monitoring and Assessment Programme Report (AMAP 2011) surveyed the climate literature to construct a range of estimates of sea level rise by the year 2100, and then used a panel of experts to decide on a smaller, more plausible range. Not surprisingly, the projections supported by the AMAP experts fell right in the middle of the range shown in [Figure A-2](#). Bamber and Aspinnall (2013) used a statistical analysis of a large number of expert estimates to

⁵ Semi-empirical projections of sea level rise using relationships between water level and radiative forcing such as those from Grinsted *et al.* (2009), Jevrejeva *et al.* (2010), Katsman *et al.* (2011), Meehl *et al.* (2012), Rahmstorf *et al.* (2012), Schaeffer *et al.* (2012), and Zecca and Chiari (2012) have shown general agreement with the projections by Vermeer and Rahmstorf (2009). The Grinsted *et al.* projections have a wider range than those of Vermeer and Rahmstorf, while the Jevrejeva *et al.* projections are slightly lower. All semi-empirical methods project that sea level in Year 2100 is likely to be much higher than linear projections of historical trends and the projections from the 2007 IPCC.

⁶ Expert judgment has long been part of the scientific process. Expert elicitation, which is a formalized process for using expert judgment, has grown in importance and is discussed as a separate approach for projecting future sea level rise.

develop their projected range of future sea level, projecting sea level rise by 2100 ranging from 1–4.3 ft (0.33–1.32 m), under one of the intermediate AR5 scenarios (RCP 4.5).

Horton *et al.* (2014) surveyed experts in sea level science, based upon published papers, to develop a probabilistic assessment of long-term sea level rise (by the years 2100 and 2300), assuming two very different scenarios. Under one scenario, aggressive efforts would limit greenhouse gas concentrations that would cause global temperature to increase slightly until about 2050 when it would slowly drop (AR5’s RCP 3 scenario). Under the other scenario, temperatures would continue to increase through to 2300 (AR5’s RCP 8.5 scenario). Experts determined that it is likely that sea level rise could remain below 3.3 ft (1 m) for the low emission scenario (RCP 2.6), but that the likely range of future sea level rise for the high emission scenario (RCP 8.5) could be 6.6-9.8 ft (2-3 m).

Kopp *et al.* (2014) have combined detailed process modeling, community assessments and expert elicitation to assign probability distributions of local sea level rise through 2200 for identified communities around the world. Under the high concentration scenario, RCP 8.5, Kopp *et al.* estimate the “maximum physically possible rate of sea level rise” to be 8.2 ft (2.5 m) for the year 2100. This study also finds that sea level rise along the Pacific Coast of the US is close to the global average, and the likely range of sea level is 2-3.3 ft (0.6-1.0 m) by the year 2100 at San Francisco, under the high concentration scenario. In contrast, in areas of high subsidence such as Galveston, Texas, the likely range of sea level in by 2100 ranges from 3.3 to 5 ft (1.0-1.5 m). And, at many of the localities that were examined, including San Francisco, the current 1-in-10 year flooding event is likely to occur every other year by 2100 (five times more frequently) due to sea level rise; the frequency of the 1-in-100 year event is expected to double by the year 2100 with sea level rise.

Coastal communities cannot ignore sea level rise in long-term planning, permitting and project design. The four different approaches to projecting future sea level rise all have varying strengths and weaknesses. As noted earlier in this section, projections, like models, will not be completely accurate, but they are important tools for evaluation nonetheless⁷. The most commonly cited projections provide future sea level as a range, as a way to allow for many of the uncertainties that are part of future climate change. Often, projections of sea level rise rely upon multiple approaches. For example, the 2012 National Research Council (NRC) report was developed through expert judgment that combined information from both physical models and semi-empirical projections.

⁷ George E.P. Box, mathematician and statistician is quoted as saying, “Essentially all models are wrong, but some are useful.”

BEST AVAILABLE SCIENCE ON SEA LEVEL RISE

Global Projections of Sea Level Rise

The best available science on *global* sea level rise projections is currently the IPCC *Fifth Assessment Report: Climate Change 2013* (AR5) released in September 2013. The new report now projects a more rapid sea level rise than the *Fourth Assessment* (AR4) released in 2007. By Year 2100, the AR5 projects global sea level to be more than 50% higher (26-98 cm) than the old projections (18-59 cm) when comparing similar emission scenarios and time periods. The increase in AR5 sea level projections results from improved modelling of land-ice contributions. Substantial progress in the assessment of extreme weather and climate events has also been made since the AR4 as models now better reproduce phenomena like the El Niño-Southern Oscillation (ENSO; IPCC 2013).

National Projections of Sea Level Rise

The [third National Climate Assessment](#) (NCA) was released in May 2014 (Melillo *et al.*), and includes the current best-available science on climate change and sea level rise *at the national scale*.⁸ The sea level rise projections in the NCA were informed by the 2012 NOAA report titled [Global Sea Level Rise Scenarios for the United States National Climate Assessment](#) (Parris *et al.*). This report provides a set of four scenarios of future global sea level rise, as well as a synthesis of the scientific literature on global sea level rise. The NOAA Climate Program Office produced the report in collaboration with twelve contributing authors.⁹ The report includes the following description of the four scenarios of sea level rise by the year 2100:

- **Low scenario:** The lowest sea level change scenario (a rise of 8 in (20 cm)) is based on historical rates of observed sea level change.
- **Intermediate-low scenario:** The intermediate-low scenario (a rise of 1.6 ft (0.5 m)) is based on projected ocean warming.
- **Intermediate- high scenario:** The intermediate-high scenario (a rise of 3.9 ft (1.2 m)) is based on projected ocean warming and recent ice sheet loss.
- **High scenario:** The highest sea level change scenario (a rise of 6.6 ft (2 m)) reflects ocean warming and the maximum plausible contribution of ice sheet loss and glacial melting.

The Parris *et al.* (2012) report recommends that the highest scenario be considered in situations where there is little tolerance for risk. It also provides steps for planners and local officials to modify these scenarios to account for local conditions. These steps are intended for areas where local sea level rise projections have not been developed. For California, the 2018 OPC SLR Guidance report (below) provides scenarios that have been refined for use at the local level, and the Coastal Commission recommends using the OPC projections rather than the global or national scenarios.

⁸ Note that the 4th National Climate Assessment is due to be released in late 2018. <https://www.globalchange.gov/nca4>

⁹ Authors include NOAA, NASA, the US Geologic Survey, the Scripps Institution of Oceanography, the US Department of Defense, the US Army Corps of Engineers, Columbia University, the University of Maryland, the University of Florida, and the South Florida Water Management District.

California-Specific Projections of Sea Level Rise and Best Available Science

The State of California has long-supported the development of scientific information on climate change and sea level rise to help guide planning and decision-making. For example, the State helped support the development of the 2012 National Research Council (NRC) report, [Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future](#), which provided an examination of global and regional sea level rise trends and projections of future sea level. This report was then incorporated into the Ocean Protection Council's 2013 *State Sea-Level Rise Guidance*, and was considered the best available science on sea level rise for California.

More recently, and in response to the release of new scientific studies related to sea level rise, Governor Brown directed the OPC to synthesize recent science on sea level rise and incorporate findings into updates to the State Guidance. In April 2017, a working group of OPC's Science Advisory team (comprised mainly of climate researchers at various academic institutions in California and throughout the country) released a report titled [Rising Seas in California: An Update on Sea-Level Rise Science](#). The report highlighted seven key findings:

1. *Scientific understanding of sea level rise is advancing at a rapid pace.* Sea level rise projections have increased substantially over the last few years, particularly for late in the 21st century and under high emissions scenarios, due to our evolving understanding of the dynamics of ice sheet loss. However, there is still significant uncertainty regarding these processes.
2. *The direction of sea level change is clear.* Coastal California is already experiencing the impacts of rising sea levels, and impacts will increase in the future.
3. *The rate of ice loss from the Greenland and Antarctic ice sheets is increasing.* Ice sheet loss will soon overtake thermal expansion of seawater as the primary driver of rising sea levels. Due to a variety of ocean circulation dynamics, ice loss from Antarctica, and particularly West Antarctica, has an outsized impact on California compared to the rest of the world ([Figure A-3](#)). Continued research on this dynamic is critical for accurately projecting future sea level rise along our coast.
4. *New scientific evidence has highlighted the potential for extreme sea level rise.* Recent research (e.g., DeConto and Pollard, 2016; Sweet et al., 2017) has found that, if greenhouse gas emissions are not curtailed, glaciological processes could cross thresholds that lead to rapidly accelerating and effectively irreversible ice loss. The probability of this extreme scenario is currently unknown, but its consideration is important. Significant reductions in greenhouse gas emissions may reduce the likelihood of this extreme scenario, but does not completely eliminate the risk. Importantly, it is difficult to determine if the world is on the track for extreme and irreversible ice loss for some time because the processes that drive extreme ice loss in the later part of the century or beyond are different than those that are driving ice loss now.

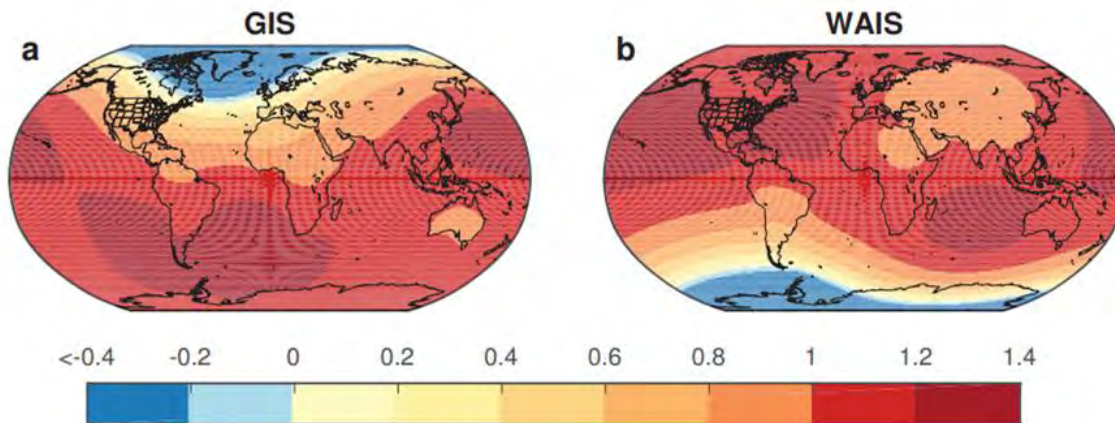


Figure A-3. Sea level ‘fingerprints’ resulting from the distribution of ice and water around the Earth and ensuing gravitational and rotational effects. The maps depict the relative response of sea-level to the loss of ice mass from (a) Greenland Ice Sheet (GIS) and (b) West Antarctic Ice Sheet (WAIS). The color bar represents the fractional departure of relative sea level rise from that expected given the ice contribution to global mean sea level. For example, when ice is lost from the Greenland Ice Sheet the relative effect on the US West Coast is 75% of the sea-level rise expected from the water volume added to the ocean. By comparison, when ice is lost from the West Antarctic Ice Sheet the US West Coast experiences 125% of sea-level rise from that expected from the water volume added (from Griggs et al. 2017).

5. *Probabilities of specific sea-level increases can inform decisions.* A probabilistic approach to sea level rise projections, combined with a clear articulation of the implications of uncertainty and the decision support needs of affected stakeholders, is the most appropriate approach for use in a policy setting.

The OPC Scientific Working Group utilized a comprehensive probability approach based on Kopp et al. (2014) that estimates both a comprehensive probability distribution and the likelihood of extreme ‘tail’ outcomes. It is important to note that probabilistic projections do not provide probabilities of occurrence of sea level rise, but rather probabilities that the ensemble of climate models used to estimate contributions of sea level rise (from thermal expansion, ice sheet loss, oceanographic conditions etc.) will predict a certain amount of sea level rise.

Note that the probabilistic projections do not consider the H++ extreme ice loss scenario. The extreme ice loss studies were not included in the inputs to the model ensemble, which means the probability distributions may be an underestimate.¹⁰

6. *Current greenhouse gas emissions policy decisions are shaping our coastal future.* Before 2050, differences in SLR projections under different emissions scenarios are minor. After 2050, SLR projections increasingly depend on the trajectory of greenhouse

¹⁰ The 4th California Climate Assessment developed projections that present a broader range of SLR estimates than the Rising Seas science report and the 2018 OPC SLR Guidance. Both programs’ projections are based on estimates of contributions to SLR from primary sources using different methods, including model projections and expert input. However, the 4th Assessment incorporates the findings from the recent studies regarding the potential for rapid loss of Antarctic ice sheets (which results in the H++ scenario of about 10ft. of SLR by 2100) into its probabilistic projections whereas the OPC reports do NOT include this possibility in the probabilistic projections, as explained above.

gas emissions. If greenhouse gas emissions are not curtailed worldwide, we will see significantly higher rates of sea level rise during the second half of the century.

7. *Waiting for scientific certainty is neither a safe nor prudent option.* Taking action today to assess vulnerabilities and identify and implement adaptation strategies will prevent much greater losses than will occur if action is not taken. Taking a precautionary approach that considers high and extreme scenarios is critical for safeguarding the people and resources of coastal California.

This scientific information was incorporated into OPC's *State Sea-Level Rise Guidance: 2018 Update*. The OPC Guidance includes projection tables for 12 tide gauges along the California coast for each decade from 2030 to 2150. OPC further recommends utilizing three different projection scenarios to guide planning, permitting, investment, and other decisions based on the type of project, its ability to cope with or adapt to sea level rise, and the consequences to the environment and the project associated with sea level rise. The projection table for the San Francisco tide gauge is provided below ([Table A-1](#)), and tables for other California tide gauges are presented in [Appendix G](#). The 2018 OPC SLR Guidance (along with the foundational Rising Seas science report) is currently considered best available science on sea level rise for the State of California.

The Coastal Commission recommends that the low, medium-high, and extreme risk aversion scenarios from the OPC 2018 Sea-Level Rise Guidance be considered in all relevant local coastal planning and coastal development permitting decisions.

Table A-1. Sea Level Rise Projections for the San Francisco Tide Gauge¹¹ (OPC 2018)

Projected Sea Level Rise (in feet): San Francisco			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.8	1.0
2040	0.8	1.3	1.8
2050	1.1	1.9	2.7
2060	1.5	2.6	3.9
2070	1.9	3.5	5.2
2080	2.4	4.5	6.6
2090	2.9	5.6	8.3
2100	3.4	6.9	10.2
2110*	3.5	7.3	11.9
2120	4.1	8.6	14.2
2130	4.6	10.0	16.6
2140	5.2	11.4	19.1
2150	5.8	13.0	21.9

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹¹ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

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Appendix B

Developing Local Hazard Conditions Based on Regional or Local Sea Level Rise Using Best Available Science

This Appendix provides technical information regarding how to determine local hazard conditions for sea level rise planning efforts. This process is described more broadly as Steps 1-3 in Chapters 5 and 6 in this document, and includes determining a range of sea level rise projections and analyzing the physical effects and possible resource impacts of sea level rise hazards.

Water level varies locally, so this analysis must be performed on a regional or site specific basis, and applicants and planners should prioritize obtaining data or conducting research at the correct geographical scale. The 2018 OPC Sea-Level Rise Guidance is considered the best available science on California's regional sea level rise, and the Commission recommends using it when sea level rise projections are needed. Equivalent resources may be used by local governments and applicants provided that the resource is peer-reviewed, widely accepted within the scientific community, and locally relevant.⁹⁷

Much of the research by the Intergovernmental Panel on Climate Change (IPCC) and others has focused on global and regional changes to mean sea level. However, the coast is formed and changed by local water and land conditions. Local tidal range influences where beaches, wetlands and estuaries will establish; waves and currents are major drivers of shoreline change; and storms and storm waves are often the major factors causing damage to coastal development. It is local conditions that influence beach accretion and erosion, storm damage, bluff retreat, and wetland function.

Local water levels along the coast are affected by local land uplift or subsidence, tides, waves, storm waves, atmospheric forcing, surge, basin-wide oscillations, and tsunamis. Some of these factors, such as tides and waves, are ever-present and result in ever-changing shifts in the local water level. Other drivers, such as storms, tsunamis, or co-seismic uplift or subsidence, are episodic but can have important influences on water level when they occur. The following section discusses these factors in the context of sea level rise and how to incorporate them into planning and project analysis.

In most situations, high water will be the main project or planning concern. For wetlands, the intertidal zone between low and high tides will be of concern, while in some special situations, such as for intake structures, low water might be the main concern. In situations where low water is the concern, current low water is likely to be the low water planning condition and there may be no need to factor future sea level rise into those project or planning situations. In most other situations, hazards analyses will need to account for sea level rise. The following box identifies some of the key situations in which it may be important for coastal managers and applicants to consider sea level rise during project review.

⁹⁷ This appendix is written in such a way that it complements the materials from the 2012 NRC Report and the 2018 OPC SLR Guidance, which is currently considered the best available science on sea level rise in California. As new reports are issued in the future, Commission staff will assess whether they should be considered the best available science and update the approaches or terminology in this Appendix accordingly.

General situations needing sea level rise analysis include when the project or planning site is:

- Currently in or adjacent to an identified floodplain
- Currently or has been exposed to flooding or erosion from waves or tides
- Currently in a location protected from flooding by constructed dikes, levees, bulkheads, or other flood-control or protective structures
- On or close to a beach, estuary, lagoon, or wetland
- On a coastal bluff with historic evidence of erosion
- Reliant upon shallow wells for water supply

For situations where future sea level conditions will be important for the analyses of hazards or resource impacts, the following sections are provided as guidance for determining local hazards. [Figure B-1](#) shows the general progression for going from global sea level projections to the possible consequences or impacts that can result from local water levels.

The following information provides guidance on using temporally- and regionally-appropriate sea level rise projections to determine future tidal elevations and inundation, future still water, future shoreline change and erosion, potential flooding, wave impacts and wave runup, and flooding from extreme events⁹⁸.

Most of these analyses must occur sequentially. Sea level rise is used to determine changes in tidal conditions, and tidal conditions are combined with future surge, El Niño Southern Oscillation (ENSO) events, and Pacific Decadal Oscillations (PDOs) to estimate local still water. Changes in the frequencies of still water levels will in turn affect erosion rates, and the amount of erosion will affect future wave impacts, runup and flooding.

To be consistent with other sections, these different efforts are presented as Steps, with a discussion of how to accomplish each and the expected outcome. Depending upon the planning or project concerns and required analysis, it may not be necessary to proceed step-by-step and readers should use their judgment as to which items are relevant to their concerns. For example, if the concern is about runup on a non-erosive slope due to an increase in the still water level of 5.5 ft (1.7 m), the guidance on wave runup analysis may be all that is necessary.

⁹⁸ Importantly, the 2018 OPC SLR Guidance includes projections tables for 12 tide gauges throughout California, and for every 10 years from 2030 to 2150. As such, adjusting the projections to account for more localized conditions or specific years is likely unnecessary. This is a change from the 2012 NRC report, which included projections for north and south of Cape Mendocino and for only three time periods. Thus, sections within this Appendix that pertained to developing temporally- and spatially-adjusted projections (including mathematic interpolation methods) have largely been removed in the 2018 update.

- Step 1 – Develop temporally- and spatially-appropriate sea level rise projections
- Step 2 – Determine tidal range and future inundation
- Step 3 – Determine still water level changes from surge, El Niño events and PDOs
- Step 4 – Estimate beach, bluff, and dune change from erosion
- Step 5 – Determine wave, storm wave, wave runup, and flooding conditions
- Step 6 – Examine potential flooding from extreme events

A Note on Hydrodynamic Models versus “Bathtub Fill” Models

It is important to be aware of the differences between a so-called “bathtub fill” model and hydrodynamic models, and the related pros and cons of each for analysis of sea level rise impacts. In general, “bathtub fill” refers to those models that analyze flooding or inundation based solely on elevation. In other words, if sea level is projected to rise 3 ft (1 m), thereby increasing flooding/inundation from a current elevation of +10 ft (3 m) to +13 ft (4 m), these models will, in general, flood everything below the +13 ft (4m) elevation. The modeling does not take into consideration whether the new flood areas are connected to the ocean, nor does it consider how the changes to the water level will change wave propagation or overtopping of flood barriers. This is a significant oversimplification of the processes involved in flooding, but it provides value in allowing individuals to gain a broad view of the general areas that could be impacted by sea level rise without requiring a great deal of technical information.

Conversely, hydrodynamic modeling takes into account the details of local development patterns and the characteristics of waves and storms, and can therefore provide a much better understanding of local sea level rise impacts than is possible from “bathtub fill” models. In particular, hydrodynamic models take into account factors that alter flooding and inundation patterns and impacts. Such factors may include the extent and orientation of development – for example, roadways and linear features that tend to channelize water flows, and buildings or flood barriers that can block and divert flows – as well as the conditions that contribute to flooding and inundation, such as wave conditions, flow velocities, the extent of overtopping, and so on. Although the initial development of the modeling grid that is used to depict the community development patterns can be quite time-consuming to create and the model output will change with differing grid designs (Schubert and Sanders 2012), once the grid is developed, hydrodynamic modeling can be used to better characterize areas of flooding and to distinguish areas of concentrated flooding from those areas that may experience small amounts of flooding only during peak conditions (Gallien *et al.* 2011, 2012).

Significantly, many of the analyses described in this Appendix are the kinds of analyses that go beyond “bathtub fill” modeling to include the hydrodynamic factors that help to specify the more location-specific impacts for which planners should prepare.

From Global Sea-Level Rise to Local Consequences

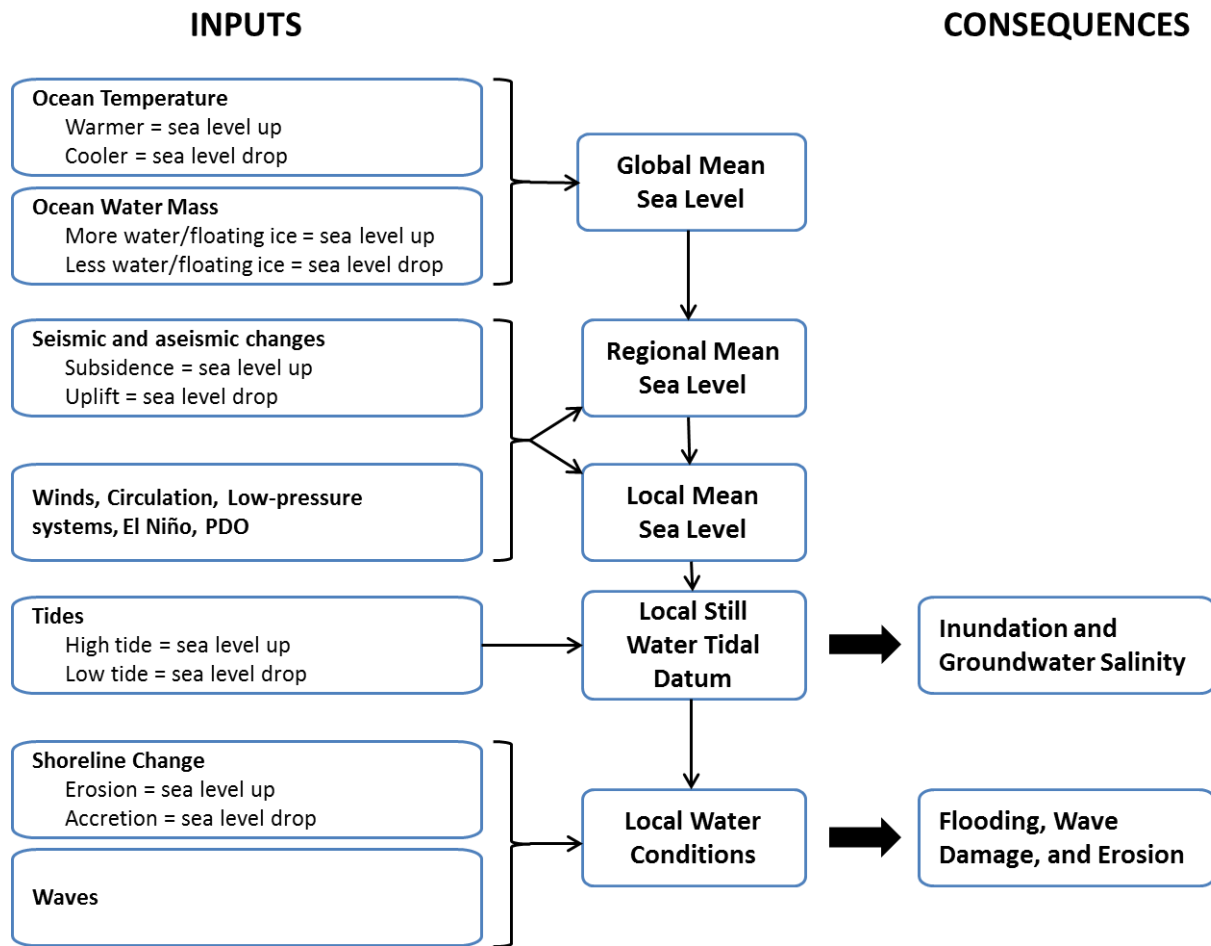


Figure B-1. General process for translating global sea level rise to local consequences

Step 1 – Develop temporally- and spatially-appropriate sea level rise projections

a. Identify the nearest tide gauge

The 2018 OPC Sea-Level Rise Guidance contains projection tables for 12 tide gauges along the California coast in order to account for localized trends in relative sea level rise, related mainly to different rates of vertical land motion. The 12 tide gauges are mapped in Appendix 2 of the OPC Guidance (and copied in [Appendix G](#) here). OPC directs users to identify the nearest tide gauge to the project or planning site and to use the associated projection table in planning and permitting. In some cases it may be appropriate to interpolate between two tide gauges (if the project site is equidistant between tide gauges) or to use more locally-specific scientific data, if available. In many cases, though, the differences among projections (either between two tide gauges or from more localized data) are likely to be small, and therefore may be insignificant compared to overall uncertainty in modeling and/or future greenhouse gas emissions scenarios.

b. Determine appropriate planning horizon or expected project life and identify relevant sea level rise projections

The first step in a sea level rise analysis is to determine the appropriate planning horizon based on the expected life of the project. The longer the life of a project or planning horizon, the greater the amount of sea level rise the project or planning area will experience.

Local governments should select their planning horizons to evaluate a broad range of planning concerns. Planning horizons could address the 20-year time period that is typical for *General Plan* updates as well as the long-range planning that is necessary for infrastructure and new development. The 20-year planning horizon may help identify areas within the coastal zone that are now or will soon be vulnerable to sea level rise related hazards as an aid for focusing adaptation planning on the areas of greatest need. Local Coastal Program (LCP) planning will likely use multiple planning horizons and undertake hazards analyses for multiple time periods, multiple sea level rise projections, or both.

At the project level, the LCP may provide insight into the time period that should be considered for the expected project life. At present, LCPs typically provide only a single standard (if any) for the expected life of a structure or development, such as 50, 75, or 100 years. Future LCPs and LCP Amendments (LCPAs) may find it useful to provide greater guidance on expected project life, with differentiations among major development or use classifications. For example, a general range may be chosen based on the type of development such that temporary structures, ancillary development, amenity structures, or moveable or expendable construction should identify a relatively short expected life of 25 years or less. Residential or commercial structures, which will be around longer, should choose a time frame of 75 to 100 years to consider. A longer time frame of 100 years or more should be considered for critical infrastructure like bridges or industrial facilities or for resource protection or enhancement projects that are typically meant to last in perpetuity.

For projects with long lead times, the analysis of impacts from sea level rise should use the projections for the time period when the development will be in use, rather than the current

period because the trajectory of future sea level rise is not expected to be linear. For example, a project built today will experience less sea level rise over a 50-year lifetime (about 1.9 feet under the “medium-high risk aversion” scenario at the San Francisco tide gauge) than the same project if it were built in the year 2050 (about 5 feet under the “medium-high risk aversion” scenario at the San Francisco tide gauge). Thus, it is important to understand the anticipated project life of a structure and the associated planning horizon before starting an analysis for sea level rise concerns.

As explained in Chapters [5](#) and [6](#), the point of this step is not to specify exactly how long a project will exist (and be permitted for), but rather to identify a project life timeframe that is typical for the type of development in question so that the hazard analyses performed in subsequent steps will adequately consider the impacts that may occur over the entire life of the development.

Once the appropriate planning/project horizon has been identified, the associated projection for that time period can be identified using the projection tables from the 2018 OPC SLR Guidance. These tables include projections for each decade from 2030 to 2150.

As explained elsewhere in this Guidance, project characteristics (including its ability to withstand or adapt to different sea level rise amounts and the consequences associated with underestimating the amount of sea level rise that occurs) should guide users in choosing which scenario to assess for a particular planning horizon. As general guidance, the Coastal Commission continues to recommend that planners or project applicants take a precautionary approach by evaluating higher sea level rise amounts (for example, the medium-high risk aversion scenario for most development, or the extreme risk aversion scenario for critical infrastructure).

Step 2 – Determine tidal range and future inundation

One of the most basic examinations of changing sea level conditions has been to determine the new intersection of mean sea level or other tidal datums⁹⁹ with the shoreline. This is a basic “bathtub” analysis since it looks only at the expansion of areas that will be inundated (*i.e.*, regularly submerged under water) or subject to tidal or wave action. For example, future subtidal levels would be the current subtidal limit plus projected regional mean sea level rise. Future intertidal zones would be bounded by the future higher high tide level (current higher high water plus projected regional sea level rise) and future lower low tide levels (current lower low water plus projected regional sea level rise).¹⁰⁰ For some projects, such as wetland restoration, the identification of future inundation zones may be the only sea level analysis needed for project evaluation. However, if the shoreline is eroding, the location of this elevation would need to also incorporate the rate of erosion. So, if the shoreline is expected to erode due to increased wave attack, not only will the intertidal zone move up in elevation, it will be both higher than and inland of the current zone.

Future Water Elevation = Current Tidal Datum + Projected Sea Level Rise

OR

Future Water Location = Intersection of Future Water Elevation with Future Shore Location

Future water location will extend to the new inundation elevation on the future shoreline. On beaches with a gradual slope, this can move the inundation location significantly inland, based on the geometric conditions of the beach. (This type of analysis is often called the Bruun Rule). On a stable beach with a slope of 1:X (Vertical:Horizontal), every foot of vertical sea level rise will move the inundation area horizontally X feet inland. For a typical 1:60 beach, every foot of sea level would move the inundation zone inland by 60 ft. If the beach is eroding, the loss due to erosion will add to the loss resulting from inundation.

[Figure B-2](#) shows the influence of tides and sea level rise on low-wave energy beaches. [Table B-1](#) provides some useful resources for inundation studies. Local Tidal Elevations are available from tide gauges maintained by NOAA. Where there are no nearby gauges, NOAA recommends the VDatum software.

⁹⁹ Tidal datums are based on the latest National Tidal Datum Epoch (NTDE) published by NOAA and are the mean of the observed sea levels over a 19-year period. The latest published epoch is 1983-2001. This tidal epoch can be considered equivalent to the year 2000 baseline for the [OPC](#) projections.

¹⁰⁰ Historical trends of high and low tide have changed differently than mean sea level (Flick *et al.* 2003). Based on historical trends, the changes to various tidal elements are likely to track closely with, but not identically with, changes to mean sea level. The future variability of changes to the tidal components, compared with changes to mean sea level will normally fall within the uncertainty for sea level rise projections and can be disregarded in almost all situations. As this phenomenon of tidal change is better understood and can be modeled, it may be appropriate in the future to include the changes in tidal components into the analysis of inundation and various water level projections.

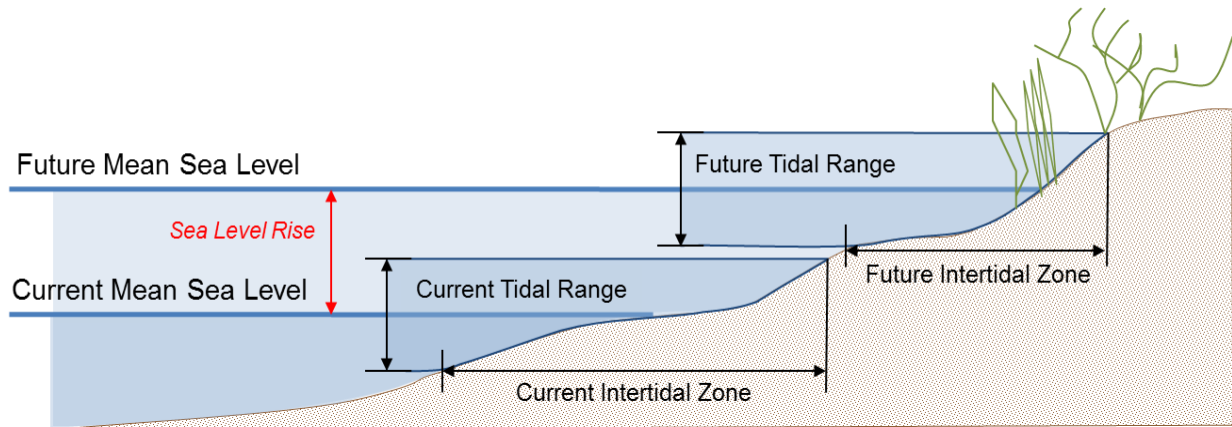


Figure B-2. Sea level rise and changes to tide range and intertidal zone. (Source: L. Ewing, 2013).

Table B-1. General Resources for Inundation Studies

Resource	Description	Link
Aerial Photographs	Useful for general information on shoreline trends; ortho-rectified photos can help quantify trends.	California Coastal Records Project, www.californiacoastline.org ; Huntington Library; Local Libraries
LIDAR	Fairly detailed topography providing GIS layers for current conditions and comparable with LIDAR data sets for temporal changes.	NOAA Digital Coast, http://coast.noaa.gov/digitalcoast/data/coastallidar
Topographic Maps	Useful for basemaps to overlay site changes; often not at a scale to distinguish small changes in inundation or tidal action.	USGS Map Center, http://www.usgs.gov/pubprod/maps.html
NOAA Sea Level Rise and Coastal Flooding Impacts Viewer	Useful to show changes in water level location if there are no changes in the land due to erosion.	NOAA Digital Coast, https://coast.noaa.gov/digitalcoast/tools/slr.html
NOAA Tidal Data	Measured and predicted tidal components for locations along the open coast and in bays.	NOAA Center for Operational Oceanographic Products and Services, http://tidesandcurrents.noaa.gov/
NOAA Technical Report NOS 2010-01: Technical Considerations for use of Geospatial Data in Sea Level Change Mapping and Assessment	Provides technical guidance to agencies, practitioners, and decision makers seeking to use geospatial data to assist with sea level change assessments.	NOAA National Ocean Service http://www.tidesandcurrents.noaa.gov/publications/tech_rpt_57.pdf

VDatum Software	A Vertical Datum Transformation program that allows users to transform geospatial data among various geoidal, ellipsoidal and tidal vertical datums.	NOAA National Ocean Service, https://vdatum.noaa.gov/
Cal-Adapt – Exploring California’s Climate	Represents inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting from different increments of sea level rise coupled with extreme storm events. Incorporates real, time series water level data from past (near 100 year) storm events to capture the dynamic effect of storm surges in modeling inundation using a three dimensional hydrodynamic model (per Radke et al., 2017).	http://cal-adapt.org/tools/slr-calflod-3d/
Estimating Sea Level for Project Initiation Documents	Provides guidance on converting tidal datums and predicting future sea levels.	Caltrans Office of Land Surveys, http://www.dot.ca.gov/hq/row/landsurveys/SurveysManual/Estimating_Sea_Level_v1.pdf

Outcome from Step 2: Provide information on the projected changes to the tidal range and future zones of inundation. For locations without any influence from erosion, storm surge, or wave energy, the identification of new inundation areas may be sufficient for project analysis and planning efforts. This projected new inundation area may also be useful for anticipating the likely migration of wetlands and low-energy water areas or as input for analysis of changes to groundwater salinity. For most open coast situations, this information will be used to inform further project planning and analysis that examines erosion, surge and storm wave conditions.

Step 3 – Determine still water changes from surge, El Niño events, and PDOs

Estimates of surge, El Niño, and PDO water elevation changes are developed primarily from historical records. There are no state-wide resources for this information, although it may be included in some Regional Sediment Management Plan studies. General guidance on water level changes that can be expected from surge, El Niño events, and PDOs is provided in [Table B-2](#).

The remaining discussion provides general information on some of these phenomena. It is provided to acquaint readers to the main issues associated with each phenomenon. Readers with a strong background in ocean-atmospheric conditions may want to skim or skip the rest of this section.

The Pacific Ocean is a complex system. Sea level in the Pacific Ocean responds to multiple oceanic and atmospheric forcing phenomena, occurring with different intensities and at different temporal and spatial scales. Some phenomena may reinforce each other, while others may act in opposition, reducing the net effect. Scientists and researchers are attempting to identify the various signals from the multiple phenomena, but these are nascent sciences and there is still much we need to learn.

Regional water levels can be influenced by surge as well as by high and low pressure systems. Surge is a short-term change in water elevation due to high wind, low atmospheric pressure, or both. It is most often associated with East Coast and Gulf Coast hurricanes that can cause up to 15 or 20 ft (4-6 m) or more of short-term water level rise over many miles of the coast. Along the West Coast, storm surge tends to be much smaller, and is rarely a coastal hazard, except in enclosed bays. In southern California, it rarely exceeds 1 ft (0.3 m) and in central California, it rarely exceeds 2 ft (0.6 m). Surge becomes a concern as one of several cumulative factors that cause a temporary rise in sea level. Each rise may be small, but when surge occurs during high tides and/or in combination with storms, it increases the threat of coastal flooding, wave impacts, and erosion.

Two of the more recognized phenomena that affect water temperature in the Pacific are the El Niño-Southern Oscillation (ENSO) and the Pacific Decadal Oscillation (PDO). ENSO cycles, which occur on inter-annual timescales (approximately 2-7 years), not only involve ocean-basin-spanning changes in sea surface temperature (SST) and in the depth of the mixed layer in the Equatorial Pacific, but also drive changes in ocean conditions and atmospheric circulation at higher latitudes. El Niño events result in the transfer of warm surface waters into the normally cool eastern equatorial Pacific, resulting in elevated SST and water levels along much of the west coast of the Americas. El Niños also tend to increase the strength and frequency of winter low pressure systems in the North Pacific. These events can persist for months or years at a time, and strongly influence local and regional sea level. For example, the pulse of warm water from the large 1982-83 El Niño caused water levels along California to be elevated by approximately 0.4-0.7 ft (0.12-0.21 m) for many months, with short-term water elevation peaks up to approximately 1 ft (0.3 m; Flick 1998). The opposite phase of ENSO, characterized by unusually cool SSTs and lower water elevations along the eastern Pacific margin, are called La Niña events. Between El Niños and La Niñas are periods of neutral SST and water elevation changes.

The PDO is an ENSO-like pattern of SST and atmospheric variability occurring over multiple decades. In contrast to ENSO, the PDO is more strongly expressed in the North Pacific than in the tropics. The positive or warm phase of the PDO is associated with unusually warm surface water throughout the eastern North Pacific (along the western US coast), while the negative or cool phase PDO is associated with colder than normal waters. As with the ENSO effects, the warm phase PDO has tended to cause elevated sea levels in the eastern Pacific and along the California coast, while the cool phase of the PDO tends to lower sea level in this region.

The PDO has basin-wide influence. Elevated water levels in one part of the Pacific are often accompanied by lowered water levels elsewhere. The cool phase PDO can result in a drop of water level along the eastern Pacific (western US Coast) and a rise in water level along the western Pacific. Recently, sea level along the western Pacific has been rising about three times

faster than the global mean sea level rise rate, due in part to the PDO (Bromirski *et al.* 2011; Merrifield 2011). This does not mean the eastern Pacific will experience sea level rise that is three times faster than the global mean sea level rise when there is the next shift in the PDO, but does show that the PDO can have a major influence on basin-wide and regional sea level. The above discussion of El Niño and the PDO may suggest that they are well-understood phenomena, with easily anticipated changes in sea level. However, it is important to note that El Niños have varying strengths and intensities, resulting in different sea changes from one event to the next. Also, changes in regional mean sea level along the eastern Pacific have not always shown a strong connection to the PDO cycles. An apparent jump in regional mean sea level occurred after the mid-1970s shift to the warm phase of the PDO, yet the expected continued rise in sea level along the West Coast seems to have been suppressed by other forces. Tide gauge records for the Washington, Oregon, and California coasts have shown no significant inter-annual rise in sea level from 1983 to 2011 (Cayan *et al.* 2008; Bromirski *et al.* 2011; NOAA 2013). Bromirski *et al.* (2011, 2012) postulate that persistent alongshore winds have caused an extended period of offshore upwelling that has both drawn coastal waters offshore and replaced warm surface waters with cooler deep ocean water. Both of these factors could have caused a drop in sea level, canceling out the sea rise that would otherwise be expected from a warm phase PDO signal.

Water level changes from surge, atmospheric forcing, El Niño events and the PDO can occur in combination. The water elevation changes from each factor may be only about 1 ft (0.3 m) or less, but each can cause changes in the water level over a time period of days, months, or a few years – far more rapidly than sea level rise. In combination, they can potentially cause a significant localized increase in water level.

When high water conditions occur in combination with high tides, and with coastal storms, the threat of coastal flooding, wave impacts and erosion also increases. These conditions can be additive, as shown in [Figure B-3](#). Also, these changes in water level will continue to be important to the overall water level conditions along the California coast and they need to be examined in conjunction with possible changes due to regional sea level rise.

As stated earlier, estimates of surge, El Niño and PDO water elevation changes are developed primarily from historical records. There are no state-wide resources for this information, although it may be included in one of the Regional Sediment Management Plans, available for many coastal areas (see <http://www.dbw.ca.gov/csmw/>). General guidance on water level changes, surge, and El Niño events is provided in [Table B-2](#).

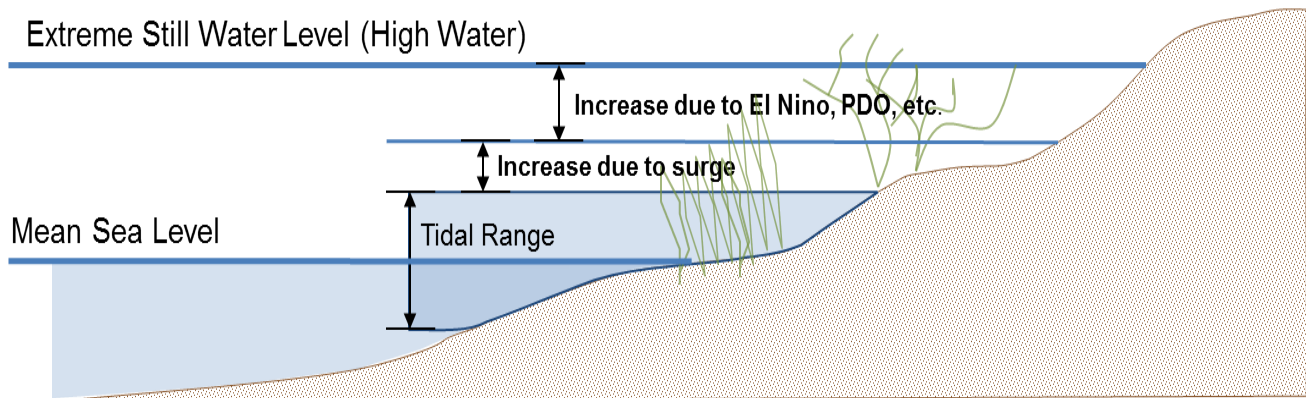


Figure B-3. Changes to extreme still water level due to surge, El Niño events, and PDOs. (Source: L. Ewing, 2013).

Table B-2. General Resources for Determining Still Water Elevation, Surge, El Niño events, and PDOs

Resource	Description	Link
NOAA Sea Level Rise and Coastal Flooding Impacts Viewer	Displays potential future sea levels within wetland areas, and provides visualizations for various amounts of sea level rise. For bays and estuaries, it also provides information on inland areas with the potential to flood if existing barriers to water connectivity are removed or overtopped. Communicates spatial uncertainty of mapped sea level rise, overlays social and economic data onto sea level rise maps, and models potential marsh migration due to sea level rise. Maps do not include any influence of beach or dune erosion.	NOAA Digital Coast, https://coast.noaa.gov/digitalcoast/tools/slr.html
Pacific Institute Sea Level Rise Maps	Downloadable PDF maps showing the coastal flood and erosion hazard zones from the 2009 study. Data are overlaid on aerial photographs and show major roads. Also available are an interactive online map and downloadable maps showing sea level rise and population and property at risk, miles of vulnerable roads and railroads, vulnerable power plants and wastewater treatment plants, and wetland migration potential.	http://www.pacinst.org/reports/sea_level_rise/maps/ For the 2009 report “The Impacts of Sea Level Rise on the California Coast” visit: http://pacinst.org/publication/the-impacts-of-sea-level-rise-on-the-california-coast/
Cal-Adapt – Exploring California’s Climate	Represents inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting from different increments of sea level rise coupled with extreme storm events. Incorporates real, time series water level data from past (near 100 year) storm events to capture the dynamic effect of	http://cal-adapt.org/tools/slr-calflod-3d/

	storm surges in modeling inundation using a three dimensional hydrodynamic model (per Radke et al., 2017).	
Regional Sediment Management Plans	Plans for regions of the state to identify how governance, outreach and technical approaches can support beneficial reuse of sediment resources within that region without causing environmental degradation or public nuisance.	http://www.dbw.ca.gov/csmw/

Outcome from Step 3: Provide estimates of water elevations that can result from surge, El Niño events, and PDOs. When combined with the sea level changes to the tidal range, developed in Step 4, these can provide information on the extreme still water level. For most open coast situations, this information will be used to inform further project analysis and planning that examines erosion, surge and storm conditions.

Step 4 – Estimate beach, bluff, and dune change from erosion

Predictions of future beach, bluff, and dune erosion are complicated by the uncertainty associated with future waves, storms and sediment supply. As a result, there is no single specific accepted method for predicting future beach erosion. At a minimum, projects should assume that there will be inundation of dry beach and that the beach will continue to experience seasonal and inter-annual changes comparable to historical amounts. When there is a range of erosion rates from historical trends, the high rate should be used to project future erosion with rising sea level conditions (unless future erosion will encounter more resistant materials, in which case lower erosion rates may be used). For beaches that have had a relatively stable long-term width, it would be prudent to also consider the potential for greater variability or even erosion as a future condition. For recent studies that provide some general guidance for including sea level rise in an evaluation of bluff and dune erosion, see, for example, Heberger *et al.* (2009) or Revell *et al.* (2011). Other approaches that recognize the influence of water levels in beach, bluff, or dune erosion can also be used. [Table B-3](#), at the end of this section, provides some resources that can be used for projecting future erosion.

The following sections discuss specific concerns associated with beach, bluff and dune erosion and are provided to acquaint readers to the main issues associated with each system. Readers with a strong background in coastal systems may want to skim or skip the rest of this section.

Beach Erosion

Beach erosion and accretion occur on an on-going basis due to regular variability in waves, currents and sand supply. The movement of sand on and off of beaches is an ongoing process. Along the California coast, periods of gradual, on-going beach change will be punctuated by rapid and dramatic changes, often during times of large waves or high streamflow events.

The overall dynamics of beach change have been described many times.¹⁰¹ Sand moves on and off shore as well as along the shore. Normal sources of sand to a beach are from rivers and streams, bluff erosion or gullies, and offshore sand sources. Sand leaves a beach by being carried downcoast by waves and currents, either into submarine canyons or to locations too far offshore for waves to move it back onto shore. Beaches are part of the larger-scale sediment dynamics of the littoral cell, and in very simple terms, beaches accrete if more sand comes onto the beach than leaves and beaches erode if more sand leaves than is added. Changes in sand supply are a major aspect of beach change.

Beach changes are often classified as being either seasonal or long-term/inter-annual changes. Seasonal changes are the shifts in beach width that tend to occur throughout the year and are usually reversible. During late fall and winter, beaches tend to become narrower as more high energy waves carry sand away from the beach and deposit it in offshore bars. This is later followed by beach widening as gentler waves again bring sand landward, building up a wider dry-sand summer beach. These changes are considered seasonal changes, and if the beach widths return to the same seasonal width each year, then the beach experiences seasonal changes but no long-term or inter-annual changes. If the seasonal beach widths become progressively wider or narrower, these changes become long-term or inter-annual change, and suggest a long-term beach change trend – accretion if the beach is widening and erosion if the beach is narrowing.

If development is at or near beach level, erosion of the beach can expose the development to damage from waves, flooding, and foundation scour. Additionally, waves that hit the coast bring with them vegetation, floating debris, sand, cobbles, and other material which can act like projectiles, adding to the wave forces and flood damage.

At present, approximately 66% of the California beaches have experienced erosion over the last few decades, with the main concentration of eroding beaches occurring in southern California (Hapke *et al.* 2006). This erosion has been due to a combination of diminished sand supplies and increased removal of sand by waves and currents. With rising sea level, beach erosion is likely to increase due to both increased wave energy¹⁰² that can carry sand offshore or away from the beach, and to decreased supply of new sediments to the coast.¹⁰³

There are several factors that will contribute to the effects of sea level rise on seasonal and inter-annual beach change. There will be the changes to the beach due to inundation by rising water levels, as shown in [Figure B-4](#) (see the discussion on inundation earlier in this Appendix for more information on how to determine this change). If the beach cannot migrate inland to accommodate these changes, then the inundation will result in a direct loss or erosion of beach width. This will result in a narrower seasonal beach as well as inter-annual loss of beach.

¹⁰¹ See for example, Bascom 1980, Komar 1998, and Griggs *et al.* 2005.

¹⁰² In shallow water, wave energy is proportional to the square of the water depth. As water depths increase with sea level rise, wave energy at the same location will likewise increase.

¹⁰³ Many parts of the developed coast are already experiencing drops in sand supplies due to upstream impoundments of water and sediment, more impervious surfaces, and sand mining.

Seasonal and inter-annual beach conditions will also be affected by changes to waves and sediment supply. Since waves are sensitive to bottom bathymetry, changes in sea level may change the diffraction and refraction of waves as they approach the coast, thereby changing the resulting mixture of beach-accreting and beach-eroding waves. However, the influence of climate change (not just rising sea level) on wave conditions, through changes in wave height, wave direction, storm frequency, and storm intensity, will likely be far more significant than the slight changes from bathymetric changes. In addition, changing precipitation patterns will modify the amount and timing of sediment delivery to the beach.

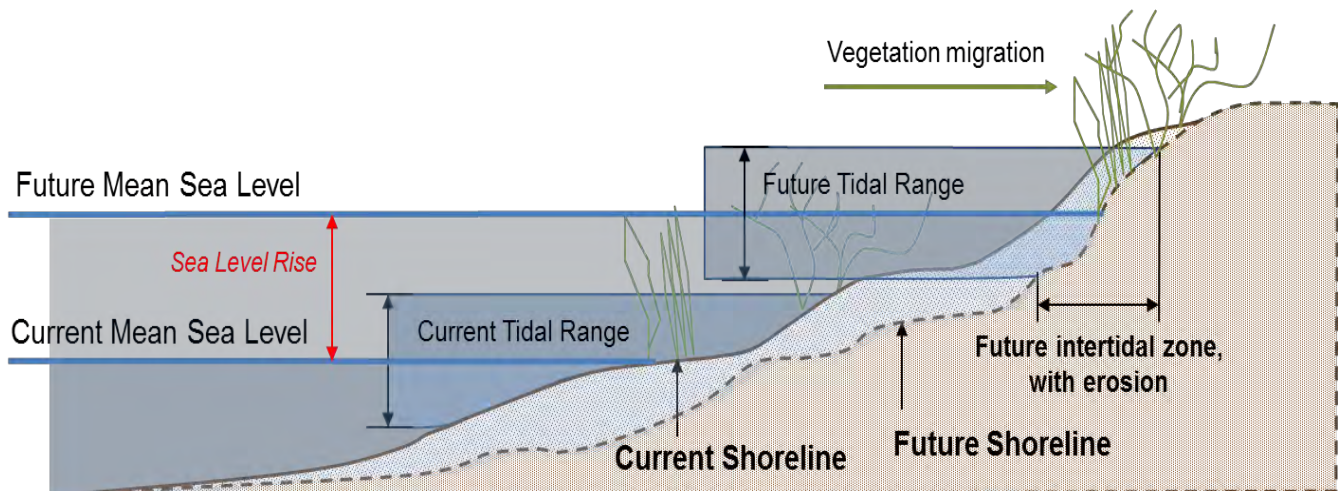


Figure B-4. Changes to the intertidal zone with sea level rise and erosion, without wave impacts. (Source: L. Ewing, 2013).

Bluff Erosion

A second type of erosion occurs on coastal bluffs.¹⁰⁴ There is no fully-accepted methodology for estimating future bluff erosion with sea level rise. Guidance for coastal analysts in Hawaii is to assume erosion will increase as a proportion of historical erosion (Hwang 2005). One approach used in the past by the Commission has been to apply one of the higher rates of historical erosion to represent average future trends. A more process-based methodology, used in the Pacific Institute study of erosion due to rising sea level, is to correlate future erosion rates of bluffs with a higher still water level that will allow waves to attack the bluff more frequently (Heberger *et al.* 2009; Revell *et al.* 2011). This approach assumes that all bluff erosion is due to wave impacts and that erosion rates will change over time as the beach or bluff experiences more frequent or more intense wave attack. Such an approach should be considered for examining bluff erosion with rising sea level. Other approaches that recognize the influence of water levels in beach, bluff, or dune erosion can also be used.

¹⁰⁴ Bluffs can be built or expanded during interglacial cycles or following seismic uplift. Many of the marine terraces that are visible along the California coast are remnants of past beach areas that have been uplifted to become bluffs and cliffs. However, natural bluff rebuilding is a millennial or multi-millennial process, and it will not occur during the time periods over which most development projects are evaluated.

Bluff retreat occurs via many different mechanisms. Landslides, slumps, block failures, gullies, and rilling are examples of bluff retreat. At the most basic level, bluff retreat or collapse occurs when the forces leading to collapse of the bluff face are stronger than the forces holding the bluff in place. Forces causing bluff retreat can include earthquakes, wind, burrowing animals, gravity, rain, surface runoff, groundwater, and sheet flow. Coastal bluffs have the added factor of wave attack. Resistance to collapse is mainly a characteristic of the bluff material. For example, granitic bluffs like those along the Big Sur coast retreat at a much slower rate than the soft sandstone and marine terrace bluffs of Pacifica.

Coastal bluff erosion can occur throughout the year, but it often occurs during or after storm periods, when the dry beach will be narrow or non-existent. When coastal bluffs are fronted by wide sand beaches, most waves break on the beach face and the beaches protect the bluffs from direct wave attack. When the beach is narrow, there is less buffering of the wave energy and waves can break directly against the bluffs. A general depiction of bluff retreat with rising sea level is provided in [Figure B-5](#).

Bluff retreat is often episodic – the bluff may be stable for a number of years and then retreat by tens of feet in a few hours or a few days. If the changes to a bluff are examined through endpoint analysis (*i.e.*, looking first at the initial position of the bluff and then at the position of the bluff sometime in the future), researchers can determine the amount of retreat that has occurred during the time from the initial to final positions. This gives information on an average retreat rate that has occurred, but provides no insight about the conditions leading to the retreat, the size of retreat, frequency of retreat events, or the progression of retreat and no retreat. The average retreat rates can give some indication of likely future changes, but they provide little information about when the next retreat episode might occur or how large it might be.

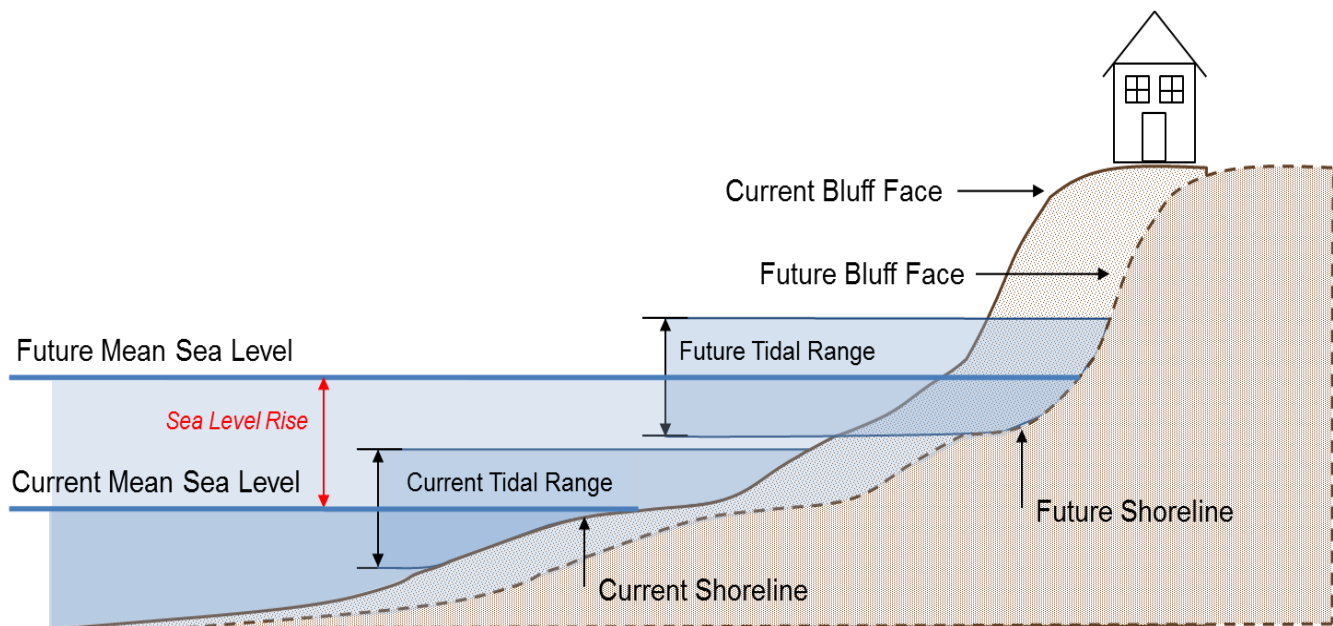


Figure B-5. Bluff erosion with changes in sea level. (Source: L. Ewing, 2013).

Dune Erosion

Just as there is no fully-accepted methodology for estimating changes to beach or bluff erosion with sea level rise, there is no fully-accepted methodology for dune erosion. A methodology somewhat similar to that for bluff erosion has been developed for dunes (Heberger *et al.* 2009; Revell *et al.* 2011), and such an approach should be considered for examining dune erosion with rising sea level. Other approaches that recognize the influence of water levels in beach, bluff, or dune erosion may also be used.

Dune erosion occurs when the waves break at or near the dunes, pulling sediment out of the dune. This process deposits sand onto the beach or in the nearshore area, but can result in short-term dune retreat. If sand is not returned to the dunes following these periods of short-term retreat, the sand losses will contribute to long-term dune erosion. Damage will occur to development located on dunes when the dune retreats back to the location of development, either through reversible, short-term retreat or long-term erosion.

For individual cases, determinations of future retreat risk are based on the site-specific conditions and professional analysis and judgment. However, the lack of information about the contributions of all the erosive forces to dunes and the beach-dune interactions makes it challenging to anticipate future changes to coastal dune retreat due to rising sea level and increased wave forces. As with beaches and bluffs for most situations, historical conditions provide a lower limit for future dune *retreat*, or the upper limit of dune *advance* for those sites that are now experiencing accretion or quasi-stability. Projections of future erosion should either: 1) use the high range of historical erosion; 2) develop a sea level rise influenced erosion rate, as done by Heberger *et al.* (2009) or Revell *et al.* (2011); or, 3) develop another approach that considers shoreline changes that are likely to occur under rising sea level conditions.

Table B-3. General Resources for Information on Beach, Bluff and Dune Erosion

Resource	Description	Link
Aerial Photographs	Useful for general information on shoreline trends; ortho-rectified photos can help quantify trends.	California Coastal Records Project, www.californiacoastline.org ; Huntington Library; Local Libraries
LIDAR	Fairly detailed topography that can provide GIS layers for current conditions and is comparable with LIDAR data sets for temporal changes.	NOAA's Digital Coast, http://coast.noaa.gov/digitalcoast/data/coastallidar
USGS National Assessment of Shoreline Change with GIS Compilation of Vector Shorelines	Statewide inter-annual beach and bluff erosion; GIS shorelines available for sandy shorelines & cliff edge, showing historical changes for long-term (70 to 100 years) and short-term (25 to 50 years). No projections of future erosion rates available.	Sandy Shorelines – Open File Report 2006-1219, http://pubs.usgs.gov/of/2006/1219 , and GIS Data in Open File 2006-1251, http://pubs.usgs.gov/of/2006/1251 ; Bluff Shorelines – Open File Report 2007-1133, http://pubs.usgs.gov/of/2007/1133 , and GIS Data in Open File 2007-1251, http://pubs.usgs.gov/of/2007/1112

Regional Sediment Management Studies	Summaries of seasonal and long-term erosion studies	CSMW Website, http://dbw.ca.gov/csmw/default.aspx ; California Beach Erosion Assessment Survey, http://dbw.ca.gov/csmw/library.aspx
US Army Corps of Engineers, Coast of California Studies	Summaries of seasonal and long-term erosion studies	Studies for many regions are available through an internet search (addresses are too numerous to list here)
Beach Profiles and Surveys	Detailed beach or bluff changes with time	NOAA’s Digital Coast, https://coast.noaa.gov/digitalcoast/tools/ US Army Corps of Engineers; Regional Beach Studies; University Studies
The Impacts of Sea Level Rise on the California Coast (Pacific Institute Report)	Expected changes to bluff position over time for sea level rise of 4.6 ft (1.4 m) from 2000 to 2100 for California coast from Oregon border through Santa Barbara County.	Pacific Institute Website, http://www.pacinst.org/reports/sea_level_rise/maps/
CoSMoS	Currently available for Point Arena to the Mexico border, with a statewide expansion anticipated in 2018/2019. The Coastal Storm Modeling System (CoSMoS) is a dynamic modeling approach that allows detailed predictions of coastal flooding due to both future sea level rise and storms, and integrated with long-term coastal evolution (i.e., beach changes and cliff/bluff retreat)	https://walrus.wr.usgs.gov/coastal_processes/cosmos/ http://data.pointblue.org/apps/ocof/cms/
TNC Coastal Resilience	An online mapping tool showing potential impacts from sea level rise and coastal hazards designed to help communities develop and implement solutions that incorporate ecosystem-based adaptation approaches. Available statewide with more detailed modelling for Monterey Bay, Santa Barbara, Ventura, and Santa Monica.	http://maps.coastalresilience.org/california/

***Outcome from Step 4:** Provide projections of future long-term beach, bluff or dune erosion that takes into account sea level rise. For locations without any influence from storm surge, or wave energy, the identification of the extent of beach, bluff or dune erosion may be sufficient for project analysis and planning efforts. This projected new erosion area may also be useful for anticipating the appropriate setback distance for otherwise stable land forms (If slope stability is a concern, refer to Commission guidance on setbacks (<http://www.coastal.ca.gov/W-11.5-2mm3.pdf>)). For most open coast situations, this information will be used to inform further project analysis and planning that examines erosion, surge and storm conditions.*

Step 5 – Determine wave, storm wave, wave runup, and flooding conditions

The main concerns with waves, storm waves, and runup are flooding and damage from wave impacts. Flooding is the temporary wetting of an area by waves, wave runup, surge, atmospheric forcing (such as water elevation during El Niño events) and, at river mouths, the combination of waves and river flows. Wave impacts occur when high-energy waves, often associated with storms, reach backshore areas or development. Coastal flooding and wave impacts are worst when they coincide with high water level events (high tide plus high inundation). As sea level rises, inundation will move inland, and so will flooding and wave impacts. Beach erosion will aggravate these conditions and add to the inland extent of impacts.

Flooding

In most situations, factors that result in high water conditions, such as tides, surge, El Niño events, and PDOs, should be used to determine flood levels and flood areas, as shown below. If the area is exposed to storm waves, these forces should be examined as well.

Future Flooding Level = Higher High Tide + Sea Level Rise + Surge + Forcing + Wave Runup

Flooding Areas = Flooding + Seasonal Eroded Beach + Long-Term Beach Erosion

Waves

Waves, like tides, cause constant changes to the water levels that are observed at the coast. The rhythmic lapping of waves on the beach during summer can be one of the joys of a beach visit. At other times of the year, waves can increase in size and energy and damage or destroy buildings, and cause erosion of bluffs and cliffs. Routine ocean waves are generated by wind blowing across the surface of the water and can travel far from their source, combining with waves generated from other locations to produce the rather erratic and choppy water levels that are seen in most of the ocean. As waves move into shallow water and approach land, they are strongly modified by the offshore bathymetry. They take on a more uniform appearance, aligning somewhat parallel to the shoreline through processes of refraction and diffraction. During most of the year, moderate short-period waves break once they are in water depths of approximately 1.3 times the wave height.

Wave impacts depend greatly upon storm activity – both the intensity and the duration of the storm. Normally projects have used design wave conditions comparable to the 100-year event. For critical infrastructure or development with a long life expectancy, it may be advisable to use a greater design standard, such as a 200-year or 500-year event. It may be suitable for some proposed projects to adjust design waves or the frequency of high energy waves to analyze the consequences of worsening wave impacts.

Waves also vary greatly with bathymetry; offshore reefs and sand bars can cause waves to break far from the coast and greatly reduce the energy of the waves that come onshore. Therefore, changes in offshore water depths can alter the nature of nearshore wave propagation and

resultant onshore waves. For areas with complex offshore bathymetry, wave impact changes due to rising sea level may need to be examined in the context of both offshore and nearshore conditions.

Wave impacts to the coast, to coastal bluff erosion and inland development, should be analyzed under the conditions most likely to cause harm. Those conditions normally occur in winter when most of the sand has moved offshore leaving only a reduced dry sand beach to dissipate wave energy (this seasonal change in beach width is often referred to as short-term or seasonal erosion). On beaches that will experience long-term erosion, trends expected to occur over the entire expected life of the development should also be considered. Just as the beach conditions to analyze should be those least likely to protect from damage over the life of the development, the water level conditions considered should also be those most likely to contribute to damage over the life of the development. Waves that cause significant damage during high tide will be less damaging during low tide; all other things being equal, waves will cause more inland flooding and impact damage when water levels are higher. Since water levels will increase over the life of the development due to rising sea level, the development should be examined for the amount of sea level rise (or a scenario of sea level rise conditions) that is likely to occur throughout the expected life of the development. Then, the wave impact analysis should examine the consequences of a 100-year design storm event using the combined water levels that are likely to occur with high water conditions and sea level rise, as well as a long-term and seasonally eroded beach.

Eroded Beach Conditions = Seasonal Erosion + Long-Term Erosion*

High Water Conditions = High Tide + Relative Sea Level Rise* + Atmospheric Forcing

Wave Conditions = 100-year Design Storm + High Water + Eroded Beach

* The time period for both long-term erosion and relative sea level rise will be at least as long as the expected life of the development.

The remaining discussion provides general information about waves, the California wave climate, and coastal flooding. It is provided to acquaint readers to the main issues associated with waves and coastal flooding. Readers with a strong background in waves or coastal processes may want to skim or skip the rest of this section.

Storm Waves

During storm conditions, winds can transfer large amounts of energy into waves, increasing wave height, length, and period. Energy transfer to waves depends upon three conditions: the wind energy that is available to be transferred to the water (intensity); the length of time over which the wind blows (duration); and the area over which the wind blows (the fetch). As any of these conditions increases, the energy in the waves will increase, as will the energy that these waves bring to the coastline. Coastal scientists separate waves that are generated far from the coast (swell) from waves that are locally generated (seas). Storms in the mid-Pacific can cause

storm-like wave conditions along the coast, even when there are no storms in the area. Likewise, a local storm can cause storm waves along one part of the coast while waves in other sections of the coast may be fairly mild.

Some of the worst storm wave conditions occur when there are intense storms along a large portion of the coast and when this large, distantly generated swell combines with local seas. The 1982/83 El Niño has been cited often as one of the more damaging storm seasons in recent times. In late January 1983, waves from a distant storm combined with locally generated waves and the highest tides of the year. This one storm caused substantial damage along much of the California Coast. The coast was not able to recover before a series of storms in February and March caused additional damage. The full 1982/83 El Niño storm season resulted in damage to approximately 3,000 homes and 900 businesses and destruction of 33 buildings. Damages exceeded \$100 million to structures and \$35 million to public recreational infrastructure (in 1982 dollars; Flick 1998).

Wave Runup

Wave runup, as depicted in [Figure B-6](#), is the distance or extent to which water from a breaking wave will spread up the shoreline. Much of the wave energy will dissipate during breaking, but wave runup can also be damaging. The runup water moves quickly and can scour or erode the shoreline areas (including the beach), damage structures, and flood inland areas.

Damage from waves and wave runup may increase in the future, due both to rising sea level and to changes in storm intensity and frequency. Waves will break farther landward when water levels are higher. Therefore, increased water levels due to tides, surge, ENSO or PDO variability, or sea level rise will enable more wave energy to reach the beach, back shore, or inland development. The higher water levels do not change the waves. Rather, higher water levels change the point of impact, the extent of runup, and the frequency of wave impact. In locations where high waves now hit the coast, that frequency will increase; in locations where high waves rarely hit the coast, exposure to wave impacts will increase. Increased exposure to wave impacts or wave runup can cause a greater risk of flooding, erosion, bluff failure, and/or damage to development. But, since the focusing of wave energy is strongly influenced by offshore bathymetry, locations of wave exposure may also change with rising sea level and modifications in wave propagation might result from future differences in water depths.

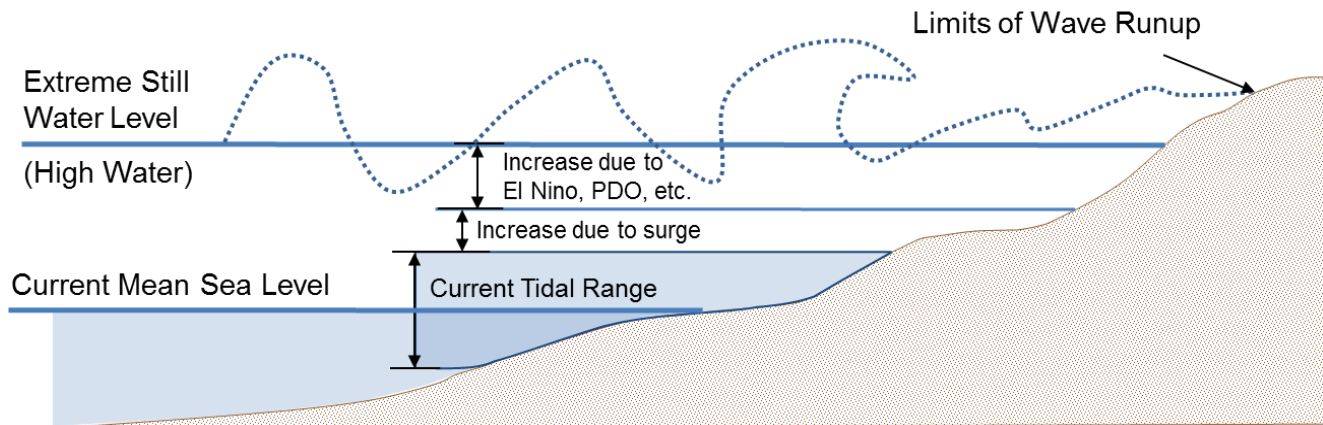


Figure B-6. Wave runup combined with extreme still water (High Water). (Source: L. Ewing, 2013).

Summary

Coastal flooding is a significant problem now and it will increase with rising sea level. At present, about 210,000 people in California are living in areas at risk from a 100-year flood event (Heberger *et al.* 2009). A rise in sea level of 55 in (1.4 m) with no change in development patterns or growth along the coast could put 418,000 to 480,000 people at risk from a 100-year flood (Cooley *et al.* 2012). An additional fraction of the California population that relies on critical infrastructure located in potentially hazardous areas is also vulnerable and increases in storm intensity or in the density of development in flood-prone areas will increase the number of people at risk from flooding.

The frequency and intensity of high wave events depends upon the storm conditions that generate the waves. There is less consistency in the output of climate models related to projections of future storm conditions than there has been for temperature projections. A recent report on coastal flooding from years 2000 to 2100 for the California coast has found that “storm activity is not projected to intensify or appreciably change the characteristics of winter nearshore wave activity of the twenty-first century” (Bromirski *et al.* 2012, p. 33). This continuation of current storm conditions is not, however, an indication that storms will not be a problem in the future. Storm damage is expected to continue, and, if sea level rise by the end of the twenty-first century reaches the high projections of about 55 in (1.4 m), “coastal managers can anticipate that coastal flooding events of much greater magnitude than those during the 1982-83 El Niño will occur annually.” (Bromirski *et al.* 2012, p. 36)

For most situations, the 100-year storm event should be used as the design storm. This is equivalent to a storm with a 1% annual probability of occurrence. However, most development does not last one year and this probability of occurrence grows over time such that there is a 22% probability of occurrence during a 25-year period and over 53% probability that this storm will occur at least once during a 75-year period. Even so, the 100-year storm event, like the 100-year flood event, is often used as a design standard for development. However, for structures with a very long projected life or for which storm protection is very critical, a larger, 200-year or 500-year event might be appropriate.

[Table B-4](#) lists many of the resources that are available for finding regional or state-wide information on waves and flooding. Local communities may have records of major erosion episodes or flood events as well.

Table B-4. General Resources for Flooding and Wave Impacts

Resource	Description	Link
CDIP (Coastal Data Information Program)	Current and historical information on wind, waves, and water temperature, wave and swell models and forecasting. As of 2013, there are 19 active stations along the California coast.	http://cdip.ucsd.edu/
Flood Insurance Rate Maps (FIRMs)	FEMA is updating coastal flood maps. Existing FIRMs are based on 1980s topography; flooding includes seasonal beach change but not long-term erosion. Maps do not include sea level rise. Inclusion of a site shows a flood hazard; but exclusion does not necessarily indicate a lack of flood hazard.	FEMA Flood Map Service Center, https://msc.fema.gov/portal
FEMA Flood Hazard Mapping Guidance	<i>Subsection D.2.8</i> provides guidance for calculating wave runup and overtopping on barriers. There are special cases for steep slopes and where runup exceeds the barrier or bluff crest.	https://www.fema.gov/media-library/assets/documents/13948
Regional Sediment Management Studies	Some studies show elements of beach flooding and wave impacts.	http://dbw.ca.gov/csmw/default.aspx
Cal-Adapt – Exploring California’s Climate	Represents inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting from different increments of sea level rise coupled with extreme storm events. Incorporates real, time series water level data from past (near 100 year) storm events to capture the dynamic effect of storm surges in modeling inundation using a three dimensional hydrodynamic model (per Radke et al., 2017).	http://cal-adapt.org/tools/slr-calflod-3d/
US Army Corps of Engineers, Coastal Engineering Manual	Detailed information on all aspects of deep-water wave transformation, shoaling, runup, and overtopping.	https://www.publications.usace.army.mil/USACE-Publications/Engineer-Manuals/
European Overtopping Manual	Descriptions of available methods for assessing overtopping and its consequences. Provides techniques to predict wave overtopping at seawalls, flood embankments, breakwaters and other shoreline structures facing waves. Supported by web-based programs for the calculation of overtopping discharge and design details.	http://www.overtopping-manual.com/

<p>CoSMoS</p>	<p>Currently available for Point Arena to the Mexico border, with a statewide expansion anticipated in 2018/2019. The Coastal Storm Modeling System (CoSMoS) is a dynamic modeling approach that allows detailed predictions of coastal flooding due to both future sea level rise and storms, and integrated with long-term coastal evolution (i.e., beach changes and cliff/bluff retreat)</p>	<p>https://walrus.wr.usgs.gov/coastal_processes/cosmos/ http://data.pointblue.org/apps/ocof/cms/</p>
<p>TNC Coastal Resilience</p>	<p>An online mapping tool showing potential impacts from sea level rise and coastal hazards designed to help communities develop and implement solutions that incorporate ecosystem-based adaptation approaches. Available statewide with more detailed modelling for Monterey Bay, Santa Barbara, Ventura, and Santa Monica.</p>	<p>http://maps.coastalresilience.org/california/</p>

Outcome from Step 5: Provide projections of future flooding and wave impacts resulting from waves, storm waves and runoff, taking into account sea level rise.

Step 6 – Examine potential flooding from extreme events

Extreme events¹⁰⁵, by their very nature, are those beyond the normal events that are considered in most shoreline studies. Examples of extreme events that might occur along the California coast include:

- An individual storm with an intensity at or above the 100-year event
- A series of large, long-duration storms during high tides
- A local storm that coincides with the arrival of distant swell and high tides
- Rapid subsidence, as might happen along the Northern California coast during a Cascadia Subduction Zone earthquake
- Global sea level rise greater than that projected to occur by 2100, when combined with a large storm during normal tides

Planning and project analysis need to consider and anticipate the consequences of these outlier events. In many situations, this assessment might be a qualitative consideration of consequences that could happen if an extreme event does occur. Analysis of the consequences of extreme events presents opportunities to address some of those potential impacts through design and adaptation.

¹⁰⁵ In its report on *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, the IPCC defines extreme events as “a facet of climate variability under stable or changing climate conditions. They are defined as the occurrence of a value or weather or climate variable above (or below) a threshold value near the upper (or lower) ends (“tails”) of the range of observed values of the variable” (IPCC 2012).

In California, there may be some worsening of extreme precipitation and inland flooding from projected changes to atmospheric rivers, narrow bands of concentrated moisture in the atmosphere. In general, however, future extremes are likely to be comparable to the extremes of today, but with the added influence of sea level rise. Extreme storm waves or floods can be addressed with the guidance provided earlier, except that the extreme storm conditions would be used. For tsunamis it is recommended that, for most situations, the appropriate projection of sea level rise be added to the currently projected inundation level from tsunamis. This will provide a close approximation for future inundation from extreme tsunamis. If a detailed analysis of future tsunami impacts is needed, the analysis should be conducted by someone experienced in modeling tsunami waves.

Tsunamis

Tsunamis are large, long-period waves that can be generated by submarine landslides, subaerial landslides (slope failures from land into a water body), large submarine earthquakes, meteors, or volcanic eruptions. They are rare events, but can be extremely destructive when they occur. The extent of tsunami damage will increase as rising water levels allow tsunami waves to extend farther inland. Thus the tsunami inundation zone will expand inland with rising sea level. There has been no research that suggests that climate change will increase the intensity or frequency of seismically-generated tsunamis. However, the number and size of coastal subaerial landslides may increase because of increased coastal erosion due to sea level rise, which in turn may increase the potential for tsunamigenic landslides along the California coast (Highland 2004; Walder *et al.* 2003).

The detailed changes to the inundation zone with rising sea level need to be determined by modeling; however, modeling of long-waves, such as tsunamis, is a specialized area of coastal engineering, and will not be covered in this general Guidance. For most situations, it will be sufficient to get information on possible inundation from the most recent tsunami inundation maps (currently on the Department of Conservation website, http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Pages/Statewide_Maps.aspx). The California Geological Survey and California Governor's Office of Emergency Services are creating new tsunami inundation maps based on probabilistic tsunami hazard analysis (CPTHAWG 2015). As a rough approximation, the change to the tsunami inundation level can be estimated as equal to the change in water elevation due to sea level; a 1-ft rise in sea level could be assumed to result in a 1-ft rise in the inundation elevation. However, in many places, particularly shallow bays, harbors, and estuaries, the change in tsunami inundation zone is likely to scale non-linearly with sea level rise and require careful modeling. California Geological Survey is also working to evaluate the impact of sea level rise with numerical tsunami modeling to verify that an additive approach (tsunami height + SLR) is the appropriate method for integrating SLR and tsunami inundation together. In areas with high tsunami hazards, or where critical resources are at risk, a site-specific analysis of sea level rise impacts on tsunami hazards is crucial, and someone experienced in modeling tsunami waves should be consulted.

Summary

Many different factors affect the actual water levels that occur along the coast and resulting hazards. In California, waves and tides have the largest routine effect on water levels. Tsunamis

may have a very large, but infrequent effect on water levels. Sea level rise will affect water levels all along the coast. Until the mid-century, tides and storms are expected to have the biggest effects on local water levels, with sea level rise being a growing concern. After Year 2050, sea level rise is expected to become increasingly influential on water levels and in contributing to damages to inland areas from flooding, erosion and wave impacts. [Table B-5](#) provides a general characterization of all the factors that can affect local water levels, with general estimates of their range and frequency of occurrence.

Outcome from Step 6: Projections of potential flooding from extreme events including rapid subsidence, extreme precipitation, and tsunamis.

