

4.0 MITIGATION MEASURES

Since publication of the Final PEIR, SCAG received comments and suggestions to clarify and amplify mitigation measures included in the Final PEIR. SCAG has comprehensively reviewed the mitigation measures and determined in some places, modifications to the mitigation measures is appropriate. These changes are presented below in ~~striketrough~~/underline.

The revised mitigation measures would not result in the need to prepare a supplemental or subsequent PEIR as they would not be considered new information under Guidelines section 15162:

The clarifications to mitigation measures do not represent new information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the PEIR was certified and they do **not** indicate any of the following:

- (A) The project will have one or more significant effects not discussed in the previous EIR or negative declaration;
- (B) Significant effects previously examined will be substantially more severe than shown in the previous EIR;
- (C) Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; and/or
- (D) Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative.

In general, these revised mitigation measures, expand and clarify the existing mitigation measures, providing additional detail where appropriate.

3.2 Agriculture and Forestry

SMM AG-1: SCAG shall host a Natural & Farmlands Conservation Working Group which will provide a forum for stakeholders to share best practices and develop recommendations for natural and agricultural land conservation throughout the region, including the

development ~~and implementation of Connect SoCal's of a Natural and Farm Lands Conservation Strategy for the Connect SoCal Plan.ies.~~

- SMM AG-2:** SCAG shall develop a Regional Greenprint, which is a strategic web-based conservation tool that provides the best available scientific data and scenario visualizations to help cities, counties and transportation agencies make better land use and transportation infrastructure decisions and conserve natural and farm lands. ~~expand on the Natural Resource Inventory Database and Conservation Framework & Assessment by incorporating strategic mapping layers to build the database and further refine the priority conservation areas by (1) further investing in mapping and farmland data tracking and (2) working with County Transportation Commissions (CTCs) and SCAG's subregions to support their county level efforts at data building.~~ SCAG shall use the Greenprint to identify priority conservation areas and work with ~~SCAG shall encourage~~ CTCs to develop advanced mitigation programs or include them in future transportation measures by (1) funding pilot programs that encourage advance mitigation including data and replicable processes, (2) participating in state-level efforts that would support regional advanced mitigation planning in the SCAG region, and (3) supporting the inclusion of advance mitigation programs at county level transportation measures.
- SMM AG-3:** SCAG shall align with funding opportunities and pilot programs to begin implementation of conservation strategies through (1) seeking planning and implementation funds, such as Greenhouse Gas Reduction Funds cap and trade auction proceeds that could advance local action on acquisition and restoration projects locally and regionally, (2) supporting CTCs and other partners, and (3) continuing policy alignment with the State Wildlife Action Plan 2015 Update and its implementation.
- SMM AG-4:** SCAG shall provide incentives to jurisdictions that cooperate across county lines to protect and restore natural habitat corridors, especially where corridors cross county boundaries, as detailed in the Natural & Farmlands ~~Appendix-Technical Report~~ strategies of Connect SoCal. SCAG will work with stakeholders to identify incentives and leverage resources that help protect habitat corridors.

3.3 Air Quality

- PMM AQ-1:** In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation

measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Minimize land disturbance.
- b. Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.
- c. Cover trucks when hauling dirt.
- d. Stabilize the surface of dirt piles if not removed immediately.
- e. Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
- f. Minimize unnecessary vehicular and machinery activities.
- g. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
- h. Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.
- i. On Caltrans projects, Caltrans Standard Specifications 10-Dust Control, 17-Watering, and 18-Dust Palliative shall be incorporated into project specifications.
- j. Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet. Daily logging of the operating hours of the equipment should also be required.
- k. Ensure that all construction equipment is properly tuned and maintained.
- l. Minimize idling time to 5 minutes or beyond regulatory requirements —saves fuel and reduces emissions.
- m. Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
- n. Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.

- o. Develop a traffic plan to minimize community impacts as a result of traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites. Project sponsors should consider developing a goal for the minimization of community impacts.
- p. As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, with the exception of on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.
- q. Require projects to use Tier 4 Final equipment or better for all engines above 50 horsepower (hp). In the event that construction equipment cannot meet to Tier 4 Final engine certification, the Project representative or contractor must demonstrate through future study with written findings supported by substantial evidence that is approved by SCAG before using other technologies/strategies. Alternative applicable strategies may include, but would not be limited to, construction equipment with Tier 4 Interim or reduction in the number and/or horsepower rating of construction equipment and/or limiting the number of construction equipment operating at the same time. All equipment must be tuned and maintained in compliance with the manufacturer's recommended maintenance schedule and specifications. All maintenance records for each equipment and their contractor(s) should make available for inspection and remain on-site for a period of at least two years from completion of construction, unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds. Project sponsors should also consider including ZE/ZNE technologies where appropriate and feasible.
- r. Projects located within the South Coast Air Basin should consider applying for South Coast AQMD "SOON" funds which provides funds to applicable fleets for the purchase of commercially available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles.
- s. Projects located within AB 617 communities should review the applicable Community Emissions Reduction Plan (CERP) for additional mitigation that can be applied to individual projects.
- t. Where applicable, projects should provide information about air quality related programs to schools, including the Environmental Justice Community Partnerships (EJCP), Clean Air Ranger Education (CARE), and Why Air Quality Matters programs.

