

To: Transportation Conformity Working Group
Southern California Association of Governments

From: Doug Pekrul
Orange County Transportation Authority

Date: September 10, 2012

Re: Interstate 405 HOV Access Conversion Project, El Toro Y to State Route 73 (12-ORA-405-PM 0.6/10.4) – Federal Transportation Improvement Program (FTIP)
ID# ORA130061

Message:

The California Department of Transportation (Caltrans), in cooperation with the Orange County Transportation Authority (OCTA), is proposing to convert the existing limited access High Occupancy Vehicle (HOV) lane striping to continuous access between the Interstate (I-) 405/I-5 separation and the I-405/State Route (SR-) 73 separation. Work would include removing existing striping and pavement markers, restriping for continuous HOV access, and replacing off-center inductive loop detectors. All work would be within existing Caltrans right-of-way (ROW).

For the following reasons, OCTA believes that the above-referenced project is exempt from the requirement to demonstrate conformity per 40 CFR 93.126.

1. There would be no change in capacity. The project would simply restripe existing HOV lanes from limited access to continuous access.
2. There would be no change in or redistribution of overall traffic volumes, or heavy-truck volumes, along the I-405 project limits or any other roadway segment.
3. Roadway safety would be enhanced. Under existing conditions, the speed differential between the HOV lane and mixed-flow lane traffic volumes can be substantial during periods of heavy congestion. As a result, unsafe weaving occurs at the entrance/exit points of the restricted access HOV lanes. The project is intended to address this condition.
4. Improvements consist of lane re-striping within existing Caltrans ROW.
5. The project is currently programmed in the 2011 FTIP under project number ORA130061 as conformity category "Exempt – 93.126." OCTA agrees with the project's current FTIP conformity category.

For these reasons, OCTA believes that this project fits into the "Safety, pavement marking" category of exempt projects per 40 CFR 93.126. OCTA requests that the TCWG concur with this determination and conclude that the project is exempt from the requirement to demonstrate conformity per 40 CFR 93.126.

RTIP ID# <i>(required)</i> ORA130061				
TCWG Consideration Date: September 25, 2012				
Project Description <i>(clearly describe project)</i>				
<p>On Interstate 405 (I-405) from the I-405/Interstate 5 (I-5) separation (El Toro Y) to State Route 73 (SR-73), the project proposes to convert the existing buffer-separated and limited ingress/egress access High Occupancy Vehicle (HOV) facility to a continuous ingress/egress access HOV facility by restriping the buffer and ingress/egress areas to continuous ingress/egress access, including restriping of the left edge of travel way (ETW) of General Purpose (GP) lane No. 1, HOV lane, and inside shoulder. Proposed work would be between GP lane No. 1 and the median barrier, and would include the inside shoulder, HOV lane, buffer, ingress/egress, and left ETW of GP lane No. 1.</p> <p>Engineering features would consist of removal of existing white and yellow HOV traffic striping and raised pavement markers by sandblasting method. The existing HOV buffer striping would be replaced with 8 inch wide thermoplastic double white stripe for restricted access and dashed 8" wide white stripe for continuous access. The existing HOV striping configuration on the direct connectors from/to I-405 at SR-55 Separation would remain unchanged. The project would result in no change in the number of HOV or GP lanes within the project limits.</p>				
Type of Project <i>(use Table 1 on instruction sheet):</i> Change to existing state highway				
County Orange	Narrative Location/Route & Postmiles: On I-405 from the I-405/I-5 separation (El Toro Y) (PM 0.6) to SR-73 (PM 10.4)			
	Caltrans Projects – EA# OJ4401			
Lead Agency: OCTA				
Contact Person Keith Cooper	Phone# 213-627-5376	Fax# N/A	Email Keith.Cooper@icfi.com	
Hot Spot Pollutant of Concern <i>(check one or both)</i> PM2.5 ✓ PM10 ✓				
Federal Action for which Project-Level PM Conformity is Needed <i>(check appropriate box)</i>				
✓ Categorical Exclusion (NEPA)	EA or Draft EIS	FONSI or Final EIS	PS&E or Construction	Other
Scheduled Date of Federal Action: 2012				
NEPA Delegation – Project Type <i>(check appropriate box)</i>				
Exempt	✓ Section 6004 – Categorical Exemption		Section 6005 – Non-Categorical Exemption	
Current Programming Dates <i>(as appropriate)</i>				
	PE/Environmental	ENG	ROW	CON
Start	08/2011	03/2012	N/A	2013
End	09/2012	01/2013	N/A	2013

