Interstate 44 from I-244 Junction to the Arkansas River Access Justification Report

Tulsa County
ODOT JP 32728(04)

OKLAHOMA Transportation

Prepared For:

Oklahoma Department of Transportation

April 2020

GARVER
GarverUSA.com

U.S. Department of Transportation
Federal Highway Administration

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July 7, 2020

In Reply Refer To:
HDA-OK

Tim Gatz
Executive Director
Oklahoma Department of Transportation
200 Northeast 21st Street
Oklahoma City, Oklahoma 73105

Dear Mr. Gatz:

We have reviewed the information submitted by your e-mail dated 4/24/2020, pertaining to the I-44 and US-75 interchange, Federal-Aid project NHPPI-4400(077) PM, JP 33788(04) in Tulsa County in Tulsa, Oklahoma. The proposed interchange configuration for this location is reconstruction of I-44/US-75 as a semi-directional interchange. Three of the four existing loop ramps will be replaced with flyover direct connector ramps at the US-75 interchange and the eastbound to northbound remains as a loop ramp. Additionally, the proposed project includes relocating the existing eastern ramps at Union Avenue/I-44 interchange further east due to their proximity to I-44/US-75 interchange through connection of W 51st Street across US-75 and a new Connector Route from W. Skelly Drive.

The NEPA document for this project was approved on June 9, 2020. Based on our engineering and operation review of the information and facts outlined in the Interchange Access Justification Report, this revised access request is considered acceptable.

If you have any questions regarding this matter, please contact Mr. Faria Emamian, Transportation Engineer at 405-254-3338, or by email at faria.emamian@dot.gov.

Sincerely,

Louisa M. Ward

Louisa M. Ward
Deputy Division Administrator

cc: Mr. Tim Tegeler, P.E., ODOT
Mr. Caleb Austin, P.E., ODOT
Mrs. Lauren Ludwig, P.E., ODOT

I-44 Corridor Improvements Access Justification Report

Tulsa County, Oklahoma

Prepared by:
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ODOT Roadway Design Division Engineer

Concur:
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Comments:

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1.0 Project Background

The Oklahoma Department of Transportation (ODOT) is proposing to improve the Interstate 44 (I-44) corridor from I-244 to across the Arkansas River and including the system-to-system interchange at US-75. The project is located in Tulsa County and within the City of Tulsa. Improvements proposed include widening I-44 to 6-lanes, widening of US-75 to 6-lanes (with ultimate build to 8-lanes), replacement of bridges within the corridor, and reconfiguration of the I-44/US-75 interchange to direct connection/fly-over ramps – except for the eastbound to northbound movement which will remain in its existing loop configuration. The ultimate configuration of the corridor is anticipated to cost $265M and will be built in a series of work packages as funding is available.

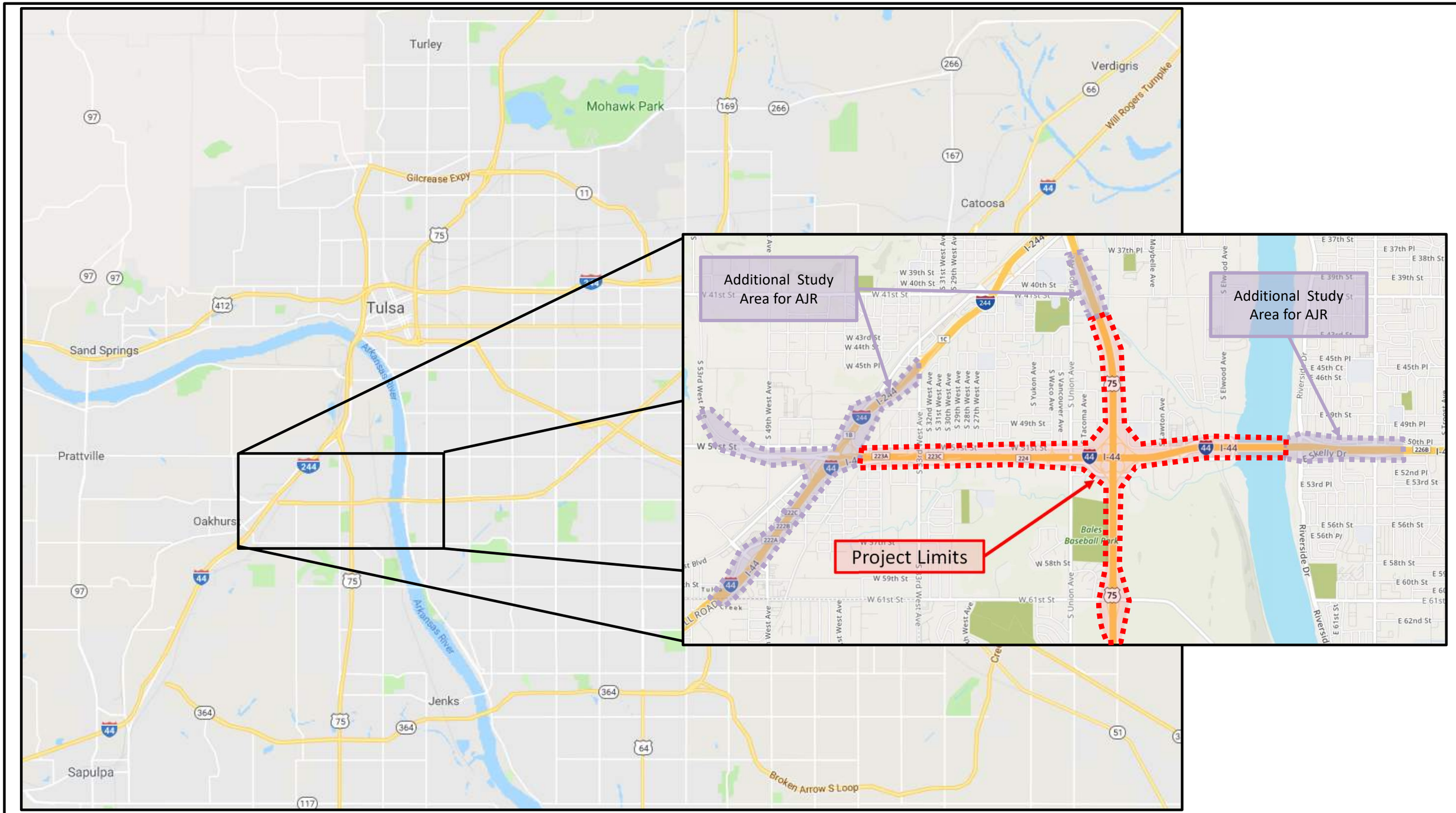
The purpose and need for the project is to improve mobility and safety within the corridor. The need is based on anticipated traffic growth that will exceed the current capacity of the roadway, resulting in worsening congestion. Geometric deficiencies and high traffic volumes are also contributing to a substantial accident history. Additionally, this is the final segment of I-44 within the City of Tulsa that has not been improved since its original construction.

1.1 Study Area

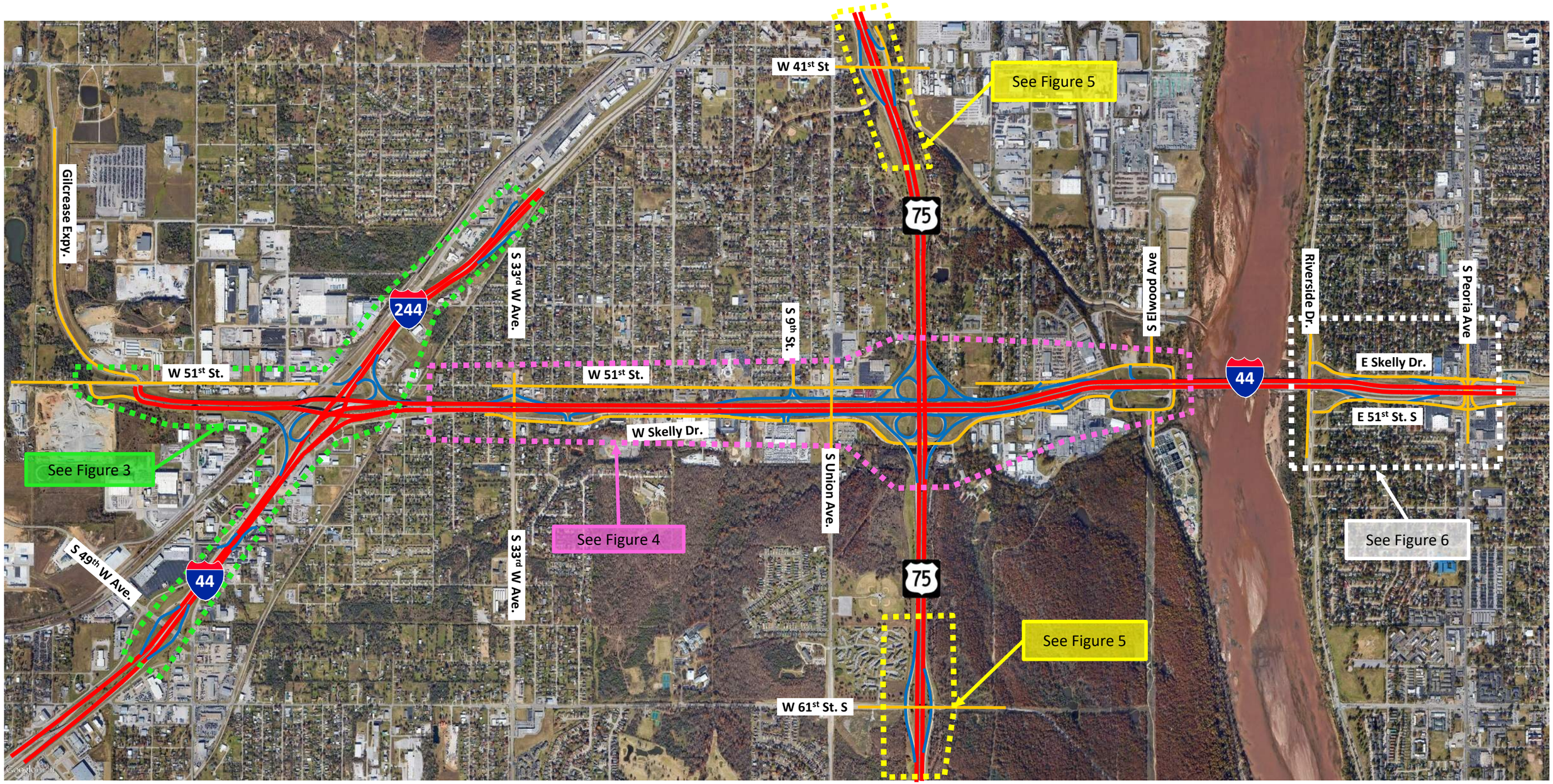
The I-44 corridor is located approximately 5 miles south of downtown Tulsa. A location map of the study area is provided in **Figure 1** and includes additional freeway segments beyond the project limits, including I-44 east of the Arkansas River, I-44 south of I-244, I-244 north of I-44, and the Gilcrease Expressway west of I-44. A study area overview map for the I-44 corridor is provided in **Figure 2**. **Figures 3-6** depict the lane configurations within the study area – showing the ramp configurations, number of lanes, and intersection traffic control.

- **Figure 3** shows the west end of the study area. As shown, I-44 carries two lanes in each direction east of I-244 and three lanes in each direction at the 49th Street interchange west of the improvement project. I-44 intersects I-244/Gilcrease Expressway at a system interchange that features six direct connect ramps and a button-hook ramp to W 51st Street. No ramp connections are provided from the Gilcrease Expressway to eastbound I-244 or from westbound I-244 to the Gilcrease Expressway. The eastbound ramp from Gilcrease to I-44 provides a left side merge.
    - The Gilcrease Expressway is presently a four-lane arterial route that crosses W 51st Street at an at-grade, signalized intersection; however, plans exist to convert the Gilcrease Expressway into a tolled freeway from I-44 to US-412.

- **Figure 4** shows the central portion of the I-44 study corridor from S 33rd W Avenue to west of the Arkansas River. As shown, I-44 carries two lanes in each direction west of US-75 and picks up a third lane in each direction east of US-75.
    - I-44 is paralleled by two-way arterials through this section – W 51st Street to the north and W Skelly Drive to the south. W 51st Street does not extend across the US-75 interchange while a W Skelly Drive connection on either side of US-75 is provided.



I-44 Corridor AJR Location Map	Figure 1	GARVER
	April 2020	



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I-44 Corridor AJR Study Area Overview	Figure 2	GARVER
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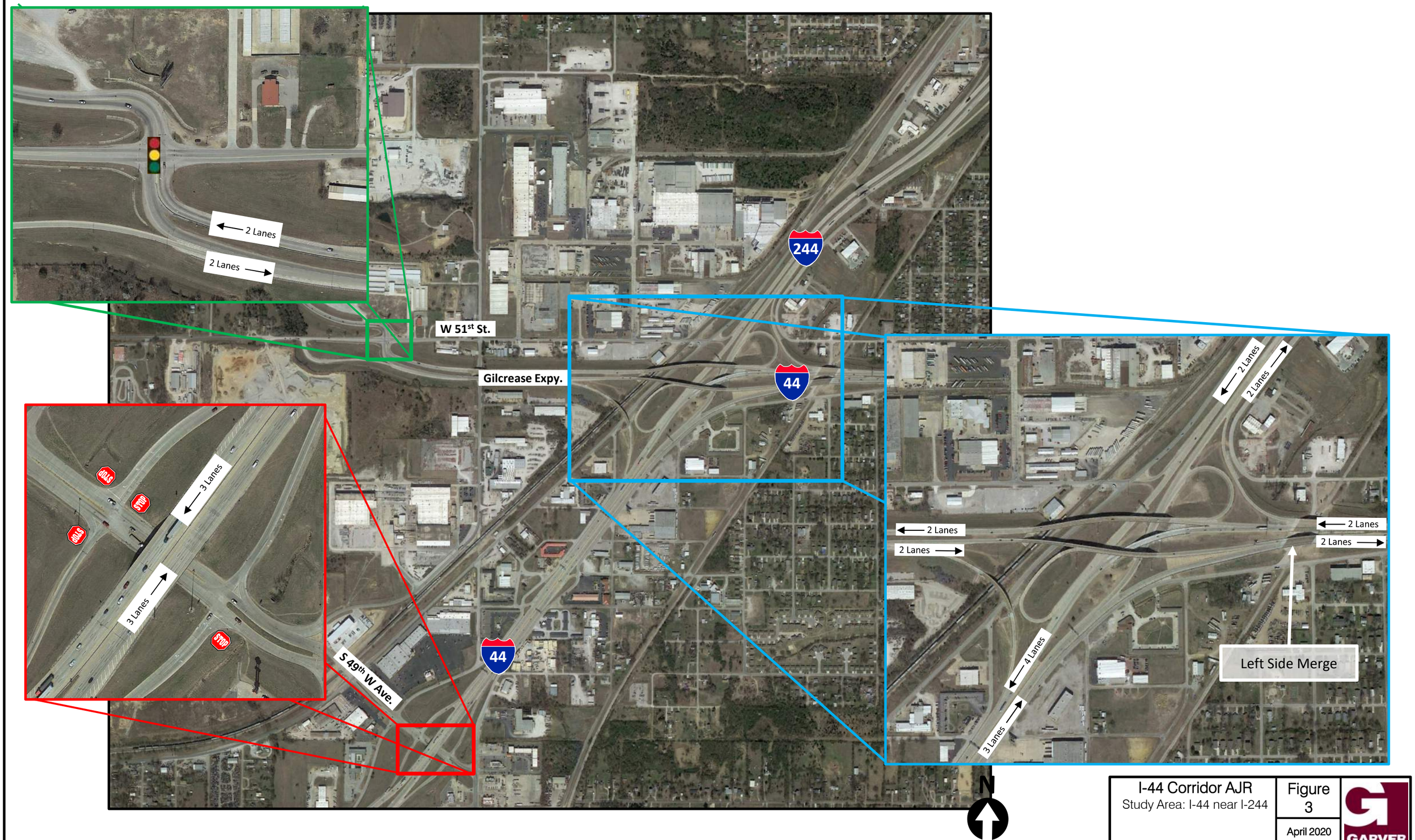
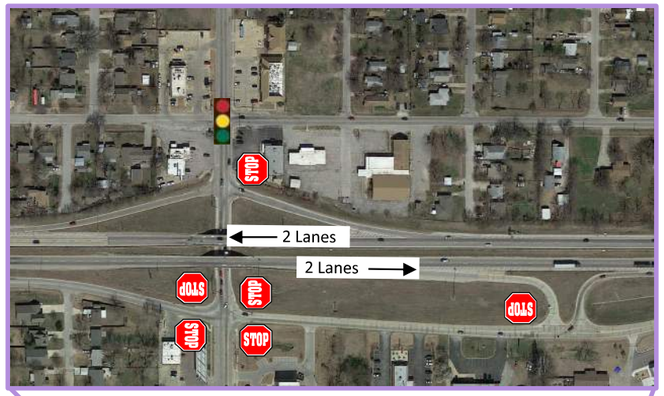
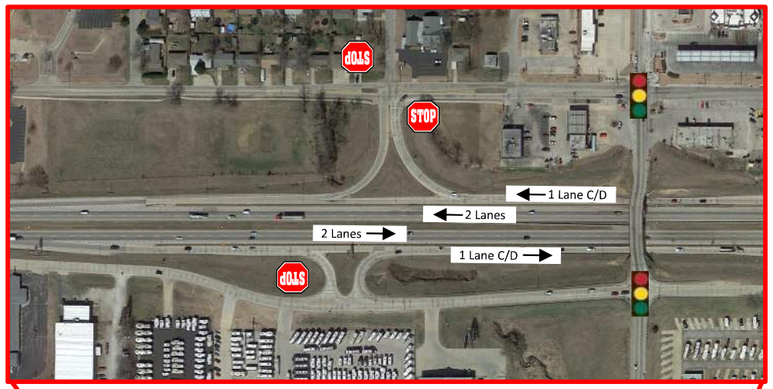
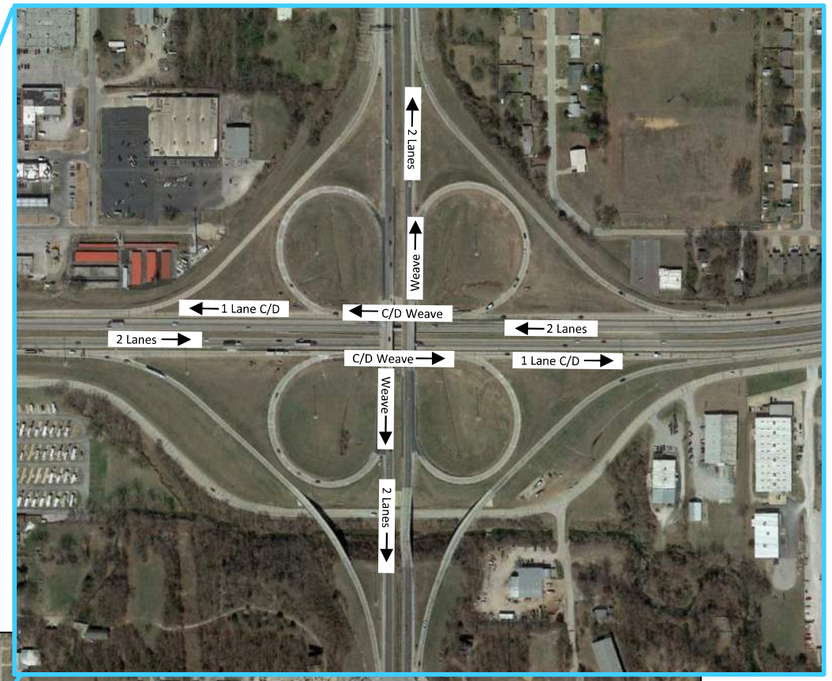


I-44 Corridor AJR Study Area: I-44 near I-244	Figure 3 April 2020	GARVER







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I-44 Corridor AJR Study Area: I-44 near US-75	Figure 4 April 2020	GARVER

  - I-44 spans S 33rd W Avenue with diamond-style interchange ramps provided in the westbound direction connecting directly to S 33rd W Avenue and button-hook style ramps provided on W Skelly Drive just east of S 33rd Avenue.
  - Union Avenue spans I-44 with traffic signals provided at W 51st Street and W Skelly Drive. West of the interchange, access to I-44 is provided with button-hook style ramps connecting W 51st Street and W Skelly Drive to the Collector-Distributor (C-D) ramps linking I-44 to US-75.
  - The C-D ramps parallel I-44 and provide access to the cloverleaf interchange at US-75.
    - East of US-75, button-hook style access is provided via the C-D ramps for eastbound exiting traffic and westbound entering traffic.
    - Additional ramps (westbound exiting, eastbound entering) connect the parallel arterials and Elwood Avenue directly to I-44

- **Figure 5** depicts the interchanges on US-75 north (W 41st Street) and south (W 61st Street) of the I-44 interchange. US-75 features two lanes in each direction through this area with a diamond interchange at W 61st Street. At W 41st Street, the interchange features three diamond style ramps with a button-hook ramp provided in the northeast quadrant.

- **Figure 6** shows I-44 at the east end of the study area east of the Arkansas River. I-44 features three lanes in each direction through this area with entrance and exit ramps provided in both directions between S Peoria Avenue and Riverside Drive. East of the Arkansas River, the parallel arterial routes are one-way only with E 51st Street providing eastbound access and E Skelly Drive providing westbound access (note – the naming convention of the parallel arterials is swapped on either side of the river).

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I-44 Corridor AJR Study Area: US-75 North and South of I-44	Figure 5 April 2020	GARVER

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I-44 Corridor AJR Study Area: I-44 East of River	Figure 6 April 2020	GARVER

1.2 Current Congestion

The main source of congestion noted along I-44 occurs at the US-75 interchange. During the AM peak, the eastbound C-D Road and the US-75 northbound exit ramp are congested due to the heavy ramp volume and the lack of merge distance at the ramp junction with the eastbound C-D Road. This movement backs up onto US-75 during the AM peak and extends to near the 61st Street interchange.

The westbound C-D Road stays congested during both AM and PM peak periods from its originating I-44 exit ramp to the US-75 ramps. This congestion causes significant slowing of traffic in the right-most lane of westbound I-44 upstream of the exit ramp to the C-D Road. During the PM peak, traffic in this outer lane of westbound I-44 comes to a complete stop with queues extending over the Arkansas River Bridge to Peoria Avenue. The traffic along southbound US-75 is also extremely congested in all lanes during the PM peak with max queues observed extending to the entrance ramp at 41st Street to the north. As a result, the weaving movement from I-44 westbound to US-75 southbound is very challenging, and vehicles queue around the ramp all the way to the C-D Road at times as shown in **Figure 7**.

Figure 7: PM Queuing on I-44 Westbound C-D Road to US-75 Southbound

Several of the ramps along I-44 operate inadequately due to lack of acceleration distance, low design speed, and sharp curvature. The entrance ramp from 51st Street to I-44 westbound C-D Road lacks sufficient acceleration distance for trucks to be able to merge successfully. Several times during observations, a truck was observed to come to a complete stop at this entrance ramp and wait for several seconds to several minutes for a gap large enough to safely accelerate onto the C-D Road. Two such trucks are shown in **Figure 8**.

Figure 8: Trucks Stopped at I-44 Westbound C-D Road Entrance Ramp from W 51st Street

In addition, observations of the arterial intersections indicated the following issues:

- S 33rd Avenue at Skelly Drive – All way stop condition causes southbound queuing that blocks the westbound I-44 ramp intersection and causes cycle failure at the signalized S 33rd Avenue/51st Street intersection. The lack of gaps for exit ramp traffic caused ramp queues to near the I-44 mainline in the PM peak period.

- Skelly Drive at Union Avenue – the lack of left turn lanes created cycle failures due to lack of gaps and moderate queuing when less aggressive drivers were turning left.

- 51st Street at Gilcrease Expressway – the northbound left turn movement lacked a protected signal phase and had difficulty finding adequate gaps to complete maneuver.

- Peoria Avenue at 51st Street and Skelly Drive – left turning vehicles under the I-44 Bridge would often exceed storage and spill into adjacent intersections.

1.3 Prior Study

The public involvement effort for this project began with a Major Investment Study (MIS) of US-75 from SH-67 to I-44 completed by ODOT in 1999. The MIS established a Technical Advisory Committee representing key stakeholder agencies. Four public meetings were held between 1996-1999. Public involvement continued through the Environmental Assessment (EA) for the project, which was approved by FHWA with a Finding of No Significant Impact (FONSI) on December 20, 2002. The EA solicited additional input from agencies and ODOT held a public hearing on the EA in August of 2002.

Recent studies were performed supplementing those previously completed from 2001 that included Functional Plans for the interchange. The recent studies included evaluation of two (2) alternatives for corridor improvements (see **Appendix A** for layouts of the two alternatives). The *I-44 Preliminary Engineering Report* summarized findings from the study and multiple review meetings with the Department were held. The conclusion of the initial study was that “Alternative 2” (as identified in the *I-44 Preliminary Engineering Report* and Plan Sheets dated March 2017) was determined to be the preferred alternative due to elimination of an additional loop ramp, removal of a weave on US-75, aligned W 51st Street to have fewer curves, and keeping W Skelly Drive and W 51st Street as two-way. National Environmental Policy Act (NEPA) authorization for the project will consist of a Reevaluation of the 2002 Environmental Assessment for the US-75 corridor from SH-67 to the I-44 interchange. A draft Reevaluation has been submitted to FHWA for review and approval.

2.0 Operational and Safety Analysis

Policy Point 1 - Operational and Safety Analysis

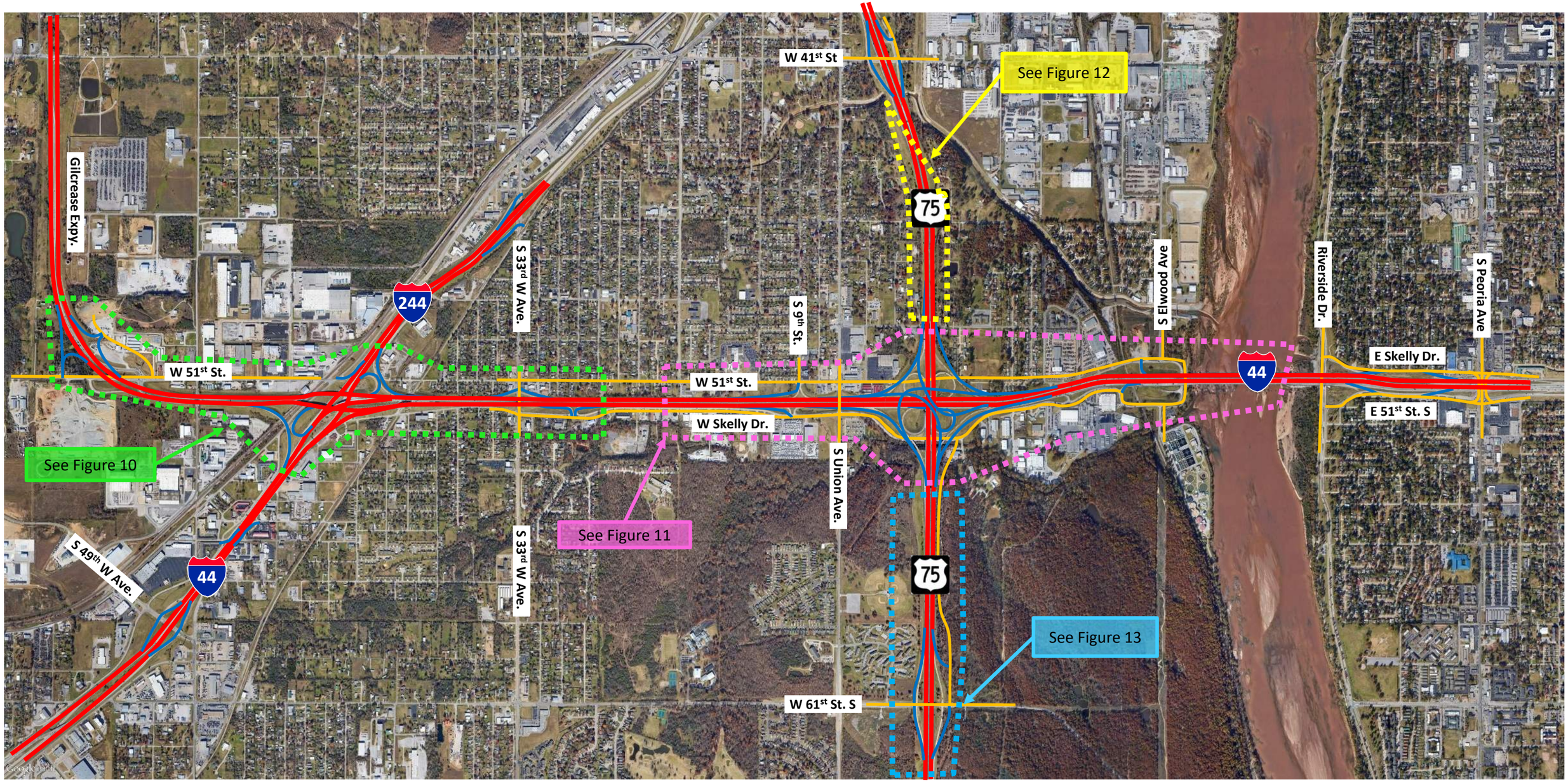
An operational and safety analysis has concluded that the proposed change in access does not have a significant adverse impact on the safety and operation of the Interstate facility (which includes mainline lanes, existing, new, or modified ramps, and ramp intersections with crossroad) or on the local street network based on both the current and the planned future traffic projections. The analysis should, particularly in urbanized areas, include at least the first adjacent existing or proposed interchange on either side of the proposed change in access (Title 23, Code of Federal Regulations (CFR), paragraphs 625.2(a), 655.603(d) and 771.111(f)). The crossroads and the local street network, to at least the first major intersection on either side of the proposed change in access, should be included in this analysis to the extent necessary to fully evaluate the safety and operational impacts that the proposed change in access and other transportation improvements may have on the local street network (23 CFR 625.2(a) and 655.603(d)). Requests for a proposed change in access should include a description and assessment of the impacts and ability of the proposed changes to safely and efficiently collect, distribute, and accommodate traffic on the Interstate facility, ramps, intersection of ramps with crossroad, and local street network (23 CFR 625.2(a) and 655.603(d)). Each request should also include a conceptual plan of the type and location of the signs proposed to support each design alternative (23 U.S.C. 109(d) and 23 CFR 655.603(d)).

An operational and safety analysis was performed per the FHWA policy point stated above to determine whether the proposed modifications in access has a significant adverse impact on the I-44 corridor or on the surrounding street network.

A study area overview map for the improvements on the I-44 corridor is provided in **Figure 9**. **Figures 10-11** depict the proposed configurations of the study area – showing the ramp configurations, number of lanes, and intersection traffic control. As shown,

- **Figure 10** shows the improvements on the west end of the corridor.
    - The proposed updates include the Gilcrease Expressway at W 51st Street intersection (conversion to interchange and intersection improvements).
    - At the I-244/Gilcrease Expressway interchange, a lane addition/lane drop will be provided to I-44 eastbound and from I-44 westbound. The eastbound lane addition will eliminate the existing left side merge.
    - At S 33rd Avenue, traffic signals will be provided at the westbound ramps and on the parallel arterial routes to reduce the congestion presently experienced.
        - Note – the I-44 bridge replacement over S 33rd Avenue and intersection improvement project was separately programmed by ODOT but are incorporated into the ultimate corridor improvements.

