NOTES

PROJECT INFORMATION SUMMARY

- Total Programmed Estimated Cost of these projects: \$15.5 Million
- Right-of-Way & Utility Relocation programmed to start in: 2017
- Construction programmed to start in: 2020
- Current Annual Average Daily Traffic (AADT) in year 2016: 26,100 Vehicles a day (Douglas Boulevard)
- Future Estimated AADT by year 2045: **47,980 Vehicles a day** (Douglas Boulevard)
- Current Annual Average Daily Traffic (AADT) in year 2016: **54,574 Vehicles a day** (I-40)
- Future Estimated AADT by year 2045: **84,580 Vehicles a day** (I-40)
- Construction along existing alignment will require temporary construction road closures.

*Totals DO NOT include Toll Roads

DIVISION 4 ENGINEER: BRIAN TAYLOR, P.E.

**Totals <u>DO NOT</u> include County Bridges

Total Road Miles: 1,419.66

*Total Interstate Miles: 222.47

**Total Bridges: 1.144



Counties: Canadian, Garfield, Grant, Kay, Kingfisher, Logan, Noble, Oklahoma, Payne

PLEASE PROVIDE YOUR COMMENTS BY FEBRUARY 14, 2017

For more information about the project

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I-40/Douglas Boulevard Bridge Replacement and Interchange Reconstruction Oklahoma County, OK • JP: 28992(04)

Presentation of Proposed Improvements & Solicitation of Public Input

Purpose of Meeting

To present and get public input on the Douglas Boulevard bridge replacement and three (3) interchange improvement alternatives under consideration for the I-40/Douglas Boulevard interchange, located 6.5 miles east of I-35 in Oklahoma City, Oklahoma.

Project Background

The Oklahoma Department of Transportation (ODOT), in cooperation with Federal Highway Agency (FHWA), is soliciting comments on possible improvements to the I 40 and Douglas Boulevard bridge and interchange in Oklahoma County, Oklahoma.

The Douglas Boulevard bridge over I-40 is six lanes wide including four through lanes, two loop ramp weaving lanes, curb and gutter, and 3-ft wide sidewalks on each side of the bridge. The existing Douglas Boulevard bridge is an 80-ft wide concrete continuous slab bridge, with a sufficiency rating of 77.0. The vertical clearance for I-40 is posted as 16-ft-9-in (eastbound) and 16-ft-4-in (westbound). The current annual average daily traffic (AADT) on Douglas Boulevard is 26,100 vehicles per day (vpd), and is projected to increase to 47,980 vpd by the year 2045.

I-40 underneath Douglas Blvd is a four-lane divided urban interstate with a 40-ft wide grass median, 12-ft wide driving lanes, 3-ft wide inside shoulders, and 10-ft wide outside shoulders. The current AADT on I-40 is 54,574 vehicles per day (vpd), and is projected to increase to 84,580 vpd by the year 2045. The existing I 40 and Douglas Boulevard interchange is a full cloverleaf interchange with collector-distributor roads along I-40. The number of collisions at this location is higher than the state average at similar locations.

The existing Engle Road bridge over I-40 formerly provided access to a residential neighborhood south of I-40. However, the neighborhood no longer exists and the property is now owned by Tinker Air Force Base. Therefore, Engle Road bridge is closed to traffic and not in use.