Table B-5. Factors that Influence Local Water Level Conditions

Factors Affecting Water Level	Typical Range for CA Coast (ft)	Typical Range for CA Coast (m)	Period of Influence	Frequency
Tides	3 – 10	1 – 3	Hours	Twice daily
Low pressure	1.5	0.5	Days	Many times a year
Storm Surge	2 – 3	0.6 – 1.0	Days	Several times a year
Storm Waves	3 – 15	1 – 5	Hours	Several times a year
El Niño events (within the ENSO cycle)	<1.5	< 0.5	Months - Years	2 – 7 years
Tsunami waves	20 – 50 (max) 3 – 10 (typical)	6 – 15 (max) 1 – 3 (typical)	Minutes, Hours, Days	Infrequent but unpredictable
Historical Sea Level, over 100 years	0.7	0.2	Ongoing	Persistent
OPC Sea Level Projections 2000 – 2050 (SF tide gauge; see also App. G)	1.1 – 2.7	0.3 – 0.8	Ongoing	Persistent
OPC Sea Level Projections 2000 – 2100 (SF tide gauge; see also App. G)	3.4 – 10.2	1.0 – 3.1	Ongoing	Persistent

Note that all values are approximations. The conversions between feet and meters have been rounded to maintain the general ranges and they are not exact conversions. *Sources:* Flick 1998; OPC 2018; Personal communications from Dr. Robert Guza (Scripps Institution of Oceanography), Dr. William O'Reilly (Scripps Institution of Oceanography and University of California, Berkeley), and Rick Wilson, California Geological Survey; and professional judgment of staff.

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Appendix C

Resources for Addressing Sea Level Rise

This section contains lists of sea level rise viewers, guidebooks, guidance documents, and state agency-produced resources, and data clearing houses related to sea level rise. These resources will be particularly relevant for informing Steps 1-6 of the LCP planning process ([Chapter 5](#)). Tables include:

- [Table C-1](#) – Sea Level Rise Mapping Tools.
This may be particularly relevant for Steps 1-3.
- [Table C-2](#) – Sea Level Rise Data and Resource Clearinghouses.
This may be particularly relevant for Steps 1-4.
- [Table C-3](#) – Adaptation Planning Guidebooks.
This may be particularly relevant for Steps 1-3.
- [Table C-4](#) – Resources for Assessing Adaptation Measures.
This may be particularly relevant for Step 4.
- [Table C-5](#) – Examples of Sea Level Rise Vulnerability Assessments in California.
This may be particularly relevant for Steps 1-3.
- [Table C-6](#) – California Climate Adaptation Plans that Address Sea Level Rise.
This may be particularly relevant for Steps 1-4.
- [Table C-7](#) – California State Agency Resources

Table C-1. Sea Level Rise Mapping Tools

Tool	Description	Link
Statewide		
NOAA Digital Coast Sea Level Rise and Coastal Flooding Impacts Viewer	Displays potential future sea levels with a slider bar. Communicates spatial uncertainty of mapped sea level rise, overlays social and economic data onto sea level rise maps, and models potential marsh migration due to sea level rise. Maps do not include any influence of beach or dune erosion.	https://coast.noaa.gov/digitalcoast/tools/slr.html
Cal-Adapt – Exploring California’s Climate	Represents inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting from different increments of sea level rise coupled with extreme storm events. Incorporates real, time series water level data from past (near 100 year) storm events to capture the dynamic effect of storm surges in modeling inundation using a three dimensional hydrodynamic model (per Radke et al., 2017).	http://cal-adapt.org/tools/slr-calflod-3d/
Climate Central Surging Seas	Overlays sea level rise data with socio-economic information and ability to analyze property values, population, socio-economic status, ethnicity, and income or areas at risk. Can compare exposure across the whole state or selected county.	http://sealevel.climatecentral.org/ssrf/california
Pacific Institute Sea Level Rise Maps (Heberger <i>et al.</i> 2009)	Downloadable PDF maps showing the coastal flood and erosion hazard zones from the 2009 study. Data are overlaid on aerial photographs and show major roads. Also available are an interactive online map and downloadable maps showing sea level rise and population and property at risk, miles of vulnerable roads and railroads, vulnerable power plants and wastewater treatment plants, and wetland migration potential.	http://www.pacinst.org/reports/sea_level_rise/maps/ For the 2009 report <i>The Impacts of Sea-Level Rise on the California Coast</i> , see: http://pacinst.org/publication/the-impacts-of-sea-level-rise-on-the-california-coast/

<p>Sea Level Affecting Marshes Model (SLAMM)</p>	<p>Simulates the dominant processes involved in wetland conversions and shoreline modifications during long-term sea level rise. Map distributions of wetlands are predicted under conditions of accelerated sea level rise, and results are summarized in tabular and graphical form.</p>	<p>http://www.warrenpinnacle.com/prof/SLAMM</p>
<p>Coastal Storm Modeling System (CoSMoS); tool hosted by Our Coast Our Future</p>	<p>Currently available for Point Arena to the Mexico border, with a statewide expansion anticipated in 2018/2019. The Coastal Storm Modeling System (CoSMoS) is a dynamic modeling approach that allows detailed predictions of coastal flooding due to both future sea level rise and storms, and integrated with long-term coastal evolution (i.e., beach changes and cliff/bluff retreat)</p>	<p>https://walrus.wr.usgs.gov/coastal_processes/cosmos/ http://data.pointblue.org/apps/ocof/cms/</p>
<p>TNC Coastal Resilience</p>	<p>An online mapping tool showing potential impacts from sea level rise and coastal hazards designed to help communities develop and implement solutions that incorporate ecosystem-based adaptation approaches. Available statewide with more detailed modelling for Monterey Bay, Santa Barbara, Ventura, and Santa Monica.</p>	<p>http://maps.coastalresilience.org/california/</p>
<p>Humboldt Bay Sea Level Rise Adaptation Project</p>	<p>This project is a multi-phased, regional collaboration. Phase I produced the <i>Humboldt Bay Shoreline Inventory, Mapping, and Sea Level Rise Vulnerability Assessment</i> which describes current shoreline conditions and vulnerabilities under the current tidal regime. Phase II included hydrodynamic modeling to develop vulnerability maps of areas surrounding Humboldt Bay vulnerable to inundation from existing and future sea levels. Phase II produced the <i>Humboldt Bay Sea Level Rise Modeling Inundation Mapping Report</i> and the <i>Humboldt Bay Sea Level Rise Conceptual Groundwater Model</i>.</p>	<p>All reports are available at: http://humboldtbay.org/humboldt-bay-sea-level-rise-adaptation-planning-project</p>

Table C-2. Sea Level Rise Data and Resource Clearinghouses

Resource	Description	Link
California State Adaptation Clearinghouse	Hosted by the OPR Integrated Climate Adaptation and Resiliency Program (ICARP), a centralized source of information that provides the resources necessary to guide decision makers at the state, regional, and local levels when planning for and implementing climate adaptation projects to promote resiliency to climate change in California.	http://opr.ca.gov/clearinghouse/adaptation/ or https://resilientca.org/
California Climate Commons	Offers a point of access to climate change data and related resources, information about the science that produced it, and the opportunity to communicate with others about applying climate change science to conservation in California.	http://climate.calcommons.org/
Climate Adaptation Knowledge Exchange (CAKE)	Provides an online library of climate adaptation case studies and resources, plus ways to connect with an online climate adaptation community/network.	http://www.cakex.org/
Ecosystem Based Management Tools Network Database	Provides a searchable database of tools available for climate adaptation, conservation planning, sea level rise impact assessment, etc.	http://www.ebmtools.org/about_ebm_tools.html
Climate.Data.gov	Recently launched federal government data portal that includes a number of data sets on climate change, including sea level rise impacts.	http://www.data.gov/climate/
NOAA Digital Coast	This NOAA-sponsored website is focused on helping communities address coastal issues. The Digital Coast provides coastal data, tools, training, and information from reputable sources.	http://coast.noaa.gov/digitalcoast/

Table C-3. Adaptation Planning Guidebooks

Title	Description	Link
Scanning the Conservation Horizon (National Wildlife Federation 2011)	Designed to assist conservation and resource professionals to better plan, execute, and interpret climate change vulnerability assessments.	https://www.nwf.org/~media/pdfs/global-warming/climate-smart-conservation/nwfscanningtheconservationhorizonfinal92311.ashx
Adapting to Sea Level Rise: A Guide for California's Coastal Communities (Russell and Griggs 2012)	Intended to assist California's coastal managers and community planners in developing adaptation plans for sea level rise that are suited to their local conditions and communities.	http://seymourcenter.ucsc.edu/OOB/Adapting%20to%20Sea%20Level%20Rise.pdf
California Adaptation Planning Guide (APG) (Cal EMA/CNRA 2012)	Provides guidance to support regional and local communities in proactively addressing the unavoidable consequences of climate change. Includes a step-by-step process for local and regional climate vulnerability assessment and adaptation strategy development.	http://resources.ca.gov/climate/safeguarding/local-action/
Preparing for Climate Change: A Guidebook for Regional and State Governments (Snover <i>et al.</i> 2007)	Assists decision makers in a local, regional, or state government prepare for climate change by recommending a detailed, easy-to-understand process for climate change preparedness based on familiar resources and tools.	http://ces.washington.edu/db/pdf/snoveretalgb574.pdf
Adapting to Climate Change: a Planning Guide for State Coastal Managers (NOAA 2010)	Guide offers a framework for state coastal managers to follow as they develop and implement climate change adaptation plans in their own states.	https://coast.noaa.gov/czm/media/adaptationguide.pdf

<p>Using Scenarios to Explore Climate Change: A Handbook for Practitioners (NPS 2013)</p>	<p>Describes the five-step process for developing multivariate climate change scenarios taught by the Global Business Network (GBN). Detailed instructions are provided on how to accomplish each step. Appendices include a hypothetical scenario exercise that demonstrates how to implement the process and some early examples of how national parks are using climate change scenarios to inform planning and decision making.</p>	<p>http://www.nps.gov/subjects/climatechange/upload/CCScenariosHandbookJuly2013.pdf</p>
<p>Scenario Planning for Climate Change Adaptation: A Guidance for Resource Managers (Moore <i>et al.</i> 2013)</p>	<p>Step-by-step guide to using scenarios to plan for climate change adaptation for natural resource managers, planners, scientists, and other stakeholders working at a local or regional scale to develop resource management approaches that take future climate change impacts and other important uncertainties into account.</p>	<p>http://scc.ca.gov/files/2013/07/ScenarioPlanning_17july2013_FINAL-3.pdf</p>

Table C-4. Resources for Assessing Adaptation Measures

Resource	Description	Link
General		
Georgetown Climate Center’s Climate Adaptation Toolkit – Sea Level Rise and Coastal Land Use	Explores 18 different land-use tools that can be used to preemptively respond to the threats posed by sea level rise to both public and private coastal development and infrastructure, and strives to assist governments in determining which tools to employ to meet their unique socio-economic and political contexts.	http://www.georgetownclimate.org/resources/adaptation-tool-kit-sea-level-rise-and-coastal-land-use
What Will Adaptation Cost? (ERGI 2013)	“This report provides a framework that community leaders and planners can use to make more economically informed decisions about adapting to sea level rise and storm flooding. The four-step framework can be used to perform a holistic assessment of costs and benefits of different adaptation approaches across a community, or to focus in on select infrastructure. The report also discusses the expertise needed at each step in the process.”	https://coast.noaa.gov/data/digitalcoast/pdf/adaptation-report.pdf
Center for Ocean Solutions: Adaptation in Action: Examples from the Field	Provides case studies of various adaptation strategies including overlay zones, non-conformities, setbacks, buffers, development conditions, shoreline protection devices, managed retreat, capital improvement programs, acquisition programs, conservation easements, rolling easements, tax incentives, transfer development rights, and real estate disclosures.	http://www.centerforoceansolutions.org/sites/default/files/Application%20of%20Land%20Use%20Practices%20and%20Tools%20to%20Prepare.pdf

<p>Combatting Sea Level Rise in Southern California: How Local Government Can Seize Adaptation Opportunities While Minimizing Legal Risk (Herzog and Hecht 2013)</p>	<p>Identifies how local governments can harness legal doctrines to support aggressive, innovative strategies to achieve successful sea level rise adaptation outcomes for Southern California while minimizing legal risk. Broadly outlines likely sea level rise impacts in Southern California, and evaluates the risks and opportunities of potential protection, accommodation, and retreat adaptation strategies that local governments could deploy.</p>	<p>http://www.law.ucla.edu/~/media/Files/UCLA/Law/Pages/Publications/CEN_EM_M_PUB%20Combatting%20Sea-Level%20Rise.ashx</p>
<p>Strategies for Erosion-Related Impacts</p>		
<p>Evaluation of Erosion Mitigation Alternatives for Southern Monterey Bay</p>	<p>Provides a technical evaluation of various erosion mitigation measures, conducts a cost benefit analysis of some of the more promising measures, and includes recommendations for addressing coastal erosion in Southern Monterey Bay. The report is intended to be relevant for other areas of California as well.</p>	<p>https://montereybay.noaa.gov/research/techreports/tresapwa2012.html</p>
<p>Rolling Easements</p>		
<p>Rolling Easements- A Primer (Titus 2011)</p>	<p>Examines more than a dozen different legal approaches to rolling easements. It differentiates opportunities for legislatures, regulators, land trusts, developers, and individual landowners. Considers different shoreline environments (<i>e.g.</i>, wetlands, barrier islands) and different objectives (<i>e.g.</i>, public access, wetland migration)</p>	<p>http://papers.risingsea.net/rolling-easements.html</p>
<p>No Day at the Beach: Sea Level Rise, Ecosystem Loss, and Public Access Along the California Coast (Caldwell and Segall 2007)</p>	<p>Provides a description of sea level rise impacts to ecosystems and public access, strategies to address these impacts, and case study examples of rolling easement strategies for the California coast.</p>	<p>http://scholarship.law.berkeley.edu/cgi/viewcontent.cgi?article=1833&context=elq</p>

Natural Resources		
PRBO Climate Smart Conservation	Lists science-based, climate-smart conservation planning and management tools and methods, including restoration projects designed for climate change and extremes.	http://www.pointblue.org/priorities/climate-smart-conservation/
US Forest Service System for Assessing Vulnerability of Species- Climate Change Tool	Quantifies the relative impact of expected climate change effects for terrestrial vertebrate species.	http://www.fs.fed.us/rm/g rassland-shrubland-desert/products/species-vulnerability/savs-climate-change-tool/
The Nature Conservancy: Reducing Climate Risk with Natural Infrastructure report	Presents a series of nine case studies in which natural, “green” infrastructure was successfully used to mitigate climate impacts. The economic costs and benefits of the green infrastructure are compared with traditional “gray” approaches.	http://www.nature.org/our-initiatives/regions/northamerica/unitedstates/california/ca-green-vs-gray-report-2.pdf
CDFW Essential Habitat Connectivity Project	“The California Department of Fish and Wildlife and the California Department of Transportation (Caltrans) commissioned a team of consultants to produce a statewide assessment of essential habitat connectivity by February of 2010, using the best available science, datasets, spatial analyses, and modeling techniques. The goal was to identify large remaining blocks of intact habitat or natural landscape and model linkages between them that need to be maintained, particularly as corridors for wildlife.”	https://www.wildlife.ca.gov/Conservation/Planning/Connectivity
CDFW Areas of Conservation Emphasis tool	Provides a mapping tool and reports on the best available statewide, spatial information on California's biological richness, including species diversity, rarity, and sensitive habitats, as well as recreational needs and opportunities throughout the state, including fishing, hunting and wildlife-viewing.	http://www.dfg.ca.gov/bio/geodata/ace/

Table C-5. Examples of Sea Level Rise Vulnerability Assessments in California

Title	Description	Link
Humboldt Bay Sea Level Rise Adaptation Planning Project	Multiphase project to assess vulnerability of Humboldt Bay shoreline and adjacent areas to sea level rise and coastal hazards.	http://humboldt-bay-sea-level-rise-adaptation-planning-project
Marin Ocean Coast Sea Level Rise Vulnerability Assessment (2018)	Assesses vulnerability of Marin County’s ocean coastal areas to sea level rise, specifically evaluating 5 SLR and storm scenarios through approximately 2100. Findings are organized both by asset type and community.	https://www.marincounty.org/depts/cd/divisions/planning/csmart-sea-level-rise/csmart-publications-csmart-infospot
San Francisco Sea Level Rise Existing Data and Analyses Technical Memorandum (2016)	Summarizes existing data and analyses of SLR vulnerability within the Coastal Zone and lays the foundation for San Francisco’s proposed LCP amendment.	http://default.sfplanning.org/plans-and-programs/local_coastal_prgm/20160506.SFLCP_SLR_Tech_Memo.FINAL.pdf
Plan Half Moon Bay Sea Level Rise Vulnerability Assessment (2016)	Identifies the primary vulnerabilities within Half Moon Bay and sets forth next steps that the City and other involved agencies may take to further assess and address these vulnerabilities.	http://nebula.wsimg.com/0849a308eececc2c58ce202e2851bade?AccessKeyId=06ACEAA5216D33A5C3B0&disposition=0&alloworigin=1
City of Monterey Final Sea Level Rise and Vulnerability Analyses, Existing Conditions and Issues Report (2016)	Provides a science-based assessment of climate change vulnerabilities that includes extensive field data gathering, and compilation of existing data and information.	https://www.monterey.org/Portals/0/Policies-Procedures/Planning/WorkProgram/LCP/16_0316_FINAL_Monterey_ExistingConditions_wAppendixA_WEB.pdf
City of Pacific Grove Climate Change Vulnerability Assessment (2015)	Provides an evaluation of potential significant impacts of climate change for the city’s coastal zone with an emphasis on how anticipated climate change may affect people, resources, and infrastructure along the coast.	http://www.cityofpacificgrove.org/sites/default/files/general-documents/local-coastal-program/pg-lcp-final-vulnerability-assessment-011515.pdf
City of Morro Bay Community Vulnerability and Resilience Assessment (2017)	Provides a best estimate of likely future conditions, based on local demographic projections and the most recently available scientific projections of future climate conditions, given current trends.	http://www.morrobayca.gov/DocumentCenter/View/10676/Final-Draft--Revised-Community-Vulnerability-and-Resilience-Assessment-3-6-17?bidId=

<p>City of Goleta Coastal Hazards Vulnerability Assessment and Fiscal Impact Report (2015)</p>	<p>Provides a science-based assessment that includes extensive field data gathering, compilation of existing data and information, and the participation of stakeholders such as citizens, business owners, local organizations, and community leaders. Enhances community planning by identifying coastal hazards and associated vulnerabilities that are in balance with fiscal resources.</p>	<p>https://www.conservationgateway.org/ConservationPractices/Marine/crr/library/Documents/GoletaCoastalVulnerability.pdf</p>
<p>City of Oxnard Sea Level Rise Atlas (2016)</p>	<p>Maps and identifies areas and assets at risk to existing and future conditions, including sea level rise.</p>	<p>http://nebula.wsimg.com/64b81b1805381307f1e6492bf187b6d9?AccessKeyId=D91312DA8FC16C8BCDB9&disposition=0&alloworigin=1</p>
<p>County of San Diego Climate Change Vulnerability Assessment (2017)</p>	<p>Identifies the primary threats from a changing climate facing the unincorporated areas of San Diego county, and its vulnerability to these threats.</p>	<p>https://www.sandiegocounty.gov/content/dam/sdc/pds/advance/cap/publicreviewdocuments/PostBOSDocs/CAP%20Appendix%20D%20-%20Climate%20Change%20Vulnerability%20Assessment.pdf</p>
<p>City of Imperial Beach Sea Level Rise Assessment (2016)</p>	<p>Identifies vulnerabilities from sea level rise and coastal hazards; a range of adaptation strategies including tradeoffs and economics; and recommends strategies over time that are politically digestible and economically feasible.</p>	<p>http://www.imperialbeachca.gov/vertical/sites/%7B6283CA4C-E2BD-4DFA-A7F7-8D4ECD543E0F%7D/uploads/100516_IB_Sea_Level_Rise_Assessment_FINAL.pdf</p>
<p>Santa Barbara Sea Level Rise Vulnerability Study (Russell and Griggs 2012)</p>	<p>Assesses the vulnerability of the City of Santa Barbara to future sea level rise and related coastal hazards (by Years 2050 and 2100) based upon past events, shoreline topography, and exposure to sea level rise and wave attack. It also evaluates the likely impacts of coastal hazards to specific areas of the City, analyzes their risks and the City's ability to respond, and recommends potential adaptation responses.</p>	<p>http://www.energy.ca.gov/2012publications/CEC-500-2012-039/CEC-500-2012-039.pdf</p>

<p>City of Santa Cruz Climate Change Vulnerability Assessment (Griggs and Haddad 2011)</p>	<p>Delineates and evaluates the likely impacts of future climate change on the city of Santa Cruz, analyzes the risks that these hazards pose for the city, and then recommends potential adaptation responses to reduce the risk and exposure from these hazards in the future.</p>	<p>http://seymourcenter.ucsc.edu/OOB/SCClimateChangeVulnerabilityAssessment.pdf</p>
<p>Developing Climate Adaptation Strategies for San Luis Obispo County: Preliminary Vulnerability Assessment for Social Systems (Moser 2012)</p>	<p>Describes the likely impacts of climate change on the resources and social systems of San Luis Obispo County, and assesses key areas of vulnerability. Sea level rise is identified as a major source of risk to fishing, coastal tourism, coastal development, and infrastructure.</p>	<p>http://www.energy.ca.gov/2012publications/CEC-500-2012-054/CEC-500-2012-054.pdf</p>
<p>Monterey Bay Sea Level Rise Vulnerability Study (Monterey Bay National Marine Sanctuary and PWA ESA; In progress)</p>	<p>Will assess potential future impacts from sea level rise for the Monterey Bay region. The project will estimate the extent of future coastal erosion in Monterey Bay due to accelerated sea level rise and evaluate areas subjected to coastal flooding by inundation from wave action and/or storm surges. The project will update and refine existing Monterey Bay coastal hazard zones maps (erosion and flooding).</p>	<p>Project scope and grant details: http://scc.ca.gov/webmaster/ftp/pdf/scbb/2012/1201/20120119Board03D_Monterey_Bay_Sea_Level_Rise.pdf</p>
<p>Sea Level Rise Vulnerability Study for the City of LA (Adapt LA) (USC Sea Grant 2013)</p>	<p>This report provides a summary of the initial research on the potential impacts of sea level rise and associated flooding from storms for coastal communities in the City of L.A. The study concentrates on the City's three coastal regions: Pacific Palisades from Malibu to Santa Monica; Venice and Playa del Rey; and San Pedro, Wilmington and the Port of Los Angeles.</p>	<p>http://dornsife.usc.edu/uscseagrant/la-slr/</p>

* See also the Coastal Commission's [LCP Grant website](#) for a status chart of sea level rise work completed by grantees (updated on an approximately quarterly basis).

Table C-6. California Climate Adaptation Plans that Address Sea Level Rise

Title	Description	Link
Marin Ocean Coast Sea Level Rise Adaptation Report (2018)	Presents near-, medium-, and long-term options to accommodate, protect against, or retreat from the threats of SLR and extreme events and is intended to inform Marin County’s Local Coastal Program (LCP), coastal permitting, and other county goals related to SLR preparation.	https://www.marincounty.org/depts/cd/divisions/planning/csmart-sea-level-rise/csmart-publications-csmart-infospot
Morro Bay Sea Level Rise Adaptation Strategy Report (2018)	Presents adaptation strategies for three sites within the City, selected to represent the general exposure of a type of hazard or asset.	http://www.morrobay.ca.us/DocumentCenter/View/11753/Sea-Level-Rise-Adaptation-Report-January-2018
Adapting to Rising Tides (ART) Project	The ART project is a collaborative planning effort led by the San Francisco Bay Conservation and Development Commission to help SF Bay Area communities adapt to rising sea levels. The project has started with a vulnerability assessment for a portion of the Alameda County shoreline.	http://www.adaptingtorisingtides.org/
Santa Cruz Climate Adaptation Plan	An update to the 2007 Hazard Mitigation Plan, the adaptation plan includes strategies and best available science for integrating climate change impacts into City of Santa Cruz operations.	Complete plan is available: http://www.cityofsantacruz.com/home/showdocument?id=23644
San Diego Bay Sea Level Rise Adaptation Strategy	The strategy provides measures to evaluate and manage risks from sea level rise and other climate change impacts, and includes a vulnerability assessment of community assets at risk, and broad recommendations to increase resilience of these assets.	http://icleiusa.org/wp-content/uploads/2015/08/San-Diego-Sea-Level-Rise.pdf

* See also the Coastal Commission’s [LCP Grant website](#) for a status chart of sea level rise work completed by grantees (updated on an approximately quarterly basis).

Table C-7. California State Agency Resources

Agency	Document	Description and Link
California Natural Resources Agency	<i>Safeguarding California Plan: 2018 Update (2018)</i>	An update to the 2014 Safeguarding document: http://resources.ca.gov/docs/climate/safeguarding/update2018/safeguarding-california-plan-2018-update.pdf
	<i>Safeguarding California from Climate Change (2014)</i>	An update to the 2009 <i>California Climate Adaptation Strategy</i> : http://resources.ca.gov/docs/climate/Final_Safeguarding_CA_Plan_July_31_2014.pdf
	<i>California Climate Adaptation Strategy (2009)</i>	Summarizes climate change impacts and recommends adaptation strategies across seven sectors: Public Health, Biodiversity and Habitat, Oceans and Coastal Resources, Water, Agriculture, Forestry, and Transportation and Energy: http://resources.ca.gov/docs/climate/Statewide_Adaptation_Strategy.pdf
Office of the Governor	<i>Executive Order S-13-08 (2008)</i>	This 2008 Executive Order required the CA Natural Resources Agency to develop a statewide climate adaptation strategy, and requested that the National Academy of Sciences convene an independent scientific panel to assess sea level rise in California. http://www.climatechange.ca.gov/state/executive_orders.html
	<i>Executive Order B-30-15 (2015)</i>	This 2015 Executive Order established an interim greenhouse gas reduction target of 40 percent below 1990 levels by 2030 to expand upon the targets already included in AB32 and emphasized the need for adaptation in line with the actions identified in the <i>Safeguarding California</i> document. http://gov.ca.gov/news.php?id=18938
Governor’s Office of Planning and Research	<i>Defining Vulnerable Communities in the Context of Climate Adaptation</i>	Resource guide developed by the Integrated Climate Adaptation and Resiliency Program (ICARP) as a starting point for practitioners to use when first considering how to define vulnerable communities in an adaptation context. http://opr.ca.gov/planning/icarp/vulnerable-communities.html
California Ocean Protection Council (and the Coasts &	<i>State of California Sea-Level Rise Guidance: 2018 Update (2018)</i>	Provides guidance for incorporating sea level rise projections into planning and decision making. Updated to include <i>Rising Seas</i> science, 2018: http://www.opc.ca.gov/updates-californias-sea-level-rise-guidance/

Oceans Climate Action Team, or CO-CAT)	<i>Rising Seas in California: An Update on Sea-Level Rise Science</i>	Provides a synthesis of the state of the science on sea-level rise and forms the scientific foundation for the updated OPC SLR Guidance. http://www.opc.ca.gov/webmaster/ftp/pdf/docs/rising-seas-in-california-an-update-on-sea-level-rise-science.pdf
	<i>Resolution on Implementation of the Safeguarding California Plan for Reducing Climate Risks (2014)</i>	Resolves that OPC staff and the State Coastal Leadership Group on SLR will develop an action plan to implement the <i>Safeguarding California</i> plan. http://www.opc.ca.gov/webmaster/ftp/pdf/agenda_items/20140827/Item5 OPC Aug2014 Exhibit 1 Safeguarding Resolution ADOPTED.pdf
	<i>Resolution on Sea Level Rise (2011)</i>	Recognizes that state agencies should address SLR through various actions such as the consideration of SLR risks in decision making, investment of public funds, stakeholder engagement, state SLR guidance updates, etc. http://www.opc.ca.gov/webmaster/ftp/pdf/docs/OPC SeaLevelRise Resolution Adopted031111.pdf
	<i>California State Sea-Level Rise Guidance Document (2013)</i>	Provides guidance for incorporating sea level rise projections into planning and decision making for projects in California. Updated to include NRC projections March 2013: http://www.opc.ca.gov/webmaster/ftp/pdf/docs/2013 SLR Guidance Update FINAL1.pdf
California Coastal Conservancy	<i>Climate Change Policy (2010)</i>	Includes policies on 1) consideration of climate change in project evaluation, 2) consideration of sea level rise impacts in vulnerability assessments, 3) collaboration to support adaptation strategies, and 4) encouragement of adaptation strategies in project applications mitigation and adaptation: http://scc.ca.gov/2009/01/21/coastal-conservancy-climate-change-policy-and-project-selection-criteria/
	<i>Project Selection Criteria (2011)</i>	Adds sea level rise vulnerability to project selection criteria: http://scc.ca.gov/2009/01/21/coastal-conservancy-climate-change-policy-and-project-selection-criteria/

	Guidance for addressing climate change in CA Coastal Conservancy projects (2012)	Includes the following steps: 1) conduct initial vulnerability assessment, 2) conduct more comprehensive vulnerability assessment, 3) reduce risks and increase adaptive capacity, and 4) identify adaptation options: http://scc.ca.gov/2013/04/24/guidance-for-grantees
San Francisco Bay Conservation and Development Commission (BCDC)	<i>Climate Change Bay Plan Amendment</i> (2011)	Amends <i>Bay Plan</i> to include policies on climate change and sea level rise. Policies require: 1) a sea level rise risk assessment for shoreline planning and larger shoreline projects, and 2) if risks exist, the project must be designed to cope with flood levels by mid-century, and include a plan to address flood risks at end of century. Assessments are required to “identify all types of potential flooding, degrees of uncertainty, consequences of defense failure, and risks to existing habitat from proposed flood protection devices”: http://www.bcdc.ca.gov/proposed_bay_plan/bp_amend_1-08.shtml
	<i>Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on its Shoreline</i> (2011)	Provides the background staff report identifying vulnerabilities in the Bay Area’s economic and environmental systems, as well as the potential impacts of climate change on public health and safety. The report provides the basis for all versions of the proposed findings and policies concerning climate change: http://www.bcdc.ca.gov/BPA/LivingWithRisingBay.pdf
California Department of Transportation (Caltrans)	<i>Estimating Sea Level for Project Initiation Documents</i> (2012)	Provides guidance on converting tidal datums and predicting future sea levels. http://www.dot.ca.gov/hq/row/landsurveys/SurveyManual/Estimating_Sea_Level_v1.pdf

	<i>Guidance on Incorporating Sea Level Rise (2011)</i>	Provides guidance on how to incorporate sea level rise concerns into programming and design of Caltrans projects. Includes screening criteria for determining whether to include SLR and steps for evaluating degree of potential impacts, developing adaptation alternatives, and implementing the adaptation strategies: http://www.dot.ca.gov/ser/downloads/sealevel/guide_incorp_slr.pdf
	<i>Addressing Climate Change in Adaptation Regional Transportation Plans: A Guide for MPOs and RTPAs (2013)</i>	Provides a clear methodology for regional agencies to address climate change impacts through adaptation of transportation infrastructure: http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/documents/FR3_CA_Climate_Change_Adaptation_Guide_2013-02-26_.pdf
	<i>District-wide Vulnerability Assessments (2018, ongoing)</i>	Caltrans is currently in the process of completing climate change and sea level rise vulnerability assessments for each of its Districts. http://www.dot.ca.gov/transplanning/ocp/vulnerability-assessment.html
Cal OES	<i>California Multi-Hazard Mitigation Plan (Draft SHMP 2018)</i>	The California (CA) State Hazard Mitigation Plan (SHMP) represents the state’s primary hazard mitigation guidance document - providing an updated analysis of the state’s historical and current hazards, hazard mitigation goals and objectives, and hazard mitigation strategies and actions. The plan represents the state’s overall commitment to supporting a comprehensive mitigation strategy to reduce or eliminate potential risks and impacts of disasters in order to promote faster recovery after disasters and, overall, a more resilient state: http://www.caloes.ca.gov/for-individuals-families/hazard-mitigation-planning/state-hazard-mitigation-plan
State Lands Commission	Application for Lease of State Lands	Requires assessment of climate change risks, and preference is given to projects that reduce climate change risks: http://www.slc.ca.gov/Forms/LMDApplication/LeaseApp.pdf

California State Parks	Sea level rise guidance (<i>in development</i>)	Will provide guidance to Park staff on how to assess impacts to parklands.
Groups of state agencies	California Climate Change Center's 3 rd Assessment	Explores local and statewide vulnerabilities to climate change, highlighting opportunities for taking concrete actions to reduce climate-change impacts: http://climatechange.ca.gov/climate_action_team/reports/third_assessment/
	<i>California Climate Adaptation Planning Guide (APG)</i>	Provides a decision-making framework intended for use by local and regional stakeholders to aid in the interpretation of climate science and to develop a systematic rationale for reducing risks caused, or exacerbated, by climate change (2012): http://resources.ca.gov/climate/safeguarding/local-action/

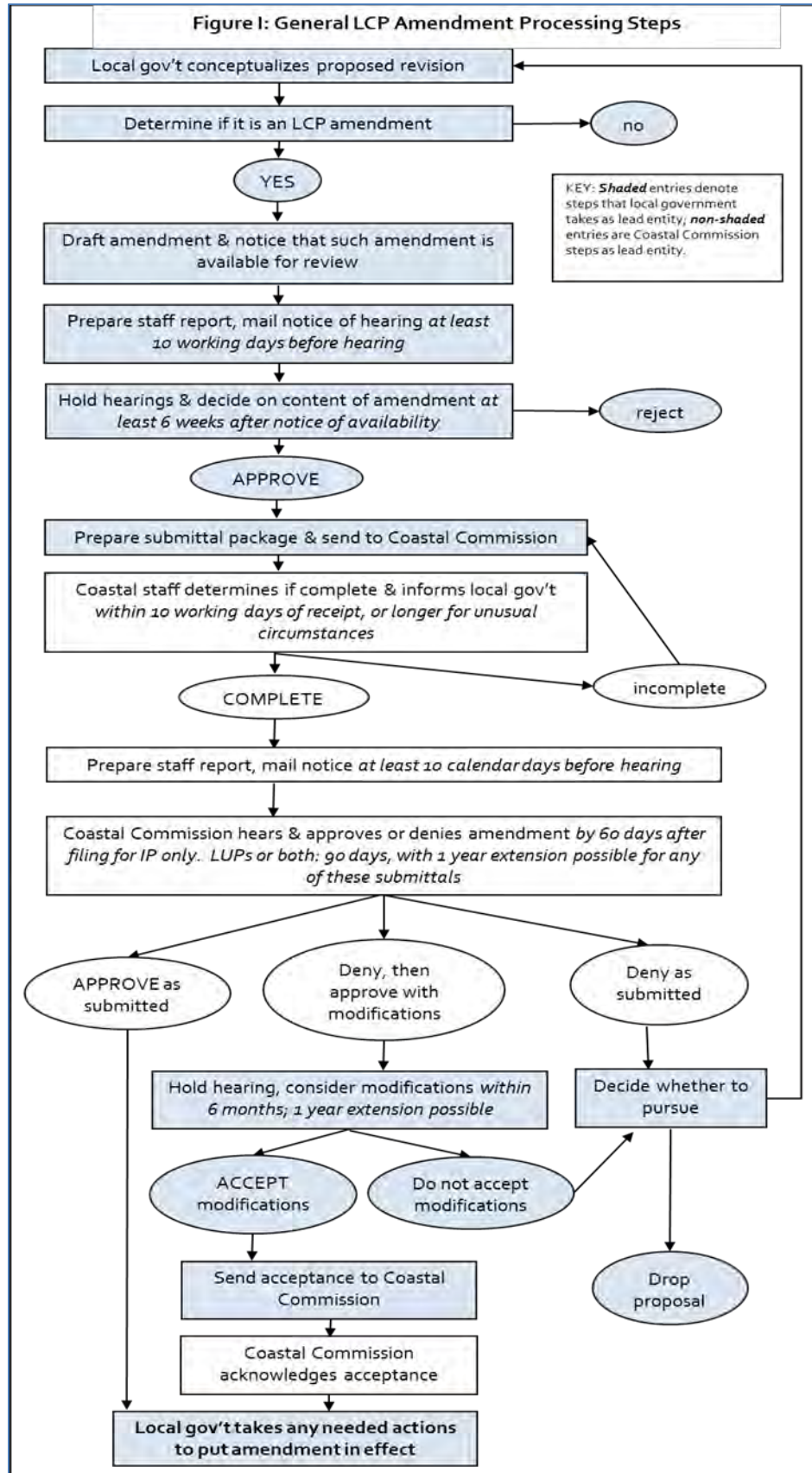
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Appendix D

General LCP Amendment Processing Steps and Best Practices

Sea level rise is one of many topics that should be addressed in a Local Coastal Program (LCP) or LCP amendment. The Coastal Commission offers a [Local Coastal Program \(LCP\) Update Guide](#) that outlines the broad process for amending or certifying an LCP, including guidance for both Land Use Plans and Implementation Plans. It addresses major Coastal Act concerns, including public access, recreation and visitor serving facilities, water quality protection, ESHA and natural resources, agricultural resources, new development, archaeological and cultural resources, scenic and visual resources, coastal hazards, shoreline erosion and protective devices, energy and industrial development, and timberlands. Therefore, this *Sea Level Rise Policy Guidance* should be used in conjunction with the LCP Update Guide to perform complete LCP amendments or certifications. The following figure depicts the general LCP amendment process.



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Appendix E

Funding Opportunities for LCP Planning and Implementation

Project Implementation Funds

The following table includes a list of grant funding available for implementation of sea level rise adaptation projects and programs. Much of this information was compiled by the [Governor’s Office of Emergency Services](#) (Cal OES).

Grant Name	Agency	Purpose	Contact
Proposition 1 & Proposition 84 Competitive Grant Programs	Ocean Protection Council	Funding from Prop 1 is intended to fund projects that provide more reliable water supplies, restore important species and habitat, and develop a more resilient and sustainably managed water system (water supply, water quality, flood protection, and environment) that can better withstand inevitable and unforeseen pressures in the coming decades. Proposition 84 funds may be used for a wide range of purposes including scientific research, adaptive management, and conservation of marine resources.	OPC http://www.opc.ca.gov/cate-gory/funding-opportunities/
Proposition 68 Funds Proposition 1 Grants Climate Ready Grants	California Coastal Conservancy	Proposition 68 grants for a variety of purposes including creating parks, protecting coastal forests and wetlands, and climate adaptation Proposition 1 Grants for multi-benefit ecosystem and watershed protection and restoration projects. Climate Ready Grants are focused on supporting planning, project implementation and multi-agency coordination to advance actions that will increase the resilience of coastal communities and ecosystems	Coastal Conservancy http://scc.ca.gov/2018/10/10/proposition-68-draft-guidelines/ http://scc.ca.gov/grants/proposition-1-grants/ http://scc.ca.gov/climate-change/climate-ready-program/
SB 1 Adaptation Planning Grants	Caltrans	Support actions at the local and regional level to advance climate change adaptation efforts on the state transportation system	Caltrans http://www.dot.ca.gov/hq/tpp/grants.html

Proposition 68	Ocean Protection Council	Provide funding for projects that plan, develop, and implement climate adaptation and resiliency projects, including projects that assist coastal communities with adaptation to sea level rise. These funds can also support technical assistance and community access projects.	Ocean Protection Council (<i>website to come</i>)
Hazard Mitigation Grant (HMG) Program	Administered by: Cal OES Funded by: US Department of Homeland Security, Federal Emergency Management Agency (FEMA)	Provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster.	Cal OES http://www.caloes.ca.gov/ca-l-oes-divisions/recovery/disaster-mitigation-technical-support/404-hazard-mitigation-grant-program FEMA https://www.fema.gov/hazard-mitigation-grant-program
Flood Mitigation Assistance (FMA) Program	Administered by: Cal OES Funded by: US Department of Homeland Security, Federal Emergency Management Agency (FEMA)	Provides grants to assist states and communities in implementing measures to reduce or eliminate the long-term risk of flood damage to buildings, manufactured homes, and other structures insurable under the NFIP.	Cal OES http://www.caloes.ca.gov/ca-l-oes-divisions/hazard-mitigation/pre-disaster-flood-mitigation FEMA https://www.fema.gov/flood-mitigation-assistance-program
Public Assistance (PA) Program	US Department of Homeland Security, Federal Emergency Management Agency (FEMA)	To provide supplemental Federal disaster grant assistance for debris removal, emergency protective measures, and the repair, replacement, or restoration of disaster-damaged, publicly owned facilities and the facilities of certain Private Non-Profit (PNP) organizations. The PA Program also encourages protection of these damaged facilities from future events by providing assistance for hazard mitigation measures during the recovery process.	FEMA https://www.fema.gov/public-assistance-local-state-tribal-and-non-profit
Community Development Block Grant (CDBG) Program	US Department of Housing and Urban Development	Program works to ensure decent affordable housing, to provide services to the most vulnerable in our communities, and to create jobs through the expansion and retention of businesses.	HUD http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs

Watershed Surveys and Planning	US Department of Agriculture, Natural Resource Conservation Service	To provide planning assistance to Federal, state and local agencies for the development or coordination of water and related land resources and programs in watersheds and river basins.	NRCS http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/wsp/
Watershed Protection and Flood Prevention	US Department of Agriculture, Natural Resource Conservation Service	To provide technical and financial assistance in planning and executing works of improvement to protect, develop, and use of land and water resources in small watersheds.	NRCS http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/wfpo/
Land and Water Conservation Fund Grants	US Department of the Interior, National Park Service	To acquire and develop outdoor recreation areas and facilities for the general public, to meet current and future needs.	NPS http://www.nps.gov/lwcf/index.htm
SBA Disaster Loan Program	US Small Business Administration	SBA provides low-interest disaster loans to businesses of all sizes, private non-profit organizations, homeowners, and renters. SBA disaster loans can be used to repair or replace the following items damaged or destroyed in a declared disaster: real estate, personal property, machinery and equipment, and inventory and business assets.	SBA https://www.sba.gov/content/disaster-loan-program
Clean Water Act Section 319 Grants	US Environmental Protection Agency	To implement state and tribal non-point source pollution management programs, including support for non-structural watershed resource restoration activities.	EPA https://www.epa.gov/nps/319-grant-program-states-and-territories
Flood Control Works/ Emergency Rehabilitation	US Department of Defense, Army Corps of Engineers	To assist in the repairs and restoration of public works damaged by flood, extraordinary wind, wave or water action.	USACE http://www.usace.army.mil/Missions/EmergencyOperations/NationalResponseFramework/FloodControl.aspx
Emergency Streambank and Shoreline Protection	US Department of Defense, Army Corps of Engineers	To prevent erosion damages to public facilities by the emergency construction or repair of streambank and shoreline protection works (33 CFR 263.25)	USACE http://www.mvr.usace.army.mil/BusinessWithUs/OutreachCustomerService/FloodRiskManagement/Section14.aspx
Small Flood Control Projects	US Department of Defense, Army Corps of Engineers	To reduce flood damages through small flood control projects not specifically authorized by Congress.	USACE www.usace.army.mil See also: https://www.cfda.gov/index?s=program&mode=form&tab=core&id=2216ee03c69db437c431036a5585ede6



Appendix F

Primary Coastal Act Policies Related to Sea Level Rise and Coastal Hazards

Legislative Findings Relating to Sea Level Rise

Section 30006.5 of the Coastal Act states (Legislative findings and declarations; technical advice and recommendations) states (emphasis added):

The Legislature further finds and declares that sound and timely scientific recommendations are necessary for many coastal planning, conservation, and development decisions and that the commission should, in addition to developing its own expertise in significant applicable fields of science, interact with members of the scientific and academic communities in the social, physical, and natural sciences so that the commission may receive technical advice and recommendations with regard to its decisionmaking, especially with regard to issues such as coastal erosion and geology, marine biodiversity, wetland restoration, the question of sea level rise, desalination plants, and the cumulative impact of coastal zone developments.

Public Access and Recreation

Section 30210 of the Coastal Act (Access; recreational opportunities; posting) states:

In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

Section 30211 of the Coastal Act (Development not to interfere with access) states:

Development shall not interfere with the public's right of access to the sea where acquired through use or legislative authorization, including, but not limited to, the use of dry sand and rocky coastal beaches to the first line of terrestrial vegetation.

Section 30212 of the Coastal Act (New development projects) states:

(a) Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where: (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources, (2) adequate access exists nearby, or (3) agriculture would be adversely affected. Dedicated accessway shall not be required to be opened to public use until a public agency or private association agrees to accept responsibility for maintenance and liability of the accessway.

Section 30214 of the Coastal Act (Implementation of public access policies; legislative intent) states:

(a) The public access policies of this article shall be implemented in a manner that takes into account the need to regulate the time, place, and manner of public access depending on the facts and circumstances in each case including, but not limited to, the following:

- (1) Topographic and geologic site characteristics.*
- (2) The capacity of the site to sustain use and at what level of intensity.*

(3) The appropriateness of limiting public access to the right to pass and repass depending on such factors as the fragility of the natural resources in the area and the proximity of the access area to adjacent residential uses.

(4) The need to provide for the management of access areas so as to protect the privacy of adjacent property owners and to protect the aesthetic values of the area by providing for the collection of litter.

(b) It is the intent of the Legislature that the public access policies of this article be carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access pursuant to Section 4 of Article X of the California Constitution. Nothing in this section or any amendment thereto shall be construed as a limitation on the rights guaranteed to the public under Section 4 of Article X of the California Constitution.

(c) In carrying out the public access policies of this article, the commission and any other responsible public agency shall consider and encourage the utilization of innovative access management techniques, including, but not limited to, agreements with private organizations which would minimize management costs and encourage the use of volunteer programs.

Section 30220 of the Coastal Act (Protection of certain water-oriented activities) states:

Coastal areas suited for water-oriented recreational activities that cannot readily be provided at inland water areas shall be protected for such uses.

Section 30221 of the Coastal Act (Oceanfront land; protection for recreational use and development) states:

Oceanfront land suitable for recreational use shall be protected for recreational use and development unless present and foreseeable future demand for public or commercial recreational activities that could be accommodated on the property is already adequately provided for in the area.

Section 30223 of the Coastal Act (Upland areas) states:

Upland areas necessary to support coastal recreational uses shall be reserved for such uses, where feasible.

Wetlands and Environmentally Sensitive Resources

Section 30231 of the Coastal Act (Biological productivity; water quality) states in part:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored...

Section 30233 of the Coastal Act (Diking, filling or dredging; continued movement of sediment and nutrients) states:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects, and shall be limited to the following:

Section 30240 of the Coastal Act (Environmentally sensitive habitat areas; adjacent developments) states:

(a) Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.

(b) Development in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

Coastal Act Section 30121 defines “Wetland” as follows:

"Wetland" means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens.

The California Code of Regulations Section 13577(b) of Title 14, Division 5.5, Article 18 defines “Wetland” as follows:

(1) Measure 100 feet landward from the upland limit of the wetland. Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. For purposes of this section, the upland limit of a wetland shall be defined as:

(A) the boundary between land with predominantly hydrophytic cover and land with predominantly mesophytic or xerophytic cover;

(B) the boundary between soil that is predominantly hydric and soil that is predominantly nonhydric; or

(C) in the case of wetlands without vegetation or soils, the boundary between land that is flooded or saturated at some time during years of normal precipitation, and land that is not.

(2) For the purposes of this section, the term “wetland” shall not include wetland habitat created by the presence of and associated with agricultural ponds and reservoirs where:

(A) the pond or reservoir was in fact constructed by a farmer or rancher for agricultural purposes; and

(B) there is no evidence (e.g., aerial photographs, historical survey, etc.) showing that wetland habitat pre-dated the existence of the pond or reservoir. Areas with drained hydric soils that are no longer capable of supporting hydrophytes shall not be considered wetlands.

In addition, Coastal Act Section 30107.5 defines “Environmentally sensitive area” as follows:

“Environmentally sensitive area” means any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.

Agricultural and Timber Lands

Section 30241 of the Coastal Act (Prime agricultural land; maintenance in agricultural production) states:

The maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas’ agricultural economy, and conflicts shall be minimized between agricultural and urban land uses...

Section 30242 of the Coastal Act (Lands suitable for agricultural use; conversion) states:

All other lands suitable for agricultural use shall not be converted to nonagricultural uses unless (1) continued or renewed agriculture use is not feasible, or (2) such conversion would preserve prime agricultural land or concentrate development consistent with Section 30250. Any such permitted conversion shall be compatible with continue agricultural use on surrounding lands.

Section 30243 of the Coastal Act (Productivity of soils and timberlands; conversions) states:

The long-term productivity of soils and timberlands shall be protected, and conversions of coastal commercial timberlands in units of commercial size to other uses or their division into units of noncommercial size shall be limited to providing for necessary timber processing and related facilities.

Archaeological and Paleontological Resources

Section 30244 of the Coastal Act (Archaeological or paleontological resources) states:

Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

Marine Resources

Section 30230 of the Coastal Act (Marine resources; maintenance) states:

Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.

Section 30231 of the Coastal Act (Biological productivity; water quality) states:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface waterflow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30233 of the Coastal Act (Diking, filling or dredging; continued movement of sediment and nutrients) states:

(a) The diking, filling, or dredging of open coastal waters, wetlands, estuaries, and lakes shall be permitted in accordance with other applicable provisions of this division, where there is no feasible less environmentally damaging alternative, and where feasible mitigation measures have been provided to minimize adverse environmental effects...

(d) Erosion control and flood control facilities constructed on watercourses can impede the movement of sediment and nutrients that would otherwise be carried by storm runoff into coastal waters. To facilitate the continued delivery of these sediments to the littoral zone, whenever feasible, the material removed from these facilities may be placed at appropriate points on the shoreline in accordance with other applicable provisions of this division, where feasible mitigation measures have been provided to minimize adverse environmental effects. Aspects that shall be considered before issuing a Coastal Development Permit for these purposes are the method of placement, time of year of placement, and sensitivity of the placement area.

Section 30234 of the Coastal Act (Commercial fishing and recreational boating facilities) states:

Facilities serving the commercial fishing and recreational boating industries shall be protected and, where feasible, upgraded. Existing commercial fishing and recreational boating harbor space shall not be reduced unless the demand for those facilities no longer exists or adequate substitute space has been provided. Proposed recreational boating facilities shall, where feasible, be designed and located in such a fashion as not to interfere with the needs of the commercial fishing industry.

Section 30234.5 of the Coastal Act (Economic, commercial, and recreational importance of fishing) states:

The economic, commercial, and recreational importance of fishing activities shall be recognized and protected.

Coastal Development

Section 30250 of the Coastal Act (Location; existing developed area) states:

(a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.

(b) Where feasible, new hazardous industrial development shall be located away from existing developed areas.

(c) Visitor-serving facilities that cannot feasibly be located in existing developed areas shall be located in existing isolated developments or at selected points of attraction for visitors.

Section 30251 of the Coastal Act (Scenic and visual qualities) states:

The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and, where feasible, to restore and enhance visual quality in visually degraded areas...

Section 30253 the Coastal Act (Minimization of adverse impacts) states in part:

New development shall do all of the following:

(a) Minimize risks to life and property in areas of high geologic, flood, and fire hazard.

(b) Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs...

Section 30235 of the Coastal Act (Construction altering natural shoreline) states:

Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public

beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. Existing marine structures causing water stagnation contributing to pollution problems and fishkills should be phased out or upgraded where feasible.

Section 30236 of the Coastal Act (Water supply and flood control) states:

Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

Ports

Section 30705 of the Coastal Act (Diking, filling or dredging water areas) states:

(a) Water areas may be diked, filled, or dredged when consistent with a certified port master plan only for the following: ...

(b) The design and location of new or expanded facilities shall, to the extent practicable, take advantage of existing water depths, water circulation, siltation patterns, and means available to reduce controllable sedimentation so as to diminish the need for future dredging.

(c) Dredging shall be planned, scheduled, and carried out to minimize disruption to fish and bird breeding and migrations, marine habitats, and water circulation. Bottom sediments or sediment elutriate shall be analyzed for toxicants prior to dredging or mining, and where water quality standards are met, dredge spoils may be deposited in open coastal water sites designated to minimize potential adverse impacts on marine organisms, or in confined coastal waters designated as fill sites by the master plan where such spoil can be isolated and contained, or in fill basins on upland sites. Dredge material shall not be transported from coastal waters into estuarine or fresh water areas for disposal.

Section 30706 of the Coastal Act (Fill) states:

In addition to the other provisions of this chapter, the policies contained in this section shall govern filling seaward of the mean high tide line within the jurisdiction of ports:

(a) The water area to be filled shall be the minimum necessary to achieve the purpose of the fill.

(b) The nature, location, and extent of any fill, including the disposal of dredge spoils within an area designated for fill, shall minimize harmful effects to coastal resources, such as water quality, fish or wildlife resources, recreational resources, or sand transport systems, and shall minimize reductions of the volume, surface area, or circulation of water.

(c) The fill is constructed in accordance with sound safety standards which will afford reasonable protection to persons and property against the hazards of unstable geologic or soil conditions or of flood or storm waters.

(d) The fill is consistent with navigational safety.

Section 30708 of the Coastal Act (Location, design and construction of port related developments) states:

All port-related developments shall be located, designed, and constructed so as to:

(a) Minimize substantial adverse environmental impacts.

(b) Minimize potential traffic conflicts between vessels.

(c) Give highest priority to the use of existing land space within harbors for port purposes, including, but not limited to, navigational facilities, shipping industries, and necessary support and access facilities.

(d) Provide for other beneficial uses consistent with the public trust, including, but not limited to, recreation and wildlife habitat uses, to the extent feasible.

(e) Encourage rail service to port areas and multicompany use of facilities.

Public Works Facilities

According to Coastal Act Section 30114, public works facilities include:

(a) All production, storage, transmission, and recovery facilities for water, sewerage, telephone, and other similar utilities owned or operated by any public agency or by any utility subject to the jurisdiction of the Public Utilities Commission, except for energy facilities.

(b) All public transportation facilities, including streets, roads, highways, public parking lots and structures, ports, harbors, airports, railroads, and mass transit facilities and stations, bridges, trolley wires, and other related facilities. For purposes of this division, neither the Ports of Hueneme, Long Beach, Los Angeles, nor San Diego Unified Port District nor any of the developments within these ports shall be considered public works.

(c) All publicly financed recreational facilities, all projects of the State Coastal Conservancy, and any development by a special district.

(d) All community college facilities.

Greenhouse Gas Emissions Reduction

Section 30250(a) of the Coastal Act (Location, existing developed areas states) in part:

(a) New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have

significant adverse effects, either individually or cumulatively, on coastal resources. In addition, land divisions, other than leases for agricultural uses, outside existing developed areas shall be permitted only where 50 percent of the usable parcels in the area have been developed and the created parcels would be no smaller than the average size of surrounding parcels.

Section 30252 of the Coastal Act (Maintenance and enhancement of public access) states:

The location and amount of new development should maintain and enhance public access to the coast by (1) facilitating the provision or extension of transit service, (2) providing commercial facilities within or adjoining residential development or in other areas that will minimize the use of coastal access roads, (3) providing nonautomobile circulation within the development, (4) providing adequate parking facilities or providing substitute means of serving the development with public transportation, (5) assuring the potential for public transit for high intensity uses such as high-rise office buildings, and by (6) assuring that the recreational needs of new residents will not overload nearby coastal recreation areas by correlating the amount of development with local park acquisition and development plans with the provision of onsite recreational facilities to serve the new development.

Section 30253(d) of the Coastal Act (Minimization of adverse impacts) states in part:

New Development shall:

(d) Minimize energy consumption and vehicle miles traveled....



Appendix G

Sea Level Rise Projections for 12 California Tide Gauges

Map of Tide Gauge Locations



Figure G-1. Map of tide gauge locations (from OPC 2018)

Table G-1. Sea Level Rise Projections for the Crescent City Tide Gauge¹⁰⁶ (OPC 2018)

Projected Sea Level Rise (in feet): <i>Crescent City</i>			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range"</i> (~17% probability SLR exceeds...)	<i>1-in-200 chance</i> (0.5% probability SLR exceeds...)	<i>Single scenario</i> (no associated probability)
2030	0.3	0.5	0.8
2040	0.4	0.9	1.4
2050	0.7	1.5	2.3
2060	0.9	2.1	3.3
2070	1.2	2.8	4.5
2080	1.6	3.7	5.9
2090	2.0	4.7	7.4
2100	2.5	5.9	9.3
2110*	2.5	6.2	11.0
2120	3.0	7.4	13.1
2130	3.4	8.7	15.3
2140	3.9	10.1	17.8
2150	4.4	11.6	20.6

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹⁰⁶ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

Table G-2. Sea Level Rise Projections for the North Spit Tide Gauge¹⁰⁷ (OPC 2018)

Projected Sea Level Rise (in feet): North Spit			
	Probabilistic Projections (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.7	1.0	1.2
2040	1.1	1.6	2.0
2050	1.5	2.3	3.1
2060	1.9	3.1	4.3
2070	2.4	4.0	5.6
2080	2.9	5.1	7.2
2090	3.5	6.2	8.9
2100	4.1	7.6	10.9
2110*	4.3	8.0	12.7
2120	4.9	9.4	15.0
2130	5.5	10.9	17.4
2140	6.2	12.5	20.1
2150	6.8	14.1	23.0

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹⁰⁷ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

Table G-3. Sea Level Rise Projections for the Arena Cove Tide Gauge¹⁰⁸ (OPC 2018)

Projected Sea Level Rise (in feet): Arena Cove			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.7	1.0
2040	0.7	1.2	1.6
2050	1.0	1.8	2.6
2060	1.3	2.5	3.7
2070	1.7	3.3	5.0
2080	2.2	4.3	6.4
2090	2.6	5.4	8.0
2100	3.1	6.7	9.9
2110*	3.2	7.0	11.6
2120	3.8	8.2	13.9
2130	4.3	9.7	16.2
2140	4.8	11.1	18.7
2150	5.4	12.6	21.5

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹⁰⁸ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

Table G-4. Sea Level Rise Projections for the Point Reyes Tide Gauge¹⁰⁹ (OPC 2018)

Projected Sea Level Rise (in feet): <i>Point Reyes</i>			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.6	0.8	1.0
2040	0.8	1.3	1.8
2050	1.1	2.0	2.8
2060	1.5	2.7	3.9
2070	1.9	3.5	5.2
2080	2.4	4.6	6.7
2090	2.9	5.6	8.3
2100	3.5	7.0	10.3
2110*	3.6	7.3	12.0
2120	4.2	8.6	14.3
2130	4.7	10.1	16.6
2140	5.3	11.5	19.2
2150	5.9	13.1	22.0

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹⁰⁹ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

Table G-5. Sea Level Rise Projections for the San Francisco Tide Gauge¹¹⁰ (OPC 2018)

Projected Sea Level Rise (in feet): San Francisco			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.8	1.0
2040	0.8	1.3	1.8
2050	1.1	1.9	2.7
2060	1.5	2.6	3.9
2070	1.9	3.5	5.2
2080	2.4	4.5	6.6
2090	2.9	5.6	8.3
2100	3.4	6.9	10.2
2110*	3.5	7.3	11.9
2120	4.1	8.6	14.2
2130	4.6	10.0	16.6
2140	5.2	11.4	19.1
2150	5.8	13.0	21.9

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹¹⁰ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

Table G-6. Sea Level Rise Projections for the Monterey Tide Gauge¹¹¹ (OPC 2018)

Projected Sea Level Rise (in feet): Monterey			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.8	1.0
2040	0.8	1.2	1.7
2050	1.1	1.9	2.7
2060	1.4	2.6	3.8
2070	1.8	3.4	5.1
2080	2.3	4.4	6.6
2090	2.8	5.5	8.2
2100	3.3	6.9	10.1
2110*	3.4	7.2	11.8
2120	4.0	8.5	14.0
2130	4.5	9.9	16.4
2140	5.1	11.3	18.9
2150	5.7	12.9	21.8

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹¹¹ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

Table G-7. Sea Level Rise Projections for the Port San Luis Tide Gauge¹¹² (OPC 2018)

Projected Sea Level Rise (in feet): Port San Luis			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.7	1.0
2040	0.7	1.2	1.6
2050	1.0	1.8	2.6
2060	1.3	2.5	3.7
2070	1.7	3.3	5.0
2080	2.1	4.3	6.4
2090	2.6	5.3	8.0
2100	3.1	6.7	9.9
2110*	3.2	7.0	11.6
2120	3.7	8.2	13.8
2130	4.3	9.6	16.2
2140	4.8	11.1	18.7
2150	5.4	12.6	21.5

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹¹² Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

Table G-8. Sea Level Rise Projections for the Santa Barbara Tide Gauge¹¹³ (OPC 2018)

Projected Sea Level Rise (in feet): <i>Santa Barbara</i>			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.4	0.7	1.0
2040	0.7	1.1	1.6
2050	1.0	1.8	2.5
2060	1.3	2.5	3.6
2070	1.7	3.3	4.9
2080	2.1	4.3	6.3
2090	2.6	5.3	7.9
2100	3.1	6.6	9.8
2110*	3.2	6.9	11.5
2120	3.7	8.2	13.7
2130	4.2	9.5	16.0
2140	4.8	11.0	18.6
2150	5.3	12.6	21.4

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹¹³ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

Table G-9. Sea Level Rise Projections for the Santa Monica Tide Gauge¹¹⁴ (OPC 2018)

Projected Sea Level Rise (in feet): <i>Santa Monica</i>			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.8	1.0
2040	0.8	1.2	1.7
2050	1.1	1.9	2.6
2060	1.4	2.6	3.8
2070	1.8	3.4	5.1
2080	2.3	4.4	6.5
2090	2.8	5.5	8.1
2100	3.3	6.8	10.0
2110*	3.5	7.2	11.7
2120	4.0	8.5	14.0
2130	4.5	9.8	16.3
2140	5.1	11.3	18.9
2150	5.7	12.9	21.7

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹¹⁴ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

Table G-10. Sea Level Rise Projections for the Los Angeles Tide Gauge¹¹⁵ (OPC 2018)

Projected Sea Level Rise (in feet): Los Angeles			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.5	0.7	1.0
2040	0.7	1.2	1.7
2050	1.0	1.8	2.6
2060	1.3	2.5	3.7
2070	1.7	3.3	5.0
2080	2.2	4.3	6.4
2090	2.7	5.3	8.0
2100	3.2	6.7	9.9
2110*	3.3	7.1	11.5
2120	3.8	8.3	13.8
2130	4.3	9.7	16.1
2140	4.9	11.1	18.7
2150	5.4	12.7	21.5

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹¹⁵ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

Table G-11. Sea Level Rise Projections for the La Jolla Tide Gauge¹¹⁶ (OPC 2018)

Projected Sea Level Rise (in feet): La Jolla			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.6	0.9	1.1
2040	0.9	1.3	1.8
2050	1.2	2.0	2.8
2060	1.6	2.7	3.9
2070	2.0	3.6	5.2
2080	2.5	4.6	6.7
2090	3.0	5.7	8.3
2100	3.6	7.1	10.2
2110*	3.7	7.5	12.0
2120	4.3	8.8	14.3
2130	4.9	10.2	16.6
2140	5.4	11.7	19.2
2150	6.1	13.3	22.0

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹¹⁶ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.

Table G-12. Sea Level Rise Projections for the San Diego Tide Gauge¹¹⁷ (OPC 2018)

Projected Sea Level Rise (in feet): San Diego			
	Probabilistic Projections (in feet) (based on Kopp et al. 2014)		H++ Scenario (Sweet et al. 2017)
	Low Risk Aversion	Medium-High Risk Aversion	Extreme Risk Aversion
	<i>Upper limit of "likely range" (~17% probability SLR exceeds...)</i>	<i>1-in-200 chance (0.5% probability SLR exceeds...)</i>	<i>Single scenario (no associated probability)</i>
2030	0.6	0.9	1.1
2040	0.9	1.3	1.8
2050	1.2	2.0	2.8
2060	1.6	2.7	3.9
2070	2.0	3.6	5.2
2080	2.5	4.6	6.7
2090	3.0	5.7	8.3
2100	3.6	7.0	10.2
2110*	3.7	7.5	12.0
2120	4.3	8.8	14.3
2130	4.9	10.2	16.6
2140	5.4	11.7	19.2
2150	6.1	13.3	22.0

**Most of the available climate model experiments do not extend beyond 2100. The resulting reduction in model availability causes a small dip in projections between 2100 and 2110, as well as a shift in uncertainty estimates (see Kopp et al., 2014). Use of 2110 projections should be done with caution and acknowledgement of increased uncertainty around these projections.*

¹¹⁷ Probabilistic projections for the height of sea level rise and the H++ scenario are presented. The H++ projection is a single scenario and does not have an associated likelihood of occurrence. Projections are with respect to a baseline year of 2000 (or more specifically, the average relative sea level over 1991-2009). Table is adapted from the 2018 OPC SLR Guidance to present only the three scenarios OPC recommends evaluating. Additionally, while the OPC tables include low emissions scenarios, only high emissions scenarios, which represent RCP 8.5, are included here because global greenhouse gas emissions are currently tracking along this trajectory. The Coastal Commission will continue to update best available science as necessary, including if emissions trajectories change.



Appendix H

Coastal Commission Contact Information

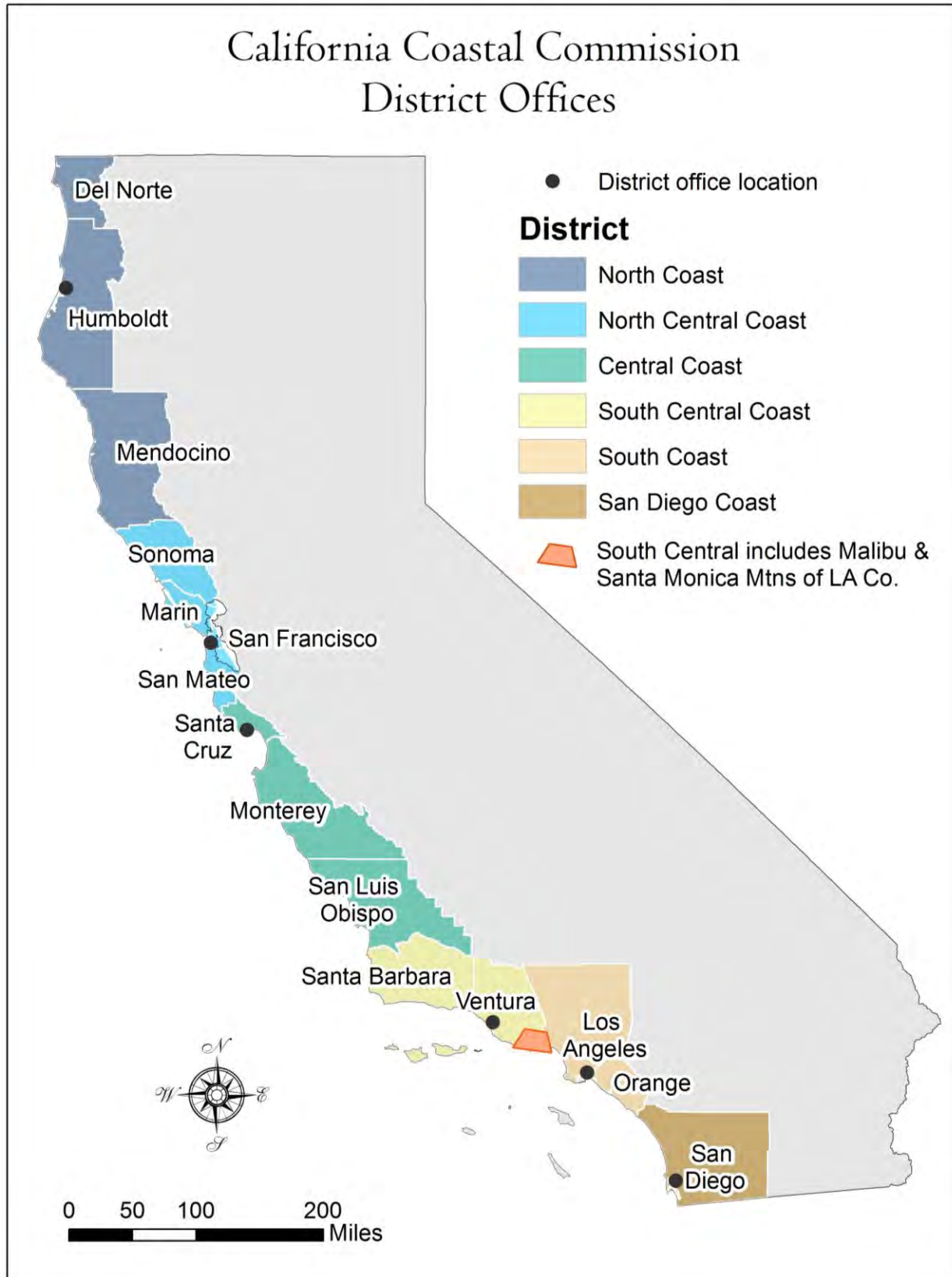


Figure H-1. Location of Coastal Commission Offices

COASTAL COMMISSION DISTRICT OFFICE CONTACT INFORMATION

North Coast (Del Norte, Humboldt, Mendocino Counties)
(707) 826-8950

Headquarters and North Central Coast (Sonoma, Marin, San Francisco, San Mateo Counties)
(415)-904-5200

Central Coast (Santa Cruz, Monterey, San Luis Obispo Counties)
(831) 427-4863

South Central Coast (Santa Barbara and Ventura Counties, and the Malibu portion of Los Angeles County)
(805) 585-1800

South Coast (Los Angeles (except Malibu) and Orange Counties)
(562) 590-5071

San Diego (San Diego County)
(619) 767-2370

COASTAL COMMISSION STAFF SEA LEVEL RISE TEAM

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Questions? Please call Kelsey Ducklow at 415-904-2335 or Carey Batha at 415-904-5268, or email SLRGuidanceDocument@coastal.ca.gov.

Attachment No. 22 - Declaration of Wendell Cox in Support of Petitioner CHB's Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal

Due to errors in the original document, it cannot be uploaded into the agenda. The file can be accessed online at:

<https://scag.ca.gov/sites/main/files/file-attachments/huntingtonbeach-attachment22.pdf?1604955654>



Southern California Association of Governments
Remote Participation Only
January 19, 2021

To: Regional Housing Needs Assessment Subcommittee (RHNA)

**EXECUTIVE DIRECTOR'S
APPROVAL**

From: Ma'Ayn Johnson, Regional Planner Specialist,
(213) 236-1975, johnson@scag.ca.gov

Subject: Appeal of the Draft RHNA Allocation for the City of La Palma

RECOMMENDED ACTION:

Deny the appeal filed by the City of La Palma to reduce its Draft RHNA Allocation by 400 units.

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 2: Advance Southern California's policy interests and planning priorities through regional, statewide, and national engagement and advocacy.

SUMMARY OF APPEAL(S):

The City of La Palma requests a reduction of its RHNA Allocation by 400 units (from 800 units to 400 units) based the following issues:

- 1) Existing or projected jobs-housing balance
- 2) Availability of land suitable for urban development or for conversion to residential use

Other: The City indicates it has no high-quality transit areas at present.

RATIONALE FOR STAFF RECOMMENDATION:

Staff have reviewed the appeal and recommend no change to the City of La Palma's RHNA Allocation. The City's arguments regarding their jobs-housing imbalance and lack of availability of suitable land were not demonstrated to be an impediment to meeting La Palma's RHNA Allocation since the City does not consider the possibility of allowing housing on other non-vacant land in the City. Regarding HQTAs, while the City does not currently have an HQTA, the adopted Final RHNA Methodology addresses HQTAs in 2045; the map of HQTAs in 2045 shows that the southernmost tip of La Palma is within an HQTA and therefore a small number of units (33) is appropriately allocated to La Palma on this basis.

OUR MISSION

To foster innovative regional solutions that improve the lives of Southern Californians through inclusive collaboration, visionary planning, regional advocacy, information sharing, and promoting best practices.

OUR VISION

Southern California's Catalyst for a Brighter Future

OUR CORE VALUES

Be Open | Lead by Example | Make an Impact | Be Courageous

BACKGROUND:**Draft RHNA Allocation**

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the adoption of Connect SoCal on September 3, 2020, all local jurisdictions received draft RHNA allocations on September 11, 2020. A summary is below.

Total RHNA for the City of La Palma: 800 units
 Very Low Income: 223 units
 Low Income: 140 units
 Moderate Income: 137 units
 Above Moderate Income: 300 units

Additional background related to the Draft RHNA Allocation is included in Attachment 1.

Summary of Comments Received during 45-day Comment Period

No comments were received from local jurisdictions or HCD during the 45-day public comment period described in Government Code section 65584.05(c) which specifically regard the appeal filed for the City of La Palma. Three comments were received which relate to appeals filed generally:

- HCD submitted a comment on December 10, 2020 delineating the statutory basis for RHNA appeals and the requirement that any appeals granted must include written findings regarding how revisions are necessary to further RHNA's statutory objectives.
- The City of Whittier submitted a comment on December 10, 2020 supporting surrounding cities in their appeals, but expressing concern that additional units may be applied to Whittier if reallocated from cities which are successful in their appeals.
- The City of Long Beach submitted a comment on December 3, 2020 indicating their view that the RHNA allocation process was fair and transparent, their support for evaluating appeals on their merits (specifically those from the Gateway Council of Governments), and their opposition to any action which would result in a transfer of additional units to Long Beach.

ANALYSIS:

Issue 1: Existing or projected jobs-housing balance [Govt. Code § 65584.04(e)(1)].

The combination of institutional/educational and utility uses limits opportunities for the City to balance zoning for jobs/housing and create local employment and open space for residents.

SCAG Staff Response: The adopted RHNA Methodology includes a calculation of job accessibility as one of the factors to determine a jurisdiction's Draft RHNA Allocation. Job accessibility is defined as

the jurisdiction's share of regional jobs accessible within a 30-minute drive commute (additional details are found in the adopted RHNA methodology). This is **not** a measure of the number of jobs within a jurisdiction; rather, it is a measure of how many jobs can be accessed by a jurisdiction's residents, which can include jobs outside of the jurisdiction. Over 80 percent of SCAG region workers live and work in different jurisdictions, which calls for an approach to the region's job housing relationship through the measurement of access rather than number of jobs within a certain jurisdiction. Limiting a jobs housing balance solely within jurisdictions can effectively worsen a regional jobs housing balance and thus SCAG staff does not recommend a reduction to the jurisdiction's Draft RHNA Allocation based on this factor.

Issue 2: Availability of land suitable for urban development or for conversion to residential use [Govt. Code § 65584.04(e)(2)(B)].

The City of La Palma claims the City is completely developed and any attempts to rezone for high density residential use will challenge the fiscal stability of the City, require the City to provide additional residential services without adequate revenue and jeopardize existing parkland and open space facilities. The City indicates that it is built-out and has not had a new housing tract built in over 20 years, but that residents are taking advantage of Accessory Dwelling Unit (ADU) opportunities, but the City is uncertain how ADUs can be applied to their RHNA Allocation.

The City indicates that 118.78 acres or 13.2% of total land within the City is comprised of institutional/educational land uses and 60 acres or 6.7% of land within the City is dedicated to Flood Control Channel/Utility zoning. Furthermore, the City of La Palma indicates that nearly all the land suitable for residential redevelopment is within a Federally designated flood hazard zone.

SCAG Staff Response: Pursuant to Government Code Section 65584.04(e)(2)(B), SCAG “may not limit its consideration of suitable housing sites or land suitable for urban development to existing zoning ordinances and land use restrictions of a locality” (which includes the land use policies in its General Plan). “Available land suitable for urban development or conversion to residential use,” as expressed in 65584.04(e)(2)(B), is not restricted to vacant sites; rather, it specifically indicates that underutilized land, opportunities for infill development, and increased residential densities are a component of “available” land. As indicated by HCD in its December 10, 2020 comment letter (HCD Letter):

“In simple terms, this means housing planning cannot be limited to vacant land, and even communities that view themselves as built out must plan for housing through means such as rezoning commercial areas as mixed-use areas and upzoning non-vacant land.” (HCD Letter at p. 2).

As such, the City can and must consider other opportunities for development. This includes the availability of underutilized land, opportunities for infill development and increased residential densities, or alternative zoning and density. Alternative development opportunities should be explored further and could possibly provide the land needed to zone for the City's projected growth.

Note that while zoning and capacity analysis is used to meet RHNA need, they should not be used to allocate RHNA need. Per the adopted RHNA Methodology, RHNA need at the jurisdictional level is determined by projected household growth, transit access, and job access. Housing need, both existing and projected need, is independent of zoning and other related land use restrictions, and in some cases is exacerbated by these very same restrictions. Thus, land use capacity that is restricted by factors unrelated to existing or projected housing need cannot determine existing or projected housing need.

While the City asserts that it is built out and has no land available for development, it does not provide evidence that it is unable to consider underutilization of these sites, increased densities, and other planning tools to accommodate its assigned need. Furthermore, on June 10, 2020, HCD released extensive guidelines for housing element site inventories.¹ A wide range of adequate sites are detailed including accessory dwelling units (ADUs) and junior accessory dwelling units (JADUs).² Specifically, the guidelines indicate that (page 32):

“In consultation with HCD, other alternatives may be considered such as motel conversions, adaptive reuse of existing buildings, or legalization of units not previously reported to the Department of Finance.”

Furthermore, costs to develop appropriate infrastructure cannot be considered by SCAG as a justification for a reduction since the RHNA Allocation is not a building quota. Rather, a jurisdiction is required to plan and zone for housing need and is not penalized for not developing the assigned units.

With respect to the lands in a Federally designated flood zone, per Government Code 65584.04(e)(2)(B), “the determination of land available suitable for urban development may exclude lands where the Federal Emergency Management Agency (FEMA) or the Department of Water Resources has determined that the flood management infrastructure designed to protect that land is not adequate to avoid the risk of flooding.” While SCAG staff does not dispute that there may be areas at risk of flooding in the jurisdiction, the jurisdiction has not provided evidence

¹ See https://www.hcd.ca.gov/community-development/housing-element/docs/sites_inventory_memo_final06102020.pdf.

² See also, Accessory Dwelling Unit Handbook, HCD, September 2020, at p. 18 (“Pursuant to Gov. Code § 65852.2 subd. (m) and Government Code section 65583.1, ADUs and JADUs may be utilized towards the Regional Housing Need Allocation (RHNA) and Annual Progress Report (APR) pursuant to Government Code Section 65400.”) at <https://www.hcd.ca.gov/policy-research/docs/adu-ta-handbook-final.pdf>.

that an agency or organization such as FEMA has determined that flood management infrastructure is inadequate to avoid flood risk in these areas and that the City is completely prohibited by FEMA's decision from accommodating housing need in these areas.

It is presumed that planning factors such as institutional uses and flood hazard zones have already been accounted for prior to the local input submitted to SCAG since such factors are required to be considered at the local level. No evidence was submitted that these areas have changed since the most current input provided in during the RHNA Methodology planning factor survey conducted in Spring 2019.

For these reasons, SCAG staff does not recommend a reduction to the jurisdiction's Draft RHNA Allocation.

Other: HQTAs.

The City of La Palma notes that it has no major transit stops, no high-quality transit corridors and no transit priority areas within the city boundaries.

SCAG Staff Response: The adopted Final RHNA Methodology includes a component that calculates need based on a jurisdiction's population within high-quality transit areas (HQTA) in 2045 in Connect SoCal, SCAG's 2045 RTP/SCS. While the City does not currently have an HQTA, the adopted Final RHNA Methodology addresses HQTAs in 2045; the map of HQTAs in 2045 (see attached map) shows that the southernmost tip of La Palma is within an HQTA and therefore a small number of units (33) is appropriately allocated to La Palma on this basis. Specifically, OCTA proposes a La Palma/Lincoln Rapid Bus via OCTA Transit Vision with morning and evening headways of 10 minutes. The line is estimated for completion in 2026.

For planning and SCS purposes, SCAG identifies a "high quality transit area" as generally a walkable transit village or corridor that is within one-half mile of a major transit stop or High-Quality Transit Corridor (HQTC) as defined in Government Code 21155(b) and 21064.3 excluding freeway transit corridors with no bus stops on the freeway alignment. SCAG's technical methodology for identifying HQTCs and major transit stops is based on input from the Regional Transit Technical Advisory Committee (RTTAC), as well as consultation with local agencies, other large MPOs in California, and the Governor's Office of Planning and Research.

Planned HQTCs and major transit stops are future improvements that are expected to be implemented by transit agencies by the RTP/SCS horizon year of 2045. These are assumed by definition to meet the statutory requirements of an HQTC or major transit stop. SCAG updates its inventory of planned major transit stops and HQTCs with the adoption of a new RTP/SCS, once every four years. However, transit planning studies may be completed by transit agencies on a more

frequent basis than the RTP/SCS is updated by SCAG and as such it is understood that planned transit projects are subject to further project-specific evaluation, but that is the nature of the long-range planning process.

While there is an inherent chance that transit agencies may change future plans, ultimately SCAG's adopted Final RHNA Methodology uses this definition of 2045 HQTAs in order to better align future housing with anticipated future transit rather than focusing on only what exists today. For this reason, SCAG staff does not recommend a decrease on the City's RHNA Allocation based on this factor.

