Memorandum

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To: Dennis Saylor, Project Manager, SANBAG

From: Don Hubbard, Traffic Forecasting Lead for I-15 Express Lanes, WSP | Parsons Brinckerhoff

Subject: Response to EPA Questions Regarding the I-15 Express Lanes

Date: June 28, 2016

During the May 22nd meeting of the Transportation Conformity Working Group (TCWG), Karina O'Connor, EPA Region 9 representative, indicated that she would need to confer with colleagues at the EPA to find out if they had any questions regarding the I-15 Express Lanes project. On June 14th the EPA emailed Rongsheng Luo, SCAG, a list of five questions that they had regarding the information provided in the summary form for project of air quality concern (POAQC) determination. Our suggested responses to these questions are shown below.

Question 1) How were the traffic projections shown in the tables on pages 2-3 for the no build and build estimated?

The traffic volumes shown in the POAQC form were taken from the Interstate-15 Express Lanes PA/ED Forecast Volumes Report[1]. These forecasts were developed using a methodology that was reviewed and approved by Caltrans[2]. The traffic volumes were obtained from the SBTAM model. The SBTAM model is a version of the SCAG Regional model that focuses on the San Bernardino County region. Caltrans reviewed and officially approved[3] the forecast traffic volumes shown in the POAQC form for use in the IS/EA.

Question 2) On page #4, the form states: "Due to the unique geographic characteristics of the area, there are simply no parallel highways that provide comparable direct road travel capability". However, area maps show one potential alternate route, I-215. Comparing I-15 to I-215, rerouting regional truck onto I-215 would make their trips approximately 10 miles longer. Under significant congestion, why would this route not be a viable alternative?

The study portion of I-15 is a congested corridor and the trucks that use it do so for one of two reasons; either because their loads have an origin or destination along the corridor, in which case diversion to I-215 is not possible, or they are using I-15 to travel between the Ports of Los Angeles/Long Beach to Victorville and on towards states east of California. In the latter case it is theoretically possible to use I-215 as an alternate route.

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[1] *Interstate-15 Express Lanes PA/ED Forecast Volumes Report*, WSP | Parsons Brinckerhoff for SANBAG, February 2016

[2] Email exchange between Maria "Sole" Aranguiz, Chief of Caltrans' District 8 Office of Traffic Forecasting, and Raghuram Radhakrishnan, Caltrans Project Manager for the I-15 Express Lanes, Caltrans Project Manager for the I-15 Express Lanes, c.c.ed to Dennis Saylor, SANBAG Project Manager, Dated August 28, 2015

[3] Memo from Maria "Sole" Aranguiz, Chief of Caltrans' District 8 Office of Traffic Forecasting, to Raghuram Radhakrishnan, Caltrans Project Manager for the I-15 Express Lanes, Dated March 3, 2016

For travel between the SR-60/I-15 interchange and the I-15/I-215 interchange, using the I-215 would be the more circuitous route; 34.1 miles compared to 19.8 miles using the I-15 route (see Exhibit 1). In other words the I-15 route is 14.3 miles shorter.

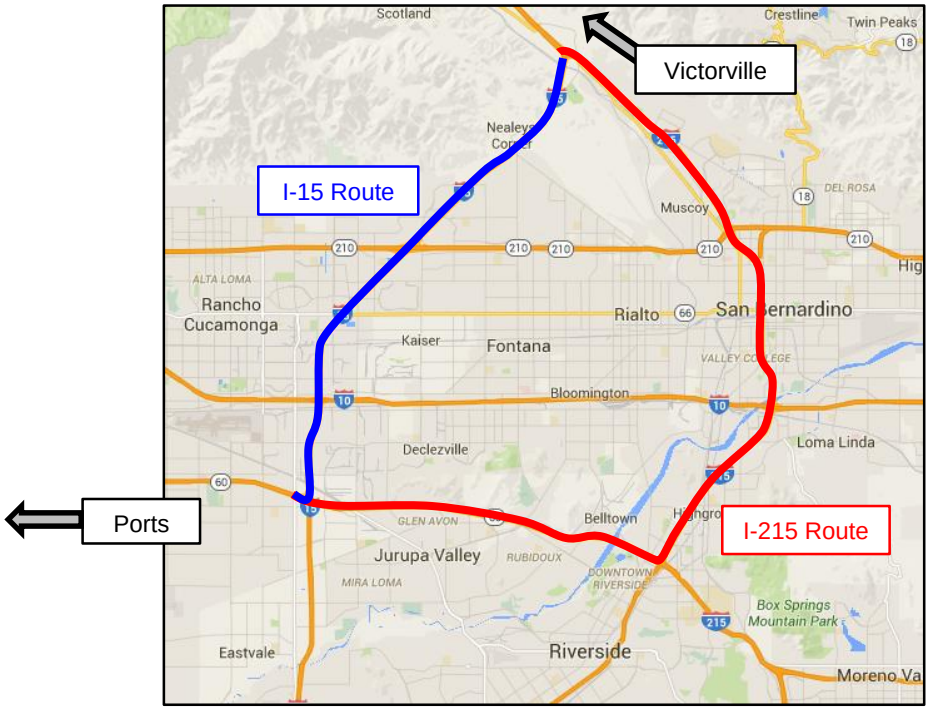

Exhibit 1: Potential Routes

Given that the I-215 route is considerably longer, the only reason a truck driver would have for using it would be if it offered sufficient travel time saving to offset the additional operating costs.