- **Figure 11** depicts the proposed interchange configuration at US-75. As shown, the following modifications will be made:
    - Four lanes provided in each direction on I-44 across the Arkansas River with a lane drop/lane add at the east side US-75 ramps – resulting in three lanes in each direction on I-44 under US-75 and to the west.
    - Replacement of three of the four existing loop ramps with flyover direct connector ramps at the US-75 interchange (eastbound to northbound loop ramp to remain).



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I-44 Corridor AJR Build Alternative Ultimate Configuration Overview	Figure 9 April 2020	GARVER

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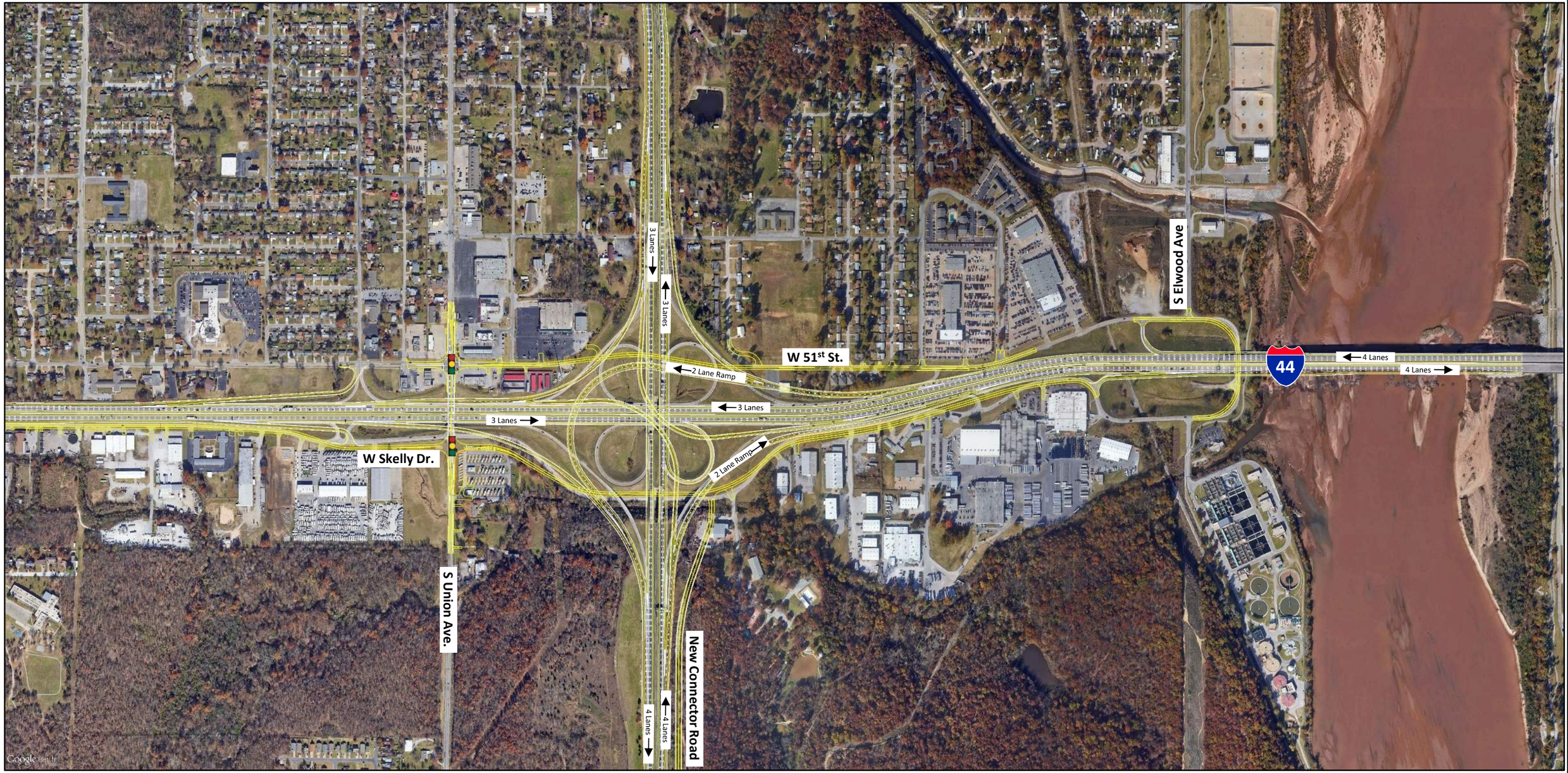
I-44 Corridor AJR Build Alternative I-44 near I-244	Figure 10 April 2020	GARVER



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I-44 Corridor AJR Build Alternative I-44 Near US 75 Interchange	Figure 11 April 2020	GARVER

  - Elimination of I-44 C-D system and consolidation of four ramps - westbound exit ramp to W 51st Street (west of US-75), eastbound entrance ramp from W Skelly Drive (west of US-75), eastbound exit ramp to W Skelly Drive (east of US-75), westbound entrance ramp from W 51st Street (east of US-75).
  - Connection of W 51st Street across US-75 and a new Connector Route from W Skelly Drive to W 61st Street.
  - On US-75, up to 4 lanes in each direction are provided on the approaches to the I-44 interchange with three lanes provided in each direction over I-44.
  - Intersection improvements at the Union Avenue intersections with W 51st Street and W Skelly Drive.
    - Note – the replacement of the Union Bridge over I-44 and intersection improvements was separately programmed by ODOT but are incorporated into the ultimate corridor improvements.

- **Figure 12** depicts how US-75 will taper into the existing cross-section – transitioning from 4 lanes in each direction north of I-44 down to two lanes in each direction prior to the W 41st Street overpass.

- **Figure 13** illustrates the lane configuration of US-75 south of I-44. Four lanes in each direction will be provided between I-44 and the north side ramps to W 61st Street with lane add/drops provided. South of W 61st Street, US-75 widening will continue to make use of existing widened pavement to the W 71st Street interchange.

2.1 Traffic Volumes

Traffic data for the entire study area is depicted in **Appendix B – Traffic Volumes.**

2.1.1 Existing Configuration

Traffic volumes for the existing year, existing configuration were developed for the *I-44 Preliminary Engineering Study* (2017) and are shown in **Figures B-1** and **B-2**. Presently, the corridor features heavy demand on I-44 and US-75 as well as the I-44 C-D Road and ramps at the I-44/US-75 interchange. A breakdown of the traffic volumes within the corridor include:

- **I-44** daily traffic volume varies from approximately 52,000 vehicles per day west of I-244, 55,000 vehicles per day west of US-75, and 84,500 vehicles per day over the Arkansas River bridge.

- **US-75** carries approximately 64,000 vehicles per day south of I-44 and 52,000 vehicles per day north of I-44.

- **I-44 C-D Road** handles 31,000 vehicles per day (combined in both directions) east of US-75 and 12,800 vehicles per day west of US-75 (also combined).

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I-44 Corridor AJR Build Alternative US-75 Near 41st Street Interchange	Figure 12 April 2020	GARVER

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I-44 Corridor AJR
Build Alternative
Near 61st Street
Interchange

Figure 13

April 2020

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- At the **US-75/I-44** interchange, heavy ramp movements include the northbound-eastbound and westbound-southbound ramps (9,200 vehicles per day) and westbound-northbound and southbound-eastbound ramps (5,200 vehicles per day).

- **I-244** daily traffic volume is approximately 20,000 vehicles per day north of I-244, and **Gilcrease Expressway** carries 18,000 vehicles per day west of I-44.

- **Trucks** percentages range from 6-14% on the freeways and 2-10% on the local arterials during the peak hours.

Given that original data collection occurred between 2014 and 2016, supplemental 2017 peak hour counts from ODOT were provided for comparison to ensure the area growth has not exceeded the assumptions initially made in the *I-44 Preliminary Engineering Report.* This comparison is shown in **Figure B-11** for the I-44 and US-75 mainlines and at the ramps of the I-44/US-75 interchange and indicates the 2017 volumes were nearly all less than the comparative existing year design volumes used in the study. Where the ODOT counts were larger, the difference was small and in line with growth expectations – indicating that prior analysis assumptions are holding true. Additional traffic volume comparisons were made using published 2018 AADT traffic volumes from the Indian Nation Council of Governments (INCOG), the Tulsa-area metropolitan planning organization. This comparison shows the study volumes are either larger or very similar as shown below:

- **I-44 east of US-75**: Study volume: 84,500 vehicles per day (vpd), INCOG volume: 84,728 vpd

- **I-44 west of US-75**: Study volume: 55,300 vpd, INCOG volume: 52,117 vpd

- **US-75 north of I-44:** Study volume: 52,500 vpd, INCOG volume: 46,398 vpd

- **US-75 south of I-44:** Study volume: 64,000 vpd, INCOG volume: 60,487 vpd

Traffic volumes for the No Build scenario were developed for the 2045 design year and are shown in **Figures B-3 – B-5.** To develop the design year demand, a background growth rate of approximately 1 to 1.5% per year was first applied to the network. Then, volumes on the corridor were adjusted to account for the construction of the Gilcrease Expressway which will connect the study area with west Tulsa and shift some regional traffic patterns. At the I-44/US-75 interchange, these shifts caused additional growth for the eastbound-southbound and northbound-westbound ramps, an additional increase on I-44 west of US-75, and less growth on US-75 north of I-44. In the design year, I-44 will carry over 100,000 vehicles per day east of US-75 and 70,000 vehicles per day east of the Gilcrease Expressway/I-244 interchange. US-75 will grow to more than 95,000 vehicles per day south of I-44, and the Gilcrease Expressway will carry nearly 35,000 vehicles per day in 2045 once upgraded to a full freeway.

2.1.2 Proposed Configuration

Traffic volumes for the proposed alternative were developed for the existing year and design year using the no build volumes as a base and are depicted in **Figures B-6 – B-10.** Shifts were applied for the proposed configurations due to the elimination of four current ramps linking W 51st Street and W Skelly Drive with the I-44 C-D system, the provision of a Connector Route between W Skelly Drive and W 61st Street, and the connection of W 51st Street across the US-75/I-44 interchange. These connections and ramp closures result in different traffic patterns at the Union Avenue intersections with W Skelly Drive and W 51st Street and moderate increases to ramp volumes at the W 41st Street and W 61st Street interchanges.

For supplemental guidance, traffic volumes for the first work package of projects (WP-1) were developed. These volumes – projected for an opening year of 2021 – are shown in **Figures B-12 – B-14**. Work Package (WP-1) has been programmed to include the widening of I-44 from near Union Avenue extending east to near the bridges over the TSU Railroad as part of a larger corridor improvement plan. The project will also replace the existing US-75 bridges over both I-44 and Mooser Creek/Skelly Drive, close the eastbound entrance ramp from W Skelly Drive to the I-44 eastbound C-D Road, and provide a weave segment (rather than the current yield) from the northbound-eastbound entrance ramp to the W Skelly Drive exit ramp along the I-44 eastbound C-D Road.

2.2 Operational Analysis – Freeway Conditions

An operational analysis for freeway performance was performed for the current and Build configurations for the I-44 and US-75 freeway corridors using Version 6 release of the *Highway Capacity Manual* (HCM).

2.2.1 Methodology

For freeway operation, Level of Service (LOS) analysis was conducted for the freeway mainline and ramp merge and diverge areas using *Highway Capacity Software* (HCS7) freeway facility module that uses the HCM for evaluation. The facilities module yields results that use both demand to capacity ratios as well as adjusting for bottlenecks in situations where upstream or downstream segments have demand that exceed capacity. Models were configured separately for I-44 and US-75 with approximations made to represent the system-to-system interchanges, ramp spacing, and lane drops at interchanges. This analysis was captured in the *I-44 Preliminary Engineering Report*.

For the AJR, VISSIM software was also used to evaluate the corridor. VISSIM provides microsimulation to effectively gauge the congestion occurring in the network due to lane utilization, downstream congestion/spillback, and performance at the tight vehicle merges and weaves within the corridor.

2.2.2 Freeway Analysis– Existing Year Analysis

The HCM results for the existing year for the current and proposed freeway configuration are shown in **Tables 1-4 (I-44) and Tables 5-8 (US-75).** For cases where demand exceeds capacity, the density-based LOS was used with footnote explanation of constrained segments or segments subject to spillback. These tables also depict the LOS for the proposed improvement options. Because the software required multiple files to model both directions of I-44 and US-75 during a given peak period, consideration was given to adjustments to represent the constrained volume (rather than the demand volume) that would enter the modeled network at the system to system interchanges.

The existing year results indicate LOS E on I-44 during the AM peak period near the exit ramp to the eastbound C-D due to overlapping influence areas between closely spaced ramps and the short diverge distance provided at the eastbound C-D Road. In the PM peak period, LOS F conditions on I-44 occur at the exit ramp to the westbound C-D Road. The single lane I-44 C-D Road was found to exceed its theoretical capacity of 1,900 passenger cars per hour per lane during both peak periods. On US-75, the results showed LOS E and F conditions on northbound US-75 south of I-44 in the AM peak, and LOS E conditions on southbound segments between I-44 and W 61st Street in the PM peak.

For the Build scenario, the existing demand will produce LOS B/C conditions where improvements are applied. At the US-75 northbound exit ramp, the HCS analysis showed an increase in density due to the increased ramp volume that pushed the LOS D condition in the existing configuration to LOS E in the build configuration mostly due to the relatively short diverge distance (300'). This condition could be alleviated by extending the diverge distance by 100' or by providing a third northbound lane (an option also shown in the tables and discussed later).

Table 1 – I-44 Level of Service, Westbound Direction – 2016 AM Peak Period (HCS)

Direction	I-44 Segment	Existing		I-44 Segment	Proposed	
		Type	LOS		Type	LOS
WB	East of Peoria Ave.	Basic	B	East of Peoria Ave.	Basic	B
	Off-Ramp to Riverside Dr.	Diverge	C	Off-Ramp to Riverside Dr.	Diverge	C
	Between Off-Ramp to Riverside Dr. and On-Ramp from Peoria Ave.	Basic	B	Between Off-Ramp to Riverside Dr. and On-Ramp from Peoria Ave.	Basic	B
	On-Ramp from Peoria Ave.	Merge	C	On-Ramp from Peoria Ave.	Merge	B
	Between On-Ramp from Peoria Ave. and Off-Ramp to 51st St.	Basic	C	Between On-Ramp from Peoria Ave. and Off-Ramp to 51st St.	Basic	B
	Off-Ramp to 51st St.	Diverge	C	Off-Ramp to 51st St.	Diverge	B
	Between Off-Ramp to 51st St. and Off-Ramp to CD	Basic	C	Between Off-Ramp to 51st St. and Off-Ramp to US-75	Basic	B
	Off-Ramp to CD	Diverge	C	Off-Ramp to US-75	Diverge	A
	Between CD Ramps	Basic	B	Between US-75 Ramps	Basic	A
	I-44 WB CD Weaving Segment within US-75 Interchange	Weave	B	Does not Exist		
	On-Ramp from CD	Merge	C	On-Ramp from US-75	Merge	B
	Between On-Ramp from CD and Off-Ramp to 33rd Ave.	Basic	C	Between On-Ramp from US-75 and Off-Ramp to 9th St.	Basic	B
	Off-Ramp to 33rd Ave.	Diverge	C	On-Ramp from 9th St. through Off-Ramp to 33rd Ave.	Weave	B
	Between 33rd Ave. Ramps	Basic	B	Between 33rd Ave. Ramps	Basic	A
	On-Ramp from 33rd Ave. through Off-Ramp to I-244 NB	Weave	B	On-Ramp from 33rd Ave. through Off-Ramp to I-244 NB	Weave	A
	Off-Ramp to Gilcrease Expwy.	Diverge	C	Off-Ramp to Gilcrease Expwy.	Diverge	B
	North of On-Ramp from Gilcrease Expwy.	Basic	A	North of On-Ramp from Gilcrease Expwy.	Basic	A
	On-Ramp from Gilcrease Expwy. through Off-Ramp to 56th St.	Weave	A	On-Ramp from Gilcrease Expwy. through Off-Ramp to 56th St.	Weave	A
	Between Off-Ramp to 56th St. and Off-Ramp to 49th Ave.	Basic	B	Between Off-Ramp to 56th St. and Off-Ramp to 49th Ave.	Basic	B
	Off-Ramp to 49th Ave.	Diverge	A	Off-Ramp to 49th Ave.	Diverge	A
	Between 49th Ave. Ramps	Basic	B	Between 49th Ave. Ramps	Basic	B
	On-Ramp from 49th Ave.	Merge	B	On-Ramp from 49th Ave.	Merge	B

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Constrained volumes were factored from adjacent US 75 model/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown
[3]Weave capacity is exceeded
[4]Volumes are constrained upstream; actual demand would result in LOS F
[5]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1

Table 2 – I-44 Level of Service, Eastbound Direction – 2016 AM Peak Period (HCS)

Direction	I-44 Segment	Existing		I-44 Segment	Proposed	
		Type	LOS		Type	LOS
EB	South of 49th Ave.	Basic	C	South of 49th Ave.	Basic	C
	Off-Ramp to 49th Ave.	Diverge	B	Off-Ramp to 49th Ave.	Diverge	B
	Between 49th Ave. Ramps	Basic	B	Between 49th Ave. Ramps	Basic	B
	On-Ramp from 49th Ave. through Off-Ramp to 55th Pl.	Weave	B	On-Ramp from 49th Ave. through Off-Ramp to 55th Pl.	Weave	B
	Between Off-Ramp to 55th Pl. and I-244 Interchange	Basic	C	Between Off-Ramp to 55th Pl. and I-244 Interchange	Basic	C
	West of Gilcrease Expwy. On-Ramp	Basic	C	West of Gilcrease Expwy. On-Ramp	Basic	C
	On-Ramp from Gilcrease Expwy. through Off-Ramp to Skelly Rd.	Weave	D	On-Ramp from Gilcrease Expwy. through Off-Ramp to Skelly Rd.	Weave	B
	Between Off-Ramp to Skelly Rd. and On-Ramp from Skelly Rd.	Basic	D	Between Skelly Rd. Ramps (33rd St.)	Basic	B
	On-Ramp from Skelly Rd.	Merge	D	On-Ramp from Skelly Rd. (33rd St.)	Merge	B
	West of Union Ave. Overpass	Basic	E	Between On-Ramp from Skelly Rd. (33rd St.) and Off-Ramp to	Ramp Overlap	C
	Does not Exist			Off-Ramp to Skelly Rd. (Union Ave.)	Diverge	C
				Between Off-Ramp to Skelly Rd. (Union Ave.) and Off-Ramp to US-75 SB	Basic	C
	Off-Ramp to CD	Diverge	E	Off-Ramp to US-75 SB	Diverge	C
	Across US-75	Basic	D	Between Off-Ramp to US-75 SB and Off-Ramp to US-75 NB	Basic	B
	I-44 CD Weaving Segment within US-75 Interchange	Weave	B	Off-Ramp to US-75 NB	Diverge	B
	Does not Exist			Between Off-Ramp to US-75 NB and On-Ramp from US-75 SB	Basic	B
				On-Ramp from US-75 SB	Merge	C
				Between On-Ramp from US-75 SB and On-Ramp from US-75 NB	Basic	C
	On-Ramp from CD east of US-75 Interchange	Merge	D	On-Ramp from US-75 NB	Merge	C
	Between On-Ramp from CD and On-Ramp from Skelly Rd.	Basic	D	Between On-Ramp from US-75 NB and On-Ramp from Skelly Rd.	Basic	C
	On-Ramp from Skelly Rd.	Merge	D	On-Ramp from Skelly Rd. (Elwood Ave.)	Merge	B
	Across River	Ramp Overlap	D	Between On-Ramp from Skelly Rd. (Elwood Ave.) and Off-Ramp	Basic	C
	Off-Ramp to Peoria Ave.	Diverge	C	Off-Ramp to Peoria Ave.	Diverge	C
	Between Off-Ramp to Peoria Ave. and On-Ramp from Riverside Dr.	Basic	C	Between Off-Ramp to Peoria Ave. and On-Ramp from Riverside Dr.	Basic	C
	On-Ramp from Riverside Dr.	Merge	C	On-Ramp from Riverside Dr.	Merge	C
	Across Peoria Ave.	Basic	D	East of On-Ramp from Riverside Dr.	Basic	D

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Constrained volumes were factored from adjacent US 75 model/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown
[3]Weave capacity is exceeded
[4]Volumes are constrained upstream; actual demand would result in LOS F
[5]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1

Table 3 – I-44 Level of Service, Westbound Direction – 2016 PM Peak Period (HCS)

Direction	I-44 Segment	Existing		I-44 Segment	Proposed	
		Type	LOS		Type	LOS
WB	East of Peoria Ave.	Basic	D	East of Peoria Ave.	Basic	D
	Off-Ramp to Riverside Dr.	Diverge	D	Off-Ramp to Riverside Dr.	Diverge	D
	Between Off-Ramp to Riverside Dr. and On-Ramp from Peoria Ave.	Basic	C	Between Off-Ramp to Riverside Dr. and On-Ramp from Peoria Ave.	Basic	C
	On-Ramp from Peoria Ave.	Merge	C	On-Ramp from Peoria Ave.	Merge	C
	Between On-Ramp from Peoria Ave. and Off-Ramp to 51st St.	Basic	D	Between On-Ramp from Peoria Ave. and Off-Ramp to 51st St.	Basic	C
	Off-Ramp to 51st St.	Diverge	D	Off-Ramp to 51st St.	Diverge	B
	Between Off-Ramp to 51st St. and Off-Ramp to CD	Basic	D	Between Off-Ramp to 51st St. and Off-Ramp to US-75	Basic	C
	Off-Ramp to CD	Diverge	F[1]	Off-Ramp to US-75	Diverge	B
	Between CD Ramps	Basic	C	Between US-75 Ramps	Basic	B
	I-44 WB CD Weaving Segment within US-75 Interchange	Weave	D	Does not Exist		
	On-Ramp from CD	Merge	D	On-Ramp from US-75	Merge	B
	Between On-Ramp from CD and Off-Ramp to 33rd Ave.	Basic	D	Between On-Ramp from US-75 and Off-Ramp to 9th St.	Basic	C
	Off-Ramp to 33rd Ave.	Diverge	D[2]	On-Ramp from 9th St. through Off-Ramp to 33rd Ave.	Weave	B
	Between 33rd Ave. Ramps	Basic	C	Between 33rd Ave. Ramps	Basic	B
	On-Ramp from 33rd Ave. through Off-Ramp to I-244 NB	Weave	B	On-Ramp from 33rd Ave. through Off-Ramp to I-244 NB	Weave	B
	Off-Ramp to Gilcrease Expwy.	Diverge	D	Off-Ramp to Gilcrease Expwy.	Diverge	B
	North of On-Ramp from Gilcrease Expwy.	Basic	B	North of On-Ramp from Gilcrease Expwy.	Basic	B
	On-Ramp from Gilcrease Expwy. through Off-Ramp to 56th St.	Weave	B	On-Ramp from Gilcrease Expwy. through Off-Ramp to 56th St.	Weave	B
	Between Off-Ramp to 56th St. and Off-Ramp to 49th Ave.	Basic	B	Between Off-Ramp to 56th St. and Off-Ramp to 49th Ave.	Basic	B
	Off-Ramp to 49th Ave.	Diverge	C	Off-Ramp to 49th Ave.	Diverge	C
	Between 49th Ave. Ramps	Basic	B	Between 49th Ave. Ramps	Basic	B
	On-Ramp from 49th Ave.	Merge	B	On-Ramp from 49th Ave.	Merge	B

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Constrained volumes were factored from adjacent US 75 model/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown
[3]Weave capacity is exceeded
[4]Volumes are constrained upstream; actual demand would result in LOS F
[5]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1

Table 4 – I-44 Level of Service, Eastbound Direction – 2016 PM Peak Period (HCS)

Direction	I-44 Segment	Existing		I-44 Segment	Proposed	
		Type	LOS		Type	LOS
EB	South of 49th Ave.	Basic	B	South of 49th Ave.	Basic	B
	Off-Ramp to 49th Ave.	Diverge	B	Off-Ramp to 49th Ave.	Diverge	B
	Between 49th Ave. Ramps	Basic	A	Between 49th Ave. Ramps	Basic	A
	On-Ramp from 49th Ave. through Off-Ramp to 55th Pl.	Weave	B	On-Ramp from 49th Ave. through Off-Ramp to 55th Pl.	Weave	B
	Between Off-Ramp to 55th Pl. and I-244 Interchange	Basic	B	Between Off-Ramp to 55th Pl. and I-244 Interchange	Basic	B
	West of Gilcrease Expwy. On-Ramp	Basic	B	West of Gilcrease Expwy. On-Ramp	Basic	B
	On-Ramp from Gilcrease Expwy. through Off-Ramp to Skelly Rd.	Weave	C	On-Ramp from Gilcrease Expwy. through Off-Ramp to Skelly Rd.	Weave	B
	Between Off-Ramp to Skelly Rd. and On-Ramp from Skelly Rd.	Basic	C	Between Skelly Rd. Ramps (33rd St.)	Basic	B
	On-Ramp from Skelly Rd.	Merge	C	On-Ramp from Skelly Rd. (33rd St.)	Merge	B
	West of Union Ave. Overpass	Basic	C	Between On-Ramp from Skelly Rd. (33rd St.) and Off-Ramp to	Ramp Overlap	B
	Does not Exist			Off-Ramp to Skelly Rd. (Union Ave.)	Diverge	B
				Between Off-Ramp to Skelly Rd. (Union Ave.) and Off-Ramp to US-75 SB	Basic	B
	Off-Ramp to CD	Diverge	C	Off-Ramp to US-75 SB	Diverge	B
	Across US-75	Basic	B	Between Off-Ramp to US-75 SB and Off-Ramp to US-75 NB	Basic	B
	I-44 CD Weaving Segment within US-75 Interchange	Weave	B	Off-Ramp to US-75 NB	Diverge	A
	Does not Exist			Between Off-Ramp to US-75 NB and On-Ramp from US-75 SB	Basic	B
				On-Ramp from US-75 SB	Merge	B
				Between On-Ramp from US-75 SB and On-Ramp from US-75 NB	Basic	B
	On-Ramp from CD east of US-75 Interchange	Merge	C	On-Ramp from US-75 NB	Merge	B
	Between On-Ramp from CD and On-Ramp from Skelly Rd.	Basic	C	Between On-Ramp from US-75 NB and On-Ramp from Skelly Rd.	Basic	B
	On-Ramp from Skelly Rd.	Merge	C	On-Ramp from Skelly Rd. (Elwood Ave.)	Merge	B
	Across River	Ramp Overlap	C	Between On-Ramp from Skelly Rd. (Elwood Ave.) and Off-Ramp	Basic	C
	Off-Ramp to Peoria Ave.	Diverge	C	Off-Ramp to Peoria Ave.	Diverge	B
	Between Off-Ramp to Peoria Ave. and On-Ramp from Riverside Dr.	Basic	B	Between Off-Ramp to Peoria Ave. and On-Ramp from Riverside Dr.	Basic	C
	On-Ramp from Riverside Dr.	Merge	B	On-Ramp from Riverside Dr.	Merge	B
	Across Peoria Ave.	Basic	C	East of On-Ramp from Riverside Dr.	Basic	C

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Constrained volumes were factored from adjacent US 75 model/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown
[3]Weave capacity is exceeded
[4]Volumes are constrained upstream; actual demand would result in LOS F
[5]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1

Table 5 – US-75 Level of Service, Northbound Direction – 2016 AM Peak Period (HCS)

Direction	US-75 Segment	Existing		US-75 Segment	Proposed		US-75 Segment	Proposed-3rd NB lane	
		Type	LOS		Type	LOS		Type	LOS
NB	South of 61st St.	Basic	F	South of 61st St.	Basic	C	South of 61st St.	Basic	C
	Off-Ramp to 61st St.	Diverge	F[1]	Off-Ramp to 61st St.	Diverge	B	Off-Ramp to 61st St.	Diverge	B
	Between 61st St. Ramps	Basic	F	Between 61st St. Ramps	Basic	C	Between 61st St. Ramps	Basic	C
	On-Ramp from 61st St.	Merge	E	Does not Exist			Does not Exist		
	Does not Exist			On-Ramp from 61st St. through Off-Ramp to I-44	Weave	C	On-Ramp from 61st St. through Off-Ramp to I-44	Weave	C
	Between On-Ramp from 61st St. and Off-Ramp to I-44 EB	Ramp Overlap	E[2]	Does not Exist			Does not Exist		
	Off-Ramp to I-44 EB	Diverge	E[2]						
	Between I-44 EB Ramps	Basic	C	Between I-44 EB Ramps	Basic	B	Between I-44 EB Ramps	Basic	B
	Does not Exist			On-Ramp from I-44 EB	Merge	B	On-Ramp from I-44 EB	Merge	B
	On-Ramp from I-44 EB through Off-Ramp to I-44 WB	Weave	B	Does not Exist			Does not Exist		
	Between I-44 WB Ramps	Basic	C	Between On-Ramp from I-44 EB and On-Ramp from I-44 WB	Basic	B	Between On-Ramp from I-44 EB and On-Ramp from I-44 WB	Basic	B
	On-Ramp from I-44 WB	Merge	D	On-Ramp from I-44 WB	Merge	C	On-Ramp from I-44 WB	Merge	C
	Does not Exist			Between On-Ramp from I-44 WB and lane drop	Basic	C	Does not Exist		
	Between On-Ramp from I-44 WB and Off-Ramp to 41st St.	Basic	D	Between lane drop and Off-Ramp to 41st St.	Basic	D	Between On-Ramp from I-44 WB and Off-Ramp to 41st St.	Basic	C
	Off-Ramp to 41st St.	Diverge	D	Off-Ramp to 41st St.	Diverge	E	Off-Ramp to 41st St.	Diverge	C
	Between 41st St. Ramps	Basic	D	Between 41st ST. Ramps	Basic	D	Between 41st ST. Ramps	Basic	C
	On-Ramp from 41st St.	Merge	D	On-Ramp from 41st St.	Merge	D	On-Ramp from 41st St.	Merge	C
	North of 41st St.	Basic	D	North of 41st St.	Basic	D	North of 41st St.	Basic	C

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Volumes are constrained upstream; actual demand would result in LOS F
[3]Weave capacity is exceeded
[4]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1
[5]Constrained volumes were factored from adjacent I-44/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown

Table 6 – US-75 Level of Service, Southbound Direction – 2016 AM Peak Period (HCS)