The attached map shows the 2045 HQTA boundaries for the City of La Palma which were used in Connect SoCal.

FISCAL IMPACT:

Work associated with this item is included in the current FY20-21 Overall Work Program (300-4872Y0.02: Regional Housing Needs Assessment).

ATTACHMENT(S):

1. Local Input and Development of Draft RHNA Allocation (City of La Palma)
2. Appeal Form and Supporting Documentation (City of La Palma)
3. Comments Received During the Comment Period (General)
4. Map of Job Accessibility near the City of La Palma (2045)
5. Map of HQTAs in the City of La Palma (2045)

Southern California Association of Governments
Remote Participation Only
City of La Palma RHNA Appeal
January 19, 2022

Attachment 1: Local Input and Development of the Draft RHNA Allocation

This attachment sets forth the nature and timing of the opportunities which the City of La Palma had to provide information and local input on SCAG’s growth forecast, the RHNA methodology, and the Growth Vision of the 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS or Connect SoCal). It also describes how the RHNA Methodology development process integrates this information in order to develop the City of La Palma’s Draft RHNA Allocation.

1. Local input

a. Bottom-Up Local Input and Envisioning Process

On October 31, 2017, SCAG took the first step toward developing draft RHNA allocations by initiating the Bottom-Up Local Input and Envisioning Process. At the direction of the Regional Council, the objective of this process was to seek local input and data to prepare for Connect SoCal and the 6th cycle of RHNA.¹ Each jurisdiction was provided with a package of land use, transportation, environmental, and growth forecast data for review and revision which was due on October 1, 2018.² While the local input process materials focus principally on jurisdiction-level and Transportation Analysis Zone (TAZ) level growth, input on specific parcels, sites, and project areas were welcomed and integrated into SCAG’s growth forecast as well as data on other elements. SCAG met one-on-one with all 197 local jurisdictions between November 2017 and July 2018 and provided training opportunities and staff support. Following input from SCAG’s Technical Working Group (TWG), the Connect SoCal growth forecast reflected precisely the jurisdiction-level growth totals provided during this process.

Forecasts for jurisdictions in Orange County were developed through the 2018 Orange County Projections (OCP-2018) update process conducted by the Center for Demographic Research (CDR) at Cal State Fullerton. Jurisdictions were informed of this arrangement by SCAG at the kickoff of the Process. For the City of La Palma, the anticipated number of households in 2020 was 5,108 and in 2030 was 5,115 (growth of 7 households). In March 2018, SCAG staff and CDR staff met with staff from the City of La Palma to discuss the Bottom-Up Local Input and Envisioning Process and answer questions.

¹ While the RTP/SCS and RHNA share data elements, they are distinct processes. The RTP/SCS growth forecast provides an assessment of reasonably foreseeable future patterns of employment, population, and household growth in the region given demographic and economic trends, and existing local and regional policy priorities. The RHNA identifies anticipated housing need over a specified eight-year period and requires that local jurisdictions make available sufficient zoned capacity to accommodate this need. A further discussion of the relationship between these processes can be found in Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

² A detailed list of data during this process reviewed can be found in each jurisdiction’s Draft Data/Map Book at <https://scag.ca.gov/local-input-process-towns-cities-and-counties>.

b. RHNA Methodology Surveys

On March 19, 2019, SCAG distributed a packet of methodology surveys, which included the local planning factor survey (formerly known as the AB2158 factor survey), Affirmatively Furthering Fair Housing (AFFH) survey, and replacement need survey, to SCAG jurisdictions' Community Development Directors. Surveys were due on April 30, 2019. SCAG reviewed all submitted responses as part of the development of the draft RHNA methodology. The City of La Palma submitted the following surveys prior to the adoption of the draft RHNA methodology:

- Local planning factor survey
- Affirmatively Furthering Fair Housing (AFFH) survey
- Replacement need survey
- No survey was submitted to SCAG

c. Connect SoCal Growth Vision and Additional Refinements

Beginning in May 2018, SCAG's Sustainable Communities Working Group began the process of developing growth scenarios for the SCAG region. The culmination of this work was the development of the Connect SoCal Growth Vision, which directly uses jurisdictional-level growth projections from the Bottom-Up Local Input and Envisioning Process, and also features strategies for growth at the TAZ-level that help to reduce greenhouse gas (GHG) emissions from automobiles and light trucks to achieve Southern California's GHG reduction targets, approved by the California Air Resources Board (CARB) in accordance with state planning law. Additional detail regarding the Connect SoCal Growth Vision, specifically the Transportation Analysis Zone (TAZ, or neighborhood) level projections is found at <https://scag.ca.gov/sites/main/files/file-attachments/growth-vision-methodology.pdf>.

As a result of these strategies, in some jurisdictions growth at the TAZ-level differed from locally anticipated growth conveyed during the Bottom-Up Local Input and Envisioning Process.

As such, SCAG provided two additional opportunities for all local jurisdictions to make TAZ-level technical refinements on the topics of general plan capacities and entitlements. During the release of the draft Connect SoCal Plan, jurisdictions were notified on October 31, 2019 that SCAG would accept additional refinements until December 11, 2019. Following the Regional Council's decision to delay full adoption of Connect SoCal for 120 days due to the COVID-19 pandemic, all jurisdictions were again notified on May 26, 2020 that SCAG would accept additional refinements until June 9, 2020.

Connect SoCal Growth Vision data have been available to local jurisdiction staff during the entirety of this process through SCAG's Scenario Planning Model Data Management Site (SPM-DM) at <http://spmdm.scag.ca.gov> and updates were shared with local jurisdictions on technical refinements to the data in February 2020 and August 2020 to share the results of both review opportunities. SCAG

received additional technical corrections from the City of La Palma and incorporated them into the Growth Vision in December 2019.

2. Development of the Final RHNA Methodology

SCAG convened the first meeting of the RHNA Subcommittee in October 2018. In their subsequent monthly meetings, this body reviewed and advised on the development of SCAG’s 6th cycle RHNA process, including the development of the RHNA methodology. Per Government Code 65584.04(a), SCAG must develop a RHNA methodology which furthers the five statutory objectives of RHNA:

(1) Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low income households.

(2) Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region’s greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080.

(3) Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction.

(4) Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey.

(5) Affirmatively furthering fair housing. (Govt. Code § 65584(d).)

As explained in more detail below, the Draft RHNA Methodology (which was adopted as the Final RHNA Methodology) set forth the policy factors, data sources, and calculations which would be used to generate draft RHNA allocations for all local jurisdictions. Following extensive debate and public comment, SCAG’s Regional Council voted to approve the Draft RHNA Methodology on November 7, 2019 and provide it to HCD for review. Per Government Code 65584.04(i), HCD is vested with the authority to determine whether a methodology furthers the objectives set forth in Government Code section 65584(d). On January 13, 2020, HCD found that the Draft RHNA Methodology furthers these five statutory objectives of RHNA. Specifically, HCD noted that:

“This methodology generally distributes more RHNA, particularly lower income RHNA, near jobs, transit, and resources linked to long term improvements of life outcomes.

In particular, HCD applauds the use of the objective factors specifically linked the statutory objectives in the existing need methodology.” (Letter from HCD to SCAG dated January 13, 2020 at <https://scag.ca.gov/sites/main/files/file-attachments/hcd-review-rc-approved-draft-rhna-methodology.pdf?1602190239>).

On March 5, 2020, again following extensive debate and public comment, the Regional Council voted to approve the Draft RHNA Methodology as the Final RHNA Methodology. Unlike SCAG’s 5th cycle RHNA methodology, which relies almost entirely on the household growth component of the RTP/SCS, SCAG’s 6th cycle RHNA methodology consists of two primary elements: “projected need”, which includes the number of housing units required to accommodate anticipated population growth over the 8-year RHNA planning period and “existing need,” which refers to the number of housing units required to accommodate excess or unsatisfied housing demand experienced by the region’s current population.³ Furthermore, the Final RHNA methodology utilizes measures of 2045 job accessibility and High Quality Transit Area (HQTA) population measures based on TAZ-level projections in the Connect SoCal Growth Vision.

More specifically, the Final RHNA Methodology considers three primary factors in determining a local jurisdiction’s total housing need which are primarily based on data from Connect SoCal’s aforementioned Bottom-Up Local Input and Envisioning Process:

- Forecasted growth over 2020-2030 (projected need)
- Transit accessibility in 2045 (existing need)
- Job accessibility in 2045 (existing need)

The methodology is described in further detail at <http://scag.ca.gov/programs/Documents/RHNA/SCAG-Final-RHNA-Methodology-030520.pdf>.

3. Draft RHNA Allocation for the City of La Palma

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the 120-day delay due to the COVID-19 pandemic, SCAG adopted Connect SoCal on September 3, 2020, and the City of La Palma received its draft RHNA allocation on September 11, 2020. Application of the RHNA methodology yields the draft RHNA allocation for the City of La Palma as summarized in the data and calculations in the tables below.

³ Legislative changes in 2018 modified the nature of the regional housing need determination for the 6th cycle of RHNA by adding measures of household overcrowding and housing cost burden to the list of factors to be considered by HCD for the determination of housing need. These new measures are not included in the Connect SoCal Growth Forecast because they are not direct inputs to the growth forecasting process and are independent of employment and population projections. In contrast, they reflect additional latent housing needs in the current population (i.e. “existing need”) and would not result in a change in regional population. For further discussion see Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

La Palma city statistics and inputs:		Calculation of Draft RHNA Allocation for La Palma city	
Forecasted household (HH) growth, RHNA period: <i>(2020-2030 Household Growth * 0.825)</i>	6	Forecasted household (HH) growth, RHNA period:	6
Percent of households who are renting:	32%	Vacancy Adjustment <i>(5% for renter households and 1.5% for owner households)</i>	0
Housing unit loss from demolition (2009-18):	-	Replacement Need	-
Adjusted forecasted household growth, 2020-2045: <i>(Local input growth forecast total adjusted by the difference between the RHNA determination and SCAG's regional 2020-2045 forecast, +4%)</i>	22	TOTAL PROJECTED NEED:	6
Percent of regional jobs accessible in 30 mins (2045): <i>(For the jurisdiction's median TAZ)</i>	20.09%	Existing need due to job accessibility (50%)	496
Jobs accessible from the jurisdiction's median TAZ (2045): <i>(Based on Connect SoCal's 2045 regional forecast of 10,049M jobs)</i>	2,019,000	Existing need due to HQTAs pop. share (50%)	33
Share of region's job accessibility (population weighted):	0.12%	Net residual factor for existing need <i>(Negative values reflect a cap on lower-resourced community with good job and/or transit access. Positive values represent this amount being redistributed to higher-resourced communities based on their job and/or transit access.)</i>	265
Jurisdiction's HQTAs population (2045):	799	TOTAL EXISTING NEED	794
Share of region's HQTAs population (2045):	0.01%	TOTAL RHNA FOR LA PALMA CITY	800
Share of population in low/very low-resource tracts:	0.00%	Very-low income (<50% of AMI)	223
Share of population in very high-resource tracts:	0.11%	Low income (50-80% of AMI)	140
Social equity adjustment:	150%	Moderate income (80-120% of AMI)	137
		Above moderate income (>120% of AMI)	300

The transit accessibility measure is based on the population anticipated to live in High-Quality Transit Areas (HQTAs) in 2045 based on Connect SoCal’s designation of HQTAs and population forecasts. With a forecasted 2045 population of 799 living within HQTAs, the City of La Palma represents 0.01% of the SCAG region’s HQTAs population, which is the basis for allocating housing units based on transit accessibility.

Job accessibility is defined as the jurisdiction’s share of regional jobs accessible within a 30-minute drive commute. Since over 80 percent of the region’s workers live and work in different jurisdictions, the RHNA methodology uses a measure based on Connect SoCal’s travel demand model output for the year 2045 rather than assigning housing units based on the number of jobs with a specific jurisdiction. Specifically, the share of future (2045) regional jobs which can be reached in a 30-minute automobile commute from the local jurisdiction’s median TAZ is used as to allocate housing units based on job accessibility. From the City of La Palma’s median TAZ, it will be possible to reach 20.09% of the region’s jobs in 2045 within a 30-minute automobile commute (2,019,000 jobs), based on Connect SoCal’s 2045 regional job forecast of 10,049,000 jobs.

An additional factor is included in the methodology to account for RHNA Objective #5 to Affirmatively Further Fair Housing (AFFH). Several jurisdictions in the region which are considered disadvantaged communities (DACs) on the basis of access to opportunity measures (described further in the RHNA methodology document), but which also score highly in job and transit access, may have their total

RHNA allocations capped based on their long-range (2045) household forecast. This additional housing need, referred to as “residual need”, is then reallocated to non-DAC jurisdictions in order to ensure housing units are placed in higher-resourced communities consistent with AFFH principles. This reallocation is based on the job and transit access measures described above, and results in an additional 265 units assigned to the City of La Palma.

Please note that the above represents only a partial description of key data and calculations which result in the draft RHNA allocation.

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scag.ca.gov.
Late submissions will not be accepted.

Date: 10/26/20 Jurisdiction Subject to This Appeal Filing: City of La Palma
(to file another appeal, please use another form)

Filing Party (Jurisdiction or HCD)
City of La Palma

Filing Party Contact Name
Conal McNamara, City Manager

Filing Party Email:
cmcnamara@cityoflapalma.org

APPEAL AUTHORIZED BY:

Name: Conal McNamara CM

PLEASE SELECT BELOW:

- Mayor
- Chief Administrative Office
- City Manager
- Chair of County Board of Supervisors
- Planning Director
- Other: CITY COUNCIL

BASES FOR APPEAL

- Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029)
- Local Planning Factors and/or Information Related to Affirmatively Furthering Fair Housing (See Government Code Section 65584.04 (b)(2) and (e))
 - Existing or projected jobs-housing balance
 - Sewer or water infrastructure constraints for additional development
 - Availability of land suitable for urban development or for conversion to residential use
 - Lands protected from urban development under existing federal or state programs
 - County policies to preserve prime agricultural land
 - Distribution of household growth assumed for purposes of comparable Regional Transportation Plans
 - County-city agreements to direct growth toward incorporated areas of County
 - Loss of units contained in assisted housing developments`
 - High housing cost burdens
 - The rate of overcrowding
 - Housing needs of farmworkers
 - Housing needs generated by the presence of a university campus within a jurisdiction
 - Loss of units during a state of emergency
 - The region's greenhouse gas emissions targets
 - Affirmatively furthering fair housing
- Changed Circumstances (Per Government Code Section 65584.05(b), appeals based on change of circumstance can only be made by the jurisdiction or jurisdictions where the change in circumstance occurred)

FOR STAFF USE ONLY:

Date: _____ Hearing Date: _____ Planner: _____

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scaq.ca.gov.
Late submissions will not be accepted.

Brief statement on why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584 (please refer to Exhibit C of the Appeals Guidelines):

Please include supporting documentation for evidence as needed, and attach additional pages if you need more room.

Please see Attachment 1

Brief Description of Appeal Request and Desired Outcome:

Please See Attachment 1

Number of units requested to be reduced or added to the jurisdiction's draft RHNA allocation (circle one):

Reduced 400 Added _____

List of Supporting Documentation, by Title and Number of Pages

(Numbers may be continued to accommodate additional supporting documentation):

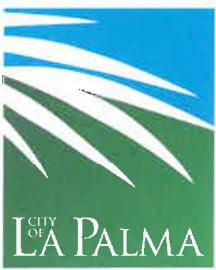
1. Letter from Conal McNamara, City Manager, dated October 26, 2020 (2 pages)
- 2.
- 3.

FOR STAFF USE ONLY:

Date _____

Hearing Date: _____

Planner: _____



October 26, 2020

Mr. Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017
Email: housing@scag.ca.gov

SUBJECT: Appeal of City of La Palma's Draft RHNA Designation

Dear Mr. Ajise:

On behalf of the City Council, I am writing to respectfully appeal the City of La Palma's 6th Cycle Regional Housing Needs Assessment (RHNA) allocation. The City of La Palma acknowledges the magnitude of housing problems in California and wholeheartedly supports SCAG's efforts to promote reasonable affordable housing growth; however, we were alarmed to see a nearly 10,000% increase in our RHNA allocation over the past Housing Element Cycle. While the goal is admirable, it is simply not feasible and would have severe, long-term impacts to our City. We understand and appreciate the limitations set forth in State law regarding allowable grounds for RHNA appeals. This appeal is based upon our belief that La Palma's draft RHNA allocation does not fairly consider information regarding the local planning factors outlined in Govt. Code § 65584.04(e) as submitted by the City to SCAG on September 11, 2019 (provided as Attachment 1) and summarized below.

Availability of land suitable for urban development or for conversion to residential use, the availability of underutilized land, and opportunities for infill development and increased residential densities (Govt. Code § 65584.04(e)(2)(B))

The City of La Palma comprises just 1.8 square miles, which is completely developed. Upon incorporation, Local Agency Formation Commissions (LAFCOs) require cities to provide a fiscal analysis that confirms the City's ability to financially function and provide basic services for its residents. The RHNA allocation will challenge the very framework of the City's fiscal viability and foundation of compatible and interdependent zoning and land uses. The State mandate to accommodate the RHNA by rezoning property for high density residential use creates a devastating impact on our small city and would:

- Challenge the fiscal foundation of the City generated from the current mix of residential, commercial, industrial, retail, office/professional land uses, and the basic land use components that provide the financial framework for the City's fiscal sustainability. Increased residential development, which would replace commercial and industrial uses, would result in the reduction of employment and sales tax producing land uses that would compromise the City's fiscal stability.

www.cityoflapalma.org
7822 Walker Street
La Palma, CA 90623-1771

PHONE
714 690 3300
FAX
714 502 0144

Packet Pg. 1164

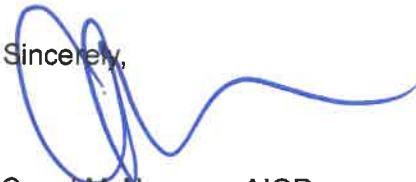
- Require the City to provide additional residential services without adequate revenue.
- Jeopardize existing parkland and open space which are limited for existing residents and generate strong concerns regarding increasing resident population without the ability to increase open space and park land. La Palma residents have limited access to adequate park/open space due to the City's small physical size. The largest open space area within the City is a walking path on leased land under the Edison Power Line Right of Way, which is maintained by the City. Additional residential development would exacerbate the already small amount of per capita recreational and open space.

Other factors that cause us to appeal the RHNA allocation include:

- Unlike other communities that have continued to construct market rate housing, La Palma has not had a new housing tract built in over 20 years because the city is built-out. Further, our relatively small and uniform lot sizes are not conducive to up-zoning because multiple homes would have to be acquired and razed to reach the critical mass needed for a high density affordable project to be financially feasible. Although residents are taking advantage of Accessory Dwelling Unit opportunities, it is uncertain how ADUs can be applied to our RHNA allocation.
- Several large non-property tax or sales tax generating institutional/educational land uses comprise 118.78 acres or 13.2% of total land within the City. We have 3 elementary schools, 1 middle school and 1 high school operated by 3 different school districts. Sixty (60) acres or 6.7% of land within the City is dedicated to Flood Control Channel/Utility zoning. The combination of these institutional/educational and utility uses further limits opportunities for the City to balance zoning for jobs/housing and create additional local employment and open space for existing residents.
- Nearly all of the land suitable for residential redevelopment in La Palma is within a Federally designated flood hazard zone. (Source: SCAG 2017 Data-Map Book)
- There are no major transit stops, no high-quality transit corridors, and no transit priority areas in La Palma. (Source: SCAG 2017 Data-Map Book)

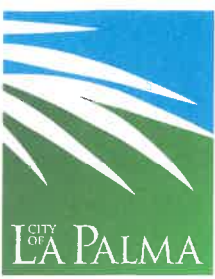
The Center for Demographic Research at CSUF estimates the La Palma population in 2045 at 16,089, a marginal increase from the current population of 15,492. Based on City staff's analysis, La Palma has realistic capacity for approximately 400 additional residential units in the 8-year RHNA period, assuming that reasonable credit can be given for Accessory Dwelling Units through the Housing Element update process with the Department of Housing and Community Development (HCD). While we look forward to a productive working relationship with HCD during the update process, for the reasons described above, the City respectfully requests a reduction of the draft allocation from 800 units to 400 units.

Sincerely,



Conal McNamara, AICP
City Manager

cc: Mayor and City Council
City Attorney
Planning Manager



September 11, 2019

Honorable Peggy Huang, Chair
Regional Housing Needs Assessment Subcommittee

Kome Ajise, Executive Director

Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, California 90017
SENT VIA EMAIL: housing@scag.ca.gov

Subject: Regional Housing Needs Assessment (RHNA) Methodology Options

Dear Honorable Chair Huang, Honorable Members of the Regional Housing Needs Assessment (RHNA) Subcommittee and Mr. Ajise;

Thank you for the opportunity to provide input on the proposed methodology for Regional Housing Needs Assessment (RHNA) Allocation. We believe that local input is the most important factor of the RHNA Allocation Formula. Our letter provides perspective and recommendations from our small local jurisdiction perspective.

The small City of La Palma comprises 1.8 square miles of suburban development in Northwestern Orange County and our land is completely developed. The State Housing and Community Development ('HCD') mandate to accommodate the HCD RHNA by rezoning property for high density residential use creates a devastating impact on the small City of La Palma; and

- Challenges the fiscal foundation of the City generated from the current mix of residential, commercial, industrial, retail, office/professional land uses,
- Requires the City to provide additional residential services without adequate revenue,
- Further reduces the already small amount of per capita recreational and open space, and
- Further escalates the City's jobs/housing imbalance by continuing to increase the La Palma residents who must travel outside the City for employment generating additional traffic and environmental impacts.

We support and believe that it is absolutely imperative that local input be utilized in the development of the RHNA methodology. Each jurisdiction has its own unique characteristics and using a “one size fits all” approach to RHNA will have a devastating impact on the quality, character and future financial stability of each of these jurisdictions.

Smaller physical size cities must receive special consideration in RHNA methodology due to their limited physical size.

- Smaller physical size cities experience a much greater impact from RHNA allocations and have extremely limited space opportunities to accommodate mandated zoning.
- SCAG RHNA Methodology population based formulas of Options 1 and 2 ignore local input and take into consideration the “population size” of the jurisdiction. The RHNA Methodology should include a factor based on the “geographic size” of the jurisdiction versus the “population size” with additional consideration of how much of the city’s “physical size” is already developed.

Upon incorporation, the Local Agency Formation Committee (LAFCO) requires cities to provide a fiscal analysis that confirms the City’s ability to financially function and provide basic services for the constituency. The RHNA Methodology results will challenge the very framework of the City’s foundation of compatible and interdependent zoning and land uses.

- The basic zoning land use components of the City form the financial framework for the City’s fiscal strength. Additional changes to land use increasing residential land zoning will result in the reduction of employment and sales tax producing land uses that will challenge and decrease the City’s overall fiscal stability.
- The primary land use within the City of La Palma is residential. The majority of La Palma land is already zoned and developed with residential uses which have resulted in extremely limited areas of non-residential land use that can provide employment or services for residents such as Retail, Commercial, Industrial, and Office Professional.
- Jobs/Housing Balance within the City has not yet been achieved. The majority of our work force leaves the City each day for employment elsewhere generating more traffic congestion and environmental impacts on the City.
- Existing park land and open space are limited for existing residents and strong concerns exist regarding increasing residents without the ability to increase open space and park land. La Palma residents have limited access to adequate park/open space due to the City’s small physical size. The largest open space park area within the City is a walking path on leased land under the Power Line Right of Way and maintained by the City.
- A unique pattern of existing large non-property tax or sales tax generating institutional/educational land uses located on 118.78 acres or 13.2% of total land within the City. We have 3 elementary schools, 1 middle school and 1 high school operated by 3 different school districts. Sixty (60) acres or 6.7% of land within the City is dedicated to Flood Control Chanel/Utility zoning. The combination of these

institutional/educational and utility uses further limits opportunities for the City to balance zoning for jobs/housing and create additional local employment and open space for existing residents.

In conclusion, the small physical size of the City of La Palma necessitates our strong support for the primary use of local input and city physical size as the main components in establishing RHNA methodology.

Thank you for the opportunity to review and comment on the complex RHNA methodology and for your consideration of our comments.

Sincerely,



Laurie A. Murray
City Manager
City of La Palma

**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF HOUSING POLICY DEVELOPMENT**

2020 W. El Camino Ave
Sacramento, CA 95833-1829
916) 263-2911 FAX: (916) 263-7453
www.hcd.ca.gov



December 10, 2020

Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Dear Executive Director Ajise:

RE: Comment on Appeals of the Draft Regional Housing Need Allocation (RHNA) Plan

Thank you for the opportunity to comment on the 52 appeals Southern California Association of Governments (SCAG) has received regarding the draft RHNA plan. The appeal process is an important phase in the development of a RHNA plan that ensures that all relevant factors and circumstances are considered.

The only circumstances under which a jurisdiction can appeal are:

- 65584.05(b)(1): The council of governments failed to adequately consider the information regarding the factors listed in subdivision (e) of section 65584.04.
- 65584.05(b)(2): The council of governments failed to determine the share of the regional housing need in a manner that furthers the intent of the objectives listed in subdivision (d) of section 65584.
- 65584.05(b)(3): A significant unforeseen change in circumstances occurred in the local jurisdiction that merits a revision of the information submitted pursuant to subdivision (e) of Section 65584.04.

The California Department of Housing and Community Development (HCD) urges SCAG to only consider appeals that meet these criteria.

Per Government Code section 65584.05(e)(1), SCAG's final determination on whether to accept, reject, or modify any appeal must be accompanied by written findings, including how the final determination is based upon the adopted RHNA allocation methodology, and how any revisions are necessary to further the statutory objectives of RHNA described in Government Code section 65584(d).

Among the appeals based on Government Code section 65584.05(b)(1), several appeals state that SCAG failed to consider the factor described in Government Code section 65584.04(e)(2)(B), citing the lack of land suitable for development as a basis for the appeal. However, this section states the council of governments may not limit its consideration of suitable housing sites to existing zoning and land use restrictions and must consider the potential for increased development under alternative zoning and

land use restrictions. Any comparable data or documentation supporting this appeal should contain an analysis of not only land suitable for urban development, but land for conversion to residential use, the availability of underutilized land, and opportunity for infill development and increased residential densities. In simple terms, this means housing planning cannot be limited to vacant land, and even communities that view themselves as built out must plan for housing through means such as rezoning commercial areas as mixed-use areas and upzoning non-vacant land.

With regard to appeals submitted related to Government Code section 65584.05(b)(2), that SCAG failed to determine the RHNA in a manner that furthers the statutory objectives, it should be noted that HCD reviewed SCAG's draft allocation methodology and found that the draft RHNA allocation methodology furthered the statutory objectives described in Government Code section 65584.

Among the appeals based on Government Code section 65584.05(b)(2), several contend that the cap on units allocated to extremely disadvantaged communities (DACs) does not further RHNA's statutory objectives. This cap furthers the statutory objective to affirmatively further fair housing by allocating more units to high opportunity areas and fewer units to low resource communities, and concentrated areas of poverty with high levels of segregation. Due to the inclusion of this factor, as well as the use of TCAC/HCD Opportunity Maps, SCAG's methodology allocates 14 of the top 15 highest shares of lower-income RHNA to jurisdictions with over 99.95 percent High and Highest Resource areas. With the exceptions of two jurisdictions, the 31 jurisdictions with the highest share of lower-income RHNA are all over 95 percent High and Highest Resource areas. Any weakening of these inputs to the methodology could risk not fulfilling the statutory objective to affirmatively further fair housing.

Several appeals argue that SCAG's RHNA allocation methodology does not adequately promote access to jobs and transit, as required in objectives two and three. HCD's review of SCAG's RHNA methodology found the allocation does further the environmental principles of objective two. SCAG's overall allocation includes significant weight related to the location of high-quality transit areas and the regional distribution of jobs that can be accessed within a 30-minute driving commutes. Regarding objective three, HCD's analysis as to whether jobs-housing fit was furthered by SCAG's draft methodology found that across all jurisdictions there is generally good alignment between low-wage jobs and lower-income RHNA, with all but 15 jurisdictions within a half percent plus or minus difference between their share of lower-income RHNA for the region and their percentage low-wage jobs for the region.

Several appeals are based upon the provision described in Government Code section 65584.05(b)(3), arguing that the COVID-19 pandemic represents a significant and unforeseen change in circumstances that will affect future population and job growth. Ensuring everyone has a home is critical to public health. Reducing and preventing overcrowding and homelessness are essential concerns for every community. The COVID-19 pandemic has only increased the importance that each community is planning for sufficient affordable housing.

Lastly, several appeals state that the Regional Housing Needs Determination (RHND) HCD provided to the SCAG region is too large. SCAG submitted an objection to the RHND at the appropriate time and through the appropriate process. HCD considered those objections and [determined the final RHND for 6th Housing Element Cycle for the SCAG region on October 15, 2019](#). There are no further appeal procedures available to alter the SCAG region's RHND for this cycle. Government Code section 65584.05(b) does not allow local governments to appeal the RHND during the 45-day period following receipt of the draft allocation.

HCD acknowledges that many local governments will need to plan for more housing than in the prior cycle to accommodate a RHND that more fully captures the housing need and as the statutory objectives of RHNA shift more housing planning near jobs, transit, and resources. The Southern California region's housing crisis requires each jurisdiction to plan for the housing needs of their community and the region. In recognition of this effort there are more resources available than ever before to support jurisdictions as they prepare to update their 6th cycle housing elements:

- SB 2 Planning Grants – \$123 million one-time allocation to cities and counties
- SB 2 Planning Grants Technical Assistance offered to all jurisdictions
- Regional and Local Early Action Planning Grants – \$238 million one-time allocation for local and regional governments
- SB 2 Permanent Local Housing Allocation – approximately \$175 million annually in ongoing funding for local governments to increase affordable housing stock

If HCD can provide any additional assistance, or if you, or your staff, have any questions, please contact Megan Kirkeby, Deputy Director, megan.kirkeby@hcd.ca.gov.



Megan Kirkeby
Deputy Director



City of Whittier

13230 Penn Street, Whittier, California 90602-1716
(562) 567-9320 Fax (562) 567-2872 www.cityofwhittier.org

Electronically Transmitted to: Housing@scag.ca.gov

December 10, 2020

RHNA Appeals Committee
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

SUBJECT: City of Whittier's Comments on Appeals to the Sixth Cycle Regional Housing Needs Assessment (RHNA) Allocation

Honorable Chair and Honorable Committee Members:

The City of Whittier ("City") appreciates the challenges that are inherent in allocating 1,341,827 housing units by the thousands (a 226% increase above the baseline 412,137 unit) to cities across Southern California, especially in built-out cities. However, the City is deeply concerned its housing allocation of 3,431 units from the State Department of Housing and Community Development ("HCD") and the Southern California Association of Government's ("SCAG") unit distribution methodology, along with recent housing legislation will fundamentally abridge the City's ability to develop effective land-use policies that are appropriate for managing the community's actual needs. The 878 units in the 5th cycle RHNA allocation has been increased by 290% to 3,431 units in the current 6th cycle. Particularly challenging in the 6th cycle, is the number of low and very low-income units (1,558) which combined with the moderate and above moderate unit totals forces unplanned and unnecessary residential densification of the community.

The affordable units are an unfunded mandate with very limited regional or State financial support for their development. Considering the affordable housing subsidies typically range from \$50,000 to \$250,000 per unit, the overall funding requirements could range from \$78,000,000 to \$390,000,000 which is clearly beyond the reach of the City of Whittier in that the City's general fund budget is just \$72,000,000 which already include \$2,000,000 annually to house the City's unsheltered residents in transitional housing. Additionally, the City only receives 7.5% of each property tax dollar to provide general services including police and library services.

The City is currently in the process of updating its Housing Element as well as the General Plan to incorporate the current RHNA allocation, so Whittier is acutely aware of the various housing needs as well as the potential obstacles, such as aging infrastructure and unplanned density, to creating the requisite housing within a city that

Attachment: Comments Received During the Comment Period (General) (Appeal of the Draft Allocation for the City of La Palma)

is essentially built out. The changes in the State's housing laws (SB 35, SB 166 and AB 1397) have created additional constraints for the agencies and may severely impact the City's ability to accomplish our regional and local housing goals.

Since development in Whittier began more than 130 years ago, the City is virtually built-out with little developable vacant land outside of its designated open space areas that are dedicated to accommodating existing and future residents. While the City has made significant efforts through its specific plans to densify existing corridors and districts, the majority of Whittier's remaining single-family residential neighborhoods cannot accommodate similar densification. Furthermore, the hills north of Whittier contain regional open space, sensitive habitat and wildlife areas that must be preserved in perpetuity. There are also significant infrastructure and water service constraints that impact Whittier's ability to produce significantly more housing. Although these facts may not be desirable, they must be pragmatically accounted for and mitigated by not further increasing Whittier's share of housing units contained in SCAG's 6th Cycle RHNA. The final RHNA allocation and methodology must be fair and equitable while reflecting the capacity for reasonable housing unit construction.

As with many other cities, the City is concerned about the current allocation, but an even greater concern is that additional units may be applied to the City if reallocated from cities that are successful in their appeals. To that end, the City believes the appeal process itself was unclear as to the potential ramifications to other cities and not fully understood.

Although we fully support the surrounding cities in their appeals, the potential for additional units being applied to the City would exacerbate the problems described herein and in Whittier's September 13, 2019 letter to SCAG.

Should you have any questions, please do not hesitate to contact me.

Sincerely,



Jeffery S. Adams
Director of Community Development

File

From: Christopher Koontz <Christopher.Koontz@longbeach.gov>
Sent: Thursday, December 3, 2020 11:14 AM
To: Regional Housing
Subject: RHNA Appeals

Categories: Response Required, Record

Good morning,

The purpose of this email is to provide the City of Long Beach’s position in regards to pending RHNA appeals before SCAG. The City of Long Beach seeks to meet its housing needs and obligations for the benefit of Long Beach residents and the region. Our allocation was extremely large and presents a planning and financing challenge for the City. Nonetheless we chose not to appeal our allocation because the allocation process was fair and transparent including taking the City of Long Beach’s input into consideration.

We oppose and will not accept any transfer of additional allocation due to the pending appeals. We note that within our area, the Gateway COG, appeals are pending from Bellflower, Cerritos, Downey, Huntington Park, La Mirada, Lakewood, Pico Rivera, and South Gate. Each of these appeals should be evaluated by SCAG on the merits, however Long Beach opposes any transfer of allocation to our City. It would be inappropriate to transfer a further burden to Long Beach when we have already accepted a large allocation and have done more than many cities in the region to accommodate housing growth under the current RHNA cycle, including fully meeting our market-rate RHNA allocation.

The City of Long Beach will continue to work with SCAG and our neighbor jurisdictions to address the housing needs of our residents.

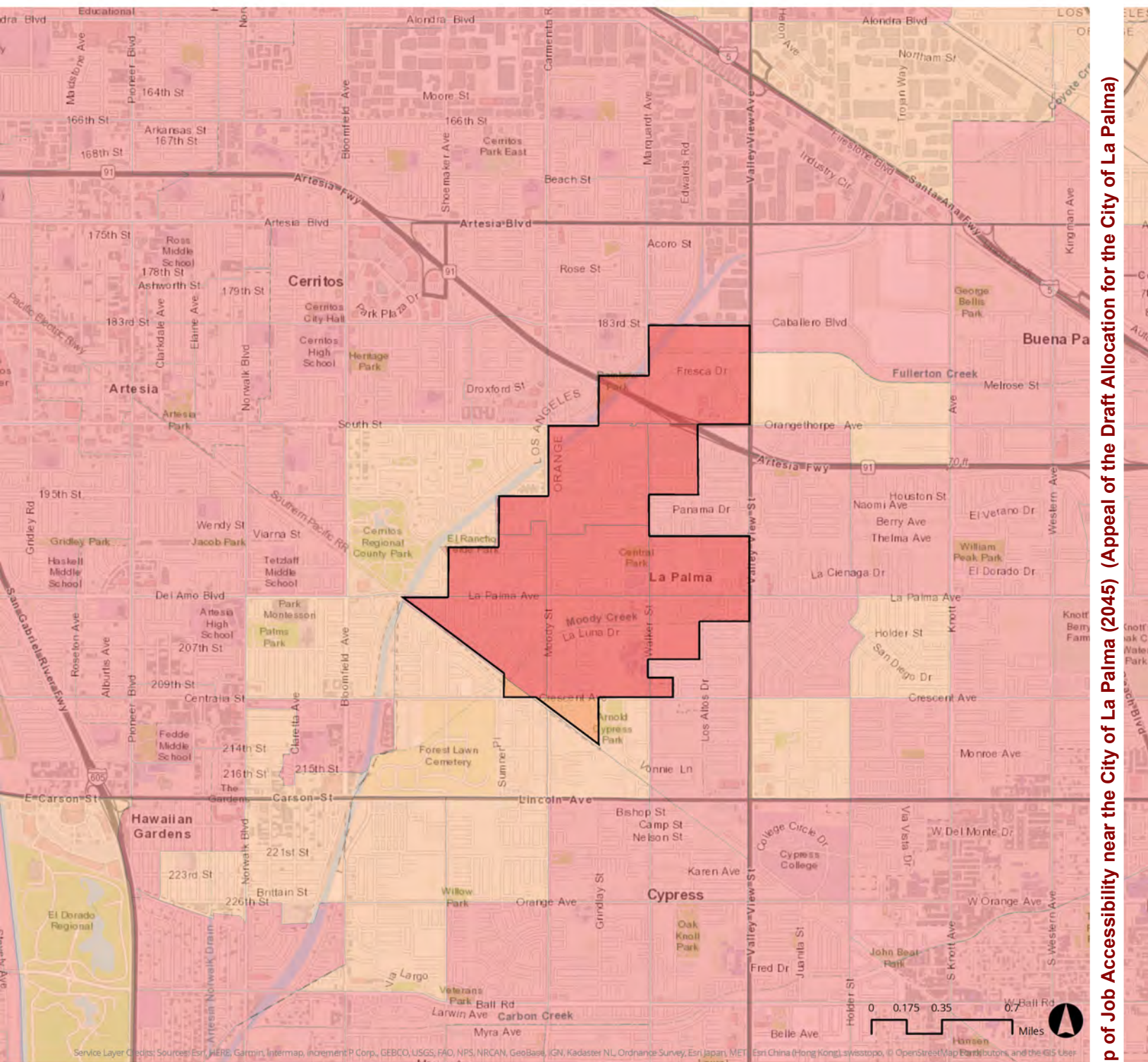
We thank you for consideration and please do not hesitate to contact the City regarding our position.

Christopher Koontz, AICP
Deputy Director

Development Services
411 W. Ocean Blvd., 3rd Floor | Long Beach, CA 90802
Office: 562.570.6288 | Fax: 562.570.6068



Attachment: Comments Received During the Comment Period (General) (Appeal of the Draft Allocation for the City of La Palma)



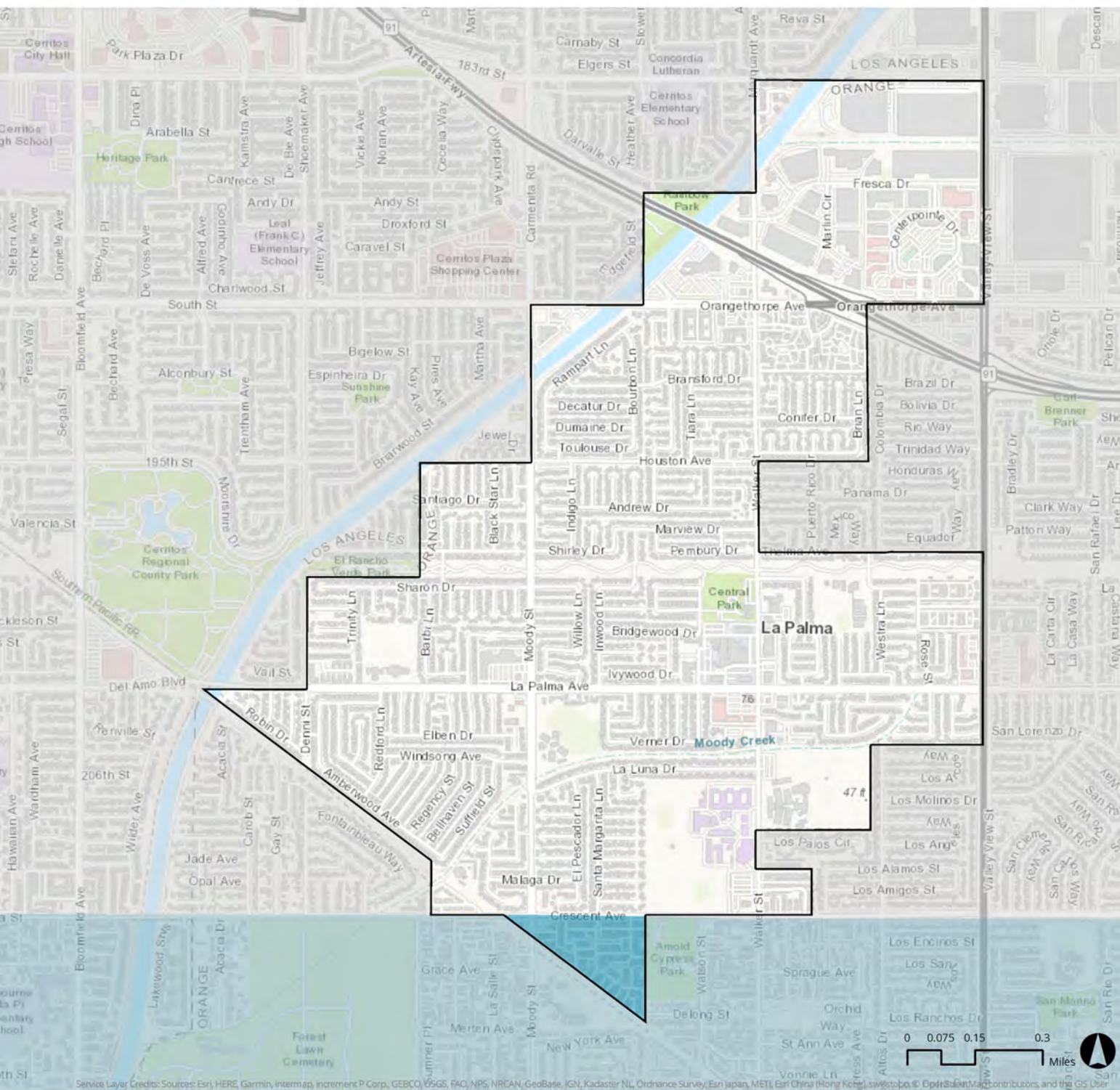
TAZ-level job accessibility in and around: City of La Palma [Year 2045]



Note: These data represent the share of jobs in the SCAG region accessible by automobile commute in 30 minutes in 2045 during the peak AM commute (6-9am). Further detail on the job accessibility measure can be found in SCAG's Final RHNA Methodology. Note that since the SCAG region's total employment forecast for 2045 is 10,049,000 jobs, the number of jobs available can be measured by multiplying the percentage found on the map by this number. For example, a TAZ-level job accessibility measure of 10.0% means that 1,049,000 future jobs could be reached in 30 minutes.

Data Source: SCAG, 2020 | Map Created: 10/22/2020

Disclaimer: The data underlying the information shown on this map reflect jurisdiction's input submitted during the Local Input and Envision Connect SoCal. SCAG shall not be responsible for user's misuse or misrepresentation of this map. For the details regarding the sources, methodology of this map, please refer to the SCAG Data/Map Book at <https://www.connectsocial.org/Pages/Local-Input-Process.aspx> or contact RTPLocalIn



Major Transit Stops and High Quality Transit Areas in City of La Palma [Year 2045]

- Major Transit Stops
- ~ High Quality Transit Corridors (HQTCs)
- High Quality Transit Areas (HQTAs)

Note: SCAG identifies Major Transit Stops and High Quality Transit Corridors (HQTCs), and their surrounding areas in one-half mile radius distance as specified in Section 21155.(b)(3). Major transit stops and HQTCs are extracted from 2045 plan year data of Connect SoCal. SCAG's High Quality Transit Area (HQTA) is within one-half mile from Major Transit Stops and HQTCs and developed based on the language in SB375; however, freeway transit corridors with no bus stops on the freeway alignment do not have a directly associated HQTA. The RHNA process, per Section 65584 et seq., specifies that SCAG's housing needs allocation plan shall further several objectives including those related to infill development and jobs-housing balance. To that end, SCAG's Regional Council-adopted 6th Cycle Final RHNA Methodology relies on a jurisdiction's forecasted 2045 population within HQTAs to allocate housing need.

Data Source: SCAG, County Transportation Commissions, 2020 | Map Created: 10/22/2020

Disclaimer: The information shown on this map reflect jurisdiction's input submitted during the Local Input and Envisioning Process for the City of La Palma. SCAG shall not be responsible for user's misuse or misrepresentation of this map. For the details regarding the sources, methodologies and data please refer to the SCAG Data/Map Book at connectsoocal.org/Pages/Local-Input-Process.aspx or contact RTPLocalInput@scag.ca.gov.



Southern California Association of Governments
Remote Participation Only
January 19, 2021

To: Regional Housing Needs Assessment Subcommittee (RHNA)

**EXECUTIVE DIRECTOR'S
APPROVAL**

From: Ma'Ayn Johnson, Regional Planner Specialist,
(213) 236-1975, johnson@scag.ca.gov

Subject: Appeal of the Draft RHNA Allocation for the City of Rancho Santa Margarita

RECOMMENDED ACTION:

Deny the appeal filed by the City of Rancho Santa Margarita to reduce the Draft RHNA Allocation for the City of Rancho Santa Margarita by 426 units.

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 2: Advance Southern California's policy interests and planning priorities through regional, statewide, and national engagement and advocacy.

SUMMARY OF APPEAL(S):

The City of Rancho Santa Margarita requests a reduction of its RHNA allocation by 426 units (from 680 units to 254 units) based on the following:

- 1) Availability of land suitable for urban development or for conversion to residential use
- 2) Distribution of household growth assumed for purposes of comparable Regional Transportation Plans (RTPs)

Other: The City also notes that it doesn't operate transit and is not located near any high quality transit areas (HQTAs).

RATIONALE FOR STAFF RECOMMENDATION:

Staff have reviewed the appeal(s) and recommend no change to the City of Rancho Santa Margarita RHNA Allocation. The City has not demonstrated that they cannot accommodate their RHNA Allocation in areas other than their open space and high fire risk areas. Furthermore, the City did not provide evidence that its Draft RHNA Allocation determined in accordance with the adopted RHNA Methodology is inconsistent with the Connect SoCal growth forecast.

Other: Rancho Santa Margarita was not assigned need based on population within HQTAs.

OUR MISSION

To foster innovative regional solutions that improve the lives of Southern Californians through inclusive collaboration, visionary planning, regional advocacy, information sharing, and promoting best practices.

OUR VISION

Southern California's Catalyst for a Brighter Future

OUR CORE VALUES

Be Open | Lead by Example | Make an Impact | Be Courageous

BACKGROUND:**Draft RHNA Allocation**

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the adoption of Connect SoCal on September 3, 2020, all local jurisdictions received draft RHNA allocations on September 11, 2020. A summary is below.

Total RHNA for the City of Rancho Santa Margarita: 680 units
Very Low Income: 209 units
Low Income: 120 units
Moderate Income: 125 units
Above Moderate Income: 226 units

Additional background related to the Draft RHNA Allocation is included in Attachment 1.

Summary of Comments Received during 45-day Comment Period

No comments were received from local jurisdictions or HCD during the 45-day public comment period described in Government Code section 65584.05(c) which specifically regard the appeal filed for the City of Ranch Santa Margarita. Three comments were received which relate to appeals filed generally:

- HCD submitted a comment on December 10, 2020 delineating the statutory basis for RHNA appeals and the requirement that any appeals granted must include written findings regarding how revisions are necessary to further RHNA's statutory objectives.
- The City of Whittier submitted a comment on December 10, 2020 supporting surrounding cities in their appeals, but expressing concern that additional units may be applied to Whittier if reallocated from cities which are successful in their appeals.
- The City of Long Beach submitted a comment on December 3, 2020 indicating their view that the RHNA allocation process was fair and transparent, their support for evaluating appeals on their merits (specifically those from the Gateway Council of Governments), and their opposition to any action which would result in a transfer of additional units to Long Beach.

ANALYSIS:

Issue 1: Availability of land suitable for urban development or for conversion to residential use [Govt. Code § 65584.04(e)(2)(B)].

The City of Rancho Santa Margarita claims that SCAG failed to consider physical constraints, lack of underutilized land and limited opportunities for infill development and increased residential densities in the City. Specifically, the City states that 71% of the land within the city is open space and 67% of the land within the city is in a high fire hazard area which is not suitable for additional development and residential dwelling units already occupy 66% of the remaining suitable land area.

SCAG Staff Response: It is presumed that planning factors such as open space have already been accounted for prior to the local input submitted to SCAG since such factors are required to be considered at the local level. No evidence was submitted that these areas have changed since the most current input provided as part of the RHNA methodology planning factor survey conducted in Spring 2019.

Pursuant to Government Code Section 65584.04(e)(2)(B), SCAG “may not limit its consideration of suitable housing sites or land suitable for urban development to existing zoning ordinances and land use restrictions of a locality” (which includes the land use policies in its General Plan). “Available land suitable for urban development or conversion to residential use,” as expressed in 65584.04(e)(2)(B), is not restricted to vacant sites; rather, it specifically indicates that underutilized land, opportunities for infill development, and increased residential densities are a component of “available” land. As indicated by HCD in its December 10, 2020 comment letter (HCD Letter):

“In simple terms, this means housing planning cannot be limited to vacant land, and even communities that view themselves as built out must plan for housing through means such as rezoning commercial areas as mixed-use areas and upzoning non-vacant land.” (HCD Letter at p. 2).

As such, the City can and must consider other opportunities for development including the availability of underutilized land, opportunities for infill development and increased residential densities, or alternative zoning and density. Note that while zoning and capacity analysis is used to meet RHNA need, they should not be used to determine RHNA need at the jurisdictional level. Per the adopted RHNA methodology, RHNA need at the jurisdictional level is determined by projected household growth, transit access, and job access. Housing need, both existing and projected need, is independent of zoning and other related land use restrictions, and in some cases is exacerbated by these very same restrictions. Thus, land use capacity that is restricted by factors unrelated to existing or projected housing need cannot determine existing or projected housing need.

It is presumed that planning factors such as lands protected by federal and state programs have already been accounted for prior to the local input submitted to SCAG since such factors are required to be considered at the local level. No evidence was submitted that these areas have changed since the most current input provided in March 2018. While the City asserts that much of its current land uses are not available for development, it does not provide evidence that it is

unable to consider underutilization of other sites, increased densities, and other planning tools to accommodate its assigned need. Furthermore, on June 10, 2020, HCD released extensive guidelines for housing element site inventories.¹ A wide range of adequate sites are detailed including accessory dwelling units (ADUs) and junior accessory dwelling units (JADUs).² Specifically, the guidelines indicate that (page 32):

“In consultation with HCD, other alternatives may be considered such as motel conversions, adaptive reuse of existing buildings, or legalization of units not previously reported to the Department of Finance.”

In addition, while the jurisdiction has indicated it cannot accommodate units in the indicated open space and high fire risk areas, no evidence has been provided that the jurisdiction cannot accommodate its RHNA Allocation in other areas. The presence of protected open space alone does not reduce housing need nor does it preclude a jurisdiction from accommodating its housing need elsewhere. The Wildfire Hazards Area map provided also indicates the urbanized core of Rancho Santa Margarita is not designated as a high fire risk zone. Rancho Santa Margarita has not provided evidence that it cannot plan for its assigned Draft RHNA Allocation in the urbanized core. For these reasons, SCAG staff does not recommend a reduction to the jurisdiction’s RHNA Allocation based on this factor.

Issue 2: Distribution of household growth assumed for purposes of comparable Regional Transportation Plans [Govt. Code § 65584.04(e)(3)].

The City of Rancho Santa Margarita states that SCAG failed to adequately consider information relevant to Local Planning Factors and Affirmatively Furthering Fair Housing (AFFH). Specifically, the City claims that their RHNA Allocation is not consistent with Connect SoCal’s Growth Forecast projections and the RHNA Methodology is a “one size fits all” approach.

SCAG Staff Response: The 6th Cycle RHNA regional housing need total of 1,341,827 units, as determined by HCD, consists of both “projected need” and “existing need”. “Projected need” is intended to accommodate the growth of population and households between 2021-2029, and “existing need” reflects additional latent housing needs in the existing population. Projected need is based on the household growth for the comparable RHNA period (2021 to 2029) of the regional transportation plan. On January 13, 2020, HCD found that SCAG’s Draft RHNA Methodology (which was later adopted as the Final RHNA Methodology in March) furthered the statutory objectives of RHNA including the “projected need” and “existing need” components.

¹ See https://www.hcd.ca.gov/community-development/housing-element/docs/sites_inventory_memo_final06102020.pdf

² See also, Accessory Dwelling Unit Handbook, HCD, September 2020 at <https://www.hcd.ca.gov/policy-research/docs/adu-ta-handbook-final.pdf>.

SCAG has allocated both “projected need” and “existing need” consistent with the development pattern in the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal). The Connect SoCal Forecasted Regional Development Pattern is shown on Exhibit 1 of the Sustainable Communities Strategy Technical Report, p. 13. Specifically, the development pattern includes priority growth areas, incorporated areas, job centers, entitled projects and sphere of influence which together would accommodate 95% of the growth till 2045. The development pattern reflects the strategies and policies contained in Connect SoCal.

The “projected need” portion of the 6th Cycle RHNA is based on the Connect SoCal Growth Forecast and is consistent with the Connect SoCal development pattern. Specifically, each jurisdictional-level growth forecast of households is translated into “projected need” of housing units after adjusting for two factors of vacancy need and replacement needs.

The appeal argues the regional need of 1.3 million units is inconsistent with the growth projections of the adopted Connect SoCal Plan, and therefore the land use distribution, transportation assumptions, and sustainable strategies of Connect SoCal are completely out of sync with the rate of growth needed to accommodate the RHNA. However, the “existing need” portion, which represents needs of the existing population, is allocated consistent with the Connect SoCal development pattern. Specifically, based on SCAG’s adopted RHNA methodology, “existing need” is allocated based on transit and job access (i.e., assign 50% based on jurisdiction’s share of the region’s population within HQTAs and 50% based on a jurisdiction’s share of the region’s jobs that can be accessed within a 30- minute commute). Accordingly, this allocation is aligned with the strategies and policies underlying the development pattern in the SCS, particularly focusing on a regional jobs/housing balance to reduce commute times and distances and plan for growth near transit investments³.

In summary, SCAG’s RHNA methodology and the City’s Draft RHNA Allocation (which includes “existing need” and “projected need”) are consistent with Connect SoCal. For this reason, SCAG staff does not recommend a reduction to Rancho Santa Margarita’s Draft RHNA Allocation based on this factor.

Other: *In addition to the issues presented which are the basis of an appeal, the City of Rancho Santa Margarita also notes that it does not operate public transportation systems and is not located near any high quality transit areas so any new housing units in the City would not maximize the use of public transportation, therefore SCAG should not allocate more housing units for the City based on that factor.*

³Adopted 2020-2045 Connect SoCal Plan, page 49: https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial-plan_0.pdf?1606001176

SCAG Staff Response: The adopted Final RHNA Methodology includes a component that calculates need based on a jurisdiction's population within an HQTAs. HQTAs are areas that are within a certain distance of transit stations that meet the definition of frequent service or type of service as defined in SCAG's 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), also known as Connect SoCal. The use of the Connect SoCal Growth Forecast, which includes population within existing and planned HQTAs, in determining the RHNA component of population within HQTAs is a direct linkage to the regional transportation plan, strengthening the consistency between the two regional plans.

Using the calculation from the RHNA Methodology, the City of Rancho Santa Margarita was not assigned need based on population within an HQTAs, and thus its Draft RHNA Allocation was not assigned need based on this factor. For this reason, SCAG staff does not recommend a reduction to Rancho Santa Margarita's Draft RHNA Allocation based on this factor.

FISCAL IMPACT:

Work associated with this item is included in the current FY20-21 Overall Work Program (300-4872Y0.02: Regional Housing Needs Assessment).

ATTACHMENT(S):

1. Local Input and Development of Draft RHNA Allocation (City of Rancho Santa Margarita)
2. Map of HQTAs in the City of Rancho Santa Margarita (2045)
3. Map of Job Accessibility in the City of Rancho Santa Margarita (2045)
4. Comments Received During the Comment Period (General)
5. Appeal Form and Supporting Documentation (City of Rancho Santa Margarita)

Southern California Association of Governments
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City of Rancho Santa Margarita
January 19, 2022

Attachment 1: Local Input and Development of the Draft RHNA Allocation

This attachment sets forth the nature and timing of the opportunities which the City of Rancho Santa Margarita had to provide information and local input on SCAG's growth forecast, the RHNA methodology, and the Growth Vision of the 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS or Connect SoCal). It also describes how the RHNA Methodology development process integrates this information in order to develop the City of Rancho Santa Margarita's Draft RHNA Allocation.

1. Local input

a. Bottom-Up Local Input and Envisioning Process

On October 31, 2017, SCAG took the first step toward developing draft RHNA allocations by initiating the Bottom-Up Local Input and Envisioning Process. At the direction of the Regional Council, the objective of this process was to seek local input and data to prepare for Connect SoCal and the 6th cycle of RHNA.¹ Each jurisdiction was provided with a package of land use, transportation, environmental, and growth forecast data for review and revision which was due on October 1, 2018.² While the local input process materials focus principally on jurisdiction-level and Transportation Analysis Zone (TAZ) level growth, input on specific parcels, sites, and project areas were welcomed and integrated into SCAG's growth forecast as well as data on other elements. SCAG met one-on-one with all 197 local jurisdictions between November 2017 and July 2018 and provided training opportunities and staff support. Following input from SCAG's Technical Working Group (TWG), the Connect SoCal growth forecast reflected precisely the jurisdiction-level growth totals provided during this process.

Forecasts for jurisdictions in Orange County were developed through the 2018 Orange County Projections (OCP-2018) update process conducted by the Center for Demographic Research (CDR) at Cal State Fullerton. Jurisdictions were informed of this arrangement by SCAG at the kickoff of the Process. For the City of Rancho Santa Margarita, the anticipated number of households in 2020 was 16,813 and in 2030 was 16,863 (growth of 50 households). In March 2018, SCAG staff and CDR staff

¹ While the RTP/SCS and RHNA share data elements, they are distinct processes. The RTP/SCS growth forecast provides an assessment of reasonably foreseeable future patterns of employment, population, and household growth in the region given demographic and economic trends, and existing local and regional policy priorities. The RHNA identifies anticipated housing need over a specified eight-year period and requires that local jurisdictions make available sufficient zoned capacity to accommodate this need. A further discussion of the relationship between these processes can be found in Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

² A detailed list of data during this process reviewed can be found in each jurisdiction's Draft Data/Map Book at <https://scag.ca.gov/local-input-process-towns-cities-and-counties>

met with staff from the City of Rancho Santa Margarita to discuss the Bottom-Up Local Input and Envisioning Process and answer questions.

b. RHNA Methodology Surveys

On March 19, 2019, SCAG distributed a packet of methodology surveys, which included the local planning factor survey (formerly known as the AB2158 factor survey), Affirmatively Furthering Fair Housing (AFFH) survey, and replacement need survey, to SCAG jurisdictions' Community Development Directors. Surveys were due on April 30, 2019. SCAG reviewed all submitted responses as part of the development of the draft RHNA methodology. The City of Rancho Santa Margarita submitted the following surveys prior to the adoption of the draft RHNA methodology:

- Local planning factor survey
- Affirmatively Furthering Fair Housing (AFFH) survey
- Replacement need survey
- No survey was submitted to SCAG

c. Connect SoCal Growth Vision and Additional Refinements

Beginning in May 2018, SCAG's Sustainable Communities Working Group began the process of developing growth scenarios for the SCAG region. The culmination of this work was the development of the Connect SoCal Growth Vision, which directly uses jurisdictional-level growth projections from the Bottom-Up Local Input and Envisioning process, and also features strategies for growth at the TAZ-level that help to reduce greenhouse gas emissions (GHG) from automobiles and light trucks to achieve Southern California's GHG reduction target, approved by the California Air Resources Board (CARB) in accordance with state planning law. Additional detail regarding the Connect SoCal Growth Vision, specifically the Transportation Analysis Zone (TAZ, or neighborhood) level projections is found at <https://scag.ca.gov/sites/main/files/file-attachments/growth-vision-methodology.pdf>.

As a result of these strategies, in some jurisdictions growth at the TAZ-level differed from locally anticipated growth conveyed during the Bottom-Up Local Input and Envisioning Process.

As such, SCAG provided two additional opportunities for all local jurisdictions to make TAZ-level technical refinements on the topics of general plan capacities and entitlements. During the release of the draft Connect SoCal Plan, jurisdictions were notified on October 31, 2019 that SCAG would accept additional refinements until December 11, 2019. Following the Regional Council's decision to delay full adoption of Connect SoCal for 120 days due to the COVID-19 pandemic, all jurisdictions were again notified on May 26, 2020 that SCAG would accept additional refinements until June 9, 2020.

Connect SoCal Growth Vision data have been available to local jurisdiction staff during the entirety of this process through SCAG's Scenario Planning Model Data Management Site (SPM-DM) at

<http://spmdm.scag.ca.gov> and updates were shared with local jurisdictions on technical refinements to the data in February 2020 and August 2020 to share the results of both review opportunities. SCAG received additional technical corrections from the City of Rancho Santa Margarita and incorporated them into the Growth Vision in December 2019.

2. Development of the Final RHNA Methodology

SCAG convened the first meeting of the RHNA Subcommittee in October 2018. In their subsequent monthly meetings, this body reviewed and advised on the development of SCAG's 6th cycle RHNA process, including the development of the RHNA methodology. Per Government Code 65584.04(a), SCAG must develop a RHNA methodology which furthers the five statutory objectives of RHNA:

(1) Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low income households.

(2) Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region's greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080.

(3) Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction.

(4) Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey.

(5) Affirmatively furthering fair housing. (Govt. Code § 65584(d)).

As explained in more detail below, the Draft RHNA Methodology (which was adopted as the Final RHNA Methodology) set forth the policy factors, data sources, and calculations which would be used to generate draft RHNA allocations for all local jurisdictions. Following extensive debate and public comment, SCAG's Regional Council voted to approve the Draft RHNA Methodology on November 7, 2019 and provide it to HCD for review. Per Government Code 65584.04(i), HCD is vested with the authority to determine whether a methodology furthers the objectives set forth in Government Code section 65584(d). On January 13, 2020, HCD found that the Draft RHNA Methodology furthers these five statutory objectives of RHNA. Specifically, HCD noted that:

“This methodology generally distributes more RHNA, particularly lower income RHNA, near jobs, transit, and resources linked to long term improvements of life outcomes. In particular, HCD applauds the use of the objective factors specifically linked the statutory objectives in the existing need methodology.” (Letter from HCD to SCAG dated January 13, 2020 at <https://scag.ca.gov/sites/main/files/file-attachments/hcd-review-rc-approved-draft-rhna-methodology.pdf?1602190239>).

On March 5, 2020, again following extensive debate and public comment, the Regional Council voted to approve the Draft RHNA Methodology as the Final RHNA Methodology. Unlike SCAG’s 5th cycle RHNA methodology which relies almost entirely on the household growth component of the RTP/SCS, SCAG’s 6th cycle RHNA methodology consists of two primary elements: “projected need” which includes the number of housing units required to accommodate anticipated population growth over the 8-year RHNA planning period and “existing need,” which refers to the number of housing units required to accommodate excess or unsatisfied housing demand experienced by the region’s current population.³ Furthermore, the Final RHNA methodology utilizes measures of 2045 job accessibility and High Quality Transit Area (HQTA) population measures based on TAZ-level projections in the Connect SoCal Growth Vision.

More specifically, the Final RHNA Methodology considers three primary factors in determining a local jurisdiction’s total housing need which are primarily based on data from Connect SoCal’s aforementioned Bottom-Up Local Input and Envisioning Process:

- Forecasted growth over 2020-2030 (projected need)
- Transit accessibility in 2045 (existing need)
- Job accessibility in 2045 (existing need)

The methodology is described in further detail at <http://scag.ca.gov/programs/Documents/RHNA/SCAG-Final-RHNA-Methodology-030520.pdf>.

3. Draft RHNA Allocation for the City of Rancho Santa Margarita

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the 120 day delay due to the COVID-19 pandemic, SCAG adopted Connect SoCal on September 3, 2020, and the City of Rancho Santa Margarita received its draft RHNA allocation on September 11, 2020. Application of

³ Legislative changes in 2018 modified the nature of the regional housing need determination for the 6th cycle of RHNA by adding measures of household overcrowding and housing cost burden to the list of factors to be considered by HCD for the determination of housing need. These new measures are not included in the Connect SoCal Growth Forecast because they are not direct inputs to the growth forecasting process and are independent of employment and population projections. In contrast, they reflect additional latent housing needs in the current population (i.e. “existing need”) and would not result in a change in regional population. For further discussion see Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

the RHNA methodology yields the draft RHNA allocation for the City of Rancho Santa Margarita as summarized in the data and calculations in the tables below.

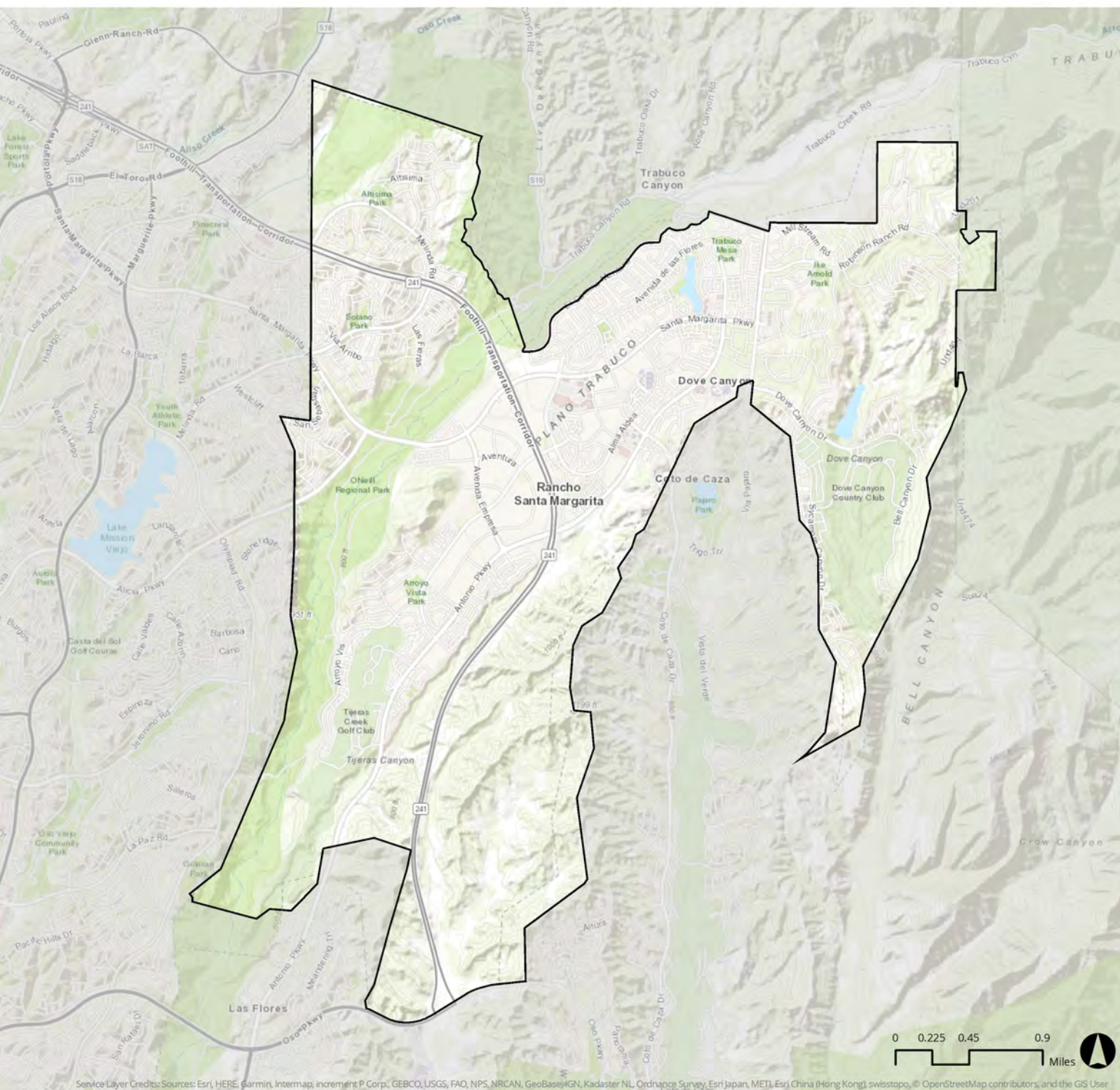
Rancho Santa Margarita city statistics and inputs:		Calculation of Draft RHNA Allocation for Rancho Santa Margarita city	
Forecasted household (HH) growth, RHNA period: <i>(2020-2030 Household Growth * 0.825)</i>	41	Forecasted household (HH) growth, RHNA period:	41
Percent of households who are renting:	29%	Vacancy Adjustment <i>(5% for renter households and 1.5% for owner households)</i>	1
Housing unit loss from demolition (2009-18):	1	Replacement Need	1
Adjusted forecasted household growth, 2020-2045: <i>(Local input growth forecast total adjusted by the difference between the RHNA determination and SCAG's regional 2020-2045 forecast, +4%)</i>	181	TOTAL PROJECTED NEED:	43
Percent of regional jobs accessible in 30 mins (2045): <i>(For the jurisdiction's median TAZ)</i>	5.55%	Existing need due to job accessibility (50%)	424
Jobs accessible from the jurisdiction's median TAZ (2045): <i>(Based on Connect SoCal's 2045 regional forecast of 10.049M jobs)</i>	558,000	Existing need due to HQTAs pop. share (50%)	0
Share of region's job accessibility (population weighted):	0.10%	Net residual factor for existing need <i>(Negative values reflect a cap on lower-resourced community with good job and/or transit access. Positive values represent this amount being redistributed to higher-resourced communities based on their job and/or transit access.)</i>	212
Jurisdiction's HQTAs population (2045):	-	TOTAL EXISTING NEED	636
Share of region's HQTAs population (2045):	0.00%	TOTAL RHNA FOR RANCHO SANTA MARGARITA CITY	680
Share of population in low/very low-resource tracts:	0.00%	Very-low income (<50% of AMI)	209
Share of population in very high-resource tracts:	27.78%	Low income (50-80% of AMI)	120
Social equity adjustment:	150%	Moderate income (80-120% of AMI)	125
		Above moderate income (>120% of AMI)	226

The transit accessibility measure is based on the population anticipated to live in High-Quality Transit Areas (HQTAs) in 2045 based on Connect SoCal's designation of high-quality transit areas and population forecasts. With no forecasted 2045 population of living within HQTAs, the City of Rancho Santa Margarita does not represent any of the SCAG region's HQTAs population, which is the basis for allocating housing units based on transit accessibility.

Job accessibility is defined as the jurisdiction's share of regional jobs accessible within a 30-minute drive commute. Since over 80 percent of the region's workers live and work in different jurisdictions, the RHNA methodology uses a measure based on Connect SoCal's travel demand model output for the year 2045 rather than assigning housing units based on the number of jobs with a specific jurisdiction. Specifically, the share of future (2045) regional jobs which can be reached in a 30-minute automobile commute from the local jurisdiction's median TAZ is used as to allocate housing units based on transit accessibility. From the City of Rancho Santa Margarita's median TAZ, it will be possible to reach 5.55% of the region's jobs in 2045 within a 30-minute automobile commute (558,000 jobs, based on Connect SoCal's 2045 regional job forecast of 10,049,000 jobs).

An additional factor is included in the methodology to account for RHNA Objective #5 to Affirmatively Further Fair Housing (AFFH). Several jurisdictions in the region which are considered disadvantaged communities (DACs) on the basis of access to opportunity measures (described further in the RHNA methodology document), but which also score highly in job and transit access, may have their total RHNA allocations capped based on their long-range (2045) household forecast. This additional housing need, referred to as residual, is then reallocated to non-DAC jurisdictions in order to ensure housing units are placed in higher-resourced communities consistent with AFFH principles. This reallocation is based on the job and transit access measures described above, and results in an additional 212 units assigned to the City of Rancho Santa Margarita.

Please note that the above represents only a partial description of key data and calculations which result in the Draft RHNA Allocation.



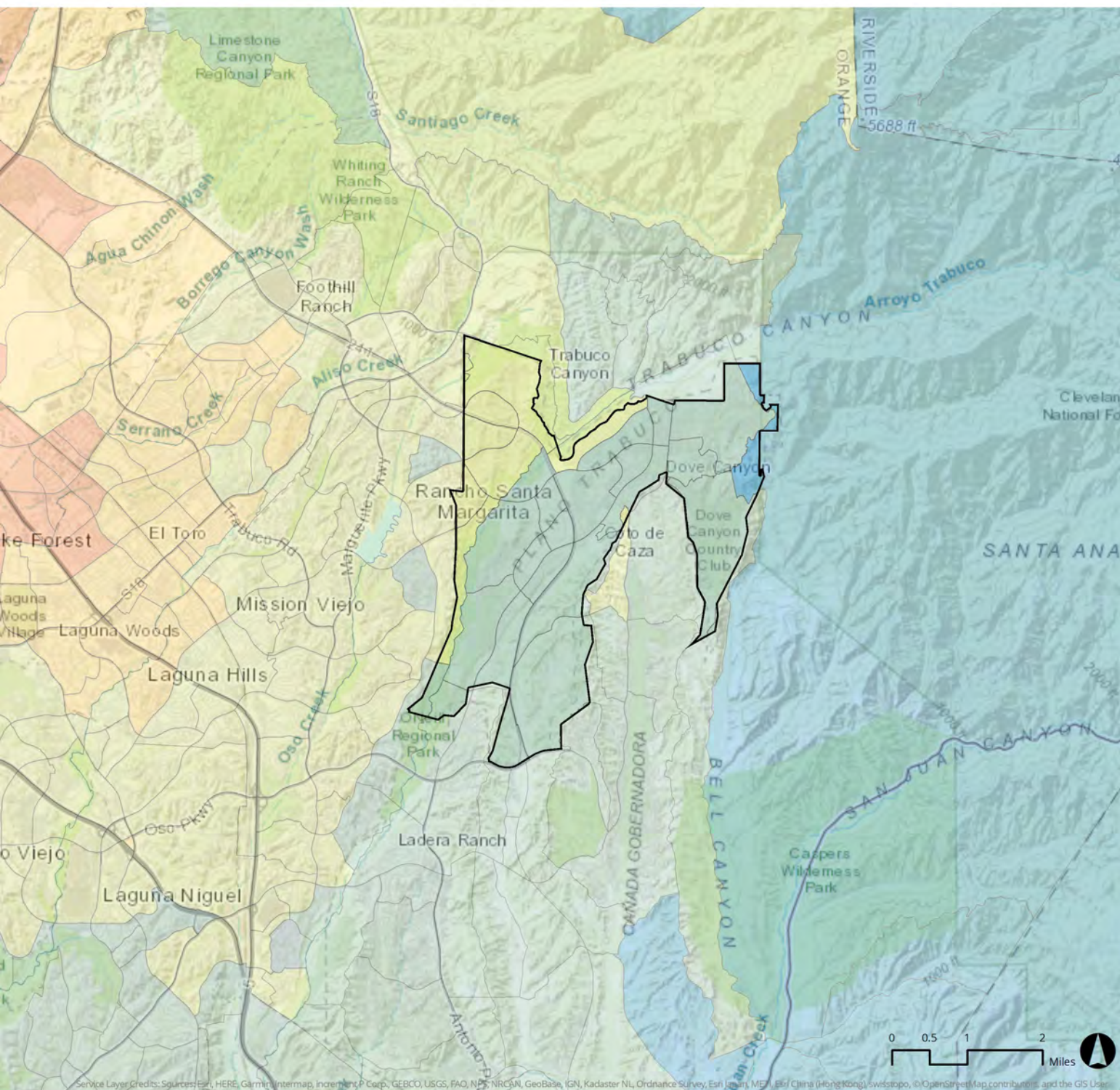
Major Transit Stops and High Quality Transit Areas in City of Rancho Santa Margarita [Year 2045]

- Major Transit Stops
- ▬ High Quality Transit Corridors (HQTAs)
- High Quality Transit Areas (HQTAs)

Note: SCAG identifies Major Transit Stops and High Quality Transit Corridors (HQTAs), and their surrounding areas in one-half mile radius distance as specified in Section 21155.(b)(3). Major transit stops and HQTAs are extracted from 2045 plan year data of Connect SoCal. SCAG's High Quality Transit Area (HQTA) is within one-half mile from Major Transit Stops and HQTAs and developed based on the language in SB375; however, freeway transit corridors with no bus stops on the freeway alignment do not have a directly associated HQTA. The RHNA process, per Section 65584 et seq., specifies that SCAG's housing needs allocation plan shall further several objectives including those related to infill development and jobs-housing balance. To that end, SCAG's Regional Council-adopted 6th Cycle Final RHNA Methodology relies on a jurisdiction's forecasted 2045 population within HQTAs to allocate housing need.

Data Source: SCAG, County Transportation Commissions, 2020 | Map Created: 10/22/2020

Disclaimer: The information shown on this map reflect jurisdiction's input submitted during the Local Input and Envisioning Process for the City of Rancho Santa Margarita. SCAG shall not be responsible for user's misuse or misrepresentation of this map. For the details regarding the sources, methodologies and data please refer to the SCAG Data/Map Book at connectsocial.org/Pages/Local-Input-Process.aspx or contact RTPLocalInput@scag.ca.gov.



TAZ-level job accessibility in and around: City of Rancho Santa Margarita [Year 2045]



Note: These data represent the share of jobs in the SCAG region accessible by automobile commute in 30 minutes in 2045 during the peak AM commute (6-9am). Further detail on the job accessibility measure can be found in SCAG's Final RHNA Methodology. Note that since the SCAG region's total employment forecast for 2045 is 10,049,000 jobs, the number of jobs available can be measured by multiplying the percentage found on the map by this number. For example, a TAZ-level job accessibility measure of 10.0% means that 1,049,000 future jobs could be reached in 30 minutes.

Data Source: SCAG, 2020 | Map Created: 10/22/2020

Disclaimer: The data underlying the information shown on this map reflect jurisdiction's input submitted during the Local Input and Envision Connect SoCal. SCAG shall not be responsible for user's misuse or misrepresentation of this map. For the details regarding the sources, methodology of this map, please refer to the SCAG Data/Map Book at <https://www.connectsocial.org/Pages/Local-Input-Process.aspx> or contact RTPLocalIn

**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF HOUSING POLICY DEVELOPMENT**

2020 W. El Camino Ave
Sacramento, CA 95833-1829
916) 263-2911 FAX: (916) 263-7453
www.hcd.ca.gov



December 10, 2020

Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Dear Executive Director Ajise:

RE: Comment on Appeals of the Draft Regional Housing Need Allocation (RHNA) Plan

Thank you for the opportunity to comment on the 52 appeals Southern California Association of Governments (SCAG) has received regarding the draft RHNA plan. The appeal process is an important phase in the development of a RHNA plan that ensures that all relevant factors and circumstances are considered.

The only circumstances under which a jurisdiction can appeal are:

- 65584.05(b)(1): The council of governments failed to adequately consider the information regarding the factors listed in subdivision (e) of section 65584.04.
- 65584.05(b)(2): The council of governments failed to determine the share of the regional housing need in a manner that furthers the intent of the objectives listed in subdivision (d) of section 65584.
- 65584.05(b)(3): A significant unforeseen change in circumstances occurred in the local jurisdiction that merits a revision of the information submitted pursuant to subdivision (e) of Section 65584.04.

The California Department of Housing and Community Development (HCD) urges SCAG to only consider appeals that meet these criteria.

Per Government Code section 65584.05(e)(1), SCAG's final determination on whether to accept, reject, or modify any appeal must be accompanied by written findings, including how the final determination is based upon the adopted RHNA allocation methodology, and how any revisions are necessary to further the statutory objectives of RHNA described in Government Code section 65584(d).

Among the appeals based on Government Code section 65584.05(b)(1), several appeals state that SCAG failed to consider the factor described in Government Code section 65584.04(e)(2)(B), citing the lack of land suitable for development as a basis for the appeal. However, this section states the council of governments may not limit its consideration of suitable housing sites to existing zoning and land use restrictions and must consider the potential for increased development under alternative zoning and

land use restrictions. Any comparable data or documentation supporting this appeal should contain an analysis of not only land suitable for urban development, but land for conversion to residential use, the availability of underutilized land, and opportunity for infill development and increased residential densities. In simple terms, this means housing planning cannot be limited to vacant land, and even communities that view themselves as built out must plan for housing through means such as rezoning commercial areas as mixed-use areas and upzoning non-vacant land.