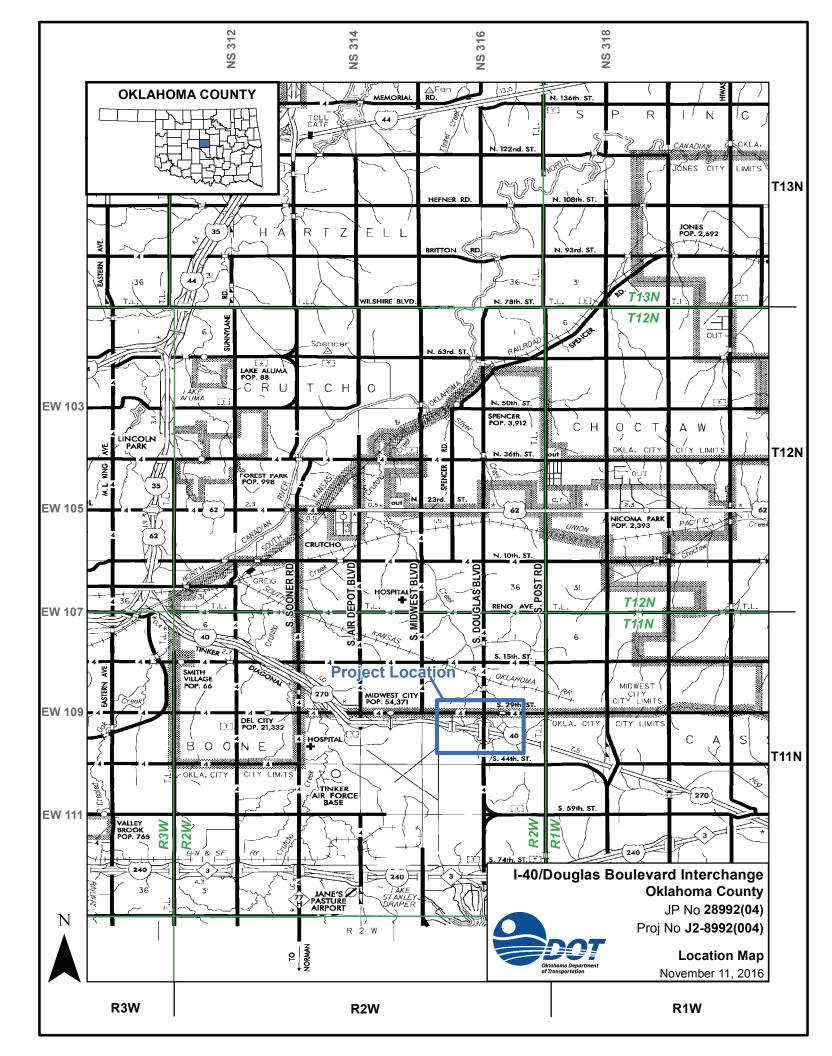
The purpose of this project is to correct the functionally obsolete Douglas Boulevard bridge and improve safety while accommodating future traffic volumes, which indicate I-40 should be widened from four lanes to six lanes.