Project Purpose and Need (Summary): *(attach additional sheets as necessary)*

Freeways with buffer-separated, limited access HOV lanes operate as two separate highway facilities that only allow weaving between the HOV and the General-Purpose (GP) lanes at predetermined locations. Operational issues associated with this type of facility are:

- Weaving between the HOV and the GP lanes is difficult when substantial speed differences occur between the two. For example, motorists who attempt to exit a high-speed HOV lane must slow down considerably in order to enter the much slower GP lane; while vehicles entering the HOV lane from the slower GP lane must try to match the speed of the HOV lane.
- Due to closely spaced interchanges, motorists may find it difficult to cross numerous high-volume GP lanes during peak hours from the entry/exit point to the adjacent on/off-ramp. For example, at many locations within the project limits, a motorist must cross 5 or more GP lanes in less than a mile to access a freeway off-ramp from an HOV exit point. A similar experience occurs when a motorist tries to access the HOV entry point from a freeway on-ramp or risk sitting in stop-and-go traffic until the next available HOV access point is reached. During the peak hours, the GP lanes are often heavily congested.
- Violations occur across the HOV buffer. Motorists who do not find the acceptable space necessary to merge into the GP lane within the predetermined HOV access point might cross the HOV buffer, and motorists who are sitting in slow-moving GP lanes might attempt to cross the HOV buffer rather than wait for the appropriate HOV access location.

OCTA has requested the Department to change the existing HOV facility from limited access striping on I-405 to continuous access striping. This proposed HOV modification is an approved strategy by the Department for HOV operations and can be implemented as a local choice. The proposed continuous access HOV lanes will provide users with legal and unrestricted movement to and from the HOV facility. With continuous access, motorists have the ability to enter and exit the HOV facility at convenient locations where they find sufficient space in adjacent traffic, thereby spreading out the weaving activities along the entire length of the route, which may lead to less speed differences between the two facilities. In addition, a continuous access HOV facility will help avoid weaving at congested locations, thereby improving the overall freeway operational performance for all commuters across the HOV and GP lanes.

Surrounding Land Use/Traffic Generators *(especially effect on diesel traffic)*

Adjacent land uses along the 9.8-mile I-405 project limits primarily include residential and retail/commercial uses. Shiffer Park and John Wayne Airport are located south of the project limits (northern portion) at Bear Street and MacArthur Boulevard, respectively; and the Rancho San Joaquin Middle School is located south of the project limits (central portion) at the Yale Avenue bridge.