- u. Projects should work with local cities and counties to install adequate signage that prohibits truck idling in certain locations (e.g., near schools and sensitive receptors).
- v. As applicable for airport projects, the following measures should be considered:
 - Considering operational improvements to reduce taxi time and auxiliary power unit usage, where feasible. Additionally, consider single engine taxiing, if feasible as allowed per Federal Aviation Administration guidelines.
 - Set goals to achieve a reduction in emissions from aircraft operations over the lifetime of the proposed project.
 - Require the use of ground service equipment (GSE) that can operate on battery-power. If electric equipment cannot be obtained, require the use of alternative fuel, the cleanest gasoline equipment, or Tier 4, at a minimum.
- w. As applicable for port projects, the following measures should be considered:
 - Develop specific timelines for transitioning to zero emission cargo handling equipment (CHE).
 - Develop interim performance standards with a minimum amount of CHE replacement each year to ensure adequate progress.
 - Use short side electric power for ships, which may include tugboats and other ocean-going vessels or develop incentives to gradually ramp up the usage of shore power.
 - Install the appropriate infrastructure to provide shore power to operate the ships. Electrical hookups should be appropriately sized.
 - Maximize participation in the Port of Los Angeles' Vessel Speed Reduction Program or the Port of Long Beach's Green Flag Initiation Program in order to reduce the speed of vessel transiting within 40 nautical miles of Point Fermin.
 - Encourage the participation in the Green Ship Incentives.
 - Offer incentives to encourage the use of on-dock rail.
- x. As applicable for rail projects, the following measures should be considered:
 - Provide the highest incentives for electric locomotives and then locomotives that meet Tier 5 emission standards with a floor on the incentives for locomotives that meet Tier 4 emission standards.
- y. Projects that will introduce sensitive receptors within 500 feet of freeways and other sources should consider installing high efficiency of enhanced filtration units, such as

Minimum Efficiency Reporting Value (MERV) 13 or better. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit.

- z. Develop an ongoing monitoring, inspection, and maintenance program for the MERV filters.
 - Disclose potential health impacts to prospective sensitive receptors from living in close proximity to freeways or other sources of air pollution and the reduced effectiveness of air filtration systems when windows are open or residents are outside.
 - Identify the responsible implementing and enforcement agency to ensure that enhanced filtration units are installed on-site before a permit of occupancy is issued.
 - Disclose the potential increase in energy costs for running the HVAC system to prospective residents.
 - Provide information to residents on where MERV filters can be purchased.
 - Provide recommended schedule (e.g., every year or every six months) for replacing the enhanced filtration units.
 - Identify the responsible entity such as future residents themselves, Homeowner’s Association, or property managers for ensuring enhanced filtration units are replaced on time.
 - Identify, provide, and disclose ongoing cost-sharing strategies, if any, for replacing the enhanced filtration units.
 - Set criteria for assessing progress in installing and replacing the enhanced filtration units; and
 - Develop a process for evaluating the effectiveness of the enhanced filtration units.
- aa. Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities.
- bb. The following criteria related to diesel emissions shall be implemented on by individual project sponsors as appropriate and feasible:
 - Diesel nonroad vehicles on site for more than 10 total days shall have either (1) engines that meet EPA on road emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.

- Diesel generators on site for more than 10 total days shall be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.
- Nonroad diesel engines on site shall be Tier 2 or higher.
- Diesel nonroad construction equipment on site for more than 10 total days shall have either (1) engines meeting EPA Tier 4 nonroad emissions standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines for 50 hp and greater and by a minimum of 20% for engines less than 50 hp.
- Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.
- Diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend approved by the original engine manufacturer with sulfur content of 15 ppm or less.
- The construction contractor shall maintain a list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following:
 - i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment.
 - ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation.
 - iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.
- The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.
- The contractor shall maintain a monthly report that, for each on road diesel vehicle, nonroad construction equipment, or generator onsite, includes:

- i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date.
 - ii. Any problems with the equipment or emission controls.
 - iii. Certified copies of fuel deliveries for the time period that identify:
 1. Source of supply
 2. Quantity of fuel
 3. Quantity of fuel, including sulfur content (percent by weight)
- cc. Project should exceed Title-24 Building Envelope Energy Efficiency Standards (California Building Standards Code). The following measures can be used to increase energy efficiency:
- Install programmable thermostat timers
 - Obtain Third-party HVAC commissioning and verification of energy savings (to be grouped with exceedance of Title 24).
 - Install energy efficient appliances (Typical reductions for energy-efficient appliances can be found in the *Energy Star and Other Climate Protection Partnerships* Annual Reports.)
 - Install higher efficacy public street and area lighting
 - Limit outdoor lighting requirements
 - Replace traffic lights with LED traffic lights
 - Establish onsite renewable or carbon neutral energy systems – generic, solar power and wind power
 - Utilize a combined heat and power system
 - Establish methane recovery in Landfills and Wastewater Treatment Plants.
 - Locate project near bike path/bike lane
 - Provide pedestrian network improvements, such as interconnected street network, narrower roadways and shorter block lengths, sidewalks, accessibility to transit and transit shelters, traffic calming measures, parks and public spaces, minimize pedestrian barriers.
 - Provide traffic calming measures, such as:

- i. Marked crosswalks
 - ii. Count-down signal timers
 - iii. Curb extensions
 - iv. Speed tables
 - v. Raised crosswalks
 - vi. Raised intersections
 - vii. Median islands
 - viii. Tight corner radii
 - ix. Roundabouts or mini-circles
 - x. On-street parking
 - xi. Chicanes/chokers
- Create urban non-motorized zones
 - Provide bike parking in non-residential and multi-unit residential projects
 - Dedicate land for bike trails
 - Limit parking supply through:
 - i. Elimination (or reduction) of minimum parking requirements
 - ii. Creation of maximum parking requirements
 - iii. Provision of shared parking
 - Require residential area parking permit.
 - Provide ride-sharing programs
 - i. Designate a certain percentage of parking spacing for ride sharing vehicles
 - ii. Designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles
 - iii. Providing a web site or messaging board for coordinating rides

- iv. Permanent transportation management association membership and finding requirement.

3.4 Biological Resources

SMM BIO-1: SCAG shall facilitate reducing future impacts to species identified as a candidate, sensitive, or special status species and its habitats through cooperation, information sharing, and program development. SCAG shall consult with the resource agencies, such as the USFWS, NMFS, USACE, USFS, BLM, and CDFW, as well as local jurisdictions including cities and counties, to incorporate designated critical habitat, federally protected wetlands, the protection of sensitive natural communities and riparian habitats, designated open space or protected wildlife habitat, local policies and tree preservation ordinances, applicable HCPs and NCCPs, or other related planning documents into SCAG's ongoing regional planning efforts and programs such as, ~~such as~~ web-based planning tools for local government including CA LOTS, and other GIS tools and data services, including, but not limited to, Map Gallery, GIS library, and GIS applications, and direct technical assistance efforts and sharing of associated online Training materials. Planning efforts shall be consistent with the approach outlined in the California Wildlife Action Plan. Additionally, SCAG's shall vet and distribute environmental data (i.e., endangered species and important habitat areas) to local jurisdictions.

SMM BIO-2: SCAG shall continue to develop a regional conservation strategy in coordination with local jurisdictions and other stakeholders, including the county transportation commissions. The conservation strategy will build upon existing efforts including those at the sub-regional and local levels to identify potential priority conservation areas. ~~SCAG shall develop new regional tools, like the Regional Data Platform and Regional Greenprint to help local jurisdictions identify areas well suited for infill and redevelopment as well as critical habitat and natural lands to be preserved, including natural habitat corridors.~~ SCAG will also collaborate with stakeholders to establish a new Regional Advanced Mitigation Program (RAMP) initiative to preserve habitat. The RAMP would establish and/or supplement regional conservation and mitigation banks and/or other approaches to offset the impacts of transportation and other development projects.

~~To assist in defining the RAMP, SCAG shall lead a multi-year effort to SCAG shall develop new regional tools, like the Regional Data Platform and Regional Greenprint that will provide an easily accessible resource to help municipalities, conservation groups, developers and researchers prioritize lands for conservation based on best available scientific data. The Regional Greenprint effort shall also produce a whitepaper on the RAMP initiative, which includes approaches for the RAMP in the SCAG region, needed science and analysis, models, challenges and opportunities and recommendations. will be supplemental initiative to regional conservation and mitigation banks and other approaches by evaluating, advocating and highlighting projects that support per capita VMT reduction.~~

SMM BIO-3: SCAG shall coordinate with Caltrans and encourage and facilitate research, programs and policies to identify, protect and restore natural habitat corridors, especially where corridors cross county boundaries. Additionally, continue support for preserving wildlife corridors and wildlife crossings to minimize the impact of transportation projects on wildlife species and habitat fragmentation. SCAG shall disseminate key information related to the preservation and implementation of wildlife corridors and crossings by showcasing best practices at SCAG's Natural Lands Working Groups. SCAG shall also distribute wildlife corridors and crossings data to local jurisdictions, so they may incorporate said data into their general plans, as applicable.