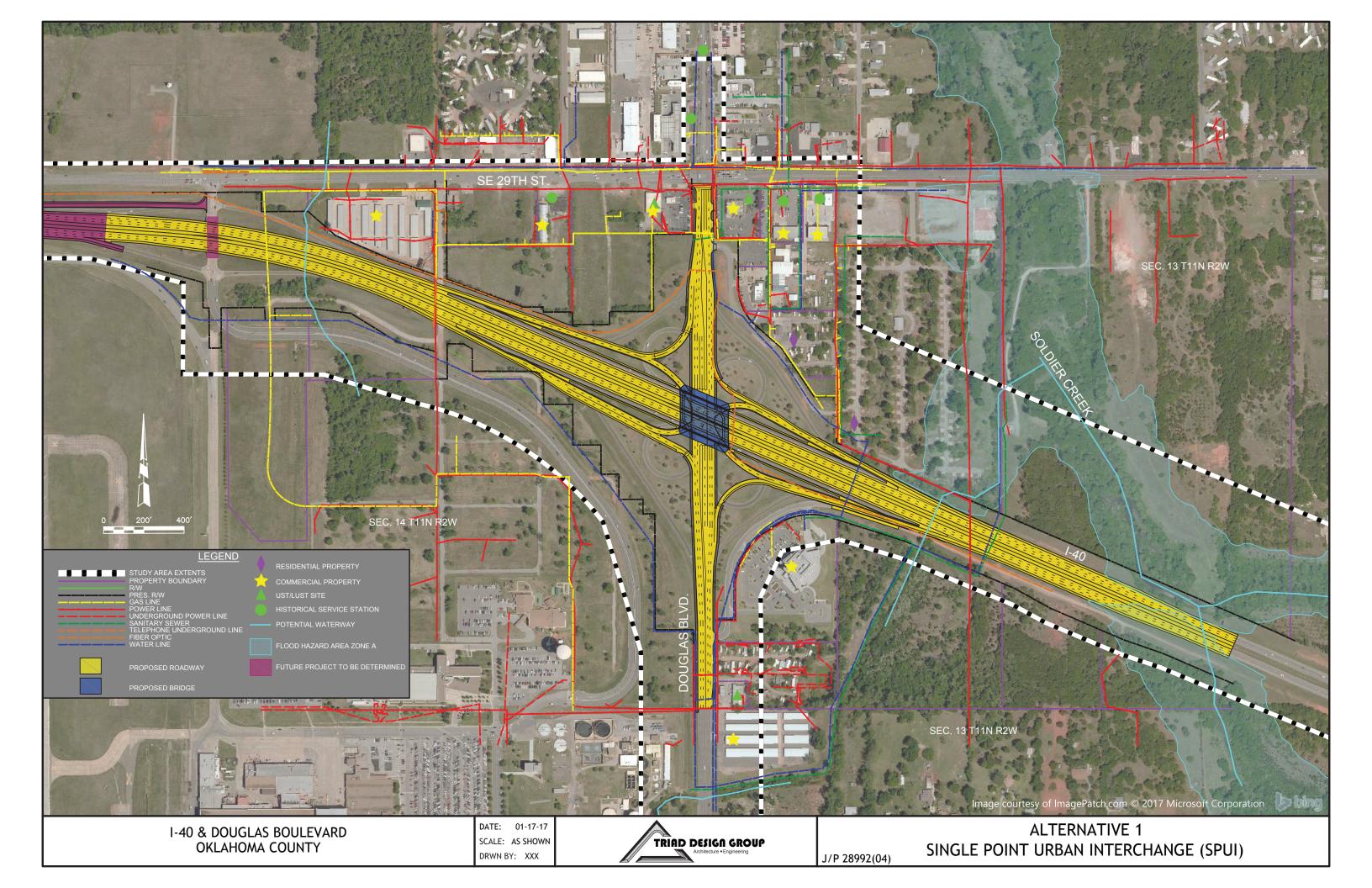
Project Description

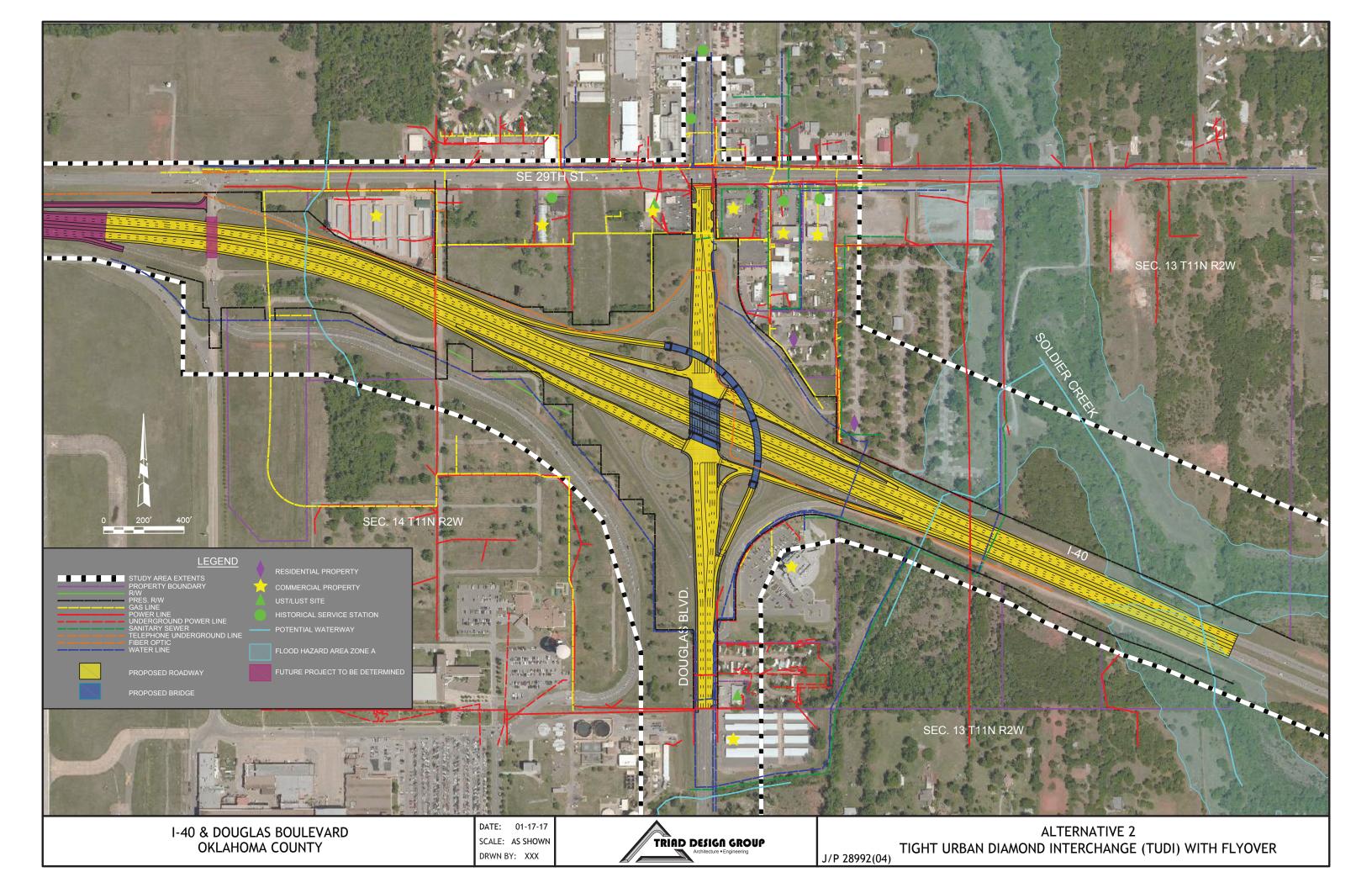
Three (3) interchange alternatives have been identified for consideration:

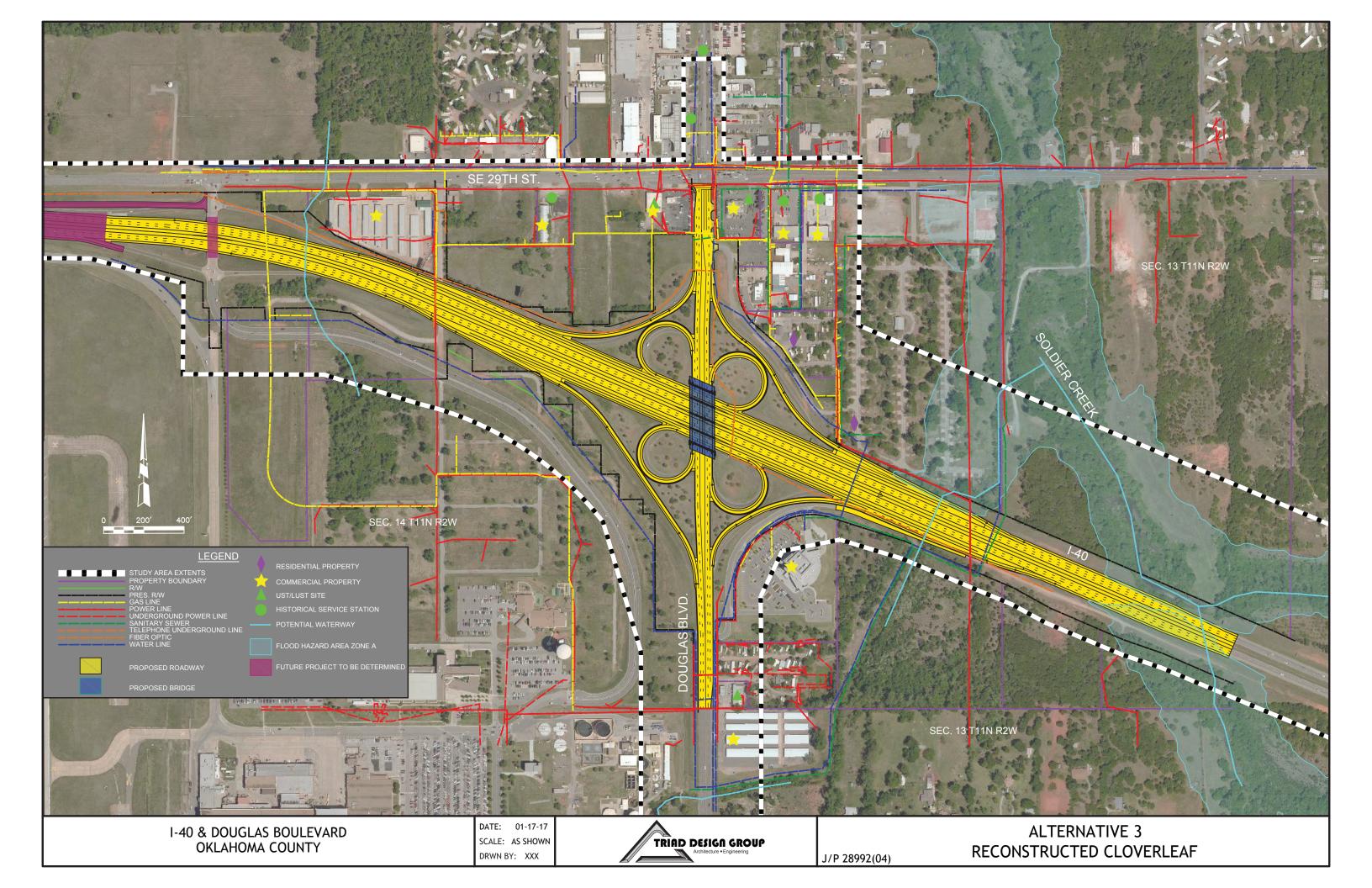
- Alternative 1 Single Point Urban Interchange (SPUI). A Single Point Urban Interchange is a basic diamond interchange with a single signalized central intersection in the center of the bridge. The Douglas Boulevard traffic along with the I-40 ramp traffic will converge to a single point utilizing the single set of traffic signals. The SPUI interchange accommodates large traffic volumes efficiently with minimal right-of-way impacts. I-40 will be improved to a six-lane facility. Through the interchange, Douglas Boulevard will consist of six through lanes, dual left-turn lanes, and right-turn lanes where needed. Entrance and exit ramp lanes will also be constructed along I-40. Collector-distributor roads will be removed and will not be re-constructed.
- Alternative 2 Tight Urban Diamond Interchange (TUDI) with Ramp Flyover. A Tight Urban Diamond Interchange is an interchange that compresses a standard diamond interchange. This design includes all four interchange ramps, as well as the option of adding a future flyover ramp for northbound Douglas Boulevard traffic destined for westbound I-40. I-40 will be improved to a six-lane facility. Through the interchange, Douglas Boulevard will consist of six through lanes, dual left-turn lanes, and right-turn lanes where needed. Upon construction of the northbound to westbound ramp flyover, the northbound to westbound left-turn lanes on Douglas will be removed. Entrance and exit ramp lanes will also be constructed along I-40. Collector-distributor roads will be removed and will not be re-constructed.
- Alternative 3 Cloverleaf Interchange. The existing cloverleaf will be completely reconstructed to accommodate widening I-40 to a six-lane facility. All ramps and both collector-distributor roads will be reconstructed. Through the interchange, Douglas Boulevard will consist of four through lanes, two lanes for loop ramp weaving, two additional lanes located in the median which can be used in the future for left turning traffic, and entrance and exit lanes where needed. Entrance and exit ramp lanes will also be constructed along I-40.