Direction	US-75 Segment	Existing		US-75 Segment	Proposed		US-75 Segment	Proposed-3rd NB lane	
		Type	LOS		Type	LOS		Type	LOS
SB	North of 41st St.	Basic	B	North of 41st St.	Basic	B	North of 41st St.	Basic	B
	Off-Ramp to 41st St.	Diverge	B	Off-Ramp to 41st St.	Diverge	B	Off-Ramp to 41st St.	Diverge	B
	Between 41st St. Ramps	Basic	B	Between 41st St. Ramps	Basic	B	Between 41st St. Ramps	Basic	B
	On-Ramp from 41st St.	Merge	B	On-Ramp from 41st St.	Merge	A	On-Ramp from 41st St.	Merge	A
	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	B	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	A	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	A
	Off-Ramp to I-44 WB	Diverge	B	Off-Ramp to I-44	Diverge	A	Off-Ramp to I-44	Diverge	A
	Between I-44 WB Ramps	Basic	B	Between I-44 Ramps	Basic	A	Between I-44 Ramps	Basic	A
	On-Ramp from I-44 WB through Off-Ramp to I-44 EB	Weave	B	Does not Exist			Does not Exist		
	Between Off-Ramp to I-44 EB and On-Ramp from I-44 EB	Basic	B						
	On-Ramp from I-44 EB	Merge	C	On-Ramp from I-44	Merge	A	On-Ramp from I-44	Merge	A
	Between On-Ramp from I-44 EB and Off-Ramp to 61st St.	Ramp Overlap	C	Between On-Ramp from I-44 and Off-Ramp to 61st St.	Ramp Overlap	A	Between On-Ramp from I-44 and Off-Ramp to 61st St.	Ramp Overlap	A
	Off-Ramp to 61st St.	Diverge	C	Off-Ramp to 61st St.	Diverge	A	Off-Ramp to 61st St.	Diverge	A
	Between 61st St. Ramps	Basic	B	Between 61st St. Ramps	Basic	A	Between 61st St. Ramps	Basic	A
	On-Ramp from 61st St.	Merge	C	On-Ramp from 61st St.	Merge	B	On-Ramp from 61st St.	Merge	B
	South of 61st St.	Basic	C	South of 61st St.	Basic	B	South of 61st St.	Basic	B

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Volumes are constrained upstream; actual demand would result in LOS F
[3]Weave capacity is exceeded
[4]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1
[5]Constrained volumes were factored from adjacent I-44/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown

Table 7 – US-75 Level of Service, Northbound Direction – 2016 PM Peak Period (HCS)

Direction	US-75 Segment	Existing		US-75 Segment	Proposed		US-75 Segment	Proposed-3rd NB lane	
		Type	LOS		Type	LOS		Type	LOS
NB	South of 61st St.	Basic	C	South of 61st St.	Basic	B	South of 61st St.	Basic	B
	Off-Ramp to 61st St.	Diverge	C	Off-Ramp to 61st St.	Diverge	B	Off-Ramp to 61st St.	Diverge	B
	Between 61st St. Ramps	Basic	C	Between 61st St. Ramps	Basic	B	Between 61st St. Ramps	Basic	B
	On-Ramp from 61st St.	Merge	C	Does not Exist			Does not Exist		
	Does not Exist			On-Ramp from 61st St. through Off-Ramp to I-44	Weave	B	On-Ramp from 61st St. through Off-Ramp to I-44	Weave	B
	Between On-Ramp from 61st St. and Off-Ramp to I-44 EB	Ramp Overlap	D	Does not Exist			Does not Exist		
	Off-Ramp to I-44 EB	Diverge	C						
	Between I-44 EB Ramps	Basic	B	Between I-44 EB Ramps	Basic	A	Between I-44 EB Ramps	Basic	A
	Does not Exist			On-Ramp from I-44 EB	Merge	A	On-Ramp from I-44 EB	Merge	A
	On-Ramp from I-44 EB through Off-Ramp to I-44 WB	Weave	B	Does not Exist			Does not Exist		
	Between I-44 WB Ramps	Basic	B	Between On-Ramp from I-44 EB and On-Ramp from I-44 WB	Basic	A	Between On-Ramp from I-44 EB and On-Ramp from I-44 WB	Basic	A
	On-Ramp from I-44 WB	Merge	C	On-Ramp from I-44 WB	Merge	B	On-Ramp from I-44 WB	Merge	B
	Does not Exist			Between On-Ramp from I-44 WB and lane drop	Basic	B	Does not Exist		
	Between On-Ramp from I-44 WB and Off-Ramp to 41st St.	Basic	C	Between lane drop and Off-Ramp to 41st St.	Basic	C	Between On-Ramp from I-44 WB and Off-Ramp to 41st St.	Basic	B
	Off-Ramp to 41st St.	Diverge	C	Off-Ramp to 41st St.	Diverge	C	Off-Ramp to 41st St.	Diverge	B
	Between 41st St. Ramps	Basic	B	Between 41st ST. Ramps	Basic	B	Between 41st ST. Ramps	Basic	A
	On-Ramp from 41st St.	Merge	C	On-Ramp from 41st St.	Merge	C	On-Ramp from 41st St.	Merge	B
	North of 41st St.	Basic	C	North of 41st St.	Basic	C	North of 41st St.	Basic	B

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Volumes are constrained upstream; actual demand would result in LOS F
[3]Weave capacity is exceeded
[4]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1
[5]Constrained volumes were factored from adjacent I-44/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown

Table 8 – US-75 Level of Service, Southbound Direction – 2016 PM Peak Period (HCS)

Direction	US-75 Segment	Existing		US-75 Segment	Proposed		US-75 Segment	Proposed-3rd NB lane	
		Type	LOS		Type	LOS		Type	LOS
SB	North of 41st St.	Basic	D	North of 41st St.	Basic	D	North of 41st St.	Basic	D
	Off-Ramp to 41st St.	Diverge	D	Off-Ramp to 41st St.	Diverge	D	Off-Ramp to 41st St.	Diverge	D
	Between 41st St. Ramps	Basic	C	Between 41st St. Ramps	Basic	C	Between 41st St. Ramps	Basic	C
	On-Ramp from 41st St.	Merge	D	On-Ramp from 41st St.	Merge	B	On-Ramp from 41st St.	Merge	B
	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	D	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	B	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	B
	Off-Ramp to I-44 WB	Diverge	D	Off-Ramp to I-44	Diverge	A	Off-Ramp to I-44	Diverge	A
	Between I-44 WB Ramps	Basic	D	Between I-44 Ramps	Basic	B	Between I-44 Ramps	Basic	B
	On-Ramp from I-44 WB through Off-Ramp to I-44 EB	Weave	E	Does not Exist			Does not Exist		
	Between Off-Ramp to I-44 EB and On-Ramp from I-44 EB	Basic	D						
	On-Ramp from I-44 EB	Merge	E	On-Ramp from I-44	Merge	B	On-Ramp from I-44	Merge	B
	Between On-Ramp from I-44 EB and Off-Ramp to 61st St.	Ramp Overlap	E	Between On-Ramp from I-44 and Off-Ramp to 61st St.	Ramp Overlap	B	Between On-Ramp from I-44 and Off-Ramp to 61st St.	Ramp Overlap	B
	Off-Ramp to 61st St.	Diverge	E	Off-Ramp to 61st St.	Diverge	B	Off-Ramp to 61st St.	Diverge	B
	Between 61st St. Ramps	Basic	E	Between 61st St. Ramps	Basic	C	Between 61st St. Ramps	Basic	C
	On-Ramp from 61st St.	Merge	E	On-Ramp from 61st St.	Merge	B	On-Ramp from 61st St.	Merge	B
	South of 61st St.	Basic	E	South of 61st St.	Basic	C	South of 61st St.	Basic	C

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Volumes are constrained upstream; actual demand would result in LOS F
[3]Weave capacity is exceeded
[4]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1
[5]Constrained volumes were factored from adjacent I-44/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown

2.2.3 Freeway Analysis – Design Year Volumes

The HCM results for the design year for the current and proposed freeway configuration are shown in **Tables 9-12 (I-44) and Tables 13-16 (US-75)**.

For the No Build condition in the design year, the I-44 eastbound ramp merge, diverge and weave segments would hit LOS F conditions between the I-244/Gilcrease Expressway interchange and the US-75 interchange during the AM peak period. During the PM peak period, the design year demand would cause the No Build condition to operate with LOS E segments on I-44 in the eastbound direction and LOS F conditions in the westbound direction. The westbound volume would be constrained on the east side of the US-75 interchange but would still yield LOS E conditions downstream at the S 33rd Avenue and I-244/Gilcrease Expressway interchanges.

For US-75, the No Build results indicate LOS F conditions in the northbound direction of the AM peak period between W 61st Street and I-44 which constrain downstream demand to LOS E/D conditions. During the PM peak hour, the southbound direction will have extreme congestion throughout the corridor. The entrance ramps to US-75 at the I-44 interchange will create a bottleneck that constrains volumes and results in LOS F conditions to the north and LOS E conditions to the south (due to upstream volume not being able to pass through the network). The northbound direction will have segments with LOS E conditions in the PM peak period as well.

In the build condition, the I-44 mainline will operate at LOS D or better through the improvement area in 2045. East of the Arkansas River at Peoria Avenue where the corridor improvements transition into the current cross-section, LOS E conditions will be present, which is an improvement from the LOS F conditions due to spillback from downstream congestion at US-75 in the PM peak period.

On US-75, the build condition will relieve congestion on US-75 south of I-44 but will encounter a bottleneck in the AM peak period by 2045 if US-75 widening is not extended north of W 41st Street. The HCM results showed LOS F conditions at the lane drop, which produced spillback and degraded conditions on US-75 to the south. A sub-option featuring a third northbound lane was tested and is shown in **Tables 13-16.** With the extra lane on US-75 north of the project, LOS D or better conditions are provided on northbound US-75. In the PM peak, LOS E conditions are present in the southbound direction on US-75 prior to the start of the project improvements but does not serve as a capacity constraint to downstream segments.

Table 9 – I-44 Level of Service, Westbound Direction – 2045 AM Peak Period (HCS)

Direction	I-44 Segment	Existing		I-44 Segment	Proposed	
		Type	LOS		Type	LOS
WB	East of Peoria Ave.	Basic	C	East of Peoria Ave.	Basic	C
	Off-Ramp to Riverside Dr.	Diverge	C	Off-Ramp to Riverside Dr.	Diverge	C
	Between Off-Ramp to Riverside Dr. and On-Ramp from Peoria Ave.	Basic	C	Between Off-Ramp to Riverside Dr. and On-Ramp from Peoria Ave.	Basic	C
	On-Ramp from Peoria Ave.	Merge	C	On-Ramp from Peoria Ave.	Merge	C
	Between On-Ramp from Peoria Ave. and Off-Ramp to 51st St.	Basic	C	Between On-Ramp from Peoria Ave. and Off-Ramp to 51st St.	Basic	C
	Off-Ramp to 51st St.	Diverge	C	Off-Ramp to 51st St.	Diverge	B
	Between Off-Ramp to 51st St. and Off-Ramp to CD	Basic	C	Between Off-Ramp to 51st St. and Off-Ramp to US-75	Basic	B
	Off-Ramp to CD	Diverge	C	Off-Ramp to US-75	Diverge	B
	Between CD Ramps	Basic	C	Between US-75 Ramps	Basic	B
	I-44 WB CD Weaving Segment within US-75 Interchange	Weave	C	Does not Exist		
	On-Ramp from CD	Merge	C	On-Ramp from US-75	Merge	B
	Between On-Ramp from CD and Off-Ramp to 33rd Ave.	Basic	C	Between On-Ramp from US-75 and Off-Ramp to 9th St.	Basic	B
	Off-Ramp to 33rd Ave.	Diverge	D	On-Ramp from 9th St. through Off-Ramp to 33rd Ave.	Weave	B
	Between 33rd Ave. Ramps	Basic	C	Between 33rd Ave. Ramps	Basic	B
	On-Ramp from 33rd Ave. through Off-Ramp to I-244 NB	Weave	B	On-Ramp from 33rd Ave. through Off-Ramp to I-244 NB	Weave	B
	Off-Ramp to Gilcrease Expwy.	Diverge	C	Off-Ramp to Gilcrease Expwy.	Diverge	B
	North of On-Ramp from Gilcrease Expwy.	Basic	A	North of On-Ramp from Gilcrease Expwy.	Basic	A
	On-Ramp from Gilcrease Expwy. through Off-Ramp to 56th St.	Weave	B	On-Ramp from Gilcrease Expwy. through Off-Ramp to 56th St.	Weave	B
	Between Off-Ramp to 56th St. and Off-Ramp to 49th Ave.	Basic	B	Between Off-Ramp to 56th St. and Off-Ramp to 49th Ave.	Basic	B
	Off-Ramp to 49th Ave.	Diverge	B	Off-Ramp to 49th Ave.	Diverge	B
	Between 49th Ave. Ramps	Basic	B	Between 49th Ave. Ramps	Basic	B
	On-Ramp from 49th Ave.	Merge	B	On-Ramp from 49th Ave.	Merge	B

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Constrained volumes were factored from adjacent US 75 model/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown
[3]Weave capacity is exceeded
[4]Volumes are constrained upstream; actual demand would result in LOS F
[5]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1

Table 10 – I-44 Level of Service, Eastbound Direction – 2045 AM Peak Period (HCS)

Direction	I-44 Segment	Existing		I-44 Segment	Proposed	
		Type	LOS		Type	LOS
EB	South of 49th Ave.	Basic	C	South of 49th Ave.	Basic	C
	Off-Ramp to 49th Ave.	Diverge	C	Off-Ramp to 49th Ave.	Diverge	C
	Between 49th Ave. Ramps	Basic	C	Between 49th Ave. Ramps	Basic	C
	On-Ramp from 49th Ave. through Off-Ramp to 55th Pl.	Weave	C	On-Ramp from 49th Ave. through Off-Ramp to 55th Pl.	Weave	C
	Between Off-Ramp to 55th Pl. and I-244 Interchange	Basic	C	Between Off-Ramp to 55th Pl. and I-244 Interchange	Basic	C
	West of Gilcrease Expwy. On-Ramp	Basic	C	West of Gilcrease Expwy. On-Ramp	Basic	C
	On-Ramp from Gilcrease Expwy. through Off-Ramp to Skelly Rd.	Weave	F[3]	On-Ramp from Gilcrease Expwy. through Off-Ramp to Skelly Rd. (33rd St.)	Weave	D
	Between Off-Ramp to Skelly Rd. and On-Ramp from Skelly Rd.	Basic	D[4]	Between Skelly Rd. Ramps (33rd St.)	Basic	D
	On-Ramp from Skelly Rd.	Merge	F[1]	On-Ramp from Skelly Rd. (33rd St.)	Merge	C
	West of Union Ave. Overpass	Ramp Overlap	F	Between On-Ramp from Skelly Rd. (33rd St.) and Off-Ramp to Skelly Rd. (Union Ave.)	Ramp Overlap	D
	Does not Exist			Off-Ramp to Skelly Rd. (Union Ave.)	Diverge	D
				Between Off-Ramp to Skelly Rd. (Union Ave.) and Off-Ramp to US-75 SB	Basic	D
	Off-Ramp to CD	Diverge	E[4]	Off-Ramp to US-75 SB	Diverge	D
	Across US-75	Basic	D	Between Off-Ramp to US-75 SB and Off-Ramp to US-75 NB	Basic	C
	I-44 CD Weaving Segment within US-75 Interchange	Weave	B[2]	Off-Ramp to US-75 NB	Diverge	C
	Does not Exist			Between Off-Ramp to US-75 NB and On-Ramp from US-75 SB	Basic	C
				On-Ramp from US-75 SB	Merge	C
				Between On-Ramp from US-75 SB and On-Ramp from US-75 NB	Basic	D
	On-Ramp from CD east of US-75 Interchange	Merge	D[2]	On-Ramp from US-75 NB	Merge	C
	Between On-Ramp from CD and On-Ramp from Skelly Rd.	Basic	D	Between On-Ramp from US-75 NB and On-Ramp from Skelly Rd. (Elwood Ave.)	Basic	C
	On-Ramp from Skelly Rd.	Merge	D	On-Ramp from Skelly Rd. (Elwood Ave.)	Merge	C
	Across River	Ramp Overlap	D[2]	Between On-Ramp from Skelly Rd. (Elwood Ave.) and Off-Ramp to Peoria Ave.	Basic	D
	Off-Ramp to Peoria Ave.	Diverge	D	Off-Ramp to Peoria Ave.	Diverge	D
	Between Off-Ramp to Peoria Ave. and On-Ramp from Riverside Dr.	Basic	D	Between Off-Ramp to Peoria Ave. and On-Ramp from Riverside Dr.	Basic	D
	On-Ramp from Riverside Dr.	Merge	D	On-Ramp from Riverside Dr.	Merge	D
	Across Peoria Ave.	Basic	D[2]	East of On-Ramp from Riverside Dr.	Basic	E

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Constrained volumes were factored from adjacent US 75 model/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown
[3]Weave capacity is exceeded
[4]Volumes are constrained upstream; actual demand would result in LOS F
[5]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1

Table 11 – I-44 Level of Service, Westbound Direction – 2045 PM Peak Period (HCS)

Direction	I-44 Segment	Existing		I-44 Segment	Proposed	
		Type	LOS		Type	LOS
WB	East of Peoria Ave.	Basic	F[5]	East of Peoria Ave.	Basic	E
	Off-Ramp to Riverside Dr.	Diverge	F[5]	Off-Ramp to Riverside Dr.	Diverge	E
	Between Off-Ramp to Riverside Dr. and On-Ramp from Peoria Ave.	Basic	F[5]	Between Off-Ramp to Riverside Dr. and On-Ramp from Peoria Ave.	Basic	D
	On-Ramp from Peoria Ave.	Merge	F[5]	On-Ramp from Peoria Ave.	Merge	D
	Between On-Ramp from Peoria Ave. and Off-Ramp to 51st St.	Basic	F[5]	Between On-Ramp from Peoria Ave. and Off-Ramp to 51st St.	Basic	D
	Off-Ramp to 51st St.	Diverge	F[5]	Off-Ramp to 51st St.	Diverge	C
	Between Off-Ramp to 51st St. and Off-Ramp to CD	Basic	F[5]	Between Off-Ramp to 51st St. and Off-Ramp to US-75	Basic	C
	Off-Ramp to CD	Diverge	F	Off-Ramp to US-75	Diverge	C
	Between CD Ramps	Basic	F[5]	Between US-75 Ramps	Basic	C
	I-44 WB CD Weaving Segment within US-75 Interchange	Weave	F[3]	Does not Exist		
	On-Ramp from CD	Merge	E[4]	On-Ramp from US-75	Merge	C
	Between On-Ramp from CD and Off-Ramp to 33rd Ave.	Basic	E[4]	Between On-Ramp from US-75 and Off-Ramp to 9th St.	Basic	D
	Off-Ramp to 33rd Ave.	Diverge	E[4]	On-Ramp from 9th St. through Off-Ramp to 33rd Ave.	Weave	C
	Between 33rd Ave. Ramps	Basic	D[4]	Between 33rd Ave. Ramps	Basic	C
	On-Ramp from 33rd Ave. through Off-Ramp to I-244 NB	Weave	C	On-Ramp from 33rd Ave. through Off-Ramp to I-244 NB	Weave	C
	Off-Ramp to Gilcrease Expwy.	Diverge	E[4]	Off-Ramp to Gilcrease Expwy.	Diverge	C
	North of On-Ramp from Gilcrease Expwy.	Basic	C	North of On-Ramp from Gilcrease Expwy.	Basic	C
	On-Ramp from Gilcrease Expwy. through Off-Ramp to 56th St.	Weave	C	On-Ramp from Gilcrease Expwy. through Off-Ramp to 56th St.	Weave	C
	Between Off-Ramp to 56th St. and Off-Ramp to 49th Ave.	Basic	C	Between Off-Ramp to 56th St. and Off-Ramp to 49th Ave.	Basic	C
	Off-Ramp to 49th Ave.	Diverge	C	Off-Ramp to 49th Ave.	Diverge	C
	Between 49th Ave. Ramps	Basic	C	Between 49th Ave. Ramps	Basic	C
	On-Ramp from 49th Ave.	Merge	C	On-Ramp from 49th Ave.	Merge	C

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Constrained volumes were factored from adjacent US 75 model/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown
[3]Weave capacity is exceeded
[4]Volumes are constrained upstream; actual demand would result in LOS F
[5]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1

Table 12 – I-44 Level of Service, Eastbound Direction – 2045 PM Peak Period (HCS)

Direction	I-44 Segment	Existing		I-44 Segment	Proposed	
		Type	LOS		Type	LOS
EB	South of 49th Ave.	Basic	C	South of 49th Ave.	Basic	C
	Off-Ramp to 49th Ave.	Diverge	B	Off-Ramp to 49th Ave.	Diverge	B
	Between 49th Ave. Ramps	Basic	B	Between 49th Ave. Ramps	Basic	B
	On-Ramp from 49th Ave. through Off-Ramp to 55th Pl.	Weave	B	On-Ramp from 49th Ave. through Off-Ramp to 55th Pl.	Weave	B
	Between Off-Ramp to 55th Pl. and I-244 Interchange	Basic	C	Between Off-Ramp to 55th Pl. and I-244 Interchange	Basic	C
	West of Gilcrease Expwy. On-Ramp	Basic	B	West of Gilcrease Expwy. On-Ramp	Basic	B
	On-Ramp from Gilcrease Expwy. through Off-Ramp to Skelly Rd.	Weave	E	On-Ramp from Gilcrease Expwy. through Off-Ramp to Skelly Rd. (33rd St.)	Weave	C
	Between Off-Ramp to Skelly Rd. and On-Ramp from Skelly Rd.	Basic	D	Between Skelly Rd. Ramps (33rd St.)	Basic	C
	On-Ramp from Skelly Rd.	Merge	E	On-Ramp from Skelly Rd. (33rd St.)	Merge	C
	West of Union Ave. Overpass	Ramp Overlap	E	Between On-Ramp from Skelly Rd. (33rd St.) and Off-Ramp to Skelly Rd. (Union Ave.)	Ramp Overlap	C
	Does not Exist			Off-Ramp to Skelly Rd. (Union Ave.)	Diverge	C
				Between Off-Ramp to Skelly Rd. (Union Ave.) and Off-Ramp to US-75 SB	Basic	C
	Off-Ramp to CD	Diverge	E	Off-Ramp to US-75 SB	Diverge	C
	Across US-75	Basic	C	Between Off-Ramp to US-75 SB and Off-Ramp to US-75 NB	Basic	B
	I-44 CD Weaving Segment within US-75 Interchange	Weave	A[2]	Off-Ramp to US-75 NB	Diverge	B
	Does not Exist			Between Off-Ramp to US-75 NB and On-Ramp from US-75 SB	Basic	B
				On-Ramp from US-75 SB	Merge	C
				Between On-Ramp from US-75 SB and On-Ramp from US-75 NB	Basic	C
	On-Ramp from CD east of US-75 Interchange	Merge	C	On-Ramp from US-75 NB	Merge	C
	Between On-Ramp from CD and On-Ramp from Skelly Rd.	Basic	C	Between On-Ramp from US-75 NB and On-Ramp from Skelly Rd. (Elwood Ave.)	Basic	C
	On-Ramp from Skelly Rd.	Merge	D	On-Ramp from Skelly Rd. (Elwood Ave.)	Merge	B
	Across River	Ramp Overlap	D	Between On-Ramp from Skelly Rd. (Elwood Ave.) and Off-Ramp to Peoria Ave.	Basic	C
	Off-Ramp to Peoria Ave.	Diverge	C	Off-Ramp to Peoria Ave.	Diverge	C
	Between Off-Ramp to Peoria Ave. and On-Ramp from Riverside Dr.	Basic	C	Between Off-Ramp to Peoria Ave. and On-Ramp from Riverside Dr.	Basic	C
	On-Ramp from Riverside Dr.	Merge	C	On-Ramp from Riverside Dr.	Merge	C
	Across Peoria Ave.	Basic	C	East of On-Ramp from Riverside Dr.	Basic	D

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Constrained volumes were factored from adjacent US 75 model/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown
[3]Weave capacity is exceeded
[4]Volumes are constrained upstream; actual demand would result in LOS F
[5]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1

Table 13 – US-75 Level of Service, Northbound Direction – 2045 AM Peak Period (HCS)

Direction	US-75 Segment	Existing		US-75 Segment	Proposed		US-75 Segment	Proposed-3rd NB lane	
		Type	LOS		Type	LOS		Type	LOS
NB	South of 61st St.	Basic	F	South of 61st St.	Basic	F[4]	South of 61st St.	Basic	D
	Off-Ramp to 61st St.	Diverge	F	Off-Ramp to 61st St.	Diverge	F[4]	Off-Ramp to 61st St.	Diverge	C
	Between 61st St. Ramps	Basic	F	Between 61st St. Ramps	Basic	F[4]	Between 61st St. Ramps	Basic	D
	On-Ramp from 61st St.	Merge	E[2]	Does not Exist			Does not Exist		
	Does not Exist			On-Ramp from 61st St. through Off-Ramp to I-44	Weave	F[4]	On-Ramp from 61st St. through Off-Ramp to I-44	Weave	C
	Between On-Ramp from 61st St. and Off-Ramp to I-44 EB	Ramp Overlap	E[2]	Does not Exist			Does not Exist		
	Off-Ramp to I-44 EB	Diverge	E[2]						
	Between I-44 EB Ramps	Basic	D[2]	Between I-44 EB Ramps	Basic	F[4]	Between I-44 EB Ramps	Basic	C
	Does not Exist			On-Ramp from I-44 EB	Merge	F[4]	On-Ramp from I-44 EB	Merge	B
	On-Ramp from I-44 EB through Off-Ramp to I-44 WB	Weave	C	Does not Exist			Does not Exist		
	Between I-44 WB Ramps	Basic	C	Between On-Ramp from I-44 EB and On-Ramp from I-44 WB	Basic	F[4]	Between On-Ramp from I-44 EB and On-Ramp from I-44 WB	Basic	C
	On-Ramp from I-44 WB	Merge	D[2]	On-Ramp from I-44 WB	Merge	F[4]	On-Ramp from I-44 WB	Merge	C
	Does not Exist			Between On-Ramp from I-44 WB and lane drop	Basic	F[4]	Does not Exist		
	Between On-Ramp from I-44 WB and Off-Ramp to 41st St.	Basic	D[2]	Between lane drop and Off-Ramp to 41st St.	Basic	E[2]	Between On-Ramp from I-44 WB and Off-Ramp to 41st St.	Basic	D
	Off-Ramp to 41st St.	Diverge	E[2]	Off-Ramp to 41st St.	Diverge	E[2]	Off-Ramp to 41st St.	Diverge	D
	Between 41st St. Ramps	Basic	D[2]	Between 41st ST. Ramps	Basic	D[2]	Between 41st ST. Ramps	Basic	C
	On-Ramp from 41st St.	Merge	D[2]	On-Ramp from 41st St.	Merge	E[2]	On-Ramp from 41st St.	Merge	C
	North of 41st St.	Basic	D[2]	North of 41st St.	Basic	E[2]	North of 41st St.	Basic	D

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Volumes are constrained upstream; actual demand would result in LOS F
[3]Weave capacity is exceeded
[4]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1
[5]Constrained volumes were factored from adjacent I-44/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown

Table 14 – US-75 Level of Service, Southbound Direction – 2045 AM Peak Period (HCS)

Direction	US-75 Segment	Existing		US-75 Segment	Proposed		US-75 Segment	Proposed-3rd NB lane	
		Type	LOS		Type	LOS		Type	LOS
SB	North of 41st St.	Basic	C	North of 41st St.	Basic	C	North of 41st St.	Basic	C
	Off-Ramp to 41st St.	Diverge	C	Off-Ramp to 41st St.	Diverge	C	Off-Ramp to 41st St.	Diverge	C
	Between 41st St. Ramps	Basic	B	Between 41st St. Ramps	Basic	B	Between 41st St. Ramps	Basic	B
	On-Ramp from 41st St.	Merge	C	On-Ramp from 41st St.	Merge	B	On-Ramp from 41st St.	Merge	B
	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	C	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	A	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	A
	Off-Ramp to I-44 WB	Diverge	C	Off-Ramp to I-44	Diverge	A	Off-Ramp to I-44	Diverge	A
	Between I-44 WB Ramps	Basic	B	Between I-44 Ramps	Basic	A	Between I-44 Ramps	Basic	A
	On-Ramp from I-44 WB through Off-Ramp to I-44 EB	Weave	C	Does not Exist			Does not Exist		
	Between Off-Ramp to I-44 EB and On-Ramp from I-44 EB	Basic	C						
	On-Ramp from I-44 EB	Merge	D	On-Ramp from I-44	Merge	B	On-Ramp from I-44	Merge	B
	Between On-Ramp from I-44 EB and Off-Ramp to 61st St.	Ramp Overlap	D	Between On-Ramp from I-44 and Off-Ramp to 61st St.	Ramp Overlap	B	Between On-Ramp from I-44 and Off-Ramp to 61st St.	Ramp Overlap	B
	Off-Ramp to 61st St.	Diverge	D	Off-Ramp to 61st St.	Diverge	B	Off-Ramp to 61st St.	Diverge	B
	Between 61st St. Ramps	Basic	D	Between 61st St. Ramps	Basic	B	Between 61st St. Ramps	Basic	B
	On-Ramp from 61st St.	Merge	D	On-Ramp from 61st St.	Merge	B	On-Ramp from 61st St.	Merge	B
	South of 61st St.	Basic	D	South of 61st St.	Basic	C	South of 61st St.	Basic	C

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Volumes are constrained upstream; actual demand would result in LOS F
[3]Weave capacity is exceeded
[4]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1
[5]Constrained volumes were factored from adjacent I-44/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown

Table 15 – US-75 Level of Service, Northbound Direction – 2045 PM Peak Period (HCS)

Direction	US-75 Segment	Existing		US-75 Segment	Proposed		US-75 Segment	Proposed-3rd NB lane	
		Type	LOS		Type	LOS		Type	LOS
NB	South of 61st St.	Basic	E	South of 61st St.	Basic	C	South of 61st St.	Basic	C
	Off-Ramp to 61st St.	Diverge	E	Off-Ramp to 61st St.	Diverge	B	Off-Ramp to 61st St.	Diverge	B
	Between 61st St. Ramps	Basic	D	Between 61st St. Ramps	Basic	C	Between 61st St. Ramps	Basic	C
	On-Ramp from 61st St.	Merge	E	Does not Exist			Does not Exist		
	Does not Exist			On-Ramp from 61st St. through Off-Ramp to I-44	Weave	B	On-Ramp from 61st St. through Off-Ramp to I-44	Weave	B
	Between On-Ramp from 61st St. and Off-Ramp to I-44 EB	Ramp Overlap	E	Does not Exist			Does not Exist		
	Off-Ramp to I-44 EB	Diverge	E						
	Between I-44 EB Ramps	Basic	C	Between I-44 EB Ramps	Basic	B	Between I-44 EB Ramps	Basic	B
	Does not Exist			On-Ramp from I-44 EB	Merge	A	On-Ramp from I-44 EB	Merge	A
	On-Ramp from I-44 EB through Off-Ramp to I-44 WB	Weave	C	Does not Exist			Does not Exist		
	Between I-44 WB Ramps	Basic	C	Between On-Ramp from I-44 EB and On-Ramp from I-44 WB	Basic	B	Between On-Ramp from I-44 EB and On-Ramp from I-44 WB	Basic	B
	On-Ramp from I-44 WB	Merge	C	On-Ramp from I-44 WB	Merge	B	On-Ramp from I-44 WB	Merge	B
	Does not Exist			Between On-Ramp from I-44 WB and lane drop	Basic	B	Does not Exist		
	Between On-Ramp from I-44 WB and Off-Ramp to 41st St.	Basic	C	Between lane drop and Off-Ramp to 41st St.	Basic	C	Between On-Ramp from I-44 WB and Off-Ramp to 41st St.	Basic	B
	Off-Ramp to 41st St.	Diverge	D	Off-Ramp to 41st St.	Diverge	D	Off-Ramp to 41st St.	Diverge	C
	Between 41st St. Ramps	Basic	C	Between 41st ST. Ramps	Basic	C	Between 41st ST. Ramps	Basic	B
	On-Ramp from 41st St.	Merge	D	On-Ramp from 41st St.	Merge	D	On-Ramp from 41st St.	Merge	B
	North of 41st St.	Basic	C	North of 41st St.	Basic	C	North of 41st St.	Basic	B

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Volumes are constrained upstream; actual demand would result in LOS F
[3]Weave capacity is exceeded
[4]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1
[5]Constrained volumes were factored from adjacent I-44/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown

Table 16 – US-75 Level of Service, Southbound Direction – 2045 PM Peak Period (HCS)

Direction	US-75 Segment	Existing		US-75 Segment	Proposed		US-75 Segment	Proposed-3rd NB lane	
		Type	LOS		Type	LOS		Type	LOS
SB	North of 41st St.	Basic	F[4]	North of 41st St.	Basic	E	North of 41st St.	Basic	E
	Off-Ramp to 41st St.	Diverge	F[4]	Off-Ramp to 41st St.	Diverge	E	Off-Ramp to 41st St.	Diverge	E
	Between 41st St. Ramps	Basic	F[4]	Between 41st St. Ramps	Basic	E	Between 41st St. Ramps	Basic	E
	On-Ramp from 41st St.	Merge	F[1]	On-Ramp from 41st St.	Merge	C	On-Ramp from 41st St.	Merge	C
	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	F[4]	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	C	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	C
	Off-Ramp to I-44 WB	Diverge	F[1]	Off-Ramp to I-44	Diverge	A	Off-Ramp to I-44	Diverge	A
	Between I-44 WB Ramps	Basic	F[4]	Between I-44 Ramps	Basic	C	Between I-44 Ramps	Basic	C
	On-Ramp from I-44 WB through Off-Ramp to I-44 EB	Weave	F[3]	Does not Exist			Does not Exist		
	Between Off-Ramp to I-44 EB and On-Ramp from I-44 EB	Basic	F						
	On-Ramp from I-44 EB	Merge	E[2]	On-Ramp from I-44	Merge	C	On-Ramp from I-44	Merge	C
	Between On-Ramp from I-44 EB and Off-Ramp to 61st St.	Ramp Overlap	E[2]	Between On-Ramp from I-44 and Off-Ramp to 61st St.	Ramp Overlap	C	Between On-Ramp from I-44 and Off-Ramp to 61st St.	Ramp Overlap	C
	Off-Ramp to 61st St.	Diverge	E[2]	Off-Ramp to 61st St.	Diverge	C	Off-Ramp to 61st St.	Diverge	C
	Between 61st St. Ramps	Basic	E[2]	Between 61st St. Ramps	Basic	D	Between 61st St. Ramps	Basic	D
	On-Ramp from 61st St.	Merge	E[2]	On-Ramp from 61st St.	Merge	D	On-Ramp from 61st St.	Merge	D
	South of 61st St.	Basic	E[2]	South of 61st St.	Basic	D	South of 61st St.	Basic	D

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Volumes are constrained upstream; actual demand would result in LOS F
[3]Weave capacity is exceeded
[4]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1
[5]Constrained volumes were factored from adjacent I-44/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown

2.2.4 Freeway Analysis – WP-1

As a supplemental analysis, the freeway analysis results for the proposed WP-1 in 2021 are included in **Appendix D.** Along with the updates to I-44, it was assumed that the Union Avenue overpass and intersection improvements and S 33rd Street underpass and intersection improvements were included for 2021. The resulting updates to the network included lengthening the weaving segment along eastbound I-44 from the Gilcrease Expressway entrance ramp through the W Skelly Road exit ramp, updating the ramp configurations on the C-D Roads along Interstate 44 within the US-75 interchange, and converting the C-D Road segments between ramps just east of the US-75 interchange from short merges and diverges to a weaving segment (by adding an auxiliary lane). The results indicate some improvement, but with shifted growth in the area brought forward by the Gilcrease Expressway, overall similar performance as the existing condition is expected with WP-1. The intention of WP-1 is to set up future work packages by providing new bridges, piers for future ramps, and road width for future segments.