PMM BIO-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to threatened and endangered species, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Require project design to avoid occupied habitat, potentially suitable habitat, and designated critical habitat, wherever practicable and feasible.
- b. Where avoidance is determined to be infeasible, provide conservation measures to fulfill the requirements of the applicable authorization for incidental take pursuant to Section 7 or 10(a) of the federal ESA, Section 2081 of the California ESA to support issuance of an incidental take permit, and/or as identified in local or regional plans. Conservation strategies to protect the survival and recovery of federally and state-listed endangered and local special status species may include:
 - i. Impact minimization strategies

- ii. Contribution of in-lieu fees for in-kind conservation and mitigation efforts
 - iii. Use of in-kind mitigation bank credits
 - iv. Funding of research and recovery efforts
 - v. Habitat restoration
 - vi. Establishment of conservation easements
 - vii. Permanent dedication of in-kind habitat
- c. Design projects to avoid desert native plants protected under the California Desert Native Plants Act, salvage and relocate desert native plants, and/or pay in lieu fees to support off-site long-term conservation strategies.
- d. Temporary access roads and staging areas will not be located within areas containing sensitive plants, wildlife species or native habitat wherever feasible, so as to avoid or minimize impacts to these species.
- e. Develop and implement a Worker Environmental Awareness Program (environmental education) to inform project workers of their responsibilities to avoid and minimize impacts on sensitive biological resources.
- f. Retain a qualified botanist to document the presence or absence of special status plants before project implementation.
- g. Appoint a qualified biologist to monitor construction activities that may occur in or adjacent to occupied sensitive species' habitat to facilitate avoidance of resources not permitted for impact.
- h. Appoint a qualified biologist to monitor implementation of mitigation measures.
- i. Schedule construction activities to avoid sensitive times for biological resources (e.g. steelhead spawning periods during the winter and spring, nesting bird season) and to avoid the rainy season when erosion and sediment transport is increased.
- j. Develop an invasive species control plan associated with project construction.
- k. If construction occurs during breeding seasons in or adjacent to suitable habitat, include appropriate sound attenuation measures required for sensitive avian species and other best management practices appropriate for potential local sensitive wildlife.
- l. Conduct pre-construction surveys to delineate occupied sensitive species' habitat to facilitate avoidance.

- m. Where projects are determined to be within suitable habitat and may impact listed or sensitive species that have specific field survey protocols or guidelines outlined by the USFWS, CDFW, or other local agency, conduct preconstruction surveys that follow applicable protocols and guidelines and are conducted by qualified and/or certified personnel.
- n. Project design should address the protection of habitat on both sides of a freeway to improve effectiveness of the crossings.
- o. Project sponsors shall consider the impacts of nitrogen deposition on sensitive species.

PMM BIO-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to riparian habitats and other sensitive natural communities, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Consult with the USFWS and NMFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA.
- b. Consult with the USFS where such state-designated sensitive or riparian habitats provide potential or occupied habitat for federally listed rare, threatened, and endangered species afforded protection pursuant to the federal ESA and any additional species afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-county area: Angeles, Cleveland, Los Padres, and San Bernardino.
- c. Consult with the CDFW where such state-designated sensitive or riparian habitats provide potential or occupied habitat for state-listed rare, threatened, and endangered species afforded protection pursuant to the California ESA, or Fully Protected Species afforded protection pursuant to the State Fish and Game Code.
- d. Consult with the CDFW pursuant to the provisions of Section 1600 of the State Fish and Game Code as they relate to Lakes and Streambeds.
- e. Consult with the USFWS, USFS, CDFW, and counties and cities in the SCAG region, where state-designated sensitive or riparian habitats are occupied by birds afforded protection pursuant to the MBTA during the breeding season.
- f. Consult with the CDFW for state-designated sensitive or riparian habitats where furbearing mammals, afforded protection pursuant to the provisions of the State Fish and Game Code for fur-bearing mammals, are actively using the areas in conjunction with breeding activities.

- g. Require project design to avoid sensitive natural communities and riparian habitats, wherever practicable and feasible. Where practicable and feasible, require upland buffers that sufficiently minimize impacts to riparian corridors.
- h. Where avoidance is determined to be infeasible, develop sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) to protect sensitive natural communities and riparian habitats and develop appropriate compensatory mitigation, where required.
- i. Appoint a qualified wetland biologist to monitor construction activities that may occur in or adjacent to sensitive communities.
- j. Appoint a qualified wetland biologist to monitor implementation of mitigation measures.
- k. Schedule construction activities to avoid sensitive times for biological resources and to avoid the rainy season when erosion and sediment transport is increased.
- l. When construction activities require stream crossings, schedule work during dry conditions and use rubber-wheeled vehicles, when feasible. Have a qualified wetland scientist determine if potential project impacts require a Notification of Lake or Streambed Alteration to CDFW during the planning phase of projects.
- m. Consult with local agencies, jurisdictions, and landowners where such state-designated sensitive or riparian habitats are afforded protection pursuant an adopted regional conservation plan.
- n. Install fencing and/or mark sensitive habitat to be avoided during construction activities.
- o. Salvage and stockpile topsoil (the surface material from 6 to 12 inches deep) and perennial native plants, when recommended by the qualified wetland biologist, for use in restoring native vegetation to areas of temporary disturbance within the project area. Salvage of soils containing invasive species, seeds and/or rhizomes will be avoided as identified by the qualified wetland biologist.
- p. Revegetate with appropriate native vegetation following the completion of construction activities, as identified by the qualified wetland biologist.
- q. Complete habitat enhancement (e.g., through removal of non-native invasive wetland species and replacement with more ecologically valuable native species).
- r. Use Best Management Practices (BMPs) at construction sites to minimize erosion and sediment transport from the area. BMPs include encouraging growth of native vegetation in disturbed areas, using straw bales or other silt-catching devices, and using settling basins to minimize soil transport.