With regard to appeals submitted related to Government Code section 65584.05(b)(2), that SCAG failed to determine the RHNA in a manner that furthers the statutory objectives, it should be noted that HCD reviewed SCAG's draft allocation methodology and found that the draft RHNA allocation methodology furthered the statutory objectives described in Government Code section 65584.

Among the appeals based on Government Code section 65584.05(b)(2), several contend that the cap on units allocated to extremely disadvantaged communities (DACs) does not further RHNA's statutory objectives. This cap furthers the statutory objective to affirmatively further fair housing by allocating more units to high opportunity areas and fewer units to low resource communities, and concentrated areas of poverty with high levels of segregation. Due to the inclusion of this factor, as well as the use of TCAC/HCD Opportunity Maps, SCAG's methodology allocates 14 of the top 15 highest shares of lower-income RHNA to jurisdictions with over 99.95 percent High and Highest Resource areas. With the exceptions of two jurisdictions, the 31 jurisdictions with the highest share of lower-income RHNA are all over 95 percent High and Highest Resource areas. Any weakening of these inputs to the methodology could risk not fulfilling the statutory objective to affirmatively further fair housing.

Several appeals argue that SCAG's RHNA allocation methodology does not adequately promote access to jobs and transit, as required in objectives two and three. HCD's review of SCAG's RHNA methodology found the allocation does further the environmental principles of objective two. SCAG's overall allocation includes significant weight related to the location of high-quality transit areas and the regional distribution of jobs that can be accessed within a 30-minute driving commutes. Regarding objective three, HCD's analysis as to whether jobs-housing fit was furthered by SCAG's draft methodology found that across all jurisdictions there is generally good alignment between low-wage jobs and lower-income RHNA, with all but 15 jurisdictions within a half percent plus or minus difference between their share of lower-income RHNA for the region and their percentage low-wage jobs for the region.

Several appeals are based upon the provision described in Government Code section 65584.05(b)(3), arguing that the COVID-19 pandemic represents a significant and unforeseen change in circumstances that will affect future population and job growth. Ensuring everyone has a home is critical to public health. Reducing and preventing overcrowding and homelessness are essential concerns for every community. The COVID-19 pandemic has only increased the importance that each community is planning for sufficient affordable housing.

Lastly, several appeals state that the Regional Housing Needs Determination (RHND) HCD provided to the SCAG region is too large. SCAG submitted an objection to the RHND at the appropriate time and through the appropriate process. HCD considered those objections and [determined the final RHND for 6th Housing Element Cycle for the SCAG region on October 15, 2019](#). There are no further appeal procedures available to alter the SCAG region's RHND for this cycle. Government Code section 65584.05(b) does not allow local governments to appeal the RHND during the 45-day period following receipt of the draft allocation.

HCD acknowledges that many local governments will need to plan for more housing than in the prior cycle to accommodate a RHND that more fully captures the housing need and as the statutory objectives of RHNA shift more housing planning near jobs, transit, and resources. The Southern California region's housing crisis requires each jurisdiction to plan for the housing needs of their community and the region. In recognition of this effort there are more resources available than ever before to support jurisdictions as they prepare to update their 6th cycle housing elements:

- SB 2 Planning Grants – \$123 million one-time allocation to cities and counties
- SB 2 Planning Grants Technical Assistance offered to all jurisdictions
- Regional and Local Early Action Planning Grants – \$238 million one-time allocation for local and regional governments
- SB 2 Permanent Local Housing Allocation – approximately \$175 million annually in ongoing funding for local governments to increase affordable housing stock

If HCD can provide any additional assistance, or if you, or your staff, have any questions, please contact Megan Kirkeby, Deputy Director, megan.kirkeby@hcd.ca.gov.



Megan Kirkeby
Deputy Director



City of Whittier

13230 Penn Street, Whittier, California 90602-1716
(562) 567-9320 Fax (562) 567-2872 www.cityofwhittier.org

Electronically Transmitted to: Housing@scag.ca.gov

December 10, 2020

RHNA Appeals Committee
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

SUBJECT: City of Whittier's Comments on Appeals to the Sixth Cycle Regional Housing Needs Assessment (RHNA) Allocation

Honorable Chair and Honorable Committee Members:

The City of Whittier ("City") appreciates the challenges that are inherent in allocating 1,341,827 housing units by the thousands (a 226% increase above the baseline 412,137 unit) to cities across Southern California, especially in built-out cities. However, the City is deeply concerned its housing allocation of 3,431 units from the State Department of Housing and Community Development ("HCD") and the Southern California Association of Government's ("SCAG") unit distribution methodology, along with recent housing legislation will fundamentally abridge the City's ability to develop effective land-use policies that are appropriate for managing the community's actual needs. The 878 units in the 5th cycle RHNA allocation has been increased by 290% to 3,431 units in the current 6th cycle. Particularly challenging in the 6th cycle, is the number of low and very low-income units (1,558) which combined with the moderate and above moderate unit totals forces unplanned and unnecessary residential densification of the community.

The affordable units are an unfunded mandate with very limited regional or State financial support for their development. Considering the affordable housing subsidies typically range from \$50,000 to \$250,000 per unit, the overall funding requirements could range from \$78,000,000 to \$390,000,000 which is clearly beyond the reach of the City of Whittier in that the City's general fund budget is just \$72,000,000 which already include \$2,000,000 annually to house the City's unsheltered residents in transitional housing. Additionally, the City only receives 7.5% of each property tax dollar to provide general services including police and library services.

The City is currently in the process of updating its Housing Element as well as the General Plan to incorporate the current RHNA allocation, so Whittier is acutely aware of the various housing needs as well as the potential obstacles, such as aging infrastructure and unplanned density, to creating the requisite housing within a city that

is essentially built out. The changes in the State's housing laws (SB 35, SB 166 and AB 1397) have created additional constraints for the agencies and may severely impact the City's ability to accomplish our regional and local housing goals.

Since development in Whittier began more than 130 years ago, the City is virtually built-out with little developable vacant land outside of its designated open space areas that are dedicated to accommodating existing and future residents. While the City has made significant efforts through its specific plans to densify existing corridors and districts, the majority of Whittier's remaining single-family residential neighborhoods cannot accommodate similar densification. Furthermore, the hills north of Whittier contain regional open space, sensitive habitat and wildlife areas that must be preserved in perpetuity. There are also significant infrastructure and water service constraints that impact Whittier's ability to produce significantly more housing. Although these facts may not be desirable, they must be pragmatically accounted for and mitigated by not further increasing Whittier's share of housing units contained in SCAG's 6th Cycle RHNA. The final RHNA allocation and methodology must be fair and equitable while reflecting the capacity for reasonable housing unit construction.

As with many other cities, the City is concerned about the current allocation, but an even greater concern is that additional units may be applied to the City if reallocated from cities that are successful in their appeals. To that end, the City believes the appeal process itself was unclear as to the potential ramifications to other cities and not fully understood.

Although we fully support the surrounding cities in their appeals, the potential for additional units being applied to the City would exacerbate the problems described herein and in Whittier's September 13, 2019 letter to SCAG.

Should you have any questions, please do not hesitate to contact me.

Sincerely,



Jeffery S. Adams
Director of Community Development

File

From: Christopher Koontz <Christopher.Koontz@longbeach.gov>
Sent: Thursday, December 3, 2020 11:14 AM
To: Regional Housing
Subject: RHNA Appeals

Categories: Response Required, Record

Good morning,

The purpose of this email is to provide the City of Long Beach's position in regards to pending RHNA appeals before SCAG. The City of Long Beach seeks to meet its housing needs and obligations for the benefit of Long Beach residents and the region. Our allocation was extremely large and presents a planning and financing challenge for the City. Nonetheless we chose not to appeal our allocation because the allocation process was fair and transparent including taking the City of Long Beach's input into consideration.

We oppose and will not accept any transfer of additional allocation due to the pending appeals. We note that within our area, the Gateway COG, appeals are pending from Bellflower, Cerritos, Downey, Huntington Park, La Mirada, Lakewood, Pico Rivera, and South Gate. Each of these appeals should be evaluated by SCAG on the merits, however Long Beach opposes any transfer of allocation to our City. It would be inappropriate to transfer a further burden to Long Beach when we have already accepted a large allocation and have done more than many cities in the region to accommodate housing growth under the current RHNA cycle, including fully meeting our market-rate RHNA allocation.

The City of Long Beach will continue to work with SCAG and our neighbor jurisdictions to address the housing needs of our residents.

We thank you for consideration and please do not hesitate to contact the City regarding our position.

Christopher Koontz, AICP
Deputy Director

Development Services
411 W. Ocean Blvd., 3rd Floor | Long Beach, CA 90802
Office: 562.570.6288 | Fax: 562.570.6068



Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scaq.ca.gov.
Late submissions will not be accepted.

Date: _____ Jurisdiction Subject to This Appeal Filing:

 (to file another appeal, please use another form)

Filing Party (Jurisdiction or HCD)

Filing Party Contact Name _____ Filing Party Email: _____

APPEAL AUTHORIZED BY:

Name: _____

PLEASE SELECT BELOW:

- Mayor
- Chief Administrative Office
- City Manager
- Chair of County Board of Supervisors
- Planning Director
- Other: _____

BASES FOR APPEAL

- Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029)
- Local Planning Factors and/or Information Related to Affirmatively Furthering Fair Housing (See Government Code Section 65584.04 (b)(2) and (e))
 - Existing or projected jobs-housing balance
 - Sewer or water infrastructure constraints for additional development
 - Availability of land suitable for urban development or for conversion to residential use
 - Lands protected from urban development under existing federal or state programs
 - County policies to preserve prime agricultural land
 - Distribution of household growth assumed for purposes of comparable Regional Transportation Plans
 - County-city agreements to direct growth toward incorporated areas of County
 - Loss of units contained in assisted housing developments
 - High housing cost burdens
 - The rate of overcrowding
 - Housing needs of farmworkers
 - Housing needs generated by the presence of a university campus within a jurisdiction
 - Loss of units during a state of emergency
 - The region's greenhouse gas emissions targets
 - Affirmatively furthering fair housing
- Changed Circumstances (Per Government Code Section 65584.05(b), appeals based on change of circumstance can only be made by the jurisdiction or jurisdictions where the change in circumstance occurred)

FOR STAFF USE ONLY:

Date _____ Hearing Date: _____ Planner: _____

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scaq.ca.gov.
Late submissions will not be accepted.

Brief statement on why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584 (please refer to Exhibit C of the Appeals Guidelines):

Please include supporting documentation for evidence as needed, and attach additional pages if you need more room.

Brief Description of Appeal Request and Desired Outcome:

Number of units requested to be reduced or added to the jurisdiction's draft RHNA allocation (circle one):

Reduced _____ **Added** _____

List of Supporting Documentation, by Title and Number of Pages
(Numbers may be continued to accommodate additional supporting documentation):

- 1.
- 2.
- 3.

FOR STAFF USE ONLY:

Date _____

Hearing Date: _____

Planner: _____

City of Rancho Santa Margarita
BASIS FOR APPEAL AND SUPPORTING DOCUMENTATION
Submitted October 23, 2020

TOPIC 1: AVAILABILITY OF LAND SUITABLE FOR URBAN DEVELOPMENT OR FOR CONVERSION TO RESIDENTIAL USE

Pursuant to Government Code¹ §65584.05(b)(1), a jurisdiction may appeal its draft RHNA allocation on the grounds that SCAG failed to adequately consider information submitted by a local jurisdiction relating to local factors described in Section 65584.04(e) or related to affirmatively furthering fair housing pursuant to Sections 65584.04(b)(2) and 65584(d)(5). The first basis for the City of Rancho Santa Margarita's (City) appeal is that SCAG failed to adequately consider information submitted by the City related to Local Planning Factors and information Affirmatively Furthering Fair Housing (AFFH). Namely, with respect to the City of Rancho Santa Margarita's allocation, SCAG failed to consider the factor listed in 65584.04(e)(2): *The opportunities and constraints to development of additional housing in each member jurisdiction, including all of the following: (B) The availability of land suitable for urban development or for conversion to residential use, the availability of underutilized land, and opportunities for infill development and increased residential densities.*

To be precise, SCAG did not properly consider the many physical constraints, lack of underutilized land, and limited opportunities for infill development and increased residential densities in the City as described herein. In short, 71% of the land within the City is not suitable for additional development, and residential dwelling units already occupy 66% of the remaining suitable land area.

Community Summary

Rancho Santa Margarita is a master planned community which was designed to provide a population of approximately 50,000 with residential, commercial, and business uses to meet local needs to live, work, and play, paying particular attention to achieving a compatible live-work balance. Most development in the City occurred throughout the 1990s under the jurisdiction of the County of Orange, with the City incorporating as Orange County's 33rd City on January 1, 2000. According to the Pre-Certified Local Housing Data for Rancho Santa Margarita provided by SCAG in August 2020, approximately 60% of the housing stock is less than 30 years old, with an additional 34% of housing built since 1980. The following sections describe the significant constraints to development of additional housing and/or conversion to residential use which were not adequately considered by SCAG, including:

- 71% of the land within the City is not suitable for additional development. This includes protected open space, water bodies, and public right-of way.
- 67% of the City is located within the Very High Fire Hazard Severity Zone (VHFHSZ) as designated on the State maps issued by the California Department of Forestry and Fire Protection (CalFire).
- Most buildings, shopping centers, and homes in the City are less than 35 years old and are not in need of significant repairs or redevelopment.

¹ Unless specified otherwise, all statutory references are to the California Government Code.

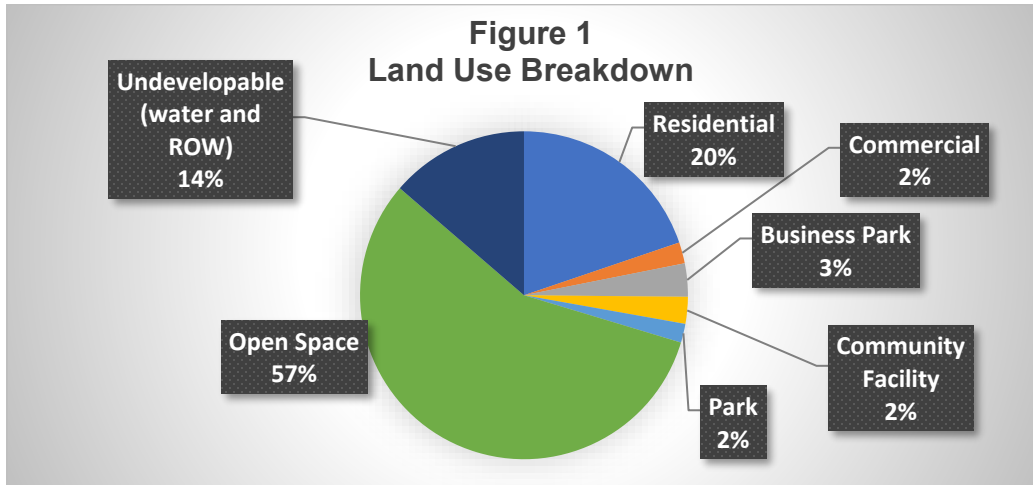
City of Rancho Santa Margarita
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Existing Land Use

The City of Rancho Santa Margarita is situated among significant open space resources which add to its quality of life, but constrain development options. Table 1 and Figure 1 show the breakdown of land uses in the City².

Table 1
2020 General Plan
Existing Land Uses

Land Use	Acres	Percent of Total
Residential	1,638.4	20%
Commercial	172.9	2%
Business Park	271.3	3%
Community Facility	219.4	2%
Park	153.9	2%
Open Space	4,691.5	57%
Water Bodies & ROW	1,132.5	14%
Total	8,279.9	



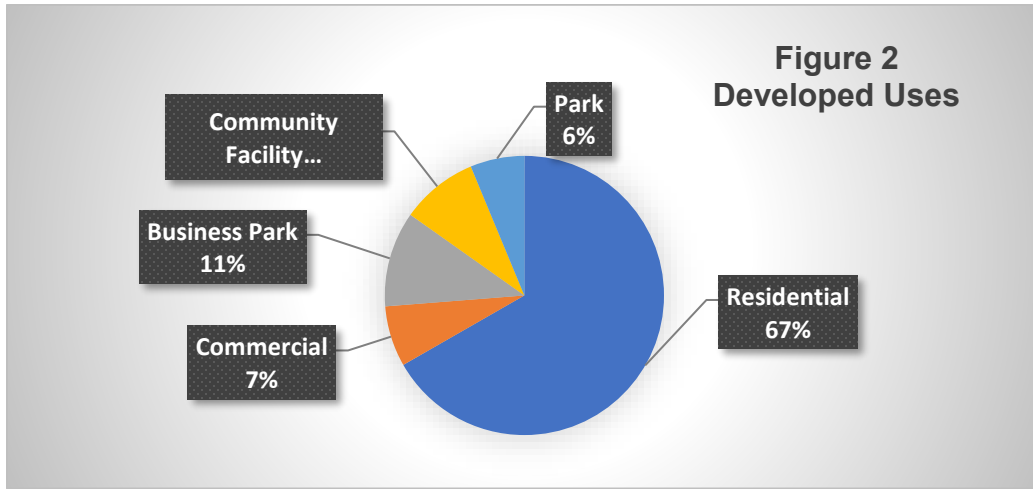
As shown in the above statistics, 71% of the City is open space or otherwise not suitable for development due to existing uses (14% bodies of water and public rights-of way plus 57% open space). Further, of the land suitable for development, 67% is currently developed with residential uses, as shown Figure 2 below.

It is important to note that most of the open space within Rancho Santa Margarita is protected by various easements and covenants for public use, scenic preservation, and environmental protection. The County of Orange owns over 1,500 acres within the City, including over 1,200 acres in O’Neill Regional Park. Additionally, approximately 1,100

² See, Rancho Santa Margarita General Plan, updated March 2020.

City of Rancho Santa Margarita
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acres is in protected status for habitat preservation. Exhibit 1 attached hereto, entitled *Protected Open Space in City of Rancho Santa Margarita*, from the SCAG Local Input & Envisioning Process Data/Map Book for the City of Rancho Santa Margarita, Draft November 2019, depicts the protected open space within the City. The Rancho Santa Margarita General Plan Land Use Map is attached as Exhibit 2 and shows the location of the City's open space resources.



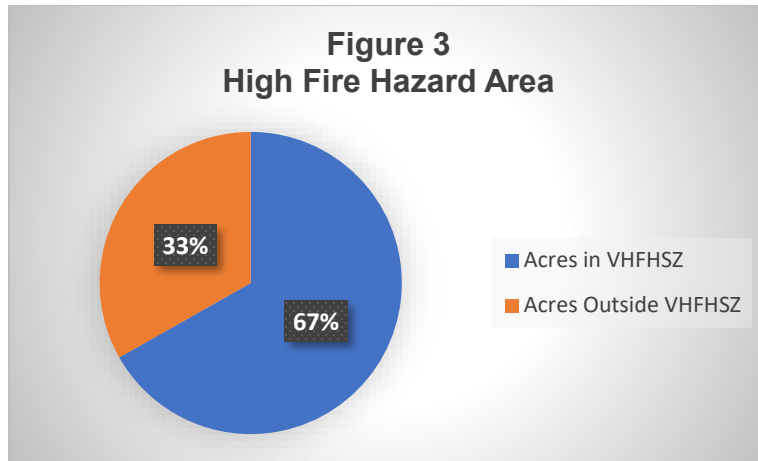
Wildfire Hazard Areas

Given the large portion of Rancho Santa Margarita that is protected open space, which consists of rugged topography filled with native vegetation, wildland fires are a significant risk. This risk is reflected by CalFire's designation of significant portions of the City as being located within VHFHSZ. This risk is further documented in the City's General Plan Safety Element and the City's award-winning, FEMA approved, Local Hazard Mitigation Plan. The General Plan Safety Element Figure SAF-3, Wildfire Hazard Areas, is attached as Exhibit 3. Exhibit 3, Table 2, and Figure 3 show that significant portions of the City are located within the VHFHSZ.

Table 2
High Fire Hazard Area

Land Use	Total General Plan Acres	Acres in VHFHSZ	% of Land Use Category
Residential	1,638.4	670.1	41%
Commercial	172.9	8.1	5%
Business Park	271.3	0.07	0%
Community Facility	219.4	80.9	37%
Park	153.9	84.4	55%
Open Space	4,691.5	4,295.5	92%
Undevelopable (water and ROW)	1,132.5	391.5	35%
Total	8,279.9	5,530.6	

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As demonstrated by Figure 3, 67% of the City is located within State-designated high fire risk areas, which is a substantial barrier to the development of housing. Furthermore, recent State housing legislation has already recognized wildfire hazards as a constraint to housing development. Indeed, SB 35 streamlining does not apply to projects within high fire hazard zones. Additionally, Government Code Section 65584.04(e)(2)(D)(13), which was added by SB 182, requires consideration of land within very high fire risk areas as a constraint during future Housing Element Cycles beginning in July, 2022. While this statute does not apply to the current RHNA, it is evidence that the State considers residential development within very high fire risk areas as an important consideration in determining a jurisdiction’s share of regional housing need. Further, homeowners are unable to secure homeowners’ insurance in wildfire hazard areas, making additional development in these areas prohibitive and financially infeasible for homeowners of any type³.

Conversion of Non-Residential Land

In order to accommodate the RHNA within the areas of Rancho Santa Margarita that are suitable for residential development, it would be necessary to convert existing commercial and business park uses (most of it less than 30 years old) to residential or mixed-use. As shown in the tables and figures above, only five percent of the City (approximately 444 acres) is designated for commercial and business park uses. These lands provide the balance which is needed to provide goods, services, and jobs locally, while supporting lower Vehicle Miles Traveled (VMT) and a healthy jobs-housing balance, which are key objectives specified in the Connect SoCal Plan. This balance was a key component in designating Rancho Santa Margarita’s central core as a Neighborhood Mobility Area in the Connect SoCal Plan. The conversion of commercial areas as would be necessary to accommodate the City’s current allocation, would force local residents to leave the City

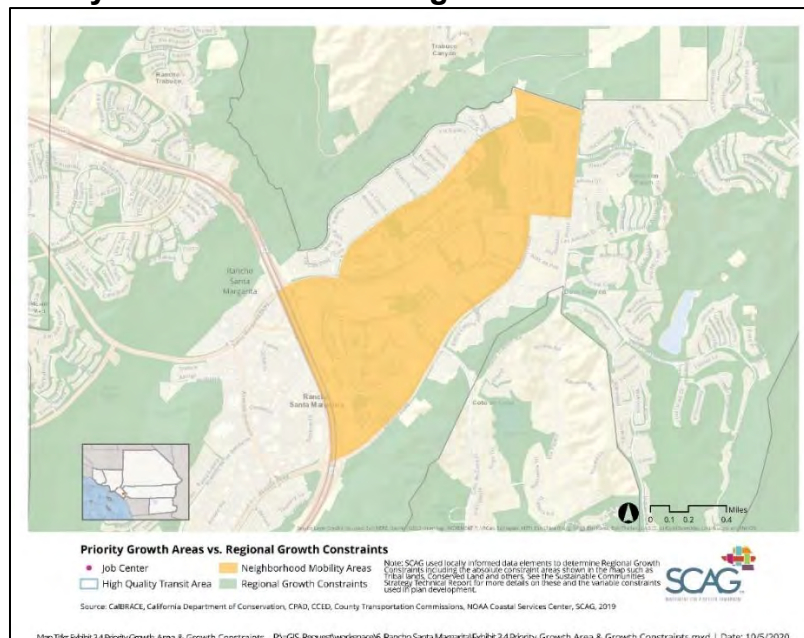
³ <http://www.insurance.ca.gov/0400-news/0100-press-releases/2020/release104-2020.cfm> and <https://voiceofoc.org/2019/12/o-c-homeowners-in-high-fire-hazard-areas-seek-insurance-options/>

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to obtain basic goods and services, which would, in turn, increase VMT. Furthermore, the conversion of business park areas to residential uses would disrupt the City’s existing jobs-housing balance and hinder the job growth which is forecast in the 2018 Orange County Projections (OCP-2018), Connect SoCal, as well as the City’s General Plan.

Connect SoCal designates the central portion of the City as a Neighborhood Mobility Area (NMA) (see Figure 4 and Exhibit 4). Connect SoCal describes NMAs as areas “with robust residential to non-residential land use connections, high roadway intersection densities, and low-to-moderate traffic speeds... NMAs support the principals of center focused placemaking.” This description accurately depicts the current development and transportation network of the central portion of the City. However, in order to meet the 680 unit RHNA, the character of this area would have to fundamentally change. The existing commercial areas that support walkability would be replaced with residential uses, eliminating the ability for residents to walk to obtain goods and services. The City of Rancho Santa Margarita agrees that this area can accommodate additional residential uses. In fact, the recently updated General Plan contemplates mixed-use development, and updates to the City’s Accessory Dwelling Unit regulations streamline the process to add ADUs in this area and throughout the City. However, development of 680 dwelling units within an eight-year period is not realistic. The Connect SoCal Growth Forecast assigns 300 new households to Rancho Santa Margarita within a 20-year period. The Connect SoCal forecast is achievable; the RHNA is not.

Figure 4
Priority Growth Areas vs. Regional Growth Constraints



Connect SoCal recognizes a number of growth constraints throughout the region. Namely, the Plan considers open space among a list of “Absolute Constraints” (Connect SoCal, Sustainable Communities Strategy, p. 18) and avoids directing growth to these

Attachment: Appeal Form and Supporting Documentation (City of Rancho Santa Margarita) (Appeal of the Draft Allocation for the City of

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areas. Similarly, the Plan also considers a number of “Variable Constraints,” (Connect SoCal, Sustainable Communities Strategy, p. 19) such as wildland urban interface and wildfire prone areas, and avoids growth in these areas where possible. Specifically, the Sustainable Communities Strategy states the following with respect to Variable Constraints:

“Growth will be avoided in the following area, where possible except when constraint conflicts with accommodating the jurisdictional growth total [as reflected in Connect SoCal], in the following order:

- *Wildland Urban Interface*
- *Agriculture-Grazing Land*
- *Agriculture (within incorporated cities)*
- *500-year flood plains*
- *Wildfire prone areas (CalFire Very High Severity; State and Local)*
- *Natural lands and habitat corridors”* (Connect SoCal, Sustainable Communities Strategy, p. 19)

As will be discussed later in this document, the jurisdictional growth total for Connect SoCal is consistent with these recognized constraints. However, it should be noted that a portion of the Neighborhood Mobility Area designated within Rancho Santa Margarita is also within the VHFHSZ as shown in Exhibit 5: Fire Hazard Zone and Neighborhood Mobility Area. SCAG’S draft RHNA allocation did not properly consider the many City-specific physical constraints, lack of underutilized land, and limited opportunities for infill development and increased residential densities in Rancho Santa Margarita which, when appropriately considered, should result in a reduction in the City’s total allocation number.

TOPIC 2: DISTRIBUTION OF HOUSEHOLD GROWTH ASSUMED FOR PURPOSES OF COMPARABLE REGIONAL TRANSPORTATION PLANS

The second ground for the City’s appeal also lies in SCAG’s failure to adequately consider information relevant to Local Planning Factors and Affirmatively Furthering Fair Housing (AFFH). Namely, the City of Rancho Santa Margarita’s allocation demonstrates SCAG’s failure to consider information relevant to the factor listed in 65584.04(e)(3), which reads as follows: *The distribution of household growth assumed for purposes of a comparable period of regional transportation plans and opportunities to maximize the use of public transportation and existing transportation infrastructure.*

Consistency with RTP/SCS (Connect SoCal)

State law requires RHNA to be consistent with the local regional transportation plan (RTP), Connect SoCal. Table 14 of the Connect SoCal Demographics and Growth Forecast Technical Report, adopted September 3, 2020, projects growth of 300 households in the Rancho Santa Margarita between 2016 and 2045 (or approximately 10 households per year). The adopted RHNA allocation for Rancho Santa Margarita of 680 housing units (or approximately 85 housing units per year) in an eight-year period is more than double the Connect SoCal growth forecast, which is projected to occur over a 29-

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year planning period. This inconsistency is in direct conflict with Sections 65080(b)(2)(B) and 65584.04(m)(3) which require consistency among the RTP and RHNA.

Connect SoCal and the related Program Environmental Impact Report (PEIR) explain that the RHNA allocates the RTP growth forecast as the “projected need” part of the RHNA formula. The PEIR further clarifies on page 3.14-16 the distinction between households and housing units for the purposes of the Connect SoCal growth forecast and RHNA. While we understand the distinction and the methodology used, we believe that SCAG improperly used a one-size-fits-all approach to allocate existing need, which both ignores local land use constraints, and is inconsistent with Connect SoCal. Furthermore, the vast difference in the planning cycles and number of housing units/households projected is inherently inconsistent.

The development pattern of Connect SoCal is based on a projected growth forecast which was developed in consultation with local jurisdictions through SCAG’s Bottom-Up Local Input and Envisioning Process. The City of Rancho Santa Margarita participated throughout the RTP development process and identified local constraints during an in-person meeting in March 2018, and through the Local Planning Factors Survey in 2019. According to the RHNA Methodology, the Projected Need portion of the 6th Cycle RHNA is derived from the Connect SoCal Growth Forecast. Specifically, Connect SoCal plans for the growth of approximately 504,970 households (Connect SoCal, Sustainable Communities Strategy, p. 41) over the 2021-2029 planning period.

The RHNA allocation of 1.3 million housing units through an eight-year planning cycle is inherently inconsistent with Connect SoCal which plans for the growth of approximately 504,970 housing units (Connect SoCal, Sustainable Communities Strategy, pg. 41) over the same planning period.

Connect SoCal plans for less than half of the 1.3 million housing units distributed by the RHNA. Therefore, the land use distribution, transportation assumptions, and sustainable strategies are completely out of sync with the rate of growth needed to accommodate the RHNA. Furthermore, Connect SoCal directs growth to Priority Growth Areas in accordance with sound planning principles. The RHNA allocation more than doubles the amount of assumed growth in the region. Such growth cannot be accommodated within the same framework as the Connect SoCal Growth Forecast and therefore conflicts with State law which requires RHNA to be consistent with the local RTP.

Specific to Rancho Santa Margarita, the Projected Need portion of the 6th Cycle RHNA is 43 housing units. Connect SoCal assumes total growth of 300 households over the 29-year planning cycle. It is assumed that most of this growth will occur within the Neighborhood Mobility Area which comprises the City’s central core (Connect SoCal, Figure 3.4). The growth assumed by Connect SoCal is consistent with the City’s General Plan. In March 2020, the Rancho Santa Margarita City Council adopted an update to the City’s General Plan which anticipates capacity for development of up to 528 additional dwelling units over the General Plan planning period, 2020-2040. While it is recognized

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that SCAG and the RHNA Methodology does not limit its consideration of available housing locations based on the City's existing General Plan and Zoning, the City's 2020 General Plan demonstrates that the City is planning for a level of growth consistent with Connect SoCal, while taking into account local constraints and other planning factors specific to Rancho Santa Margarita.

One-Size-Fits-All Approach

The RHNA Allocation Methodology uses two factors, Projected Need and Existing Need, to determine a jurisdiction's RHNA Allocation. The Projected Need is consistent with the Connect SoCal Growth Forecast and respects the land use constraints described above. The Existing Need component of the RHNA is based on external factors such as job accessibility and the net residual factor. Neither of these factors recognizes local land use constraints.

The Existing Need calculation used a one-size-fits-all distribution method based on access to transit and jobs, and re-distribution of units from disadvantaged communities. The City of Rancho Santa Margarita did not receive a portion of the allocation related to access to High Quality Transit Areas (HQTAs). We recognize that this is an accurate representation of the transit limitations in the City. With respect to jobs accessibility, the methodology allocates units to cities with access to jobs, described as "the share of the region's jobs accessible within a thirty (30) minute commute by car in 2045." (Final RHNA Allocation Methodology, p. 10) This measure does not factor in other limitations and physical constraints such as open space and wildland fire hazard areas which are specifically set out as factors that must be considered by SCAG when allocating a jurisdiction's share of the regional housing need (§65584.04(e)(2)(B)) . This one-size-fits-all approach inequitably allocates 424 units to Rancho Santa Margarita simply because the City is located adjacent to the Foothill Transportation Corridor (SR-241) which provides access to jobs throughout Orange County, and fails to account for the tradeoffs and physical limitations described above.

The second portion of the Existing Need calculation is called the "net residual factor" and represents reallocation from jurisdictions identified as disadvantaged communities (DAC Jurisdictions) to high resource areas (Non-DAC Jurisdictions). In this calculation, over 40,000 units in Orange County are reallocated from DAC Jurisdictions to Non-DAC Jurisdictions based on transit accessibility and job accessibility. Again, this methodology does not consider other limitations such as physical constraints (e.g., open space, wildland fire hazard areas). While the City understands the desire to redistribute a portion of the RHNA to high resource areas, we believe that the social equity adjustment achieves this purpose. Consequently, the net residual factor further results in an unattainable RHNA allocation for the City given the local constraints described herein.

We understand that the Residual Adjustment Factor is intended to ensure that growth occurs in areas with increased access to opportunity, however, the calculation is problematic with respect to the Non-DAC Jurisdictions. The Final RHNA Allocation Methodology indicates that the "residual" units in the DAC Jurisdictions result when, "the

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calculated projected and existing need is higher than the final household growth between 2020-2045 as determined by the SCAG Growth Forecast used in the final Connect SoCal regional plan.” (Final RHNA Allocation Methodology, p. 11) While the RHNA Allocation Methodology makes this adjustment for DAC Jurisdictions, the same “residual” need occurs within many Non-DAC Jurisdictions. For example, Rancho Santa Margarita’s existing need as determined by the RHNA Methodology is 424 housing units, which exceeds the household growth of 300 in the Connect SoCal Growth Forecast, even with a healthy vacancy rate. As defined in the RHNA Methodology (Final RHNA Allocation Methodology, footnote 3), a RHNA determination 1.0368 times higher than the 2020-2045 household growth in Connect SoCal is considered to exceed Connect SoCal. In this case, the City of Rancho Santa Margarita’s 2020-2045 Connect SoCal household growth is 300, and would be considered exceeded if the RHNA Existing Need is greater than 311 units. Therefore, the existing need allocation of 424 units is 1.4 times higher than household growth in Connect SoCal and includes existing residual need without the addition of residual need from DAC Jurisdictions. Accordingly, Rancho Santa Margarita should not be subject to an additional residual need distribution from the Orange County DAC Jurisdictions.

Maximizing Use of Public Transportation

Government Code Section 65584.04(e)(3) requires that SCAG allocate regional housing needs in a way which maximizes the use of public transportation and existing transportation infrastructure. The Orange County Transportation Authority (OCTA) operates local public transit routes that service Rancho Santa Margarita. Currently, bus service is very limited in Rancho Santa Margarita and the surrounding area. Additionally, the nearest Metrolink station is located 9.4 miles away in Laguna Niguel. Bus users from Rancho Santa Margarita must switch routes 1-3 times to access the nearest Metrolink Station.

The City does not operate public transportation systems. Routes and service frequencies are determined by OCTA based on ridership and revenue. The allocation of significant new housing in Rancho Santa Margarita represents a disconnect between the goals of the RTP and the local planning constraints. Unless significant changes are made to the OCTA Bus Services Plan, any new housing units in the City would not maximize the use of public transportation.

REALISTIC CAPACITY: RANCHO SANTA MARGARITA’S APPEAL REQUEST

We respectfully request that Rancho Santa Margarita’s RHNA be reduced to 254 units as follows:

- Projected Need per SCAG Methodology of 43 units; and
- Existing Need at a rate consistent with the City’s General Plan 20-year capacity of 211 units.

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The Rancho Santa Margarita City Council adopted a General Plan Update on March 11, 2020. The General Plan Update process included analysis of existing land uses and future growth projections to determine the land use capacity and potential for growth over the twenty-year General Plan planning horizon between 2020-2040. The General Plan Update assumes approximately 528 additional dwelling units and 3,000,000 square feet of non-residential uses. The projected growth in the General Plan respects the City's significant land use constraints as described in this document. It is important to note that this land use capacity and potential for growth is anticipated to occur over a **twenty-year** period. The RHNA is an **eight-year** goal and represents a 152 unit (or 23%) increase over the current General Plan capacity. Further, the General Plan anticipates an average development of 26 units per year, which is slightly more aggressive than the RTP that assumes 300 households during a 29-year planning period. Therefore, **Rancho Santa Margarita is planning for its share of growth.**

While it is recognized that existing general plan and zoning designations are not a factor in determining the RHNA, this point is made to emphasize that the City of Rancho Santa Margarita is planning for its share of growth while taking into account local constraints and other planning factors specific to Rancho Santa Margarita. The requested reduction in the City's RHNA results in a realistic and attainable allocation, which respects the local constraints described herein.

ATTACHMENTS

Exhibit 1: Protected Open Space in City of Rancho Santa Margarita from SCAG Local Input & Envisioning Process Data/Map Book for the City of Rancho Santa Margarita, Draft November 2019

Exhibit 2: Rancho Santa Margarita General Plan Land Use Map

Exhibit 3: General Plan Safety Element Figure SAF-3, Wildfire Hazard Areas

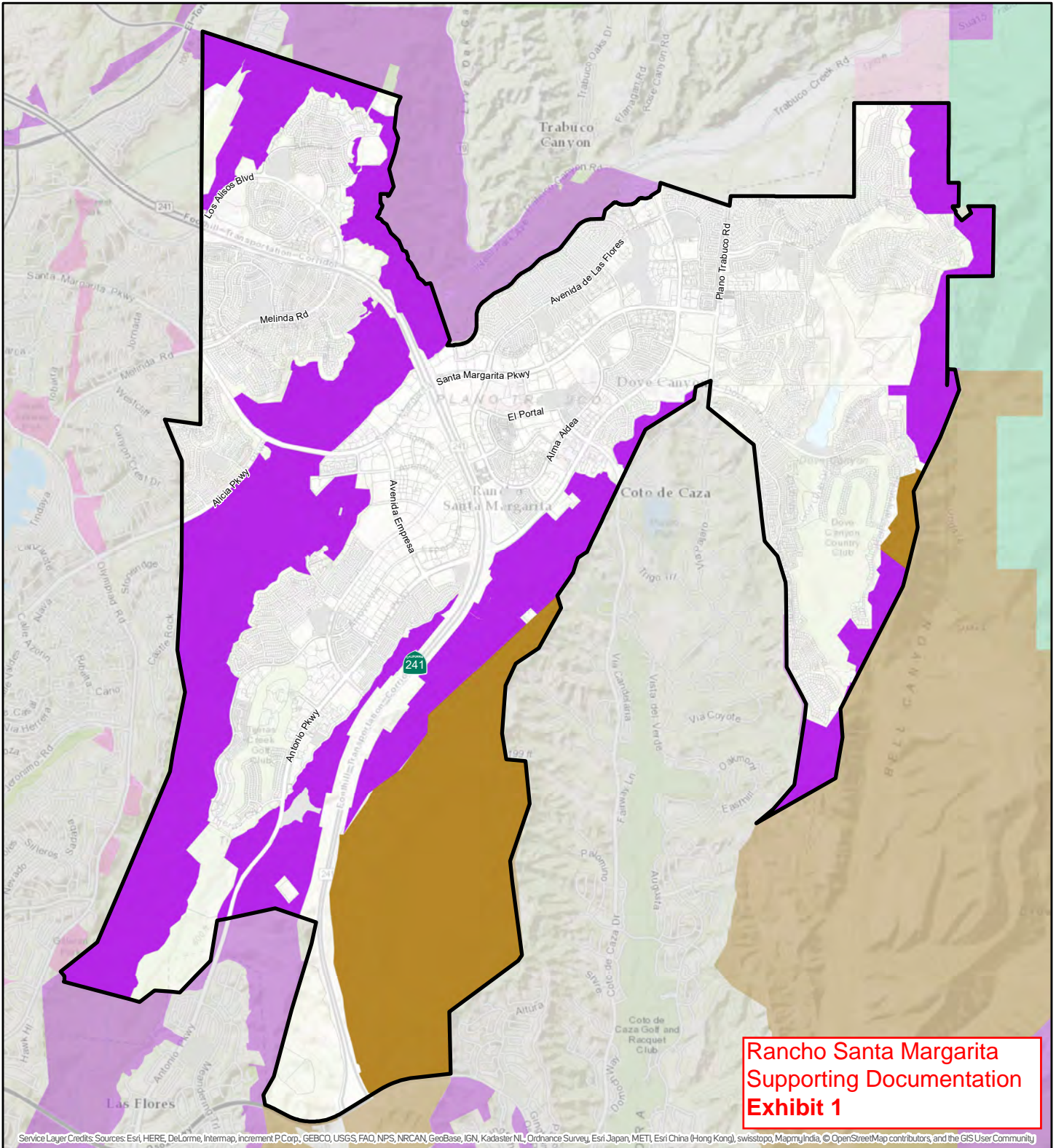
Exhibit 4: Connect So Cal Exhibit 3.4 Priority Growth Areas vs Regional Growth Constraints















Exhibit 5: Fire Hazard Zone and Neighborhood Mobility Area

SOURCES

1. City of Rancho Santa Margarita, General Plan, adopted March 11, 2020
2. SCAG, Final Connect SoCal adopted September 3, 2020
3. SCAG, Connect SoCal Final PEIR certified May 7, 2020
4. Center for Demographic Research 2018 Orange County Projections (OCP 2018) approved by Orange County Council of Governments September 27, 2018
5. SCAG Pre-Certified Local Housing Data for the City of Rancho Santa Margarita, August 2020
6. SCAG Local Input & Envisioning Process Data/Map Book for the City of Rancho Santa Margarita, Draft November 2019

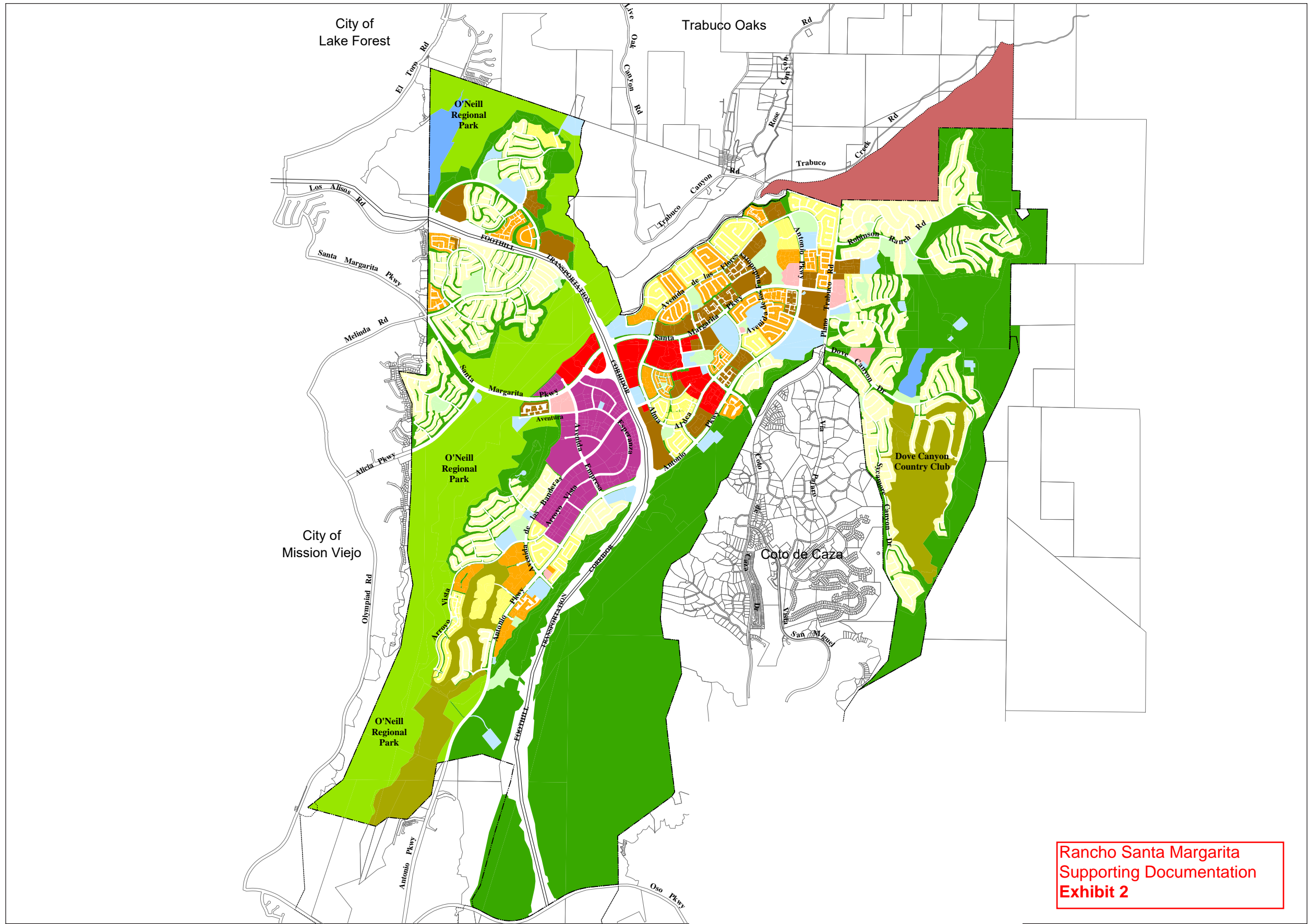
Protected Open Space in City of Rancho Santa Margarita



- | | | |
|---|---|---|
|  US Forest Service |  California Department of Parks and Recreation |  Non Governmental Organization |
|  US Bureau of Land Management |  California Department of Fish and Wildlife |  Special District |
|  National Park Service |  Other State |  US Military/Defense |
|  US Fish and Wildlife Service |  County |  Private |
|  Other Federal |  City | |

The lands in CPAD range from huge national forests to very small urban parks. Federal, state, county, city, special district and non-governmental agency holdings are included in this map. Please note private owners are not currently included in CPAD, except only a few of California's HOA parks.

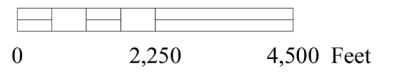
Attachment: Appeal Form and Supporting Documentation (City of Rancho Santa Margarita) (Appeal of the Draft Allocation for the City of



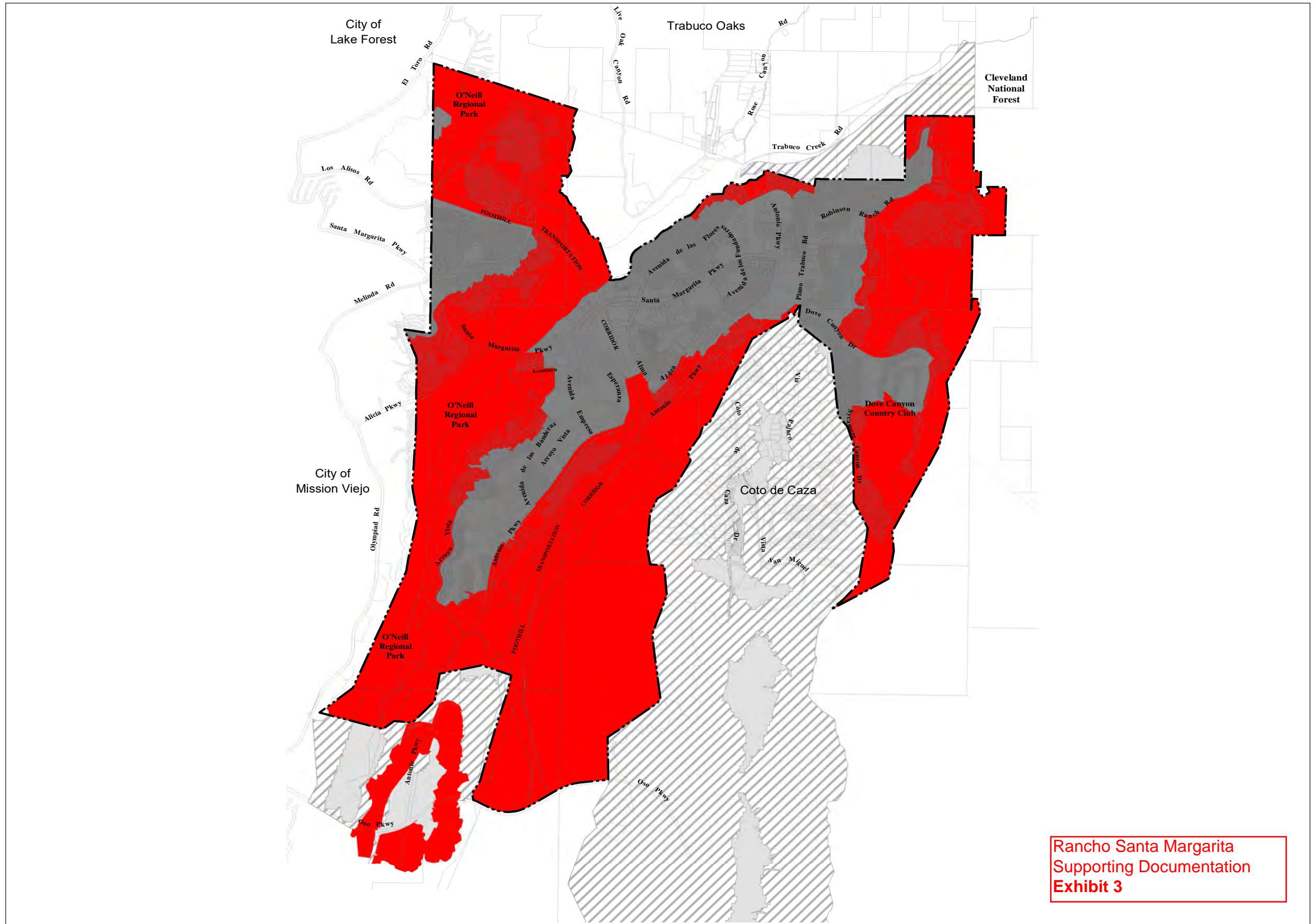
Rancho Santa Margarita
Supporting Documentation
Exhibit 2



- LEGEND**
- Low Density Residential
(0-7.0 Units/Net Acre, Average 6.5 Units/Net Acre)
 - Low-Medium Density Residential
(7.0-11.0 Units/Net Acre, Average 10.0 Units/Net Acre)
 - Medium Density Residential
(11.0-18.0 Units/Net Acre, Average 14.3 Units/Net Acre)
 - High Density Residential
(18.0-25.0 Units/Net Acre, Average 20.0 Units/Net Acre)
 - Commercial General
 - Neighborhood Commercial
 - Business Park
 - Community Facility
 - Park
 - Open Space
 - Open Space Golf
 - Regional Open Space
 - Water
 - Future Planned Community
 - City Boundary
 - Sphere of Influence



Sources: City of Rancho Santa Margarita, July 2015 and Orange County Local Agency Formation Commission, 2013.



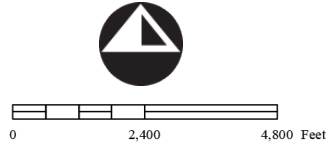
Rancho Santa Margarita
Supporting Documentation
Exhibit 3



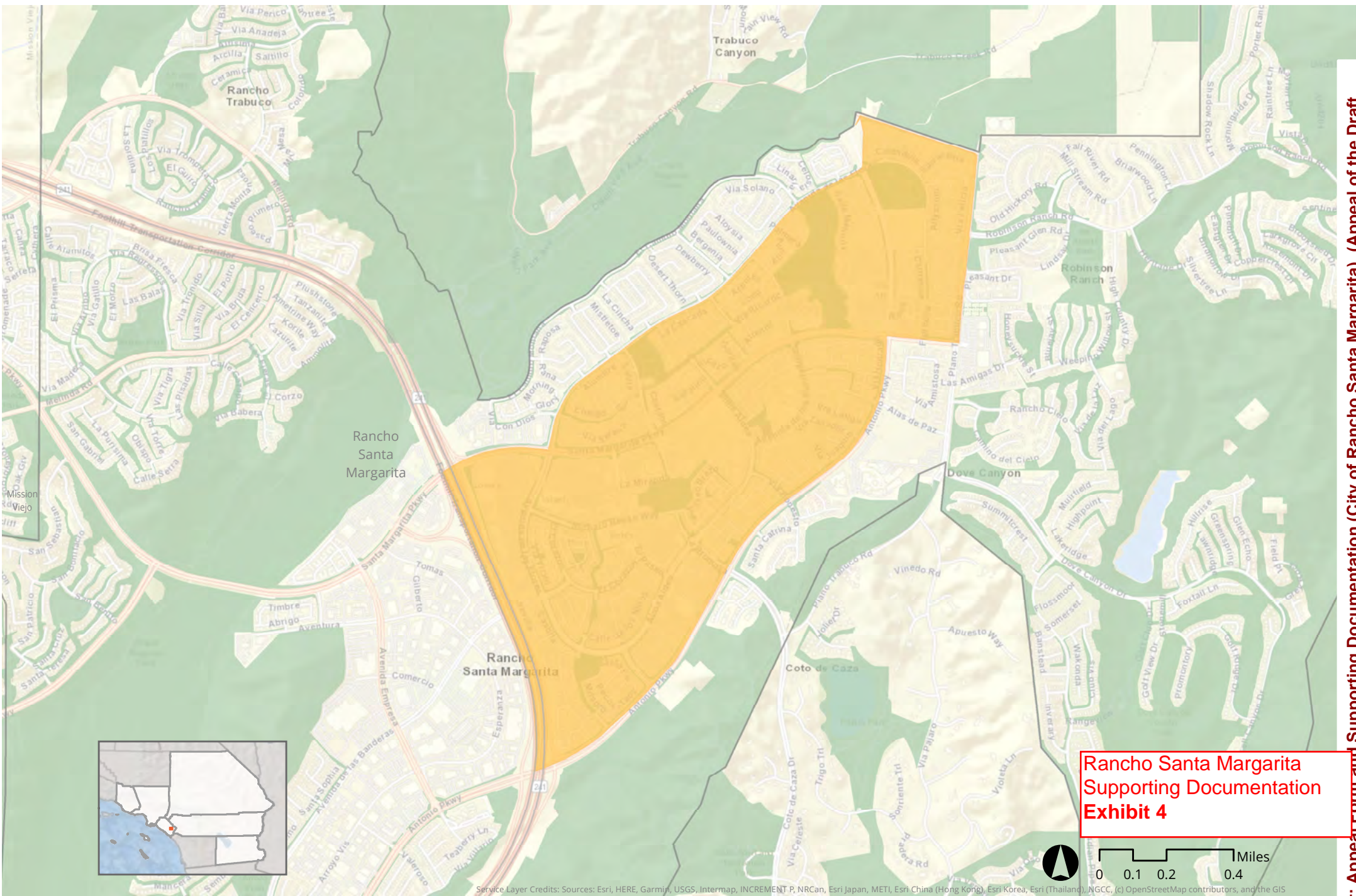
LEGEND

- Local Responsibility Area**
- VHFHSZ
 - Non-VHFHSZ
- State and Federal Responsibility Area**
- VHFHSZ
 - Non-VHFHSZ
 - City Boundary
 - Sphere of Influence

VHFHSZ - Very High Fire Hazard Severity Zone



Sources: CALFire Fire Resource and Assessment Program (FRAP), October 2011 and Orange County Local Agency Formation Commission, 2013.



**Rancho Santa Margarita
Supporting Documentation
Exhibit 4**

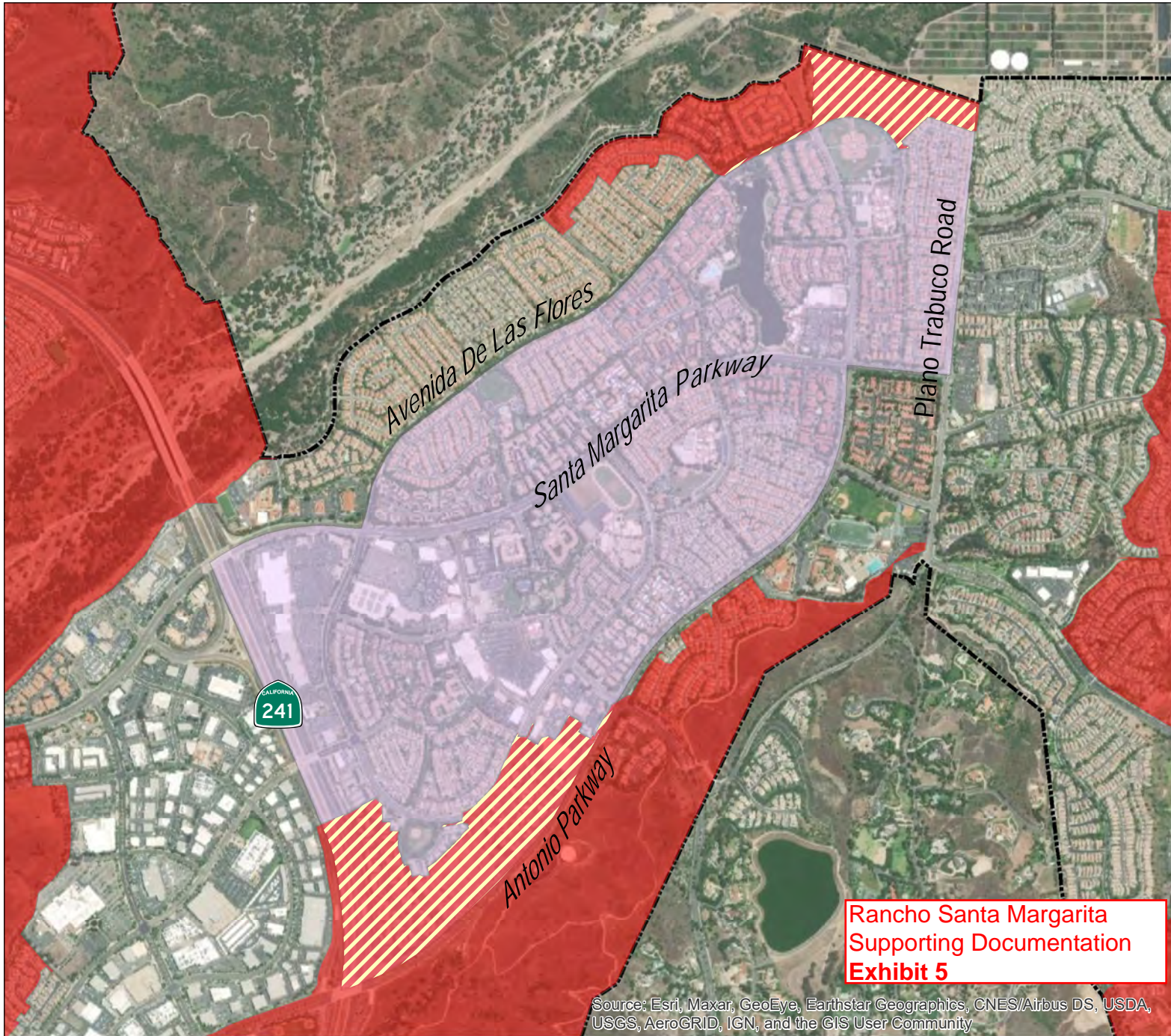
Priority Growth Areas vs. Regional Growth Constraints

- Job Center
- Neighborhood Mobility Areas
- High Quality Transit Area
- Regional Growth Constraints

Note: SCAG used locally informed data elements to determine Regional Growth Constraints including the absolute constraint areas shown in the map such as Tribal lands, Conserved Land and others. See the Sustainable Communities Strategy Technical Report for more details on these and the variable constraints used in plan development.

Source: CalBRACE, California Department of Conservation, CPAD, CCED, County Transportation Commissions, NOAA Coastal Services Center, SCAG, 2019





Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



Legend

- City Boundary
- Fire Hazard Zone
- Neighborhood Mobility Area
- NMA in Fire Hazard Zone



0 500 1,000 2,000 Feet
10/12/2020



Southern California Association of Governments
Remote Participation Only
January 19, 2021

To: Regional Housing Needs Assessment Subcommittee (RHNA)

**EXECUTIVE DIRECTOR'S
APPROVAL**

From: Ma'Ayn Johnson, Regional Planner Specialist,
(213) 236-1975, johnson@scag.ca.gov

Subject: Appeal of the Draft RHNA Allocation for the City of Tustin

RECOMMENDED ACTION:

Deny the appeal filed by the City of Tustin to reduce the Draft RHNA Allocation for the City of Tustin by 1,718 units.

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 2: Advance Southern California's policy interests and planning priorities through regional, statewide, and national engagement and advocacy.

SUMMARY OF APPEAL(S):

The City of Tustin requests a reduction of its RHNA Allocation of 1,718 units (from 6,765 units to 5,047*) based on changed circumstances. The City argues that projected employment in Tustin will decrease as a result of COVID-19 and thus a change to the job accessibility and forecasted growth portions of its Draft RHNA Allocation should be made.

* The City's documentation cites incorrect numbers for units allocated to the City; see Attachment 1 of the staff report for the correct allocation and breakdown of numbers.

RATIONALE FOR STAFF RECOMMENDATION:

Staff have reviewed the appeal and recommend no change to the City of Tustin's Draft RHNA Allocation. The City proposes a 63.2% decrease to the job accessibility and job growth factors in the RHNA methodology to correspond with a 63.2% projected reduction in future employment growth due to Covid-19. Impacts from Covid-19 are not unique to any single SCAG jurisdiction and no evidence has been provided in the appeal that indicates that housing need within the City of Tustin is disproportionately impacted in comparison to the rest of the SCAG region. It is speculative at this time to assume the level of long-term impacts that would affect the Final RHNA Allocation Plan which reflects existing and projected housing needs for the next eight years.

OUR MISSION

To foster innovative regional solutions that improve the lives of Southern Californians through inclusive collaboration, visionary planning, regional advocacy, information sharing, and promoting best practices.

OUR VISION

Southern California's Catalyst for a Brighter Future

OUR CORE VALUES

Be Open | Lead by Example | Make an Impact | Be Courageous

BACKGROUND:**Draft RHNA Allocation**

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the adoption of Connect SoCal on September 3, 2020, all local jurisdictions received draft RHNA allocations on September 11, 2020. A summary is below.

Total RHNA for the City of Tustin: 6,765 units
Very Low Income: 1,720 units
Low Income: 1,043 units
Moderate Income: 1,129 units
Above Moderate Income: 2,873 units

Additional background related to the Draft RHNA Allocation is included in Attachment 1.

Summary of Comments Received during 45-day Comment Period

No comments were received from local jurisdictions or HCD during the 45-day public comment period described in Government Code section 65584.05(c) which specifically regard the appeal filed for the City of Tustin. Three comments were received which relate to appeals filed generally:

- HCD submitted a comment on December 10, 2020 delineating the statutory basis for RHNA appeals and the requirement that any appeals granted must include written findings regarding how revisions are necessary to further RHNA's statutory objectives.
- The City of Whittier submitted a comment on December 10, 2020 supporting surrounding cities in their appeals, but expressing concern that additional units may be applied to Whittier if reallocated from cities which are successful in their appeals.
- The City of Long Beach submitted a comment on December 3, 2020 indicating their view that the RHNA allocation process was fair and transparent, their support for evaluating appeals on their merits (specifically those from the Gateway Council of Governments), and their opposition to any action which would result in a transfer of additional units to Long Beach.

ANALYSIS:***Issue 1: Changed Circumstances [Government Code 65584.05(b)].***

Citing the Covid-19 pandemic, the City of Tustin asserts that changed circumstances merit revisions to data previously relied upon. The City presents a variety of economic data from SCAG, UCLA, the California Employment Development Department (EDD), the Orange County Transportation Authority (OCTA), as well as commercial real estate and investment firms to illustrate the economic impact of the pandemic. Based on this data, the City states that unemployment rates in the SCAG

region are predicted to average 19.3% in 2020 and 12.2% in 2021. Full recovery to pre-recession levels is not projected until after 2022. Tustin cites the local impact on taxable sales, which could decrease by 26% to 38% over the next year. The City also references negative net migration Orange County has documented over the past decade that is expected to be exacerbated by Covid-19 as more employees work from home or decide to relocate. Finally, Tustin presents data to demonstrate the impact of Covid-19 on residential and commercial vacancies, citing a 72% reduction in lease activity and an increase in 6% in vacancy in Orange County in the 2nd quarter of 2020. The City estimates that the total projected future employment growth is expected to decrease by 63% as a result of Covid-19, a percentage change that when applied to the jobs accessibility and job growth portion of the RHNA methodology should result in a decrease of 1,718 units.

SCAG Staff Response: Generally, Tustin argues that long-range decreases in anticipated employment in the city should merit a reduction in its Draft RHNA Allocation.

SCAG's Regional Council delayed the adoption of its 2020-2045 RTP/SCS by 120 days in order to assess the extent to which long-range forecasts of population, households, and employment may be impacted by COVID-19; however, the document's long-range (2045) forecast of population, employment, and household growth remained unchanged. The Demographics and Growth Forecast Technical Report¹ outlines the process for forecasting long-range employment growth which involves understanding national growth trends and regional competitiveness, i.e. the SCAG's region share of national jobs. Short-term economic forecasts commenting on COVID-19 impacts generally do not provide a basis for changes in the region's long-term competitiveness or the region's employment outlook for 2023-2045. As such, SCAG's assessment is that comparable data would not suggest long-range regional employment declines.

Tustin's appeal cites the September 2020 UCLA Economic Forecast, which suggests a full recovery to pre-recession economic activity by 2022. This UCLA forecast is regional in nature and does not provide information on individual jurisdictions, and therefore, it cannot be used to justify a particular jurisdiction's appeal. Not to mention, any granted reduction would have to be redistributed to the region when in theory, all jurisdictions would be similarly impacted as shown in the regional study. Regardless, this evidence is in fact consistent with making no change to the 6th cycle of RHNA, whose projection period runs through 2029.

Tustin's appeal indicates that several employment data sources, commercial real estate, and investment firms were consulted in order to determine the impacts of COVID-19 on existing and future employment in the City. While statute requires the consideration of jobs-housing relationships and SCAG's adopted RHNA Methodology uses a measure of *regional* job accessibility, jurisdictional-level employment data is not the principal driver of RHNA.

¹ See https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Demographics-And-Growth-Forecast.pdf

Specifically, it is unclear why retail or office vacancy would result in decreased housing need. In fact, studies by SCAG and others have highlighted how the repurposing of commercial spaces for housing may be a promising avenue for satisfying future housing need (see attached “Retail Land Use in Orange County” report).

Tustin’s appeal notes that regional taxable sales may decrease, however no evidence is provided as to why Tustin may be uniquely affected. Furthermore, while SCAG recognizes that sales tax revenue makes up a substantial part of many local jurisdictions’ revenue, which in turn can be used for housing-supportive programs and infrastructure, RHNA is not a building quota. Rather, a jurisdiction is required to plan and zone for housing unit need and is not required to finance or otherwise develop units directly. Additionally, changes to taxable sales do not negate housing need and does not remove a jurisdiction’s responsibility to plan for their need as represented by their RHNA Allocation.

The City also cites negative net migration in Orange County to indicate that the population is decreasing, and housing need may be reduced. SCAG’s demographic forecasting process, which undergirds the population projections used for the RHNA calculations and described in Attachment 1, has taken into account this trend. As aforementioned, during SCAG’s 120-day delay of adoption of the 2020 RTP/SCS, it was ultimately determined that long-range forecasts should not be changed as a result of the COVID-19 pandemic.

Tustin’s request for a reduction is based on the job accessibility measure used to assign existing housing need (see Attachment 1 for details). In 2045 a resident of Tustin can be expected to be able to reach 19.46% of the SCAG region’s jobs (1,955,000 jobs) within a 30-minute AM peak automobile commute. As such, it is based on jobs both within and outside of Tustin. This results in a housing need of 2,746 directly based on this factor.²

Tustin’s employment, derived through the Bottom-Up Local Input and Envisioning Process, is 53,029 jobs in 2020 and 70,760 jobs in 2045 (growth of 17,731 jobs). The City’s appeal suggests that COVID-19 results in a 33% decrease in growth from 2020-2045, which would reduce the City’s growth by 5,851 jobs. However, in referencing the study, the appeal suggests that COVID impacts jobs regionally this decrease would be felt everywhere equally, and Tustin residents would still have 19.46% of regional jobs accessible using this definition. There is no indication that these impacts are disproportionately affecting the jurisdiction. The COVID-19 pandemic has had various impacts throughout Southern California. Impacts from COVID-19 are not unique to any single SCAG jurisdiction and no evidence has been provided in the appeal that indicates that housing need and related factors within Tustin is disproportionately impacted in comparison to the rest of the SCAG region.

² Note that the residual need calculation is also based on job and transit access measures, in equal shares. Thus, half of the 2,241 units from this portion of the methodology are ultimately attributable to job access.

In any event, the unemployment information reflects job loss according to the residence of unemployed individuals, not where the job loss occurred. Furthermore, and perhaps more importantly, it is speculative at this time to assume the level of long-term impacts that would affect the Final RHNA Allocation Plan which reflects existing and projected housing needs for the next eight years. While the City anticipates a 63% decrease in future employment growth and requests a corresponding 63% reduction in its job accessibility and job growth allocations, this application does not reflect how job loss data is calculated, and thus, SCAG staff does not recommend granting an appeal on this basis.

Additionally, long-range employment declines from COVID-19 are not anticipated. Tustin has not demonstrated how the use of employment data in the RHNA Methodology should reflect this change of circumstance.

While there has been an increase in telecommuting due to COVID-19, this circumstance is not limited to one jurisdiction or geography. Prior to February 2020, the regional average for telecommuting was approximately 7% and technological advances have made it increasingly easier for companies to offer telecommuting as an option for employees. Factors such as job and transit access in the RHNA methodology cover an 8-year period, not simply impacts that are in the immediate near-term. In fact, these two factors in the RHNA methodology are dependent on jobs and transit access in 2045 – a 25-year horizon -- as identified in SCAG's long-range Connect SoCal Plan. Since telecommuting increases the number of jobs within a jurisdiction based on their households, increasing the number of jobs that are accessed from home would increase job access, and therefore, may also increase the RHNA Allocation for the affected jurisdiction.

Finally, the COVID-19 pandemic has had various impacts throughout Southern California; however, it has not resulted in a slowdown in major construction nor has it resulted in a decrease in a demand for housing or housing need. Southern California home prices continue to increase (+2.6 percent from August to September 2020) led by Los Angeles (+10.4 percent) and Ventura (+6.2 percent) counties. For this and the aforementioned reasons, SCAG staff does not recommend a reduction in the jurisdiction's RHNA Allocation.

FISCAL IMPACT:

Work associated with this item is included in the current FY20-21 Overall Work Program (300-4872Y0.02: Regional Housing Needs Assessment).

ATTACHMENT(S):

1. Local Input and Development of Draft RHNA Allocation (City of Tustin)
2. Retail Land Use Report
3. Map of Job Accessibility near the City of Tustin (2045)



-
4. Map of HQTAs in the City of Tustin (2045)
 5. Appeal Form and Supporting Documentation (City of Tustin)
 6. Comments Received During the Comment Period (General)

Attachment 1: Local Input and Development of the Draft RHNA Allocation

This attachment sets forth the nature and timing of the opportunities which the City of Tustin had to provide information and local input on SCAG's growth forecast, the RHNA methodology, and the Growth Vision of the 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS or Connect SoCal). It also describes how the RHNA Methodology development process integrates this information in order to develop the City of Tustin's Draft RHNA Allocation.

1. Local input

a. Bottom-Up Local Input and Envisioning Process

On October 31, 2017, SCAG took the first step toward developing draft RHNA allocations by initiating the Bottom-Up Local Input and Envisioning Process. At the direction of the Regional Council, the objective of this process was to seek local input and data to prepare for Connect SoCal and the 6th cycle of RHNA.¹ Each jurisdiction was provided with a package of land use, transportation, environmental, and growth forecast data for review and revision which was due on October 1, 2018.² While the local input process materials focus principally on jurisdiction-level and Transportation Analysis Zone (TAZ) level growth, input on specific parcels, sites, and project areas were welcomed and integrated into SCAG's growth forecast as well as data on other elements. SCAG met one-on-one with all 197 local jurisdictions between November 2017 and July 2018 and provided training opportunities and staff support. Following input from SCAG's Technical Working Group (TWG), the Connect SoCal growth forecast reflected precisely the jurisdiction-level growth totals provided during this process.

Forecasts for jurisdictions in Orange County were developed through the 2018 Orange County Projections (OCP-2018) update process conducted by the Center for Demographic Research (CDR) at Cal State Fullerton. Jurisdictions were informed of this arrangement by SCAG at the kickoff of the Process. For the City of Tustin, the anticipated number of households in 2020 was 27,163 and in 2030 was 27,221 (growth of 58 households). In March, 2018, SCAG staff and CDR staff met with staff from the City of Tustin to discuss the Bottom-Up Local Input and Envisioning Process and answer questions.

¹ While the RTP/SCS and RHNA share data elements, they are distinct processes. The RTP/SCS growth forecast provides an assessment of reasonably foreseeable future patterns of employment, population, and household growth in the region given demographic and economic trends, and existing local and regional policy priorities. The RHNA identifies anticipated housing need over a specified eight-year period and requires that local jurisdictions make available sufficient zoned capacity to accommodate this need. A further discussion of the relationship between these processes can be found in Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

² A detailed list of data during this process reviewed can be found in each jurisdiction's Draft Data/Map Book at <https://scag.ca.gov/local-input-process-towns-cities-and-counties>.

b. RHNA Methodology Surveys

On March 19, 2019, SCAG distributed a packet of methodology surveys, which included the local planning factor survey (formerly known as the AB2158 factor survey), Affirmatively Furthering Fair Housing (AFFH) survey, and replacement need survey, to SCAG jurisdictions' Community Development Directors. Surveys were due on April 30, 2019. SCAG reviewed all submitted responses as part of the development of the draft RHNA methodology. The City of Tustin submitted the following surveys prior to the adoption of the draft RHNA methodology:

- Local planning factor survey
- Affirmatively Furthering Fair Housing (AFFH) survey
- Replacement need survey
- No survey was submitted to SCAG

c. Connect SoCal Growth Vision and Additional Refinements

Beginning in May 2018, SCAG's Sustainable Communities Working Group began the process of developing growth scenarios for the SCAG region. The culmination of this work was the development of the Connect SoCal Growth Vision, which directly uses jurisdictional-level growth projections from the Bottom-Up Local Input and Envisioning process, and also features strategies for growth at the TAZ-level that help to reduce greenhouse gas emissions (GHG) from automobiles and light trucks to achieve Southern California's GHG reduction target, approved by the California Air Resources Board (CARB) in accordance with state planning law. Additional detail regarding the Connect SoCal Growth Vision, specifically the Transportation Analysis Zone (TAZ, or neighborhood) level projections is found at <https://scag.ca.gov/sites/main/files/file-attachments/growth-vision-methodology.pdf>.

As a result of these strategies, in some jurisdictions growth at the TAZ-level differed from locally anticipated growth conveyed during the Bottom-Up Local Input and Envisioning Process.

As such, SCAG provided two additional opportunities for all local jurisdictions to make TAZ-level technical refinements on the topics of general plan capacities and entitlements. During the release of the draft Connect SoCal Plan, jurisdictions were notified on October 31, 2019 that SCAG would accept additional refinements until December 11, 2019. Following the Regional Council's decision to delay full adoption of Connect SoCal for 120 days due to the COVID-19 pandemic, all jurisdictions were again notified on May 26, 2020 that SCAG would accept additional refinements until June 9, 2020.

Connect SoCal Growth Vision data have been available to local jurisdiction staff during the entirety of this process through SCAG's Scenario Planning Model Data Management Site (SPM-DM) at <http://spmdm.scag.ca.gov> and updates were shared with local jurisdictions on technical refinements to the data in February 2020 and August 2020 to share the results of both review opportunities. SCAG received additional technical corrections from the City of Tustin and incorporated them into the

Growth Vision in December 2019. The City of Tustin’s TAZ-level data utilized in the Connect SoCal Growth Vision matches input provided during the Bottom-Up Local Input and Envisioning Process.

2. Development of the Final RHNA Methodology

SCAG convened the first meeting of the RHNA Subcommittee in October 2018. In their subsequent monthly meetings, this body reviewed and advised on the development of SCAG’s 6th cycle RHNA process, including the development of the RHNA methodology. Per Government Code 65584.04(a), SCAG must develop a RHNA methodology which furthers the five statutory objectives of RHNA:

(1) Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low income households.

(2) Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region’s greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080.

(3) Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction.

(4) Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey.

(5) Affirmatively furthering fair housing. (Govt. Code § 65584(d).)

As explained in more detail below, the Draft RHNA Methodology (which was adopted as the Final RHNA Methodology) set forth the policy factors, data sources, and calculations which would be used to generate draft RHNA allocations for all local jurisdictions. Following extensive debate and public comment, SCAG’s Regional Council voted to approve the Draft RHNA Methodology on November 7, 2019 and provide it to HCD for review. Per Government Code 65584.04(i), HCD is vested with the authority to determine whether a methodology furthers the objectives set forth in Government Code section 65584(d). On January 13, 2020, HCD found that the Draft RHNA Methodology furthers these five statutory objectives of RHNA. Specifically, HCD noted that:

“This methodology generally distributes more RHNA, particularly lower income RHNA, near jobs, transit, and resources linked to long term improvements of life outcomes.

In particular, HCD applauds the use of the objective factors specifically linked the statutory objectives in the existing need methodology.” (Letter from HCD to SCAG dated January 13, 2020 at <https://scag.ca.gov/sites/main/files/file-attachments/hcd-review-rc-approved-draft-rhna-methodology.pdf?1602190239>).

On March 5, 2020, again following extensive debate and public comment, the Regional Council voted to approve the Draft RHNA Methodology as the Final RHNA Methodology. Unlike SCAG’s 5th cycle RHNA methodology which relies almost entirely on the household growth component of the RTP/SCS, SCAG’s 6th cycle RHNA methodology consists of two primary elements: “projected need” which includes the number of housing units required to accommodate anticipated population growth over the 8-year RHNA planning period and “existing need,” which refers to the number of housing units required to accommodate excess or unsatisfied housing demand experienced by the region’s current population.³ Furthermore, the Final RHNA methodology utilizes measures of 2045 job accessibility and High Quality Transit Area (HQTA) population measures based on TAZ-level projections in the Connect SoCal Growth Vision.

More specifically, the Final RHNA Methodology considers three primary factors in determining a local jurisdiction’s total housing need which are primarily based on data from Connect SoCal’s aforementioned Bottom-Up Local Input and Envisioning Process:

- Forecasted growth over 2020-2030 (projected need)
- Transit accessibility in 2045 (existing need)
- Job accessibility in 2045 (existing need)

The methodology is described in further detail at <http://scag.ca.gov/programs/Documents/RHNA/SCAG-Final-RHNA-Methodology-030520.pdf>.

3. Draft RHNA Allocation for the City of Tustin

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the 120 day delay due to the COVID-19 pandemic, SCAG adopted Connect SoCal on September 3, 2020, and the City of Tustin received its draft RHNA allocation on September 11, 2020. Application of the RHNA methodology yields the draft RHNA allocation for the City of Tustin as summarized in the data and calculations in the tables below.

³ Legislative changes in 2018 modified the nature of the regional housing need determination for the 6th cycle of RHNA by adding measures of household overcrowding and housing cost burden to the list of factors to be considered by HCD for the determination of housing need. These new measures are not included in the Connect SoCal Growth Forecast because they are not direct inputs to the growth forecasting process and are independent of employment and population projections. In contrast, they reflect additional latent housing needs in the current population (i.e. “existing need”) and would not result in a change in regional population. For further discussion see Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

Tustin city statistics and inputs:		Calculation of Draft RHNA Allocation for Tustin city	
Forecasted household (HH) growth, RHNA period: <i>(2020-2030 Household Growth * 0.825)</i>	48	Forecasted household (HH) growth, RHNA period:	48
Percent of households who are renting:	52%	Vacancy Adjustment <i>(5% for renter households and 1.5% for owner households)</i>	2
Housing unit loss from demolition (2009-18):	-	Replacement Need	-
Adjusted forecasted household growth, 2020-2045: <i>(Local input growth forecast total adjusted by the difference between the RHNA determination and SCAG's regional 2020-2045 forecast, +4%)</i>	3,604	TOTAL PROJECTED NEED:	49
Percent of regional jobs accessible in 30 mins (2045): <i>(For the jurisdiction's median TAZ)</i>	19.46%	Existing need due to job accessibility (50%)	2764
Jobs accessible from the jurisdiction's median TAZ (2045): <i>(Based on Connect SoCal's 2045 regional forecast of 10.049M jobs)</i>	1,955,000	Existing need due to HQTAs pop. share (50%)	1711
Share of region's job accessibility (population weighted):	0.66%	Net residual factor for existing need <i>(Negative values reflect a cap on lower-resourced community with good job and/or transit access. Positive values represent this amount being redistributed to higher-resourced communities based on their job and/or transit access.)</i>	2241
Jurisdiction's HQTAs population (2045):	41,826	TOTAL EXISTING NEED	6717
Share of region's HQTAs population (2045):	0.41%	TOTAL RHNA FOR TUSTIN CITY	6765
Share of population in low/very low-resource tracts:	35.16%	Very-low income (<50% of AMI)	1720
Share of population in very high-resource tracts:	16.11%	Low income (50-80% of AMI)	1043
Social equity adjustment:	150%	Moderate income (80-120% of AMI)	1129
		Above moderate income (>120% of AMI)	2873

The transit accessibility measure is based on the population anticipated to live in High-Quality Transit Areas (HQTAs) in 2045 based on Connect SoCal’s designation of high-quality transit areas and population forecasts. With a forecasted 2045 population of 41,826 living within HQTAs, the City of Tustin represents 0.41% of the SCAG region’s HQTAs population, which is the basis for allocating housing units based on transit accessibility.