2.2.5 Freeway Analysis – VISSIM

As mentioned, VISSIM analysis was also performed for the study corridor. As a first step in the VISSIM modeling process, calibration to existing conditions to configure the network settings to the local conditions was performed. Through coordination with ODOT, calibration was achieved by adjusting network routing and vehicle fleets and updating lane change and car following models. Model output was compared to actual data using travel times, statistical analysis to compare volumes by location, and visual inspection of bottlenecks. More information about existing model calibration and associated output statistics can be found in **Appendix F – VISSIM.**

The calibrated VISSIM model was then updated for 2045 to analyze the no build and build scenarios. The results of this analysis are shown in **Table 17 – Table 24.**

On I-44, the VISSIM model shows LOS F conditions in the AM peak west of the US-75 interchange in the eastbound direction. LOS F conditions are also present in both directions during the PM peak period. US-75 offers similar conditions with high congestion and delay. LOS F conditions were modeled in the northbound direction in the AM peak period and in both directions in the PM peak period. With this level of congestion, traffic volumes were constrained within the model which would cause localized queuing in some areas but also constrain downstream volumes from reaching the projected demand.

For the build models, I-44 was shown to flow well with the proposed improvements with all segments operating with LOS D or better through the design year. On US-75, the capacity bottleneck in the northbound direction shown in the HCS analysis was also found in VISSIM. In the AM peak period, if US-75 were to transition back down to the current cross-section prior to W 41st Street, the resulting bottleneck would produce LOS F conditions on US-75. With a third lane added, this congestion is alleviated. All other US-75 segments showed VISSIM modeling results of LOS D or better.

Table 17 – I-44 Level of Service, Westbound Direction – 2045 AM Peak Period (VISSIM)

Direction	I-44 Segment	Existing Configuration		I-44 Segment	Proposed Configuration	
		Type	LOS		Type	LOS
WB	East of Peoria Ave.	Basic	B	East of Peoria Ave.	Basic	C
	Between Off-Ramp to Riverside Dr. and On-	Diverge	C	Between Off-Ramp to Riverside Dr. and On-	Diverge	C
	On-Ramp from Peoria Ave.	Merge	E	On-Ramp from Peoria Ave.	Merge	B
	Between On-Ramp from Peoria Ave. and Off-	Basic	D	Between On-Ramp from Peoria Ave. and Off-	Basic	C
	Off-Ramp to Elwood Ave.	Diverge	C	Off-Ramp to Elwood Ave.	Diverge	B
	Between Off-Ramp to Elwood Ave. and Off-	Basic	C	Does not Exist		
	Does not Exist			Between Off-Ramp to Elwood Ave. and Off-	Diverge	B
	Between CD Ramps	Basic	C	Does not Exist		
	Does not Exist			Between US-75 Ramps	Basic	B
				On-Ramp from US-75 NB and SB	Merge	B
				Between On-Ramp from US-75 NB and On-Ramp	Basic	B
	Between On-Ramp from CD and Off-Ramp to	Weave	C	Between On-Ramp from 51st St. and Off-Ramp to	Weave	B
	On-Ramp from 33rd Ave. through Off-Ramp to I-244 NB	Weave	B	Between 33rd W Ave. Ramps	Basic	B
				On-Ramp from 33rd Ave. through Off-Ramp to I-244	Weave	B
	Off-Ramp to I-244 NB through Off-Ramp to Gilcrease Expy.	Diverge	B	Off-Ramp to I-244 NB through Off-Ramp to	Diverge	B
				Between Off-Ramp to Gilcrease Expy. and I-244	Basic	B
	Merge of I-244 SB through Off-Ramp to	Weave	A	Merge of I-244 SB through Off-Ramp to 56th	Weave	B
	Between Off-Ramp to 56th St. and On-Ramp	Diverge	B	Between Off-Ramp to 56th St. and On-Ramp	Diverge	B
	On-Ramp from 49th Ave.	Merge	A	On-Ramp from 49th Ave.	Merge	B

Table 18 – I-44 Level of Service, Eastbound Direction – 2045 AM Peak Period (VISSIM)

Direction	I-44 Segment	Existing Configuration		I-44 Segment	Proposed Configuration	
		Type	LOS		Type	LOS
EB	Off-Ramp to 49th Ave.	Diverge	F	Off-Ramp to 49th Ave.	Diverge	B
	Between 49th Ave. Ramps	Basic	F	Between 49th Ave. Ramps	Basic	C
	On-Ramp from 49th Ave. through Off-Ramp to	Weave	F	On-Ramp from 49th Ave. through Off-Ramp to 55th	Weave	B
	Between Off-Ramp to 55th Pl. and I-244	Diverge	F	Between Off-Ramp to 55th Pl. and I-244	Diverge	D
	West of Gilcrease Expwy. On-Ramp	Basic	F	West of Gilcrease Expwy. On-Ramp	Basic	D
	On-Ramp from Gilcrease Expwy.	Merge	F	On-Ramp from Gilcrease Expwy.	Merge	C
	Off-Ramp to 33rd W Ave.	Diverge	F	Off-Ramp to 33rd W Ave.	Diverge	C
	Between Off-Ramp to 33rd W Ave. and On-	Basic	F	Between Off-Ramp to 33rd W Ave. and On-Ramp	Basic	D
	On-Ramp from 33rd W Ave.	Merge	F	On-Ramp from 33rd W Ave.	Merge	C
	Does Not Exist			Off-Ramp to Skelly Dr.	Diverge	D
				Between Off-Ramp to Skelly Dr. and Off-Ramp	Diverge	D
				Off-Ramp to US-75 NB	Diverge	B
				Between Off-Ramp to US-75 NB and On-Ramp from	Basic	C
				On-Ramp from US-75 SB	Merge	C
				Between On-Ramps from US-75 SB and NB	Basic	D
				Between On-Ramps from US-75 NB and Skelly Dr.	Basic	C
	Between Off-Ramp to EB CD and On-Ramp from EB CD	Basic	D	On-Ramp from Skelly Dr.	Merge	C
	On-Ramp from CD east of US-75 Interchange	Merge	C	Does not Exist		
	Across River	Basic	D	Across River	Basic	D
	Off-Ramp to Peoria Ave.	Diverge	C	Off-Ramp to Peoria Ave.	Diverge	C
	Between Off-Ramp to Peoria Ave. and On-	Basic	C	Between Off-Ramp to Peoria Ave. and On-Ramp	Basic	D
	On-Ramp from Riverside Dr.	Merge	C	On-Ramp from Riverside Dr.	Merge	C
	Across Peoria Ave.	Basic	C	Across Peoria Ave.	Basic	D

Table 19 – I-44 Level of Service, Westbound Direction – 2045 PM Peak Period (VISSIM)

Direction	I-44 Segment	Existing Configuration		I-44 Segment	Proposed Configuration	
		Type	LOS		Type	LOS
WB	East of Peoria Ave.	Basic	F	East of Peoria Ave.	Basic	E
	Between Off-Ramp to Riverside Dr. and On-	Diverge	F	Between Off-Ramp to Riverside Dr. and On-	Diverge	E
	On-Ramp from Peoria Ave.	Merge	F	On-Ramp from Peoria Ave.	Merge	C
	Between On-Ramp from Peoria Ave. and Off-	Basic	F	Between On-Ramp from Peoria Ave. and Off-	Basic	D
	Off-Ramp to Elwood Ave.	Diverge	F	Off-Ramp to Elwood Ave.	Diverge	C
	Between Off-Ramp to Elwood Ave. and Off-	Basic	F	Does not Exist		
	Does not Exist			Between Off-Ramp to Elwood Ave. and Off-	Diverge	C
	Between CD Ramps	Basic	D	Does not Exist		
	Does not Exist			Between US-75 Ramps	Basic	C
				On-Ramp from US-75 NB and SB	Merge	B
				Between On-Ramp from US-75 NB and On-Ramp	Basic	D
	Between On-Ramp from CD and Off-Ramp to 33rd	Weave	E	Between On-Ramp from 51st St. and Off-Ramp to	Weave	C
	On-Ramp from 33rd Ave. through Off-Ramp to I-244 NB	Weave	C	Between 33rd W Ave. Ramps	Basic	C
				On-Ramp from 33rd Ave. through Off-Ramp to I-	Weave	C
	Off-Ramp to I-244 NB through Off-Ramp to Gilcrease Expy.	Diverge	C	Off-Ramp to I-244 NB through Off-Ramp to	Diverge	D
				Between Off-Ramp to Gilcrease Expy. and I-244	Basic	D
	Merge of I-244 SB through Off-Ramp to	Weave	B	Merge of I-244 SB through Off-Ramp to	Weave	D
	Between Off-Ramp to 56th St. and On-Ramp	Diverge	B	Between Off-Ramp to 56th St. and On-Ramp	Diverge	D
	On-Ramp from 49th Ave.	Merge	B	On-Ramp from 49th Ave.	Merge	B

Table 20– I-44 Level of Service, Eastbound Direction – 2045 PM Peak Period (VISSIM)

Direction	I-44 Segment	Existing Configuration		I-44 Segment	Proposed Configuration	
		Type	LOS		Type	LOS
EB	Off-Ramp to 49th Ave.	Diverge	B	Off-Ramp to 49th Ave.	Diverge	B
	Between 49th Ave. Ramps	Basic	B	Between 49th Ave. Ramps	Basic	B
	On-Ramp from 49th Ave. through Off-Ramp to	Weave	B	On-Ramp from 49th Ave. through Off-Ramp to	Weave	B
	Between Off-Ramp to 55th Pl. and I-244	Diverge	B	Between Off-Ramp to 55th Pl. and I-244	Diverge	B
	West of Gilcrease Expwy. On-Ramp	Basic	D	West of Gilcrease Expwy. On-Ramp	Basic	C
	On-Ramp from Gilcrease Expwy.	Merge	F	On-Ramp from Gilcrease Expwy.	Merge	C
	Off-Ramp to 33rd W Ave.	Diverge	F	Off-Ramp to 33rd W Ave.	Diverge	B
	Between Off-Ramp to 33rd W Ave. and On-	Basic	F	Between Off-Ramp to 33rd W Ave. and On-	Basic	C
	On-Ramp from 33rd W Ave.	Merge	F	On-Ramp from 33rd W Ave.	Merge	B
	Does Not Exist			Off-Ramp to Skelly Dr.	Diverge	C
				Between Off-Ramp to Skelly Dr. and Off-Ramp	Diverge	B
				Off-Ramp to US-75 NB	Diverge	B
				Between Off-Ramp to US-75 NB and On-Ramp	Basic	B
				On-Ramp from US-75 SB	Merge	B
				Between On-Ramps from US-75 SB and NB	Basic	C
				Between On-Ramps from US-75 NB and Skelly Dr.	Basic	B
	Between Off-Ramp to Skelly Dr. and On-Ramp from Skelly Dr.	Basic	D	On-Ramp from Skelly Dr.	Merge	B
	On-Ramp from CD east of US-75 Interchange	Merge	C	Does not Exist		
	Across River	Basic	D	Across River	Basic	C
	Off-Ramp to Peoria Ave.	Diverge	B	Off-Ramp to Peoria Ave.	Diverge	C
	Between Off-Ramp to Peoria Ave. and On-	Basic	C	Between Off-Ramp to Peoria Ave. and On-	Basic	C
	On-Ramp from Riverside Dr.	Merge	B	On-Ramp from Riverside Dr.	Merge	C
	Across Peoria Ave.	Basic	C	Across Peoria Ave.	Basic	C

Table 21 – US-75 Level of Service, Northbound Direction – 2045 AM Peak Period (VISSIM)

Direction	US-75 Segment	Existing Configuration		US-75 Segment	Proposed Configuration		US-75 Segment	Prop Config - 3rd NB Lane	
		Type	LOS		Type	LOS		Type	LOS
NB	South of 61st St.	Basic	F	South of 61st St.	Basic	F	South of 61st St.	Basic	D
	Off-Ramp to 61st St.	Diverge	F	Off-Ramp to 61st St.	Diverge	F	Off-Ramp to 61st St.	Diverge	C
				Between 61st St. Ramps	Basic	F	Between 61st St. Ramps	Basic	D
				On-Ramp from 61st St.	Merge	F	On-Ramp from 61st St.	Merge	C
	On-Ramp from 61st St. through Off-Ramp to I-44 EB	Diverge	F	Off-Ramp to I-44 EB	Diverge	F	Off-Ramp to I-44 EB	Diverge	C
	Between Off-Ramp to I-44 EB and On-Ramp from CD EB	Basic	D	Between I-44 Off-Ramps and On-Ramp from I-44 EB	Basic	F	Between I-44 Off-Ramps and On-Ramp from I-44 EB	Basic	C
	Between On-Ramp from CD EB through Off-Ramp to CD WB	Weave	C	On-Ramp from I-44 EB	Merge	F	On-Ramp from I-44 EB	Merge	B
	Between I-44 WB Ramps	Basic	E	Between On-Ramp from I-44 EB and On-Ramp from I-44 WB	Basic	F	Between On-Ramp from I-44 EB and On-Ramp from I-44 WB	Basic	C
	On-Ramp from I-44 WB	Merge	F	On-Ramp from I-44 WB	Merge	F	On-Ramp from I-44 WB	Merge	C
	Between On-Ramp from I-44 WB and Off-Ramp to 41st St.	Basic	E	After On-Ramp from I-44 WB at Lane Drop	Merge	F	After On-Ramp from I-44 WB at Lane Drop	Merge	D
	Off-Ramp to 41st St. through north of On-Ramp from 41st St.	Merge	D	Between Lane Drop and North of 41st St Ramps	Basic	E	Between Lane Drop and North of 41st St Ramps	Basic	C

Table 22 – US-75 Level of Service, Southbound Direction – 2045 AM Peak Period (VISSIM)

Direction	US-75 Segment	Existing Configuration		US-75 Segment	Proposed Configuration		US-75 Segment	Prop Config - 3rd NB Lane	
		Type	LOS		Type	LOS		Type	LOS
SB	North of 41st St. through On-Ramp from 41st St	Diverge	B	North of 41st St. through On-Ramp from 41st St	Diverge	B	North of 41st St. through On-Ramp from 41st St	Diverge	B
				On-Ramp from 41st St.	Merge	B	On-Ramp from 41st St.	Merge	B
	Between On-Ramp from 41st St. and On-Ramp from I-44 WB	Merge	B	Between On-Ramp from 41st St. and Off-Ramps to I-44	Diverge	A	Between On-Ramp from 41st St. and Off-Ramps to I-44	Diverge	A
	On-Ramp from I-44 WB through Off-Ramp to I-44 EB	Weave	D	Between Ramps to I-44 and from I-44	Basic	A	Between Ramps to I-44 and from I-44	Basic	A
	Between Off-Ramp to I-44 EB and On-Ramp from 61st St.	Basic	D	On-Ramp from I-44 EB	Merge	B	On-Ramp from I-44 EB	Merge	B
				Between On-Ramp from I-44 EB and Off-Ramp to 61st St.	Diverge	B	Between On-Ramp from I-44 EB and Off-Ramp to 61st St.	Diverge	B
				Between 61st St. Ramps	Basic	C	Between 61st St. Ramps	Basic	C
				On-Ramp from 61st St.	Merge	B	On-Ramp from 61st St.	Merge	B
	Between On-Ramp from 61st St. through south of 61st St.	Basic	B	Between On-Ramp from 61st St. through south of 61st St.	Basic	B	Between On-Ramp from 61st St. through south of 61st St.	Basic	B

Table 23 – US-75 Level of Service, Northbound Direction – 2045 PM Peak Period (VISSIM)

Direction	US-75 Segment	Existing Configuration		US-75 Segment	Proposed Configuration		US-75 Segment	Prop Config - 3rd NB Lane	
		Type	LOS		Type	LOS		Type	LOS
NB	South of 61st St.	Basic	F	South of 61st St.	Basic	C	South of 61st St.	Basic	C
	Off-Ramp to 61st St.	Diverge	E	Off-Ramp to 61st St.	Diverge	B	Off-Ramp to 61st St.	Diverge	B
				Between 61st St. Ramps	Basic	C	Between 61st St. Ramps	Basic	C
				On-Ramp from 61st St.	Merge	B	On-Ramp from 61st St.	Merge	B
	On-Ramp from 61st St. through Off-Ramp to I-44 EB	Diverge	F	Off-Ramp to I-44 EB	Diverge	B	Off-Ramp to I-44 EB	Diverge	B
	Between Off-Ramp to I-44 EB and On-Ramp from CD EB	Basic	D	Between I-44 Off-Ramps and On-Ramp from I-44 EB	Basic	B	Between I-44 Off-Ramps and On-Ramp from I-44 EB	Basic	B
	Between On-Ramp from CD EB through Off-Ramp to CD WB	Weave	D	On-Ramp from I-44 EB	Merge	A	On-Ramp from I-44 EB	Merge	A
	Between I-44 WB Ramps	Basic	C	Between On-Ramp from I-44 EB and On-Ramp from I-44 WB	Basic	B	Between On-Ramp from I-44 EB and On-Ramp from I-44 WB	Basic	B
	On-Ramp from I-44 WB	Merge	C	On-Ramp from I-44 WB	Merge	B	On-Ramp from I-44 WB	Merge	B
	Between On-Ramp from I-44 WB and Off-Ramp to 41st St.	Basic	D	After On-Ramp from I-44 WB at Lane Drop	Merge	B	After On-Ramp from I-44 WB at Lane Drop	Merge	B
	Off-Ramp to 41st St. through north of On-Ramp from 41st St.	Merge	C	Between Lane Drop and North of 41st St Ramps	Basic	C	Between Lane Drop and North of 41st St Ramps	Basic	B

Table 24 – US-75 Level of Service, Southbound Direction – 2045 PM Peak Period (VISSIM)

Direction	US-75 Segment	Existing Configuration		US-75 Segment	Proposed Configuration		US-75 Segment	Prop Config - 3rd NB Lane	
		Type	LOS		Type	LOS		Type	LOS
SB	North of 41st St. through On-Ramp from 41st St	Diverge	F	North of 41st St. through On-Ramp from 41st St	Diverge	D	North of 41st St. through On-Ramp from 41st St	Diverge	D
				On-Ramp from 41st St.	Merge	C	On-Ramp from 41st St.	Merge	C
	Between On-Ramp from 41st St. and On-Ramp from I-44 WB	Merge	F	Between On-Ramp from 41st St. and Off-Ramps to I-44	Diverge	B	Between On-Ramp from 41st St. and Off-Ramps to I-44	Diverge	B
	On-Ramp from I-44 WB through Off-Ramp to I-44 EB	Weave	F	Between Ramps to I-44 and from I-44	Basic	B	Between Ramps to I-44 and from I-44	Basic	B
	Between Off-Ramp to I-44 EB and On-Ramp from 61st St.	Basic	F	On-Ramp from I-44 EB	Merge	B	On-Ramp from I-44 EB	Merge	B
				Between On-Ramp from I-44 EB and Off-Ramp to 61st St.	Diverge	C	Between On-Ramp from I-44 EB and Off-Ramp to 61st St.	Diverge	C
				Between 61st St. Ramps	Basic	D	Between 61st St. Ramps	Basic	D
				On-Ramp from 61st St.	Merge	C	On-Ramp from 61st St.	Merge	C
	Between On-Ramp from 61st St. through south of 61st St.	Basic	C	Between On-Ramp from 61st St. through south of 61st St.	Basic	D	Between On-Ramp from 61st St. through south of 61st St.	Basic	D

2.3 Operational Analysis – Study Intersections

An operational analysis for intersection performance was performed for the current and proposed configurations to assess the impact of network changes to the local arterial system.

2.3.1 Intersection Analysis – Methodology

For intersection analysis at the interchange ramps and nearby intersections such as those on Union Avenue at W Skelly Drive and W 51st Street, Synchro software was used to analyze LOS by intersection movement. Highway Capacity Manual (HCM) – Version 6 results were reported at all intersections with configurations meeting HCM criteria. Additionally, micro-simulation was employed to analyze the arterial operations via SimTraffic, the companion software to Synchro, to supplement shortcomings of the HCM procedure such as the queuing between successive intersections that can occur at interchanges. This analysis was captured in the *I-44 Preliminary Engineering Report*. The results from the VISSIM analysis were also captured at the intersections.

2.3.2 Intersection Analysis – Existing Year Analysis

Analysis results for the existing year for the build and no build configurations are shown in **Tables 25 – 28.** The Build models reflect the shifts in traffic volumes that would occur due to the ramp movements presently in place at the I-44 C-D Road at the US-75 interchange.

The results show that total intersection vehicle-hours of delay will be approximately the same in the AM peak period and improve in the PM peak period under the Build condition. All signalized intersections will have an overall LOS C or better for both the current and build configurations. The build configuration includes signalization at the intersection of S 33rd Avenue and W Skelly Drive and signal improvements at the intersection of S 33rd Avenue and W 51st Street. The signalization of S 33rd Avenue at W Skelly Drive reduces delay compared to the LOS F condition found with the present all-way stop configurations.

2.3.3 Intersection Analysis – WP-1

As a supplemental analysis, the intersection analysis results for the proposed WP-1 are included in **Appendix E.** As mentioned, the bridge replacements and intersection improvements assumed at Union Avenue and S 33rd Avenue will be in place by 2021. The results show lower overall delay during the critical PM peak in 2021 over the current conditions with slightly more delay in the AM peak (attributable to higher traffic volumes in 2021 from background growth and the completion of Gilcrease Expressway).

2.3.4 Intersection Analysis – Design Year Analysis

Analysis results for the design year for the build and no build configurations are shown in **Tables 29 – 32.** The design year models reflect the completion of the Gilcrease Expressway that will shift some traffic through the study area. For the No Build scenario, signalization was assumed to be in place at the S 33rd Avenue at W Skelly Drive intersection as this project was planned regardless of the I-44 improvements.

The results indicate similar arterial overall delays between the Build and No Build configurations in 2045 during both peak periods. The Build option will provide improved conditions at the Union Avenue intersections with W Skelly Drive and W 51st Street and reduce some delay at the former ramp junctions that are being eliminated (improving LOS E conditions to LOS C conditions at the I-44 westbound ramp from W 51st Street near Union Drive). This total delay savings is somewhat offset by volume increases at the W 41st Street and W 61st Street interchanges with slightly higher overall delays in the Build configuration.

Table 25 – Intersection Movement LOS - HCM – 2016 AM Peak Period

Signalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)	LOS	Delay (veh-hr)+	Delay (sec/veh)	LOS	Delay (veh-hr)+
Gilcrease Expwy at W 51st St.	Signal	12.1	B	4.2	12.1	B	4.2
S 33rd W Ave. at W 51st St.	Signal[1]	7.4	B	1.9	10.0	A	2.6
S 33rd W Ave. at I-44 WB Ramps	Signal	See Unsignalized Results			8.8	A	2.4
S 33rd W Ave. at W Skelly Dr.	Signal	See Unsignalized Results			11.7	B	3.9
Union Ave. at W 51st St.	Signal	17.6	B	5.7	17.7	B	6.1
Union Ave. at W Skelly Dr.	Signal	14.5	B	3.9	7.4	A	2.1
Riverside Dr. at E Skelly Drive	Signal	6.1	A	3.4	6.1	A	3.4
Riverside Dr. at E 51st St.	Signal[1]	2.2	A	1.4	2.2	A	1.4
Peoria Ave. at E Skelly Dr.	Signal	25.5	C	17.1	25.5	C	17.1
Peoria Ave. at E 51st St.	Signal	18.9	B	11.8	18.9	B	11.8
Total Signalized Delay (veh-hr)				**49.3**			**55.0**
Unsignalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+
Gilcrease Expwy On-Ramp at W 51st St.	Free[2]	No HCM 6th Results			No HCM 6th Results		
S 33rd W Ave. at I-44 WB Ramps	1-Way Stop	32.1	D	1.6	See Signalized Results		
S 33rd W Ave. at W Skelly Dr.	Stop Sign	47.4	E	9.1	See Signalized Results		
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	12.0	B	1.2	12.2	B	1.2
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	13.1	B	0.4	11.0	B	0.4
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	15.7	C	1.3	12.1	B	0.5
I-44 WB CD On-Ramp at W 51st St.	Free[2]	No HCM 6th Results			Does not Exist		
I-44 EB Off-Ramp (near Elwood Ave.) at W Skelly Dr.	1-Way Stop	10.3	B	0.4	Does not Exist		
I-44 EB On-Ramp (near Elwood Ave.) at W Skelly Dr.	Free[2]	No HCM 6th Results			No HCM 6th Results		
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	10.7	B	1.0	11.2	B	1.4
S Elwood Ave. at W 51st St.	1-Way Stop	12.7	B	0.8	15.9	C	0.8
S Elwood Ave. at W Skelly Dr.	1-Way Stop	10.1	B	0.1	10.1	B	0.1
US 75 SB Ramps at W 41st St.	1-Way Stop	8.3	A	0.5	8.5	A	0.7
US 75 NB On-Ramp at Tacoma Ave.	Free[2]	No HCM 6th Results			No HCM 6th Results		
Tacoma Ave./US 75 NB Off-Ramp at W 41st St.	2-Way Stop	25.8	D	2.0	34.9	D	2.5
US 75 SB Ramps at W 41st St.	1-Way Stop	13.8	B	0.5	13.4	B	0.6
US 75 NB Ramps at W 41st St.	1-Way Stop	22.4	C	1.1	25.3	D	2.4
US 75 NB Ramps at W 41st St.	Free[2]	Does not Exist			No HCM 6th Results		
W Skelly Dr. at Connector Rd.	1-way Stop	Does not Exist			14.4	B	0.8
Total Unsignalized Delay (veh-hr)				**19.9**			**11.3**
Total Intersection Delay (veh-hr)		**69.2**			**66.3**		

*Critical approach only

+Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology did not provide results - Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