PMM BIO-4: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to wildlife movement, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Consult with the USFS where impacts to migratory wildlife corridors may occur in an area afforded protection by an adopted Forest Land Management Plan or Resource Management Plan for the four national forests in the six-County area: Angeles, Cleveland, Los Padres, and San Bernardino.
- b. Consult with counties, cities, and other local organizations when impacts may occur to open space areas that have been designated as important for wildlife movement related to local ordinances or conservation plans.
- c. Prohibit construction activities within 500 feet of occupied breeding areas for wildlife afforded protection pursuant to Title 14 § 460 of the California Code of Regulations protecting fur-bearing mammals, during the breeding season.
- d. Conduct a survey to identify active raptor and other migratory nongame bird nests by a qualified biologist at least two weeks before the start of construction at project sites from February 1 through August 31.
- e. Prohibit construction activities within 300 feet of occupied nest of birds afforded protection pursuant to the Migratory Bird Treaty Act, during the breeding season.
- f. Ensure that suitable nesting sites for migratory nongame native bird species protected under the Migratory Bird Treaty Act and/or trees with unoccupied raptor nests should only be removed prior to February 1 or following the nesting season.
- g. When feasible and practicable, proposed projects will be designed to minimize impacts to wildlife movement and habitat connectivity and preserve existing and functional wildlife corridors.
- h. Conduct site-specific analyses of opportunities to preserve or improve habitat linkages with areas on- and off-site.
- i. Long linear projects with the possibility of impacting wildlife movement should analyze habitat linkages/wildlife movement corridors on a broad scale to avoid critical narrow choke points that could reduce function of recognized movement corridor.
- j. Require review of construction drawings and habitat connectivity mapping by a qualified biologist to determine the risk of habitat fragmentation.

- k. Pursue mitigation banking to preserve habitat linkages and corridors (opportunities to purchase, maintain, and/or restore offsite habitat).
- l. When practicable and feasible design projects to promote wildlife corridor redundancy by including multiple connections between habitat patches.
- m. Evaluate the potential for installation of overpasses, underpasses, and culverts to create wildlife crossings in cases where a roadway or other transportation project may interrupt the flow of species through their habitat. Retrofitting of existing infrastructure in project areas should also be considered for wildlife crossings for purposes of mitigation.
- n. Install wildlife fencing where appropriate to minimize the probability of wildlife injury due to direct interaction between wildlife and roads or construction.
- o. Where avoidance is determined to be infeasible, design sufficient conservation measures through coordination with local agencies and the regulatory agency (i.e., USFWS or CDFW) and in accordance with the respective counties and cities general plans to establish plans to mitigate for the loss of fish and wildlife movement corridors and/or wildlife nursery sites. The consideration of conservation measures may include the following measures, in addition to the measures outlined in MM-BIO-1(b), where applicable:
 - Wildlife movement buffer zones
 - Corridor realignment
 - Appropriately spaced breaks in center barriers
 - Stream rerouting
 - Culverts
 - Creation of artificial movement corridors such as freeway under- or overpasses
 - Other comparable measures
- p. Where the lead agency has identified that a RTP/SCS project, or other regionally significant project, has the potential to impact other open space or nursery site areas, seek comparable coverage for these areas in consultation with the USFWS, CDFW, NMFS, or other local jurisdictions.
- q. Incorporate applicable and appropriate guidance (e.g. FHWA-HEP-16-059), as well as best management practices, to benefit pollinators with a focus on native plants.
- r. Implement berms and sound/sight barriers at all wildlife crossings to encourage wildlife to utilize crossings. Sound and lighting should also be minimized in

developed areas, particularly those that are adjacent to or go through natural habitats.

- s. Reduce lighting impacts on sensitive species through implementation of mitigation measures such as, but not limited to:
- Use high pressure sodium and/or cut-off fixtures instead of typical mercury-vapor fixtures for outdoor lighting.
 - Design exterior lighting to confine illumination to the project site
 - Provide structural and/or vegetative screening from light-sensitive uses.
 - Use non-reflective glass or glass treated with a non-reflective coating for all exterior windows and glass used on building surfaces.
 - Architectural lighting shall be directed onto the building surfaces and have low reflectivity to minimize glare and limit light onto adjacent properties.
- t. Reduce noise impacts to sensitive species through implementation of mitigation measures such as, but not limited to:
- Install temporary noise barriers during construction.
 - Include permanent noise barriers and sound-attenuating features as part of the project design. Barriers could be in the form of outdoor barriers, sound walls, buildings, or earth berms to attenuate noise at adjacent sensitive uses.
 - Ensure that construction equipment are properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds silencers, wraps). All intake and exhaust ports on power equipment shall be muffled or shielded.
 - Use hydraulically or electrically powered tools (e.g., jack hammers, pavement breakers, and rock drills) for project construction to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust should be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves should be used, if such jackets are commercially available, and this could achieve a further reduction of 5 dBA. Quieter procedures should be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.
 - Using rubberized asphalt or "quiet pavement" to reduce road noise for new roadway segments, roadways in which widening or other modifications

- require re-pavement, or normal reconstruction of roadways where re-pavement is planned
- Use equipment and trucks with the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible) for project construction.
- Use techniques such as grade separation, buffer zones, landscaped berms, dense plantings, sound walls, reduced-noise paving materials, and traffic calming measures.
- u. Require large buffers between sensitive uses and freeways.
- v. Create corridor redundancy to help retain functional connectivity and resilience.