Job accessibility is defined as the jurisdiction’s share of regional jobs accessible within a 30-minute drive commute. Since over 80 percent of the region’s workers live and work in different jurisdictions, the RHNA methodology uses a measure based on Connect SoCal’s travel demand model output for the year 2045 rather than assigning housing units based on the number of jobs with a specific jurisdiction. Specifically, the share of future (2045) regional jobs which can be reached in a 30-minute automobile commute from the local jurisdiction’s median TAZ is used as to allocate housing units based on transit accessibility. From the City of Tustin’s median TAZ, it will be possible to reach 19.46% of the region’s jobs in 2045 within a 30-minute automobile commute (1,955,000 based on Connect SoCal’s 2045 regional job forecast of 10,049,000 jobs).

An additional factor is included in the methodology to account for RHNA Objective #5 to Affirmatively Further Fair Housing (AFFH). Several jurisdictions in the region which are considered disadvantaged communities (DACs) on the basis of access to opportunity measures (described further in the RHNA methodology document), but which also score highly in job and transit access, may have their total

RHNA allocations capped based on their long-range (2045) household forecast. This additional housing need, referred to as residual, is then reallocated to non-DAC jurisdictions in order to ensure housing units are placed in higher-resourced communities consistent with AFFH principles. This reallocation is based on the job and transit access measures described above, and results in an additional 2,241 units assigned to the City of Tustin.

Please note that the above represents only a partial description of key data and calculations which result in the draft RHNA allocation.

RETAIL LAND USE IN ORANGE COUNTY:

An Examination of Future Potential

A joint SCAG-OCBC white paper

APRIL 2018

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HIGHLIGHTS

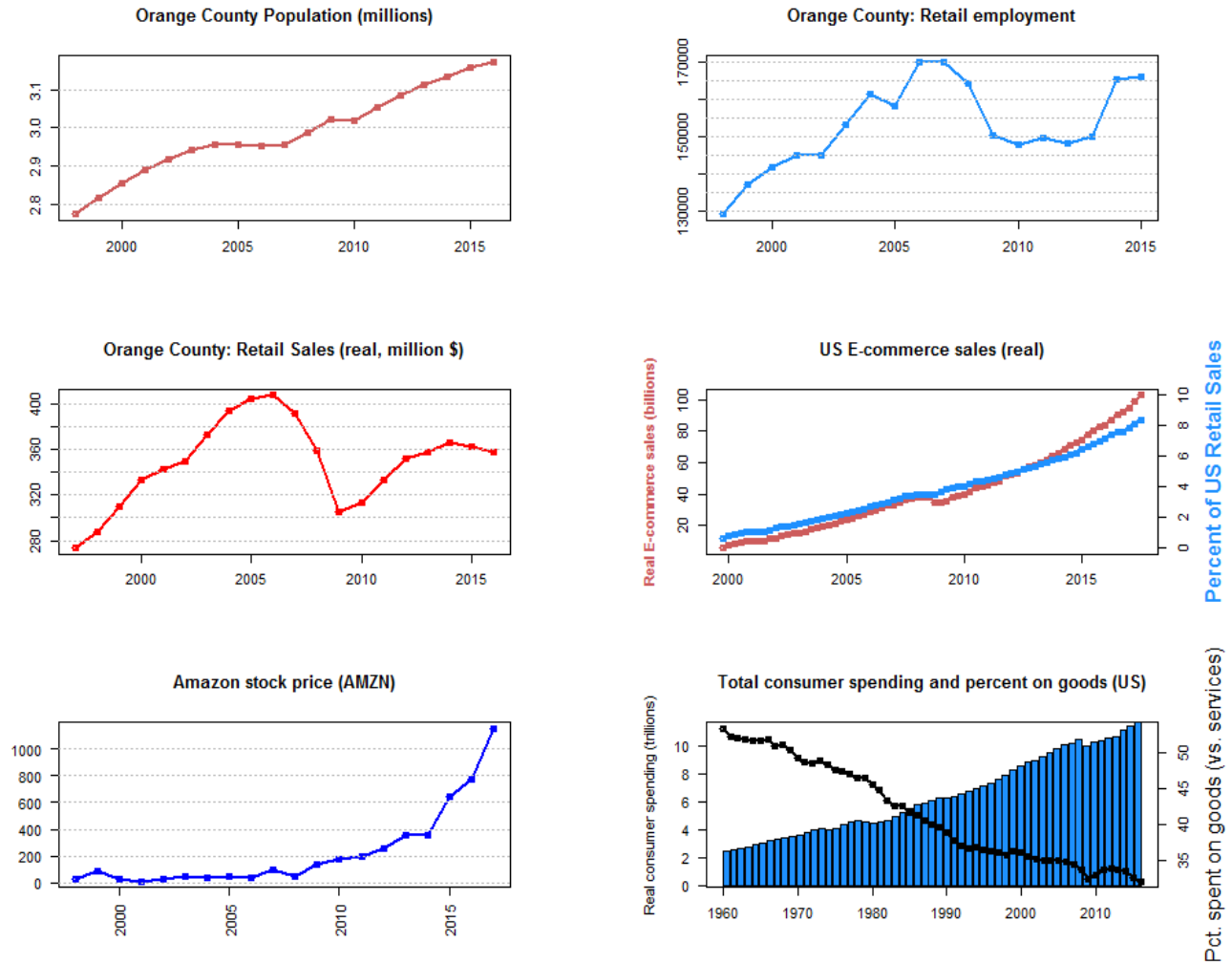
- *E-Commerce is fundamentally transforming the retail landscape with potentially far-reaching effects and new opportunities.*
- *Traditional commercial/retail centers could present opportunities to repurpose Orange County land uses that are more efficient and productive in this new era.*
- *We demonstrate a methodology for identifying and categorizing land parcels as potential “infill” or “refill.”*
- *While Orange County’s supply of vacant land is very low (approximately .5% of the county’s total acreage), results show that several thousand acres of commercial or retail zoned properties may be good candidates for repurposing.*
- *Commercial and retail land has more than five times the infill and refill potential of other land-use types.*
- *The vast majority of existing retail structures on potential infill or refill parcels in Orange County date from the 1960s, 70s and 80s.*
- *More than 60% of the commercial/retail infill and refill land identified are in SCAG-defined High Quality Transit Areas (HQTAs), providing additional evidence that infill capacity is high in earlier developed, established parts of the county.*
- *This preliminary report and case studies discuss and document the future potential of infill, and provides several example criteria to be used in identifying, evaluating and reimagining new uses for infill and refill parcels.*

RETAIL LAND USE IN ORANGE COUNTY: An Examination of Future Potential

INTRODUCTION AND BACKGROUND

E-commerce, changing consumption patterns of the millennial generation, and other forces are transforming the suitability of decades old land-use patterns in Orange County and in California which drove the development of neighborhood commercial-retail centers and regional shopping malls for more than 60 years. The emerging obsolescence and waning economic performance of these land uses are driving retailers, land developers, planners and others to think about ways to repurpose these land uses as the continued growth of e-commerce continues to undermine the relevance of brick-and-mortar retail. In other words, the intersection of the decline of some types of retail centers, such as aging strip malls, with emerging retail forces such as e-commerce and ever faster on-demand delivery, provides a valuable opportunity to rethink and reimagine conventional wisdom about retail land use.

FIGURE 1: LOCAL AND REGIONAL INDICATORS



Orange County’s population passed 3 million people in 2009. While county retail sector employment steadily increased during the early 2000s, the global financial crisis led to roughly 20,000 retail job losses in Orange County. Despite an improving economy since 2010, it has taken several years for retail to rebound. Indeed, the retail sector has yet to return to its pre-recession peak. Orange County retail sales have followed a similar trajectory, rebounding since 2010 but still falling short of mid-2000s highs.

At the same time, e-commerce has consumed an ever greater share of aggregate US retail sales. E-commerce captured 2 percent of sales in 2004 while in 2017, it exceeded 9 percent of sales. And while the global financial crisis did contribute to a marginal reduction in e-commerce sales in 2009, brick-and-mortar retail sales experienced much larger declines than e-commerce.

The advent and explosive growth of e-commerce is reflected in the growth of Amazon, the leading e-commerce retailer. The share price of the company’s stock has grown exponentially since 2010, from less than \$200/share to more than \$1,000/share.

While e-commerce is most often pointed to as the catalyst fueling the transformation of the retail industry, consumer spending statistics in Figure 1 indicate this is part of a much deeper historical trend since the 1960s where, despite consistent consumer

spending increases, a decreasing share of those sales have been on goods as opposed to services. This is consistent with today's focus on "consumer experiences" and growth in the service sector more generally.

What the emergence of e-commerce is doing is exacerbating concerns about the evolution of physical retail. Before the Amazon effect, discussion centered on the on-going viability of small, "Mom and Pop" retail as big-box stores, national chains and category killers shifted consumer demand away from higher-cost boutique stores to high-volume, low-price mega stores. These concerns over the future of small, boutique retail (and increasingly big-box stores as well) are now intensifying as e-commerce grows. These trends have ushered in a new era of concern for retailers in every category – including groceries – and are forcing retailers, land developers, city planners and other stakeholders to assess the future of retail land uses in much of Southern California. This is particularly true with the loss of long-term anchor tenants such as Macy's, Sears, and JCPenney in the region's large shopping malls. While vacant retail space leads to temporary declines in sales tax revenue, it can also present an opportunity for local planners to repurpose and adapt this rapidly evolving land use category through new policies and Zoning ordinances that better reflect the new economy of the future.

SCAG maintains a comprehensive database of the six-county region's roughly five million land parcels by zoning, land use, and other characteristics. With a focus on Orange County, this section of the report uses this parcel-level Geographic Information System (GIS) database and develops a methodology for identifying land parcels that may be suitable for infill development or redevelopment. In particular, the research team developed criteria for labeling land which is truly vacant (without a current productive use), termed in this report as "infill," as well as underperforming or underutilized land with potential for higher priority future use, which our methodology calls "refill."

After summarizing the GIS methodology and analysis used to identify and analyze infill and refill retail land, this section will provide an overview of retail/commercial land use by use type, age of buildings and level access to public transportation. This report then identifies particular types of retail uses that have significant potential for reuse, such as "mid-block retail," larger parcels suitable for reuse, and opportunities to assemble or aggregate smaller retail sites.

After providing illustrative maps and descriptive statistics for retail parcels in Orange County, the section concludes with an examination of three case studies of infill potential and infill development near retail-heavy centers in Orange County.

METHODOLOGY

Background

In 2006, the State of California Business, Transportation, and Housing Agency commissioned "The Future of Infill Housing in California: Opportunities, Potential, Feasibility, and Demand," a research study that provided the first statewide assessment of infill development for California communities. The report was prepared by a team of researchers led by John Landis and Heather Hood at UC Berkeley¹.

Their methodology used county tax assessor records and other GIS and secondary source data to develop estimates of infill potential in California at the city, county, and state levels. The methodology then identified the number, land area, average size, and spatial distribution of vacant and potentially re-developable parcels and used the data and various corresponding filtering criteria to estimate aggregate infill potential at various levels and under various scenarios. This study updates, adapts, and enhances that site selection methodology developed by IURD in 2006. Their statewide approach identified infill land using county assessors' parcel data, defining vacant parcels as those which are privately-owned and without any inhabitable structures of significant size or value. Refill parcels were identified using an improvement-to-land value ratio ("I:L Ratio") of below 1.0 for commercial and multifamily properties and 0.5 for single-family properties.

Since the validity of these cutoffs may vary depending on a number of factors at the site, community, or city level, this report considers the analytical results reported throughout as identification of the overall potential for "infill" and "refill" sites, rather than recommendations or conclusions about the actual potential for any individual site or parcel. Also, in this exploration, modified improvement-to-land value ratios of 1.1 or 1.25 are also considered to increase the universe of potential infill sites. This study preserves these site selection criteria with some additional parcel exclusion criteria such that they are consistent with SCAG's parcel land use data.

¹ See also Landis, J., Hood, H., Li, G., Rogers, T., and Warren, C. The future of infill housing in California: Opportunities, potential, and feasibility. *Housing Policy Debate* 17:4, p. 681-725.

FINDINGS – ORANGE COUNTY INFILL – DESCRIPTIVE STATISTICS

Infill and Refill Potential in the SCAG Region

Commercial and Retail Land Use in Orange County

Table 1 below provides a summary of all parcels and infill/refill parcels in Orange County compared to potential commercial/retail land use infill/refill parcels.

TABLE 1A: ALL REFILL AND INFILL IN ORANGE COUNTY, 2016

All Uses				
	Parcels	% of County	Acres	% of County
County Total	685,354		449,852	
Vacant Parcels	5,903	0.9%	2,346	0.5%
Refill Parcels (I:L* < 1.0)	92,419	13.5%	32,170	7.2%
Refill Parcels (I:L < 1.1)	112,407	16.4%	39,093	8.7%
Refill Parcels (I:L < 1.25)	139,088	20.3%	47,089	10.5%

*I:L refers to the improvement-to-land value ratio cutoff used for identifying refill

TABLE 1B: COMMERCIAL/RETAIL (C/R) REFILL AND INFILL IN ORANGE COUNTY, 2016

Commercial/Retail Uses				
	Parcels	% C/R out of All Uses	Acres	% C/R out of All Uses
County Total	15,796	2.3%	17,186	3.8%
Vacant Parcels	744	12.6%	349	14.9%
Refill Parcels (I:L* < 1.0)	7,749	8.4%	6,814	21.2%
Refill Parcels (I:L < 1.1)	8,197	7.3%	7,407	18.9%
Refill Parcels (I:L < 1.25)	8,812	6.3%	8,165	17.3%

*I:L refers to the improvement-to-land value ratio cutoff used for identifying refill

Table 1A indicates that only 0.9 percent of the county's parcels and 0.5 percent of the county's total land area are vacant. This is consistent with generalized acknowledgement that the county is largely "built-out" with limited Greenfield opportunities and suggests that future new development and the reshaping of future land use patterns will mostly occur on "refill" land. At the strictest I:L ratio threshold of 1.0, 13.5 percent of the county's parcels and 7.2 percent of its land area are considered "refill." Changing this ratio to 1.25 identifies 20.3 percent of the county's parcels and 10.5 percent of its land area as having potential for reuse.

Table 1B isolates only infill/refill parcels which are identified as having (or having had) a commercial or retail use. 15,796 out of 685,354 parcels in Orange County (2.3 percent) are currently zoned and developed for commercial or retail use. However, despite commercial/retail's underrepresentation overall, our infill/refill methodology demonstrates that it is substantially overrepresented in terms of its reuse potential.

For example, 8.4 percent of Orange County potential infill/refill parcels are existing commercial/retail land uses (including vacant retail parcels), meaning that commercial/retail parcels are almost four times more likely to have potential for redevelopment than other land uses. In terms of acreage, the percentage of commercial/retail acreage flagged as having infill/refill potential is even a greater share of overall infill/refill acreage in Orange County. Representing only 3.8 percent of overall Orange County land use acreage, 21.2 percent of commercial/retail has infill/refill potential, well over five times the reuse potential than other land uses.

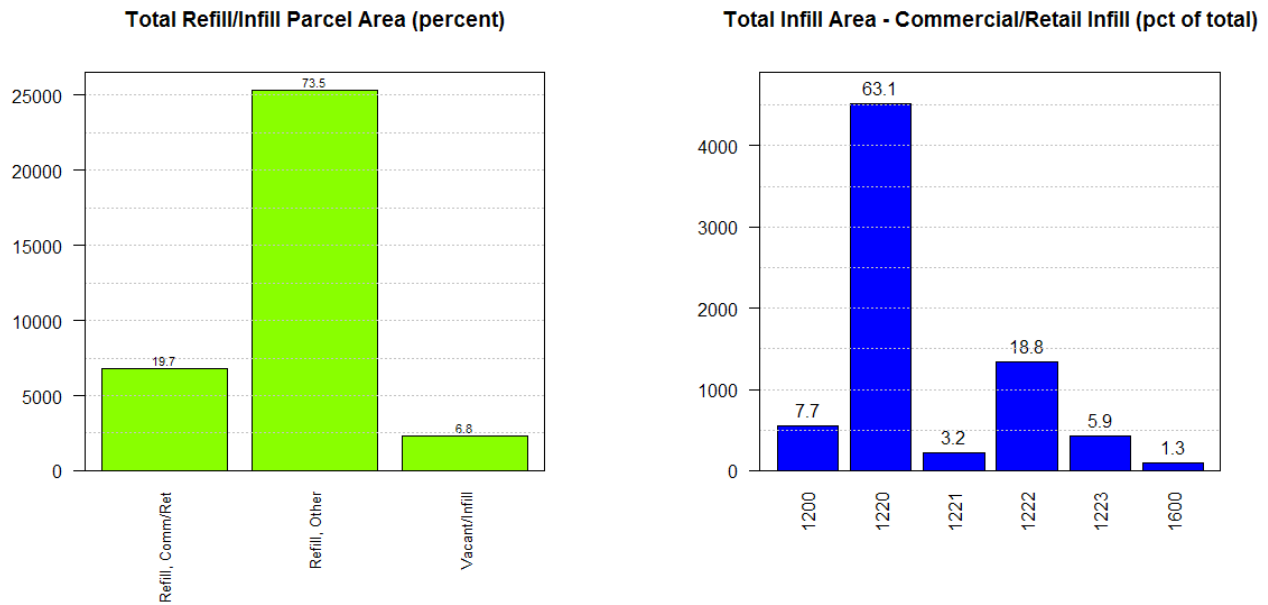
Therefore, using our methodology, a significantly high share of vacant parcels are in the commercial/retail category (12.6%). Depending on which I:L ratio threshold is used, there are between 6,800 and 8,200 acres of potential refill development available in Orange County.

Commercial/retail considered in the study include several SCAG land use codes:

- 1200: Commercial and Services
- 1220: Retail stores and commercial services
- 1221: Regional shopping centers
- 1222: Retail centers, non-strip with contiguous interconnected off-street parking
- 1223: Retail strip development
- 1600: Mixed residential and commercial services

Using the standard 1.0 I:L ratio, Figure 2A highlights how the vast majority of infill/refill is actually non-commercial refill (73.5%). Figure 2B further delineates the 19.7% of infill/refill parcels that are commercial/retail based on their specific land-use code. Only a very small share of this land area consists of regional shopping centers (3.2%) or strip development (5.9%). The largest share which has uniformly identifiable characteristics – other than the fairly broad 1220 retail/commercial code – is retail centers with large off-street lots and deep setbacks, which are common along most major arterial roads in Orange County.

FIGURE 2: INFILL AREA, (A) TOTAL AND (B) COMMERCIAL/RETAIL



Orange County Infill by Parcel Size

The size and arrangement of infill candidate sites plays a large part in determining what kinds of future development might be suitable. Small slivers of land surrounded by incompatible uses might be poor candidates for certain kinds of development. Larger parcels, on the other hand, may be expensive or located far from major transportation infrastructure or complementary land uses.

Table 2A indicates that the median infill/refill parcel is 0.16 acres – roughly the size of a standard single-family lot in Orange County. Commercial/retail refill parcels tend to be slightly larger, with a median size of 0.38 acres.

Realistically, the small size of the typical infill/refill parcel limits its potential redevelopment options. Table 2B examines only parcels 4 acres or larger, which significantly restricts the quantity of infill/refill land from 34,517 acres to 10,221 acres. In fact, there are only 63 vacant parcels in Orange County above 4 acres. However, increasing the I:L ratio increases the quantity of commercial/retail refill parcels.

While this size constraint is restrictive, adjacent parcels can be assembled to a larger development footprint. Table 2C dissolves adjacent infill/refill parcels and again applies the 4-acre minimum. At the most lenient I:L ratio of 1.25, there are 4,911 acres of commercial/retail infill potential in Orange County. Furthermore, since this analysis only considers parcels that are directly adjacent, it may undercount the quantity of infill if eligible sites can be combined across alleys or streets to form project areas.

Attachment: Retail Land Use Report (Appeal of the Draft Allocation for the City of Tustin)

TABLE 2A: INFILL/REFILL LAND BY PARCEL SIZE

	Parcels	Total Acres	1st Quartile	Median	Mean	3rd Quartile
All infill/refill parcels	98,322	34,517	0.14	0.16	0.35	0.19
Vacant infill parcels	5,903	2,346	0.08	0.14	0.40	0.24
Commercial/retail refill parcels	7,749	6,814	0.17	0.38	0.88	0.77

TABLE 2B: INFILL/REFILL LAND SIZE BY PARCELS, PARCELS OVER 4 ACRES ONLY

	Parcels	Total Acres	1st Quartile	Median	Mean	3rd Quartile
All infill/refill parcels	1,167	10,221	4.92	6.66	8.76	9.99
Vacant infill parcels	63	758	5.14	6.59	12.04	12.59
Commercial/retail refill parcels (I:L < 1.0)	314	2,578	4.86	6.60	8.21	9.93
Commercial/retail refill parcels (I:L < 1.1)	331	2,744	4.87	6.66	8.29	9.99
Commercial/retail refill parcels (I:L < 1.25)	374	3,076	4.87	6.60	8.23	9.99

TABLE 2C: INFILL/REFILL - CONTIGUOUS PARCELS ADDING UP TO 4 OR MORE ACRES*

	Parcels	Total Acres	1st Quartile	Median	Mean	3rd Quartile
Vacant, Commercial/retail refill (I:L < 1.0)	421	3,893	5.14	7.02	9.25	10.93
Vacant, Commercial/retail refill (I:L < 1.1)	458	4,319	5.23	7.19	9.43	11.42
Vacant, Commercial/retail refill (I:L < 1.25)	513	4,911	5.42	7.47	9.57	11.46

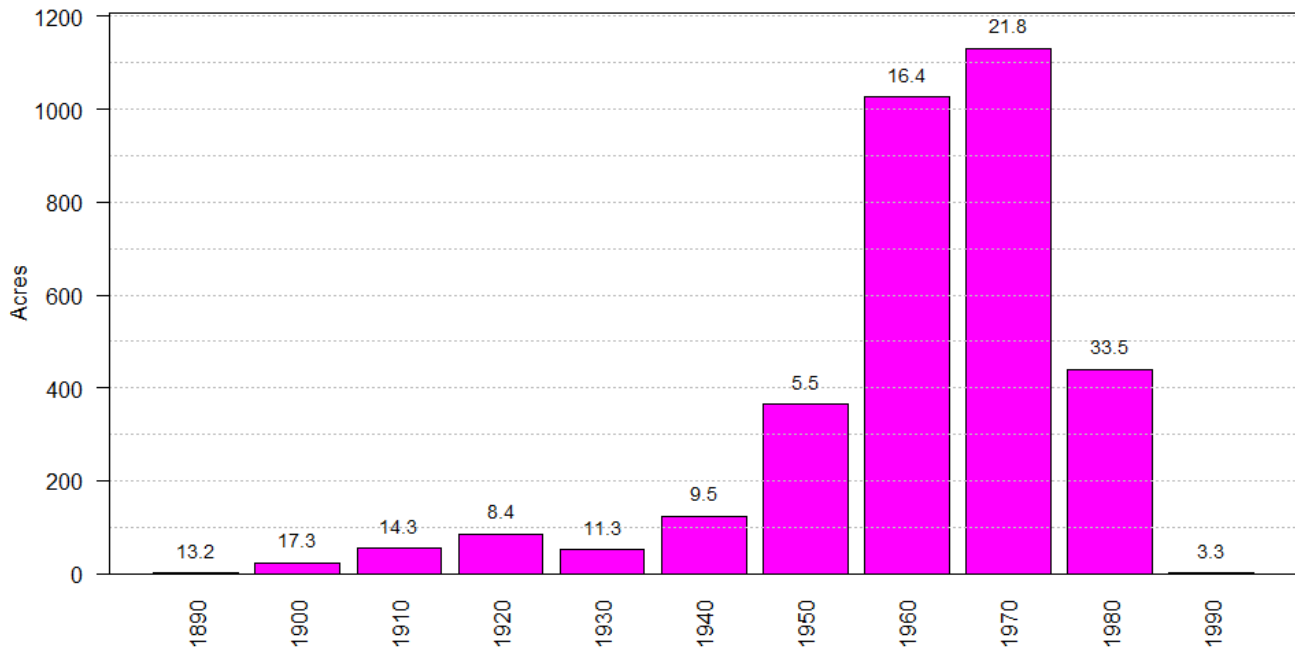
*Table 2C includes land that, when combined with adjacent land with the same classification, adds up to 4 or more acres of contiguous, developable land.

Orange County Infill by Building Age

An important consideration, particularly when analyzing refill and adaptive reuse capacity, is to consider the age of existing structures. Housing filtering theory suggests that as buildings age they tend to decrease in value, which facilitates decreased rent for commercial or residential occupants and generally changes a neighborhood’s character. This process, however, is not linear as construction technologies and standards – as well as the style of buildings constructed – change to fit the needs of particular times and to suit evolving needs. For example, masonry-frame buildings that pre-date World War II may be far older but might be more suitable to adaptation due to their build quality.

Figure 3 displays commercial/retail refill land delineated by the decade in which the existing structure on the parcel was built. The number above each bar indicates the percentage of all the existing commercial/retail constructed during the delineated decades that have reuse potential (using an improvement-to-land value ratio of 1.0).

FIGURE 3: INFILL BY STRUCTURE AGE



Clearly there is little refill potential among structures built prior to 1950; the majority of commercial/retail infill buildings were constructed during the 1960s and 1970s. While there are roughly 350 acres of infill land comprised of structures built during the 1950s, this represents a very small share of 1950s-era commercial/retail inventory at 5.5%. Conversely, 1980s commercial/retail appears to have less longevity: despite being newer, roughly one-third of commercial/infill from the eighties is potential infill. This could be due to lower build quality relative to the desirability of the location.

Orange County Infill by Transit Service Quality

SCAG’s 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) defines High-Quality Transit Areas (HQTAs) as land within one-half mile from a rail station or high-frequency bus station. SCAG’s plan envisions that 46% of population growth and 55% of employment growth will occur in HQTAs to reduce region-wide vehicle travel and lower greenhouse gas emissions. Beyond these region-wide benefits, transit accessibility also benefits retailers. By adding transit as an additional travel mode by which potential customers can arrive, locating in an HQTA effectively increases a store’s trade area.

Figure 4 displays all infill/refill land area by year built, and delineates HTQA versus non-HTQA locations. Overall, 60.8% of the identified infill/refill is in an HQTA, a percentage higher than envisioned for growth in SCAG’s 2040 plan horizon. However, the dispersion of HQTAs is closely correlated to building age. Older structures are typically located in older, more central parts of Orange County with historically higher levels of commuter rail and bus service usage. As such, a far higher share of older infill-potential structures are within HQTAs (e.g. 77.1% of 1950s infill but only 51.2% of 1980s infill is in an HQTA).

Figure 4 breaks down the HQTA status of commercial/retail infill by specific land use type. 57.7% of the land which is currently in a retail shopping center (code 1221) is in an HQTA and 53.7% of the refill land which is currently an off-street retail center is in an HQTA. However, a much lower share of code 1223 representing strip retail is in an HQTA (35.3%).

Attachment: Retail Land Use Report (Appeal of the Draft Allocation for the City of Tustin)

FIGURE 4: INFILL BY TRANSIT SERVICE AND AGE

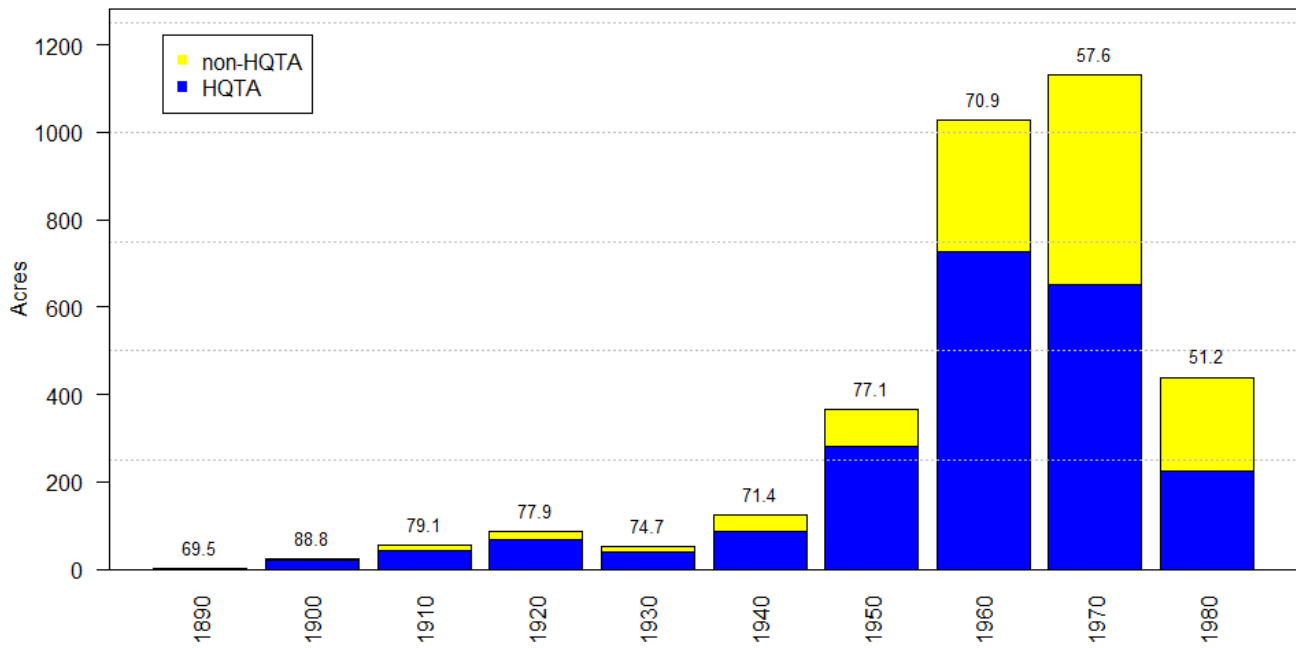
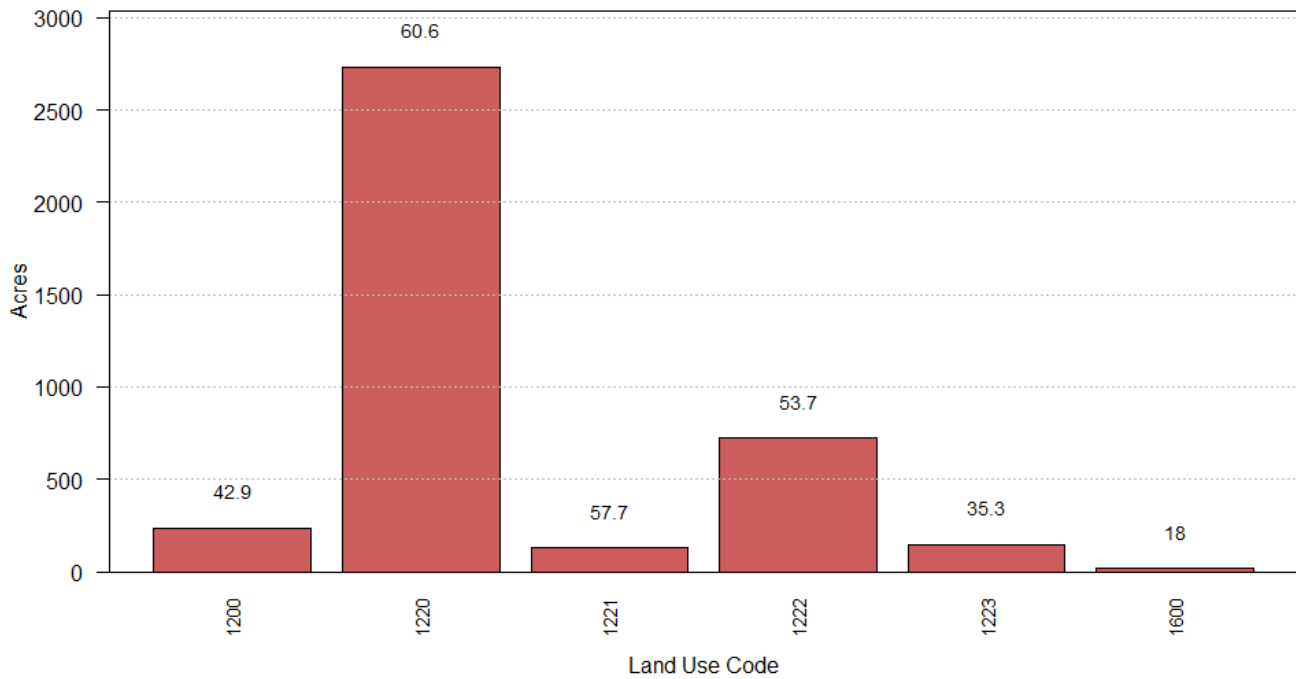


FIGURE 5: INFILL BY COMMERCIAL/RETAIL SUBTYPE AND TRANSIT



Mid-Block Retail

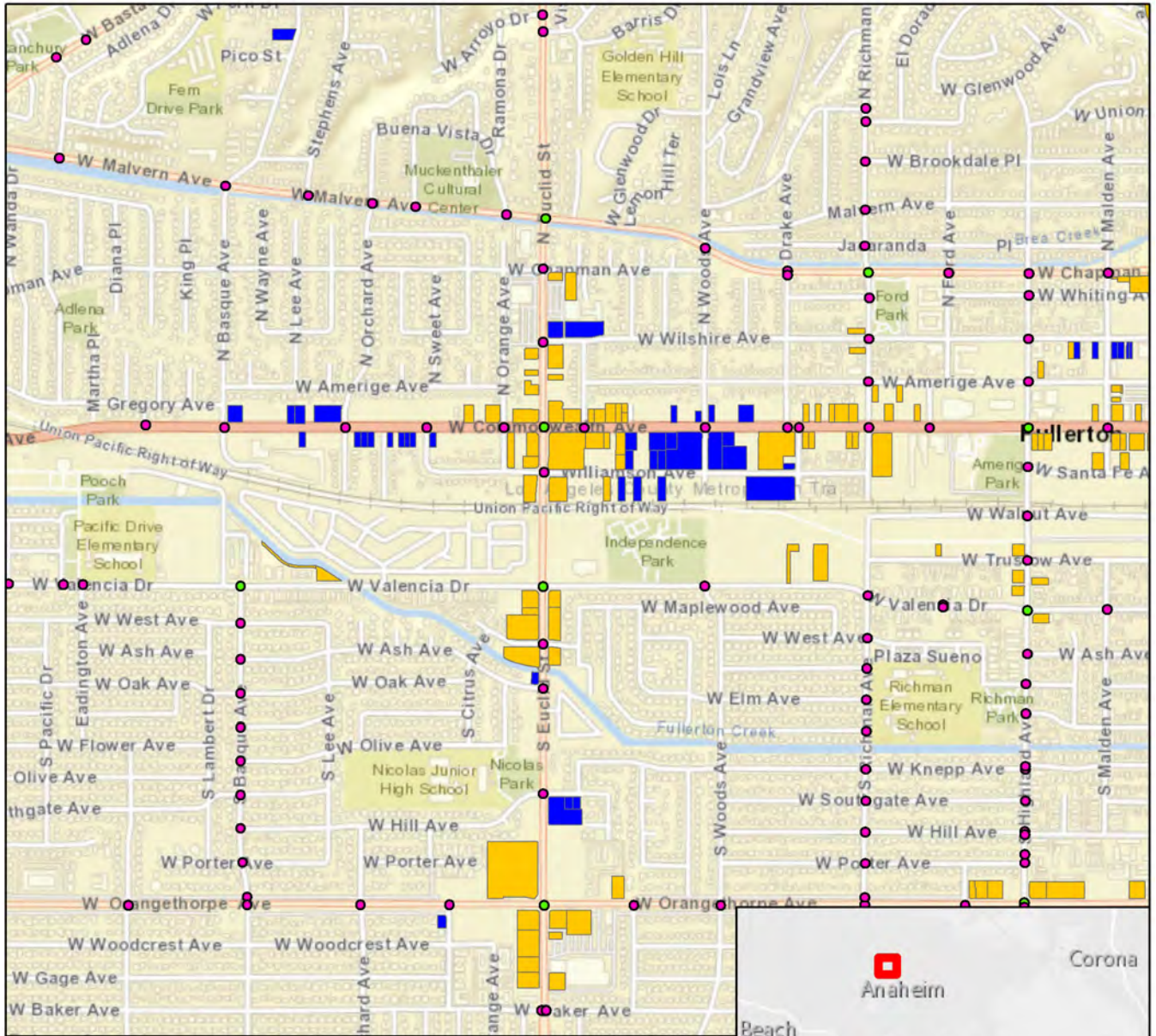
Additional criteria for selecting potential infill/refill parcels is their proximity to major intersections along corridors. A parcel's proximity to major intersections is another important criterion for judging its infill/refill potential. Many corridors were planned and developed in a different retail era. From the 1940s to the 1960s, many retail stores simply required a location along a busy arterial with signage and an entrance for ingress and egress.

Therefore, many of Orange County's transportation corridors were built before the advent of regional and super-regional malls, surrounded by parking and located near major intersections and freeway exits, became the dominant form of retail starting in the mid-1960s. Older retail space along corridors, especially mid-block not proximate to major intersections, became functionally obsolete. These malls made many older retail spaces away from intersections obsolete. What to do with these underperforming mid-block retail spaces such as strip malls remains an important challenge to address throughout Southern California.

Some infill developers target aging mid-block retail locations – especially retail strip malls – for conversion to housing, mixed-use development, or other reuses. Retail parcels that are not on major intersections have lower visibility and are typically less desirable for potential reuse. Although our core infill criteria do not consider this specific characteristic, the research team developed a GIS routine using street data to classify intersections by type. Potential commercial/retail refill parcels were identified based on whether their nearest intersection was the meeting of two major arterial roads, or if it involved only one major street – constituting it “mid-block retail” under this classification criteria. Of the 8,477 parcels (7,163 acres) of commercial/retail infill in Orange County, 2,349 parcels (32.8 percent) are considered “mid-block,” which corresponds to 1,755 acres (24.5 percent) of the total commercial/retail infill land area in the county. Four examples are shown below from Fullerton, Huntington Beach, Orange, and San Juan Capistrano.

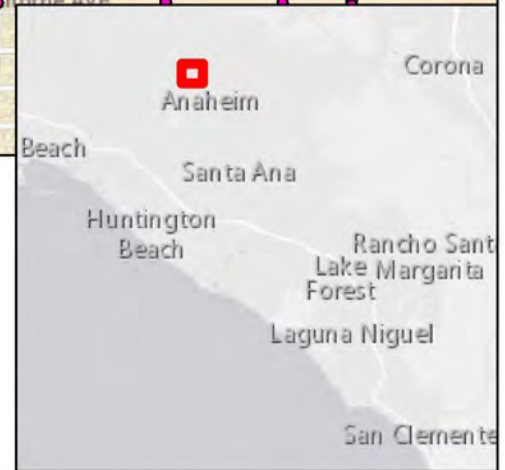
In some cases where a large retail center consists of multiple parcels (parcels located on the outer perimeter of a ring road, for example) the rear-facing parcels further from the main streets have also been counted as mid-block retail, even if the main retail center is on a major intersection. Our research method left this classification intact since, in our estimation, these parcels appear distinct from the more desirable, high-frontage parcels in the same retail center. This is particularly noticeable in the larger regional shopping malls of South Orange County such as the Laguna Hills Mall and Fashion Island; future analyses may refine this measure.

FIGURE 6: MID-BLOCK RETAIL: FULLERTON, COMMONWEALTH AVENUE



Legend

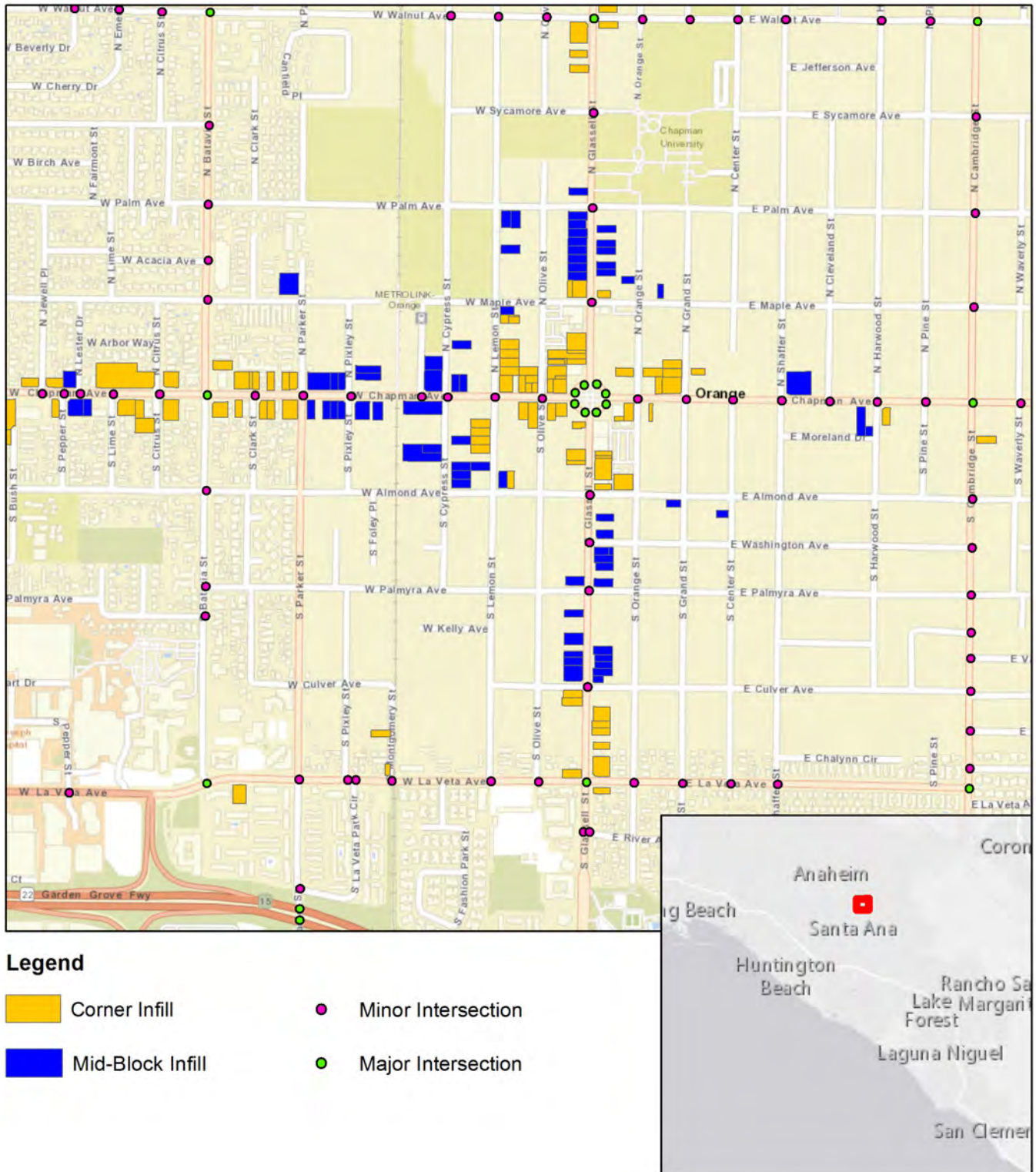
- Corner Infill
- Mid-Block Infill
- Minor Intersection
- Major Intersection



Prepared by SCAG, 2018



FIGURE 7: MID-BLOCK RETAIL: ORANGE, CHAPMAN AVENUE

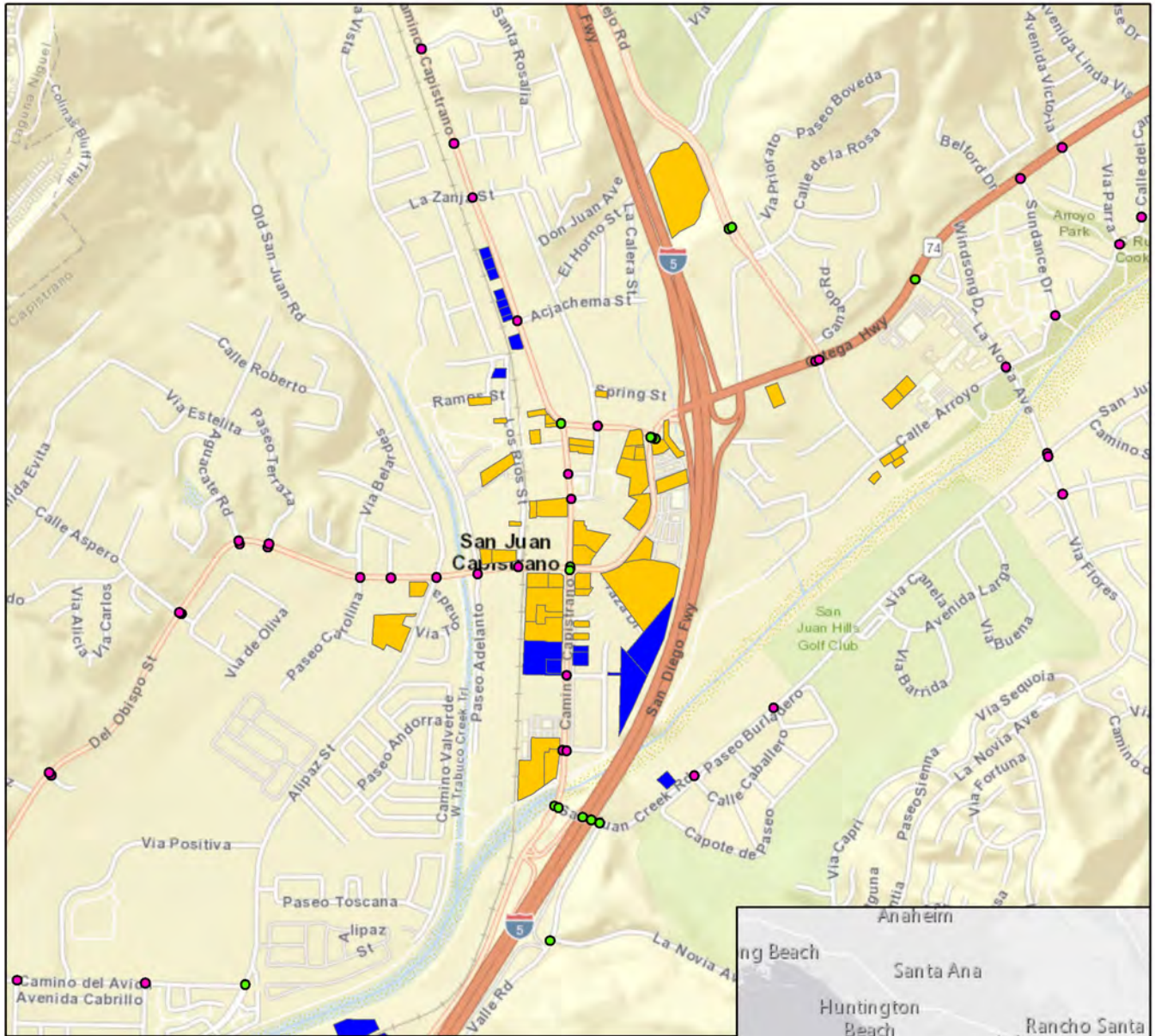


Attachment: Retail Land Use Report (Appeal of the Draft Allocation for the City of Tustin)

Prepared by SCAG, 2018



FIGURE 8: MID-BLOCK RETAIL: SAN JUAN CAPISTRANO, CAMINO CAPISTRANO



Legend

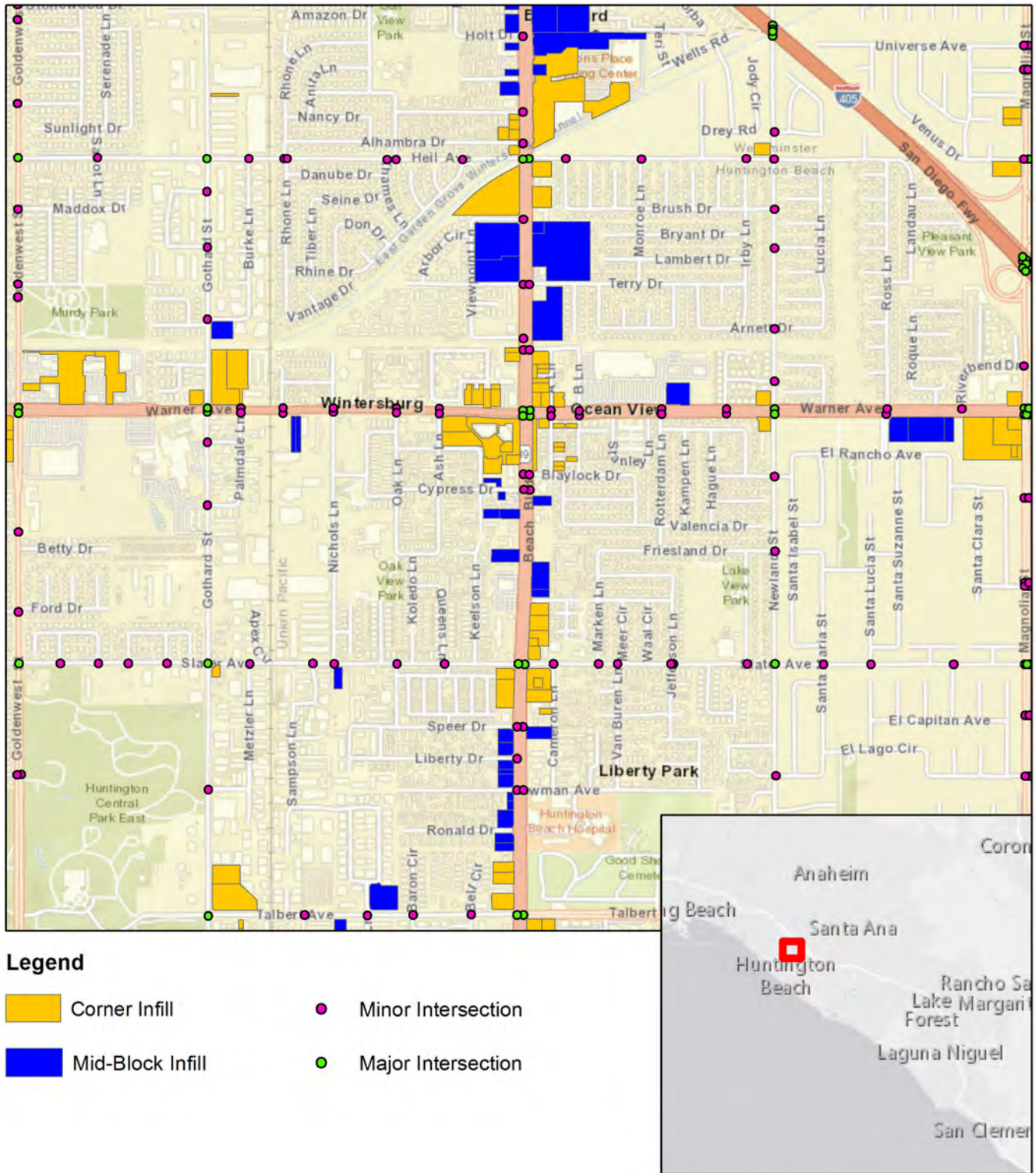
- Corner Infill
- Mid-Block Infill
- Minor Intersection
- Major Intersection



Prepared by SCAG, 2018



FIGURE 9: MID-BLOCK RETAIL: HUNTINGTON BEACH, BEACH BLVD.



Attachment: Retail Land Use Report (Appeal of the Draft Allocation for the City of Tustin)

Prepared by SCAG, 2018



FINDINGS – INFILL CAPACITY IN ORANGE COUNTY CITIES

What is the infill capacity of individual cities in Orange County?

Table 3 provides an overview of Orange County cities and census designated places (CDPs) based on their infill capacity, and is accompanied by the maps below.

The older cities in north Orange County including Santa Ana and Anaheim generally have more infill capacity as well as commercial/retail refill capacity. The final column of Table 3 indicates the share of the city’s commercial/retail base that is potential infill/refill. While Santa Ana leads the way in this category (61.3%), several other cities that do not have as much overall refill/infill have more than 50% of their commercial/retail designated as such. They are Tustin, Fountain Valley, Aliso Viejo, Laguna Hills, and Stanton. Note that this information is based on the income-to-land value ratios discussed earlier and conditions at the site, community, and city level may vary. Therefore these city-level figures are for illustrative purposes only.

ORANGE COUNTY CITIES BY COMMERCIAL/RETAIL INFILL

TABLE 3: INFILL TOTALS BY CITY/CENSUS PLACE*

City or Census Designated Place	Total Infill/Refill (acres)	Total Infill/Refill (parcels)	Total Commercial/Retail (acres)	Commercial/Retail Refill (acres)**	Percent of city's total Commercial/Retail acres which are potential refill
Santa Ana	5067.9	16,790	1,476	904.6	61.3%
Anaheim	4844.6	12,081	1,655	774.7	46.8%
Orange	1941.3	5,148	918	409.2	44.5%
Huntington Beach	2158.3	6,993	981	384.6	39.2%
Irvine	1792.2	995	1,204	380.0	31.6%
Garden Grove	2495.0	8,702	788	370.2	47.0%
Costa Mesa	1691.6	4,805	882	361.4	41.0%
Fullerton	2065.8	6,210	789	325.1	41.2%
Buena Park	1518.6	5,239	631	313.6	49.7%
Tustin	1001.2	1,390	541	308.7	57.1%
Newport Beach	975.0	4,980	1,003	294.1	29.3%
Westminster	1176.6	3,691	564	215.8	38.2%
Fountain Valley	523.1	564	406	213.4	52.6%
Brea	712.8	947	537	200.6	37.4%
Lake Forest	633.4	537	443	194.7	43.9%
Mission Viejo	297.7	295	554	193.0	34.8%
La Habra	864.6	3,179	413	172.5	41.8%
Laguna Hills	303.7	204	307	159.2	51.9%
Laguna Niguel	230.1	125	376	131.6	35.0%
Aliso Viejo	261.8	386	222	115.3	52.0%
Stanton	627.8	1,875	200	102.6	51.3%
San Juan Capistrano	347.7	416	423	87.7	20.7%
Cypress	417.5	1,353	401	85.1	21.2%
San Clemente	486.4	2,593	198	78.1	39.5%
Yorba Linda	264.4	320	249	73.2	29.4%

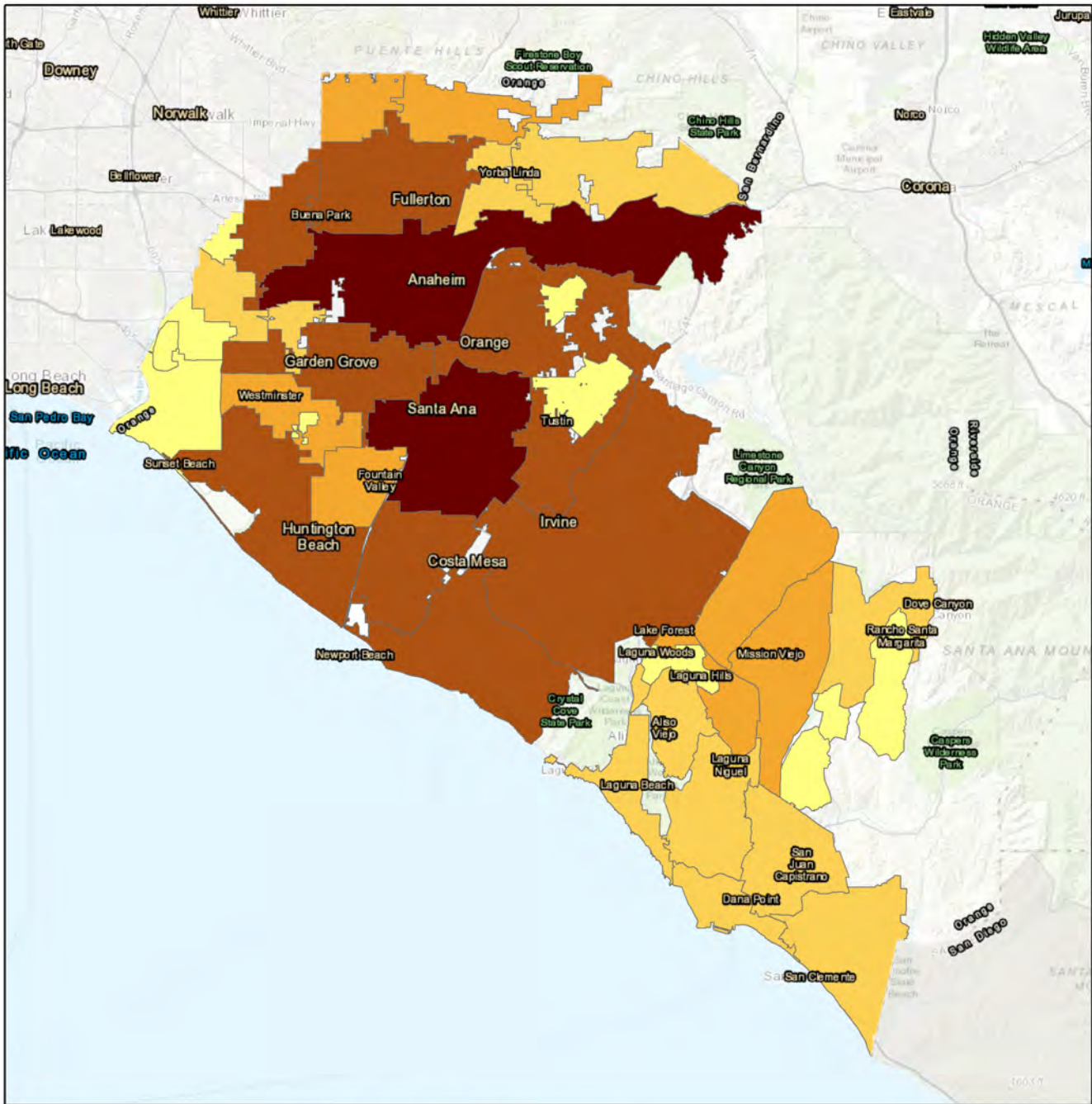
TABLE 3: INFILL TOTALS BY CITY/CENSUS PLACE* continued

City or Census Designated Place	Total Infill/Refill (acres)	Total Infill/Refill (parcels)	Total Commercial/Retail (acres)	Commercial/Retail Refill (acres)**	Percent of city's total Commercial/Retail acres which are potential refill
Placentia	435.2	955	186	69.8	37.5%
Rancho Santa Margarita	156.5	88	179	64.4	35.9%
Dana Point	267.2	1,431	186	56.7	30.5%
Laguna Beach	324.2	2,733	126	51.2	40.5%
Seal Beach	142.6	901	182	46.5	25.6%
Los Alamitos	220.9	534	149	36.9	24.8%
Laguna Woods	381.4	80	88	29.9	34.0%
La Palma	70.8	127	60	19.2	31.9%
Midway City	167.1	581	37	18.1	49.3%
Ladera Ranch	9.8	7	60	3.8	6.5%
Rossmoor	5.4	54	12	2.6	22.1%
North Tustin	47.7	181	11	1.0	8.9%
Coto de Caza	1.6	1	-	0.0	NA
Villa Park	0.6	2	9	0.0	0.0%
Las Flores	0.0	0	-	0.0	NA
Sunset Beach	0.0	0	8	0.0	0.0%

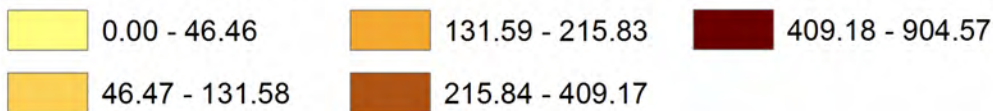
* The information in this table is subject to change based on the outcome of SCAG's Bottom-Up Local Input and Envisioning Process, which provides local jurisdictions the opportunity to make updates to 2016 base year land use classifications until Fall 2018. Furthermore, as discussed in this Report, infill/refill methodologies are subject to interpretation and likely vary based on site, community, and city conditions. Please contact the authors for details.

** Table sorted by decreasing Commercial/Retail Refill (acres)

FIGURE 10: COMMERCIAL AND RETAIL INFILL CAPACITY (ACRES) ORANGE COUNTY



Total Acres: Commercial and Retail Infill Capacity

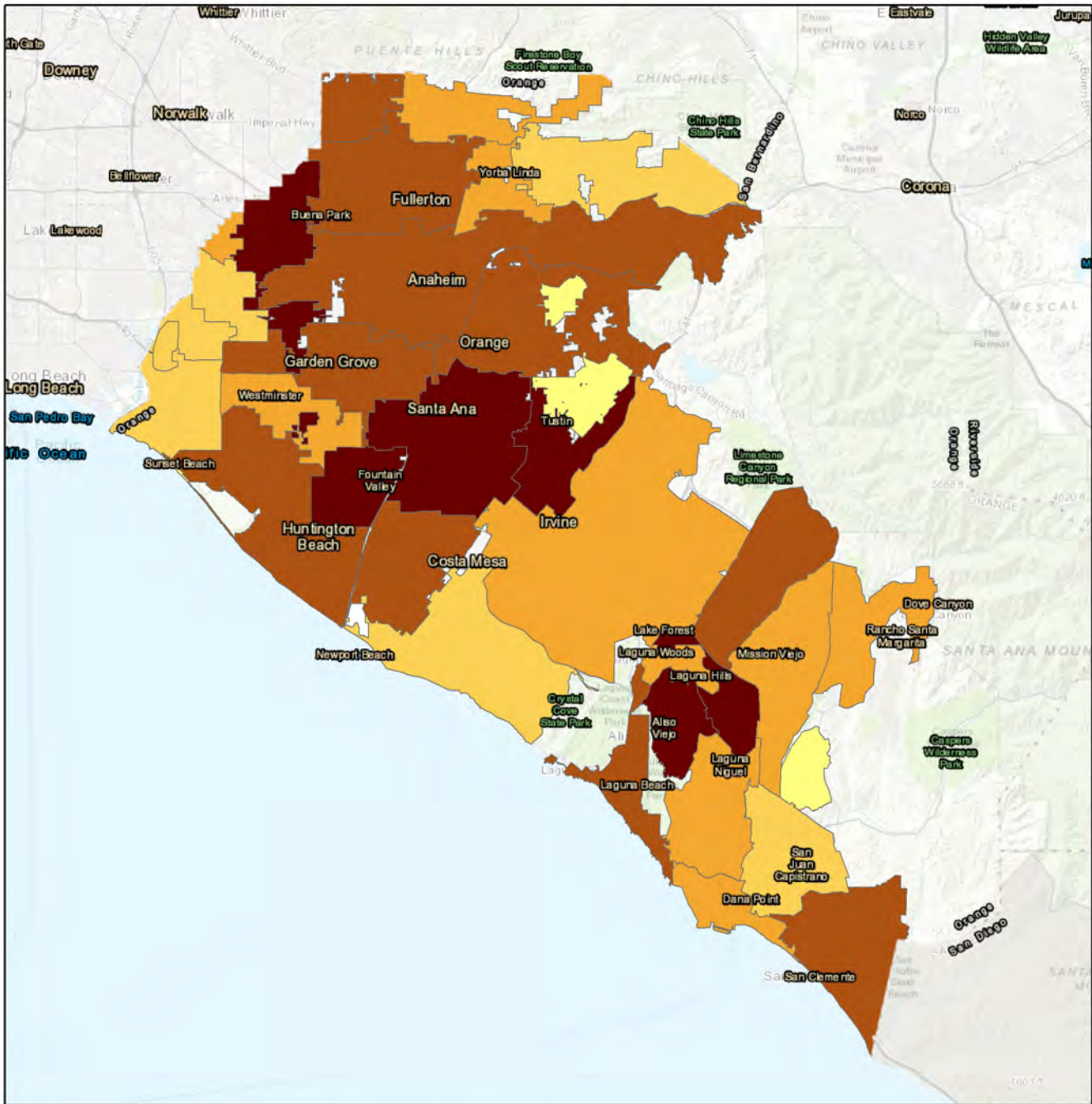


Prepared by SCAG, 2018

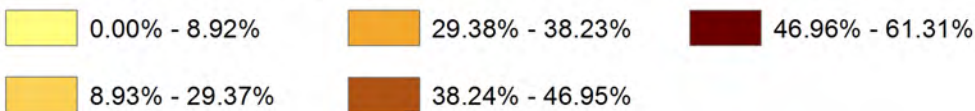


Attachment: Retail Land Use Report (Appeal of the Draft Allocation for the City of Tustin)

FIGURE 11: PERCENTAGE OF INFILL CAPACITY OF COMMERCIAL AND RETAIL PARCELS ORANGE COUNTY



Percentage of Infill Capacity: Commercial and Retail

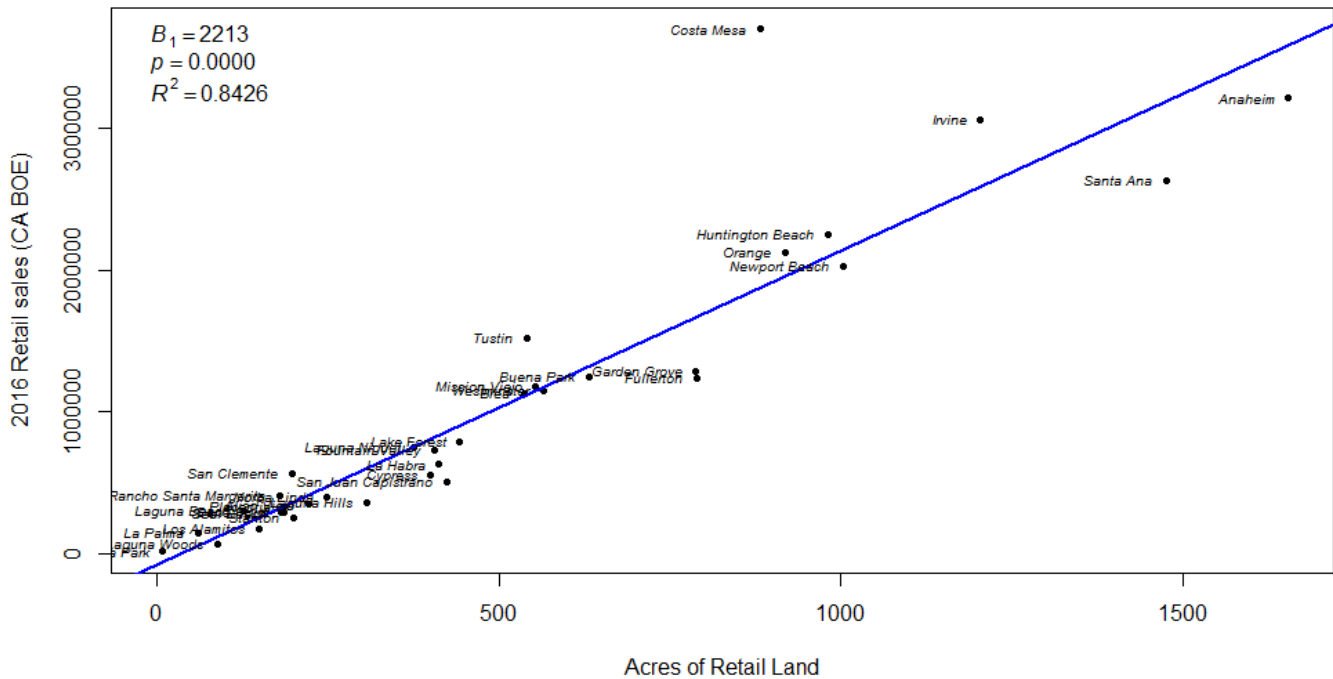


Prepared by SCAG, 2018



Attachment: Retail Land Use Report (Appeal of the Draft Allocation for the City of Tustin)

FIGURE 12: A MEASURE OF RETAIL LAND USE EFFICIENCY: SALES VS. ACRES (2016)



Existing Retail Land Use vs. Retail Sales by City

Using 2016 data from the California State Board of Equalization² and SCAG’s parcel-level land use data, we compare Orange County cities based on the quantity of retail land use versus their sales tax receipts. The plot below shows a very strong correlation between these two characteristics. Anaheim is the leader in retail land use and is second in taxable sales, while a number of cities such as Villa Park and Los Alamitos are relatively low in both measures.

Costa Mesa can be seen as an “overperformer” in that its retail sales are far above the level predicted by its quantity of retail land use. This suggests one way of interpreting the data is in the context of retail land use efficiency; that is, the ratio of retail land use to sales tax receipts. Costa Mesa has extremely high retail land use efficiency stemming, at least in part, from the presence of South Coast Plaza. Retail concentration per acre is likely a factor, as is the trade area “draw” or catchment area of retail shoppers for particular shopping malls such as South Coast Plaza, which draws retail spending from not only the Orange County region, but from outside the county and, increasingly, from visiting international tourists. San Juan Capistrano, Garden Grove, and Fullerton fall below the trend line, indicating they receive less sales tax revenue per unit of retail land.

² <https://www.boe.ca.gov/news/tsalescont16.htm>

CASE STUDIES – ADAPTIVE RE-USE AND CHANGES IN ORANGE COUNTY

In this final section of the chapter, we zoom in on three case studies where infill or adaptive re-use has taken place in or around historically retail-oriented areas. At each site, we identified developments that have been proposed, are currently under construction, or recently completed (Table 4).

TABLE 4: CASE STUDIES OF ADAPTIVE REUSE PROJECTS IN ORANGE COUNTY

Retail Name	Development Name	Jurisdiction	General Plan (City)	Zoning (City)	Previous Uses *	Year Built (if avail)	Units	Status
Main Place Mall	2700 N Main	Santa Ana	DC District Center	C2 General Commercial	Parking Lot	N/A	247	P
Main Place Mall	City Place Lofts	Santa Ana	DC District Center	SD Specific Development	Empty Lot	2004	184	B
Main Place Mall	Prisma Apartments (301 Development)	Santa Ana	DC District Center	SD Specific Development	Empty Lot	N/A	182	C
Main Place Mall	Eleven10 West	Orange	UMU Urban Mixed Use	UMU Urban Mixed Use	World Mortgage Group, single structure/single story office building	N/A	206	C
Main Place Mall	Windsor at Main Place	Orange	UMU Urban Mixed Use	UMU Urban Mixed Use		2000	285	B
Anaheim Towne Center (CtrCity)	Alexan CtrCity	Anaheim	Mixed-Use	General Commercial	Parking Lot, Single Office or Light Industrial Building	N/A	220	P
Anaheim Towne Center (CtrCity)	The Mix CtrCity	Anaheim	Mixed-Use	General Commercial		2006	160	B
Laguna Hills Mall	Five Laganas	Laguna Hills	VC Village Commercial	VC Village Commercial	Shopping Center	1973	988	C
Laguna Hills Mall	Reata at Oakbrook	Laguna Hills	VC Village Commercial	VC Village Commercial		2016	295	B

* From our best efforts using Google Aerial and Street View

Westfield Main Place Mall is located on the corner of Main Street and Town and Country Road in Santa Ana where the 22 and 5 freeways intersect. Originally built in 1987, Westfield Main Place has seen anchor tenants leave, most notably Nordstrom in 2017. Despite this, the mall owners have invested in attracting new tenants, mostly restaurants and fast-casual dining options³. At the end of 2017 Westfield Corporation announced its \$16 billion buyout by French rival Unibail-Rodamco SE⁴.







2700 N Main is a planned mid-rise 247-unit apartment building to be developed on an existing parking lot⁵. The project is located adjacent to the Westfield Main Place mall and includes an existing 12-story office tower and a Wells Fargo bank branch. In addition to converting the building to apartments, the developer proposes a substantial façade rehabilitation⁶.

3 <https://www.ocregister.com/2017/01/13/bye-bye-nordstrom-29-year-old-store-at-mainplace-closing/>
 4 <http://money.cnn.com/2017/12/12/investing/westfield-unibail-merger-malls-deal/index.html>
 5 <http://www.ci.santa-ana.ca.us/pba/planning/2700N.MainResidentialDevelopment.asp>
 6 <http://www.lacodb.com/oc-development-news/mid-rise-apartment-proposed-near-santa-ana-mainplace-mall>



FIGURE 13: WESTFIELD MAIN PLACE MALL, SANTA ANA



Property Name

- | | | |
|--|--|--|
|  1. Main Place Mall |  3. City Place Lofts |  5. Eleven10 West |
|  2. 2700 N Main |  4. Prisma Apartments |  6. Windsor Place |

Infill Index

- | | | |
|--|--|---|
|  Residential Refill |  Non-Residential Refill |  Vacancy |
|--|--|---|

Prepared by SCAG, 2018



The City Place Lofts are an innovative approach to live/work space in Santa Ana, located within the City Place Urban Center. There are 72 units with a mixture of ground level home office and retail space with 1 and 2 bedroom units⁷. In addition to the City Place Lofts, the Courtyards at City Place are brownstone-style buildings totaling 112 units⁸. Adjacent to the City Place development, the Prisma Apartments offer luxury residential amenities such as lounge courtyards, collaborative work stations, conference rooms, shared social kitchen/entertainment space, and housekeeping services⁹. The Prisma development consists of 182 residential units on 4 floors above 2 floors of parking.

The Eleven10 West apartment complex consists of 206 luxury units with a mixture of one- and two-bedroom units¹⁰. Located across the street from Westfield Main Place Mall and adjacent to City Place, the development is currently under construction and set to open late 2017¹¹. Finally, The Windsor at Main Place apartment community was built in 2000 and is a mid-rise four-story apartment complex with 285 units¹².

7 <http://www.orangecountylofts.com/lofts-at-city-place.php>
 8 <https://www.redfin.com/CA/Santa-Ana/432-Jeanette-Ln-92705/home/21935166>
 9 <http://www.liveatprisma.com/>
 10 <http://www.orangecountylofts.com/blog/a-2nd-luxury-apartment-building-slated-for-main-place-mall-area-eleven-10-west.html>
 11 <http://www.eleven10west.com/>
 12 <https://www.apartments.com/windsor-at-main-place-orange-ca/b621yh8/>

FIGURE 14: ANAHEIM TOWN CENTER CTR CTY (CENTER CITY)



Property Name

- 1 1. Anaheim Town Center
- 2 2. Center Street Prom
- 3 3. Alexan CtrCity
- 4 4. The Mix CtrCity

Infill Index

- Residential Refill
- Non-Residential Refill
- Vacancy

Prepared by SCAG, 2018



The Anaheim Towne Center is a shopping plaza with a Vons, CVS, Starbucks, and other retailers and food options. It is adjacent to Center Street Promenade, which offers artisan-inspired eateries, boutiques, farmers markets, and seasonal art shows¹³.

Formerly known as Uptown Village, Alexan CtrCity in Anaheim is a proposed four-story, 220-unit apartment community, with 13,000 square-feet of retail. Alexan CtrCity will include studio, one- and two-bedroom apartments with monthly rents ranging between \$1,800 and \$2,700¹⁴. The development is adjacent to the Anaheim Town Center and Center Street Promenade. Another development, The Mix at CtrCity, is a mix of four branded apartments for modern urban living in downtown Anaheim. The development was built in 2006, and consists of 160 units in a four-story structure.

¹³ <http://www.centerstreetanaheim.com/>

¹⁴ <https://urbanize.la/post/apartments-planned-anaheims-historic-downtown>

FIGURE 15: LAGUNA HILLS MALL/FIVE LAGUNAS MALL, LAGUNA HILLS



Property Name

- 1 1. Five Lagunas
- 2 2. Reata Oakbrook

Infill Index

- Residential Refill
- Non-Residential Refill
- Vacancy

Prepared by SCAG, 2018



The Laguna Hills Mall, originally built in 1973, is currently undergoing a \$260 million makeover and rebranding effort. The new Five Lagunas development will include three multi-family buildings with 988 luxury dwelling units. The pedestrian-oriented urban village will include amenities such as a new movie theater, indoor/outdoor shops and a health club¹⁵.

Despite renovation efforts, the mall has faced some setbacks. In September 2017, Macy’s - an original anchor tenant - announced it will be closing its store after the 2017 holiday season, prompting the owner to halt construction and reevaluate the plans for the Macy’s building. This announcement will push back plans to open the new mall into 2018¹⁶.

The Reata is a new multi-unit development with 289 rental units¹⁷. Located a 10-minute walk from the new Five Lagunas Mall, the development is adjacent to Oakbrook Village Shopping Center which houses a Trader Joe’s and an El Torito, and features convenient access to the Laguna Hills Transportation Center.

