To: Daniel Nguyen, Project Manager, Division 4

From: GARVER

RE: EC-1457A I-40 Corridor Study, LOS for Grant Application

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Daniel:

**Existing and No Build Results**

As shown in Table A-1 and A-2, the I-40 corridor has segments that operate at LOS D in the AM and

LOS E in the PM under 2015 traffic demand. By 2045, LOS F conditions will occur along multiple basic segments or ramps during both the AM and PM peak periods.

**Build Results**

**Tables A-3** and **A-4** depict the expected 2015/2045 LOS with the additional third lane in each direction on I-40. Aside from the additional lane, no other modifications were assumed at any of the ramps at the Anderson Road or I-240 interchanges. As shown, operations for the six-lane freeway will improve with the widening with most segments operating at LOS D or better through 2045. However, the EB ramp merge movement at I-240 will operate at LOS E conditions in the PM peak period - due to the heavy 2045 design volumes. Additionally, the 2045 design volumes indicate the I-240 ramps (westbound off ramp, eastbound on ramp) will approach or exceed the capacity of a single ramp itself (not specific merge/diverge areas), which is 2,100 passenger cars per hour per lane (pcphpl). **Table A-5** depicts the ramp demand volumes in pcphpl.

To alleviate the LOS E condition and resolve the issue of the ramps being over capacity, two lane ramps at I-240 are needed. **Tables A-6 and A-7** depict the resulting LOS for a six-lane freeway with 2-lane ramps at I-240 that assume merge and diverge conditions as presently exist. Note that with this configuration, operation could be improved beyond the LOS D conditions shown if one of the I-240 ramp lanes is extended and treated as an auxiliary lane between I-240 and the nearest interchange to the east, Choctaw Road.