3.8 Greenhouse Gas Emissions

SMM GHG-1: SCAG, in partnership with local air districts, shall continue to work with the counties and cities to adopt qualified GHG reduction plans (e.g., climate action plans [CAPs]), develop GHG-reducing planning policies, and implement local climate initiatives. These reductions can be achieved through a combination of programs that implement plans developed collaboratively, including ZNE in new construction, retrofits of existing buildings, incentivizing the development of renewable energy sources that serve both new and existing land uses, as well as measures to reduce GHG emissions from transportation sources.

Additionally, SCAG shall continue to update the Green Region Initiative (GRI) Sustainability Indicators Mapping tool, which serves as an interactive information resource for jurisdictions within the SCAG region to measure and track sustainability progress in the region across 12 categories and 29 sustainability indicators. The tool fosters collaboration through the sharing of best practices across the 191 cities and six counties in the SCAG region, and identifies opportunities for improving sustainability practices (due to the recent inclusion of SB 535 Disadvantaged Communities data).

SMM GHG-3: SCAG shall continue supporting deployment of zero-emission (ZEV) vehicles and ZEV infrastructure in the region through its Clean Cities Program and Electric Vehicle (EV) Program. This will include working with partners including such as universities, utilities, regulating agencies, the private sector, national laboratories and the US Department of Energy, and NGO's, and member agencies to support deployment of electric vehicle

(EV) charging in the region to share information, resources, and data, to showcase best practices, and to provide support or teaming arrangements to help bring funding, projects, or other resources to the region. SCAG shall also support member agencies and other stakeholders in making decisions about and removing barriers to ZEV infrastructure. Potential deliverables include, but are not limited to:

- EV Charging Station Studies
- On-going webinars, meetings, outreach and GRI data to support AB1236 compliance and the forthcoming Hydrogen Permitting Guidebook.

SCAG shall also create the framework for a program to identify funding and provide rebates and/or other funding for light duty ZEVs and supportive infrastructure.

PMM GHG-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to greenhouse gas emissions, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Integrate green building measures consistent with CALGreen (California Building Code Title 24), local building codes and other applicable laws, into project design including:
 - i. Use energy efficient materials in building design, construction, rehabilitation, and retrofit.
 - ii. Install energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems.
 - iii. Reduce lighting, heating, and cooling needs by taking advantage of light-colored roofs, trees for shade, and sunlight.
 - iv. Incorporate passive environmental control systems that account for the characteristics of the natural environment.
 - v. Use high-efficiency lighting and cooking devices.
 - vi. Incorporate passive solar design.
 - vii. Use high-reflectivity building materials and multiple glazing.
 - viii. Prohibit gas-powered landscape maintenance equipment.

- ix. Install electric vehicle charging stations.
 - x. Reduce wood burning stoves or fireplaces.
 - xi. Provide bike lanes accessibility and parking at residential developments.
- b. Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the *State CEQA Guidelines*.
- c. Include off-site measures to mitigate a project's emissions.
- d. Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to:
- i. Use energy and fuel-efficient vehicles and equipment;
 - ii. Deployment of zero- and/or near zero emission technologies;
 - iii. Use lighting systems that are energy efficient, such as LED technology;
 - iv. Use the minimum feasible amount of GHG-emitting construction materials;
 - v. Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
 - vi. Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;
 - vii. Incorporate design measures to reduce energy consumption and increase use of renewable energy;
 - viii. Incorporate design measures to reduce water consumption;
 - ix. Use lighter-colored pavement where feasible;
 - x. Recycle construction debris to maximum extent feasible;
 - xi. Plant shade trees in or near construction projects where feasible; and
 - xii. Solicit bids that include concepts listed above.
- e. Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following:
- i. Promote transit-active transportation coordinated strategies;

- ii. Increase bicycle carrying capacity on transit and rail vehicles;
- iii. Improve or increase access to transit;
- iv. Increase access to common goods and services, such as groceries, schools, and day care;
- v. Incorporate affordable housing into the project;
- vi. Incorporate the neighborhood electric vehicle network;
- vii. Orient the project toward transit, bicycle and pedestrian facilities;
- viii. Improve pedestrian or bicycle networks, or transit service;
- ix. Provide traffic calming measures;
- x. Provide bicycle parking;
- xi. Limit or eliminate park supply through:
 - i. Elimination (or reduction) of minimum parking requirements
 - ii. Creation of maximum parking requirements
 - iii. Provision of shared parking.
- xii. Unbundle parking costs;
- xiii. Provide parking cash-out programs;
- xiv. Implement or provide access to commute reduction program;
- f. Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;
- g. Improving transit access to rail and bus routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and
- h. Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that:
 - i. Provide car-sharing, bike sharing, and ride-sharing programs;
 - ii. Provide transit passes;