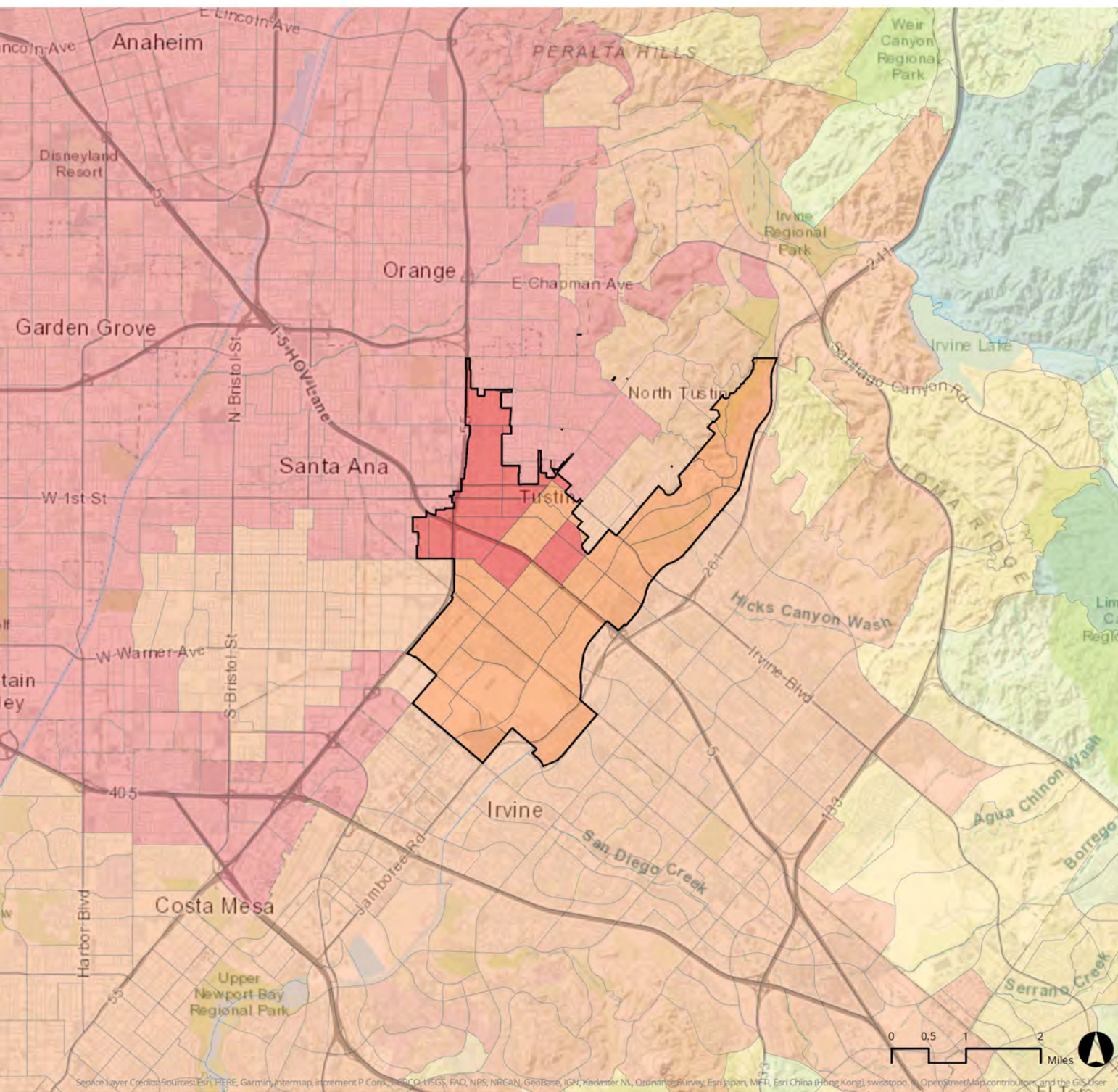
¹⁵ <http://www.4-traders.com/MACY-S-INC-12578/news/Macy-Renovation-stopped-at-Five-Lagunas-in-Laguna-Hills-as-Macy-s-set-to-close-25163901/>

¹⁶ <http://www.ocregister.com/2017/09/22/construction-halted-at-five-lagunas-in-laguna-hills-as-macys-set-to-close/>

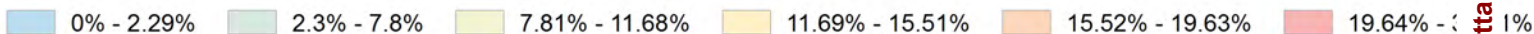
¹⁷ <http://www.laocdb.com/oc-development-news/reata-at-oakbrook-village-new-mixed-use-development-under-construction-near-laguna-hills-mall>

RETAIL LAND USE IN ORANGE COUNTY:

An Examination of Future Potential



TAZ-level job accessibility in and around: City of Tustin [Year 2045]

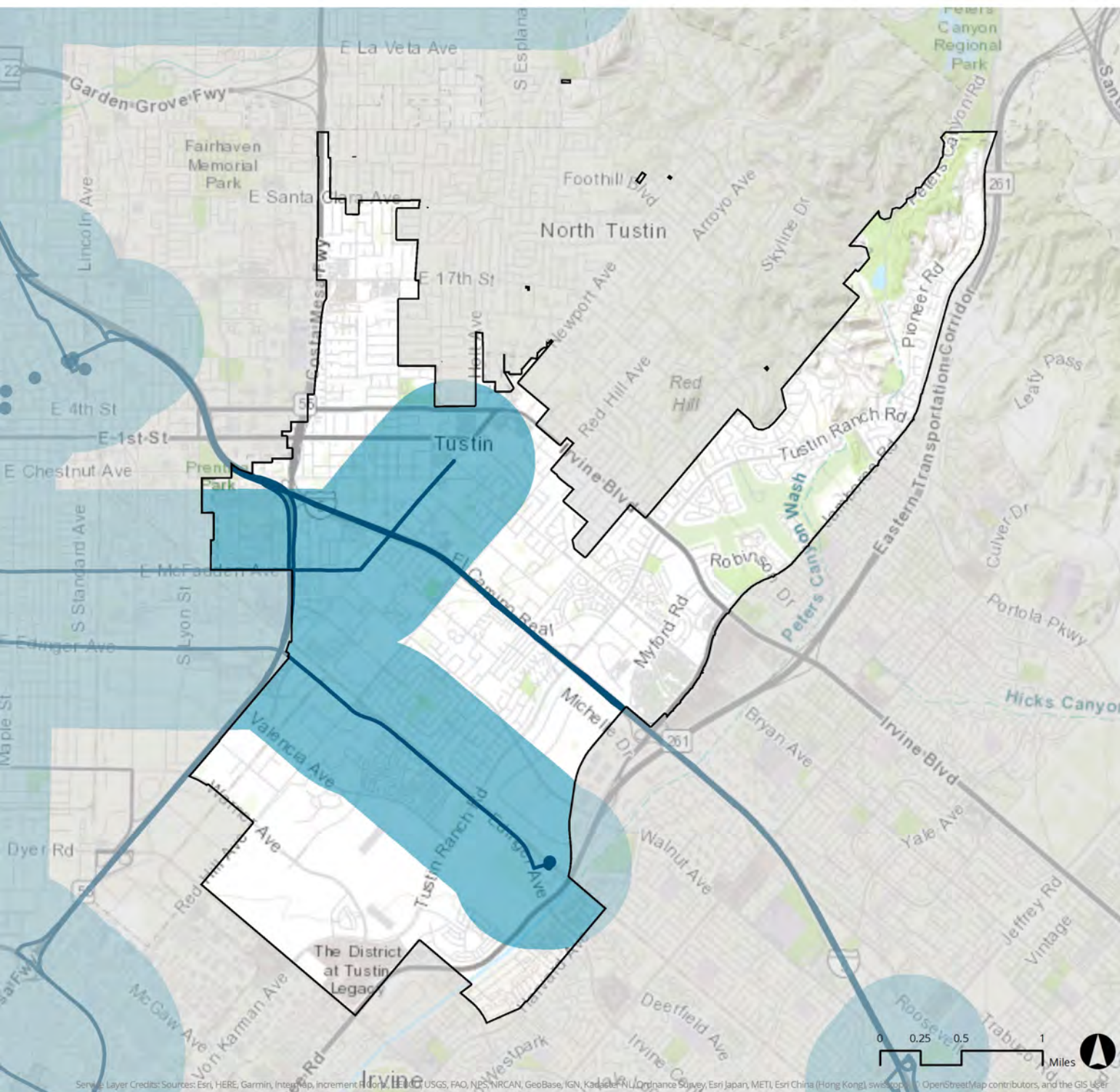


Note: These data represent the share of jobs in the SCAG region accessible by automobile commute in 30 minutes in 2045 during the peak AM commute (6-9am). Further detail on the job accessibility measure can be found in SCAG's Final RHNA Methodology. Note that since the SCAG region's total employment forecast for 2045 is 10,049,000 jobs, the number of jobs available can be measured by multiplying the percentage found on the map by this number. For example, a TAZ-level job accessibility measure of 10.0% means that 1,049,000 future jobs could be reached in 30 minutes.

Data Source: SCAG, 2020 | Map Created: 10/22/2020

Disclaimer: The data underlying the information shown on this map reflect jurisdiction's input submitted during the Local Input and Envision Connect SoCal. SCAG shall not be responsible for user's misuse or misrepresentation of this map. For the details regarding the sources, methodology of this map, please refer to the SCAG Data/Map Book at <https://www.connectsocial.org/Pages/Local-Input-Process.aspx> or contact RTPLocalIn

Attachment: Map of Job Accessibility near the City of Tustin (2045) (Appeal of the Draft Allocation for the City of Tustin)



Major Transit Stops and High Quality Transit Areas in City of Tustin [Year 2045]

- Major Transit Stops
- High Quality Transit Corridors (HQTCs)
- High Quality Transit Areas (HQTAs)

Note: SCAG identifies Major Transit Stops and High Quality Transit Corridors (HQTCs), and their surrounding areas in one-half mile radius distance as specified in Section 21155.(b)(3). Major transit stops and HQTCs are extracted from 2045 plan year data of Connect SoCal. SCAG's High Quality Transit Area (HQTA) is within one-half mile from Major Transit Stops and HQTCs and developed based on the language in SB375; however, freeway transit corridors with no bus stops on the freeway alignment do not have a directly associated HQTA. The RHNA process, per Section 65584 et seq., specifies that SCAG's housing needs allocation plan shall further several objectives including those related to infill development and jobs-housing balance. To that end, SCAG's Regional Council-adopted 6th Cycle Final RHNA Methodology relies on a jurisdiction's forecasted 2045 population within HQTAs to allocate housing need.

Data Source: SCAG, County Transportation Commissions, 2020 | Map Created: 10/22/2020

Disclaimer: The information shown on this map reflect jurisdiction's input submitted during the Local Input and Envisioning Process for the City of Tustin. SCAG shall not be responsible for user's misuse or misrepresentation of this map. For the details regarding the sources, methodologies and data please refer to the SCAG Data/Map Book at connectsocial.org/Pages/Local-Input-Process.aspx or contact RTPLocalInput@scag.ca.gov.

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scag.ca.gov.
Late submissions will not be accepted.

Date:
10/22/20

Jurisdiction Subject to This Appeal Filing:
(to file another appeal, please use another form)
City of Tustin

Filing Party (Jurisdiction or HCD)
City of Tustin

Filing Party Contact Name
Matthew S. West

Filing Party Email:
mwest@tustinca.org

APPEAL AUTHORIZED BY:

Name: Allan Bernstein

PLEASE SELECT BELOW:

- Mayor
- Chief Administrative Office
- City Manager
- Chair of County Board of Supervisors
- Planning Director
- Other: City Council

BASES FOR APPEAL

- Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029)
- Local Planning Factors and/or Information Related to Affirmatively Furthering Fair Housing (See Government Code Section 65584.04 (b)(2) and (e))
 - Existing or projected jobs-housing balance
 - Sewer or water infrastructure constraints for additional development
 - Availability of land suitable for urban development or for conversion to residential use
 - Lands protected from urban development under existing federal or state programs
 - County policies to preserve prime agricultural land
 - Distribution of household growth assumed for purposes of comparable Regional Transportation Plans
 - County-city agreements to direct growth toward incorporated areas of County
 - Loss of units contained in assisted housing developments
 - High housing cost burdens
 - The rate of overcrowding
 - Housing needs of farmworkers
 - Housing needs generated by the presence of a university campus within a jurisdiction
 - Loss of units during a state of emergency
 - The region's greenhouse gas emissions targets
 - Affirmatively furthering fair housing
- Changed Circumstances (Per Government Code Section 65584.05(b), appeals based on change of circumstance can only be made by the jurisdiction or jurisdictions where the change in circumstance occurred)

FOR STAFF USE ONLY:

Date _____ Hearing Date: _____ Planner: _____

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scag.ca.gov.
Late submissions will not be accepted.

Brief statement on why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584 (please refer to Exhibit C of the Appeals Guidelines):

Please include supporting documentation for evidence as needed, and attach additional pages if you need more room.

The mandated objects listed in subdivision (d) of Government Code Section 65584 aim to increase housing supply in equitable and sustainable ways. The City of Tustin is submitting the attached appeal in an effort to ensure the housing supply allocated to its community is sustainable, considering the changed circumstances overtaking our communities.

The COVID-19 pandemic is the most significant event to disrupt the world, US, State and local Orange County economy in 100 years. The devastating effects on the economy have been reported extensively by academic and real estate economists since March 2020. SCAG itself documented significant impacts to employment, taxable sales, economic output and other economic indicators.

When the RHNA allocation estimates were formulated, our City was experiencing a significantly different reality. This change in circumstances has made the data utilized obsolete and the allocations imposed on our City unsustainable, given the current and future changes to the economy. The attached RHNA Appeal Memo provides an analysis of the effects of COVID-19 on our City's economy, and a suggested reduction to ensure an equitable and sustainable housing allocation

Brief Description of Appeal Request and Desired Outcome:

The City of Tustin's appeal request is based on changed circumstances, pursuant to GOV Section 65584.05(b). Specifically, Tustin is requesting a revision to the employment portion of our allocation to reflect the decrease in employment numbers caused by the current COVID-19 pandemic, as well as its effects on the commercial and retail economies in the upcoming years. Tustin is requesting an allocation decrease of 1,718 units, or a 63.2% decrease on the 2,717 units allocated to the Job Accessibility portion of the RHNA allocation methodology.

Number of units requested to be reduced or added to the jurisdiction's draft RHNA allocation (circle one):

Reduced 1,718 Added _____

List of Supporting Documentation, by Title and Number of Pages

(Numbers may be continued to accommodate additional supporting documentation):

1. Attachment A: RHNA Appeal Letter (8 pages)
2. Attachment B: Works Cited (2 pages)
- 3.

FOR STAFF USE ONLY:

Date _____ Hearing Date: _____ Planner: _____

October 26, 2020

Southern California Association of Governments (SCAG)
900 Wilshire Boulevard, Suite 1700
Los Angeles, California 90017
ATTN: Kome Ajise, Executive Director

6TH CYCLE RHNA ALLOCATION APPEAL

Dear Mr. Ajise,

In accordance with applicable California Government Code provisions, the City of Tustin ("City" or "Tustin") is formally submitting an appeal for a revision to the City's 6th Cycle Regional Housing Need Allocation ("RHNA"). The City asserts that the revision is necessary to provide consistency with California Government Code Section 65584(d).

EXECUTIVE SUMMARY

The economic data and forecasts from the Southern California Association of Governments ("SCAG"), the University of California, Los Angeles ("UCLA"), the California Employment Development Department ("EDD"), the Orange County Transportation Authority ("OCTA") and well-respected and reputable commercial real estate and investment firms such as CBRE, Cushman and Wakefield ("C&W") and Moody's were consulted in order to determine the impacts resulting from the severe and significant change of circumstances on existing employment and employment growth in the City. Based on these data sources, the following methodology to project employment post-Pandemic has been applied:

1. 2020 baseline or starting employment has been reduced by 9.99% pursuant to changes in payroll employment in Orange County between June 2019 and September 2020, as reported by the EDD.
2. Future employment growth between 2020 and 2045 has been reduced by 33% (pursuant to Cushman & Wakefield data that estimates a 50% increase in the amount of square footage needed per employee resulting in significantly less employees within offices and other commercial buildings).

When applying these percentages to the employment information provided to SCAG by the City previously in June 2019 (before the COVID-19 Pandemic), the total 2020 current employment in Tustin decreased by approximately 10% (based on #1 above), or a reduction of a total of 5,300 jobs. In other words, the baseline starting point for employer is lower due to job losses resulting from COVID-19.

With regard to future employment, nearly 75% of projected employment is based in the Tustin Legacy Specific Plan Area, which includes the planned redevelopment of a former military base. This projected development, and subsequent employment growth, are largely reliant on market conditions which have changed drastically since April 2019. Pursuant to the information referenced in item #2 above, the employment growth between 2020 and 2045 was reduced by 33%, or by 11,209.

In summary, the baseline total employment in 2020 is reduced and the annual growth after 2020 is also reduced. As a result, total project employment growth is expected to decrease by 63% as a result of COVID. Applying this percentage change to the jobs accessibility and job growth portion of the RHNA methodology would result in a **RHNA decrease of 1,718 units, for a revised RHNA designation for the City of 5,135.**

BASIS FOR APPEAL

According to SCAG’s 6th RHNA Cycle Appeals Procedures and Government Code Section 65584.05, filed appeals must include a statement as to why the revision is necessary to further the intent of the objectives listed in Section 65584. The City is filing this appeal based on item #3 in the Procedures which states the following:

“Changed Circumstances – That a significant and unforeseen change in circumstance has occurred in the jurisdiction after April 30, 2019 and merits a revision of the information previously submitted by the local jurisdiction. Appeals on this basis shall only be made by the jurisdiction or jurisdictions where the change in circumstances has occurred.”

The COVID-19 pandemic (“Pandemic”) is the most significant event to disrupt the world, United States, and local Orange County economy in 100 years. The devastating effects on the economy have been reported extensively since March 2020, including by SCAG itself. SCAG published a white paper titled “The Potential Economic Impacts of COVID-19 in the SCAG Region” (“SCAG Report”) in May 2020 (prior to the July/August spike in cases in Orange County), which documents significant impacts to employment, taxable sales, economic output and other economic indicators.

Other sources, such as economic forecasts from UCLA as well as a number of well-respected commercial real estate and investment firms, have documented changes to existing and future employment.

Those anticipated changes in employment growth significantly change the total RHNA allocation applicable to Tustin using SCAG’s Methodology.

DATA

Numerous reputable data sources were consulted in reviewing COVID impacts to date as well as forecasted/future impacts. The sections below detail the facts and data that were reviewed to develop the methodology used to calculate the reduced RHNA for the City.

It is important to note that the COVID Pandemic has extended beyond what many economic experts had originally predicted and is an evolving situation. To date, no vaccine is available and it is unknown when vaccines will be available. Even when the vaccine is available, it will take months, if not years, to vaccinate the population to the point where the economy can full open again. **During the October 20 2020, Orange County Supervisor’s meeting, Health Officer, Dr. Clayton Chau, stated that he does not expect Orange County to reach the Yellow Tier - the least restrictive tier in the State’s reopening plan - until the summer of 2021.** The Yellow Tier only allows most non-essential businesses to reopen at a maximum 25% to 50% capacity according to the California Department of Public Health. This is a much longer time period than almost all reporting to date has referenced. So, the economic impacts from COVID will extend further into the future than the available data suggests.

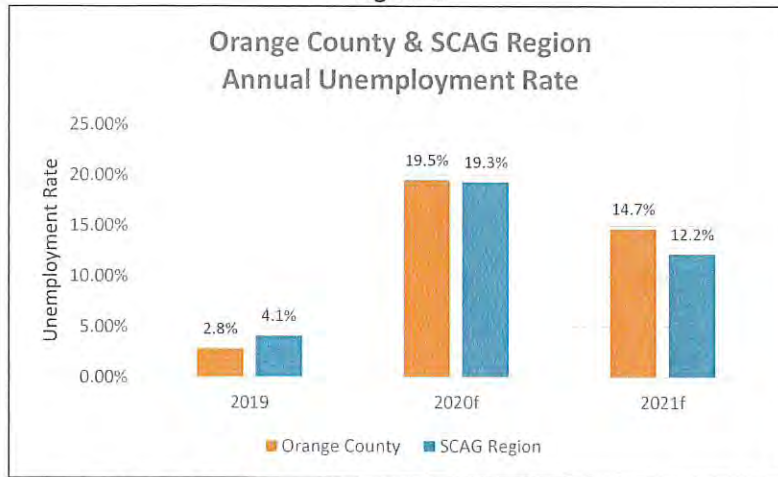
Therefore, it is likely that the “Social Distanced” economy will continue into the foreseeable future and that the economy will not be fully open for a year or more. Many experts agree that the longer the economy is hindered and limited, the longer the recovery will take. It should also be noted that because the recovery is expected to extend over multiple years, the growth that was projected in the southern California region prior to the Pandemic will be impossible to achieve. It will take years for the economy just to get back to “Square One,” or where we were in 2019. Therefore, one thing is certain - the projected growth in the SCAG region economy will not happen the way that was predicted prior to April 30, 2019.

Employment

The stay-at-home orders issued by the State of California (“State” or “California”) in March 2020 have led to unprecedented disruption in the labor markets, decreased consumer spending, and fundamentally altered the way people work. The SCAG Report predicts average **unemployment rates of 19.3% in 2020 and 12.2% in 2021 in the SCAG region**, as shown in Figure 1. These unemployment rates represent a stark contrast to the near record-low unemployment rate of 4.2% in California in June

2019, when the City provided answers for the Local Planning Factors survey administered by SCAG for the 6th Cycle RHNA allocations.

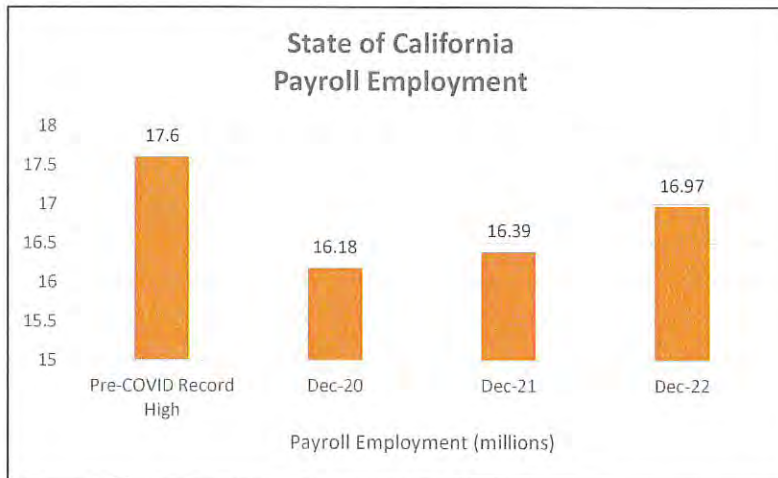
Figure 1



Source: Southern California Association of Governments

Furthermore, the UCLA Economic Forecast released in September 2020 suggests a full recovery to pre-recession levels of economic activity is not expected until after 2022 in the State. Specifically, the forecast projects that total payroll employment in the State will reach 16.97 million by the end of 2022, which would represent 630,000 fewer jobs than the previous high, as shown in Figure 2 below. In other words, employment will not even be restored to 2019 levels until after 2022.

Figure 2



Source: UCLA

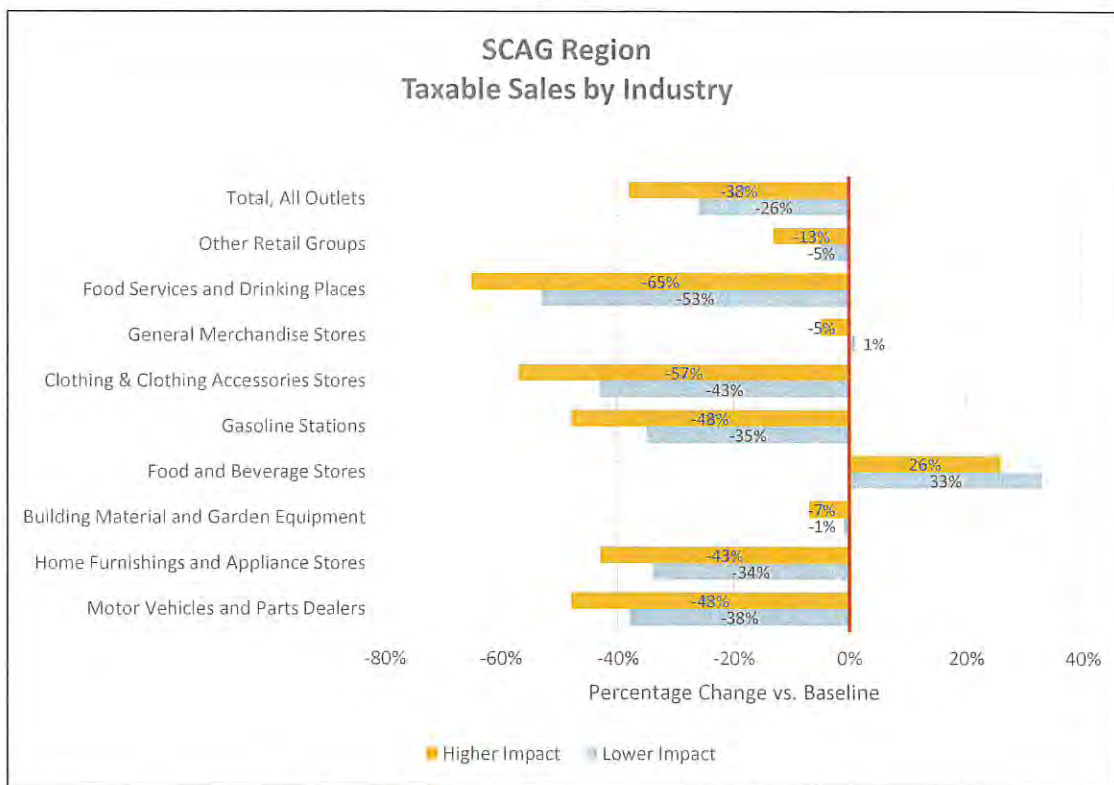
Taxable Sales

The SCAG Report further suggests that **taxable sales in the region could decrease by 26% to 38% over 2020 and 2021**. The largest decreases in taxable sales can be found in the following industries:

- Food Services and Drinking Places: -53% to -65%
- Clothing and Clothing Accessories Stores: -43% to -57%
- Home Furnishings and Appliance Stores: -34% to -43%

The decrease in consumer spending in these industries translates to decreases in total employment and employment growth in the City, as these industries make up a large portion of total retail employment in Tustin. Figure 3 below provides a detailed breakdown of changes in taxable sales by industry in the SCAG region over 2020 and 2021.

Figure 3



Source: Southern California Association of Governments

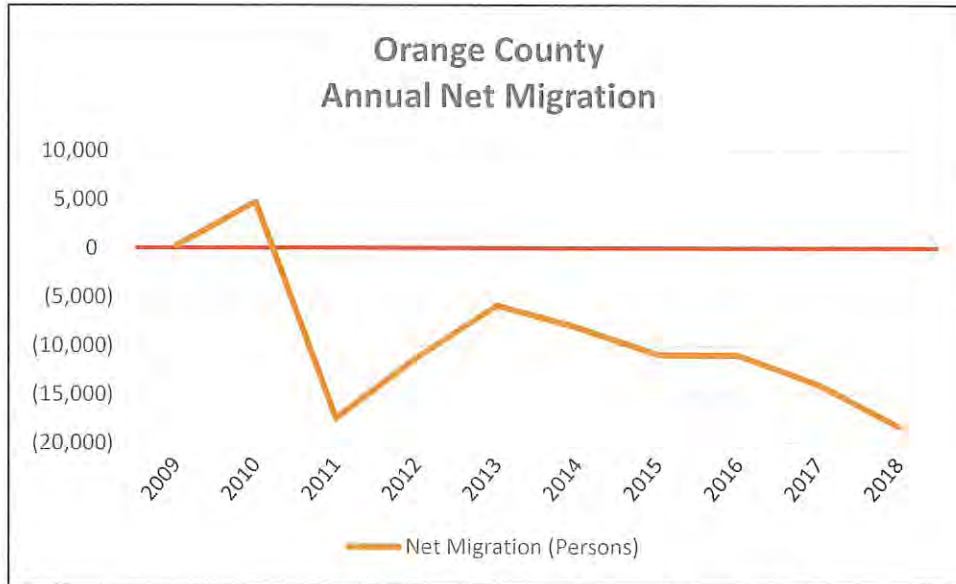
At the onset of the Pandemic, it was initially thought that the stay-at-home orders would be temporary; however, a second wave of COVID-19 cases in June and subsequent spikes have extended the lockdown. As mentioned previously, **Dr. Clayton Chau, the Orange County Health Officer, stated on October 20, 2020 that he does not expect Orange County to reach the Yellow Tier - the least restrictive tier in the State's reopening plan - until the summer of 2021**. The Yellow Tier only allows most non-essential businesses to reopen at a maximum 25% to 50% capacity according to the California Department of Public Health. Therefore, the economic impacts of the pandemic will likely be felt in Orange County and Tustin for many years after businesses are allowed to reopen.

Negative Net Migration

In addition to the economic impacts of the pandemic, the County has experienced negative net migration over the past decade (pre-COVID). This trend is expected to be exacerbated by the Pandemic as more employees work from home, allowing them to relocate inland or out of state, where housing costs and population density are lower.

The pre-COVID negative net migration in the County has increased year-over-year since 2013, as detailed in Figure 4 below. According to Federal Reserve Economic Data (“FRED”) reported as of September 3, 2020, **Orange County recorded net migration of negative 18,311 persons in 2018**. This represents a **211% increase in annual negative net migration from 2013**.

Figure 4



Source: Federal Reserve Economic Data (FRED)

Commercial Real Estate (Affecting Employment)

RETAIL

Decreases in consumer spending due to the Pandemic, per the SCAG Report, have had a negative impact on the retail segment of the commercial real estate industry.

Additionally, according to a 2020 Orange County Q2 market report from CBRE, **the 2nd quarter of 2020 saw a 72% reduction in lease activity, while vacancy increased 6% year-over-year in the Orange County market**. CBRE predicts **lease rates for neighborhood, community and strip centers to decrease 14.4% by the end of 2020**. According to CBRE, the large annual increase in vacancy shows that the Pandemic is acting as a further catalyst for retail closures that had already been occurring in the years leading up to COVID-19. These trends signal long-term impacts for retailers as the pandemic has accelerated the transition from brick and mortar stores to online shopping. This will likely lead to less development of retail space in areas like the Tustin Legacy Specific Plan Area even as businesses reopen, resulting in a subsequent decrease in employment growth in the City.

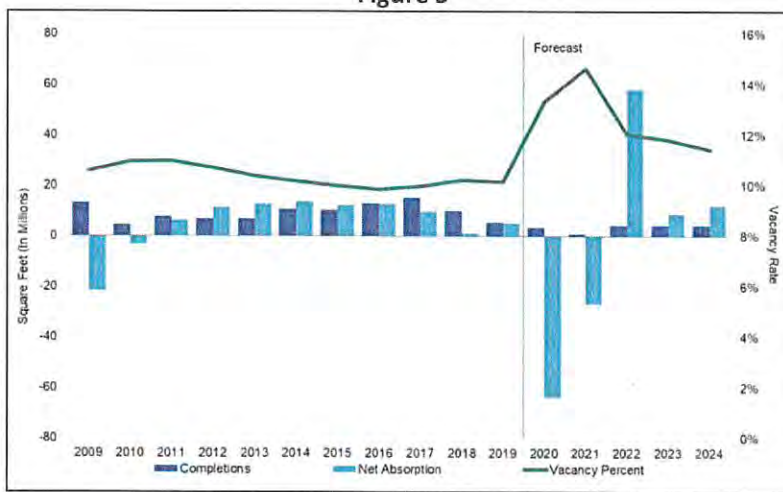
It is important to note development only moves forward when revenues can exceed costs. If lease revenues are declining and costs are increasing (due to social distancing and sanitation requirements), it threatens the economics of retail development within the region. Given the online shopping shift, it is unlikely that retail development will return to previous levels.

OFFICE

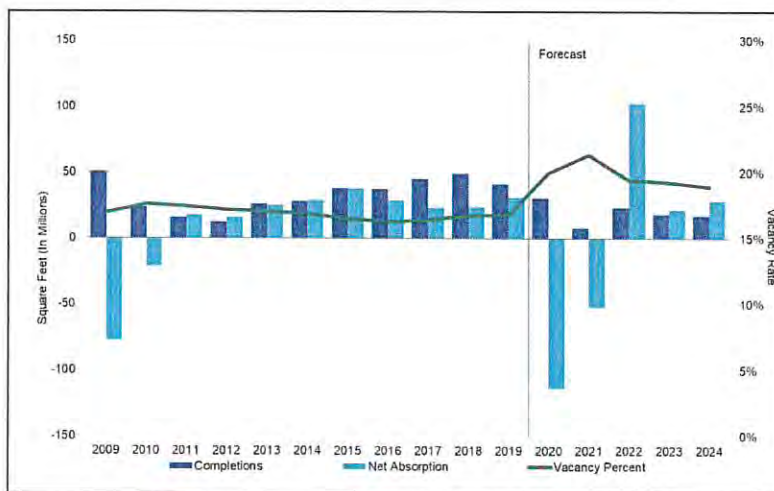
The Pandemic has caused an unprecedented shift in the workplace as many office employees have been forced to work from home due to the stay-at-home orders. This has significantly impacted the office segment of the commercial real estate industry. Cushman & Wakefield (“C&W”) reported that office vacancy increased in the 3rd quarter of 2020 while Orange County’s year-to-date total net absorption of negative 1.8 million square feet marks a significant contrast to the positive 330,195 square feet in net absorption recorded during the same period of 2019. C&W also reported that the negative effects to demand for office space are 20% more severe than what occurred during the Great Recession of 2008 and 2009. It is very important to note that in 2020, the full effects on the office market are not realized as strict lease agreements are in place. The full COVID effect on the office market will likely be felt in the next 2-5 years when leases start to expire.

A March 2020 report from Moody’s Analytics forecasts increased vacancy rates and decreased new development that extend beyond 2024, as shown in Figures 5 and 6 below.

California Retail Market Forecast
Figure 5



California Office Market Forecast
Figure 6



Source: Moody’s Analytics

Current data indicates that the impacts of the Pandemic on the office market are not expected to be temporary. According to a survey by the OCTA (August 13, 2020), **nearly two-thirds of employees who live in Orange County prefer to maintain their current (elevated) remote working situations after the pandemic recedes.** Companies are further incentivized to prolong work from home activities as they save on costs associated with office leases. As a result of increased work from home activity, C&W anticipates **office demand to be 15.8% lower over the 2022-2030 period, which would require a permanent 50% increase in per worker footprints to offset the decrease in demand.**

Furthermore, decreases in air travel will likely have a significant impact on the office market surrounding John Wayne Airport. Total passenger counts at the airport decreased from 860,000 in September 2019 to 275,000 in September 2020, representing a decrease of 68% year over year. Year-to-date passenger counts decreased 63% from 2019 to 2020. This trend will likely lower demand for new office development in the City resulting in suppressed employment growth.

ANALYSIS/REVISED RHNA APPEAL AMOUNT

The economic data and forecasts from SCAG, UCLA, EDD, OCTA and well-respected and reputable commercial real estate and investment firms were consulted in order to determine the impacts resulting from the significant change of circumstances on existing employment and employment growth in the region and the City. The following methodology to project employment post-Pandemic, based on data sources, was utilized:

1. **Estimated 2020 employment is reduced by 9.99%** pursuant to changes in payroll employment in Orange County between June 2019 and September 2020, as reported by the EDD.
2. **Employment growth between 2020 and 2045 is reduced by 33%** (pursuant to a C&W report that estimates a 50% increase in the amount of square footage needed per employee resulting in less employees within offices and other commercial buildings).

When applying these percentages to the employment information previously provided to SCAG by the City in June 2019 (pre-COVID), the total 2020 current employment in Tustin decreased by approximately 10% (based on #1 above), or a total of 5,300 jobs.

It is important to note that the future employment projections (beyond 2020) submitted to SCAG by the City were largely based on development occurring in the Tustin Legacy Specific Plan Area, which includes the planned redevelopment of a former military base. More specifically, 74% of the projected employment growth in the City was expected to occur within this area. However, the projected development and subsequent employment growth were largely contingent on market conditions that were present prior to the onset of the pandemic. **Since then, as previously noted, commercial real estate has been significantly impacted by the Pandemic, including large reductions in taxable sales and shift of employees working from home.**

In summary, the baseline total employment in 2020 is reduced as a result of COVID-19 job losses and the annual growth after 2020 is also reduced pursuant to the data presented in this appeal letter. As a result, **total projected future employment growth is expected to decrease by 63% as a result of COVID.** Applying this percentage change to the jobs accessibility and job growth portion of the RHNA methodology would result in a **RHNA decrease of 1,718 units, for a revised RHNA allocation to the City of 5,135 units.**

Table 1 on the following page provides a detailed illustration of the RHNA appeal calculations resulting from the reductions in existing employment and employment growth as a result of the change of circumstances. According to SCAG's Final RHNA Methodology, each jurisdiction's RHNA allocation is determined by calculating the projected housing need, including the need generated by the jurisdiction's population near transit (HGTA) and the jurisdiction's job accessibility. Employment and employment growth is a key metric used by SCAG to calculate the RHNA for each jurisdiction. the baseline total employment in 2020 is reduced and the annual growth after 2020 is also reduced.

Applying the reductions to current and future employment pursuant to items #1 and #2 (shown on the previous page), the RHNA methodology would result in a **decrease of 1,718 units, for a revised RHNA allocation to the City of 5,135 units.**

Table 1

Changes in Circumstance - Employment City of Tustin											
	2020	2025		2030		2035		2040		2045	
	Total Emp.	Emp. Growth	Total Emp.	Emp. Growth	Total Emp.	Emp. Growth	Total Emp.	Emp. Growth	Total Emp.	Emp. Growth	Total Emp.
Employment Growth Pursuant to Data Submitted to SCAG in June 2019	53,029	1,802	54,831	6,921	61,752	4,827	66,579	3,173	69,752	1,008	70,760
Adjustment	(5,300) <i>(10% per EDD¹)</i>	(601) <i>change in employment growth per C&W report Sep '20²</i>		(2,307) <i>change in employment growth per C&W report Sep '20²</i>		(1,609) <i>change in employment growth per C&W report Sep '20²</i>		(1,058) <i>change in employment growth per C&W report Sep '20²</i>		(336) <i>change in employment growth per C&W report Sep '20²</i>	
Revised Employment Growth	47,729	1,201	48,931	4,614	53,545	3,218	56,763	2,115	58,878	672	59,551
Total Employment Growth from 2020 to 2050 Pursuant to Data Submitted to SCAG in June 2019										17,731	
Revised Total Employment Growth 2020 to 2050 (Using Original 2020 Employment)										6,522	
Difference										11,209	
Percentage Change in Employment Growth between June 2019 Data and Revised Employment Growth Projections										-63.2%	
RHNA Allocation Reduction											
Total RHNA Allocation										6,853	
Portion of RHNA Allocation Pursuant to Step 2a of RHNA Methodology - Job Accessibility										2,717	
Adjustment Pursuant to Revised Employment Growth Projections										-63.2%	
Total Reduction in RHNA Allocation										(1,718)	
Revised Total RHNA Allocation										5,135	
¹ Total 2020 Employment was adjusted down by 9.99%. This percent decrease represents the decrease from the June 2019 to the September 2020 Nonfarm Employment Estimates presented by the California Employment Development Department. ² Employment Growth was adjusted down by 33.33%. Per a September 2020 study performed by Cushman & Wakefield, in order to offset lower office space demand created by work from home trends between 2022-2030, companies will have to expand worker footprints by 50% permanently. Increasing square footage per employee by 50% will, in turn, decrease employment growth by 33.3% annually. Source: Southern California Association of Governments											

We thank SCAG in advance for your time and careful consideration of the facts and data presented in this appeal letter. It is our hope that SCAG will not continue with the RHNA allocation that was calculated pre-COVID and before the devastating and lasting impacts were felt to the SCAG region, including Tustin.

Facts and logic dictate that data on growth and demand pre-COVID cannot possibly be utilized moving forward without modifications and revisions based on the new normal and reality of the post-COVID economy, which is not only expected to result in longer-term shifts and changes to the local Southern California economy, but will likely be a more prolonged recovery because no vaccine or cure for COVID exists today and the timing on a vaccine is completely unknown. There is no data that indicates when the COVID restrictions will be eased in Orange County. The best information to date is the statement from Orange County's Health Officer, Dr. Chui, who predicts that the Orange County will not advance to the Yellow Tier for approximately 1 year. It is our hope that a recovery will occur at the earliest possible date, but even the top health experts in the country do not know when that day will come. Given these facts and the data summarized above, the logical, rational and responsible approach forward is to plan for COVID impacts on employment during the majority or entirety or the 6th cycle term (2021-2029).

Sincerely,



Matthew S. West, City Manager
City of Tustin

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**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF HOUSING POLICY DEVELOPMENT**

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Sacramento, CA 95833-1829
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December 10, 2020

Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Dear Executive Director Ajise:

RE: Comment on Appeals of the Draft Regional Housing Need Allocation (RHNA) Plan

Thank you for the opportunity to comment on the 52 appeals Southern California Association of Governments (SCAG) has received regarding the draft RHNA plan. The appeal process is an important phase in the development of a RHNA plan that ensures that all relevant factors and circumstances are considered.

The only circumstances under which a jurisdiction can appeal are:

- 65584.05(b)(1): The council of governments failed to adequately consider the information regarding the factors listed in subdivision (e) of section 65584.04.
- 65584.05(b)(2): The council of governments failed to determine the share of the regional housing need in a manner that furthers the intent of the objectives listed in subdivision (d) of section 65584.
- 65584.05(b)(3): A significant unforeseen change in circumstances occurred in the local jurisdiction that merits a revision of the information submitted pursuant to subdivision (e) of Section 65584.04.

The California Department of Housing and Community Development (HCD) urges SCAG to only consider appeals that meet these criteria.

Per Government Code section 65584.05(e)(1), SCAG's final determination on whether to accept, reject, or modify any appeal must be accompanied by written findings, including how the final determination is based upon the adopted RHNA allocation methodology, and how any revisions are necessary to further the statutory objectives of RHNA described in Government Code section 65584(d).

Among the appeals based on Government Code section 65584.05(b)(1), several appeals state that SCAG failed to consider the factor described in Government Code section 65584.04(e)(2)(B), citing the lack of land suitable for development as a basis for the appeal. However, this section states the council of governments may not limit its consideration of suitable housing sites to existing zoning and land use restrictions and must consider the potential for increased development under alternative zoning and

land use restrictions. Any comparable data or documentation supporting this appeal should contain an analysis of not only land suitable for urban development, but land for conversion to residential use, the availability of underutilized land, and opportunity for infill development and increased residential densities. In simple terms, this means housing planning cannot be limited to vacant land, and even communities that view themselves as built out must plan for housing through means such as rezoning commercial areas as mixed-use areas and upzoning non-vacant land.

With regard to appeals submitted related to Government Code section 65584.05(b)(2), that SCAG failed to determine the RHNA in a manner that furthers the statutory objectives, it should be noted that HCD reviewed SCAG's draft allocation methodology and found that the draft RHNA allocation methodology furthered the statutory objectives described in Government Code section 65584.

Among the appeals based on Government Code section 65584.05(b)(2), several contend that the cap on units allocated to extremely disadvantaged communities (DACs) does not further RHNA's statutory objectives. This cap furthers the statutory objective to affirmatively further fair housing by allocating more units to high opportunity areas and fewer units to low resource communities, and concentrated areas of poverty with high levels of segregation. Due to the inclusion of this factor, as well as the use of TCAC/HCD Opportunity Maps, SCAG's methodology allocates 14 of the top 15 highest shares of lower-income RHNA to jurisdictions with over 99.95 percent High and Highest Resource areas. With the exceptions of two jurisdictions, the 31 jurisdictions with the highest share of lower-income RHNA are all over 95 percent High and Highest Resource areas. Any weakening of these inputs to the methodology could risk not fulfilling the statutory objective to affirmatively further fair housing.

Several appeals argue that SCAG's RHNA allocation methodology does not adequately promote access to jobs and transit, as required in objectives two and three. HCD's review of SCAG's RHNA methodology found the allocation does further the environmental principles of objective two. SCAG's overall allocation includes significant weight related to the location of high-quality transit areas and the regional distribution of jobs that can be accessed within a 30-minute driving commutes. Regarding objective three, HCD's analysis as to whether jobs-housing fit was furthered by SCAG's draft methodology found that across all jurisdictions there is generally good alignment between low-wage jobs and lower-income RHNA, with all but 15 jurisdictions within a half percent plus or minus difference between their share of lower-income RHNA for the region and their percentage low-wage jobs for the region.

Several appeals are based upon the provision described in Government Code section 65584.05(b)(3), arguing that the COVID-19 pandemic represents a significant and unforeseen change in circumstances that will affect future population and job growth. Ensuring everyone has a home is critical to public health. Reducing and preventing overcrowding and homelessness are essential concerns for every community. The COVID-19 pandemic has only increased the importance that each community is planning for sufficient affordable housing.

Lastly, several appeals state that the Regional Housing Needs Determination (RHND) HCD provided to the SCAG region is too large. SCAG submitted an objection to the RHND at the appropriate time and through the appropriate process. HCD considered those objections and [determined the final RHND for 6th Housing Element Cycle for the SCAG region on October 15, 2019](#). There are no further appeal procedures available to alter the SCAG region's RHND for this cycle. Government Code section 65584.05(b) does not allow local governments to appeal the RHND during the 45-day period following receipt of the draft allocation.

HCD acknowledges that many local governments will need to plan for more housing than in the prior cycle to accommodate a RHND that more fully captures the housing need and as the statutory objectives of RHNA shift more housing planning near jobs, transit, and resources. The Southern California region's housing crisis requires each jurisdiction to plan for the housing needs of their community and the region. In recognition of this effort there are more resources available than ever before to support jurisdictions as they prepare to update their 6th cycle housing elements:

- SB 2 Planning Grants – \$123 million one-time allocation to cities and counties
- SB 2 Planning Grants Technical Assistance offered to all jurisdictions
- Regional and Local Early Action Planning Grants – \$238 million one-time allocation for local and regional governments
- SB 2 Permanent Local Housing Allocation – approximately \$175 million annually in ongoing funding for local governments to increase affordable housing stock

If HCD can provide any additional assistance, or if you, or your staff, have any questions, please contact Megan Kirkeby, Deputy Director, megan.kirkeby@hcd.ca.gov.



Megan Kirkeby
Deputy Director



City of Whittier

13230 Penn Street, Whittier, California 90602-1716
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Electronically Transmitted to: Housing@scag.ca.gov

December 10, 2020

RHNA Appeals Committee
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

SUBJECT: City of Whittier's Comments on Appeals to the Sixth Cycle Regional Housing Needs Assessment (RHNA) Allocation

Honorable Chair and Honorable Committee Members:

The City of Whittier ("City") appreciates the challenges that are inherent in allocating 1,341,827 housing units by the thousands (a 226% increase above the baseline 412,137 unit) to cities across Southern California, especially in built-out cities. However, the City is deeply concerned its housing allocation of 3,431 units from the State Department of Housing and Community Development ("HCD") and the Southern California Association of Government's ("SCAG") unit distribution methodology, along with recent housing legislation will fundamentally abridge the City's ability to develop effective land-use policies that are appropriate for managing the community's actual needs. The 878 units in the 5th cycle RHNA allocation has been increased by 290% to 3,431 units in the current 6th cycle. Particularly challenging in the 6th cycle, is the number of low and very low-income units (1,558) which combined with the moderate and above moderate unit totals forces unplanned and unnecessary residential densification of the community.

The affordable units are an unfunded mandate with very limited regional or State financial support for their development. Considering the affordable housing subsidies typically range from \$50,000 to \$250,000 per unit, the overall funding requirements could range from \$78,000,000 to \$390,000,000 which is clearly beyond the reach of the City of Whittier in that the City's general fund budget is just \$72,000,000 which already include \$2,000,000 annually to house the City's unsheltered residents in transitional housing. Additionally, the City only receives 7.5% of each property tax dollar to provide general services including police and library services.

The City is currently in the process of updating its Housing Element as well as the General Plan to incorporate the current RHNA allocation, so Whittier is acutely aware of the various housing needs as well as the potential obstacles, such as aging infrastructure and unplanned density, to creating the requisite housing within a city that

Attachment: Comments Received During the Comment Period (General) (Appeal of the Draft Allocation for the City of Tustin)

is essentially built out. The changes in the State's housing laws (SB 35, SB 166 and AB 1397) have created additional constraints for the agencies and may severely impact the City's ability to accomplish our regional and local housing goals.

Since development in Whittier began more than 130 years ago, the City is virtually built-out with little developable vacant land outside of its designated open space areas that are dedicated to accommodating existing and future residents. While the City has made significant efforts through its specific plans to densify existing corridors and districts, the majority of Whittier's remaining single-family residential neighborhoods cannot accommodate similar densification. Furthermore, the hills north of Whittier contain regional open space, sensitive habitat and wildlife areas that must be preserved in perpetuity. There are also significant infrastructure and water service constraints that impact Whittier's ability to produce significantly more housing. Although these facts may not be desirable, they must be pragmatically accounted for and mitigated by not further increasing Whittier's share of housing units contained in SCAG's 6th Cycle RHNA. The final RHNA allocation and methodology must be fair and equitable while reflecting the capacity for reasonable housing unit construction.

As with many other cities, the City is concerned about the current allocation, but an even greater concern is that additional units may be applied to the City if reallocated from cities that are successful in their appeals. To that end, the City believes the appeal process itself was unclear as to the potential ramifications to other cities and not fully understood.

Although we fully support the surrounding cities in their appeals, the potential for additional units being applied to the City would exacerbate the problems described herein and in Whittier's September 13, 2019 letter to SCAG.

Should you have any questions, please do not hesitate to contact me.

Sincerely,



Jeffery S. Adams
Director of Community Development

File

From: Christopher Koontz <Christopher.Koontz@longbeach.gov>
Sent: Thursday, December 3, 2020 11:14 AM
To: Regional Housing
Subject: RHNA Appeals

Categories: Response Required, Record

Good morning,

The purpose of this email is to provide the City of Long Beach’s position in regards to pending RHNA appeals before SCAG. The City of Long Beach seeks to meet its housing needs and obligations for the benefit of Long Beach residents and the region. Our allocation was extremely large and presents a planning and financing challenge for the City. Nonetheless we chose not to appeal our allocation because the allocation process was fair and transparent including taking the City of Long Beach’s input into consideration.

We oppose and will not accept any transfer of additional allocation due to the pending appeals. We note that within our area, the Gateway COG, appeals are pending from Bellflower, Cerritos, Downey, Huntington Park, La Mirada, Lakewood, Pico Rivera, and South Gate. Each of these appeals should be evaluated by SCAG on the merits, however Long Beach opposes any transfer of allocation to our City. It would be inappropriate to transfer a further burden to Long Beach when we have already accepted a large allocation and have done more than many cities in the region to accommodate housing growth under the current RHNA cycle, including fully meeting our market-rate RHNA allocation.

The City of Long Beach will continue to work with SCAG and our neighbor jurisdictions to address the housing needs of our residents.

We thank you for consideration and please do not hesitate to contact the City regarding our position.

Christopher Koontz, AICP
Deputy Director

Development Services
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Attachment: Comments Received During the Comment Period (General) (Appeal of the Draft Allocation for the City of Tustin)



Southern California Association of Governments
Remote Participation Only
January 19, 2021

To: Regional Housing Needs Assessment Subcommittee (RHNA)
From: Kevin Kane, Senior Regional Planner,
(213) 236-1828, kane@scag.ca.gov
Subject: Appeal of the Draft RHNA Allocation for the City of Newport
Beach

**EXECUTIVE DIRECTOR'S
APPROVAL**

RECOMMENDED ACTION:

Deny the appeal filed by the City of Newport Beach to reduce the Draft RHNA Allocation for the City of Newport Beach by 2,408 units.

STRATEGIC PLAN:

This item supports the following Strategic Plan Goal 2: Advance Southern California’s policy interests and planning priorities through regional, statewide, and national engagement and advocacy.

SUMMARY OF APPEAL(S):

The City of Newport Beach requests a reduction of its Draft RHNA Allocation by 2,408 units (from 4,834 units to 2,426) based on:

1. Application of the Final RHNA methodology for the 6th cycle RHNA (2021 -2029) - the Draft RHNA Allocation is inconsistent with the development patterns projected in SCAG’s 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS or Connect SoCal) as the household growth reflected in the Draft RHNA Allocation is much higher than the growth forecast in Connect SoCal.
2. Availability of land suitable for urban development or conversion to residential use - constraints on several land use types which might accommodate the Draft RHNA Allocation including limited vacant land, limited conversion potential of existing land uses (the City provides sample calculations about the density that the Draft RHNA Allocation might result in).
3. Lands protected from urban development under existing federal or state programs - coastal zone limitations, sea level rise, airport-related growth constraints, protected natural lands, and high fire risk areas, and seismic hazard zones.
4. Distribution of household growth assumed for purposes of comparable Regional Transportation Plans – same issue as item 1).
5. Changed circumstances - COVID-19 pandemic will have lasting effects on the City’s economy

OUR MISSION

To foster innovative regional solutions that improve the lives of Southern Californians through inclusive collaboration, visionary planning, regional advocacy, information sharing, and promoting best practices.

OUR VISION

Southern California’s Catalyst for a Brighter Future

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Be Open | Lead by Example | Make an Impact | Be Courageous

and housing market.

Other: The City also identifies other limitations on growth that are not allowable bases of appeal (existing uses, development trends, market conditions, realistic development capacity, realistic capacity of nonvacant sites, substantial evidence requirement).

RATIONALE FOR STAFF RECOMMENDATION:

Staff have reviewed the appeal(s) and recommend no change to the City of Newport Beach's RHNA Allocation.

In (1) and (4), the City does not contest the validity of the data, measures, or inputs used in the RHNA methodology, instead contesting whether it furthers statutory objectives or is adequately consistent with the RTP/SCS. Since HCD found that the Draft Methodology furthers statutory objectives and the Methodology itself cannot be changed through the appeals process, SCAG staff does not recommend granting an appeal on these bases.

Regarding (2) and (3), while Newport Beach demonstrates that some areas of the city are subject to external development constraints described in Government Code 65584.04(e)(2)(A), this does not preclude development on land that is not so encumbered which might be possible under alternative zoning and land use restrictions, as described in Government Code 65584.04(e)(2)(B). As such, SCAG staff cannot recommend granting an appeal on these bases.

In (5), given the long-range nature of our planning processes and failure of Newport Beach to demonstrate how changed circumstances uniquely impact Newport Beach such that their housing need is reduced, SCAG does not recommend granting an appeal on this basis.

Regarding other limitations on growth that are not allowable bases of appeal but are raised by the City, the RHNA Allocation does not provide a building quota or mandate; a local jurisdiction is only required to plan and zone for its determined housing need and is not required to develop the allocated units.

BACKGROUND:

Draft RHNA Allocation

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the adoption of Connect SoCal on September 3, 2020, all local jurisdictions received Draft RHNA Allocations on September 11, 2020. A summary is below.

Total RHNA for the City of Newport Beach: 4,834 units

Very Low Income: 1,453 units
Low Income: 928 units
Moderate Income: 1,048 units
Above Moderate Income: 1,405 units

Additional background related to the Draft RHNA Allocation is included in Attachment 1.

Summary of Comments Received during 45-day Comment Period

No comments were received from local jurisdictions or HCD during the 45-day public comment period described in Government Code section 65584.05(c) which specifically regard the appeal filed for the City of Newport Beach. Three comments were received which relate to appeals filed generally:

- HCD submitted a comment on December 10, 2020 delineating the statutory basis for RHNA appeals and the requirement that any appeals granted must include written findings regarding how revisions are necessary to further RHNA's statutory objectives.
- The City of Whittier submitted a comment on December 10, 2020 supporting surrounding cities in their appeals, but expressing concern that additional units may be applied to Whittier if reallocated from cities which are successful in their appeals.
- The City of Long Beach submitted a comment on December 3, 2020 indicating their view that the RHNA allocation process was fair and transparent, their support for evaluating appeals on their merits (specifically those from the Gateway Council of Governments), and their opposition to any action which would result in a transfer of additional units to Long Beach.

ANALYSIS:

Issues 1 and 4: Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029) [Government Code Section 65584.05 (b)(2)] and distribution of household growth assumed for purposes of comparable Regional Transportation Plans [Section 65584.04(e)(3)].

The City of Newport Beach appeals on the basis that the methodology was not properly applied, pursuant to Government Code section 65584.05(a)(2):

"The council of governments or delegate subregion, as applicable, failed to determine the share of the regional housing need in accordance with the information described in, and the methodology established pursuant to, Section 65584.04, and in a manner that furthers, and does not undermine, the intent of the objectives listed in subdivision (d) of Section 65584."

and on the basis of the local planning factor described in Government Code section 65584.04(e)(3):

“The distribution of household growth assumed for purposes of a comparable period of regional transportation plans and opportunities to maximize the use of public transportation and existing transportation infrastructure.”

Specifically, the City contends that the Draft RHNA Allocation envisions a higher growth rate (roughly 604 housing units per year) than envisioned in the Connect SoCal plan (roughly 100 household per year) and that, if the housing unit targets in RHNA were to materialize during the 2021-2029 planning period, the City would exceed its 2045 forecasted growth in only 6.5 years.

The City also argues that the residual need portion of the Methodology is inconsistent with Connect SoCal as it is based on need left by other jurisdictions. Relatedly, Newport Beach argues that the Methodology’s redistribution of this factor within county boundaries is arbitrary and does not amply consider regional employment.

SCAG Staff Response: The RHNA allocation process is a related, but separate process from the development of the RTP/SCS. While Connect SoCal is required under state planning law to identify areas sufficient to house the 8-year RHNA need pursuant to Government Code Section 65080(b)(2)(B)(iii), the RHNA allocation of housing need is a distinct process set forth under state housing law, Government Code Section 65584 *et seq.* The RHNA requirements address the mandate to plan for housing units to accommodate growth within the planning period and to further statutory objectives.

More specifically, the RHNA identifies anticipated housing need over a specified eight-year period and requires that local jurisdictions make available sufficient zoned capacity to accommodate this need. Actual housing production depends on a variety of factors external to the identification of need through RHNA—local jurisdictions frequently have sufficient zoned capacity but actual housing construction depends on market and other external forces. For example, per HCD’s Annual Progress Reports covering new unit permits through 2018, the region’s low and very-low income permits totaled 19,328 units (2,494/year) compared to the RHNA allocation of 165,579 units (21,365/year).

In contrast, the Connect SoCal Growth Forecast is an assessment of the reasonably foreseeable future pattern of growth given regional factors such as births, deaths, migration, and employment growth as well as local factors, which includes the availability of zoned capacity.¹

¹ For details, see Connect SoCal’s Demographics and Growth Forecast Technical Report at https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial_demographics-and-growth-forecast.pdf

Legislative changes in 2018 modified the nature of the regional housing need determination for the 6th cycle of RHNA by adding measures of household overcrowding and housing cost burden to the list of factors to be considered by HCD for the determination of housing need. These new measures are not included in the Connect SoCal Growth Forecast because they are not direct inputs to the growth forecasting process and are independent of employment and population projections. They reflect additional latent housing needs in the current population (i.e., “existing need”) and do not result in a change in regional population.

Ultimately it is this difference between these processes which accounts for the difference between the reasonably foreseeable household growth rate included in Connect SoCal and the development capacity target which RHNA envisions for Newport Beach.

Following adoption of SCAG’s Final RHNA Allocation, local jurisdictions must update their housing elements (as needed) to provide sufficient zoned capacity for the total 6th Cycle allocation pursuant to state guidelines. Updated housing elements are due in October 2021. Pursuant to Government Code Section 65583(c)(1)(A), local jurisdictions will have until January 2025 to complete any necessary rezoning to accommodate their RHNA allocation. Until this planning work is done at the local level, it would be speculative for Connect SoCal to make assumptions about potential development levels and patterns that includes the 6th Cycle “existing need.” Once this process is complete, in future RTP/SCS development processes SCAG will re-evaluate the reasonably foreseeable future growth pattern, including the potential impact of any policy changes made in response to the 6th cycle RHNA allocations.

An additional key difference is that the RHNA process only permits SCAG to allocate jurisdiction-level totals (by income category), whereas the RTP/SCS requires SCAG to model future transportation patterns and Greenhouse Gas (GHG) impacts, which requires an estimate of *where* within the jurisdiction future growth may occur. As such, the RHNA process requires adapting Connect SoCal’s key policy direction in order to ensure that *development patterns* are generally consistent across the two processes. For example, Connect SoCal achieves its jobs-housing balance objectives in part by envisioning a set of 72 individual job centers across the region; however, this relies on within-jurisdiction prediction of the location of development. The final RHNA process adapts this concept by developing a measure of job accessibility at the jurisdiction-level—using Connect SoCal data—to ensure consistent strategic and policy direction. Similarly, half of existing need is allocated on the basis of the jurisdiction’s share of the region’s population in a High Quality Transit Area (HQTA) in 2045 as defined in Connect SoCal. This consistent strategic and policy direction results in the Final RHNA Methodology and Draft RHNA Allocation’s consistency with the development patterns in the SCS, pursuant to Government Code section 65584.04(m)(1):

“It is the intent of the Legislature that housing planning be coordinated and integrated with the regional transportation plan. To achieve this goal, the allocation plan shall allocate

housing units within the region consistent with the development pattern included in the sustainable communities strategy.”

For further discussion see Attachment 1 as well as Connect SoCal Master Response 1 at https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial_public-participation-appendix-2.pdf

Newport Beach’s contention that the residual need component of the Final RHNA Methodology is inconsistent with Connect SoCal is also flawed. The RHNA Methodology is a complex balance of several regional objectives ranging from jobs-housing balance to Affirmatively Furthering Fair Housing (AFFH). Ultimately, AFFH is one of the RHNA objectives described in Government Code 65584(d) and the residual reallocation is part of the adopted Final RHNA Methodology. It furthers the AFFH objectives by ensuring that RHNA allocations are not concentrated in jurisdictions with lower opportunity scores, reallocating them to jurisdictions with higher opportunity scores. Newport Beach asserts that this is to the detriment of regional job accessibility because DAC jurisdictions may not receive allocation on those bases, compromising other statutory objectives and the SCS consistency described in Government Code 65584.04(m)(1). However, the residual reallocation at issue is made to non-DAC jurisdictions *on the basis* of their job and transit access levels.

The City contends that it is bearing the burden of other jurisdictions; however, the residual reallocation is part of the adopted Final RHNA Methodology—not a step which is “added” afterward but is a plan to allocate need based on regional considerations. Newport Beach further contends that Orange County is singled out regarding the residual reallocation; however, the Methodology is consistent in its application across counties and does not include any specific exemptions or treatments for Orange County.

For these reasons, SCAG appropriately applied the Methodology, and the Methodology and Connect SoCal are consistent; thus staff does not recommend a reduction to Newport Beach’s Draft RHNA Allocation on these bases.

Issue 2: Lands protected from urban development under existing federal or state programs [Section 65584.04(e)(2)(C)].

The City of Newport Beach contends that SCAG failed to adequately consider the information submitted pursuant to Government Code 65584.04(b). Specifically, the City references Government Code section 65584.04(e)(2)(C):

“Lands preserved or protected from urban development under existing federal or state programs, or both, designed to protect open space, farmland, environmental habitats, and natural resources on a long-term basis...”

The City organizes this issue in the following manner, and includes a table of acreage associated with each constraint, asserting that approximately 50 percent of the legal parcels in the City of Newport Beach are subject to these constraints:

- a.) Coastal Zone Limitations Not Considered in Methodology (1,226 acres)*
- b.) Sea Level Rise and Storm Inundation (flood zone; 479 acres)*
- c.) Airport Environs Land Use Plan (391 acres)*
- d.) Lands Protected and/or Precluded from Development Activity*
 - a. Protected Natural Lands (2,734 acres)*
 - b. High Fire Severity Hazard Zones (3,227 acres)*
 - c. Seismic Hazard Zones (4,107 acres)*

The City also suggests that SCAG’s Methodology should allow for a 10 percent adjustment factor to RHNA allocations to permit the accommodation of hazards—an approach being considered for inclusion in the Association of Bay Area Government’s (ABAG) Draft RHNA Methodology.

SCAG Staff Response: It is presumed that planning factors such as lands protected by federal and state programs have already been accounted for prior to the local input submitted to SCAG since such factors are required to be considered at the local level. Attachment 1 describes SCAG’s extensive Bottom-Up Local Input and Envisioning Process which provided extensive engagement and review opportunities to ensure that forecasting growth in constrained areas was avoided. An updated version of the draft data/map book originally provided to and discussed with Newport Beach in March 2018 is available at <https://scag.ca.gov/sites/main/files/file-attachments/newportbeach.pdf> and specifically includes data on coastal inundation/sea level rise, protected natural lands, and flood hazard zones. Similar information was received through Newport Beach’s Local Planning Factor Survey. While maps were not explicitly provided regarding fire hazard, seismic hazard, and airport noise, the local input process provided Newport Beach with the opportunity to make changes based on any additional constraint. On October 1, 2018 the City submitted its input along with requests for minor updates to various land use codes, revisions to several data layers relating to transportation, and noting that a new FEMA flood zone map will be available shortly.

The City of Newport Beach’s appeal does not provide evidence that any of these constraints have changed since the City’s local input was provided.

Ultimately the RHNA Methodology has provided ample input opportunity regarding these constrained areas. However, locally-reviewed growth forecasts are not the only part of the RHNA methodology—additional units are assigned on the basis of job and transit accessibility in particular. There is no requirement for each part of the RHNA Methodology to consider each local planning factor.

In addition, while the jurisdiction has indicated it cannot accommodate units in these specific areas, no evidence has been provided that the jurisdiction cannot accommodate its RHNA allocation in other areas. The City provides a detailed analysis indicating that these constraints would restrict development in portions of Newport Beach – specifically the coastal zone limitations which are specific state programs consistent with this appeal basis (65584.04(e)(2)(C)). However, the presence of protected open space or other constrained areas alone does not reduce housing need nor does it preclude a jurisdiction from accommodating its housing need elsewhere. Specifically, Government Code Section 65584.04(e)(2)(B) indicates that:

“...The council of governments may not limit its consideration of suitable housing sites or land suitable for urban development to existing zoning ordinances and land use restrictions of a locality, but shall consider the potential for increased residential development under alternative zoning ordinances and land use restrictions...”

Moreover, in response to similar arguments made by the cities of Coronado and Solana Beach in their RHNA allocation appeals earlier this year,

“Coastal Commission Executive Director Jack Ainsworth said that while there are some constraints in the coastal zone related to increases in housing density around areas vulnerable to sea level rise and erosion, that doesn’t mean that there are not areas within the coastal zone where significant increases in housing density are possible. ‘To make a blanket statement that the Coastal Commission would not approve increases in housing density is simply not accurate,’ he wrote. ‘Over the past year or so, the Commission has demonstrated our commitment to increasing housing density through individual permitting actions and our local coastal program planning efforts with local governments.’”²

The California Coastal Act encourages the protection of housing opportunities for individuals of low and moderate incomes (Public Resources Code section 30604). Furthermore, the Coastal Act does not allow residential densities to be reduced (including projects making use of density bonuses) unless the density cannot feasibly be accommodated in conformity with the Local Coastal Program (Public Resources Code

² *San Diego County cities push back on state-mandated housing goals*, San Diego Union Tribune, January 14, 2020 (<https://www.sandiegouniontribune.com/business/growth-development/story/2020-01-14/sandag-housing>).

section 30604(f)). The Coastal Act also encourages the minimization of vehicle miles traveled (Public Resources Code section 30253(e)). In addition, in April 2020, the Coastal Commission recently issued new guidance on the “Implementation of New ADU [accessory dwelling units] Laws”.³

For these reasons, SCAG staff does not recommend a reduction to the jurisdiction’s RHNA allocation based on this factor.

Issue 3: Availability of land suitable for urban development or for conversion to residential use [Section 65584.04(e)(2)(B)].

The City of Newport Beach contends that SCAG failed to adequately consider the information submitted pursuant to Government Code section 65584.04(b). Specifically, the City references 65584.04(e)(2)(B):

“The availability of land suitable for urban development or for conversion to residential use, the availability of underutilized land, and opportunities for infill development and increased residential densities. The council of governments may not limit its consideration of suitable housing sites or land suitable for urban development to existing zoning ordinances and land use restrictions of a locality, but shall consider the potential for increased residential development under alternative zoning ordinances and land use restrictions...”

The City asserts that there is “little appropriate, available vacant land” to accommodate the draft RHNA allocation, further contending that the recent enactment of AB 1397 requires the City to demonstrate vacant land availability and that HCD’s site inventory guidebook requires the City to provide substantial evidence that existing uses will be discontinued during the planning period for inclusion.

The City provides an assessment of its:

- a.) available vacant land,*
- b.) existing non-vacant residential land,*
- c.) existing commercial/retail land,*
- d.) existing industrial land,*

and provides an evaluation of the density which could be needed to accommodate the Draft RHNA Allocation based on these constraints, suggesting that density at these levels may pose a public

³ Memo from John Ainsworth to Planning Directors of Coastal Cities and Counties dated April 21, 2020 re: Implementation of New ADU Laws (<https://documents.coastal.ca.gov/assets/rflg/California%20Coastal%20Commission%20ADU%20Memo%20dated%20042120.pdf>).

health concern specifically considering the COVID-19 pandemic. The City contends that 161.0 acres of existing, developed, high value land would be needed to accommodate the Draft RHNA Allocation of 4,834 units at a density of 30 dwelling units per acre.

SCAG Staff Response: While Newport Beach contends that SCAG did not consider land availability pursuant to Government Code Section 65584.04(e)(2)(B), as described in Issue 2 above and in Attachment 1, these constraints were discussed at length and directly considered in SCAG’s 6th cycle RHNA methodology. However, locally-reviewed growth forecasts are not the only part of the RHNA methodology—additional units are assigned on the basis of job and transit accessibility in particular. There is no requirement for each part of the RHNA Methodology to consider each local planning factor.

Furthermore, Government Code section 65584.04(e)(2)(B) also states that SCAG “may not limit its consideration of suitable housing sites or land suitable for urban development to existing zoning ordinances and land use restrictions of a locality” (which includes the land use policies in its General Plan). “Available land suitable for urban development or conversion to residential use,” as expressed in this section, is not restricted to vacant or any other type of site; rather, it specifically indicates that underutilized land, opportunities for infill development, and increased residential densities are a component of “available” land. As indicated by HCD in its December 10, 2020 comment letter (HCD Letter):

“In simple terms, this means housing planning cannot be limited to vacant land, and even communities that view themselves as built out must plan for housing through means such as rezoning commercial areas as mixed-use areas and upzoning non-vacant land.” (HCD Letter at p. 2).

As such, the City can and must consider other opportunities for development. This includes the availability of underutilized land, opportunities for infill development and increased residential densities, or alternative zoning and density. Alternative development opportunities should be explored further and could possibly provide the land needed to zone for the City’s projected growth.

While zoning and capacity analysis is used to meet RHNA need, they should not be used to *determine* RHNA need at the jurisdictional level. Per the adopted RHNA Methodology, RHNA need at the jurisdictional level is determined by projected household growth, transit access, and job access. Housing need, both existing and projected need, is independent of zoning and other related land use restrictions, and in some cases is exacerbated by these very same restrictions. Thus, land use capacity that is restricted by factors unrelated to existing or projected housing need cannot determine existing or projected housing need.

The City does provide an evaluation of several other types of potentially available land, but in each case notes that such types of land conversion would be either uniquely challenging or result in density levels which are undesirable.

In particular, the City cites AB1397 as a series of new, additional constraints on development. While this legislation certainly increases requirements for demonstrating that a site is suitable for inclusion in RHNA, it does not, as Newport Beach asserts, “require the City to explicitly demonstrate the availability of vacant lands to accommodate future housing growth need.” On June 10, 2020, HCD released extensive guidelines for housing element site inventories which takes into account AB 1397’s changes⁴. A wide range of adequate sites are detailed including accessory dwelling units (ADUs) and junior accessory dwelling units (JADUs). Specifically, the guidelines indicate that (page 32):

“In consultation with HCD, other alternatives may be considered such as motel conversions, adaptive reuse of existing buildings, or legalization of units not previously reported to the Department of Finance.”

Alternative development opportunities should be explored further and could possibly provide the land needed to zone for the City’s RHNA Allocation. While it is up to the individual jurisdiction to determine the optimal density to accommodate its housing need, provided that a residential unit meets all California Building Health and Safety Code requirements there is not a maximum density limit that would result in a need to reduce a RHNA Allocation.

For these reasons, SCAG staff does not recommend a reduction on the basis of this factor.

Issue 5: Changed Circumstances [Government Code 65584.05(b)].

The City of Newport Beach argues that job losses related to the COVID-19 pandemic and slowing statewide population growth constitute changes in circumstance which merit a revision to the Draft RHNA Allocation.

SCAG Staff Response: SCAG recognizes that COVID-19 presents unforeseen circumstances and that local governments have been affected by significant unemployment. However, these facts, as presented by the City, do not “merit a revision of the information submitted pursuant to subdivision (b) of Section 65584.04.” (Govt. Code § 65584.05(b)(3)). Furthermore, Section 65584.05(b) requires that:

“Appeals shall be based upon comparable data available for all affected jurisdictions and accepted planning methodology, and supported by adequate documentation, and shall

⁴ See https://www.hcd.ca.gov/community-development/housing-element/docs/sites_inventory_memo_final06102020.pdf

include a statement as to why the revision is necessary to further the intent of the objectives listed in subdivision (d) of Section 65584.”

SCAG’s Regional Council delayed the adoption of its 2020-2045 RTP/SCS by 120 days in order to assess the extent to which long-range forecasts of population, households, and employment may be impacted by COVID-19; however, the document’s long-range (2045) forecast of population, employment, and household growth remained unchanged. The Demographics and Growth Forecast Technical Report⁵ outlines the process for forecasting long-range employment growth which involves understanding national growth trends and regional competitiveness, i.e., the SCAG’s region share of national jobs. Short-term economic forecasts commenting on COVID-19 impacts generally do not provide a basis for changes in the region’s long-term competitiveness or the region’s employment outlook for 2023-2045. As such, SCAG’s assessment is that comparable data would not suggest long-range regional employment declines.

The COVID-19 pandemic has had various impacts throughout Southern California; however it has not resulted in a slowdown in major construction nor has it resulted in a decrease in a demand for housing or housing need. Southern California home prices continue to increase (+2.6 percent from August to September 2020) led by Los Angeles (+10.4 percent) and Ventura (+6.2 percent) counties. Demand for housing as quantified by the RHNA allocation is a need that covers an 8-year period, not simply for impacts that are in the immediate near-term. Moreover, impacts from COVID-19 are not unique to any single SCAG jurisdiction and no evidence has been provided in the appeal that indicates that housing need within jurisdiction is disproportionately impacted in comparison to the rest of the SCAG region. For these reasons, SCAG staff does not recommend a reduction to the jurisdiction’s Draft RHNA Allocation.

Secondly, population growth rates and housing need due to projected growth represent a very small portion of Newport Beach’s Draft RHNA Allocation. As described in more detail in Attachment 1, only 320 of Newport Beach’s total of 4,834 units (6.6%) are due to projected need, which consists of projected household growth plus an adjustment for vacancy. While some updated forecasts may indicate population growth slowing, the Department of Finance’s most recently released county-level population projections (series P2A, released on January 10, 2020) show Orange County’s population increasing from 3,228,519 in 2020 to 3,385,857 in 2030 (+4.9%) during the years which encompass the 6th cycle RHNA projection period. Furthermore, it is not demonstrated that a slowing of population growth rates is a significant and unforeseen change in circumstances—state growth rates have been persistently slowing⁶.

⁵ See https://www.connectsocal.org/Documents/Adopted/0903fConnectSoCal_Demographics-And-Growth-Forecast.pdf

⁶ Further discussion of this trend can be found in Connect SoCal’s Demographics & Growth Forecast Technical Report at https://scag.ca.gov/sites/main/files/file-attachments/demo29_panel0101.pdf. Additionally, an illustration of a decade of downward revisions to DOF’s state fertility assumptions can be found in slide 3 of this presentation at SCAG’s 29th Annual Demographic Workshop: https://scag.ca.gov/sites/main/files/file-attachments/demo29_panel0101.pdf

In February 2020 national home lending agency Freddie Mac's Economic & Housing Research group prepared a national analysis of housing supply shortages titled "The Housing Supply Shortage: State of the States" (the Freddie Mac report). This information cannot now be considered for adjusting HCD's regional housing needs determination. The RHNA statute outlines a very specific process for arriving at a regional housing needs determination for RHNA. It also prescribes a specific timeline which necessitated the completion of the regional determination step by fall 2019 in order to allow enough time for the development of a methodology, appeals, and local housing element updates.

The defined timeframes are guided by the deadline for the housing element revisions for HCD's RHNA determination and SCAG's Final RHNA Allocation Plan. HCD, in consultation with each council of governments (COG), shall determine each region's existing and projected housing need pursuant to Section 65584.01 at least two years prior to the scheduled revision required pursuant to Section 65588. Govt. Code § 65584(b). This "determination shall be based upon population projections produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans, in consultation with each council of governments." Govt. Code § 65584.01(b). HCD begins the process 26 months prior to the scheduled revision so the data HCD relies on is the available provided by the COGs at that time. Similarly, the COG issues its survey for information to develop the RHNA allocation methodology up to 30 months prior to the scheduled revision. By necessity, the data used for these processes is data available at that time.

Without assessing the merits of the report, because the Freddie Mac report was not available during at the time HCD was determining regional housing need, it could not be considered then; and it cannot be considered now that the regional housing need has been determined. Furthermore, the Freddie Mac report is regional in nature and does not provide information on individual jurisdictions. For an appeal to be granted on the incorrect application of RHNA methodology, arguments and evidence must be provided that demonstrate the methodology was applied incorrectly to determine the jurisdiction's share of regional housing need. Because a regional study does not meet this criterion, these studies cannot be used to justify a particular jurisdiction's appeal. Moreover, any reduction would have to be redistributed to the region when in theory, all jurisdictions would be impacted by the regional study.

Finally, Government Code Section 65584.04(g)(3) prohibits stable population numbers from the previous RHNA cycle as a justification or reduction in a jurisdiction's share of regional housing need. Thus, the slow growth that is suggested occurring within the City from the conclusion of this particular state level study cannot be used as a basis to grant a reduction to the City's Draft RHNA Allocation.

In sum, it would be untenable to reopen the process anytime new data or materials become available, particularly when there is a codified process. If so, there would be no finality to the process and local government could not meet the deadlines for their housing element updates.

Procedurally, SCAG cannot consider a regional study outside of the regional determination process nor should it apply a regional study to reduce an individual jurisdiction's draft RHNA allocation. For these reasons, SCAG staff does not recommend a reduction to the jurisdiction's Draft RHNA Allocation based on changed circumstances.

Other: Limitations on growth

Beginning on page 27 of its appeal, Newport Beach also raises several issues which are not bases for appeal. These include:

- *Existing uses*
- *Development trends*
- *Market conditions*
- *Realistic development capacity*
- *Realistic capacity of nonvacant sites*
- *Substantial evidence requirement*

The discussion of Issue 2 above details how despite legislative changes, it is still permissible for Newport Beach to use a variety of types of non-vacant land to satisfy its Draft RHNA Allocation, and that there are many ways to provide substantial evidence of development capacity, including on nonvacant sites. These opportunities include alternative sites such as accessory dwelling units. HCD's comment letter regarding SCAG 6th cycle RHNA appeals details these opportunities further. Market conditions and the cost to develop and construct the allocated new housing units within a jurisdiction should not be considered by SCAG as a justification for a RHNA reduction since the RHNA Allocation does not provide a building quota or mandate. A local jurisdiction is only required to plan and zone for its determined housing need and is not required to develop the allocated units.

FISCAL IMPACT:

Work associated with this item is included in the current FY20-21 Overall Work Program (300-4872Y0.02: Regional Housing Needs Assessment).

ATTACHMENT(S):

1. Local Input and Development of Draft RHNA Methodology (City of Newport Beach)
2. Newport Beach Appeal and Supporting Documentation
3. Comments Received during the Comment Period

Attachment 1: Local Input and Development of Draft RHNA Allocation

This attachment sets forth the nature and timing of the opportunities which the City of Newport Beach had to provide information and local input on SCAG’s growth forecast, the RHNA methodology, and the Growth Vision of the 2020 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS or Connect SoCal). It also describes how the RHNA Methodology development process integrates this information in order to develop the City of Newport Beach’s Draft RHNA Allocation.

1. Local input

a. Bottom-Up Local Input and Envisioning Process

On October 31, 2017, SCAG took the first step toward developing draft RHNA allocations by initiating the Bottom-Up Local Input and Envisioning Process. At the direction of the Regional Council, the objective of this process was to seek local input and data to prepare for Connect SoCal and the 6th cycle of RHNA.¹ Each jurisdiction was provided with a package of land use, transportation, environmental, and growth forecast data for review and revision which was due on October 1, 2018.² While the local input process materials focus principally on jurisdiction-level and Transportation Analysis Zone (TAZ) level growth, input on specific parcels, sites, and project areas were welcomed and integrated into SCAG’s growth forecast as well as data on other elements. SCAG met one-on-one with all 197 local jurisdictions between November 2017 and July 2018 and provided training opportunities and staff support. Following input from SCAG’s Technical Working Group (TWG), the Connect SoCal growth forecast reflected precisely the jurisdiction-level growth totals provided during this process.

Forecasts for jurisdictions in Orange County were developed through the 2018 Orange County Projections (OCP-2018) update process conducted by the Center for Demographic Research (CDR) at Cal State Fullerton. Jurisdictions were informed of this arrangement by SCAG at the kickoff of the Process. For the City of Newport Beach, the anticipated number of households in 2020 was 39,952 and in 2030 was 40,240 (growth of 288 households, or 0.7%). In March 2018, SCAG staff and CDR staff met with staff from the City of Newport Beach to discuss the Bottom-Up Local Input and Envisioning Process and answer questions.

¹ While the RTP/SCS and RHNA share data elements, they are distinct processes. The RTP/SCS growth forecast provides an assessment of reasonably foreseeable future patterns of employment, population, and household growth in the region given demographic and economic trends, and existing local and regional policy priorities. The RHNA identifies anticipated housing need over a specified eight-year period and requires that local jurisdictions make available sufficient zoned capacity to accommodate this need. A further discussion of the relationship between these processes can be found in Connect SoCal Master Response 1 at https://www.connectsoocal.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

² A detailed list of data during this process reviewed can be found in each jurisdiction’s Draft Data/Map Book at <https://scag.ca.gov/local-input-process-towns-cities-and-counties>

b. RHNA Methodology Surveys

On March 19, 2019, SCAG distributed a packet of methodology surveys, which included the local planning factor survey (formerly known as the AB2158 factor survey), Affirmatively Furthering Fair Housing (AFFH) survey, and replacement need survey, to SCAG jurisdictions' Community Development Directors. Surveys were due on April 30, 2019. SCAG reviewed all submitted responses as part of the development of the Draft RHNA Methodology. The City of Newport Beach submitted the following surveys prior to the adoption of the Draft RHNA Methodology:

- Local planning factor survey
- Affirmatively Furthering Fair Housing (AFFH) survey
- Replacement need survey
- No survey was submitted to SCAG

c. Connect SoCal Growth Vision and Additional Refinements

Beginning in May 2018, SCAG's Sustainable Communities Working Group began the process of developing growth scenarios for the SCAG region. The culmination of this work was the development of the Connect SoCal Growth Vision, which directly uses jurisdictional-level growth projections from the Bottom-Up Local Input and Envisioning process, and also features strategies for growth at the TAZ-level that help to reduce greenhouse gas emissions (GHG) from automobiles and light trucks to achieve Southern California's GHG reduction target, approved by the California Air Resources Board (CARB) in accordance with state planning law. Additional detail regarding the Connect SoCal Growth Vision, specifically the Transportation Analysis Zone (TAZ, or neighborhood) level projections is found at <https://www.connectsocal.org/Documents/DataMapBooks/Growth-Vision-Methodology.pdf>.

As a result of these strategies, in some jurisdictions growth at the TAZ-level differed from locally anticipated growth conveyed during the Bottom-Up Local Input and Envisioning Process. As such, SCAG provided two additional opportunities for all local jurisdictions to make TAZ-level technical refinements on the topics of general plan capacities and entitlements. During the release of the draft Connect SoCal Plan, jurisdictions were notified on October 31, 2019 that SCAG would accept additional refinements until December 11, 2019. Following the Regional Council's decision to delay full adoption of Connect SoCal for 120 days due to the COVID-19 pandemic, all jurisdictions were again notified on May 26, 2020 that SCAG would accept additional refinements until June 9, 2020.