Table 26 – Intersection Movement LOS - SimTraffic – 2016 AM Peak Period

Signalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)	LOS	Delay (veh-hr)+	Delay (sec/veh)	LOS	Delay (veh-hr)+
Gilcrease Expwy at W 51st St.	Signal	13.2	B	4.6	13.2	B	4.6
S 33rd W Ave. at W 51st St.	Signal	5.7	A	1.5	8.1	A	2.1
S 33rd W Ave. at I-44 WB Ramps	Signal	See Unsignalized Results			7.3	A	2.0
S 33rd W Ave. at W Skelly Dr.	Signal	See Unsignalized Results			11.4	B	3.8
Union Ave. at W 51st St.	Signal	14.1	B	4.5	15.2	B	5.2
Union Ave. at W Skelly Dr.	Signal	17.6	B	4.7	9.8	A	2.8
Riverside Dr. at E Skelly Drive	Signal	8.2	A	4.6	8.2	A	4.6
Riverside Dr. at E 51st St.	Signal[1]	2.3	A	1.4	2.3	A	1.4
Peoria Ave. at E Skelly Dr.	Signal	20.0	B	13.4	20.0	B	13.4
Peoria Ave. at E 51st St.	Signal	19.3	B	12.0	19.3	B	12.0
Total Signalized Delay (veh-hr)				**46.8**			**51.9**
Unsignalized Junctions							
		Existing			**Proposed**		
Intersection	**Control**	**Delay (sec/veh)***	**LOS***	**Delay (veh-hr)+**	**Delay (sec/veh)***	**LOS***	**Delay (veh-hr)+**
Gilcrease Expwy On-Ramp at W 51st St.	Free[2]	6.0	A	0.6	6.0	A	0.6
S 33rd W Ave. at I-44 WB Ramps	1-Way Stop	17.8	C	1.4	See Signalized Results		
S 33rd W Ave. at W Skelly Dr.	Stop Sign	17.5	C	4.1	See Signalized Results		
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	16.3	C	0.6	13.4	B	0.6
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	6.7	A	0.4	5.0	A	0.2
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	10.7	B	0.8	8.2	A	0.5
I-44 WB CD On-Ramp at W 51st St.	Free[2]	2.6	A	0.1	Does not Exist		
I-44 EB Off-Ramp (near Elwood Ave.) at W Skelly Dr.	1-Way Stop	4.7	A	0.2	Does not Exist		
I-44 EB On-Ramp (near Elwood Ave.) at W Skelly Dr.	Free[2]	4.2	A	0.2	6.0	A	0.5
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	6.0	A	0.5	6.5	A	0.7
S Elwood Ave. at W 51st St.	1-Way Stop	8.7	A	0.4	8.0	A	0.4
S Elwood Ave. at W Skelly Dr.	1-Way Stop	4.2	A	0.1	4.8	A	0.1
US 75 SB Ramps at W 41st St.	1-Way Stop	10.9	B	0.6	13.3	B	0.8
US 75 NB On-Ramp at Tacoma Ave.	Free[2]	2.3	A	0.1	2.2	A	0.2
Tacoma Ave./US 75 NB Off-Ramp at W 41st St.	2-Way Stop	16.9	C	1.1	20.3	C	1.3
US 75 SB Ramps at W 41st St.	1-Way Stop	6.9	A	0.4	7.7	A	0.4
US 75 NB Ramps at W 41st St.	1-Way Stop	10.7	B	0.7	12.3	B	1.2
US 75 NB Ramps at W 41st St.	Free[2]	Does not Exist			3.2	A	0.3
W Skelly Dr. at Connector Rd.	1-way Stop	Does not Exist			9.6	A	0.6
Total Unsignalized Delay (veh-hr)				**12.0**			**8.3**
Total Intersection Delay (veh-hr)		**58.8**			**60.2**		

*Critical approach only

+Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology does not provide results for intersections with exclusive ped phases. Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

Table 27 – Intersection Movement LOS - HCM – 2016 PM Peak Period

Signalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)	LOS	Delay (veh-hr)+	Delay (sec/veh)	LOS	Delay (veh-hr)+
Gilcrease Expwy at W 51st St.	Signal	17.3	B	7.8	17.3	B	7.8
S 33rd W Ave. at W 51st St.	Signal[1]	7.0	C	2.6	9.2	A	3.4
S 33rd W Ave. at I-44 WB Ramps	Signal[1]	See Unsignalized Results			9.9	A	3.7
S 33rd W Ave. at W Skelly Dr.	Signal[1]	See Unsignalized Results			14.0	B	5.5
Union Ave. at W 51st St.	Signal	21.7	C	8.3	18.2	B	7.3
Union Ave. at W Skelly Dr.	Signal	19.9	B	6.5	8.6	A	3.0
Riverside Dr. at E Skelly Drive	Signal	8.9	A	6.1	8.9	A	6.1
Riverside Dr. at E 51st St.	Signal[1]	1.6	A	1.1	1.6	A	1.1
Peoria Ave. at E Skelly Dr.	Signal	25.8	C	21.0	25.8	C	21.0
Peoria Ave. at E 51st St.	Signal	17.2	B	12.4	17.2	B	12.4
Total Signalized Delay (veh-hr)				**65.8**			**71.4**
Unsignalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+
Gilcrease Expwy On-Ramp at W 51st St.	Free[2]	No HCM 6th Results			No HCM 6th Results		
S 33rd W Ave. at I-44 WB Ramps	1-Way Stop	111.4	F	6.6	See Signalized Results		
S 33rd W Ave. at W Skelly Dr.	Stop Sign	174.2	F	36.0	See Signalized Results		
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	8.8	A	0.9	8.8	A	0.9
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	12.4	B	0.4	10.9	B	0.3
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	18.4	C	1.5	13.1	B	0.6
I-44 WB CD On-Ramp at W 51st St.	Free[2]	No HCM 6th Results			Does not Exist		
I-44 EB Off-Ramp (near Elwood Ave.) at W Skelly Dr.	1-Way Stop	10.3	B	0.3	Does not Exist		
I-44 EB On-Ramp (near Elwood Ave.) at W Skelly Dr.	Free[2]	No HCM 6th Results			No HCM 6th Results		
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	10.7	B	0.7	12.4	B	1.4
S Elwood Ave. at W 51st St.	1-Way Stop	16.6	C	1.5	18.1	C	1.6
S Elwood Ave. at W Skelly Dr.	1-Way Stop	9.6	A	0.1	9.4	A	0.1
US 75 SB Ramps at W 41st St.	1-Way Stop	8.9	A	0.7	9.1	A	0.9
US 75 NB On-Ramp at Tacoma Ave.	Free[2]	No HCM 6th Results			No HCM 6th Results		
Tacoma Ave./US 75 NB Off-Ramp at W 41st St.	2-Way Stop	24.7	C	1.7	18.5	C	2.2
US 75 SB Ramps at W 41st St.	2-Way Stop	16.0	C	0.9	14.9	B	1.0
US 75 NB Ramps at W 41st St.	1-Way Stop	20.2	C	1.0	21.6	C	2.4
US 75 NB Ramps at W 41st St.	Free[2]	Does not Exist			No HCM 6th Results		
W Skelly Dr. at Connector Rd.	1-way Stop	Does not Exist			15.2	C	1.0
Total Unsignalized Delay (veh-hr)				**52.4**			**12.4**
Total Intersection Delay (veh-hr)		**118.2**			**83.8**		

*Critical approach only

+Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology does not provide results for intersections with exclusive ped phases. Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

Table 28 – Intersection Movement LOS - SimTraffic – 2016 PM Peak Period

Signalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)	LOS	Delay (veh-hr)+	Delay (sec/veh)	LOS	Delay (veh-hr)+
Gilcrease Expwy at W 51st St.	Signal	32.1	C	14.4	32.1	C	14.4
S 33rd W Ave. at W 51st St.	Signal	14.6	B	5.4	8.7	A	3.2
S 33rd W Ave. at I-44 WB Ramps	Signal	See Unsignalized Results			8.6	A	3.2
S 33rd W Ave. at W Skelly Dr.	Signal	See Unsignalized Results			12.0	B	4.7
Union Ave. at W 51st St.	Signal	23.9	C	9.2	19.1	B	7.7
Union Ave. at W Skelly Dr.	Signal	28.6	C	9.3	7.0	A	2.5
Riverside Dr. at E Skelly Drive	Signal	11.0	B	7.5	11.0	B	7.5
Riverside Dr. at E 51st St.	Signal[1]	2.6	A	1.9	2.6	A	1.9
Peoria Ave. at E Skelly Dr.	Signal	27.8	C	22.6	27.8	C	22.6
Peoria Ave. at E 51st St.	Signal	13.3	B	9.6	13.3	B	9.6
Total Signalized Delay (veh-hr)				**79.9**			**77.3**
Unsignalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+
Gilcrease Expwy On-Ramp at W 51st St.	Free[2]	2.8	A	0.3	2.8	A	0.3
S 33rd W Ave. at I-44 WB Ramps	1-Way Stop	55.9	F	6.6	See Signalized Results		
S 33rd W Ave. at W Skelly Dr.	Stop Sign	29.6	D	7.4	See Signalized Results		
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	11.7	B	0.4	9.7	A	0.4
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	6.8	A	0.4	5.2	A	0.2
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	11.0	B	0.9	11.2	B	0.6
I-44 WB CD On-Ramp at W 51st St.	Free[2]	2.6	A	0.1	Does not Exist		
I-44 EB Off-Ramp (near Elwood Ave.) at W Skelly Dr.	1-Way Stop	4.4	A	0.2	Does not Exist		
I-44 EB On-Ramp (near Elwood Ave.) at W Skelly Dr.	Free[2]	7.3	A	0.5	8.9	A	0.9
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	6.0	A	0.4	7.5	A	0.8
S Elwood Ave. at W 51st St.	1-Way Stop	10.2	B	0.7	10.4	B	0.8
S Elwood Ave. at W Skelly Dr.	1-Way Stop	6.1	A	0.1	5.9	A	0.1
US 75 SB Ramps at W 41st St.	1-Way Stop	15.6	C	0.7	18.7	C	1.0
US 75 NB On-Ramp at Tacoma Ave.	Free[2]	2.4	A	0.2	2.5	A	0.2
Tacoma Ave./US 75 NB Off-Ramp at W 41st St.	2-Way Stop	22.2	C	1.4	24.7	C	1.5
US 75 SB Ramps at W 41st St.	1-Way Stop	9.2	A	0.8	10.2	B	0.8
US 75 NB Ramps at W 41st St.	1-Way Stop	11.0	B	0.7	13.1	B	1.4
US 75 NB Ramps at W 41st St.	Free[2]	Does not Exist			3.3	A	0.3
W Skelly Dr. at Connector Rd.	1-way Stop	Does not Exist			11.4	B	0.8
Total Unsignalized Delay (veh-hr)				**21.8**			**10.2**
Total Intersection Delay (veh-hr)		**101.7**			**87.5**		

*Critical approach only

+Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology does not provide results for intersections with exclusive ped phases. Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

Table 29 – Intersection Movement LOS - HCM – 2045 AM Peak Period

Signalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)	LOS	Delay (veh-hr)+	Delay (sec/veh)	LOS	Delay (veh-hr)+
Gilcrease Expwy SB Ramps at W 51st St.	Signal	40.9	D	21.7	40.9	D	21.7
Gilcrease Expwy On-Ramp at W 51st St.	Signal	18.1	B	6.3	18.1	B	6.3
S 33rd W Ave. at W 51st St.	Signal[1]	10.5	B	3.6	10.5	B	3.6
S 33rd W Ave. at I-44 WB Ramps	Signal[1]	8.6	B	3.0	9.1	B	3.2
S 33rd W Ave. at W Skelly Dr.	Signal[1]	15.9	B	6.8	15.2	B	6.5
Union Ave. at W 51st St.	Signal	31.4	C	13.0	22.0	C	9.7
Union Ave. at W Skelly Dr.	Signal	9.3	A	3.2	8.5	A	3.1
Riverside Dr. at E Skelly Drive	Signal	7.3	A	5.7	7.3	A	5.7
Riverside Dr. at E 51st St.	Signal[1]	4.4	A	3.8	4.4	A	3.8
Peoria Ave. at E Skelly Dr.	Signal	21.6	C	18.8	21.6	C	18.8
Peoria Ave. at E 51st St.	Signal	24.2	C	19.6	24.2	C	19.6
Total Signalized Delay (veh-hr)				**105.5**			**102.0**
Unsignalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	25.9	D	2.1	25.9	D	2.1
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	16.5	C	0.6	11.9	B	0.5
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	21.6	C	2.1	14.9	B	0.8
I-44 WB CD On-Ramp at W 51st St.	Free[2]	No HCM 6th Results			Does not Exist		
I-44 EB Off-Ramp (near Elwood Ave.) at W Skelly Dr.	1-Way Stop	11.2	B	0.5	Does not Exist		
I-44 EB On-Ramp (near Elwood Ave.) at W Skelly Dr.	Free[2]	No HCM 6th Results			No HCM 6th Results		
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	12.0	B	1.5	12.6	B	1.9
S Elwood Ave. at W 51st St.	1-Way Stop	16.5	C	1.2	22.1	C	1.4
S Elwood Ave. at W Skelly Dr.	1-Way Stop	11.4	B	0.1	11.3	B	0.1
US 75 SB Ramps at W 41st St.	All Way Stop[3]	8.8	A	0.7	20.2	C	4.8
US 75 NB On-Ramp at Tacoma Ave.	Free[2]	No HCM 6th Results			No HCM 6th Results		
Tacoma Ave./US 75 NB Off-Ramp at W 41st St.	All Way Stop	18.1	C	3.9	19.4	C	4.7
US 75 SB Ramps at W 61st St.	1-Way Stop	17.2	C	0.7	17.1	C	0.8
US 75 NB Ramps at W 61st St.	All Way Stop	16.9	C	3.3	18.8	C	5.0
US 75 NB Ramps at W 41st St.	Free[2]	Does not Exist			No HCM 6th Results		
W Skelly Dr. at Connector Rd.	1-way Stop	Does not Exist			20.4	C	16
Total Unsignalized Delay (veh-hr)				**16.6**			**23.7**
Total Intersection Delay (veh-hr)		**122.1**			**125.7**		

*Critical approach only +Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology does not provide results for intersections with exclusive ped phases. Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

[3] All way stop assumed for build; one way stop for no build

Table 30 – Intersection Movement LOS - SimTraffic – 2045 AM Peak Period

Signalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)	LOS	Delay (veh-hr)+	Delay (sec/veh)	LOS	Delay (veh-hr)+
Gilcrease Expwy SB Ramps at W 51st St.	Signal	24.7	C	13.1	24.7	C	13.1
Gilcrease Expwy On-Ramp at W 51st St.	Signal	15.3	B	5.3	15.3	B	5.3
S 33rd W Ave. at W 51st St.	Signal	9.0	A	3.1	9.4	A	3.2
S 33rd W Ave. at I-44 WB Ramps	Signal	7.7	A	2.7	7.7	A	2.7
S 33rd W Ave. at W Skelly Dr.	Signal	14.2	B	6.1	14.2	B	6.1
Union Ave. at W 51st St.	Signal	25.2	C	10.5	20.9	C	9.2
Union Ave. at W Skelly Dr.	Signal	20.7	C	7.1	12.9	B	4.8
Riverside Dr. at E Skelly Drive	Signal	11.1	B	8.6	11.1	B	8.6
Riverside Dr. at E 51st St.	Signal[1]	4.1	A	3.5	4.1	A	3.5
Peoria Ave. at E Skelly Dr.	Signal	25.7	C	22.3	25.7	C	22.3
Peoria Ave. at E 51st St.	Signal	19.5	B	15.8	19.5	B	15.8
Total Signalized Delay (veh-hr)				**98.1**			**94.7**
Unsignalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	24.2	C	0.9	24.5	C	1.0
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	11.5	B	0.8	5.6	A	0.2
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	14.9	B	1.6	13.9	B	0.9
I-44 WB CD On-Ramp at W 51st St.	Free[2]	2.7	A	0.1	Does not Exist		
I-44 EB Off-Ramp (near Elwood Ave.) at W Skelly Dr.	1-Way Stop	5.3	A	0.2	Does not Exist		
I-44 EB On-Ramp (near Elwood Ave.) at W Skelly Dr.	Free[2]	5.3	A	0.4	7.1	A	0.7
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	7.0	A	0.8	8.0	A	1.1
S Elwood Ave. at W 51st St.	1-Way Stop	11.9	B	0.6	10.6	B	0.6
S Elwood Ave. at W Skelly Dr.	1-Way Stop	5.6	A	0.1	6.0	A	0.1
US 75 SB Ramps at W 41st St.	All Way Stop[3]	18.5	C	1.3	13.0	B	2.7
US 75 NB On-Ramp at Tacoma Ave.	Free[2]	2.9	A	0.2	2.9	A	0.3
Tacoma Ave./US 75 NB Off-Ramp at W 41st St.	All Way Stop	13.1	B	2.4	14.0	B	3.1
US 75 SB Ramps at W 61st St.	1-Way Stop	8.6	A	0.7	11.0	B	0.8
US 75 NB Ramps at W 61st St.	All Way Stop	10.3	B	1.9	13.1	B	3.1
US 75 NB Ramps at W 41st St.	Free[2]	Does not Exist			3.8	A	0.5
W Skelly Dr. at Connector Rd.	1-way Stop	Does not Exist			12.9	B	1.1
Total Unsignalized Delay (veh-hr)				**12.0**			**16.2**
Total Intersection Delay (veh-hr)		**110.2**			**110.9**		

*Critical approach only +Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology does not provide results for intersections with exclusive ped phases. Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

[3] All way stop assumed for build; one way stop for no build

Table 31 – Intersection Movement LOS - HCM – 2045 PM Peak Period

Signalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)	LOS	Delay (veh-hr)+	Delay (sec/veh)	LOS	Delay (veh-hr)+
Gilcrease Expwy SB Ramps at W 51st St.	Signal	33.8	C	17.0	33.8	C	17.0
Gilcrease Expwy On-Ramp at W 51st St.	Signal	14.0	B	5.7	14.0	B	5.7
S 33rd W Ave. at W 51st St.	Signal[1]	11.0	B	5.3	10.3	B	4.9
S 33rd W Ave. at I-44 WB Ramps	Signal[1]	9.6	A	4.7	10.6	B	5.2
S 33rd W Ave. at W Skelly Dr.	Signal[1]	17.9	B	9.0	17.2	B	8.7
Union Ave. at W 51st St.	Signal	41.0	D	20.3	22.0	C	11.2
Union Ave. at W Skelly Dr.	Signal	11.7	B	4.9	12.4	B	5.5
Riverside Dr. at E Skelly Drive	Signal	9.5	A	9.0	9.5	A	9.0
Riverside Dr. at E 51st St.	Signal[1]	3.1	A	3.1	3.1	A	3.1
Peoria Ave. at E Skelly Dr.	Signal	31.6	C	33.2	31.6	C	33.2
Peoria Ave. at E 51st St.	Signal	23.9	C	22.3	23.9	C	22.3
Total Signalized Delay (veh-hr)				**134.4**			**125.7**
Unsignalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	9.1	A	1.3	9.0	A	1.3
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	14.7	B	0.5	11.4	B	0.4
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	44.6	E	3.2	15.2	C	0.9
I-44 WB CD On-Ramp at W 51st St.	Free[2]	No HCM 6th Results			Does not Exist		
I-44 EB Off-Ramp (near Elwood Ave.) at W Skelly Dr.	1-Way Stop	11.1	B	0.5	Does not Exist		
I-44 EB On-Ramp (near Elwood Ave.) at W Skelly Dr.	Free[2]	No HCM 6th Results			No HCM 6th Results		
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	11.9	B	1.1	13.6	B	1.8
S Elwood Ave. at W 51st St.	1-Way Stop	31.2	D	3.5	37.6	E	3.8
S Elwood Ave. at W Skelly Dr.	1-Way Stop	10.8	B	0.1	10.5	B	0.1
US 75 SB Ramps at W 41st St.	All Way Stop[3]	9.8	A	1.0	23.5	C	7.3
US 75 NB On-Ramp at Tacoma Ave.	Free[2]	No HCM 6th Results			No HCM 6th Results		
Tacoma Ave./US 75 NB Off-Ramp at W 41st St.	All Way Stop	18.8	C	4.4	20.6	C	5.6
US 75 SB Ramps at W 61st St.	1-Way Stop	23.8	C	1.6	23.6	C	1.7
US 75 NB Ramps at W 61st St.	All Way Stop	19.5	C	4.0	23.2	C	6.6
US 75 NB Ramps at W 41st St.	Free[2]	Does not Exist			No HCM 6th Results		
W Skelly Dr. at Connector Rd.	1-way Stop	Does not Exist			27.6	D	2.9
Total Unsignalized Delay (veh-hr)				**21.0**			**32.2**
Total Intersection Delay (veh-hr)		**155.4**			**157.9**		

*Critical approach only +Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology does not provide results for intersections with exclusive ped phases. Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

[3] All way stop assumed for build; one way stop for no build

Table 32 – Intersection Movement LOS - SimTraffic – 2045 PM Peak Period

Signalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)	LOS	Delay (veh-hr)+	Delay (sec/veh)	LOS	Delay (veh-hr)+
Gilcrease Expwy SB Ramps at W 51st St.	Signal	21.5	C	10.8	21.5	C	10.8
Gilcrease Expwy On-Ramp at W 51st St.	Signal	12.7	B	5.2	12.7	B	5.2
S 33rd W Ave. at W 51st St.	Signal	10.3	B	4.9	10.9	B	5.2
S 33rd W Ave. at I-44 WB Ramps	Signal	10.0	A	4.9	10.9	B	5.3
S 33rd W Ave. at W Skelly Dr.	Signal	14.5	B	7.3	13.0	B	6.6
Union Ave. at W 51st St.	Signal	52.3	D	25.9	27.5	C	14.0
Union Ave. at W Skelly Dr.	Signal	32.9	C	13.8	16.3	B	7.2
Riverside Dr. at E Skelly Drive	Signal	13.4	B	12.7	13.4	B	12.7
Riverside Dr. at E 51st St.	Signal[1]	4.3	A	4.2	4.3	A	4.2
Peoria Ave. at E Skelly Dr.	Signal	33.8	C	35.5	33.8	C	35.5
Peoria Ave. at E 51st St.	Signal	24.2	C	22.6	24.2	C	22.6
Total Signalized Delay (veh-hr)				**147.8**			**129.4**
Unsignalized Junctions							
		Existing			Proposed		
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	15.0	B	0.5	24.5	C	0.7
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	9.6	A	0.7	5.6	A	0.3
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	32.1	D	4.8	13.2	B	1.0
I-44 WB CD On-Ramp at W 51st St.	Free[2]	3.0	A	0.2	Does not Exist		
I-44 EB Off-Ramp (near Elwood Ave.) at W Skelly Dr.	1-Way Stop	5.0	A	0.3	Does not Exist		
I-44 EB On-Ramp (near Elwood Ave.) at W Skelly Dr.	Free[2]	10.3	B	0.9	13.7	B	1.5
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	6.9	A	0.6	8.3	A	1.1
S Elwood Ave. at W 51st St.	1-Way Stop	16.2	C	1.6	16.3	C	1.5
S Elwood Ave. at W Skelly Dr.	1-Way Stop	7.8	A	0.1	6.3	A	0.1
US 75 SB Ramps at W 41st St.	All Way Stop[3]	41.8	E	2.5	18.3	C	4.2
US 75 NB On-Ramp at Tacoma Ave.	Free[2]	3.1	A	0.3	3.2	A	0.4
Tacoma Ave./US 75 NB Off-Ramp at W 41st St.	All Way Stop	16.5	C	2.8	18.7	C	4.4
US 75 SB Ramps at W 61st St.	1-Way Stop	14.4	B	1.5	16.5	C	1.6
US 75 NB Ramps at W 61st St.	All Way Stop	10.9	B	2.2	17.4	C	4.2
US 75 NB Ramps at W 41st St.	Free[2]	Does not Exist			4.0	A	0.5
W Skelly Dr. at Connector Rd.	1-way Stop	Does not Exist			15.8	C	1.7
Total Unsignalized Delay (veh-hr)				**18.9**			**23.2**
Total Intersection Delay (veh-hr)		**166.7**			**152.5**		

*Critical approach only +Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology does not provide results for intersections with exclusive ped phases. Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

[3] All way stop assumed for build; one way stop for no build

Tables 33 and 34 show the results of the study intersections within the VISSIM model. The VISSIM model featured the entire freeway network and the arterial intersections, thus full system effects were gathered in cases of large delay. For the No Build, the freeway produced extreme queuing on freeway segments that were found to impact adjacent intersections and produce LOS F conditions – including the Gilcrease Expressway southbound ramps at W 51st Street, Union Avenue at 51st Street, W 51st ramps at I-44, and US-75 ramp intersections at W 41st Street. For the build configuration, all intersections were at an overall LOS D or better with 35% less total vehicle-hours of delay in the PM peak period.

Table 33 – Intersection Movement LOS - VISSIM – 2045 AM Peak Period

Signalized Junctions							
		Existing Configuration			Proposed Configuration		
Intersection	Control	Delay (sec/veh)	LOS	Delay (veh-hr)+	Delay (sec/veh)	LOS	Delay (veh-hr)+
Gilcrease Expwy SB Ramps at W 51st St.	Signal	108.9	F	22.4	15.0	B	10.9
Gilcrease Expwy On-Ramp at W 51st St.	Signal	15.2	B	4.9	10.9	B	4.7
S 33rd W Ave. at W 51st St.	Signal	11.5	B	3.6	12.3	B	4.3
S 33rd W Ave. at I-44 WB Ramps	Signal	8.9	A	3.0	9.2	A	3.2
S 33rd W Ave. at W Skelly Dr.	Signal	10.2	B	4.0	15.5	B	6.5
Union Ave. at W 51st St.	Signal	22.0	C	8.9	19.6	B	8.3
Union Ave. at W Skelly Dr.	Signal	14.0	B	4.7	10.1	B	3.6
Riverside Dr. at E Skelly Drive	Signal	8.7	A	6.6	7.9	A	6.0
Riverside Dr. at E 51st St.	Signal	2.2	A	1.8	1.6	A	1.3
Peoria Ave. at E Skelly Dr.	Signal	21.3	C	16.9	19.5	B	15.7
Peoria Ave. at E 51st St.	Signal	19.2	B	13.7	16.5	B	12.6
Total Signalized Delay (veh-hr)				**90.5**			**77.1**
Unsignalized Junctions							
		Existing Configuration			**Proposed Configuration**		
Intersection	**Control**	**Delay (sec/veh)***	**LOS***	**Delay (veh-hr)+**	**Delay (sec/veh)***	**LOS***	**Delay (veh-hr)+**
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	No Node Evaluations			13.4	B	0.9
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	No Node Evaluations			8.3	A	0.3
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	16.3	C	0.9	Does Not Exist		
I-44 WB Ramps (west of Union Ave.) at W 51st St.	1-Way Stop	Does Not Exist			2.4	A	0.5
US 75 SB Ramps at W 41st St.	1-Way Stop	11.5	B	0.8	Does Not Exist		
US 75 SB Ramps at W 41st St.	All Way Stop	Does Not Exist			6.7	A	1.0
US 75 NB Off-Ramp at W 41st St.	All Way Stop	4.3	A	0.7	6.5	A	1.0
US 75 SB Ramps at W 61st St.	1-Way Stop	11.4	B	0.7	7.9	A	0.6
US 75 NB Ramps at W 61st St.	All Way Stop	9.3	A	1.4	16.6	C	1.6
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	No Node Evaluations			9.0	A	1.2
W Skelly Dr. at Connector Rd.	1-Way Stop	Does Not Exist			12.7	B	1.1
Total Unsignalized Delay (veh-hr)				**4.5**			**8.2**
Total Intersection Delay (veh-hr)		**95.0**			**85.3**		

*Critical approach only

+Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology does not provide results for intersections with exclusive ped phases. Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

[3] All way stop assumed for build; one way stop for no build

Table 34 – Intersection Movement LOS - VISSIM – 2045 PM Peak Period

Signalized Junctions							
		Existing Configuration			Proposed Configuration		
Intersection	Control	Delay (sec/veh)	LOS	Delay (veh-hr)+	Delay (sec/veh)	LOS	Delay (veh-hr)+
Gilcrease Expwy SB Ramps at W 51st St.	Signal	16.0	B	7.1	17.1	B	8.2
Gilcrease Expwy On-Ramp at W 51st St.	Signal	20.3	C	7.3	9.8	A	6.9
S 33rd W Ave. at W 51st St.	Signal	11.0	B	4.6	11.6	B	5.5
S 33rd W Ave. at I-44 WB Ramps	Signal	9.1	A	3.8	11.9	B	5.8
S 33rd W Ave. at W Skelly Dr.	Signal	9.7	A	4.0	19.8	B	8.9
Union Ave. at W 51st St.	Signal	124.3	F	30.4	24.1	C	11.6
Union Ave. at W Skelly Dr.	Signal	32.1	C	7.2	13.7	B	5.6
Riverside Dr. at E Skelly Drive	Signal	9.4	A	8.0	10.8	B	9.8
Riverside Dr. at E 51st St.	Signal	18	A	17	15	A	12
Peoria Ave. at E Skelly Dr.	Signal	34.8	C	29.1	26.0	C	24.2
Peoria Ave. at E 51st St.	Signal	26.3	C	20.9	22.1	C	18.9
Total Signalized Delay (veh-hr)				**124.1**			**106.6**
Unsignalized Junctions							
		Existing Configuration			Proposed Configuration		
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	No Node Evaluations			14.9	B	0.8
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	No Node Evaluations			8.2	A	0.3
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	480.5	F	11.1	Does Not Exist		
I-44 WB Ramps (west of Union Ave.) at W 51st St.	1-Way Stop	Does Not Exist			2.8	A	0.6
US 75 SB Ramps at W 41st St.	1-Way Stop	869.2	F	23.7	Does Not Exist		
US 75 SB Ramps at W 41st St.	All Way Stop	Does Not Exist			7.1	A	16
US 75 NB Off-Ramp at W 41st St.	All Way Stop	772.8	F	20.9	7.7	A	14
US 75 SB Ramps at W 61st St.	1-Way Stop	12.5	B	0.9	12.0	A	11
US 75 NB Ramps at W 61st St.	All Way Stop	9.8	A	16	34.7	D	3.1
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	No Node Evaluations			11.5	B	12
W Skelly Dr. at Connector Rd.	1-Way Stop	Does Not Exist			23.4	C	2.1
Total Unsignalized Delay (veh-hr)				**58.2**			**12.2**
Total Intersection Delay (veh-hr)		**182.3**			**118.8**		

*Critical approach only

+Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology does not provide results for intersections with exclusive ped phases. Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

[3] All way stop assumed for build; one way stop for no build

2.4 Safety Analysis – Crash History

Crash data from 2012 to 2016 within the study area was obtained from ODOT's Safe-T database, summarized using GIS software and mapped by collision type (see **Figures C-1 – C-15 in Appendix C**).. **Figure 6** provides a percentage breakdown of the crashes by type.

A total of 1,280 crashes were recorded over the five-year period resulting in 10 fatal crashes, 539 injury crashes, and 731 property damage only crashes. 284 crashes were intersection related. The most common crash types were rear ends, fixed-objects and sideswipes. The ten fatal crashes consisted of three rear ends, two pedestrian collisions, two rollovers, two fixed-objects, and one single vehicle.