- iii. Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services;
 - iv. Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle;
 - v. Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms;
 - vi. Provide employee transportation coordinators at employment sites;
 - vii. Provide a guaranteed ride home service to users of non-auto modes.
- i. Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
 - j. Land use siting and design measures that reduce GHG emissions, including:
 - i. Developing on infill and brownfields sites;
 - ii. Building compact and mixed-use developments near transit;
 - iii. Retaining on-site mature trees and vegetation, and planting new canopy trees;
 - iv. Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and
 - v. Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling, composting, and reuse.
 - k. Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible.
 - l. Require at least five percent of all vehicle parking spaces include electric vehicle charging stations, or at a minimum, require the appropriate infrastructure to facilitate sufficient electric charging for passenger vehicles and trucks to plug-in.
 - m. Encourage telecommuting and alternative work schedules, such as:
 - i. Staggered starting times
 - ii. Flexible schedules

- iii. Compressed work weeks
- n. Implement commute trip reduction marketing, such as:
 - i. New employee orientation of trip reduction and alternative mode options
 - ii. Event promotions
 - iii. Publications
- o. Implement preferential parking permit program
- p. Implement school pool and bus programs
- q. Price workplace parking, such as:
 - i. Explicitly charging for parking for its employees;
 - ii. Implementing above market rate pricing;
 - iii. Validating parking only for invited guests;
 - iv. Not providing employee parking and transportation allowances; and
 - v. Educating employees about available alternatives.

3.11 Land Use and Planning

SMM LU-2: SCAG shall continue to promote the Intergovernmental Review (IGR) Program as an internal and external informational tool by reviewing and monitoring all projects submitted to SCAG for review and working with local jurisdictions to ensure that submitted projects support the most currently adopted Connect SoCal Plan. SCAG shall ~~provide~~ submit comment letters on regionally significant projects to provide policies and goals from Connect SoCal, recommend the application of project-level mitigation measures from the Connect SoCal PEIR and provide additional resources to help the lead agency support or develop ~~a~~ projects that are consistent with the Plan, as appropriate. The IGR Mapping Tool can also be utilized by local jurisdictions to assess regional impacts. To visit the IGR Mapping tool, please go to: <https://maps.scag.ca.gov/IGR/>. For more information on SCAG's IGR Program, please visit: <http://www.scag.ca.gov/programs/Pages/IGR.aspx>.

3.17 Transportation, Traffic, and Safety

SMM TRA-1: SCAG shall facilitate minimizing VMT and related vehicular delay by minimizing impacts to circulation and access, improve mobility, and encourage transit use and Active Transportation via workshops (i.e., Mobility 21 workshop and Regional Transportation Workgroups) and web-based planning tools for local governments, forums with policy makers, and County Transportation Commissions, Planning Agencies, member cities, and state partners.

SMM TRA-2: SCAG shall identify further reduction in VMT set forth by CARB, and fuel consumption that could be obtained through land-use strategies, additional car-sharing programs with linkage to public transportation, additional vanpools, additional bicycle sharing and parking programs, and implementation of a universal employee transit access pass (TAP) program.

SMM TRA-3: SCAG shall continue to facilitate an SB 743 implementation program. Following initiation in 2018, the Sustainable Communities Program will continue to provide direct planning resources to support jurisdictions seeking to establish vehicle miles traveled (VMT) as the metric for evaluating transportation impacts, which will result in more efficient development patterns and support a comprehensive strategy for regional mitigation options. The SB 743 implementation program is a State grant-funded project, co-sponsored by SCAG and LADOT, which seeks to provide technical and mitigation strategy development guidance to local jurisdictions in the six-county SCAG region to facilitate implementation of the VMT-based CEQA transportation impact analysis provisions of SB 743. This coordinated program of technical guidance, evaluation of options, and cooperative engagement with local communities will serve to smooth the transition to the new VMT-reducing development paradigm, helping to ensure a successful region-wide implementation of SB 743 and attainment of the associated GHG reduction goals. Some of the primary features of the scope of work include:

- Evaluate the feasibility of various alternative VMT mitigation options, including local and regional VMT exchange and banking programs.
- Establish CEQA nexus to reduce VMT through a VMT mitigation exchange or banking program alternative.
- Substantiate the legal basis of a VMT exchange program for satisfying CEQA mitigation requirements.

- Collaborate with other communities and jurisdictions to reduce VMT through implementation of a VMT mitigation exchange or bank program.
- Improve the dissemination of transportation project VMT mitigation options.
- Support a variety of TDM strategies for Transportation Management Organization (TMO) membership agencies.
- Provide guidance to facilitate establishment of VMT mitigation exchange or bank programs throughout the region and state

SMM TRA-8: SCAG shall provide a forum ~~the means for~~ for collaboration in planning, communication, and information sharing before, during, or after a regional emergency (i.e., seismic activities, wildfires, and other natural disasters). This will be accomplished by the following:

- SCAG shall develop and incorporate strategies and actions pertaining to response and prevention of security incidents and events as part of the on-going regional planning activities.
- SCAG shall offer a regional repository of GIS data for use by local agencies in emergency planning, and response, in a standardized format.
- SCAG shall enter into mutual aid agreements with other MPOs (as feasible) to provide this data, in coordination with the California OES in the event that an event disrupts SCAG's ability to function.