Connect SoCal Growth Vision data have been available to local jurisdiction staff during the entirety of this process through SCAG's Scenario Planning Model Data Management Site (SPM-DM) at <http://spmDM.scag.ca.gov> and updates were shared with local jurisdictions on technical refinements to the data in February 2020 and August 2020 to share the results of both review opportunities. SCAG received additional technical corrections from the City of Newport Beach and incorporated them into the Growth Vision in December 2019.

2. Development of the Final RHNA Methodology

SCAG convened the first meeting of the RHNA Subcommittee in October 2018. In their subsequent monthly meetings, this body reviewed and advised on the development of SCAG’s 6th cycle RHNA process, including the development of the RHNA methodology. Per Government Code 65584.04(a), SCAG must develop a RHNA methodology which furthers the five statutory objectives of RHNA:

(1) Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low income households.

(2) Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region’s greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080.

(3) Promoting an improved intraregional relationship between jobs and housing, including an improved balance between the number of low-wage jobs and the number of housing units affordable to low-wage workers in each jurisdiction.

(4) Allocating a lower proportion of housing need to an income category when a jurisdiction already has a disproportionately high share of households in that income category, as compared to the countywide distribution of households in that category from the most recent American Community Survey.

(5) Affirmatively furthering fair housing (Govt. Code § 65584(d)).

As explained in more detail below, the Draft RHNA Methodology (which was adopted as the Final RHNA Methodology) set forth the policy factors, data sources, and calculations which would be used to generate draft RHNA allocations for all local jurisdictions. Following extensive debate and public comment, SCAG’s Regional Council voted to approve the Draft RHNA Methodology on November 7, 2019 and provide it to HCD for review. Per Government Code 65584.04(i), HCD is vested with the authority to determine whether a methodology furthers the objectives set forth in Government Code section 65584(d). On January 13, 2020, HCD found that the Draft RHNA Methodology furthers these five statutory objectives of RHNA. Specifically, HCD noted that:

“This methodology generally distributes more RHNA, particularly lower income RHNA, near jobs, transit, and resources linked to long term improvements of life outcomes. In particular, HCD applauds the use of the objective factors specifically linked the statutory objectives in the existing need methodology.” (Letter from HCD to SCAG

dated January 13, 2020 at <https://scag.ca.gov/sites/main/files/file-attachments/hcd-review-rc-approved-draft-rhna-methodology.pdf?1602190239>).

On March 5, 2020, again following extensive debate and public comment, the Regional Council voted to approve the Draft RHNA Methodology as the Final RHNA Methodology. Unlike SCAG’s 5th cycle RHNA methodology which relies almost entirely on the household growth component of the RTP/SCS, SCAG’s 6th cycle RHNA methodology consists of two primary elements: “projected need” which includes the number of housing units required to accommodate anticipated population growth over the 8-year RHNA planning period and “existing need,” which refers to the number of housing units required to accommodate excess or unsatisfied housing demand experienced by the region’s current population.³ Furthermore, the Final RHNA methodology utilizes measures of 2045 job accessibility and High Quality Transit Area (HQTA) population measures based on TAZ-level projections in the Connect SoCal Growth Vision.

More specifically, the Final RHNA Methodology considers three primary factors in determining a local jurisdiction’s total housing need which are primarily based on data from Connect SoCal’s aforementioned Bottom-Up Local Input and Envisioning Process:

- Forecasted growth over 2020-2030 (projected need)
- Transit accessibility in 2045 (existing need)
- Job accessibility in 2045 (existing need)

The methodology is described in further detail at <http://scag.ca.gov/programs/Documents/RHNA/SCAG-Final-RHNA-Methodology-030520.pdf>.

3. Draft RHNA Allocation for the City of Newport Beach

Following the adoption of the Final RHNA Methodology on March 5, 2020 and the 120 day delay due to the COVID-19 pandemic, SCAG adopted Connect SoCal on September 3, 2020, and the City of Newport Beach received its draft RHNA allocation on September 11, 2020. Application of the RHNA methodology yields the draft RHNA allocation for the City of Newport Beach as summarized in the data and calculations in the tables below.

³ Legislative changes in 2018 modified the nature of the regional housing need determination for the 6th cycle of RHNA by adding measures of household overcrowding and housing cost burden to the list of factors to be considered by HCD for the determination of housing need. These new measures are not included in the Connect SoCal Growth Forecast because they are not direct inputs to the growth forecasting process and are independent of employment and population projections. In contrast, they reflect additional latent housing needs in the current population (i.e. “existing need”) and would not result in a change in regional population. For further discussion see Connect SoCal Master Response 1 at https://www.connectsocial.org/Documents/Adopted/0903fConnectSoCal_Public-Participation-Appendix-2.pdf.

Newport Beach city statistics and inputs:	
Forecasted household (HH) growth, RHNA period: <i>(2020-2030 Household Growth * 0.825)</i>	238
Percent of households who are renting:	43%
Housing unit loss from demolition (2009-18):	75
Adjusted forecasted household growth, 2020-2045: <i>(Local input growth forecast total adjusted by the difference between the RHNA determination and SCAG's regional 2020-2045 forecast, +4%)</i>	1,944
Percent of regional jobs accessible in 30 mins (2045): <i>(For the jurisdiction's median TAZ)</i>	16.63%
Jobs accessible from the jurisdiction's median TAZ (2045): <i>(Based on Connect SoCal's 2045 regional forecast of 10.049M jobs)</i>	1,671,000
Share of region's job accessibility (population weighted):	0.56%
Jurisdiction's HQTAs population (2045):	16,131
Share of region's HQTAs population (2045):	0.16%
Share of population in low/very low-resource tracts:	4.25%
Share of population in very high-resource tracts:	85.62%
Social equity adjustment:	170%

Calculation of Draft RHNA Allocation for Newport Beach city	
Forecasted household (HH) growth, RHNA period:	238
Vacancy Adjustment <i>(5% for renter households and 1.5% for owner households)</i>	7
Replacement Need	75
TOTAL PROJECTED NEED:	320
Existing need due to job accessibility (50%)	2348
Existing need due to HQTAs pop. share (50%)	660
Net residual factor for existing need <i>(Negative values reflect a cap on lower-resourced community with good job and/or transit access. Positive values represent this amount being redistributed to higher-resourced communities based on their job and/or transit access.)</i>	1506
TOTAL EXISTING NEED	4514
TOTAL RHNA FOR NEWPORT BEACH CITY	4834
Very-low income (<50% of AMI)	1453
Low income (50-80% of AMI)	928
Moderate income (80-120% of AMI)	1048
Above moderate income (>120% of AMI)	1405

The transit accessibility measure is based on the population anticipated to live in High-Quality Transit Areas (HQTAs) in 2045 based on Connect SoCal’s designation of high-quality transit areas and population forecasts. With a forecasted 2045 population of 16,131 living within HQTAs, the City of Newport Beach represents 0.16% of the SCAG region’s HQTAs population, which is the basis for allocating housing units based on transit accessibility.

Job accessibility is defined as the jurisdiction’s share of regional jobs accessible within a 30-minute drive commute. Since over 80 percent of the region’s workers live and work in different jurisdictions, the RHNA methodology uses a measure based on Connect SoCal’s travel demand model output for the year 2045 rather than assigning housing units based on the number of jobs with a specific jurisdiction. Specifically, the share of future (2045) regional jobs which can be reached in a 30-minute

automobile commute from the local jurisdiction's median TAZ is used as to allocate housing units based on transit accessibility. From the City of Newport Beach's median TAZ, it will be possible to reach 16.63% of the region's jobs in 2045 within a 30-minute automobile commute (1,671,000 jobs, based on Connect SoCal's 2045 regional job forecast of 10,049,000 jobs).

An additional factor is included in the methodology to account for RHNA Objective #5 to Affirmatively Further Fair Housing (AFFH). Several jurisdictions in the region which are considered disadvantaged communities (DACs) on the basis of access to opportunity measures (described further in the RHNA methodology document), but which also score highly in job and transit access, may have their total RHNA allocations capped based on their long-range (2045) household forecast. This additional housing need, referred to as residual, is then reallocated to non-DAC jurisdictions in order to ensure housing units are placed in higher-resourced communities consistent with AFFH principles. This reallocation is based on the job and transit access measures described above, and results in an additional 1506 units assigned to the City of Newport Beach.

Please note that the above represents only a partial description of key data and calculations which result in the Draft RHNA Allocation.

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scaq.ca.gov.
Late submissions will not be accepted.

Date: _____ Jurisdiction Subject to This Appeal Filing: _____

(to file another appeal, please use another form)

Filing Party (Jurisdiction or HCD)

Filing Party Contact Name _____ Filing Party Email: _____

APPEAL AUTHORIZED BY:

Name: _____

PLEASE SELECT BELOW:

- Mayor
- Chief Administrative Office
- City Manager
- Chair of County Board of Supervisors
- Planning Director
- Other: _____

BASES FOR APPEAL

- Application of the adopted Final RHNA Methodology for the 6th Cycle RHNA (2021-2029)
- Local Planning Factors and/or Information Related to Affirmatively Furthering Fair Housing (See Government Code Section 65584.04 (b)(2) and (e))
 - Existing or projected jobs-housing balance
 - Sewer or water infrastructure constraints for additional development
 - Availability of land suitable for urban development or for conversion to residential use
 - Lands protected from urban development under existing federal or state programs
 - County policies to preserve prime agricultural land
 - Distribution of household growth assumed for purposes of comparable Regional Transportation Plans
 - County-city agreements to direct growth toward incorporated areas of County
 - Loss of units contained in assisted housing developments
 - High housing cost burdens
 - The rate of overcrowding
 - Housing needs of farmworkers
 - Housing needs generated by the presence of a university campus within a jurisdiction
 - Loss of units during a state of emergency
 - The region's greenhouse gas emissions targets
 - Affirmatively furthering fair housing
- Changed Circumstances (Per Government Code Section 65584.05(b), appeals based on change of circumstance can only be made by the jurisdiction or jurisdictions where the change in circumstance occurred)

FOR STAFF USE ONLY:

Date _____ Hearing Date: _____ Planner: _____

Sixth Cycle Regional Housing Needs Assessment (RHNA) Appeal Request Form
All appeal requests and supporting documentation must be received by SCAG October 26, 2020, 5 p.m.
Appeals and supporting documentation should be submitted to housing@scaq.ca.gov.
Late submissions will not be accepted.

Brief statement on why this revision is necessary to further the intent of the objectives listed in Government Code Section 65584 (please refer to Exhibit C of the Appeals Guidelines):

Please include supporting documentation for evidence as needed, and attach additional pages if you need more room.

Brief Description of Appeal Request and Desired Outcome:

Number of units requested to be reduced or added to the jurisdiction's draft RHNA allocation (circle one):

Reduced _____ Added _____

List of Supporting Documentation, by Title and Number of Pages
(Numbers may be continued to accommodate additional supporting documentation):

- 1.
- 2.
- 3.
- 4.

FOR STAFF USE ONLY:

Date _____

Hearing Date: _____

Planner: _____



CITY OF NEWPORT BEACH

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949 644-3004 | 949 644-3039 FAX
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Mayor

Will O'Neill

Mayor Pro Tem

Brad Avery

Council Members

Joy Brenner

Diane Brooks Dixon

Marshall "Duffy" Duffield

Jeff Herdman

Kevin Muldoon

October 13, 2020

Mr. Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Subject: City of Newport Beach Appeal of the Sixth Cycle Draft Regional Housing Needs Assessment (RHNA) Allocation

Dear Mr. Ajise:

On behalf of our residents, and in accordance with applicable California Government Code ("Government Code") Section 65584.05, the City of Newport Beach ("City") hereby submits this appeal to the Southern California Association of Governments (SCAG) of the Draft Regional Housing Needs Assessment (RHNA) Allocation ("Draft RHNA Allocation"), received September 11, 2020, for the Sixth Housing Element Cycle (2021-2029) (referred to herein as the Sixth Cycle).

A revision to the Draft RHNA Allocation is necessary to further the intent of the statutorily mandated objectives listed in Government Code Section 65584(d). In addition, this appeal is consistent with, and not to the detriment of, the development pattern in the applicable Sustainable Communities Strategy (SCAG's Connect SoCal Plan) developed pursuant to Government Code Section 65080(b)(2) as explained herein. This appeal is based on the following grounds:

Attachment: Newport Beach Appeal and Supporting Documentation (Appeal of the Draft RHNA Allocation for the City of Newport Beach)

- 1) **Local Planning Factors** - SCAG failed to adequately consider the information previously submitted by the City of Newport Beach that articulated a variety of local factors that directly influence housing production.
 - a. Specifically, this information includes lands preserved or protected from urban development under federal or state programs, or both, designed to protect open space, farmland, environmental habitats, and natural resources on a long-term basis; and
 - b. Availability of land suitable for urban development or for conversion to residential use, the availability of underutilized land, and opportunities for infill development and increased residential densities.
- 2) **Methodology** - SCAG failed to determine the share of the regional housing need in accordance with the information described in and the methodology established pursuant to Government Code Section 65584.04, and in a manner that furthers, and does not undermine, the intent of the objectives listed in Government Code Section 65584(d); and
- 3) **Changed Circumstances** - A significant and unforeseen change in circumstances has occurred that supports revisions to the information submitted pursuant to Government Code Section 65584.04(b).

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Grounds for the City of Newport Beach Appeal

1(a)	Local Planning Factors	<i>SCAG failed to adequately consider the information submitted pursuant to Section 65584.04(b).</i>
<i>Lands Preserved or Protected from Urban Development Under Federal or State Programs, or both, designed to protect open space, farmland, environmental habitats, and natural resources on a long-term basis</i>		

The City has several major constraints on existing lands that severely limit or totally restrict the City’s ability to accommodate growth to the extent identified in the Draft RHNA Allocation. SCAG provided the City with Regional Housing Needs Assessment (RHNA) Local Planning Factor Survey, dated April 29, 2019. This Survey is required by law for SCAG to allow jurisdictions to identify local planning factors (formerly known as “AB 2158 Factors”) prior to the development of a proposed RHNA methodology, per Government Code Section 65584.04(b). Information collected from the survey is required to be included as part of the proposed RHNA methodology.

The City submitted responses to the Local Planning Factors Survey, provided herein as Attachment A. These responses indicate the planning factors that demonstrate severe limitations in the City’s ability to accommodate the Draft RHNA Allocation. Additionally, the City also provided testimony before SCAG and submitted additional written correspondence to SCAG during the RHNA Methodology process which articulated these concerns (Attachment B).

The City of Newport Beach has a number of legitimate and justifiable claims to demonstrate SCAG’s failure to adequately consider prior information submitted. The failure to adequately address these local factors further undermines Government Code Section 65588(d).

The following factors, pursuant to Government Code Section 65584.04(e), are relevant to determine the City of Newport Beach’s ability to accommodate growth and were not adjusted for in the Draft RHNA Allocation.

(a) Local Factor: Coastal Zone Limitations Not Considered in Methodology

Although SCAG is not permitted to limit its considerations of suitable housing sites to a jurisdiction’s existing zoning and land use policies, and the cities should consider other opportunities for development such as the availability of underutilized land or infill development with increased residential densities, SCAG should consider a city’s ability to rezone or increase densities for residential development when subject to jurisdiction of other agencies and regulations, such as the California Coastal Commission and Executive Order N-82-20, signed by Governor Newsom on October 7, 2020 that sets the goal of conserving at least 30 percent of California’s land and coastal waters by the year 2030. For Newport Beach, over 63 percent of the City, as shown in ***Exhibit A: Coastal Zone Boundary***, is within the Coastal Zone and subject to the oversight by the California Coastal Commission.

A major goal of the California Coastal Act and the City's adopted Local Coastal Program is to assure the priority for coastal-dependent and coastal-related development over other development in the Coastal Zone, which is a constraint on residential development, particularly in areas on or near the shoreline.



Exhibit A
Coastal Zone Boundary

In 1972, California voters passed Proposition 20, the Coastal Zone Conservation Act. The purposes of the Coastal Zone Conservation Act are to protect public access to the coast, promote visitor-serving uses and limit residential development and speculation along the coast. The Coastal Act was subsequently adopted in 1976 and the California Coastal Commission ("Coastal Commission") was formed to administer the Coastal Act.

The Coastal Act is an umbrella legislation designed to encourage local governments to create Local Coastal Programs (LCPs) to govern decisions that determine the short- and long-term conservation and use of coastal resources. The City of Newport Beach's LCP is considered the legislative equivalent of the City's General Plan for areas within the Coastal Zone. Local Coastal Programs are obligated by statute to be consistent with the policies of the Coastal Act and protect public access and coastal resources.

The Coastal Land Use Plan contains restrictions applicable to twelve (12) sensitive habitat areas that limit potential residential development areas and that control and

regulate locations on new buildings and structures to ensure preservation of unique natural resources and to minimize alteration of natural land forms along bluffs and cliffs. It should be noted that residential development is not considered a coastal-dependent use according to the Coastal Commission, and re-use of properties that result in the reduction of coastal-dependent commercial uses are discouraged. New development is also required to avoid hazardous areas and minimize risks to life and property from coastal and other hazards. The shoreline height limit further restricts heights within the Coastal Zone to a maximum of 35 feet, and only when impacts to public coastal views are not created.

Therefore, the extraordinarily high Draft RHNA Allocation for Newport Beach would necessitate pursuing new, significantly high-density, multi-family housing within the Coastal Zone and would require Coastal Commission approval of a comprehensive amendment of the City's certified Local Coastal Program. Such an amendment would include rezoning to allow higher density residential uses in commercial and visitor-serving zones, increasing height, floor area ratio, and density allowances, and reductions in off-street parking standards that would directly undermine the Coastal Act's requirements for coastal access, coastal views, and protection of visitor-serving uses.

While SCAG is permitted to consider Newport Beach's ability to change its zoning, it cannot require members to violate other laws to do so.

As identified in the City's adopted and certified 2014-2021 Housing Element, the City identified Banning Ranch as the only remaining vacant site available to accommodate future growth. On July 23, 2012, the City adopted a Master Development Plan for the site that included 1,375 dwelling units, including an affordable housing component. Unfortunately, on September 7, 2016, the California Coastal Commission denied a coastal development permit for the project due to its potential impact to environmentally sensitive habitat areas and coastal resources. As a result of this Coastal Commission action, the Newport Beach City Council adopted Ordinance No. 2017-17 on December 12, 2017, which repealed all approvals for the Banning Ranch project.

The Banning Ranch project is a clear example of outside agency constraints and how the additional Coastal Commission jurisdiction severely limits the City's ability to increase densities and rezone land to accommodate the Draft RHNA Allocation. The City spent four (4) years reviewing the application and approving the project for up to 1,375 residential units, only to have the California Coastal Commission spend another four (4) years of review and ultimate denial of the project.

(b) Local Factor: Sea Level Rise and Storm Inundation

Newport Beach is exposed to a variety of coastal hazards including beach erosion, bluff erosion, and coastal flooding due to sea level rise (SLR) and storm inundation. As a coastal community with the one of the largest pleasure craft harbors in the United States, the City has a significant amount of land directly adjacent to surface water that is directly affected by sea level rise and storm inundation. This exposure has unique risks to the

City of Newport Beach and has profound implications when analyzing the realistic growth potential of these lands.

The effects of SLR on coastal processes, such as shoreline erosion, storm-related flooding and bluff erosion, have been evaluated using a Coastal Storm Modeling System (CoSMoS), a software tool and multi-agency effort led by the United States Geological Survey (USGS), to make detailed predictions of coastal flooding and erosion based on existing and future climate scenarios for Southern California. The modeling system incorporates state-of-the-art physical process models to enable prediction of currents, wave height, wave runup, and total water levels. The mapping results from CoSMoS provide predictions of shoreline erosion (storm and non-storm), coastal flooding during extreme events, and bluff erosion for the City in community-level coastal planning and decision-making.

As shown in ***Exhibit B: 100-Year Storm Hazards***, a significant portion of the City's coastal adjacent land appropriate for development is at risk of tidal flooding. Land along the coast is vulnerable to shoreline retreat, which is predicted to accelerate with Sea Level Rise. Long-term shoreline retreat coupled with storm-induced beach erosion has the potential to cause permanent damage to buildings and infrastructure in these hazard zones. Beach loss threatens structures and also has the potential to impact the diverse range of coastal assets dependent on the sandy beaches of Newport Beach. The public access, recreational opportunities, habitat, visual, and cultural assets that contribute to the City's vibrant beach town culture are all valuable to the locals that live in Newport Beach and its visitors.

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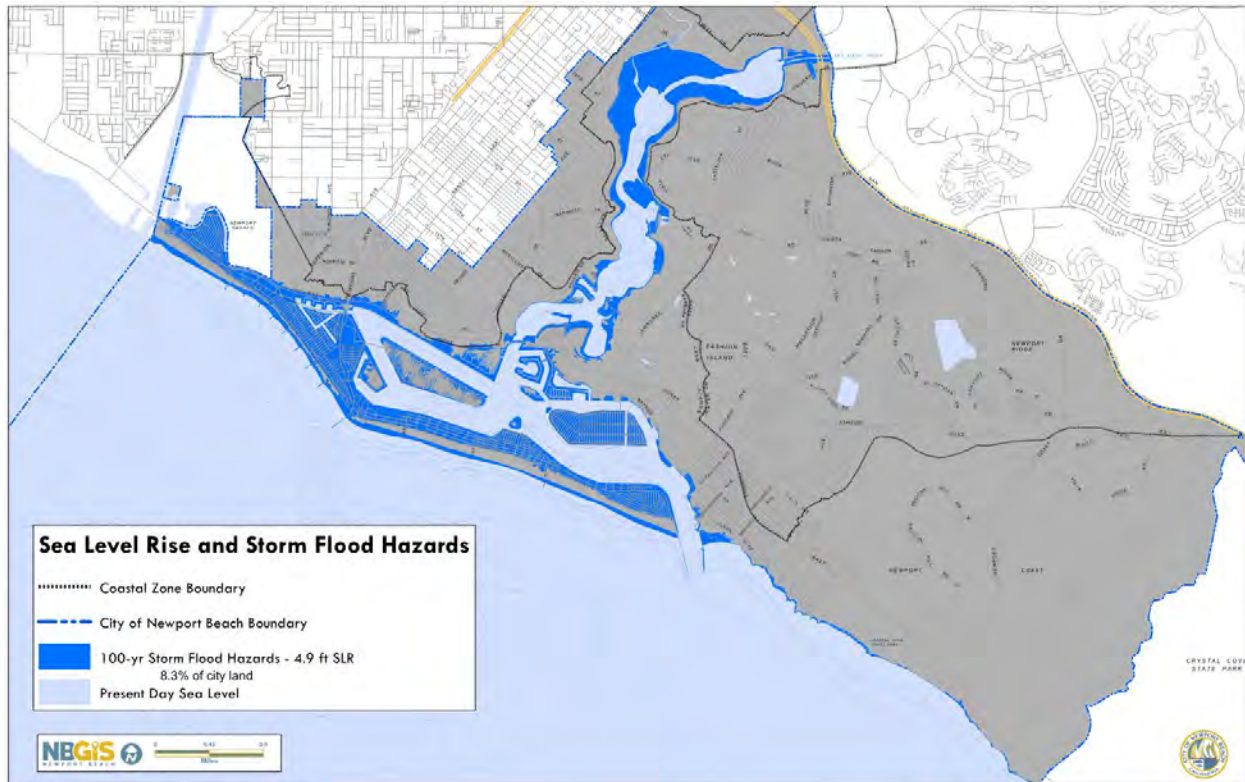


Exhibit B
100-Year Storm Hazards

On November 7, 2018, the California Coastal Commission released an update to the Sea Level Rise Policy Guidance. The Coastal Commission provides direct guidance on how the City of Newport Beach addresses future land use in consideration of sea level rise. According to the California Coastal Commission Sea Level Rise Policy Guidance¹, local jurisdictions can “Minimize Coastal Hazards through Planning and Development Standards” through the following measures applicable to Newport Beach:

- “Design adaptation strategies according to local conditions and existing development patterns, in accordance with the Coastal Act.” (Page 37)
- “Avoid significant coastal hazard risks to new development where feasible.” (Page 39)
- “Minimize hazard risk to new development over the life of the authorized development.” (Page 39)
- “Minimize coastal hazard risks and resource impacts when making redevelopment decisions.” (Page 39)

¹ California Coastal Commission Sea Level Rise Policy Guidance, 2018 Science Update

- *“Account for the social and economic needs of the people of the state include environmental justice, assure priority for coastal-dependent and coastal-related develop over other development” (Page 30)*

The Coastal Commission has also prepared a Draft Coastal Adaptation Planning Guidance: Residential Development (dated March 2018), which will serve as the Coastal Commission’s policy guidance on sea level rise adaptation for residential development to help facilitate planning for resilient shorelines while protecting coastal resources in LCPs. Section 6(B) Model Policy Language (Avoid Siting New Development and/or Perpetuating Redevelopment in Hazard Areas) included in the guidance confirms the Coastal Commission’s stance on new development and likely denial of any land use changes in hazardous areas, such as lands subject to future sea level rise and flooding. Policy B.9 (Restrict Land Division in Hazardous Areas) serves to prohibit land divisions in areas vulnerable to coastal hazards.

Furthermore, on September 21, 2018, the Federal Emergency Management Agency (FEMA) issued a final determination revising Flood Insurance Rate Maps (FIRMs) for the City that expanded the designation of areas most prone to flooding or affected by waves from the coastline (**Exhibit C: FEMA Flood Zones**). This determination created a new flood zone in the City called Coastal High Hazard Area, which is considered one of the highest risk depicted on FIRMs. Specifically, Zone VE is designated where wave hazards are expected to be particularly strong and have the potential to cause dramatic structural damage. To address the added wave hazard, more stringent building practices are required in Zone VE, such as elevating a home on pilings so that waves can pass beneath it, or a prohibition to building on fill, which can be easily washed away by waves. These practices are intended to improve the chance of a home safely weathering a storm but add significant construction costs.

Although the Housing Element planning period is from 2021-2029, the City of Newport Beach must consider long-term consequences of growth and development in the Coastal Zone. Therefore, the selection of sites must consider these constraints not just for the eight (8)-year RHNA housing cycle, but for the 75- to 100-year lifecycle of a residential development project. It would be irresponsible, and in conflict with State guidance, for Newport Beach to not consider the long-term impacts of coastal hazards when planning for future residential development. Much of the land in the Coastal Zone is considered built out and no vacant land is available for development. Therefore, future housing unit growth must consider the implications of these coastal hazards and will directly limit the type and extent of development that can occur in the future.



Exhibit C
FEMA Flood Zones

(c) Local Factor: Airport Environs Land Use Plan (AELUP)

The City's Airport Area is identified as one of the City's greatest opportunities in the community to create new residential neighborhoods through the replacement of existing uses and new construction on underutilized parking lots. However, lands located within the Airport Planning Area for the John Wayne Airport and subject to the development restrictions of the John Wayne Airport Environs Land Use Plan (AELUP) limit the ability to develop residential units. Any amendment to the City's General Plan or zoning, including the rezoning for residential use, requires review by the Orange County Airport Land Use Commission (ALUC).

Residential development in the Airport Area is restricted due to the noise impacts of John Wayne Airport. Much of the southwestern portion of the Airport Area is in the John Wayne Airport Environs Land Use Plan (AELUP) 65 dBA CNEL (Community Noise Equivalent Level) contour, which is unsuitable for residential and other "noise-sensitive" uses. As shown in **Exhibit D: John Wayne Airport CNEL Contours**, approximately 391 acres of land adjacent to John Wayne Airport have restrictions for residential development.

Additionally, there are building restrictions and height limitations imposed by the Airport Land Use Commission. According to the Airport Environs Land Use Plan for John Wayne

Airport², there are portions of Newport Beach that restrict or limit the development of any residential development. See **Exhibit E: Airport Safety Zones**.

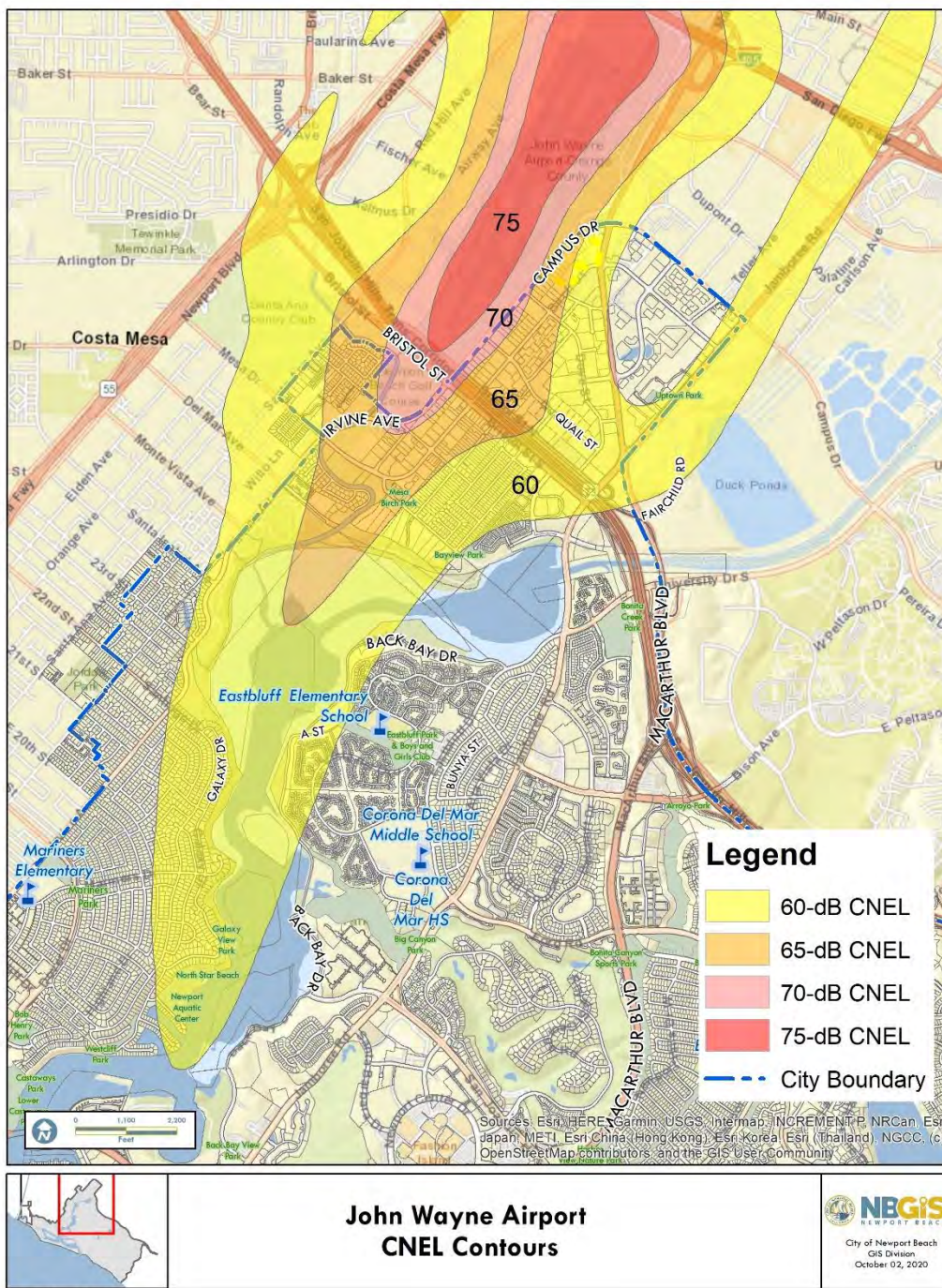


Exhibit D
John Wayne Airport CNEL Contours

² Airport Environs Land Use Plan for John Wayne Airport, amended April 17, 2008.

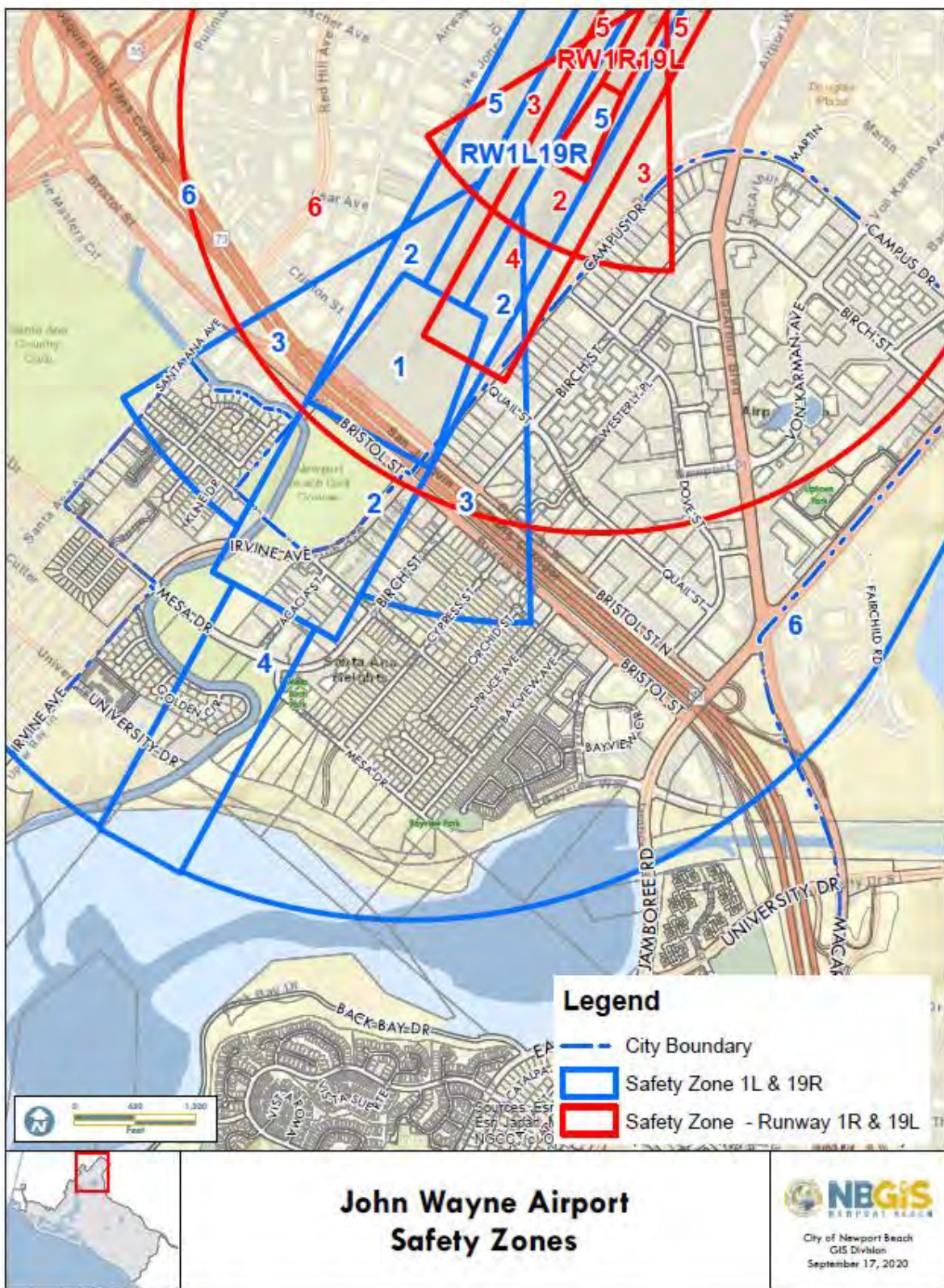


Exhibit E
John Wayne Airport Safety Zones

Attachment: Newport Beach Appeal and Supporting Documentation (Appeal of the Draft RHNA Allocation for the City of Newport Beach)

Requisite analysis for the Sixth Cycle housing elements will require review of adequacy of sites based upon known environmental factors, including noise and safety impacts. The limitation of the use of these sites further limit the ability for the City of Newport Beach to accommodate future residential growth.

The City anticipates the ALUC and the California Department of Transportation (Caltrans) Division of Aeronautics will oppose future rezoning efforts for increased residential development in the Airport Area based on recent experience with residential development projects designed consistent with the noise and safety requirements of the AELUP. In reviewing these recent projects, both ALUC and Caltrans found the projects to be inconsistent due to their proximity to John Wayne Airport and potential for complaints from future residents and safety impacts outside the identified safety zones.

(d) Local Factor: Lands Protected and/or Precluded From Development Activity

i. Protected Natural Lands

A majority of the City's remaining open space land is designated and protected as environmentally sensitive habitat areas and cannot be utilized for residential development. These areas are identified in **Exhibit F: Natural Community Conservation Planning (NCCP) and Environmental Study Areas**.

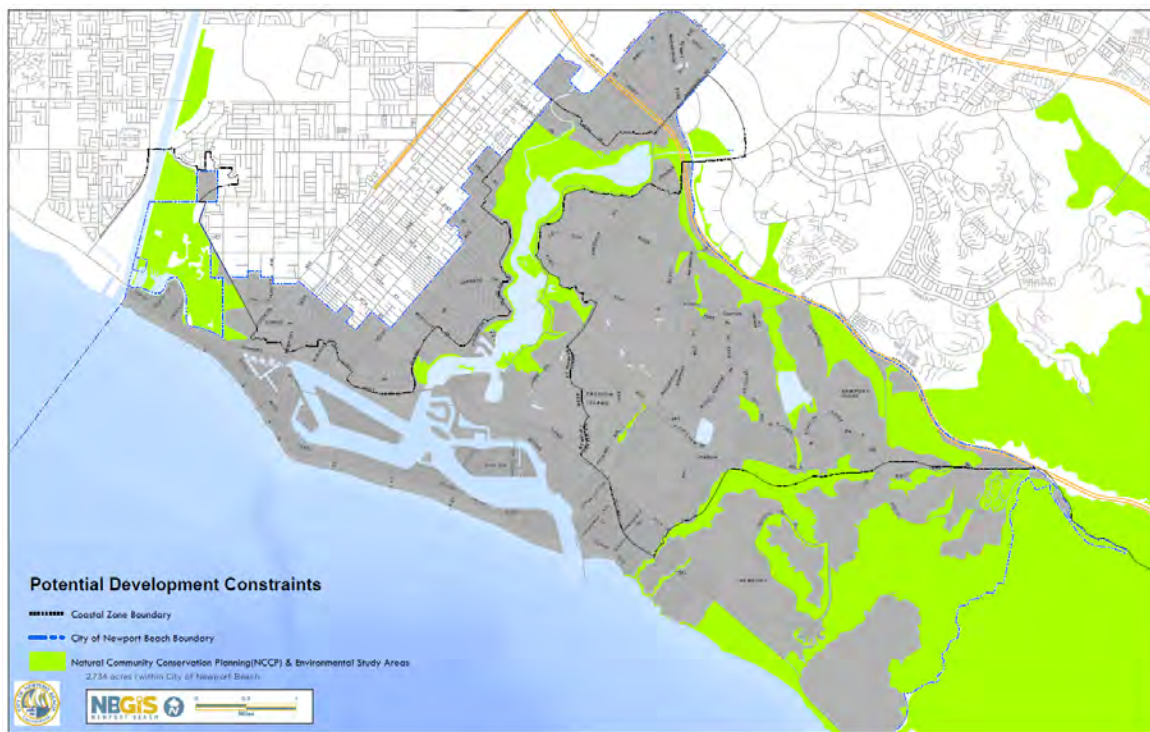


Exhibit F
Natural Community Conservation Planning (NCCP) and Environmental Study Areas

In July 1996, the City became a signatory agency in the Orange County Central-Coastal Subregion Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP). The plan covers nearly 38,000 acres in coastal southern California and is a collaboration of federal and state resource agencies, local governments, special districts, and private property owners. The NCCP uses a multi-species habitat conservation approach rather than a species-specific approach resulting in the preservation of some of the most valuable native habitats, while freeing other properties for development. As a signatory agency, the City is responsible for enforcing mitigation measures and other policies identified in the NCCP/Habitat Conservation Plan Implementation Agreement for properties located within the City limits that are part of the NCCP Sub-regional Plan.

Furthermore, Section 30107.5 of the Coastal Act defines “environmentally sensitive area” as “any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.” Section 30240 of the Coastal Act requires that environmentally sensitive habitat areas (ESHAs) be protected against any significant disruption of habitat values. Only uses dependent on those resources are allowed within ESHAs and adjacent development must be sited and designed to prevent impacts that would significantly degrade the ESHA and must be compatible with the continuance of the ESHA.

Several of the natural communities that occur in Newport Beach are designated rare by the California Department of Fish and Wildlife (CDFW) and are easily disturbed or degraded by human activity and therefore are presumed to meet the definition of Environmental Sensitive Habitat Area (ESHA) under the Coastal Act.

ii. High Fire Severity Hazard Zones

Lands with high severity risk of fire and fuel modification areas further limit available land to develop residential units, in particular, higher density residential development. The areas identified in ***Exhibit G: High Fire Severity Zones*** are highly prone to wildfire.

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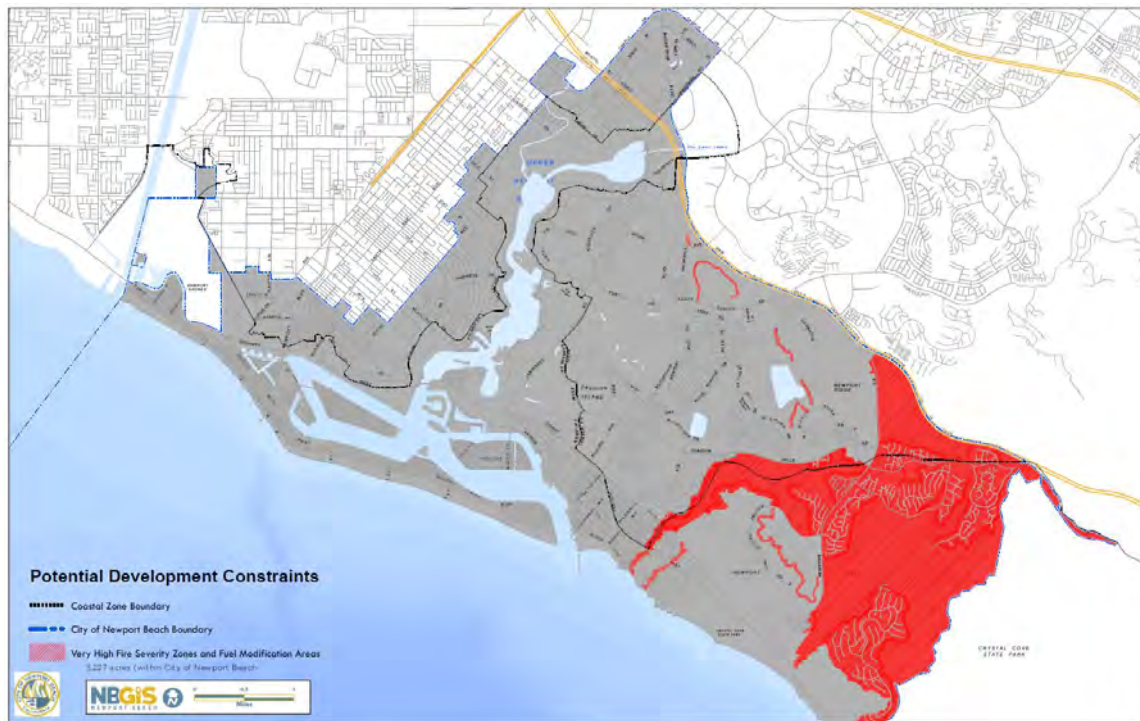


Exhibit G
High Fire Severity Zones

Additionally, these high fire severity zones are not compatible with development due to severe limitations of slope and natural features. As shown in **Exhibit H: Photo of Very High Fire Severity Zone**, these areas are characterized by natural slopes in excess of those that would contribute to feasible development. The considerable cost to modify landforms to provide access and provide infrastructure are significant factors contributing to the infeasibility of development within this area.



Exhibit H
Photo of Very High Fire Severity Zone

iii. Seismic Hazard Zones

Strong ground shaking can result in liquefaction. Liquefaction, a geologic process that causes ground failure, typically occurs in loose, saturated sediments primarily of sandy composition. Areas of the City susceptible to liquefaction and related ground failure (i.e. seismically induced settlement) include areas along the coastline, such as Balboa Peninsula, in and around the Newport Bay and Upper Newport Bay, in the lower reaches of major streams in Newport Beach, and in the floodplain of the Santa Ana River. It is likely that residential or commercial development will never occur in many of the other liquefiable areas, such as Upper Newport Bay, the Newport Coast beaches, and the bottoms of stream channels. However, other structures (such as bridges, roadways, major utility lines, and park improvements) that occupy these areas are vulnerable to damage from liquefaction if mitigation measures have not been included in their design.

(e) Summary of Land Use Constraints

When the City of Newport Beach compiles all lands exhibiting constraints that severely limit or restrict residential development within its jurisdiction, a considerable amount of land is not available to accommodate the Draft RHNA Allocation of 4,834 units for the 2021-2029 planning period. **Exhibit I: Summary of Development Constraints** illustrates the lands subject to these constraints.

The current methodology does not permit the consideration of hazards and a criterion for identifying the availability of land to accommodate growth. There is precedent that permits the consideration of constraints in determining available land. In the Draft Methodologies for the Association of Bay Area Governments (ABAG), a 10 percent adjustment factor is permitted to accommodate the consideration of hazards into the determination of RHNA Allocations. The SCAG methodology does not, but should permit this factor as it results in an overstated Draft RHNA Allocation for the City of Newport Beach.

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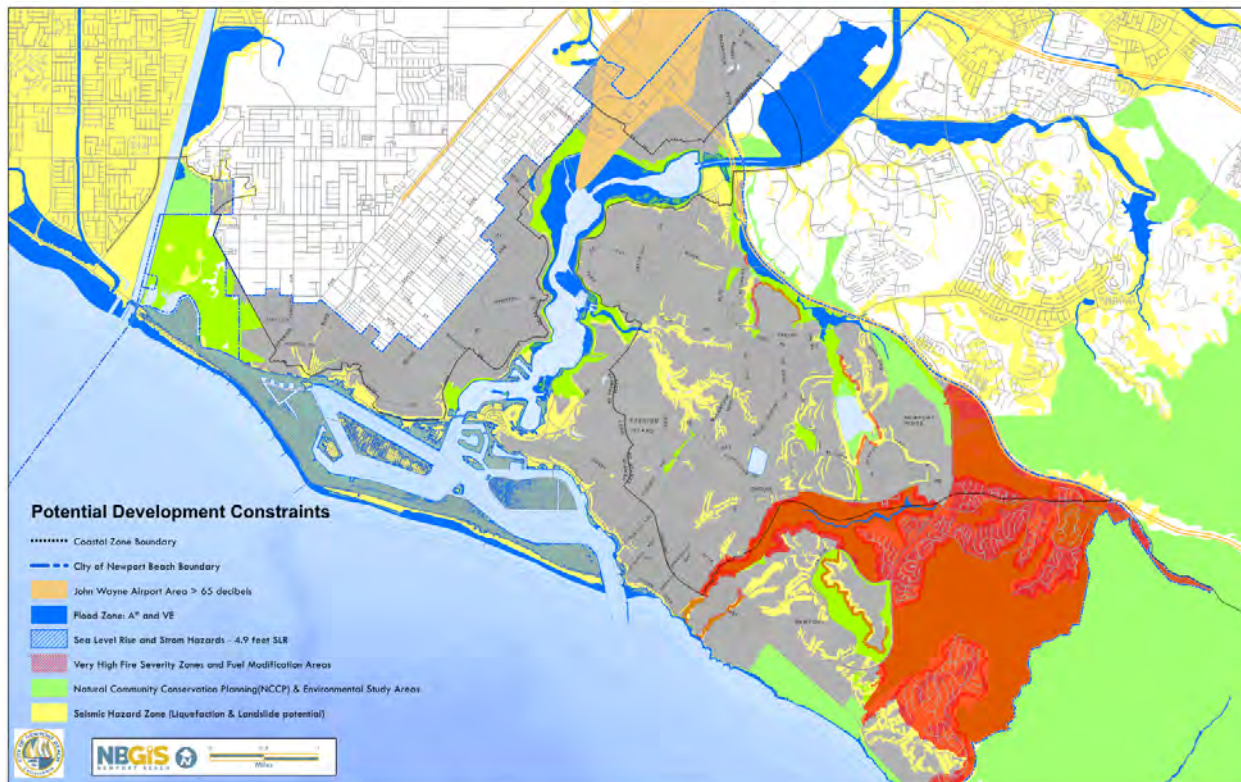


Exhibit I
 Summary of Development Constraints

Table A provides a statistical summary of the acreage subject to identified constraints, demonstrating the significant amount of land. Of the 29,361 legal parcels in the City of Newport Beach, approximately 50 percent of these parcels are subject to the constraints illustrated in this section.

Table A
 Statistical Summary of Land Use Constraints

Land Use Constraint	Acreage	Key Constraint Factors
Sea Level Rise & Storm	1,226	Coastal Hazard Avoidance
Flood Zone	479	Flood Hazards/Insurance
Airport Restrictions	391	Noise Compatibility
NCCP Conservation Areas	2,734	Protected Lands Preclusions
High Fire Severity Zone	3,227	Fire Hazards/Insurance
Seismic Hazard	4,107	Seismic Hazards Preclusions
TOTAL	8,418 ACRES*	

**Note: Total acreage represents land area affected by one or more constraint layer; therefore, affected land area is only counted once.*

1(b)	Local Planning Factors	<i>SCAG failed to adequately consider the information submitted pursuant to Section 65584.04(b).</i>
<i>Availability of Land Suitable for Urban Development or for Conversion to Residential Use, the Availability of Underutilized Land, and Opportunities for Infill Development and Increased Residential Densities</i>		

In consideration of all local factors that limit the use of land to accommodate the City’s Draft RHNA Allocation, future growth must be accommodated on lands not subject to identified constraints as identified in ***Exhibit I: Summary of Development Constraints***. These include all residential and non-residentially designated land including:

- Residential
- Commercial/Retail
- Mixed-Use
- Industrial

(a) Severe Limitations of Available Vacant Land

The City has little appropriate, available vacant land to accommodate future growth anticipated in the Draft RHNA Allocation. The only remaining land considered vacant are lands within the City’s Sphere of Influence and cannot be considered when identifying adequate sites for residential development unless they are anticipated to be incorporated in the planning period.

Recently enacted AB 1397 modified Sections 65580, 65583 and 65583.2 of the Government Code. Generally, jurisdictions must demonstrate the following:

- *Land Inventory Sites Must Be “Available” and May Only Include Non-Vacant Sites with Realistic Development Potential (Government Code Section 65583).*
- *Sites in the Land Inventory Must Have Demonstrated Potential for Development (Government Code Section 65583(a)(3))*

This provision in State law requires the City to explicitly demonstrate the availability of vacant lands to accommodate future housing growth need.

Banning Ranch is the only remaining vacant site available to accommodate future growth (see ***Exhibit J: Housing Sites Precluded from Future Development - Banning Ranch***). However, as previously discussed, the City’s efforts in approving the development of 1,375 dwelling units on the site, including a portion dedicated to affordable housing, was ultimately overturned by the California Coastal Commission in 2016 due to the potential impacts to environmentally sensitive habitat areas and coastal

resources. Development of the site is further complicated by the fact that a large portion of the site is in County of Orange’s jurisdiction, although in City’s Sphere of Influence

It should also be noted that recent guidance from the California Department of Housing and Community Development (HCD), pursuant to AB 1397 on the use of adequate sites, limits the identification of sites that are not located within the incorporated boundaries of a jurisdiction. Therefore, any sites intended to accommodate future growth must demonstrate they are either within corporate boundaries or anticipated to be incorporated into the City’s boundaries during the planning period. Due to the Coastal Commission’s prior denial of a viable residential project, the entitlement and incorporation of the approximately 400 acre Banning Ranch property is unlikely during the planning period.

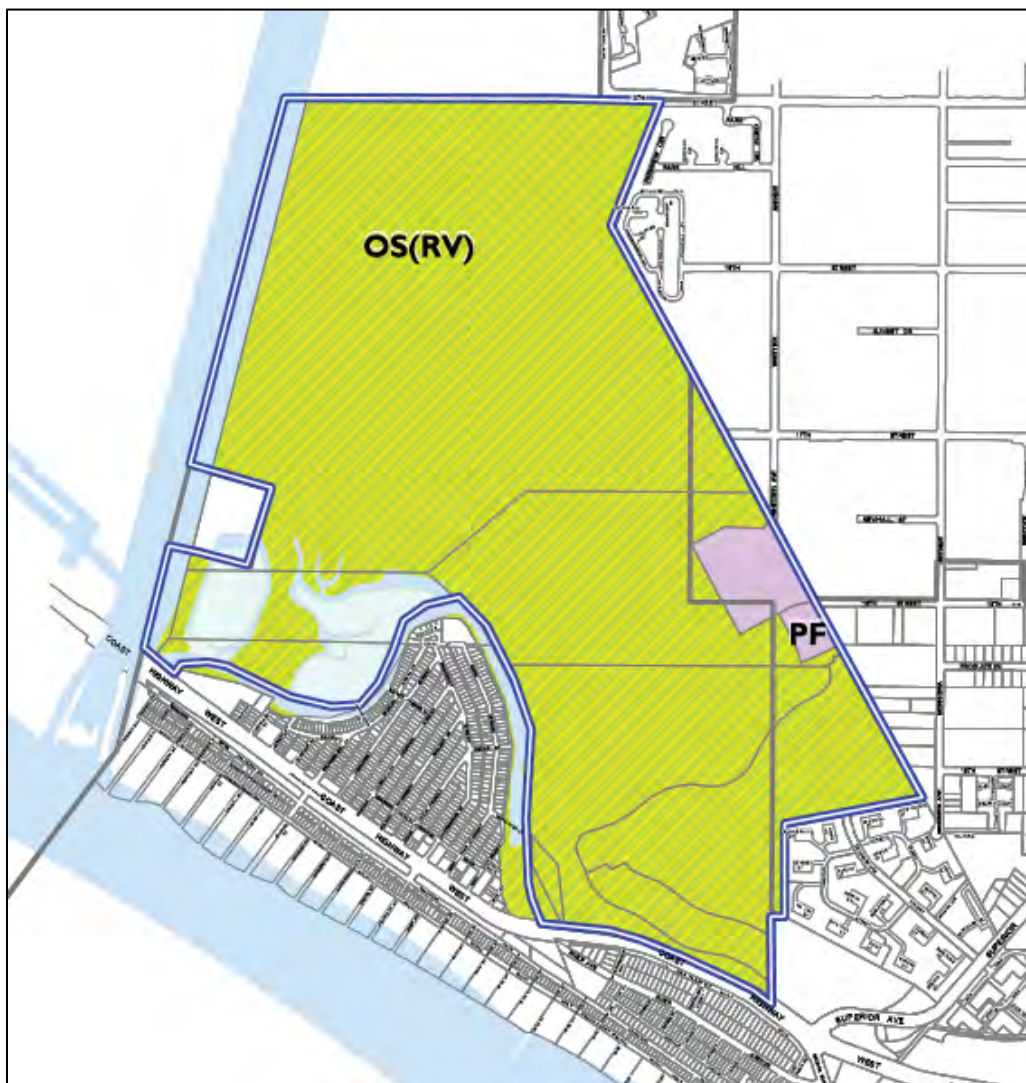


Exhibit J
Housing Sites Precluded from Future Development - Banning Ranch

The only other vacant land available for the 2014-2021 Housing Element to accommodate growth was a residentially zoned parcel located at 3928 East Coast Highway, as shown in **Exhibit K: Housing Sites Precluded from Development – 3928 East Coast Highway**. This site is currently under construction and will not be available to accommodate future growth during the Sixth Cycle.

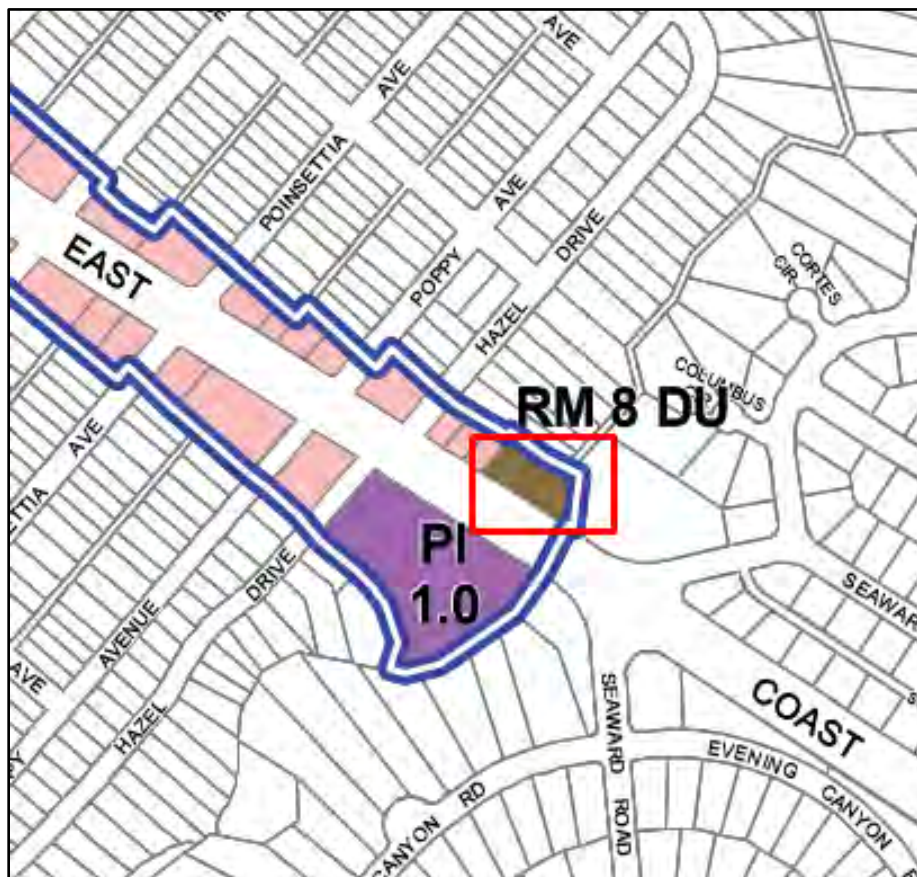


Exhibit K
Housing Sites Precluded from Development – 3928 East Coast Highway

(b) Existing Non-Vacant Residential Land

There are approximately 6,000 acres of residential land not subject to the constraints listed in **Table A**. As shown in **Exhibit L: Summary of Residential Land**, the majority of existing residential land consists of currently developed properties. There is no vacant residential land currently available to provide additional opportunities for residential development. Therefore, future residential development would have to be accommodated on infill, reuse and redevelopment of these existing residential properties.

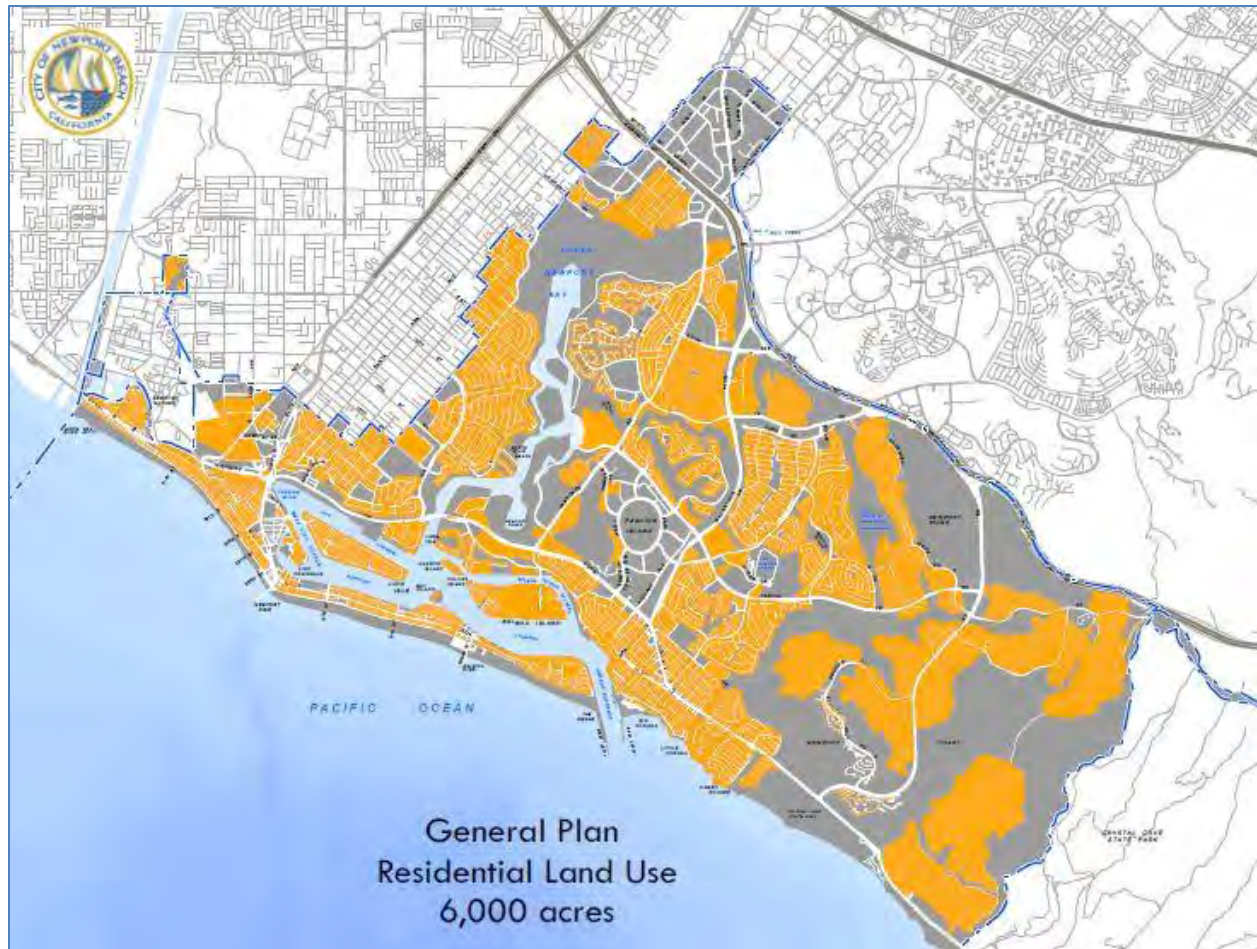


Exhibit L
Summary of Residential Land

(c) Existing Commercial/Retail Lands

There are approximately 922 acres of commercial/retail land not subject to the constraints listed in **Table A**. As shown in **Exhibit M: Summary of Commercial/Retail Land**, much of the existing commercial and retail land in the City is built out and highly utilized.

One of the factors included within the methodology to determine future RHNA allocations is employment generation. Employment generation is based on the existing job base and the forecast potential for new job creation. Therefore, future employment growth is dependent upon the preservation and expansion of existing inventory of land suitable for employment-generating activities. The significant size of RHNA allocations will force the City to re-designate land for residential development. This effectively limits the City's ability to create jobs, thus reducing the employment demand factor in the RHNA methodology.

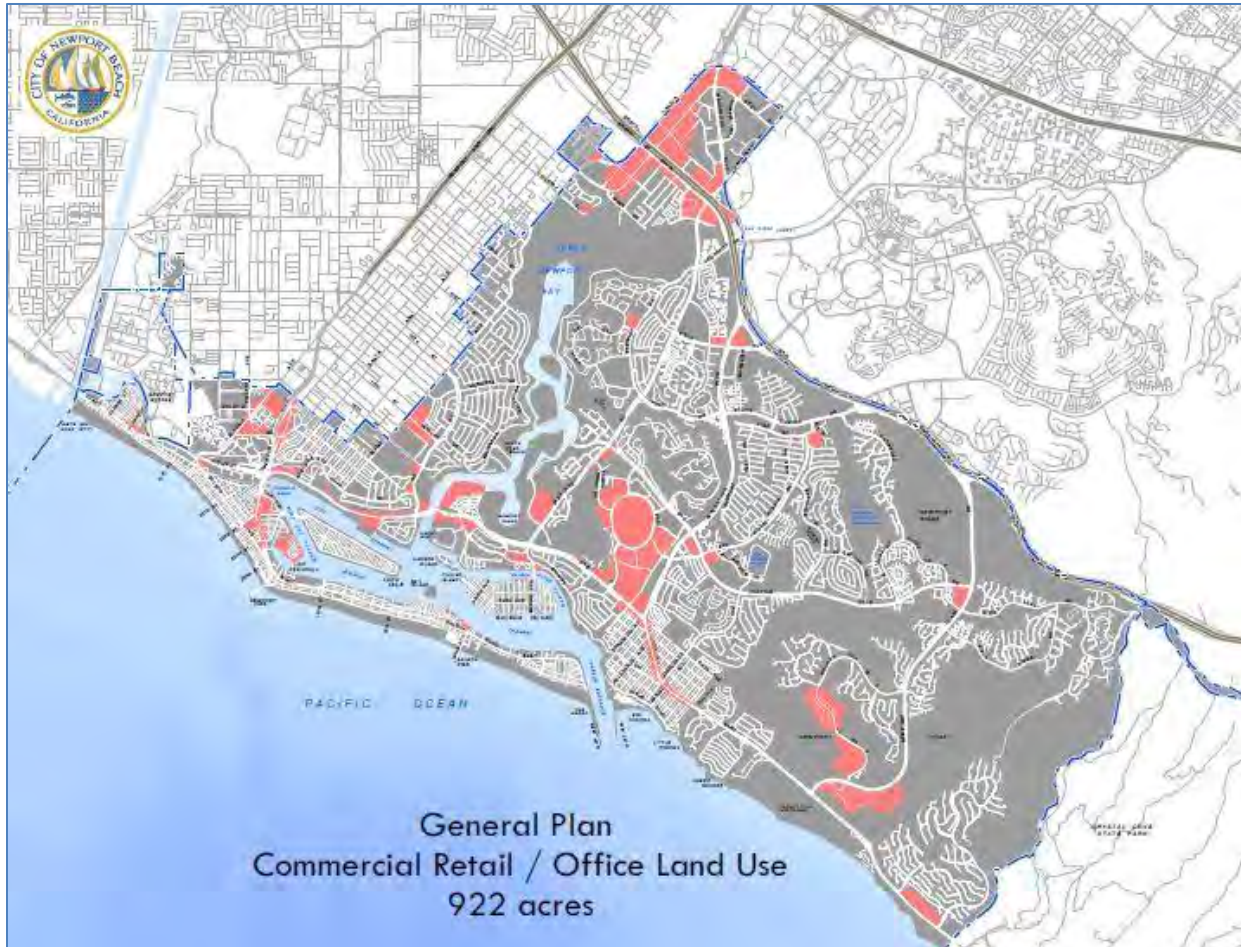


Exhibit M
Summary of Commercial/Retail Land

(d) Existing Industrial Lands

There are approximately 41 acres of industrial land not subject to the constraints listed in **Table A**. As shown in **Exhibit N: Summary of Industrial Land**, much of this land is located adjacent to Hoag Hospital where market conditions, including land costs and market demand for the expansion of medical and supportive uses, do not support the use of this land for residential use. Most of the remainder of this land is used for small scale service uses that should remain available for residents of the City.

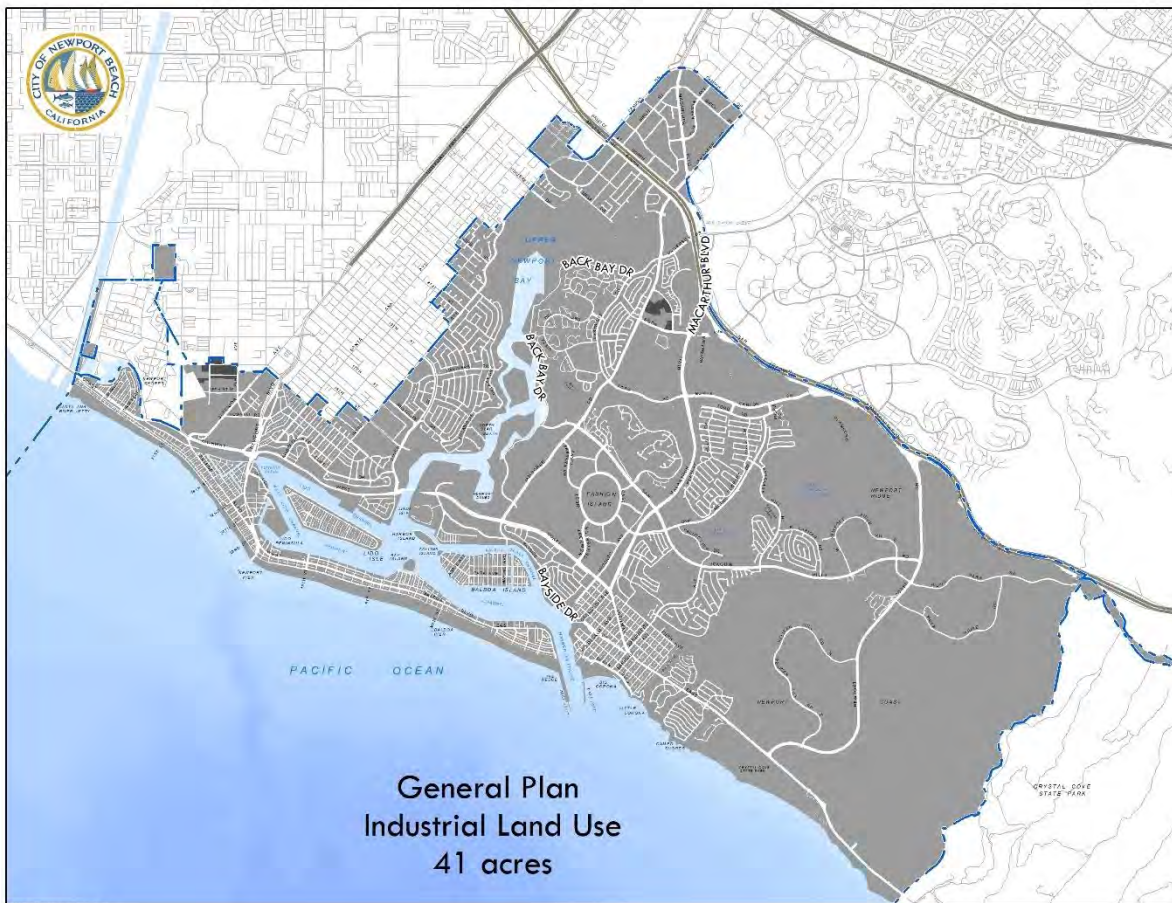


Exhibit N
Summary of Industrial Land

(e) Unavailability of Existing Commercial/Retail and Industrial Land for Housing Use.

The HCD Sites Inventory Guidebook requires the City to analyze property as either vacant or non-vacant. As noted above, there is next to no vacant land in the City; therefore, the City will need to meet its RHNA with non-vacant land. The HCD Guidebook states that when a City plans to accommodate more than 50 percent of the lower-income RHNA on non-vacant land, substantial evidence must be provided proving that the existing uses of the land will be discontinued during the planning period.

In the Draft RHNA allocation to the City, SCAG does not appear to have made an effort to determine if there is sufficient non-vacant land in the City that can satisfy the substantial evidence standard. The City will list as many sites as practicable, but in order to meet its RHNA, the City will need at least 161 acres of land, assuming a density of 30 units per acre. That means property owners of 161 acres of land in the City must conclude that a conversion of some, or all, of their land to a residential use is more advantageous than the land's current commercial use. But the reality is there is very little land in the City that contains obsolete commercial or industrial improvements or is underutilized due to high

property values and rents. As a highly attractive location for businesses and thus jobs (as SCAG acknowledges), inefficiently used commercial/industrial land is in very low supply in Newport Beach.

Because the City has little vacant land, and little commercial/industrial land with obsolete improvements or which is underutilized, the City will have tremendous difficulty in meeting the Draft RHNA that was assigned to the City without regard to whether or not enough physical locations for residential uses are economically feasible. Before assigning the City its Draft RHNA, SCAG should have included a reasonable level of analysis, or at least made direct inquiries, as to the availability of land upon which the City would be able to plan its RHNA.

If Newport Beach cannot facilitate enough landowners to make their land available for housing through various incentives, as described in HCD Guidebook, the City will have very limited alternatives. Therefore, inherent consequences of non-compliance will be forced upon the City if it fails to comply with a RHNA, when current land resources do not allow the City to comply. State law should therefore not punish the inability of the City to comply with a mandate due to the lack of land resources.

(f) Comparative Analysis of Density Needed to Accommodate RHNA Growth Analysis

As described in **Table B**, the City must transition up to 161 acres of existing, developed, high value land to accommodate future growth need. Therefore, the City must demonstrate that 4,834 units must be accommodated by transitioning existing development over the eight (8)-year planning period. It is unreasonable to assume the City will be able to justify this extent of sites, pursuant to the analysis required under AB 1397.

**Table B
Comparison of Densities Versus RHNA Growth Allocation**

Density Range	RHNA Allocation	Acreage Needed to Accommodate Growth
30 Dwelling Units/Acre	4,834 units	161.0 acres
60 Dwelling Units/Acre	4,834 units	80.5 acres
100 Dwelling Units/Acre	4,834 units	48.3 acres
150 Dwelling Units/Acre	4,834 units	32.2 acres
200 Dwelling Units/Acre	4,834 units	24.1 acres

(g) Density Considerations and Resiliency Planning

The unique land use conditions in Newport Beach have historically affected the ability for the City to effectively respond and recover from a variety of natural and man-made events. These include flood, fire, sea level rise, and public health. The City has conducted extensive analysis of threats and the proper mitigation of these threats through resiliency planning to identify, mitigate and respond to them.

In response to the recent COVID-19 pandemic, the City must consider contingency planning to ensure the health, safety, welfare and economic integrity of our residents, which can be addressed through appropriate land use considerations, such as density and land uses. To provide for local resiliency and effective response to future pandemics and the need for social distancing, considerations related to development design and open space will be critical factors in future contingency planning.

As social distancing should allow for residents, children and pets the ability to recreate, exercise and provide a level of social interaction and movement, the provision of adequate open spaces through parks, open space and urban spaces will have an effect on urban densities. Coupled with the need to accommodate 4,834 dwelling units within infill development, this will pose considerable challenges in designing development that meets appropriate criteria.

2	Methodology	<i>SCAG failed to determine the share of the regional housing need in accordance with the information described in, and the methodology established pursuant to Section 65584.04, and in a manner that furthers, and does not undermine, the intent of the objectives listed in Section 65584(d).</i>
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(a) The Methodology Fails to Consider Growth Projections Consistent with the SoCal Connect Plan

SCAG failed to adequately consider local household growth factors and utilized growth projections inconsistent with the Connect SoCal Plan.

Utilization of projected household growth consistent with the Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) (Connect SoCal) is consistent with State law. However, the Draft RHNA Allocation would not be consistent with the development patterns projected in the Connect SoCal Plan. These forecasts are to be developed in conjunction with local input. As demonstrated in previous correspondence, the City of Newport Beach believes the profound inconsistency in forecasting growth demonstrates the failure of the methodology to consider local factors and future growth projections.

According to SCAG’s *Connect SoCal Plan, Technical Reports - Demographics and Growth Forecast*³, the City of Newport Beach’s household growth is forecast to reach 41,800 in 2045. Comparatively, the 2018 American Community Survey 5-Year Estimates show that the City of Newport Beach currently has 37,870 households.

As shown in **Table C** below, forecasts for households through 2045 are expected to be 41,800 according to the Connect SoCal Plan. If this is amortized over the forecast period (2016-2045), it equates to approximately 100 households per year of growth.

The City of Newport Beach’s Draft RHNA Allocation is 4,834 units for the period of 2021 to 2029. If this is amortized over the planning period (2021-2029), it equates to approximately 604 households per year growth.

This demonstrates the unrealistic assumption that the City of Newport Beach would exceed its total 2045 forecast of household growth within 6.5 years of the 2021-2029 Housing Element planning period. More directly, the City of Newport Beach would reach the household estimate for 2045 approximately 17.5 years early.

³ Connect SoCal (2020 - 2045 Regional Transportation Plan/Sustainable Communities Strategy) Technical Reports - Demographics and Growth Forecast, Table 14.

**Table C
Comparison of Household Growth Rates
Connect SoCal vs. RHNA**

Connect SoCal Forecast Growth	Connect SoCal Forecast Year	Average Per year growth rate 2016-2045	RHNA Estimate Total Growth Need	RHNA Forecast Year	Average Per year growth rate 2021-2029
2,900	2045	100 HH/yr	4,834	2029	604 HH/yr

Source: Connect SoCal Plan; 2021-2029 Final Draft RHNA Allocations.

The City of Newport Beach contends that the household formation defined in the Draft RHNA Allocation far exceeds any reasonable projection for growth during the 2021-2029 Housing Element planning period. SCAG’s own 2045 growth forecast, stated in the Connect SoCal Plan is inconsistent and directly undermines the validity of the assumptions in the Draft RHNA Allocation.

The discrepancy demonstrates the Draft RHNA Allocation undermines Government Code Section 65584(d)(1) by failing to provide the distribution of units in an equitable manner. This is demonstrated by the household growth rate increased by a factor of 504 percent above Connect SoCal forecasts. The City of Newport Beach contends that a realistic estimate of future growth need should be directly tied to realistic projections of household formation, consistent with SCAG’s own projections in the Connect SoCal Plan.

(b) The Methodology of redistributing units from residual need calculation fails to be equitably distributed at a regional level, undermining objectives listed in Govt. Code Section 65584(d).

On November 7, 2019, the Regional Council approved a substitute motion removing the household growth factor and significantly modifying the Draft RHNA Allocation methodology to shift approximately 44,000 units of residual RHNA Allocation from lower-resourced jurisdictions (Anaheim, La Habra, Orange, Santa Ana and Stanton) to other higher-resourced jurisdictions in Orange County. As a result, Newport Beach and other Orange County communities not designated as lower-resourced must accommodate the residual need. This effectively increases the City’s obligations not based on the City’s demonstrated local needs, but based upon the residual need left by these jurisdictions. This has artificially allocated 1,506 units of growth need to Newport Beach, even when SCAG’s own growth forecasts do not support this growth.

Further, the County of Orange is burdened with the redistribution of this residual need, when numerous other factors support the redistribution of the residual needs to areas not necessarily in the County. These factors include:

- **Failure to consider regional employment factors** – The methodology to redistribute housing growth is absent of regional factors in determining future growth. The methodology arbitrarily defines the county line rather than the regional influence of jobs to determine redistribution of units. This does not consider the influence of Los Angeles, Riverside, San Bernardino and San Diego counties when considering the proper distribution of these reallocated units.
- **Arbitrary reassignment of all need to Orange County jurisdictions only** - Newport Beach and other Orange County communities not designated as lower-resourced must accommodate the residual need. This effectively increases the City’s obligations not based on the City’s demonstrated local needs, but based upon the residual need left by these jurisdictions. This has artificially allocated 1,506 units of growth need to Newport Beach, even when SCAG’s own growth forecasts do not support this growth. Furthermore, the reassignment fails to consider adjacent communities not designated as lower-resourced that are located outside the boundaries of Orange County.

(c) The Final Draft RHNA Allocation for Newport Beach Directly Undermines Government Code Sections 65588(d)(1) and 65588(d)(2)

Government Code Section 65588(d) defines five (5) specific objectives the RHNA allocation plan shall further. In particular, Section 65588(d)(1) objective of *“Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low income households”* is dependent on the availability of suitable land to various location within the City.

As discussed previously in this appeal letter, the City is very limited in appropriate and available vacant land and must accommodate almost all future growth need on infill parcels. Therefore, significant impact will occur to the City’s non-residential land uses as these sites must be used to accommodate the growth identified in the Draft RHNA Allocation. Even at residential densities far above historical averages, the amount of land necessary to accommodate residential growth at the levels identified in the Draft RHNA Allocation would require the City to sacrifice a significant percentage of job-creating uses, retail and industrial land. Furthermore, the majority of this land will not be justifiable as adequate sites pursuant to the strict requirements for adequate sites of AB 1397. Requisite analysis to determine if these sites are viable is stated on the State Department of Housing and Community Development’s “Building Blocks” website⁴. Considerations include:

- i. Existing Uses** – *“The housing element must demonstrate non-vacant and/or underutilized sites in the inventory that can be realistically developed with residential uses or more-intensive residential uses at densities appropriate to accommodate the*

⁴ <https://www.hcd.ca.gov/community-development/building-blocks/site-inventory-analysis/analysis-of-sites-and-zoning.shtml#realistic>

regional housing need (by income) within the planning period... The condition or age of existing uses and the potential for such uses to be discontinued and replaced with housing (within the planning period) are important factors in determining “realistic” development potential...