Regardless of the interchange alternative selected, the Engle Road bridge over I-40, which is no longer in service, will be removed as a part of this project.









Comparison of Alternatives

Oklahoma Department of Transportation

TRIAD DESIGN GROUP

I-40/Douglas Improvements

Comparison Parameters	Alternative 1 Single Point Urban Interchange (SPUI)	Alternative 2 Tight Urban Diamond Interchange (TUDI) with Future Ramp Flyover	Alternative 3 Cloverleaf Interchange Reconstruction
Traffic Operations ¹	 I-40 Facilities: Good 1 Interchange Signal on Douglas SPUI Operates Better than TUDI for All Movements Except NB to WB Movement 	 I-40 Facilities: Good 2 Interchange Signals on Douglas NB to WB Movement Operates Better than SPUI (All Other Movements Operate Better With the SPUI) 	 I-40 Facilities: Good No Interchange Signal on Douglas Traffic on Douglas Remains Free-Flow Weaving on Douglas and CD Roads Remains
Interchange Geometry	 Ramp Design Speed 50 mph All Weaving Eliminated Flat Dual Left-Turn Curves Allow for Ease of Movement Between Ramps and Douglas 	 Ramp Design Speed 35-50 mph All Weaving Eliminated Dual Left-Turns Between Ramps and Douglas Will Be at Slow Speed Due to Ramp Intersection Angles 	 Ramp Design Speed 20 mph Loops and Weaving on Douglas and CD Roads Remain CD Roads Reconstructed 2 Lanes Wide in Ramp Merge Areas
Environmental Impacts ²	Minimal Wetland and Stream Impacts	Minimal Wetland and Stream Impacts	Minimal Wetland and Stream Impacts
Utility Relocations	7 Utilities Impacted	7 Utilities Impacted	7 Utilities Impacted
Right-of-Way Impacts	Approx. 0.74 Acres S.W. Quadrant—Oklahoma County	Approx. 0.74 Acres S.W. Quadrant—Oklahoma County	Approx. 0.74 Acres S.W. Quadrant—Oklahoma County
Total Project Cost	\$47 million	\$56 million	\$45 million

Colors are to aid visual comparison only; i.e., green, yellow, and red indicate which alternate is better, neutral, and worse, respectively, for each parameter of comparison. The color scheme has relevance only to the comparison of Alternatives 1, 2, and 3, and is not meant to imply any parameter is "ideal", as compared to other projects or situations.

Notes:

- 1: By 2045, the Douglas & 29th Street intersection will need additional lanes to ensure proper interchange operations. In addition, eastbound to northbound pm traffic will need an additional route alternative to ensure proper interchange operations.
- 2: No other environmental constraints identified.