3.20 Wildfire

SMM WF-1: SCAG shall facilitate minimizing future impacts to fire protection services through information sharing regarding Fire-wise Land Management (vegetation data, fire-resistant building materials, locations where development is vulnerable to wildfire, and best practices for safe land management) with county and city planning departments. SCAG shall provide an annual forum (or forums) aimed at increased wildfire resilience. Forums shall focus on how high wildfire risk towns, cities, and counties in the region can adopt a wildland-urban interface (WUI) code (or similar code) specifically designed to mitigate the risks from wildfire to life and property. Topics to be addressed will include best practices around:

- **Structure density and location:** number of structures allowed in areas at risk from wildfire, plus setbacks (distance between structures and distance between other features such as slopes).

- **Building materials and construction:** roof assembly and covering, eaves, vents, gutters, exterior walls, windows, non-combustible building materials, and non-combustible surface.
- **Vegetation management:** tree thinning, spacing, limbing, and trimming; removal of any vegetation growing under tree canopies (typically referred to as “ladder fuels”), surface vegetation removal, and brush clearance; vegetation conversion, fuel modifications, and landscaping.
- **Emergency vehicle access and evacuation routes:** driveways, turnarounds, emergency access roads, marking of roads, and property address markers.
- **Water supply:** approved water sources and adequate water supply.
- **Fire protection:** automatic sprinkler system, spark arresters, and propane tank storage.

The outcome of the forum shall be a summary of actionable items for local planners. Furthermore, SCAG shall examine wildfire risk management strategies in areas where at-risk critical electrical infrastructure is located based on CPUC and CAL FIRE maps.

SMM WF-2: SCAG, in partnership with technical experts and stakeholders, shall launch or continue existing initiatives to help local towns, cities, and counties to protect Southern California communities and economies from the disruption of wildfire occurrences. Initiatives could include but not be limited to seminars that review the risk of wildfire and approaches for preparation, including strengthening of infrastructure, emergency services, emergency evacuation plans and reviewing building safety codes.

SMM WF-3: SCAG shall develop a ~~regional resilience program~~ Regional Climate Adaptation Framework, which will assist local and regional jurisdictions in managing the negative impacts of wildfires and other hazards caused by climate change. The Climate Adaptation Framework will integrate existing State initiatives, policies, and guidance into the regional framework, helping to connect local and regional land use and transportation planning with State policy goals. The framework will specifically provide communication & outreach strategies and templates for local jurisdictions; toolkits for local jurisdictions to support project implementation, land use, and transportation infrastructure decisions; resources for cities to comply with Senate Bill 379; resources and templates for other metropolitan planning organizations (MPOs); tools and metrics for tracking implementation progress; and a regional framework and coordination strategy. SCAG shall also assist local jurisdictions with wildfire safety requirements for General

~~Plan Updates by providing the most recent fire-risk data and maps from state-wide resources, including isolated areas that could be subject to fire risk with limited egress routes based on the transportation modeling components of SCAG's Regional Climate Adaptation Framework, and identify specific strategies to reduce vulnerabilities from natural disasters related to land based or atmospheric hazards, climate change, wildfire and other extreme weather events.~~

PMM WF-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the *State CEQA Guidelines*, a Lead Agency for a project can and should consider mitigation measures to wildfire risk, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Launch fire prevention education for local cities and counties such that local fire agencies, homeowners, as well as commercial and industrial businesses are aware of potential sources of fire ignition and the related procedures to curb or lessen any activities that might initiate fire ignition.
- b. Ensure structures in high fire risk areas are built to current state and federal standards which serve to greatly increase the chances the structure will survive a wildfire and also allow for people to shelter-in-place.
- c. Improve road access for emergency response and evacuation so people can evacuate safely and timely when necessary.
- d. Improve, and educate regarding, local emergency communications and notifications with residents and businesses.
- e. Enforce defensible space regulations to keep overgrown and unmanaged vegetation, accumulations of trash and other flammable material away from structures.
- f. Provide public education about wildfire risk and fire prevention measures, and safety procedures and practices to allow for safe evacuation and/or options to shelter-in-place.
- g. Include external sprinklers with an independent water source to reduce flammability of structures.
- h. Include local solar power paired with batteries to reduce power flow in electricity lines.
- i. For developments in high fire-prone areas, have a fire protection plan for residents and businesses.

- j. Provide fire hazard and fire safety education for homeowners in or near fire hazard areas.
- k. Developments in fire-prone areas should have fire-resistant feature, such as:
 - Ember-resistant vents
 - Fire-resistant roofs
 - Surrounding defensible space
 - Proper maintenance and upkeep of structures and surrounding area