It is the burden of the City of Newport Beach to demonstrate the realistic development potential of infill sites by income category. The ability to identify adequate acreage to rezone and permit new residential development on land that is “...*realistically developed with residential uses or more-intensive residential uses at densities appropriate to accommodate the regional housing need (by income) within the planning period....*” will be an insurmountable task that will be primarily influenced by current market conditions, the viability and health of existing non-residential uses, and the likelihood of existing investments to transition to new residential uses. Many of these existing non-residential lands are limited by constraints imposed by lease provisions, financing provisions and other encumbrances tied to the land that can negate the possibility of transition due to these circumstances.

- ii. Development Trends** – *“The inventory analysis should describe recent development and/or redevelopment trends in the community. The housing element should also include a description of the local government’s track record and specific role in encouraging and facilitating redevelopment, adaptive reuse, or recycling to residential or more-intense residential uses. If the local government does not have any examples of recent recycling or redevelopment, the housing element should describe current or planned efforts (via new programs) to encourage and facilitate this type of development (e.g. providing incentives to encourage lot consolidation or assemblage to facilitate increased residential-development capacity).”*

Development trends cannot be considered solely at the regional or state level. All development in Newport Beach is affected by the local market. Due to local market conditions, value of the land and construction costs, infill development transitioning to affordable housing is heavily influenced by existing development activity. The general costs to bring affordable residential development to the market does not generate the residual values to justify the transition of existing developed land. Newport Beach currently cannot demonstrate a consistent track record of transitioning viable existing commercial development into residential development projects.

Development activity in Newport Beach is also significantly influenced by the variety of approvals required by external agencies. These approvals in many cases can limit, or completely halt future development activity. The City of Newport Beach is therefore influenced by the decision of external agencies in the approval of projects. In particular the California Coastal Commission, Federal Aviation Administration (FAA), ALUC, and Caltrans, all have local jurisdiction for a large percentage of lands in the City. These agencies can preempt local decisions and deny the use of lands. This is demonstrated by the recent Coastal Commission denial of the Banning Ranch project, which was to provide significant opportunity to accommodate residential growth.

iii. Market Conditions – *“Housing market conditions also play a vital role in determining the feasibility or realistic potential of non-vacant sites and/or underutilized sites for residential development. The housing element should evaluate the impact of local market conditions on redevelopment or reuse strategies. For example, high land and construction costs, combined with a limited supply of available and developable land may indicate conditions ‘ripe’ for more-intensive, compact and infill development or redevelopment and reuse.”*

As required by statute, the City of Newport Beach must “...evaluate the impact of local market conditions on redevelopment or reuse strategies...”. Local market conditions include some of the highest land costs in the United States and they play a significant role in the feasibility of transitioning existing viable commercial uses to residential use. Financing costs are also subject to market forces and they affect the feasibility of projects. The combination of high construction costs, high land values, increased financing costs, and the scarcity of vacant land are all factors that are included in development pro-formas to justify whether to proceed with redevelopment. In addition, existing commercial/industrial leases or loans place severe limitations on the ability to redevelop existing commercial/industrial sites. Therefore, all these market factors significantly affect the ability to structure the complex, multi-tranche financing necessary to accommodate affordable housing. In the end, all of these factors result in almost insurmountable conditions.

The Final Draft RHNA Allocation fails to consider the implications of existing law governing Housing Elements. Specifically, the requirements of State law that Newport Beach will be subject to in determining the adequacy of housing sites to accommodate future housing growth directly conflict with the ability of the City to accommodate the current Draft RHNA Allocation. This creates a scenario where the City cannot accommodate the level of RHNA growth need based on the inability to justify these sites pursuant to statutory provisions.

In review of the Government Code’s Housing Element for compliance with State law, the following factors severely limit the sites that can be considered for future growth:

iv. Realistic Development Capacity - *Realistic development capacity calculation accounts for minimum density requirements, land use controls, site improvements, and typical densities of existing or approved projects at similar income levels, and access to current, or planned, water, sewer, and dry utilities (Government Code Sections 65583.2(c)(1) and (2)).*

The City of Newport Beach must demonstrate realistic development capacity for approximately a large percentage of existing viable land with existing stable land uses in the City. This is infeasible as the City would essentially have to consider a large portion of existing job-generating uses to transition to residential uses and must prove these sites are a viable to transition during the planning period.

v. Realistic Capacity of Non-Vacant Sites - *The realistic capacity methodology analyzes the extent the existing use may impede additional residential development, the jurisdiction’s past experience converting existing uses to higher density residential development, current market demand for the existing use, analysis of existing leases or other contracts that would perpetuate the existing use or prevent additional residential development, development trends, market conditions, and incentives or standards that encourage development (Government Code Section 65583.2(g)(1)).*

Existing uses are a major impediment to the development of future residential use in Newport Beach to the extent identified in the Draft RHNA Allocation. This would require the City to analyze all private lease agreements and contracts to determine site feasibility. This is both impractical and infeasible. Additionally, market factors must consider the actual ability of the site to transition during the planning period. Many of the infill sites must be accommodated on existing commercial/industrial lands, which have long-term financing provisions with severe penalties if these provisions are compromised. Even with incentives, by-right development and other regulatory relief, a site could not redevelop due to these restrictions.

vi. “Substantial Evidence” Requirement - *If non-vacant sites accommodate 50 percent or more of the lower-income need, the housing element must describe “substantial evidence” that the existing use does not constitute an impediment for additional residential use on the site. Absent substantial evidence, the existing use is deemed an impediment to additional residential development during the planning period (Government Code Section 65583.2(g)(2)).*

As the City of Newport Beach has an extremely limited inventory of vacant lands available to accommodate growth, all future development will occur on sites identified as non-vacant sites. The substantial evidence requirement will be difficult, if not impossible to achieve. If more than 50 percent of the lower-income need is accommodated on sites currently in use, before the site could be identified as one available for housing, Newport Beach must overcome the presumption by showing: 1) past experience with converting the existing type of use to higher density residential development, 2) the current market demand for the current use will not impede redevelopment, and 3) existing leases or contracts would not legally prevent redevelopment of the site. Each of these criteria could not be currently met by the City.

3	Changed Circumstances	<i>A significant and unforeseen change in circumstances has occurred in the local jurisdiction or jurisdictions that merits a revision of the information submitted pursuant to Section 65584.04(b).</i>
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The COVID-19 pandemic has had a demonstrable impact on Newport Beach’s economy. The pandemic was unforeseen during the development of regional RHNA methodology and will have lasting impacts to Newport Beach’s economy and housing market. Additionally, population growth trends in California have recently been revised to reflect a substantially lower rate of population growth in the region.

Prior to COVID-19, Newport Beach enjoyed a robust and diversified economy. With the restrictions imposed and ongoing during the pandemic, these restrictions have significantly impacted all aspects of Newport Beach's economy. With many job opportunities supportive to the tourist and hospitality industries now gone, it is estimated it will take years to return to pre-COVID levels. Because this was an unforeseen circumstance, the impacts to the economy of the City and consequently to the housing market are profound and should be a consideration when evaluating realistic development potential over the eight (8)-year RHNA planning period.

The State of California is experiencing population growth rates at historically low levels. Recent downward revisions by the Department of Finance illustrate the rate of population growth throughout California is slowing at a faster rate than previously anticipated. In the last three (3) years, the state has experienced the lowest population growth rates on record since 1900. Population growth is directly tied to household formation. The flattening of the population growth curve is contrary to the rate of growth identified in the Draft RHNA Allocation. Furthermore, according to Freddie Mac's February 2020 report, *The Housing Supply Shortage: State of the States*, their research indicates that "...California has a shortage of 820,000 housing units. But history suggests that California's shortage may be overestimated if interstate migration is considered."⁵

Summary of Contributing Factors Justifying Modifications to the City of Newport Beach's Draft RHNA Allocation

Based on the evidence provided herein, the Draft RHNA Allocation undermines Government Code Section 65584(d) by failing to support the goals identified therein. Further, the substantial growth need allocated to the City of Newport Beach, when applying current statutory requirements, will preclude the City from complying with law and be unfairly affected by the failure to enact these laws. The Draft RHNA Allocation and methodology used to develop it needs to be revised so that it fulfils the objectives identified in the Government Code.

The City of Newport Beach has compiled all development-contributing factors to summarize the severe limitations of the City to accommodate the Final RHNA Allocation. As shown in **Exhibit I: Summary of Development Constraints**, the City is severely limited in the availability of land to accommodate the unprecedented increase in growth from the Sixth RHNA cycle.

Remaining land available to accommodate growth will be limited to infill development on parcels with existing development, including existing residential zoned land and non-residential land that must be rezoned to accommodate residential development. **Exhibits J through M** demonstrate the only sites that can be used to accommodate residential growth in the future.

⁵ Freddie Mac, "The Housing Supply Shortage: State of the States" February 2020, Page 6.

The future growth of residential development will require the execution of the substantial evidence clause in State housing law to demonstrate the viability of infill sites. This evidence may include:

- Age of Existing Structures
- Developer Interest
- Past Experience in Developing Infill Property
- Existing Lease Provisions
- Environmental and Infrastructure Constraints

The City will not be able to justify the use of these infill sites in the Housing Element to accommodate the level of need shown in the Draft RHNA Allocation.

(The balance of this page left intentionally blank.)

CONCLUSION

The City of Newport Beach is committed to accommodating the existing and future needs of its residents. While the City is committed to contributing to the collective local, regional and State needs for housing, the City has demonstrated that the Draft RHNA Allocation is unrealistic, excessive and based on faulty assumptions that can have grave consequences to the City and its residents. Therefore, the City, respectfully objects to the Final Draft RHNA Allocation and methodology used and requests the RHNA Allocation be revised so that it fulfils the objectives identified in the Government Code.

Pursuant to Government Code Section 65584.05(b), the City of Newport Beach states the following revisions to the Final Draft RHNA Allocation are necessary to further the intent of the objectives stated in Government Code Section 65584(d). **Table D** illustrates these recommended modifications.

**Table D
Summary of RHNA Reductions**

Government Code Requirements	RHNA Reduction
<p>Section 65584(d)(1) - <i>Increasing the housing supply and the mix of housing types, tenure, and affordability in all cities and counties within the region in an equitable manner, which shall result in each jurisdiction receiving an allocation of units for low- and very low-income households.</i></p> <p>Reason- The Draft RHNA Allocation undermines this objective as it does not assign housing unit growth need in an equitable manner. The allocation is a marked increase in allocations from prior RHNA planning cycles and a disproportionately higher amount of lower income need to the community, based upon a flawed methodology that is inconsistent with regional growth forecasts at the regional, state and federal level.</p>	-902
<p>Section 65584(d)(2) - <i>Promoting infill development and socioeconomic equity, the protection of environmental and agricultural resources, the encouragement of efficient development patterns, and the achievement of the region’s greenhouse gas reductions targets provided by the State Air Resources Board pursuant to Section 65080.</i></p> <p>Reason- The Draft RHNA Allocation undermines this objective as it does not properly consider lands that are designated for the protection of natural resources, protected lands precluded from development and lands subject to high fire severity. Furthermore, the use of these lands is not supportive of the efficient utilization of land to encourage and support efficient development patterns.</p>	-1506
TOTAL	-2,408

Table E summarizes the City of Newport Beach's recommended RHNA allocation by income category:

Table E
Summary of Recommended RHNA Allocations for Newport Beach

Income Category	SCAG September 3, 2020 Final Draft RHNA Allocation	Newport Beach Recommended RHNA Allocation
Very Low	1,453Units	729 Units
Low	928 Units	466 Units
Moderate	1,048 Units	526 Units
Above Moderate	1,405 Units	705 Units
TOTAL	4,834 Units	2,426 Units

Respectfully Submitted,



*Will O'Neill, Mayor
City of Newport Beach*

*cc: City Council Members, City of Newport Beach
Grace K. Leung, City Manager
Aaron C. Harp, City Attorney
Seimone Jurjis, Community Development Director*

Attachments:

*A - Local Planning Factors Survey
B - RHNA Methodology Correspondence*

Attachment A

Local Planning Factors Survey

Regional Housing Needs Assessment (RHNA) Local Planning Factor Survey

The RHNA process requires that SCAG survey its jurisdictions on local planning factors (formerly known as “AB 2158 factors”) prior to the development of a proposed RHNA methodology, per Government Code 65584.04 (b). Information collected from this survey will be included as part of the proposed RHNA methodology.

Between October 2017 and October 2018, SCAG included these factors as part of the local input survey and surveyed a binary yes/no as to whether these factors impacted jurisdictions. If your jurisdiction answered this part of the survey, your reply has been pre-populated in the table. Please review each factor and provide any information that may be relevant to the RHNA methodology. You may attach additional information to the survey. Please keep in mind that recent housing-related legislation has updated some of the factors listed, which were not included in the prior survey.

Per Government Code Section 65584.04 (g), there are several criteria that **cannot** be used to determine or reduce a jurisdiction’s RHNA allocation:

- (1) Any ordinance, policy, voter-approved measure, or standard of a city or county that directly or indirectly limits the number of residential building permits issued by the jurisdiction
- (2) Underproduction of housing units as measured by the last RHNA cycle allocation
- (3) Stable population numbers as measured by the last RHNA cycle allocation

The planning factors in the table below are abbreviated. For the full language used, please refer to Government Code Section 65584.04 (e) or the attached reference list.

Please review and submit the survey by 5 p.m. April 30, 2019 to housing@scag.ca.gov.

RHNA Methodology Local Planning Factor Survey

Jurisdiction	
County	

Planning Factor	Impact on Jurisdiction
Existing and projected jobs and housing relationship, particularly low-wage jobs and affordable housing	
Lack of capacity for sewer or water service due to decisions made outside of the jurisdiction’s control	
Availability of land suitable for urban development	

Lands protected from development under Federal or State programs	
County policies to preserve agricultural land	
Distribution of household growth assumed for regional transportation planning and opportunities to maximize use of public transportation	
Agreements between a county and cities to direct growth to incorporated areas of the county	

<p>Loss of low income units through contract expirations</p>	
<p>[NEW] Percentage of households that pay more than 30% and more than 50% of their income on rent</p>	
<p>[NEW] Rate of overcrowding</p>	
<p>Farmworker housing needs</p>	

<p>Housing needs generated by the presence of a university campus within the jurisdiction</p>	
<p>[NEW] Loss of units during a declared state of emergency that have yet to rebuilt at the time of this survey</p>	
<p>[NEW] The region's greenhouse gas emission targets provided by the California Air Resources Board</p>	
<p>Other factors</p>	

Affirmatively Furthering Fair Housing (AFFH) Survey

Jurisdiction	
County	
Survey Respondent Name	
Survey Respondent Title	

SCAG is surveying cities and counties on information related to affirmatively further fair housing* as part of its development of the Regional Housing Needs Assessment (RHNA) proposed methodology. Information related to AFFH may be obtained from local analysis for housing choice, housing elements, and other sources. Using your jurisdiction’s Analysis of Impediments to Fair Housing Choice, Assessment of Fair Housing, and/or local housing element, please answer the questions below about local issues, strategies and actions regarding AFFH and submit your answers no later than April 30, 2019 to housing@scag.ca.gov.

Data Sources

1a. Does your jurisdiction have an Analysis of Impediments to Fair Housing Choice or an Assessment of Fair Housing due to U.S. Department of Housing and Urban Development (HUD) requirements?

Yes	
No	

2. When did your jurisdiction last update the General Plan?

Year	
------	--

3a. Does your General Plan have an environmental justice/social equity chapter or integrate environmental justice/social equity, per SB 1000?

Yes	
No	
In process	

3b. If you answered yes or in process to question 3a, how does your General Plan integrate or plan to integrate environmental justice?

A) An environmental justice chapter	
B) Throughout the General Plan in each chapter	
C) Both	

* Per Government Code 65584(e), affirmatively furthering fair housing is defined as “taking meaningful actions, in addition to combating discrimination, that overcome patterns of segregation and foster inclusive communities free from barriers that restrict access to opportunity based on protected characteristics. Specifically, affirmatively furthering fair housing means taking meaningful actions that, taken together, address significant disparities in housing needs and in access to opportunity, replacing segregated living patterns with truly integrated and balanced living patterns, transforming racially and ethnically concentrated areas of poverty into areas of opportunity, and fostering and maintaining compliance with civil rights and fair housing laws.”

Fair Housing Issues

4. Describe demographic trends and patterns in your jurisdiction over the past ten years. Do any groups experience disproportionate housing needs?

--

5. To what extent do the following factors impact your jurisdiction by contributing to segregated housing patterns or racially or ethnically-concentrated areas of poverty?

Land use and zoning laws, such as minimum lot sizes, limits on multi-unit properties, height limits, or minimum parking requirements	
Occupancy restrictions	
Residential real estate steerings	
Patterns of community opposition	
Economic pressures, such as increased rents or land and development costs	
Major private investments	
Municipal or State services and amenities	
Foreclosure patterns	
Other	

6. To what extent do the following acts as determinants for fair housing and compliance issues in your jurisdiction?

Unresolved violations of fair housing or civil rights laws	
Patterns of community opposition	
Support or opposition from public officials	
Discrimination in the housing market	
Lack of fair housing education	
Lack of resources for fair housing agencies and organizations	

Fair Housing Strategies and Actions

7. What are your public outreach strategies to reach disadvantaged communities?

Partnership with advocacy/non-profit organizations	
Partnership with schools	
Partnership with health institutions	
Variety of venues to hold community meetings	
Door-to-door interaction	
Increased mobile phone app engagement	
Other	

8. What steps has your jurisdiction undertaken to overcome historical patterns of segregation or remove barriers to equal housing opportunity?

--

9. What steps has your jurisdiction undertaken to avoid, minimize, or mitigate the displacement of low income households?

--

Housing Unit Demolition Data Survey Form

Please complete and return the survey by April 30, 2019 to housing@scag.ca.gov.

City: Newport
 Beach
 County: Orange

Report Year	Demolished Housing Units Lost									2012&2018 Newly Constructed or Permitted Housing Units (on site of demolition)							Not Developed Nor Permitted for Housing Uses After the					
	Single Unit Structure				Multi-unit Structure			Total units lost	Affordable units out of total units	Single Unit Structure				Multi-unit Structure			Total units gained	Affordable units out of total units	Not Developed		Land Use Change	
	Detached	Attached	Mobile Homes	Total	2,3, or 4-plex	5 or more	Total			Detached	Attached	Mobile Homes	Total	2, 3, or 4-plex	5 or more	Total			Parcels	Units	Parcels	Units
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
2009								-83									80					
2010								-67									73					
2011								-75									66					
2012								-87									85					
2013								-119									120					
2014								-165									152					
2015								-186									148					
2016								-234									221					
2017								-174									173					
2018								-192									189					
Total								-1382									1307					

Directions

Column A-I	Confirm that the number of demolished units for each category is correct.
Column J	Enter the number of affordable housing units that were among the demolished housing units.
Column K-R	Enter the number of newly constructed or permitted housing units on the site of demolition.
Column S	Enter the number of affordable housing units among the newly constructed or permitted housing units on the site of demolition.
Column T-U	For sites that remained vacant after the demolition where zoning is designated for housing uses, enter the number of parcels and potential housing unit capacity on these sites
Column V-W	For sites that have been converted to non-housing units after the demolition or sites that have remained vacant after the demolition where zoning is designated for non-housing uses, enter the number of parcels and the potential loss of housing unit capacity from the changes.

Attachment B

RHNA Methodology Correspondence



CITY OF NEWPORT BEACH

100 Civic Center Drive
Newport Beach, California 92660
949 644-3004 | 949 644-3039 FAX
newportbeachca.gov

March 3, 2020

Mayor

Will O'Neill

Mayor Pro Tem

Brad Avery

Council Members

Joy Brenner

Diane Brooks Dixon

Marshall "Duffy" Duffield

Jeff Herdman

Kevin Muldoon

Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

RE: March 5, 2020, Community, Economic and Human Development (CEHD) Policy Committee and Regional Council Meetings Related to Regional Housing Needs Assessment (RHNA) Allocation Methodology

Dear Mr. Ajise:

The City of Newport Beach (City) appreciates the opportunity to provide written comments regarding the Regional Housing Needs Assessment (RHNA) methodology being considered for the 6th RHNA cycle. Like many other jurisdictions and stakeholders, the City has been heavily engaged and has participated in the numerous meetings held by the Southern California Association of Governments (SCAG) regarding the development of the Draft RHNA allocation methodology. Through much of the development process, SCAG staff has listened to recommendations and input provided by various jurisdictions, housing experts, and housing advocates to develop a fair and equitable RHNA methodology. The months of effort and public input resulted in a methodology recommended by SCAG staff and supported by the RHNA Subcommittee, as well as the Community, Economic and Human Development (CEHD) Committee. This recommended methodology incorporated a reasonable factor of household growth (50%) and appropriately responded to changes in State law to factor in job accessibility (25%) and proximity to transit (25%) within the existing need portion of the allocations. However, to our dismay, with very little warning and no reasonable opportunity for any detailed analysis and thoughtful public input, the Regional Council inappropriately approved a substitute motion on November 7, 2019, removing the household growth factor and significantly modifying the Draft RHNA methodology to shift approximately 75,000 additional housing units into Orange County. **Therefore, the City of Newport Beach respectfully requests that SCAG consider the following comments and incorporate the City of Cerritos proposal dated**

Attachment: Newport Beach Appeal and Supporting Documentation (Appeal of the Draft RHNA Allocation for the City of Newport Beach)

February 4, 2020, which recommends that household growth forecasts be reintroduced back into the calculations for the existing need as follows:

- household growth (33.3%);
- job accessibility (33.3%); and
- population within high quality transit areas (33.3%).

1. Reinstate household growth as a factor of existing need

As stated in previous comment letters, local input and projected household growth is part of the very foundation of SCAG's planning efforts and furthermore is required by State law.

State law requires that the determination of regional housing need:

“... shall be based upon population projections produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans, in consultation with each council of governments. [65584.01(b)]

Incorporating local input of projected household growth would ensure greater consistency between RHNA and the Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) (Connect SoCal) as required by State law. However, the draft RHNA allocation would not be consistent with the development patterns projected in the Connect SoCal Plan. For Newport Beach, approximately 2,900 households are projected to be formed through 2045, yet the current draft RHNA allocation assigns 4,832 new units to be constructed in the City in the next eight-year planning period.

Any RHNA methodology that does not consider local conditions, as expressed in local General Plans, would ignore more than a half-century of State and Federal planning policy requiring comprehensive planning. Local General Plans and their development policies and assumptions must reflect a wide range of issues. Newport Beach is an attractive city for residents and visitors alike, but subject to various legal and geographic constraints. Though relatively small compared to sprawling bedroom communities, Newport Beach:

- (1) neighbors an international airport;
- (2) oversees the largest recreational boating harbor west of the Mississippi River;
- (3) contains substantial Environmentally Sensitive Habitat Areas, as well as wetlands;
- (4) borders state lands that have been recently described as high-risk fire zones;
- (5) is home to a number of State parks and beaches; and
- (6) has a vacant landfill bordering a tolled highway system.

The above list is not comprehensive, but paints a complex picture of the challenges that are overlooked with the elimination of local input.

Furthermore, these environmental concerns are all governed by comprehensive state and federal laws and regulations with differing objectives that will constrain the City's ability to comply with state housing laws and achieve RHNA allocations. For example, in 2008, the City approved the Banning Ranch project, which would have allowed for the development of 1,375 residential units, including an Affordable Housing Implementation Plan, and 252 acres of permanent open space. However, the California Coastal Commission denied the project and the property remains fenced off. This places Newport Beach – and cities like it – in a perilous position of trying to comply with the housing allocations when other State and Federal agencies have competing programmatic agendas.

Finally, as SCAG staff has correctly noted in every RHNA staff report, State law required SCAG to conduct a survey of “local planning factors” to identify local conditions and explain how each of the factors are incorporated into the proposed methodology. A simple mathematical calculation of local housing allocations based only on jurisdictions' proximity to jobs or population within transit-rich areas without consideration for local development constraints would render the local planning factors survey completely meaningless and would be contrary to State law.

Incorporating the request from the City of Cerritos to reintroduce a component of household growth forecasts back into the calculations for the existing need at a reduced rate of 33.3%, instead of the SCAG staff's original recommended methodology of 50%, is a compromise that the City of Newport Beach fully supports. This would constitute a minor revision to the RHNA methodology that remains substantially consistent with HCD's January 13, 2020, review of the methodology. As supported in the SCAG staff-recommended RHNA methodology staff report for the November 7, 2019, Regional Council meeting, the reintroduction of household growth into the existing need would further the five objectives of state housing law.

2. Redistributed units from residual need calculation should be redistributed region wide as opposed to remaining within county

Orange County has five jurisdictions defined as the “extremely disadvantaged communities” (DACs), meaning they have over 50% of their population located in very low resource areas. As a result of their DAC designations, the draft RHNA allocation methodology caps their RHNA allocation to the jurisdiction's projected 2045 household growth to limit growth in very low resource jurisdictions. Despite the DAC jurisdictions proximity to transit and jobs, the “residual” share of their existing need above projected household growth is then redistributed to other Orange County cities. It is recommended that redistribution occur across the SCAG region for the following reasons:

- Each of the five DACs have jobs accessible via 30-minute commute that are located outside boundaries of Orange County. Therefore, county boundaries should not be a factor in redistribution.
- The existing need projection for the region is stated to be the result of low vacancies, high overcrowding rates, and high cost burdens across the State. As such, each jurisdiction in the region, not just the counties, must do its part to address the housing crisis.

3. SCAG should continue objections to Department of Housing and Community Development's (HCD) faulty regional determination of 1,341,827 housing units

The City of Newport Beach supports Orange County Council of Government's (OCCOG's) February 18, 2020, request to SCAG to continue to oppose the regional deamination provided by the HCD. SCAG should continue to assert that HCD did not follow statute when allocating the regional determination:

"If the total regional population forecast for the projection year, developed by the council of governments and used for the preparation of the regional transportation plan, is within a range of 1.5 percent of the total regional population forecast for the projection year by the Department of Finance, then the population forecast developed by the council of governments shall be the basis from which the department determines the existing and projected need for housing in the region...." ... [Gov. Code § 65584.01(a)]

This sets a dangerous precedent not only for SCAG, but also for other metropolitan planning organizations across the State to have their projections cast aside capriciously in pursuit of political agendas not based in fact but in hyperbole. Additionally, as you are likely aware, the State Department of Finance recently updated its population projections, which show a significant decrease since their previous forecast. Furthermore, Governor Newsom has stated that his commitment to building 3.5 million homes by 2025 was a "stretch goal" and that the state would soon be releasing a more pragmatic estimate of the housing needs by region. The regional determination of 1.34 million housing units is therefore not only unsupported by statute, it is not a feasible allocation given recent housing projections. Combined with an inequitable RHNA methodology, we are fearful that local jurisdictions are being set up for failure to comply with state housing law.

The City of Newport Beach shares SCAG's goal to develop and adopt a RHNA methodology that represents the best in regional planning, developed collaboratively with local jurisdictions and stakeholders in a manner that is credible and defensible at all levels, and can be realistically implemented in an equitable manner.

We request that the CEHD Policy Committee and Regional Council consider these recommendations prior to the adoption of the Final RHNA methodology. We recognize that there are time constraints established by State law; however, the

RHNA will have significant impacts on jurisdictions over the next decade and beyond. Therefore, it is imperative that the RHNA be finalized in a way that is equitable, realistic and achievable to help ensure tangible results in responding to the housing crisis.

Sincerely,

A handwritten signature in black ink, appearing to read "Will O'Neill". The signature is fluid and cursive, with the first name "Will" being the most prominent.

Will O'Neill
Mayor

CC. City Council Members
Grace Leung, City Manager
Seimone Jurjis, Community Development Director



February 21, 2020

Mayor

Will O'Neill

Mayor Pro Tem

Brad Avery

Council Members

Joy Brenner

Diane Brooks Dixon

Marshall "Duffy" Duffield

Jeff Herdman

Kevin Muldoon

Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

RE: February 24, 2020, Regional Housing Needs Assessment (RHNA) Subcommittee, Comments Regarding Agenda Item 1 – Recommended Final RHNA Methodology

Dear Mr. Ajise:

The City of Newport Beach (City) appreciates the opportunity to provide written comments regarding the Regional Housing Needs Assessment (RHNA) methodology being considered for the 6th RHNA cycle. Like many other jurisdictions and stakeholders, the City has been heavily engaged and has participated in the numerous meetings held by the Southern California Association of Governments (SCAG) regarding the development of the Draft RHNA allocation methodology. Through much of the development process, SCAG staff has listened to recommendations and input provided by various jurisdictions, housing experts, and housing advocates to develop a fair and equitable RHNA methodology. The months of effort and public input resulted in a methodology recommended by SCAG staff and supported by the RHNA Subcommittee, as well as the Community, Economic and Human Development (CEHD) Committee. This recommended methodology incorporated a reasonable factor of household growth (50%) and appropriately responded to changes in State law to factor in job accessibility (25%) and proximity to transit (25%) within the existing need portion of the allocations. However, to our dismay, with very little warning and no reasonable opportunity for any detailed analysis and thoughtful public input, the Regional Council inappropriately approved a substitute motion on November 7, 2019, removing the household growth factor and significantly modifying the Draft RHNA methodology to shift approximately 75,000 additional housing units into Orange County. **Therefore, the City of Newport Beach respectfully requests that SCAG consider the following comments and incorporate the City of Cerritos proposal dated February 4, 2020, which recommends that household growth**

forecasts be reintroduced back into the calculations for the existing need as follows:

- household growth (33.3%);
- job accessibility (33.3%); and
- population within high quality transit areas (33.3%).

1. Reinstate household growth as a factor of existing need

As stated in previous comment letters, local input and projected household growth is part of the very foundation of SCAG’s planning efforts and furthermore is required by State law.

State law requires that the determination of regional housing need:

“... shall be based upon population projections produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans, in consultation with each council of governments. [65584.01(b)]

Incorporating local input of projected household growth would ensure greater consistency between RHNA and the Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) (Connect SoCal) as required by State law. However, the draft RHNA allocation would not be consistent with the development patterns projected in the Connect SoCal Plan. For Newport Beach, approximately 2,900 households are projected to be formed through 2045, yet the current draft RHNA allocation assigns 4,832 new units to be constructed in the City in the next eight-year planning period.

Any RHNA methodology that does not consider local conditions, as expressed in local General Plans, would ignore more than a half-century of State and Federal planning policy requiring comprehensive planning. Local General Plans and their development policies and assumptions must reflect a wide range of issues. Newport Beach is an attractive city for residents and visitors alike, but subject to various legal and geographic constraints. Though relatively small compared to sprawling bedroom communities, Newport Beach:

- (1) neighbors an international airport;
- (2) oversees the largest recreational boating harbor west of the Mississippi River;
- (3) contains substantial Environmentally Sensitive Habitat Areas, as well as wetlands;
- (4) borders state lands that have been recently described as high-risk fire zones;
- (5) is home to a number of State parks and beaches; and
- (6) has a vacant landfill bordering a tolled highway system.

The above list is not comprehensive, but paints a complex picture of the challenges that are overlooked with the elimination of local input.

Furthermore, these environmental concerns are all governed by comprehensive state and federal laws and regulations with differing objectives that will constrain the City's ability to comply with state housing laws and achieve RHNA allocations. For example, in 2008, the City approved the Banning Ranch project, which would have allowed for the development of 1,375 residential units, including an Affordable Housing Implementation Plan, and 252 acres of permanent open space. However, the California Coastal Commission denied the project and the property remains fenced off. This places Newport Beach – and cities like it – in a perilous position of trying to comply with the housing allocations when other State and Federal agencies have competing programmatic agendas.

Finally, as SCAG staff has correctly noted in every RHNA staff report, State law required SCAG to conduct a survey of “local planning factors” to identify local conditions and explain how each of the factors are incorporated into the proposed methodology. A simple mathematical calculation of local housing allocations based only on jurisdictions' proximity to jobs or population within transit-rich areas without consideration for local development constraints would render the local planning factors survey completely meaningless and would be contrary to State law.

Incorporating the request from the City of Cerritos to reintroduce a component of household growth forecasts back into the calculations for the existing need at a reduced rate of 33.3%, instead of the SCAG staff's original recommended methodology of 50%, is a compromise that the City of Newport Beach fully supports. This would constitute a minor revision to the RHNA methodology that remains substantially consistent with HCD's January 13, 2020, review of the methodology. As supported in the SCAG staff-recommended RHNA methodology staff report for the November 7, 2019, Regional Council meeting, the reintroduction of household growth into the existing need would further the five objectives of state housing law.

2. Redistributed units from residual need calculation should be redistributed region wide as opposed to remaining within county

Orange County has five jurisdictions defined as the “extremely disadvantaged communities” (DACs), meaning they have over 50% of their population located in very low resource areas. As a result of their DAC designations, the draft RHNA allocation methodology caps their RHNA allocation to the jurisdiction's projected 2045 household growth to limit growth in very low resource jurisdictions. Despite the DAC jurisdictions proximity to transit and jobs, the “residual” share of their existing need above projected household growth is then redistributed to other Orange County cities. It is recommended that redistribution occur across the SCAG region for the following reasons:

- Each of the five DACs have jobs accessible via 30-minute commute that are located outside boundaries of Orange County. Therefore, county boundaries should not be a factor in redistribution.
- The existing need projection for the region is stated to be the result of low vacancies, high overcrowding rates, and high cost burdens across the State. As such, each jurisdiction in the region, not just the counties, must do its part to address the housing crisis.

3. SCAG should continue objections to Department of Housing and Community Development's (HCD) faulty regional determination of 1,341,827 housing units

The City of Newport Beach supports Orange County Council of Government's (OCCOG's) February 18, 2020, request to SCAG to continue to oppose the regional deamination provided by the HCD. SCAG should continue to assert that HCD did not follow statute when allocating the regional determination:

"If the total regional population forecast for the projection year, developed by the council of governments and used for the preparation of the regional transportation plan, is within a range of 1.5 percent of the total regional population forecast for the projection year by the Department of Finance, then the population forecast developed by the council of governments shall be the basis from which the department determines the existing and projected need for housing in the region...." ... [Gov. Code § 65584.01(a)]

This sets a dangerous precedent not only for SCAG, but also for other metropolitan planning organizations across the State to have their projections cast aside capriciously in pursuit of political agendas not based in fact but in hyperbole. Additionally, as you are likely aware, the State Department of Finance recently updated its population projections, which show a significant decrease since their previous forecast. Furthermore, Governor Newsom has stated that his commitment to building 3.5 million homes by 2025 was a "stretch goal" and that the state would soon be releasing a more pragmatic estimate of the housing needs by region. The regional determination of 1.34 million housing units is therefore not only unsupported by statute, it is not a feasible allocation given recent housing projections. Combined with an inequitable RHNA methodology, we are fearful that local jurisdictions are being set up for failure to comply with state housing law.

The City of Newport Beach shares SCAG's goal to develop and adopt a RHNA methodology that represents the best in regional planning, developed collaboratively with local jurisdictions and stakeholders in a manner that is credible and defensible at all levels, and can be realistically implemented in an equitable manner.

We request that the RHNA Subcommittee consider these recommendations prior to the adoption of the Final RHNA methodology. We recognize that there are time constraints established by State law; however, the RHNA will have significant

impacts on jurisdictions over the next decade and beyond. Therefore, it is imperative that the RHNA be finalized in a way that is equitable, realistic and achievable to help ensure tangible results in responding to the housing crisis.

Sincerely,



Will O'Neill
Mayor

CC. City Council Members
Grace Leung, City Manager
Seimone Jurjis, Community Development Director



November 6, 2019

Mr. Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Subject: November 7, 2019 Regional Council Agenda Item 4 - RHNA Methodology

Dear Mr. Ajise:

The City of Newport Beach offers the following comments regarding SCAG staff's RHNA methodology recommendations to the Regional Council:

1. Some participants continue to urge SCAG to eliminate or minimize the use of local input in the RHNA process. However, SCAG staff has correctly noted that it is a requirement by State statutes to consider local input, as reflected in the Connect SoCal RTP/SCS growth forecast, in the RHNA methodology.
2. The "substitute motion" alternative discussed in the Regional Council staff report would result in major changes to the RHNA distribution at the county and jurisdictional levels. For example, under the substitute alternative, the Newport Beach RHNA would increase from 2,751 units to 4,832 units. It would be highly inappropriate for the Regional Council to approve this alternative, or any substantial change to the staff recommendation, at the 11th hour without allowing additional time for analysis and comment.
3. We continue to be concerned that the additional social equity adjustment in "high resource areas" results in an unachievable RHNA that could set those cities up for failure. *For Newport Beach, the very-low- and low-income categories represent 50 percent of the total RHNA allocation.* The lack of sufficient affordable housing subsidy funds combined with initiatives by the State legislature to punish cities that do not achieve their RHNA allocations is a recipe for failure, and Sacramento continues to blame cities for "not building enough housing." SCAG staff has commented that most cities in the region have enough residential capacity to

accommodate the 2045 growth forecast; however, under Housing Element, law development capacity is stratified by income category and new State laws severely limit use of “underutilized” sites to accommodate the lower-income RHNA allocation. In fact, most housing development in the most highly urbanized areas of the region occurs on underutilized sites, and *some cities in the SCAG region have virtually no buildable vacant land*. This fact in combination with “no net loss” rules creates a major disconnect between the regional growth forecast, transportation planning, and housing capacity as determined by HCD during Housing Element reviews.

4. While we continue to share the concerns expressed by many other jurisdictions regarding the unrealistically high RHNA assigned by HCD, we encourage the Regional Council to adopt SCAG’s staff recommendation as a reasonable methodology given the constraints imposed by State housing mandates.

The City of Newport Beach appreciates your consideration of these comments and all the efforts of SCAG staff throughout the RHNA process.

Sincerely,



Seimone Jurjis,
Community Development Director

cc: City Council
Grace Leung, City Manager
Jaime Murillo, Senior Planner
Marnie Primmer, Orange County Council of Governments Executive Director



October 21, 2019

Mr. Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Subject: Community, Economic and Human Development Committee
October 21, 2019, Agenda Item 1 - Recommended Draft RHNA Methodology

Dear Mr. Ajise:

As SCAG moves toward finalization of the RHNA methodology, the City of Newport Beach would like to offer the following recommendations.

1. Some housing advocacy organizations continue to urge SCAG to eliminate local input from consideration in the RHNA process. As your staff, subregional councils, and many jurisdictions have correctly noted, SCAG is required by State statutes to consider local input in developing the RHNA allocations, and any arguments to the contrary are a misrepresentation of the law.
2. We continue to be concerned that the additional social equity adjustment in "high resource areas" results in an unachievable RHNA that could set those cities up for failure. *For Newport Beach, the very-low- and low-income categories represent 50 percent of the total RHNA allocation.* The lack of sufficient affordable housing subsidy funds combined with initiatives by the State legislature to punish cities that do not achieve their RHNA allocations is a recipe for failure, and Sacramento continues to blame cities for "not building enough housing." SCAG staff has commented that most cities in the region have enough residential capacity to accommodate the 2045 growth forecast; however, under Housing Element law development capacity is stratified by income category and new State laws severely limit use of "underutilized" sites to accommodate the lower-income RHNA allocation. This fact in combination with "no net loss" rules creates a major "disconnect" between the regional growth forecast, transportation planning and housing capacity as determined by HCD during Housing Element reviews.

While we continue to have great concern regarding the unrealistically high RHNA assigned by HCD, the City of Newport Beach appreciates your consideration of the comments provided in this letter and all the efforts of SCAG staff throughout the RHNA process.

Sincerely,



Seimone Jurjjs,
Community Development Director

cc: City Council
Grace Leung, City Manager
Jaime Murillo, Senior Planner
Marnie Primmer, Orange County Council of Governments Executive Director



September 13, 2019

Mr. Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Subject: Comments on Proposed 6th Cycle RHNA Methodology

Dear Mr Ajise:

The City of Newport Beach appreciates the opportunity to provide written comments to SCAG regarding the draft Regional Housing Needs Assessment (RHNA) methodologies being considered for the 6th RHNA cycle. The City also recognizes the efforts of SCAG staff and the RHNA Subcommittee, CEHD Committee, and Regional Council members who devoted their time to participate in this important effort. The City remains committed to doing its part in addressing this housing crisis in compliance with Housing Element law (Government Code Sections 65580-65598.8) and respectfully requests that SCAG carefully consider the following comments related to the RHNA methodology options.

Overall, the City of Newport Beach supports Option 3, with recommended modifications below, as it is the only option based on local input grounded in the Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) process. Options 1 and 2 fail to consider limitations local agencies may have in being able to accommodate additional housing and allocation of housing largely based on population without regard to local input.

Opposition to Option 1

- **Redistribution of existing need would result in allocations and percent shares of income categories that are inconsistent with those provided in HCD's Regional Determination.** As noted in the Center for Demographic Research letter of August 23 ,2019 (Comments 3 and 4), we agree with redistribution of existing need above-moderate units to the very-low, low and moderate income categories is not consistent with the 6th cycle methodology adopted in other regions throughout the state and should be eliminated from SCAG's RHNA methodology. This redistribution proposal would result in allocations and percent shares of income categories that are inconsistent with those provided in HCD's Regional Determination.

Attachment: Newport Beach Appeal and Supporting Documentation (Appeal of the Draft RHNA Allocation for the City of Newport Beach)

- **For Newport Beach, existing need represents more than 90% of the total need in Option 1.** Option 1 is based upon local input for *projected need*, but *existing need* is based primarily (70%) on the jurisdiction's share of total regional population. This method of allocating existing need fails to acknowledge the fact that cities have different levels of vacancy, overcrowding and cost-burden, which are the primary components of existing need, or that cities have vastly different amounts of land (either vacant or underutilized) suitable for housing development.
- **Disaggregation of the existing regional "unmet" housing need based on a jurisdiction's population is inequitable and penalizes jurisdictions that have not contributed to the factors that are attributable to that "unmet" regional need.** Attachment 1 of the SCAG RHNA Subcommittee June 3, 2019, staff report, identifies each jurisdiction in the region and four factors that have contributed to the unmet housing needs. *In this attachment, the City of Newport Beach is not highlighted as having a pronounced problem in any of the four factors identified as contributing to the unmet existing housing need.* In particular, Newport Beach has issued building permits for new single-family and multi-family construction above the regional average. Additionally, Newport Beach maintains rates of overcrowding and cost-burden significantly below the regional average. Yet, as noted in the bullet above, utilizing Option 1, the *existing need* component assigned to Newport Beach is 9 times the *projected needs* for the City.
- **Disaggregation of the existing need based on population results in a social equity factor being applied twice.** Establishing existing housing needs for the region based on adjustment factors related to vacancy, overcrowding, and cost burden, and then redistributing the need based on a jurisdiction's percentage of the region's population will have the effect of disproportionately increasing housing need assessments to jurisdictions that experience higher vacancy rates and lower rates of overcrowding and cost burden, such as Newport Beach. Alternatively, jurisdictions that historically experienced lower vacancies and higher rates of overcrowding and cost burden, factors upon which unmet existing need is being calculated, will benefit from a lower proportionate assessment of this existing unmet need. Newport Beach understands that each jurisdiction must do its part to address the housing crisis and jurisdictions that are already overly burdened by these factors cannot be expected to take on the sole responsibility of addressing unmet housing needs, redistributing the unmet existing housing need based on population inherently implements a form of social equity. Therefore, the need for a subsequent social equity adjustment at the final RHNA allocation process will apply a social equity factor twice in the process. If disaggregation of existing need is approved based on population, then the final social equity adjustment (such as the currently proposed 150% adjustment) should not be removed.

Opposition to Option 2

- **Option 2 would completely disregard local input in determining RHNA allocations and would be inconsistent with both State law and long-standing SCAG practice.** Several comments submitted argue that local input should not be a

primary factor, or considered, in the RHNA methodology. However, local input is part of the very foundation of SCAG's planning efforts and furthermore is required by State law.

SB 375 of 2008, the landmark climate change legislation, integrated regional planning for transportation and housing, and includes the following key provisions:

Each metropolitan planning organization shall prepare a sustainable communities strategy ... including the requirement to utilize the most recent planning assumptions considering local general plans and other factors. The sustainable communities strategy shall ... identify the general location of uses, residential densities, and building intensities within the region, ... identify areas ... within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Section 65584, ... set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions ... to achieve, ... the greenhouse gas emission reduction targets approved by the state. [Government Code Sec. 65080(b)(2)(B)]

State law also requires that the determination of regional housing need:

"... shall be based upon population projections produced by the Department of Finance and regional population forecasts used in preparing regional transportation plans, in consultation with each council of governments. [65584.01(b)]

As noted in the first excerpt, the population forecast upon which the RTP/SCS is based utilizes planning assumptions grounded in local general plans. Therefore, it is clear that any RHNA methodology that does not consider local input would be contrary to the intent of the State Legislature.

Furthermore, any RHNA methodology that does not consider local conditions, as expressed in local General Plans, would ignore more than a half-century of State and Federal planning policy requiring comprehensive planning. Local General Plans and their development policies and assumptions must reflect a wide range of issues including sensitive environmental resources such as endangered species habitat, public safety hazards such as wildland fire zones, flood zones and geotechnical hazards, and infrastructure constraints such as water supply and the availability of wastewater treatment systems.

Finally, as SCAG staff has correctly noted in each RHNA staff report, State law required SCAG to conduct a survey of "local planning factors" to identify local conditions and explain how each of the factors are incorporated into the proposed methodology. A simple mathematical calculation of local housing allocations based only on jurisdictions' total population or population within transit-rich areas without consideration for local development constraints would render the local planning factors survey completely futile and be contrary to State law.

Since Option 2 would completely disregard local input in determining RHNA

allocations, it would be inconsistent with both State law and long-standing SCAG practice.

Support for Option 3 with Modifications

- **Population vs. household growth share.** Option 3 would allocate housing need based upon jurisdictions' shares of projected population growth rather than household growth. However, housing need is more closely correlated with households than population; therefore, it is more appropriate to use projected household growth in the RHNA methodology.
- **Replacement need should be based on net units lost, not on a per site basis.** Both Options 1 and 3 apply a *replacement need* component to the calculation for units demolished that were not replaced on the same site. This has the effect of requiring units demolished and not replaced on the same site to be replaced in the next planning period on a different site. What this methodology fails to address is that replacement may have already occurred on other sites in the same planning period as the demolition. In Newport Beach, new housing development has exceeded the prior RHNA allocation by more than the replacement need; therefore, the City recommends that the calculation of replacement need be based on total housing permits regardless of whether those units were built on the same sites where the demolition occurred.

General Comments

- **No alternative methodologies without additional public review.** The City recommends that SCAG not adopt an alternative RHNA methodology to Options 1, 2, or 3 until after HCD provides a final regional determination and additional public review time is afforded so that jurisdictions and the public will have the opportunity to fully assess how the alternative methodology will impact individual jurisdictions.
- **Local input should be used as the floor for any RHNA Allocation of projected need.** As noted in the Orange County Council of Governments (OCCOG) letter dated August 22, 2019, each jurisdiction has submitted projected housing development numbers to SCAG as part of the Connect SoCal process, which is linked with the RHNA process. The selected RHNA methodology therefore should ensure that any number assigned to a jurisdiction captures, at minimum, the number of units a jurisdiction identified through the local input process. For example, if a jurisdiction projected construction of 8,000 units, but the selected RHNA methodology only gives that jurisdiction 5,000 units, there should be an adjustment provided for the remaining 3,000 units to the jurisdiction, rather than distribute the 3,000 units to other jurisdictions. This respects local input, and ensures equity for other jurisdictions not to be overburdened.
- **Overestimating housing needs, when combined with new housing element law, may result in an unattainable RHNA and sets up local jurisdictions for failure.** It is essential that SCAG officials recognize the significance of the RHNA allocations to cities and counties. Combining an over estimation of existing need to a jurisdiction's RHNA with new State housing element law requirements, adopted in

Mr. Kome Ajise, Executive Director
September 13, 2019
Page 5 of 5

2017 that limit a jurisdiction's ability to "count" sites towards RHNA, may lead to widespread noncompliance throughout the State. The State Legislature has adopted new laws making it more difficult for sites to qualify for RHNA "credit," and HCD is proposing a RHNA allocation that is more than three times higher than the current Housing Element cycle. Despite the City of Newport Beach's efforts to identify a surplus of adequate sites in past housing element cycles, AB1397 will significantly increase the difficulty for jurisdictions to illustrate the adequacy of sites. Furthermore, SB 166 will require a jurisdiction to continually identify additional low-income housing sites when a developer chooses to develop market-rate housing on a site identified to accommodate low-income housing. The combination of these requirements would create a de-facto, State-mandated inclusionary requirement necessitating State funding.

The City of Newport Beach appreciates your consideration of the comments provided in this letter. The City of Newport Beach shares SCAG's goal to develop and adopt a RHNA methodology that represents the best in regional planning, developed collaboratively with local jurisdictions and stakeholders in a manner that is credible and defensible at all levels, and can be realistically implemented in an equitable manner. The City looks forward to working with SCAG to achieve this goal.

Sincerely,


Seimone Jurjis, PE, CBO
Community Development Director

cc: City Council
Grace Leung, City Manager
Jaime Murillo, Principal Planner
Marnie Primmer, Orange County Council of Governments Executive Director



June 5, 2019

Honorable Peggy Huang, Chair
Honorable Stacy Berry, Vice Chair
Community, Economic and Human Development Policy Community
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, California 90017

Subject: Draft Regional Housing Needs Assessment (RHNA) Consultation Package to the California Department of Housing and Community Development (HCD)

Honorable Chair Huang and Honorable Committee Members:

The City of Newport Beach appreciates the opportunity to provide written comments to the Southern California Association of Governments (SCAG) regarding the June 6, 2019 CEHD Agenda Item on the RHNA Consultation package to HCD. The City appreciates SCAG staff's efforts and the Committee members who sacrifice their time to participate in this important effort. The City remains committed to doing its part in addressing this housing crisis in compliance with Housing Element law (Government Code Sections 65580-65598.8).

It should be noted that in 2006, the City comprehensively updated its General Plan and identified several new residential housing opportunity areas. These opportunities were created as infill and replacement of previously permitted retail and office development capacity, with a realistic development capacity of approximately 3,200 new dwelling units. In 2011, the Airport Area was identified as the City's primary housing opportunity area to address the City's lower-income housing needs and a Residential Overlay was adopted to incentivize residential development that includes a minimum of 30% of the units affordable to lower-income households. Since then, the City has approved over 2,100 new multi-family dwelling units, including 91 very low-income units and 78 low-income units. While the City has been able to continue to build housing units to meet existing and projected need, available land within the sites inventory has been significantly reduced since the last RHNA cycle by changes to Housing Element Law. Extremely high land values in the City exacerbates the difficulty in developing housing affordable to lower-income households due to the high financial subsidies needed to make projects financially feasible. Therefore, the City of Newport Beach is concerned about the proposed methodology that SCAG is proposing for the 6th RHNA cycle that is above and beyond the projected growth in the Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) and will greatly impact the City's ability to remain compliant with state housing laws. Therefore, the City respectfully requests

Attachment: Newport Beach Appeal and Supporting Documentation (Appeal of the Draft RHNA Allocation for the City of Newport Beach)

that the Subcommittee carefully consider the following comments related to the proposed consultation package to HCD and the proposed RHNA Methodology.

- 1) Existing need already accounted in RTP/SCS - The City of Newport Beach encourages SCAG to propose a total regional determination of 429,926 for the 6th RHNA cycle, consistent with the RTP/SCS. The RTP/SCS growth forecast includes input from local jurisdictions that already incorporates existing need and future projected need. As such, all numbers, tables, and discussion regarding existing need as a separate calculation should be removed from discussion, since by adding a separate existing need, the proposed RHNA methodology would result in double counting the need.
- 2) Applying adjustment factors overestimates need - Beyond double counting the existing need as mentioned above, the additive approach of vacancy, overcrowding, and cost burden factors are additionally inappropriate due to the level of overlap between them. Although we commend SCAG staff for recognizing that cost burden may be an inappropriate factor to apply, the application of the remaining factors are still closely related and would result in overestimating unmet housing needs.
- 3) Phasing of existing need imperative beyond a single RHNA cycle - Although the City strongly disagrees with the proposed methodology of calculating existing housing needs, if HCD determines this calculation to be appropriate, it is imperative that this existing need be spread across the 6th, 7th, and 8th cycles of RHNA. It is unrealistic to assume that years of unmet housing needs “back log” can be addressed in an 8-year planning cycle. Housing construction typically lags behind RHNA targets, with affordable housing projects taking significantly longer to finance and develop. Spreading past unmet need across multiple cycles would allow jurisdictions to realistically plan and address for this additional growth that has not been included in the RTP/SCS. Additionally, it will allow jurisdictions to make a good-faith effort to accommodate this unmet need.
- 4) Consultation package should recognize that disaggregation of the proposed existing unmet housing need based on population results in a social equity factor being applied twice - Establishing existing housing needs for the region based on adjustment factors related to vacancy and overcrowding, and then redistributing the need based on a jurisdictions percentage of the region’s population will have the effect of disproportionately increasing housing need assessments to jurisdictions that experience higher vacancy rates and lower rates of overcrowding and cost burden, such as Newport Beach. Alternatively, jurisdictions that historically experienced lower vacancies and higher rates of overcrowding and cost burden, factors upon which unmet existing need is being calculated, will benefit from a lower proportionate assessment of this existing unmet need. While Newport Beach understands that each jurisdiction must do its part to address the housing crisis and jurisdictions that are already overly burdened by these factors cannot be expected to take on the sole responsibility of addressing unmet housing needs, redistributing the unmet existing housing need based on population inherently implements a form of social equity. Therefore, the need for a subsequent social equity adjustment at the final RHNA allocation process may be unnecessary and as it will apply a social equity factor twice in the process.

Honorable Peggy Huang, Chair

June 5, 2019

Page 3 of 3

5) Over estimating existing housing needs, when combined with new housing element law, may result in an unattainable RHNA and sets up local jurisdictions for failure -

Combining an over estimation of existing need to a jurisdiction's RHNA with new State housing element law requirements adopted in 2017 that limit a jurisdiction's ability to "count" sites towards RHNA, may lead to widespread noncompliance throughout the State. Despite the City of Newport Beach's efforts to identify a surplus of adequate sites in past housing element cycles, AB1397 will significantly increase the difficulty for jurisdictions to illustrate the adequacy of sites. Furthermore, SB 166 will require a jurisdiction to continually identify additional low-income housing sites when a developer chooses to develop market-rate housing on a site identified as being able to accommodate low-income housing.

The City of Newport Beach appreciates your consideration of the comments provided in this letter. The City of Newport Beach shares SCAG's goal to develop and adopt a RHNA methodology that represents the best in regional planning, developed collaboratively with local jurisdictions and stakeholders in a manner that is credible and defensible at all levels, and can be realistically implemented in an equitable manner. The City looks forward to working with SCAG to achieve this goal.

Sincerely,


Seimone Jurjis, PE, CBO
Community Development Director

cc: City Council
Grace Leung, City Manager
Jaime Murillo, Senior Planner
Marnie Primmer, Orange County Council of Governments Executive Director



June 3, 2019

Honorable Peggy Huang, Chair
RHNA Subcommittee
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, California 90017

Subject: Draft Regional Housing Needs Assessment (RHNA) Consultation Package to the California Department of Housing and Community Development (HCD) and Proposed RHNA Methodology Components

Honorable Chair Huang and Honorable Members of the RHNA Subcommittee:

The City of Newport Beach appreciates the opportunity to provide written comments to the Southern California Association of Governments (SCAG) on Item No. 5 and No. 6 of your June 3, 2019, meeting agenda. The City appreciates SCAG staff's efforts and the RHNA Subcommittee members who sacrifice their time to participate in this important effort. The City remains committed to doing its part in addressing this housing crisis in compliance with Housing Element law (Government Code Sections 65580-65598.8).

It should be noted that in 2006, the City comprehensively updated its General Plan and identified several new residential housing opportunity areas. These opportunities were created as infill and replacement of previously permitted retail and office development capacity, with a realistic development capacity of approximately 3,200 new dwelling units. In 2011, the Airport Area was identified as the City's primary housing opportunity area to address the City's lower-income housing needs and a Residential Overlay was adopted to incentivize residential development that includes a minimum of 30% of the units affordable to lower-income households. Since then, the City has approved over 2,100 new multi-family dwelling units, including 91 very low-income units and 78 low-income units. While the City has been able to continue to build housing units to meet existing and projected need, available land within the sites inventory has been significantly reduced since the last RHNA cycle by changes to Housing Element Law. Extremely high land values in the City exacerbates the difficulty in developing housing affordable to lower-income households due to the high financial subsidies needed to make projects financially feasible. Therefore, the City of Newport Beach is concerned about the proposed methodology that SCAG is proposing for the 6th RHNA cycle that is above and beyond the projected growth in the Regional Transportation Plan/ Sustainable Communities Strategy (RTP/SCS) and will greatly impact the City's ability to remain compliant with state housing laws. Therefore, the City respectfully requests that the Subcommittee carefully consider

the following comments related to the proposed consultation package to HCD and the proposed RHNA Methodology.

Comments on Agenda Item 5 (RHNA Consultation Package to HCD)

The City fully supports the comments raised in the Orange County Council of Governments (OCCOG) letter regarding the RHNA consultation package to HCD. In particular, the City of Newport Beach encourages SCAG to propose a regional determination of 429,926 for the 6th RHNA cycle, consistent with the RTP/SCS. The approach identified in the June 3, 2019, SCAG staff report to the RHNA Subcommittee to address *existing housing need* through certain adjustment factors such as vacancy, overcrowding, and cost burden is inappropriate for the following reasons:

- 1) Existing need already accounted in RTP/SCS - The RTP/SCS growth forecast includes input from local jurisdictions that already incorporates existing need and future projected need. As such, all numbers, tables, and discussion regarding existing need as a separate calculation should be removed from discussion, since by adding a separate existing need, the proposed RHNA methodology would result in double counting the need.
- 2) Applying adjustment factors overestimates need - Beyond double counting the existing need as mentioned above, the additive approach of vacancy, overcrowding, and cost burden factors are additionally inappropriate due to the level of overlap between them. Although we commend SCAG staff for recognizing that cost burden may be an inappropriate factor to apply, the application of the remaining factors are still closely related and would result in overestimating unmet housing needs.
- 3) Consultation package should recognize that disaggregation of the proposed existing unmet housing need based on population results in a social equity factor being applied twice - Establishing existing housing needs for the region based on adjustment factors related to vacancy and overcrowding, and then redistributing the need based on a jurisdiction's percentage of the region's population will have the effect of disproportionately increasing housing need assessments to jurisdictions that experience higher vacancy rates and lower rates of overcrowding and cost burden, such as Newport Beach. Alternatively, jurisdictions that historically experienced lower vacancies and higher rates of overcrowding and cost burden, factors upon which unmet existing need is being calculated, will benefit from a lower proportionate assessment of this existing unmet need. While Newport Beach understands that each jurisdiction must do its part to address the housing crisis and jurisdictions that are already overly burdened by these factors cannot be expected to take on the sole responsibility of addressing unmet housing needs, redistributing the unmet existing housing need based on population inherently implements a form of social equity. Therefore, the need for a subsequent social equity adjustment at the final RHNA allocation process will apply a social equity factor twice in the process. If disaggregation of existing need is approved based on population, then the final social equity adjustment should not be increased from the past practice of 110% and should arguably be removed.
- 4) Phasing of existing need imperative beyond a single RHNA cycle - Although the City strongly disagrees with the proposed methodology of calculating existing housing needs, if HCD determines this calculation to be appropriate, it is imperative that this existing need be spread across the 6th, 7th, and 8th cycles of RHNA. It is unrealistic to assume that years of unmet housing needs "back log" can be addressed in an 8-year planning cycle. Housing construction typically lags behind RHNA targets, with affordable housing projects taking significantly longer

to finance and develop. Spreading past unmet need across multiple cycles would allow jurisdictions to realistically plan and address for this additional growth that has not been included in the RTP/SCS. Additionally, it will allow jurisdictions to make a good-faith effort to accommodate this unmet need.

- 5) Over estimating existing housing needs, when combined with new housing element law, may result in an unattainable RHNA and sets up local jurisdictions for failure - Combining an over estimation of existing need to a jurisdiction's RHNA with new State housing element law requirements adopted in 2017 that limit a jurisdiction's ability to "count" sites towards RHNA, may lead to widespread noncompliance throughout the State. Despite the City of Newport Beach's efforts to identify a surplus of adequate sites in past housing element cycles, AB1397 will significantly increase the difficulty for jurisdictions to illustrate the adequacy of sites. Furthermore, SB 166 will require a jurisdiction to continually identify additional low-income housing sites when a developer chooses to develop market-rate housing on a site identified as being able to accommodate low-income housing. The combination of these requirements would create a de-facto, State-mandated inclusionary requirement necessitating State funding.

Comments on Agenda Item 6 (Proposed RHNA Distribution Methodology)

Although this item is described as informational only, SCAG staff is requesting input and direction from the RHNA Subcommittee on the staff recommended approaches for distributing existing and projected need to jurisdictions along with the social equity adjustments. The City of Newport Beach respectfully requests the Subcommittee to consider the following comments and provide SCAG staff direction to address these concerns.

- 6) Multiple adjustments for Social Equity - As mentioned in Comment 3 above, if a separate existing need calculation is developed based on the adjustment factors of vacancy and overcrowding, and subsequently redistributed to jurisdictions based on population, a social equity adjustment is already included through this redistribution. As such, no additional social equity adjustment should be applied.

Furthermore, the application of a new proposed 150% social equity adjustment is inappropriate for the following reasons:

- As previously stated, the redistribution of existing need based on population already accounts for social equity adjustment.
- As illustrated in Attachment 1 of the staff report, the City of Newport Beach is not highlighted as having a pronounced problem in any of the four factors identified as contributing to the unmet existing housing need. In particular, Newport Beach has issued building permits for new single-family and multi-family construction above the regional average. Additionally, Newport Beach maintains rates of overcrowding and cost-burden significantly below the regional average. Therefore, the application of 150% adjustment factor is excessive in the case of Newport Beach, and when combined with the fact that Newport Beach would be disproportionately assigned an existing need based on factors of vacancy and overcrowding that are not identified as a problem locally. The increased adjustment factor is simply unwarranted.

- The application of a 110% social equity adjustment factor in past RHNA cycles is a historically accepted practice that has been manageable for jurisdictions to zone and provide adequate sites to meet increased lower-income housing need.

7) Insufficient data to analyze proposed 30% distribution for High Quality Transit Area (HQTAs)

Insufficient data has been provided to thoroughly analyze the effect of the proposed 30% distribution based on population with HQTAs. Although the current staff report now includes a weblink to SCAG's Open Data platform, there is a vast amount of documents and data available for review and it is not clear how to find jurisdiction-specific information. SCAG should provide each jurisdictions population in an excel table, similar to a table provided in Attachment 1, and jurisdiction-specific maps to allow transparent availability to the data.

8) HQTA maps may have significant errors that need to be addressed

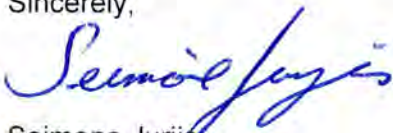
In reviewing both the 2014 and 2040 SCAG HQTA maps, it appears that the Catalina Flyer dock located in the City's historic Balboa Village is identified as a HQTA, when in reality, the ferry provides once-a-day recreational transportation to Catalina Island and does not connect to any significant bus and transit routes. The goal of encouraging growth around HQTAs will not be realized at this ferry location and assigning Newport Beach additional housing needs as a result is unwarranted.

9) Elimination of above-moderate income housing category from existing need allocation is not appropriate.

SCAG staff's current proposal to redistribute the existing need solely to lower- and moderate-income categories is not consistent with past practice, further increases the intensity of social equity adjustments being applied to jurisdictions, and will further set up jurisdictions for failure when attempting to development a compliant Housing Element as mentioned in Comment 6 above.

The City of Newport Beach appreciates your consideration of the comments provided in this letter. The City of Newport Beach shares SCAG's goal to develop and adopt a RHNA methodology that represents the best in regional planning, developed collaboratively with local jurisdictions and stakeholders in a manner that is credible and defensible at all levels, and can be realistically implemented in an equitable manner. The City looks forward to working with SCAG to achieve this goal.

Sincerely,



Seimone Jurjis,
Community Development Director

cc: City Council
Grace Leung, City Manager
Jaime Murillo, Senior Planner
Marnie Primmer, Orange County Council of Governments Executive Director

RESOLUTION NO. 2020-92

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF NEWPORT BEACH, CALIFORNIA, AUTHORIZING THE FILING OF AN APPEAL OF THE SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS FINAL DRAFT REGIONAL HOUSING NEEDS ASSESSMENT ALLOCATION FOR THE CITY OF NEWPORT BEACH SIXTH CYCLE HOUSING ELEMENT (PA2018-225)

WHEREAS, California Government Code Section 65580 *et seq.* requires that each city and county plan for existing and future housing needs in accordance with the Regional Housing Needs Assessment (“RHNA”) process;

WHEREAS, the Southern California Association of Governments (“SCAG”) is a joint powers authority encompassing Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura counties that functions as a forum to address regional issues including allocation of residential units among SCAG member cities and counties;

WHEREAS, the City of Newport Beach (“City”) has worked diligently in partnership with other SCAG members and stakeholders for the Sixth Cycle Housing Element covering the planning period 2021 through 2029 (“Sixth Cycle”), reviewing draft methodologies and providing comments and recommendations to achieve a RHNA allocation that is fair, equitable, and in consideration of the unique circumstances and local planning factors inherent in our community;

WHEREAS, SCAG allocated 4,834 residential units (“RHNA Allocation”) to the City for the Sixth Cycle which is extraordinary, inequitable and based on flawed methodologies that do not fully consider constraints on the development of housing in the City as a result of a number of factors including, but not limited to, the City’s proximity to John Wayne Airport, the coastline, fire and flood zones;

WHEREAS, California Government Code Section 65584.05 authorizes a local government or the Department of Housing and Community Development (“HCD”) to appeal for a revision of the RHNA Allocation proposed for one or more local governments; and

WHEREAS, a revision to the City’s RHNA Allocation is necessary to further the intent of the statutorily mandated objectives listed in California Government Code Section 65584(d).

NOW, THEREFORE, the City Council resolves as follows:

Section 1: The City appeals the City's RHNA Allocation based upon the following three (3) criteria as authorized in California Government Code Section 65584.05(b):

- a. Local Planning Factors (Govt. Code § 65584.05(b)(1)). SCAG failed to adequately consider the information submitted pursuant to Section 65584.04(b). The City has several major unique constraints to the use of existing lands that severely limit or totally restrict the ability to accommodate growth to the extent identified.
- b. Methodology (Govt. Code § 65584.05(b)(2)). SCAG failed to determine the share of the regional housing need in accordance with the information described in, and the methodology established pursuant to Section 65584.04, and in a manner that furthers, and does not undermine, the intent of the objectives listed in Section 65584(d). The methodology fails to consider growth projections consistent with the SoCal Connect Plan, fails to equitably distribute residual units at a regional level, and fails to consider regional employment factors. The Final Draft Allocation for the City directly undermines Government Code Sections 65588(d)(1) and 65588(d)(2).
- c. Changed Circumstances (Govt. Code § 65584.05(b)(3)). A significant and unforeseen change in circumstances has occurred in the local jurisdiction or jurisdictions that merits a revision of the information submitted pursuant to Section 65584.04(b). The COVID-19 pandemic has had a demonstrable impact on the City's economy, as well as the economy of the region. The pandemic was unforeseen during the development of RHNA methodology and will have lasting impacts to the economy and housing market. Additionally, population growth trends in California have recently been revised to reflect a substantially lower rate of population growth in the region.

Section 2: The Community Development Director, or his designee, is directed to file the appeal of the City's RHNA Allocation of the Sixth Cycle in substantial conformance with the City of Newport Beach Appeal of the Sixth Cycle RHNA Allocation, which is attached hereto and incorporated herein by reference, and take any additional actions necessary to further the City's appeal of the RHNA Allocation.

Section 3: This appeal is consistent with, and not to the detriment of, the development pattern in the applicable sustainable communities' strategy (SCAG's Connect SoCal Plan) developed pursuant to California Government Code Section 65080(b)(2).

Section 4: The City Council is a strong advocate of the development of housing, including affordable housing, and of local control as the best means to protect the City, its residents and business owners, and promote the goals and priorities of the community. While the City is committed to contributing to its collective local, regional and state needs for housing, the City has demonstrated that its RHNA Allocation is unrealistic, excessive and based on faulty assumptions that can have grave consequences to the City and its residents. Therefore, the City respectfully objects to the RHNA Allocation and methodology used.

Section 5: The recitals provided in this resolution are true and correct and are incorporated into the operative part of this resolution.

Section 6: If any section, subsection, sentence, clause or phrase of this resolution is, for any reason, held to be invalid or unconstitutional, such decision shall not affect the validity or constitutionality of the remaining portions of this resolution. The City Council hereby declares that it would have passed this resolution, and each section, subsection, sentence, clause or phrase hereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid or unconstitutional.

Section 7: The City Council finds the adoption of this resolution is not subject to the California Environmental Quality Act ("CEQA") pursuant to Sections 15060(c)(2) (the activity will not result in a direct or reasonably foreseeable indirect physical change in the environment) and 15060(c)(3) (the activity is not a project as defined in Section 15378) of the CEQA Guidelines, California Code of Regulations, Title 14, Division 6, Chapter 3, because it has no potential for resulting in physical change to the environment, directly or indirectly.


Section 8. This resolution shall take effect immediately upon its adoption by the City Council, and the City Clerk shall certify the vote adopting the resolution.

ADOPTED this 13th day of October, 2020.



Will O'Neill
Mayor


ATTEST:



Leilani I. Brown
City Clerk



APPROVED AS TO FORM:
CITY ATTORNEY'S OFFICE



Aaron C. Harp
City Attorney

ATTACHMENT: City of Newport Beach Appeal of the Sixth Cycle Draft Regional Housing Needs Assessment (RHNA) Allocation

Attachment: Newport Beach Appeal and Supporting Documentation (Appeal of the Draft RHNA Allocation for the City of Newport Beach)

**DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
DIVISION OF HOUSING POLICY DEVELOPMENT**

2020 W. El Camino Ave
Sacramento, CA 95833-1829
916) 263-2911 FAX: (916) 263-7453
www.hcd.ca.gov



December 10, 2020

Kome Ajise, Executive Director
Southern California Association of Governments
900 Wilshire Boulevard, Suite 1700
Los Angeles, CA 90017

Dear Executive Director Ajise:

RE: Comment on Appeals of the Draft Regional Housing Need Allocation (RHNA) Plan

Thank you for the opportunity to comment on the 52 appeals Southern California Association of Governments (SCAG) has received regarding the draft RHNA plan. The appeal process is an important phase in the development of a RHNA plan that ensures that all relevant factors and circumstances are considered.

The only circumstances under which a jurisdiction can appeal are:

- 65584.05(b)(1): The council of governments failed to adequately consider the information regarding the factors listed in subdivision (e) of section 65584.04.
- 65584.05(b)(2): The council of governments failed to determine the share of the regional housing need in a manner that furthers the intent of the objectives listed in subdivision (d) of section 65584.
- 65584.05(b)(3): A significant unforeseen change in circumstances occurred in the local jurisdiction that merits a revision of the information submitted pursuant to subdivision (e) of Section 65584.04.

The California Department of Housing and Community Development (HCD) urges SCAG to only consider appeals that meet these criteria.

Per Government Code section 65584.05(e)(1), SCAG's final determination on whether to accept, reject, or modify any appeal must be accompanied by written findings, including how the final determination is based upon the adopted RHNA allocation methodology, and how any revisions are necessary to further the statutory objectives of RHNA described in Government Code section 65584(d).

Among the appeals based on Government Code section 65584.05(b)(1), several appeals state that SCAG failed to consider the factor described in Government Code section 65584.04(e)(2)(B), citing the lack of land suitable for development as a basis for the appeal. However, this section states the council of governments may not limit its consideration of suitable housing sites to existing zoning and land use restrictions and must consider the potential for increased development under alternative zoning and

land use restrictions. Any comparable data or documentation supporting this appeal should contain an analysis of not only land suitable for urban development, but land for conversion to residential use, the availability of underutilized land, and opportunity for infill development and increased residential densities. In simple terms, this means housing planning cannot be limited to vacant land, and even communities that view themselves as built out must plan for housing through means such as rezoning commercial areas as mixed-use areas and upzoning non-vacant land.

With regard to appeals submitted related to Government Code section 65584.05(b)(2), that SCAG failed to determine the RHNA in a manner that furthers the statutory objectives, it should be noted that HCD reviewed SCAG's draft allocation methodology and found that the draft RHNA allocation methodology furthered the statutory objectives described in Government Code section 65584.

Among the appeals based on Government Code section 65584.05(b)(2), several contend that the cap on units allocated to extremely disadvantaged communities (DACs) does not further RHNA's statutory objectives. This cap furthers the statutory objective to affirmatively further fair housing by allocating more units to high opportunity areas and fewer units to low resource communities, and concentrated areas of poverty with high levels of segregation. Due to the inclusion of this factor, as well as the use of TCAC/HCD Opportunity Maps, SCAG's methodology allocates 14 of the top 15 highest shares of lower-income RHNA to jurisdictions with over 99.95 percent High and Highest Resource areas. With the exceptions of two jurisdictions, the 31 jurisdictions with the highest share of lower-income RHNA are all over 95 percent High and Highest Resource areas. Any weakening of these inputs to the methodology could risk not fulfilling the statutory objective to affirmatively further fair housing.

Several appeals argue that SCAG's RHNA allocation methodology does not adequately promote access to jobs and transit, as required in objectives two and three. HCD's review of SCAG's RHNA methodology found the allocation does further the environmental principles of objective two. SCAG's overall allocation includes significant weight related to the location of high-quality transit areas and the regional distribution of jobs that can be accessed within a 30-minute driving commutes. Regarding objective three, HCD's analysis as to whether jobs-housing fit was furthered by SCAG's draft methodology found that across all jurisdictions there is generally good alignment between low-wage jobs and lower-income RHNA, with all but 15 jurisdictions within a half percent plus or minus difference between their share of lower-income RHNA for the region and their percentage low-wage jobs for the region.

Several appeals are based upon the provision described in Government Code section 65584.05(b)(3), arguing that the COVID-19 pandemic represents a significant and unforeseen change in circumstances that will affect future population and job growth. Ensuring everyone has a home is critical to public health. Reducing and preventing overcrowding and homelessness are essential concerns for every community. The COVID-19 pandemic has only increased the importance that each community is planning for sufficient affordable housing.

Lastly, several appeals state that the Regional Housing Needs Determination (RHND) HCD provided to the SCAG region is too large. SCAG submitted an objection to the RHND at the appropriate time and through the appropriate process. HCD considered those objections and [determined the final RHND for 6th Housing Element Cycle for the SCAG region on October 15, 2019](#). There are no further appeal procedures available to alter the SCAG region's RHND for this cycle. Government Code section 65584.05(b) does not allow local governments to appeal the RHND during the 45-day period following receipt of the draft allocation.

HCD acknowledges that many local governments will need to plan for more housing than in the prior cycle to accommodate a RHND that more fully captures the housing need and as the statutory objectives of RHNA shift more housing planning near jobs, transit, and resources. The Southern California region's housing crisis requires each jurisdiction to plan for the housing needs of their community and the region. In recognition of this effort there are more resources available than ever before to support jurisdictions as they prepare to update their 6th cycle housing elements:

- SB 2 Planning Grants – \$123 million one-time allocation to cities and counties
- SB 2 Planning Grants Technical Assistance offered to all jurisdictions
- Regional and Local Early Action Planning Grants – \$238 million one-time allocation for local and regional governments
- SB 2 Permanent Local Housing Allocation – approximately \$175 million annually in ongoing funding for local governments to increase affordable housing stock

If HCD can provide any additional assistance, or if you, or your staff, have any questions, please contact Megan Kirkeby, Deputy Director, megan.kirkeby@hcd.ca.gov.



Megan Kirkeby
Deputy Director



City of Whittier

13230 Penn Street, Whittier, California 90602-1716
(562) 567-9320 Fax (562) 567-2872 www.cityofwhittier.org

Electronically Transmitted to: Housing@scag.ca.gov

December 10, 2020

RHNA Appeals Committee
Southern California Association of Governments
900 Wilshire Blvd, Suite 1700
Los Angeles, CA 90017

SUBJECT: City of Whittier's Comments on Appeals to the Sixth Cycle Regional Housing Needs Assessment (RHNA) Allocation

Honorable Chair and Honorable Committee Members:

The City of Whittier ("City") appreciates the challenges that are inherent in allocating 1,341,827 housing units by the thousands (a 226% increase above the baseline 412,137 unit) to cities across Southern California, especially in built-out cities. However, the City is deeply concerned its housing allocation of 3,431 units from the State Department of Housing and Community Development ("HCD") and the Southern California Association of Government's ("SCAG") unit distribution methodology, along with recent housing legislation will fundamentally abridge the City's ability to develop effective land-use policies that are appropriate for managing the community's actual needs. The 878 units in the 5th cycle RHNA allocation has been increased by 290% to 3,431 units in the current 6th cycle. Particularly challenging in the 6th cycle, is the number of low and very low-income units (1,558) which combined with the moderate and above moderate unit totals forces unplanned and unnecessary residential densification of the community.

The affordable units are an unfunded mandate with very limited regional or State financial support for their development. Considering the affordable housing subsidies typically range from \$50,000 to \$250,000 per unit, the overall funding requirements could range from \$78,000,000 to \$390,000,000 which is clearly beyond the reach of the City of Whittier in that the City's general fund budget is just \$72,000,000 which already include \$2,000,000 annually to house the City's unsheltered residents in transitional housing. Additionally, the City only receives 7.5% of each property tax dollar to provide general services including police and library services.

The City is currently in the process of updating its Housing Element as well as the General Plan to incorporate the current RHNA allocation, so Whittier is acutely aware of the various housing needs as well as the potential obstacles, such as aging infrastructure and unplanned density, to creating the requisite housing within a city that

Attachment: Comments Received during the Comment Period (Appeal of the Draft RHNA Allocation for the City of Newport Beach)

is essentially built out. The changes in the State's housing laws (SB 35, SB 166 and AB 1397) have created additional constraints for the agencies and may severely impact the City's ability to accomplish our regional and local housing goals.

Since development in Whittier began more than 130 years ago, the City is virtually built-out with little developable vacant land outside of its designated open space areas that are dedicated to accommodating existing and future residents. While the City has made significant efforts through its specific plans to densify existing corridors and districts, the majority of Whittier's remaining single-family residential neighborhoods cannot accommodate similar densification. Furthermore, the hills north of Whittier contain regional open space, sensitive habitat and wildlife areas that must be preserved in perpetuity. There are also significant infrastructure and water service constraints that impact Whittier's ability to produce significantly more housing. Although these facts may not be desirable, they must be pragmatically accounted for and mitigated by not further increasing Whittier's share of housing units contained in SCAG's 6th Cycle RHNA. The final RHNA allocation and methodology must be fair and equitable while reflecting the capacity for reasonable housing unit construction.

As with many other cities, the City is concerned about the current allocation, but an even greater concern is that additional units may be applied to the City if reallocated from cities that are successful in their appeals. To that end, the City believes the appeal process itself was unclear as to the potential ramifications to other cities and not fully understood.

Although we fully support the surrounding cities in their appeals, the potential for additional units being applied to the City would exacerbate the problems described herein and in Whittier's September 13, 2019 letter to SCAG.

Should you have any questions, please do not hesitate to contact me.

Sincerely,



Jeffery S. Adams
Director of Community Development

File

From: Christopher Koontz <Christopher.Koontz@longbeach.gov>
Sent: Thursday, December 3, 2020 11:14 AM
To: Regional Housing
Subject: RHNA Appeals

Categories: Response Required, Record

Good morning,

The purpose of this email is to provide the City of Long Beach’s position in regards to pending RHNA appeals before SCAG. The City of Long Beach seeks to meet its housing needs and obligations for the benefit of Long Beach residents and the region. Our allocation was extremely large and presents a planning and financing challenge for the City. Nonetheless we chose not to appeal our allocation because the allocation process was fair and transparent including taking the City of Long Beach’s input into consideration.

We oppose and will not accept any transfer of additional allocation due to the pending appeals. We note that within our area, the Gateway COG, appeals are pending from Bellflower, Cerritos, Downey, Huntington Park, La Mirada, Lakewood, Pico Rivera, and South Gate. Each of these appeals should be evaluated by SCAG on the merits, however Long Beach opposes any transfer of allocation to our City. It would be inappropriate to transfer a further burden to Long Beach when we have already accepted a large allocation and have done more than many cities in the region to accommodate housing growth under the current RHNA cycle, including fully meeting our market-rate RHNA allocation.

The City of Long Beach will continue to work with SCAG and our neighbor jurisdictions to address the housing needs of our residents.

We thank you for consideration and please do not hesitate to contact the City regarding our position.

Christopher Koontz, AICP
Deputy Director

Development Services
411 W. Ocean Blvd., 3rd Floor | Long Beach, CA 90802
Office: 562.570.6288 | Fax: 562.570.6068