Of the 1,280 crash records included in the ODOT data, 998 crashes were classified along I-44 – 6 of which were fatal. 211 crashes on the I-44 corridor were classified as intersection related from the data, most of which were at the intersection of I-44 and S. Peoria Avenue. In assessing the data, the following trends were noted:

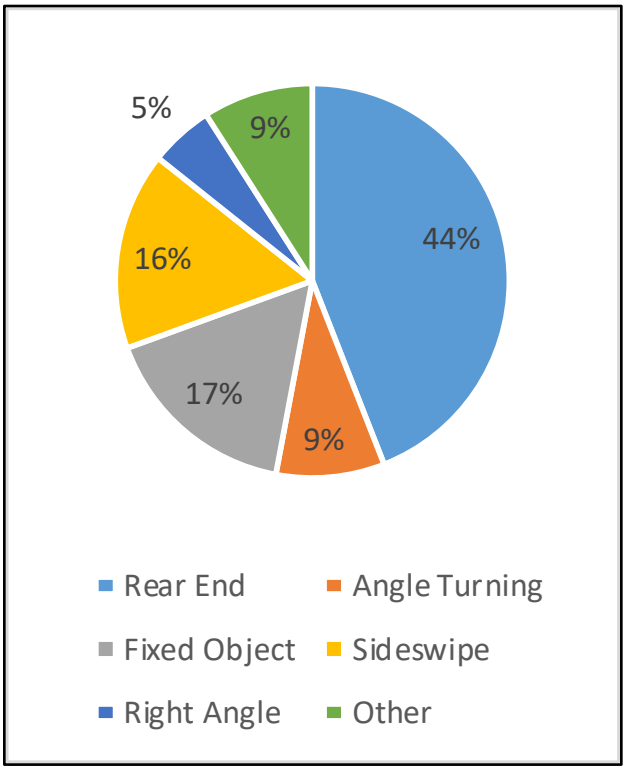

Figure 14: Crash Percentages

- **I-44 at Gilcrease Expressway**
  - Large cluster of rear end, fixed object, and sideswipe crashes were found on I-44/I-244 at the loop exit ramps to Gilcrease Expressway/I-44 eastbound. These loop ramps have a low design speed and require slowing on the mainline.
  - A cluster of rear end, fixed object, and sideswipe crashes were found at the left-hand merge from the Gilcrease Expressway to I-44 eastbound. The left side merge with relatively short merging distance could be a contributing factor, and, with the expansion of the Gilcrease Expressway, this conflict will undergo increased exposure in future years.

- **I-44 at S 33rd Avenue**
  - Freeway Crashes – rear end collisions near the westbound exit ramp could be the result of ramp queuing at the ramp terminal intersection as observed in the field.
  - Arterial Crashes – 19 crashes occurring at the westbound ramp intersection likely resulting from congestion and proximity to the S 33rd Avenue/W 51st Avenue intersection.

- **I-44 at US-75 interchange**
  - Weaving Crashes - Large cluster of rear end and sideswipe type crashes at all weaving sections between the cloverleaf ramps on the C-D system and on US-75.
  - Merge Crashes - Large cluster of rear end and sideswipe type crashes at the US-75 northbound ramp to the I-44 eastbound C-D Road. This junction features virtually zero merge distance and essentially acts as a yield condition to a high volume of ramp traffic from US-75.

- **I-44 between US-75 and Peoria Avenue**
  - Large cluster of rear ends and sideswipes are prevalent in both directions of I-44. In the westbound direction, the congestion related to the lane drop at US-75 is likely resulting in a large speed differential on I-44 for approaching vehicles and the high number of crashes in this segment.

- **I-44 at Peoria Avenue**
  - Arterials – At the one-way frontage road intersections, left turn with through crashes are dominant (the signal has FYAs) as are right angle crashes. The large width of the intersection could be a contributing factor to these crashes.

- **US-75 at W 41st Street**
  - Cluster of rear end and fixed object collisions on the mainline potentially due to congestion experienced at US-75 interchange.

2.5 Safety Analysis – Comparative Analysis

A predictive safety analysis was conducted using ISATe (Enhanced Interchange Safety Analysis Tool) to evaluate the safety of freeway facilities based on the methodology described in the Highway Safety Manual (HSM). The predictive method uses safety performance functions (SPFs) along with the crash modification factors (CMFs) to predict the average crash frequency and crash severity. The ISATe generates the predicted crash frequency based on the daily volumes and roadway design features. The tool considers the road elements safety impact as presently captured in the HSM to quantify crash reductions, which includes:

- Freeway Segments
  - Horizontal curves, land width, shoulder width, median width, median and outsider barriers, traffic volume, ramp presence, rumble strips, clear zone, ramp lengths

- Ramp Segments
  - Horizontal curves, land width, shoulder width, barriers on right or left side, weaving sections, diverge deceleration length, presence of lane add or drop from mainline

- Ramp Terminals
    - Exit ramp capacity, turn lanes at intersection, access point frequency on cross street, intersection spacing, median presence, presence of protected left turn movements, right turn channelization, intersection angle, non-ramp public street leg of intersection

2.5.1 ISATe Assumptions

ISATe models were developed for the entire study area of the I-44 project for 2045 No Build and Build Alternatives. The study area was divided into four sections as follows:

- I-44 from I-244 to Peoria Avenue
- US-75 from W 41st Street to W 61st Street
- I-44 from S 49th W Avenue to I-244
- I-244 from I-44 to S 33rd Avenue

For the 2045 No Build Alternative, the Gilcrease Expressway is included with an interchange at 51st Street, however, there are no improvements at the Gilcrease Expressway/I-44/I-244 interchange as that project would terminate at S 49th W Avenue west of I-244. For the 2045 Build Alternative, improvements are proposed along I-44 that include upgrades to the I-244/Gilcrease Expressway interchange and US-75 from W 41st Street and W 61st Street.

Freeway main lanes and ramps, including C-D roads, and ramp terminal intersections were evaluated for all sections. The following assumptions were applied to the ISATe models:

- Parallel city streets that serve currently as de facto two-way frontage roads – such as W Skelly Drive and W 51st Street were not modeled
    - ISATe does not recognize frontage roads, therefore all ramps were modeled to be continuous from ramp terminals to freeway gore point without the influence of the frontage road

- No rumble strips were included in any alternative

- All clear zone requirements were met in the Build Alternative

- Existing posted speed limits were used as average speed on the freeway for the No Build and Build Alternatives

- Default calibration factor of 1.0
    - Default calibration factor of 1.0 was used for all models since no local calibration factor was available to refine the ISATe empirical constants

2.5.2 ISATe Results

Table 35 summarizes the ISATe predicted results for 2045 No Build and Build Alternatives. The total crashes shown are comprised of fatal and injury crashes and property damage only crashes. The ISATe results show a decrease in total number of projected crashes for the Build Alternative compared to the No

Build Alternative. Total crashes for the study area are expected to be approximately 17% lower in the Build Alternative with an 18% reduction in fatal and injury crashes in the design year. In raw numbers, the Build Alternative will reduce 46 total crashes per year and 17 fatal and serious injuries per year.

The crash reductions are expected on freeway and ramp segments with the crossroad ramp terminal crashes remaining similar to No Build levels. On I-44, the proposed improvements to remove the current C-D road system, which features tight merges and loop ramp weaves, accounts for most of the ramp segment crash reductions on I-44 (approximately 17 per year). On US-75, the proposed improvements will benefit the mainline operation – removing the current loop ramp weaves and providing additional merge and diverge distance at the ramps. Freeway segment crashes on US-75 are projected to decrease by approximately 19 crashes per year.

Table 35: Predicted Annual Crashes in 2045 for No Build and Build Alternatives

2045 Crash Comparison	I-44 from I-244 to Peoria Ave		I-75 from 61st St to 41st St		I-44 from 49th Ave to I-244		I-244 from I-44 to 33rd Ave		Total	
	No Build	Build	No Build	Build	No Build	Build	No Build	Build	No Build	Build
Projected Annual Crashes										
Total Crashes	181	150	74	59	19	19	5	5	278	232
Fatal and Injury Crashes	64	51	24	19	7	7	2	2	96	79
Property-Damage-Only Crashes	117	98	50	39	12	12	3	3	182	153
Projected Crashes by Location										
Freeway Segments Crashes	105	91	62	43	14	14	4	4	185	151
Ramp Segments Crashes	32	15	5	9	5	5	1	1	43	30
Crossroad Ramp Terminal Crashes	45	44	6	7	0	0	0	0	51	50
Percent of Total Annual Crashes										
Percent Fatal and Injury Crashes (%)	35%	34%	33%	33%	35%	35%	37%	37%	35%	34%
Percent Property-Damage-Only Crashes	65%	66%	67%	67%	65%	65%	63%	63%	65%	66%
Crash Rate (per 100 million veh-mi)										
Vehicle-Miles Traveled	1.21	1.23	0.82	0.76	0.20	0.20	0.06	0.06	2.29	2.24
Crash Rate	149	122	90	78	96	96	73	73	121	103
Fatal and Injury Crash Rate	53	42	29	26	34	34	27	27	42	35
Property-Damage-Only Crash Rate	96	80	61	52	62	62	46	46	79	68

2.5.3 Supplemental Crash Modification Factors

Multiple CMFs for geometric design and traffic control features are included in the HSM which in turn are applied within the ISATe; however, not all safety improvements are captured in the ISATe tool. The online *Crash Modification Factor Clearinghouse* provides a list of CMFs, supplemental to those included in the HSM, which may be applied to estimate safety benefits. Applicable supplemental benefits for this project include:

- CMF 478 states that provision of a straight ramp over a cloverleaf ramp would reduce crashes by 45%.

- Installation of turn lanes at W Skelly Drive and Union Avenue (CMF 8000) indicates that left turn lanes at signalized intersections reduce all injury crashes by 20%. This adjacent intersection was not captured in the analysis as it is not a ramp terminal.

3.0 Access Connection and Design

Policy Point 2 – Access Connection and Design

The proposed access connects to a public road only and will provide for all traffic movements. Less than "full interchanges" may be considered on a case-by-case basis for applications requiring special access, such as managed lanes (e.g., transit or high occupancy vehicle and high occupancy toll lanes) or park and ride lots. The proposed access will be designed to meet or exceed current standards (23 CFR 625.2(a), 625.4(a)(2), and 655.603(d)). In rare instances where all basic movements are not provided by the proposed design, the report should include a full-interchange option with a comparison of the operational and safety analyses to the partial-interchange option. The report should also include the mitigation proposed to compensate for the missing movements, including wayfinding signage, impacts on local intersections, mitigation of driver expectation leading to wrong-way movements on ramps, etc. The report should describe whether future provision of a full interchange is precluded by the proposed design.

The proposed access will connect to a public road and provide for all traffic movements as well as provide pedestrian accommodations on arterial segments. The proposed access will be designed to meet or exceed current standards as specified in *AASHTO's A Policy on Geometric Design of Highways* (*Green Book*) and in *AASHTO's A Policy on Design Standards – Interstate System*. Design exceptions are not anticipated at this time; however, during the design phase of the project, if design criteria is not met, then a design exception will be prepared. The proposed design will achieve lane balance by providing three through lanes on both I-44 and US-75 through the system-to-system interchange. Lane balance will also be provided at interchanges within the corridor and meet *AASHTO Green Book* guidance per Section 10.9.5.9. At entrances, the number of lanes beyond the merge point is not less than the sum of all traffic lanes on the merging roadways minus one. At exits, the number of approach lanes on the freeway is equal to the number of lanes on the freeway beyond the exit, plus the number of lanes on the exit, minus one, with exceptions for auxiliary lanes at closely spaced interchanges. The project will provide continuous auxiliary lanes on I-44 between the US-75 interchange and the Riverside Drive/Peoria Avenue interchange just east of the Arkansas River.

The ultimate design will streamline ramp access to the local roads at the US-75 interchange to minimize conflict points and provide better traffic flow. However, access to businesses will still be accommodated by extending W 51st Street across the north side of the US-75 interchange and constructing a connector road from W Skelly Drive to W 61st Street.

With the proposed updates to the corridor and new ramp configuration, new freeway guide signage is proposed. The proposed signing plan is depicted in **Figures G-1 through G-10 in Appendix G.**

4.0 Conclusions

Public involvement for the recent *I-44 Preliminary Engineering Report* included a solicitation of input from federal, state, and local government agencies and elected officials, and a public meeting held in November 2017. Approximately 175 people attended the public meeting. Comments from the agencies and the public were compiled into a summary document, which contributed to ODOT's decision on the preferred alternative and allowed for refinement updates.

Based on funding constraints, the corridor will be constructed in multiple construction work packages over multiple years. Beyond Work Package 1, there are four additional work packages under design. Work

Package 1 is included in ODOT's 8 Year Work Plan after a $45 million INFRA grant award from the USDOT. Work Package #1 is included in INCOG's Transportation Improvement Plan (TIP) and ODOT's Statewide Improvement Plan (STIP). Work Packages #2-5 are presently shown in the STIP for utilities and right of way. The improvements to I-44 and US-75 are referenced in INCOG's Connected 2045 Long Range Plan.

NEPA authorization will be processed with a re-evaluation of the 2002 EA for the ultimate interchange, which includes WP-1 and was submitted to FHWA for approval in May 2020. No significant environmental impacts are anticipated as a result of the project and there is no significant public controversy on environmental grounds.

The ultimate configuration of the I-44 corridor and system interchange at US-75 will improve system mobility and safety. It will reduce ramp density and overlapping conflict areas, reduce weaving, and provide additional capacity to the critical movements at the US-75 interchange.

Appendix A – Alternatives from Preliminary Engineering Report

OKLAHOMA DEPARTMENT OF TRANSPORTATION

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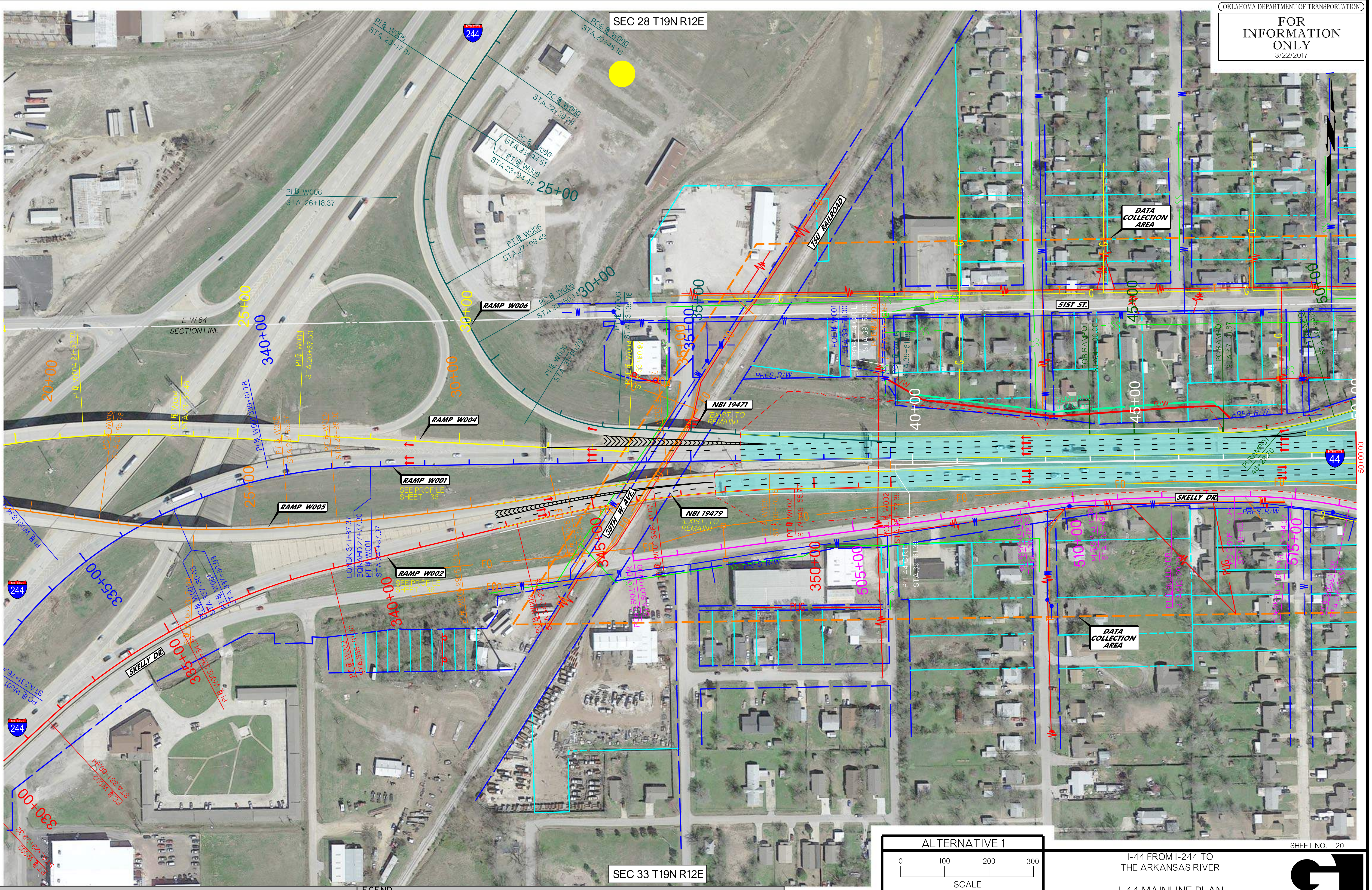
3/22/2017



SHEET NO. 20

LEGEND

POWERLINE	WATER	OVERHEAD TELEPHONE LINE	DATA COLLECTION AREA	FLOODPLAIN ZONE AE
FIBER OPTIC	OIL LINE	EXISTING RIGHT-OF-WAY	STREAM FLOWLINE	FLOODWAY ZONE AE
GAS LINE	POWER UNDERGROUND	PROPERTY LINE	TEMP RIGHT-OF-WAY	TRADEFIXTURE
TELEPHONE UNDERGROUND	SANITARY SEWER	PROPOSED RIGHT-OF-WAY	UTILITY EASEMENT	

UST/AST SITE
POTENTIAL HAZARDOUS MATERIALS SITE
LUST/LAST SITE

ALTERNATIVE 1

0 100 200 300

SCALE

Oklahoma Department of Transportation

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLAN (SHEET 1 OF 6)

FIGURE A-1

GARVER

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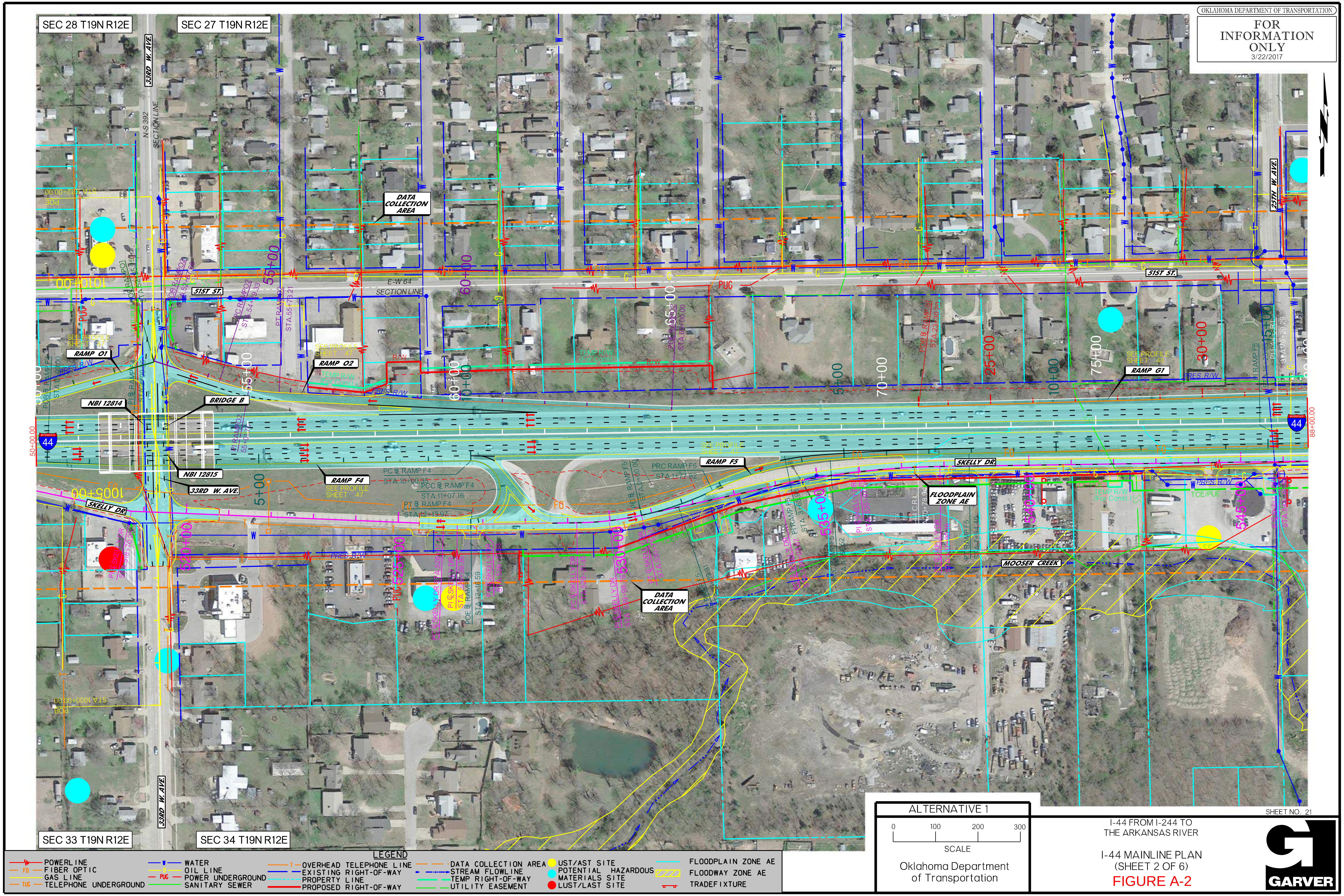
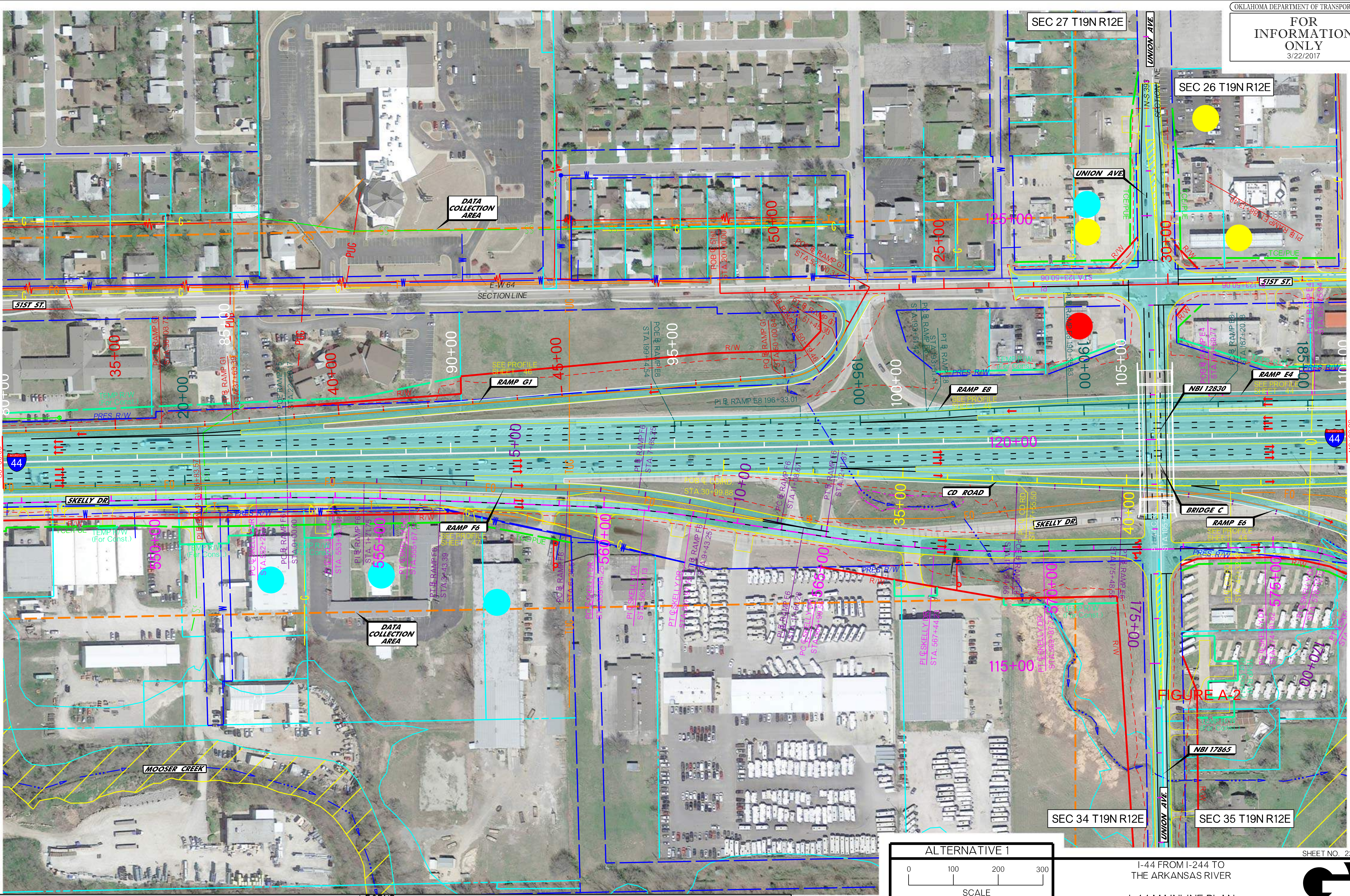

OKLAHOMA DEPARTMENT OF TRANSPORTATION
FOR INFORMATION ONLY
3/22/2017
SEC 28 T19N R12E
SEC 27 T19N R12E
SEC 33 T19N R12E
SEC 34 T19N R12E
33RD W. AVE
25TH W. AVE
51ST ST.
SKELLY DR
MOOSER CREEK
RAMP O1
RAMP O2
RAMP F4
RAMP F5
RAMP G1
BRIDGE B
NBI 12814
NBI 12815
DATA COLLECTION AREA
FLOODPLAIN ZONE AE
E-W 64 SECTION LINE
N-S 392 SECTION LINE
44
LEGEND
POWERLINE
FIBER OPTIC
GAS LINE
TELEPHONE UNDERGROUND
WATER
OIL LINE
POWER UNDERGROUND
SANITARY SEWER
OVERHEAD TELEPHONE LINE
EXISTING RIGHT-OF-WAY
PROPERTY LINE
PROPOSED RIGHT-OF-WAY
DATA COLLECTION AREA
STREAM FLOWLINE
TEMP RIGHT-OF-WAY
UTILITY EASEMENT
UST/AST SITE
POTENTIAL HAZARDOUS MATERIALS SITE
LUST/LAST SITE
FLOODPLAIN ZONE AE
FLOODWAY ZONE AE
TRADEFIXTURE
ALTERNATIVE 1
0 100 200 300
SCALE
Oklahoma Department of Transportation
SHEET NO. 21
I-44 FROM I-244 TO THE ARKANSAS RIVER
I-44 MAINLINE PLAN (SHEET 2 OF 6)
FIGURE A-2
GARVER



LEGEND

POWERLINE	WATER	OVERHEAD TELEPHONE LINE	DATA COLLECTION AREA
FIBER OPTIC	OIL LINE	EXISTING RIGHT-OF-WAY	STREAM FLOWLINE
GAS LINE	POWER UNDERGROUND	PROPERTY LINE	TEMP RIGHT-OF-WAY
TELEPHONE UNDERGROUND	SANITARY SEWER	PROPOSED RIGHT-OF-WAY	UTILITY EASEMENT

UST/AST SITE	FLOODPLAIN ZONE AE
POTENTIAL HAZARDOUS MATERIALS SITE	FLOODWAY ZONE AE
LUST/LAST SITE	TRADEFIXTURE

ALTERNATIVE 1

0 100 200 300
SCALE

Oklahoma Department of Transportation

SHEET NO. 22

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLAN (SHEET 3 OF 6)

FIGURE A-3

GARVER

OKLAHOMA DEPARTMENT OF TRANSPORTATION

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3/22/2017

SEC 26 T19N R12E

SEE INTERCHANGE LEVEL SCHEMATIC SHEET 7

32728_PLAN_111.dgn

SEC 35 T19N R12E

ALTERNATIVE 1

0 100 200 300
SCALE

Oklahoma Department of Transportation

SHEET NO. 23

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLAN (SHEET 4 OF 6)

FIGURE A-4

GARVER

LEGEND

POWERLINE
FIBER OPTIC
GAS LINE
TELEPHONE UNDERGROUND
WATER
OIL LINE
POWER UNDERGROUND
SANITARY SEWER
OVERHEAD TELEPHONE LINE
EXISTING RIGHT-OF-WAY
PROPERTY LINE
PROPOSED RIGHT-OF-WAY
DATA COLLECTION AREA
STREAM FLOWLINE
TEMP RIGHT-OF-WAY
UTILITY EASEMENT
UST/AST SITE
POTENTIAL HAZARDOUS MATERIALS SITE
LUST/LAST SITE
FLOODPLAIN ZONE AE
FLOODWAY ZONE AE
TRADEFIXTURE

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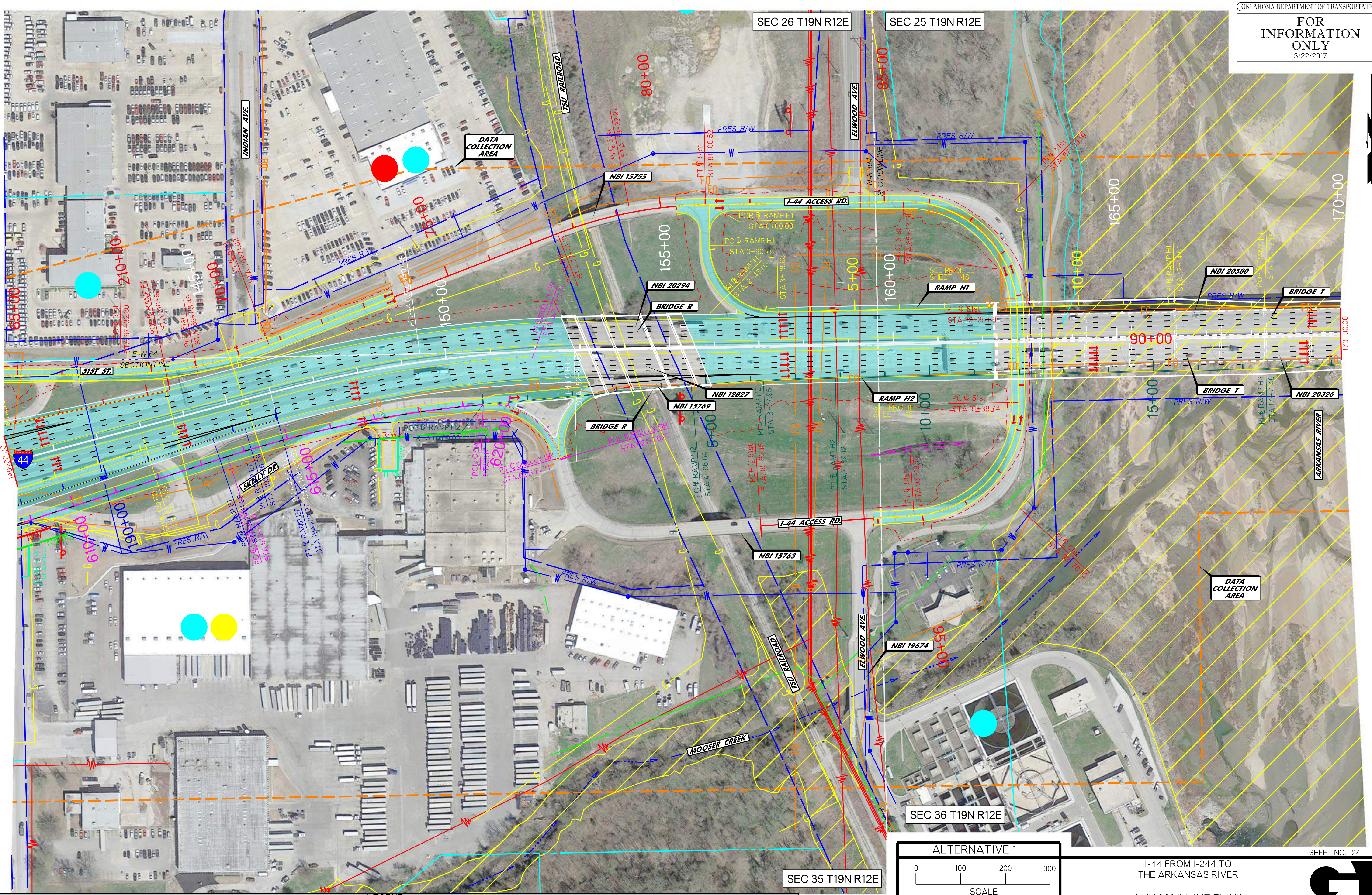

LEGEND

POWERLINE
FIBER OPTIC
GAS LINE
TELEPHONE UNDERGROUND
WATER
OIL LINE
POWER UNDERGROUND
SANITARY SEWER
OVERHEAD TELEPHONE LINE
EXISTING RIGHT-OF-WAY
PROPERTY LINE
PROPOSED RIGHT-OF-WAY
DATA COLLECTION AREA
STREAM FLOWLINE
TEMP RIGHT-OF-WAY
UTILITY EASEMENT
UST/AST SITE
POTENTIAL HAZARDOUS MATERIALS SITE
LUST/LAST SITE
FLOODPLAIN ZONE AE
FLOODWAY ZONE AE
TRADEFIXTURE

ALTERNATIVE 1

0 100 200 300
SCALE

Oklahoma Department of Transportation

SHEET NO. 24

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLAN
(SHEET 5 OF 6)

FIGURE A-5

GARVER

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3/22/2017

OKLAHOMA DEPARTMENT OF TRANSPORTATION

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3/22/2017

SEC 25 T19N R12E

RIVERSIDE DR.