Exhibit 2 compares the forecast PM peak hour travel times for the 2024 (opening year) and 2045 (horizon year) scenarios using the SANBAG regional travel model. The comparison shows that the I-215 route offers no travel time saving at all; in fact it would take less time to drive along the I-15 route in every scenario. Since the I-15 route offers both a shorter travel distance and a shorter travel time it would dominate the I-215 route.

Scenario	I-15 Route	I-215 Route	Travel Time Difference
Existing PM Peak Hour	23.0	38.0	15.0
2024 No Build PM Peak Hour	26.5	40.8	14.3
2024 Build PM Peak Hour	23.5	40.1	16.6
2045 No Build PM Peak Hour	39.2	48.3	9.1
2045 Build PM Peak Hour	29.8	47.2	17.4

Exhibit 2: Comparison of Travel Times (in minutes)

The I-15 route would dominate the I-215 route even more during off-peak hours than during peak hours. That is because the less congestion there is on I-15 the less reason there would be to take a circuitous route to by-pass it.

Question 3) Please provide more information about how traffic on the express lanes will be managed. A note on the tables which provide traffic data indicates that "The Express Lanes will include dynamic pricing such that the fee adjusts to manage traffic demand and maintain an acceptable LOS for Express Lanes travel." How does this management of the express lanes impact LOS on the general purpose lanes?

The proposed I-15 Express Lanes would use dynamic pricing to manage the demand for traffic using the lanes. The goal of dynamic pricing is to optimize the throughput of vehicles in the Express Lanes, which in turn, will increase the throughput of the corridor and reduce the congestion in the general purpose lanes. The optimum throughput of lane is 1800 to 2000 vph, while a congested lane throughput is 800 to 1,000 vph. Express Lanes will reduce the congestion of the general purpose lanes, but it will not eliminate it. If there was not congestion in the general purpose lanes, there would be no traffic in the Express Lanes as a motorist would not pay to utilize the lane if there was no benefit.

Question 4) How do the dynamics of light duty and medium duty traffic in the express lanes impact truck traffic in the general purpose lanes? The LOS estimates improve for general purpose for the build conditions, especially for the opening years of the facility. Is this due to light and medium duty traffic moving to the express lanes? Typically, when capacity is opened up for more trucks, we see an increase in truck traffic for the build condition, why is there no increase in trucks for build? Why would this increase in capacity on I-15 not pull some trucks from I-215 over?

As stated in our response to Question 3, diverting a portion of the light vehicles in the corridor to the express lanes will improve traffic flow in the GP lanes. This improvement will be somewhat offset by the addition of light vehicles diverting to I-15 from local street routes, but nevertheless the net effect will be an improvement in GP lane traffic flow.

The questions asks, "*Typically, when capacity is opened up for more trucks, we see an increase in truck traffic for the build condition* …" In the case of express lanes there is no additional capacity for heavy trucks since they are barred from using the lanes, except for the small increase indirectly offered by the diversion of light vehicles. Studies show that this does not cause an increase in truck traffic[4]. Moreover, as discussed in Question 2, there is not a convenient alternate route for trucks that utilize the I-15 Corridor. So whether the Express Lanes are or are not constructed the trucks will utilize the corridor since, the travel distance and time is shorter than the other alternate route which is the I-215.

Question 5) The following statement is included on page 10 of the form: "The I-15 corridor is experiencing considerable performance problems due to truck volumes (8 to 18 percent of the total traffic). The effects of heavy warehouse development, logistics and freight transportation along the I-15 corridor further complicate truck circulation and goods movement along the route." How can the project support the goal of reducing performance problems due to truck volumes while having no impact on truck trips? Why doesn't the additional capacity associated with movement of light and medium duty traffic to the express lanes open up additional capacity for truck traffic and support continuing growth in development of warehouses and associated truck traffic in the area?

The additional capacity provided by the Express lanes will provide some relief for the existing congestion and the congestion projected to occur in the future due to the increase in traffic demand. The congestion relief will occur due to passenger vehicles and light trucks utilizing the Express Lanes, reducing the demand on the general purpose lanes. But, as stated in Question 2, there is not a convenient alternative route to the I-15, therefore the demand heavy truck volume for the corridor will be the same whether the Express Lanes are constructed or not. If the Express Lanes are not constructed, the result will be

[4] See, for example, *Southbound I-680 Express Lane Performance Evaluation - An After Study, Final Report*, Kittelson and Associates for the Alameda County Transportation Commission, June 2013

additional delay for the motorists including the truck drivers and additional emissions from the idling vehicles.

The warehouses that locate in this area do so for many reasons other than proximity to the I-15 corridor. Other factors include rail service, proximity to Ontario Airport, proximity to other major freeways, proximity to LA/Long Beach Ports, and available land. Available land is becoming scarcer as the area is approaching build out. While it would be a benefit to the logistic industry for the Express Lanes to be constructed, it is only one of the factors considered in deciding to locate in this area.