

## State Route 79 Realignment Project: Explanation of Differences in Opening and Horizon Year Roadway Level of Service

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The purpose of this memorandum is to clarify a question raised by the Environmental Protection Agency (EPA) during the Transportation Conformity Working Group (TCWG) meeting held on January 27, 2015. The focus of the question was the differences in roadway segment Level of Service (LOS) results for the opening year (2020) and horizon year (2040) along the proposed realignment of State Route 79 (SR 79).

There are two reasons that the LOS on some segments of SR 79 are better in 2040 than in 2020: 1. The configuration of SR 79 is different in 2020 & 2040 as outlined below (see attached Exhibits) and 2. Traffic volumes.

The construction of several interchanges are phased between 2020 and 2040 and there are other differences in capacity assumptions. The differences are summarized below:

- The Grand Avenue interchange will not be built for opening day (2020), but will be a full interchange at the planning horizon year (2040). Therefore volumes were adjusted and assigned to adjacent interchanges in 2020, which increases the volumes on the nearby cross-streets, which in turn lowers the LOS.
- The realigned SR 79 will have signalized at-grade intersections in 2020 at Esplanade Avenue and Cottonwood Avenue. These locations will have full interchanges by 2040, once traffic volumes warrant grade-separations. Therefore, the SR 79 segments near these cross-streets were coded with different capacities in 2020 and 2040. For

2020, these segments of SR 79 are coded as a four-lane expressway with a capacity of 32,700 vehicles per day. For 2040, these segments of SR 79 are coded as a four-lane freeway with a capacity of 61,200 vehicles per day. Because the capacities are nearly twice as high in 2040, the LOS on SR 79 improves in 2040.

A secondary reason for the LOS findings is that the traffic volumes on the segments of the realigned SR 79 are generally the same in 2020 and 2040.

With essentially the same volumes, and the lower 2020 capacities without interchanges at Esplanade Avenue and Cottonwood Avenue, the LOS results for opening year (2020) are lower than the LOS results for the horizon year (2040).