DATA COLLECTION AREA

NBI 28711

NBI 20580

BRIDGE T

PRES. R/W

175+00

180+00

185+00

190+00

195+00

200+00

140+00.00

SKELLY DR.

E-W 64 SECTION LINE

PC I-44 C.R.L. STA 196+47.74

PI I-44 C.R.L. 191+99.05

PC I-44 C.R.L. STA 188+60.87

PT I-44 C.R.L. STA 193+56.65

PI I-44 C.R.L. 197+19.83

NBI 20326

BRIDGE T

ARKANSAS RIVER

PRES. R/W

DATA COLLECTION AREA

SEC 36 T19N R12E

RIVERSIDE DR.

LEGEND

- POWERLINE
- FIBER OPTIC
- GAS LINE
- TELEPHONE UNDERGROUND
- WATER
- OIL LINE
- POWER UNDERGROUND
- SANITARY SEWER
- OVERHEAD TELEPHONE LINE
- EXISTING RIGHT-OF-WAY
- PROPERTY LINE
- PROPOSED RIGHT-OF-WAY
- DATA COLLECTION AREA
- STREAM FLOWLINE
- TEMP RIGHT-OF-WAY
- UTILITY EASEMENT
- UST/AST SITE
- POTENTIAL HAZARDOUS MATERIALS SITE
- LUST/LAST SITE
- FLOODPLAIN ZONE AE
- FLOODWAY ZONE AE
- TRADEFIXTURE

ALTERNATIVE 1

0 100 200 300

SCALE

Oklahoma Department of Transportation

SHEET NO. 25

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLAN (SHEET 6 OF 6)

FIGURE A-6

GARVER

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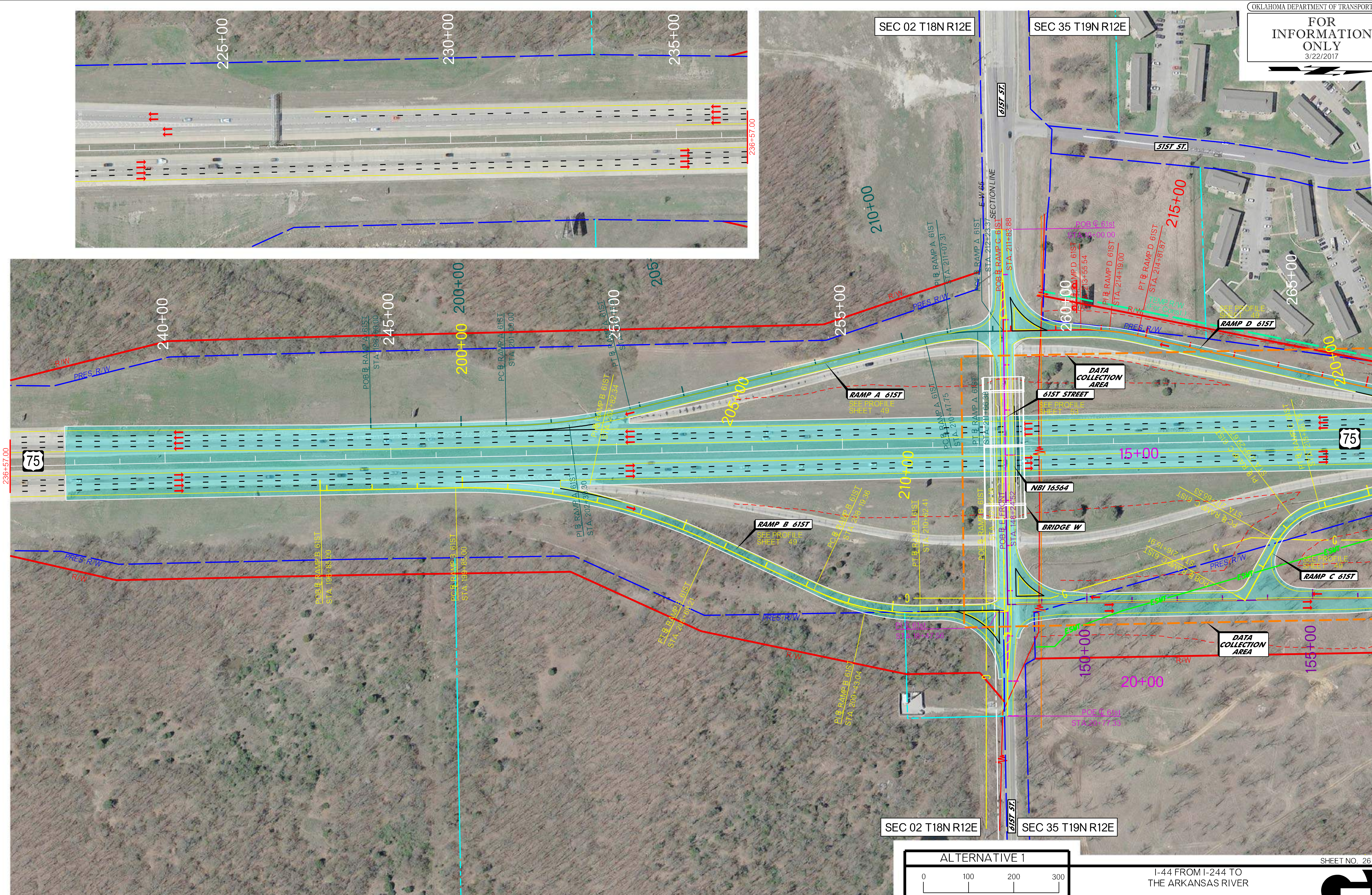

OKLAHOMA DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY

3/22/2017

LEGEND

POWERLINE
FIBER OPTIC
GAS LINE
TELEPHONE UNDERGROUND
WATER
OIL LINE
POWER UNDERGROUND
SANITARY SEWER
OVERHEAD TELEPHONE LINE
EXISTING RIGHT-OF-WAY
PROPERTY LINE
PROPOSED RIGHT-OF-WAY
DATA COLLECTION AREA
STREAM FLOWLINE
TEMP RIGHT-OF-WAY
UTILITY EASEMENT
UST/AST SITE
POTENTIAL HAZARDOUS MATERIALS SITE
LUST/LAST SITE
FLOODPLAIN ZONE AE
FLOODWAY ZONE AE
TRADEFIXTURE

ALTERNATIVE 1

0 100 200 300

SCALE

Oklahoma Department of Transportation

SHEET NO. 26

I-44 FROM I-244 TO THE ARKANSAS RIVER

US-75 MAINLINE PLAN (SHEET 1 OF 4)

FIGURE A-7

GARVER

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OKLAHOMA DEPARTMENT OF TRANSPORTATION

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SEC 35 T19N R12E

DATA COLLECTION AREA

RAMP D 61ST

RAMP C 61ST

RAMP E1

RAMP E7

E FRONTAGE RD

EXIST COT WATERLINE EASEMENT

SEE PROFILE SHEET 42

SEE PROFILE SHEET 45

PRES R/W

R/W

75

220+00 225+00 270+00 275+00 280+00 285+00 290+00 295+00 265+40.00 160+00 165+00 170+00 175+00 180+00 185+00

SEC 35 T19N R12E

LEGEND

POWERLINE	WATER	OVERHEAD TELEPHONE LINE	DATA COLLECTION AREA	UST/AST SITE	FLOODPLAIN ZONE AE
FIBER OPTIC	OIL LINE	EXISTING RIGHT-OF-WAY	STREAM FLOWLINE	POTENTIAL HAZARDOUS MATERIALS SITE	FLOODWAY ZONE AE
GAS LINE	POWER UNDERGROUND	PROPERTY LINE	TEMP RIGHT-OF-WAY	LUST/LAST SITE	TRADEFIXTURE
TELEPHONE UNDERGROUND	SANITARY SEWER	PROPOSED RIGHT-OF-WAY	UTILITY EASEMENT		

ALTERNATIVE 1

0 100 200 300
SCALE

Oklahoma Department of Transportation

SHEET NO. 27

I-44 FROM I-244 TO THE ARKANSAS RIVER

US-75 MAINLINE PLANS (SHEET 2 OF 4)

FIGURE A-8

GARVER

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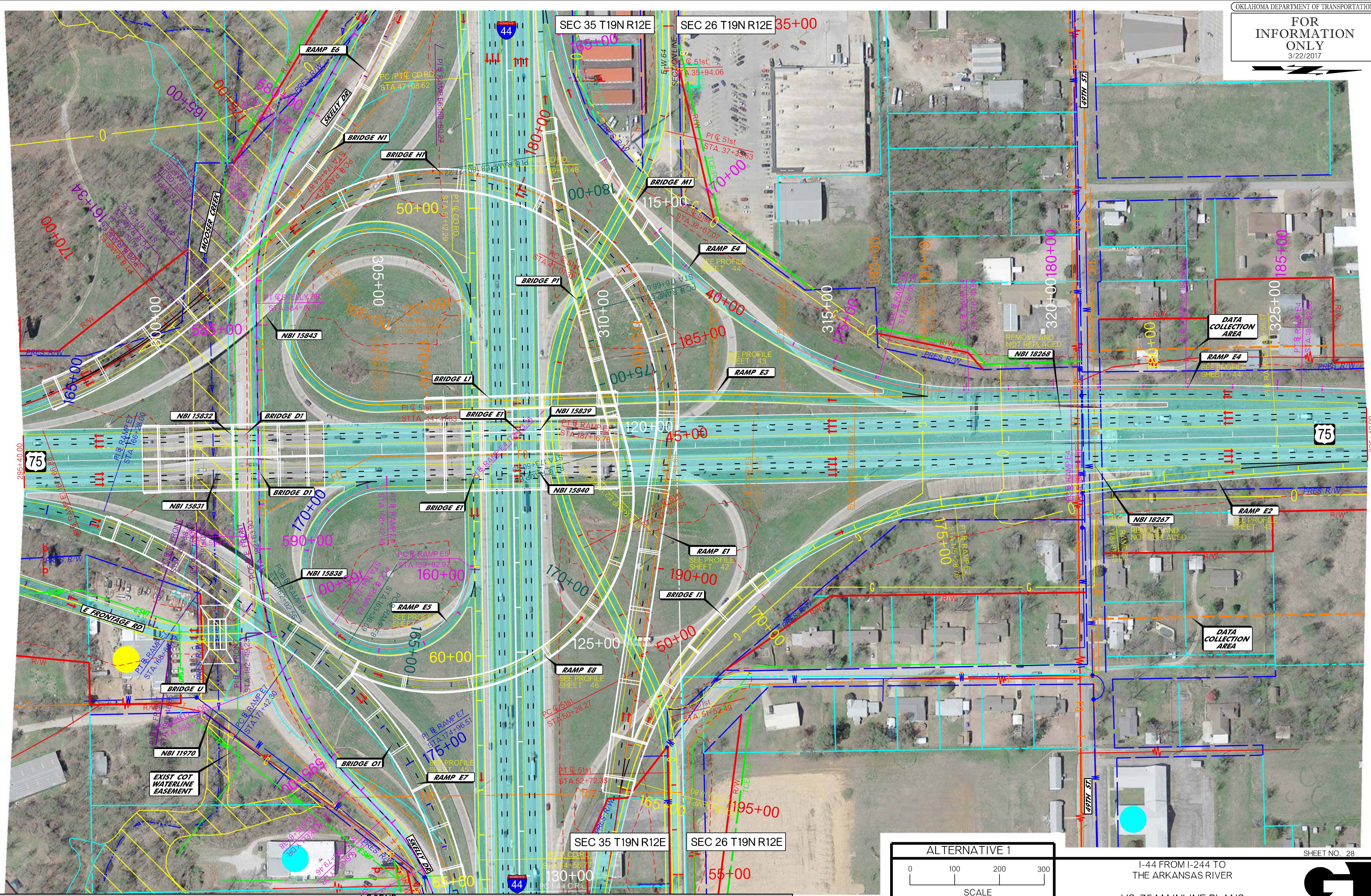


LEGEND

POWERLINE	WATER	OVERHEAD TELEPHONE LINE	DATA COLLECTION AREA	FLOODPLAIN ZONE AE
FIBER OPTIC	OIL LINE	EXISTING RIGHT-OF-WAY	STREAM FLOWLINE	FLOODWAY ZONE AE
GAS LINE	POWER UNDERGROUND	PROPERTY LINE	TEMP RIGHT-OF-WAY	TRADEFIXTURE
TELEPHONE UNDERGROUND	SANITARY SEWER	PROPOSED RIGHT-OF-WAY	UTILITY EASEMENT	
UST/AST SITE	POTENTIAL HAZARDOUS MATERIALS SITE	LUST/LAST SITE		

ALTERNATIVE 1

0 100 200 300
SCALE

Oklahoma Department of Transportation

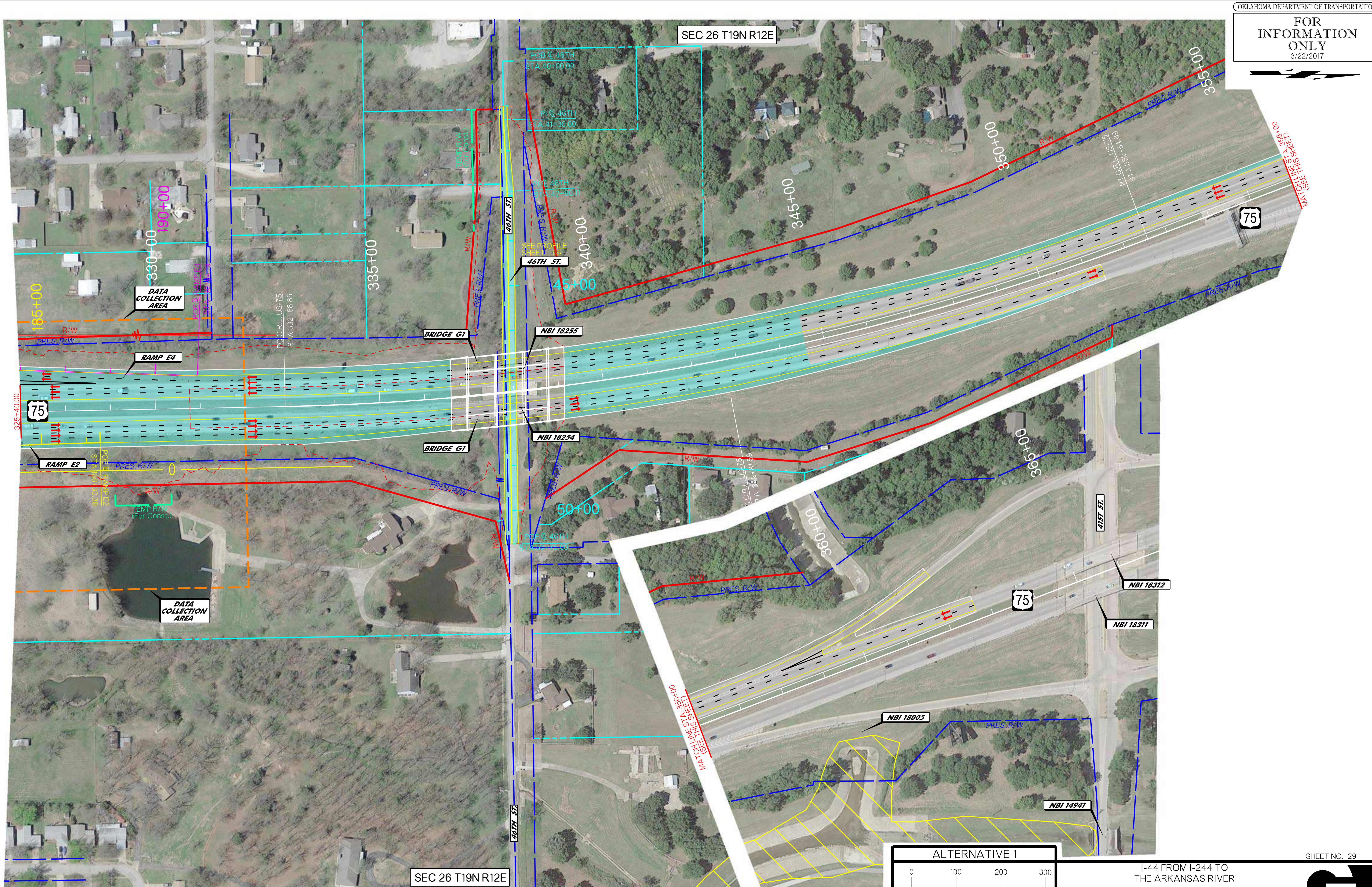
SHEET NO. 28

I-44 FROM I-244 TO THE ARKANSAS RIVER

US-75 MAINLINE PLANS (SHEET 3 OF 4)

FIGURE A-9

GARVER



LEGEND

POWERLINE	WATER	OVERHEAD TELEPHONE LINE	DATA COLLECTION AREA
FIBER OPTIC	OIL LINE	EXISTING RIGHT-OF-WAY	STREAM FLOWLINE
GAS LINE	POWER UNDERGROUND	PROPERTY LINE	TEMP RIGHT-OF-WAY
TELEPHONE UNDERGROUND	SANITARY SEWER	PROPOSED RIGHT-OF-WAY	UTILITY EASEMENT

UST/AST SITE	FLOODPLAIN ZONE AE
POTENTIAL HAZARDOUS MATERIALS SITE	FLOODWAY ZONE AE
LUST/LAST SITE	TRADEFIXTURE

ALTERNATIVE 1

0 100 200 300
SCALE

Oklahoma Department of Transportation

SHEET NO. 29

I-44 FROM I-244 TO THE ARKANSAS RIVER

US-75 MAINLINE PLANS (SHEET 4 OF 4)

FIGURE A-10

GARVER

OKLAHOMA DEPARTMENT OF TRANSPORTATION

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SEC 28 T19N R12E

SEC 33 T19N R12E

RAMP W006

RAMP W004

RAMP W001

RAMP W005

RAMP W002

RAMP 01

E-W 64 SECTION LINE

DATA COLLECTION AREA

DATA COLLECTION AREA

TSU RAILROAD

515T ST.

SKELLY DR.

SKELLY DR.

34TH W. AVE.

NBI 19479 (EXIST TO REMAIN)

NBI 19471 (EXIST TO REMAIN)

PRES R/W

SEE PROFILE SHEET 85

SEE PROFILE SHEET 72

SEE PROFILE SHEET 86

LEGEND

- POWERLINE
- FIBER OPTIC
- GAS LINE
- TELEPHONE UNDERGROUND
- WATER
- OIL LINE
- POWER UNDERGROUND
- SANITARY SEWER
- OVERHEAD TELEPHONE LINE
- EXISTING RIGHT-OF-WAY
- PROPERTY LINE
- PROPOSED RIGHT-OF-WAY
- DATA COLLECTION AREA
- STREAM FLOWLINE
- TEMP RIGHT-OF-WAY
- UTILITY EASEMENT
- UST/AST SITE
- POTENTIAL HAZARDOUS MATERIALS SITE
- LUST/LAST SITE
- FLOODPLAIN ZONE AE
- FLOODWAY ZONE AE
- TRADEFIXTURE

ALTERNATIVE 2

0 100 200 300

SCALE

Oklahoma Department of Transportation

SHEET NO. 56

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLANS (SHEET 1 OF 6)

FIGURE A-11

GARVER

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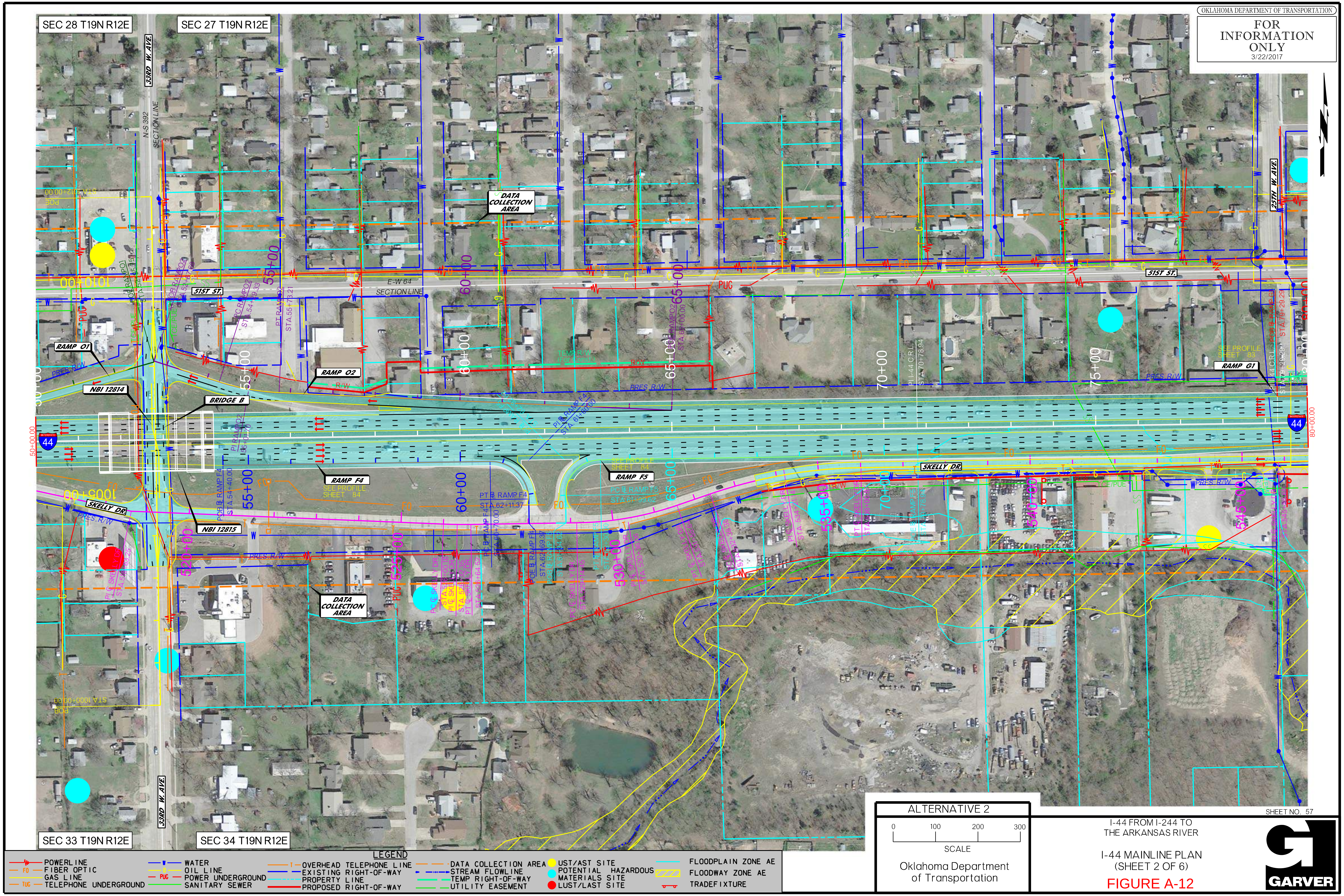

OKLAHOMA DEPARTMENT OF TRANSPORTATION
FOR INFORMATION ONLY
3/22/2017
SEC 28 T19N R12E
SEC 27 T19N R12E
SEC 33 T19N R12E
SEC 34 T19N R12E
33RD W. AVE.
25TH W. AVE.
51ST ST.
SKELLY DR.
N-S 392 SECTION LINE
E-W 64 SECTION LINE
DATA COLLECTION AREA
RAMP O1
RAMP O2
RAMP F4
RAMP F5
RAMP G1
NBI 12814
NBI 12815
BRIDGE B
SEE PROFILE SHEET 84
PRES R/W
55+00
60+00
65+00
70+00
75+00
525+00
530+00
535+00
545+00
50+00.00
80+00.00
44
LEGEND
POWERLINE
FIBER OPTIC
GAS LINE
TELEPHONE UNDERGROUND
WATER
OIL LINE
POWER UNDERGROUND
SANITARY SEWER
OVERHEAD TELEPHONE LINE
EXISTING RIGHT-OF-WAY
PROPERTY LINE
PROPOSED RIGHT-OF-WAY
DATA COLLECTION AREA
STREAM FLOWLINE
TEMP RIGHT-OF-WAY
UTILITY EASEMENT
UST/AST SITE
POTENTIAL HAZARDOUS MATERIALS SITE
LUST/LAST SITE
FLOODPLAIN ZONE AE
FLOODWAY ZONE AE
TRADEFIXTURE
ALTERNATIVE 2
0 100 200 300
SCALE
Oklahoma Department of Transportation
SHEET NO. 57
I-44 FROM I-244 TO THE ARKANSAS RIVER
I-44 MAINLINE PLAN (SHEET 2 OF 6)
GARVER

FIGURE A-12

OKLAHOMA DEPARTMENT OF TRANSPORTATION
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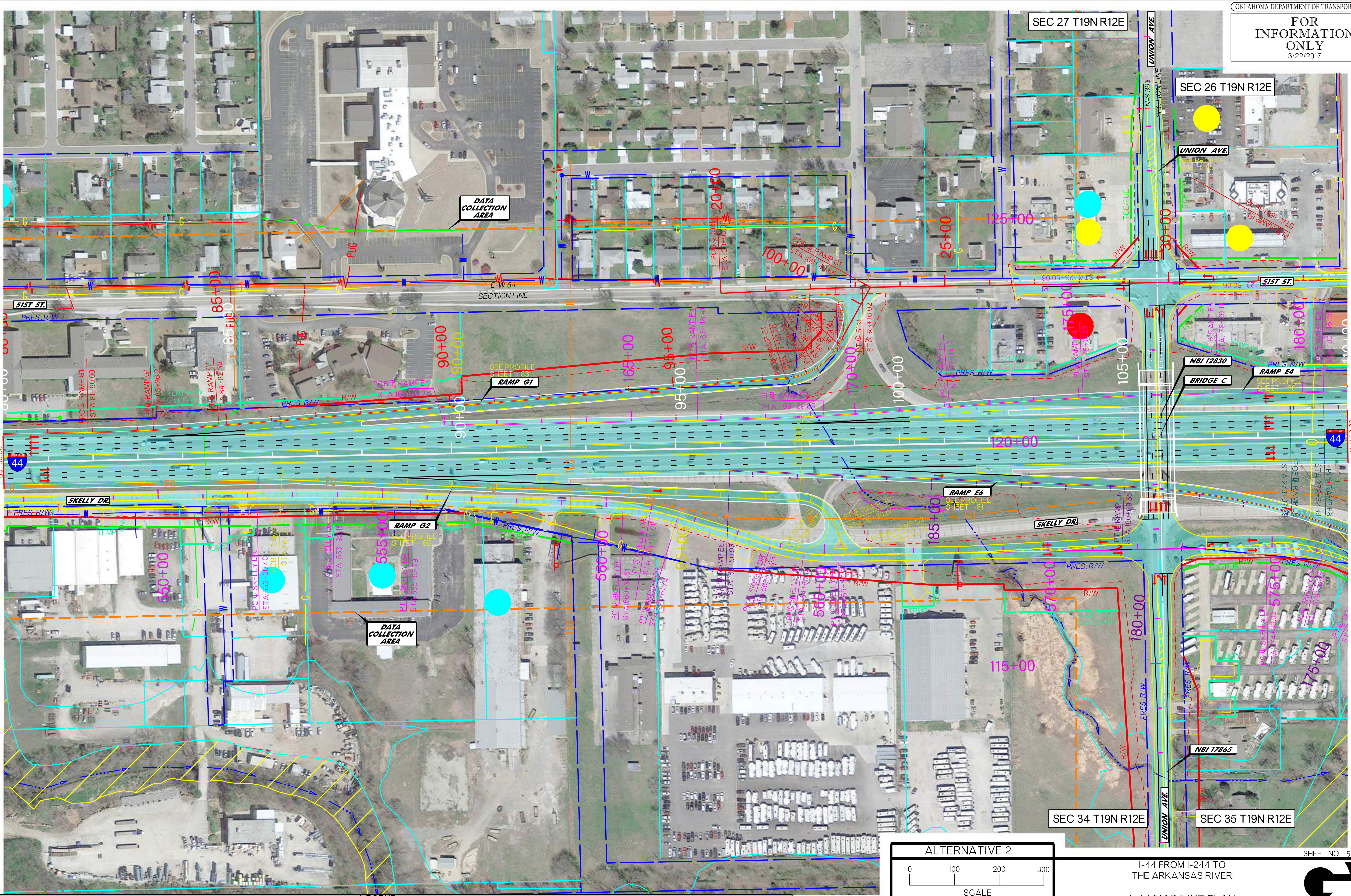
3/22/2017



LEGEND

POWERLINE	OVERHEAD TELEPHONE LINE	DATA COLLECTION AREA
FIBER OPTIC	EXISTING RIGHT-OF-WAY	STREAM FLOWLINE
GAS LINE	PROPERTY LINE	TEMP RIGHT-OF-WAY
TELEPHONE UNDERGROUND	PROPOSED RIGHT-OF-WAY	UTILITY EASEMENT
WATER	UST/AST SITE	FLOODPLAIN ZONE AE
OIL LINE	POTENTIAL HAZARDOUS MATERIALS SITE	FLOODWAY ZONE AE
POWER UNDERGROUND	LUST/LAST SITE	TRADEFIXTURE
SANITARY SEWER		

ALTERNATIVE 2

SCALE 0 100 200 300

Oklahoma Department of Transportation

SHEET NO. 58

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLAN (SHEET 3 OF 6)