<p>Opening Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility</p> <p>The existing (year 2011) average daily traffic (ADT) volumes range from 203,000 just north of the El Toro Y to 303,000 at MacArthur Boulevard (see Table 2, attached). The percentage of truck traffic ranges from 3.5 percent to 5.6 percent within the project limits according to the 2009 Annual Average Daily Truck Volume on the State of California Highway System. No material difference is anticipated for opening year 2013 traffic volumes, when compared to existing conditions. As the project would not change the number of HOV or GP lanes (i.e., no change in capacity), traffic volumes, truck traffic percentage, and LOS would be identical under the Build Alternative when compared to No Build.</p>
<p>RTP Horizon Year / Design Year: Build and No Build LOS, AADT, % and # trucks, truck AADT of proposed facility</p> <p>The horizon year 2035 ADT volumes are predicted to range from 234,000 just north of the El Toro Y to 351,000 at MacArthur Boulevard (see Table 2, attached). The percentage of truck traffic is predicted to range from 3.5 percent to 5.6 percent within the project limits, similar to existing conditions. As the project would not change the number of HOV or GP lanes (i.e., no change in capacity), traffic volumes, truck traffic percentage, and LOS would be identical under the Build Alternative when compared to No Build.</p>
<p>Opening Year: If facility is an interchange(s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT</p> <p>The proposed project would have no interchange or intersection elements, and no interchanges or intersections would be affected (directly or indirectly) as part of the proposed project.</p> <p>RTP Horizon Year / Design Year: If facility is an interchange (s) or intersection(s), Build and No Build cross-street AADT, % and # trucks, truck AADT</p> <p>The proposed project would have no interchange or intersection elements, and no interchanges or intersections would be affected (directly or indirectly) as part of the proposed project.</p>
<p>Describe potential traffic redistribution effects of congestion relief (impact on other facilities)</p> <p>The proposed project would not have any traffic redistribution effects, as there would be no changes in freeway capacity. There would be no change in the number of HOV or GP lanes at any location along the 9.8-mile project limits. Effects on congestion would be negligible.</p>
<p>Comments/Explanation/Details (attach additional sheets as necessary)</p> <p>Per criteria under 40 CFR 93.123(b)(1), the proposed project does not qualify as project of local air quality concern (POAQC). The proposed project is not a new or expanded highway project that would have a significant number or increase in the number of diesel vehicles. Traffic volumes, fleet mix, and LOS along the I-405 project limits under the Build Alternative would be identical to No Build Alternative conditions.</p> <p>The project meets the Clean Air Act requirements and is not a project of air quality concern under 40 CFR 93.123(b)(1).</p>

Table 2: I-405 – Year 2011 versus Year 2035 Average Daily Traffic (ADT) and Peak Hour Volumes

Station	Description	Year 2011							Year 2035							
		Peak Hour			Average Daily Traffic			HOV LOS	Peak Hour			Average Daily Traffic			Growth Rate	HOV LOS
		HOV	Mainline	Total	HOV	Mainline	Total		HOV	Mainline	Total	HOV	Mainline	Total		
72+25	Irvine, Jct. Rte. 5	1,980	10,580	12,560	23,000	180,000	203,000	B	3,160	11,990	15,150	33,000	201,000	234,000	15.3%	D
90+25	Irvine, Irvine Center Drive	1,980	12,430	14,410	23,000	184,000	207,000	B	3,160	14,110	17,270	33,000	212,000	245,000	18.4%	D
134+25	Irvine, Jct. Rte. 133, Laguna Freeway	1,980	14,490	16,470	23,000	216,000	239,000	B	3,160	15,990	19,150	35,000	245,000	280,000	17.2%	D
191+75	Irvine, Sand Canyon Avenue	2,620	15,490	18,110	20,000	247,000	267,000	C	3,590	17,440	21,030	36,000	277,000	313,000	17.2%	E
248+25	Irvine, Jeffrey Road /University Drive	3,020	17,180	20,200	34,000	233,000	267,000	D	3,940	17,470	21,410	44,000	274,000	318,000	19.1%	E
336+25	Irvine, Culver Drive	1,370	17,180	18,550	36,000	237,000	273,000	B	1,820	18,800	20,620	46,000	282,000	328,000	20.1%	B
405+15	Irvine, Jamboree Road	2,640	17,620	20,260	30,000	262,000	292,000	C	3,920	18,920	22,840	40,000	282,000	322,000	10.3%	E
451+55	Irvine, MacArthur Boulevard	2,870	19,050	21,920	34,000	269,000	303,000	D	4,240	20,550	24,790	42,000	309,000	351,000	15.8%	F
501+25	Costa Mesa, Jct. Rte. 55, Costa Mesa Freeway	2,000	13,530	15,530	25,000	195,000	220,000	B	3,120	14,440	17,560	34,000	235,000	269,000	22.3%	D
541+95	Costa Mesa, Bristol Street	2,190	16,410	18,600	27,000	226,000	253,000	C	2,700	18,600	21,300	34,000	262,000	296,000	17.0%	C
582+55	Costa Mesa, Jct. Rte. 73, Corona Del Mar Freeway	2,270	13,720	15,990	25,000	204,000	229,000	C	2,800	15,600	18,400	31,000	236,000	267,000	16.6%	C
	HOV = High occupancy vehicle LOS = Level of service															