FIGURE A-13

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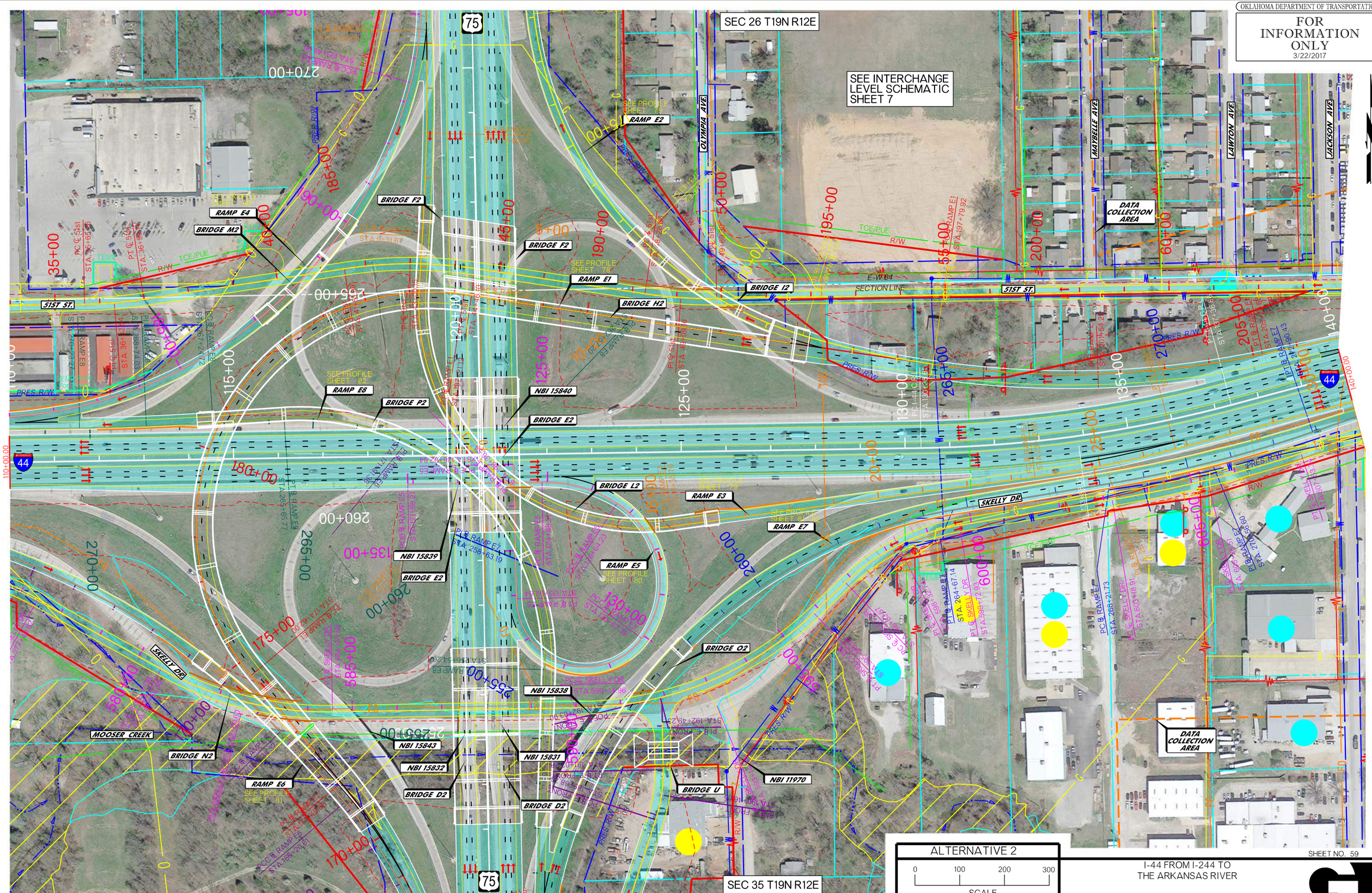
SEC 26 T19N R12E

SEE INTERCHANGE LEVEL SCHEMATIC SHEET 7

SEC 35 T19N R12E



LEGEND

- POWERLINE
- FIBER OPTIC
- GAS LINE
- TELEPHONE UNDERGROUND
- WATER
- OIL LINE
- POWER UNDERGROUND
- SANITARY SEWER
- OVERHEAD TELEPHONE LINE
- EXISTING RIGHT-OF-WAY
- PROPERTY LINE
- PROPOSED RIGHT-OF-WAY
- DATA COLLECTION AREA
- STREAM FLOWLINE
- TEMP RIGHT-OF-WAY
- UTILITY EASEMENT
- UST/AST SITE
- POTENTIAL HAZARDOUS MATERIALS SITE
- LUST/LAST SITE
- FLOODPLAIN ZONE AE
- FLOODWAY ZONE AE
- TRADEFIXTURE

ALTERNATIVE 2

0 100 200 300
SCALE

Oklahoma Department of Transportation

SHEET NO. 59

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLAN (SHEET 4 OF 6)

FIGURE A-14

GARVER

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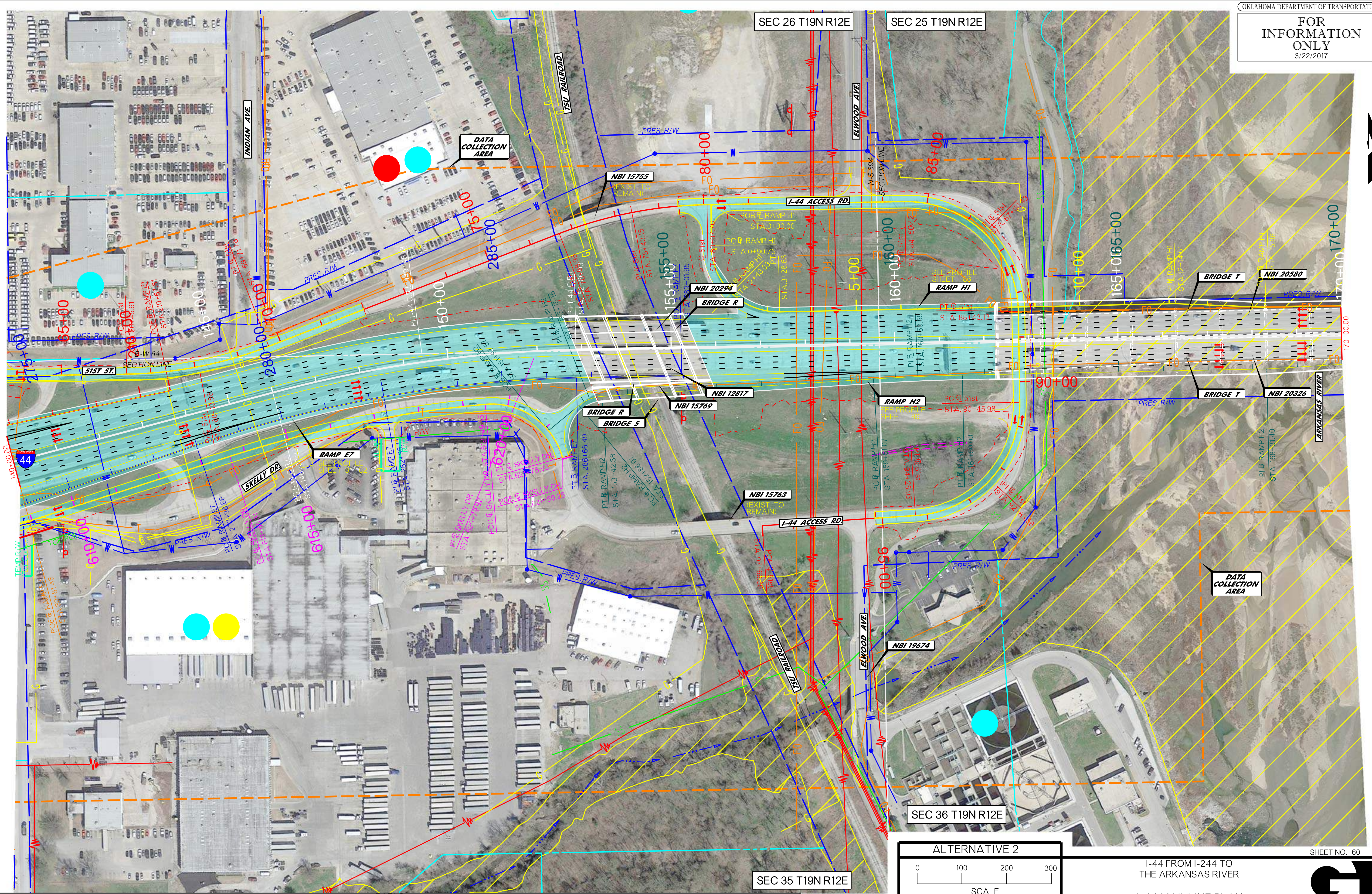


OKLAHOMA DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY

3/22/2017

LEGEND

POWERLINE	WATER	OVERHEAD TELEPHONE LINE	DATA COLLECTION AREA	UST/AST SITE
FIBER OPTIC	OIL LINE	EXISTING RIGHT-OF-WAY	STREAM FLOWLINE	POTENTIAL HAZARDOUS MATERIALS SITE
GAS LINE	POWER UNDERGROUND	PROPERTY LINE	TEMP RIGHT-OF-WAY	LUST/LAST SITE
TELEPHONE UNDERGROUND	SANITARY SEWER	PROPOSED RIGHT-OF-WAY	UTILITY EASEMENT	

FLOODPLAIN ZONE AE
FLOODWAY ZONE AE
TRADEFIXTURE

ALTERNATIVE 2

SCALE 0 100 200 300

Oklahoma Department of Transportation

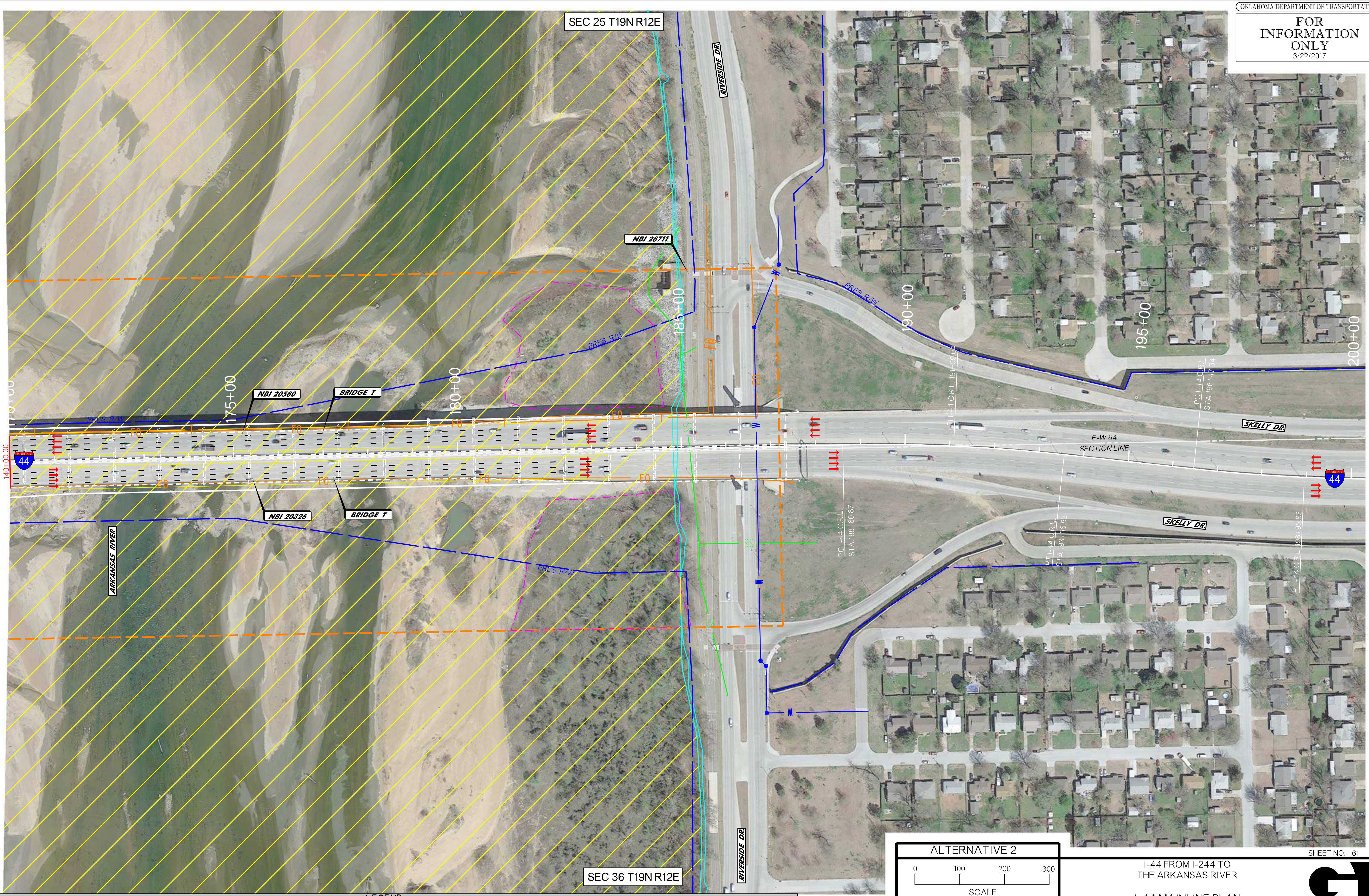
SHEET NO. 60

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLAN (SHEET 5 OF 6)

FIGURE A-15

GARVER



OKLAHOMA DEPARTMENT OF TRANSPORTATION
FOR INFORMATION ONLY
3/22/2017

LEGEND

POWERLINE	WATER	OVERHEAD TELEPHONE LINE	DATA COLLECTION AREA	UST/AST SITE	FLOODPLAIN ZONE AE
FIBER OPTIC	OIL LINE	EXISTING RIGHT-OF-WAY	STREAM FLOWLINE	POTENTIAL HAZARDOUS MATERIALS SITE	FLOODWAY ZONE AE
GAS LINE	POWER UNDERGROUND	PROPERTY LINE	TEMP RIGHT-OF-WAY	LUST/LAST SITE	TRADEFIXTURE
TELEPHONE UNDERGROUND	SANITARY SEWER	PROPOSED RIGHT-OF-WAY	UTILITY EASEMENT		

ALTERNATIVE 2

SCALE 0 100 200 300

Oklahoma Department of Transportation

SHEET NO. 61

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLAN (SHEET 6 OF 6)

FIGURE A-16

GARVER

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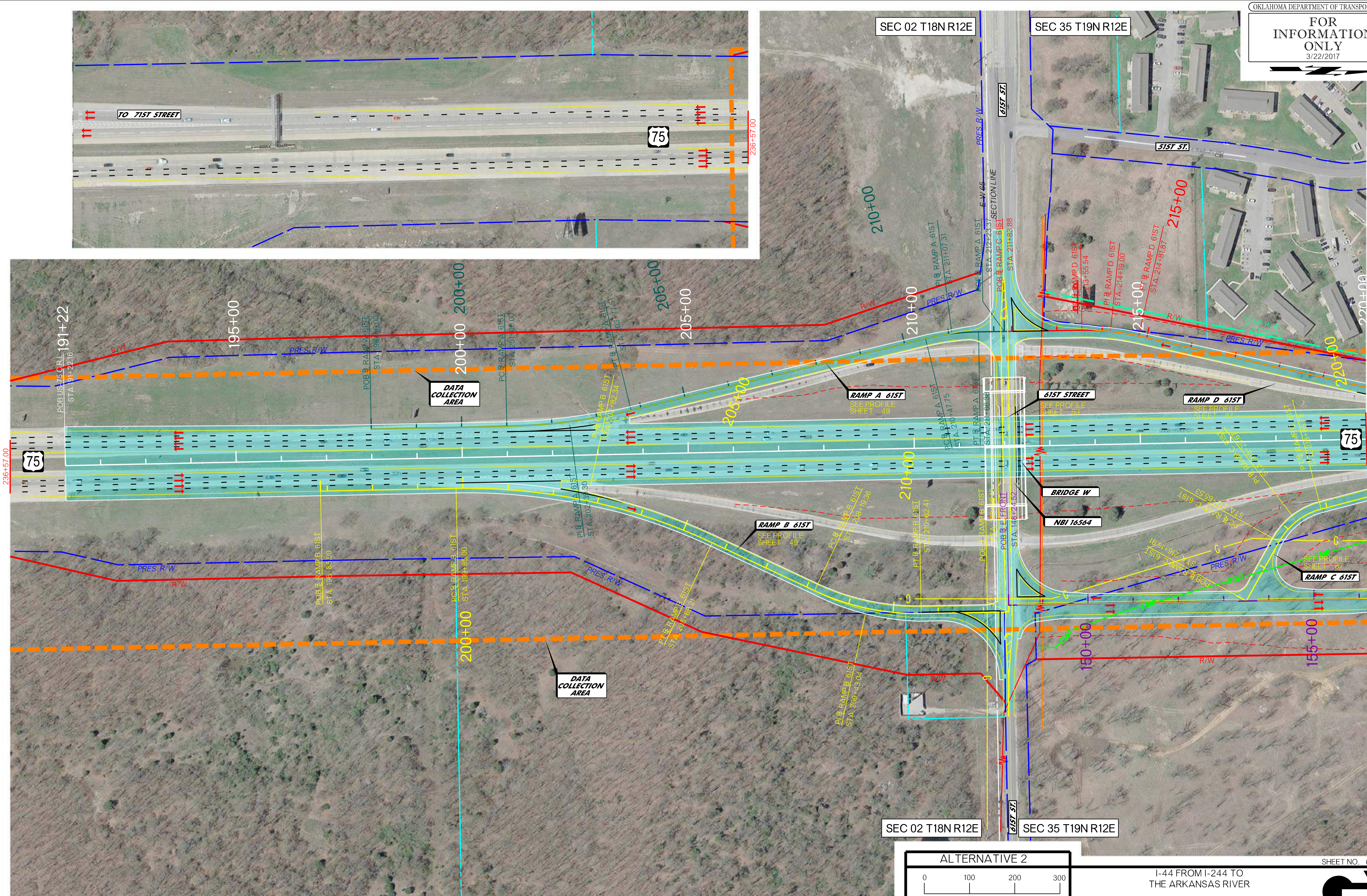

SHEET NO. 62

ALTERNATIVE 2

SCALE: 0 100 200 300

Oklahoma Department of Transportation

I-44 FROM I-244 TO THE ARKANSAS RIVER

US-75 MAINLINE PLAN (SHEET 1 OF 4)

FIGURE A-17

GARVER

LEGEND

POWERLINE	WATER	OVERHEAD TELEPHONE LINE	DATA COLLECTION AREA	UST/AST SITE	FLOODPLAIN ZONE AE
FIBER OPTIC	OIL LINE	EXISTING RIGHT-OF-WAY	STREAM FLOWLINE	POTENTIAL HAZARDOUS MATERIALS SITE	FLOODWAY ZONE AE
GAS LINE	POWER UNDERGROUND	PROPERTY LINE	TEMP RIGHT-OF-WAY	LUST/LAST SITE	TRADEFIXTURE
TELEPHONE UNDERGROUND	SANITARY SEWER	PROPOSED RIGHT-OF-WAY	UTILITY EASEMENT		

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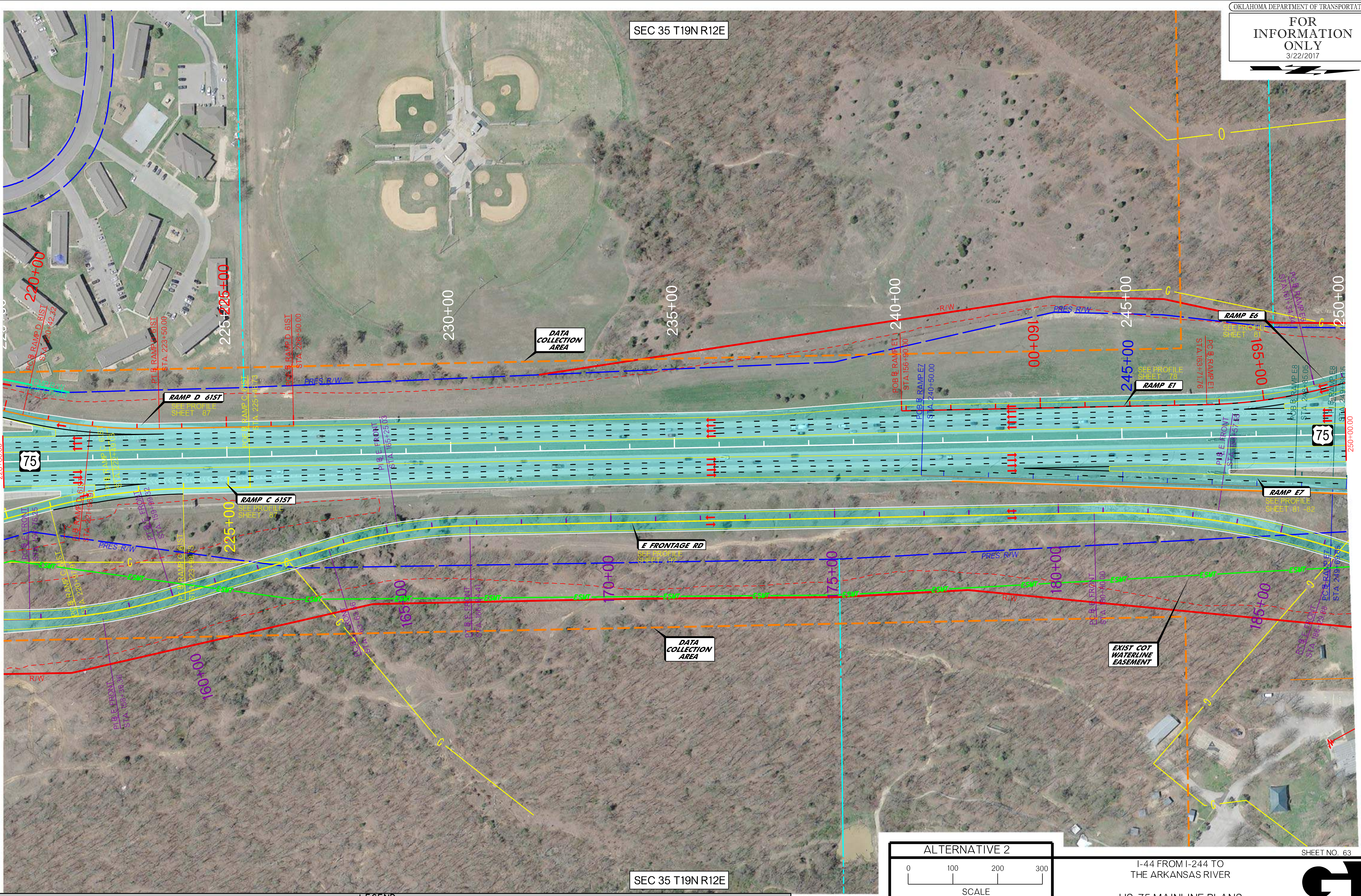

ALTERNATIVE 2

SCALE 0 100 200 300

Oklahoma Department of Transportation

SHEET NO. 63

I-44 FROM I-244 TO THE ARKANSAS RIVER

US-75 MAINLINE PLANS (SHEET 2 OF 4)

FIGURE A-18

GARVER

LEGEND

POWERLINE	WATER	OVERHEAD TELEPHONE LINE	DATA COLLECTION AREA	UST/AST SITE
FIBER OPTIC	OIL LINE	EXISTING RIGHT-OF-WAY	STREAM FLOWLINE	POTENTIAL HAZARDOUS MATERIALS SITE
GAS LINE	POWER UNDERGROUND	PROPERTY LINE	TEMP RIGHT-OF-WAY	LUST/LAST SITE
TELEPHONE UNDERGROUND	SANITARY SEWER	PROPOSED RIGHT-OF-WAY	UTILITY EASEMENT	

FLOODPLAIN ZONE AE
FLOODWAY ZONE AE
TRADEFIXTURE

3/22/2017 10:36:02 AM L:\2016\16037070 - ODOT EC-1780 I44 from I244 Interchange\Drawings\32728_PLAN_208.dgn

OKLAHOMA DEPARTMENT OF TRANSPORTATION

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SEC 35 T19N R12E

SEC 26 T19N R12E

BRIDGE H2

BRIDGE N2

BRIDGE M2

RAMP E6

RAMP E4

BRIDGE P2

RAMP E8

BRIDGE L2

NBI 15839

RAMP E3

BRIDGE D2

BRIDGE E2

BRIDGE F2

NBI 15832

NBI 15831

NBI 15840

NBI 15838

RAMP E5

RAMP E1

BRIDGE I2

BRIDGE O2

BRIDGE U

NBI 11970

RAMP E7

NBI 15843

NBI 18268

NBI 18267

RAMP E2

DATA COLLECTION AREA

E FRONTAGE RD

SKELLY DR

49TH ST

I-44

I-75

ALTERNATIVE 2

0 100 200 300

SCALE

Oklahoma Department of Transportation

I-44 FROM I-244 TO THE ARKANSAS RIVER

US-75 MAINLINE PLANS (SHEET 3 OF 4)

FIGURE A-19

SHEET NO. 64

GARVER

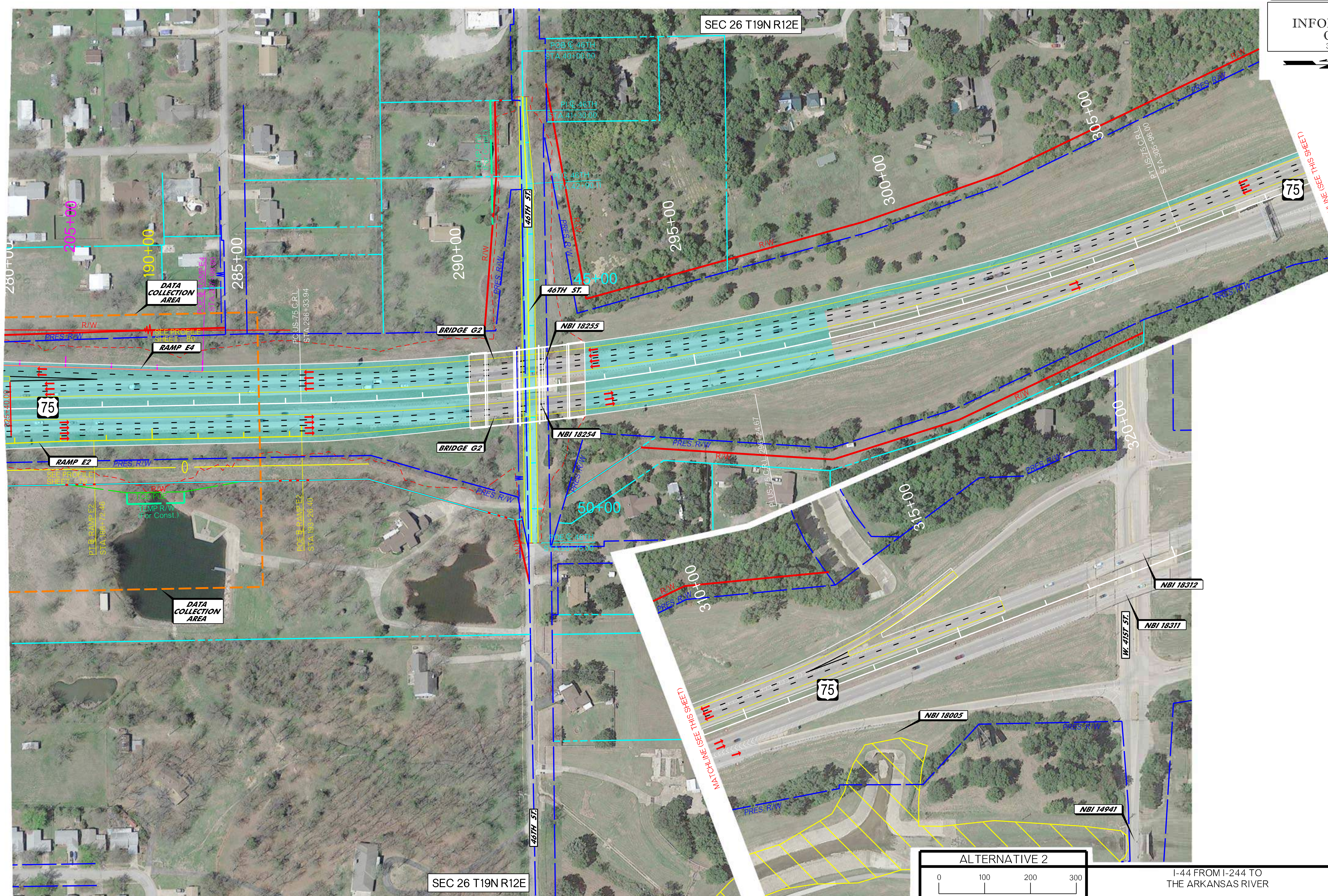
LEGEND

- POWERLINE
- FIBER OPTIC
- GAS LINE
- TELEPHONE UNDERGROUND
- WATER
- OIL LINE
- POWER UNDERGROUND
- SANITARY SEWER
- OVERHEAD TELEPHONE LINE
- EXISTING RIGHT-OF-WAY
- PROPERTY LINE
- PROPOSED RIGHT-OF-WAY
- DATA COLLECTION AREA
- STREAM FLOWLINE
- TEMP RIGHT-OF-WAY
- UTILITY EASEMENT
- UST/AST SITE
- POTENTIAL HAZARDOUS MATERIALS SITE
- LUST/LAST SITE
- FLOODPLAIN ZONE AE
- FLOODWAY ZONE AE
- TRADEFIXTURE

3/22/2017 10:36:10 AM L:\2016\16037070 - ODOT EC-1780 I44 from I244 Interchange\Drawings\32728_PLAN_209.dgn

OKLAHOMA DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY
3/22/2017



SHEET NO. 65

LEGEND

POWERLINE	WATER	OVERHEAD TELEPHONE LINE	DATA COLLECTION AREA	FLOODPLAIN ZONE AE
FIBER OPTIC	OIL LINE	EXISTING RIGHT-OF-WAY	STREAM FLOWLINE	FLOODWAY ZONE AE
GAS LINE	POWER UNDERGROUND	PROPERTY LINE	TEMP RIGHT-OF-WAY	TRADEFIXTURE
TELEPHONE UNDERGROUND	SANITARY SEWER	PROPOSED RIGHT-OF-WAY	UTILITY EASEMENT	
UST/AST SITE	POTENTIAL HAZARDOUS MATERIALS SITE	LUST/LAST SITE		

ALTERNATIVE 2

0 100 200 300
SCALE

Oklahoma Department of Transportation

I-44 FROM I-244 TO THE ARKANSAS RIVER

US-75 MAINLINE PLANS (SHEET 4 OF 4)

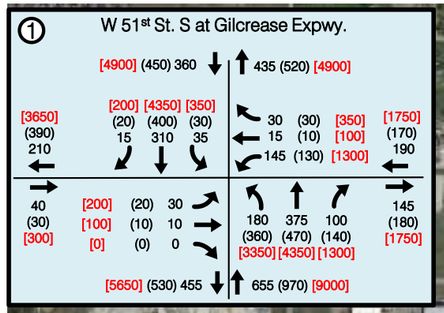
FIGURE A-20

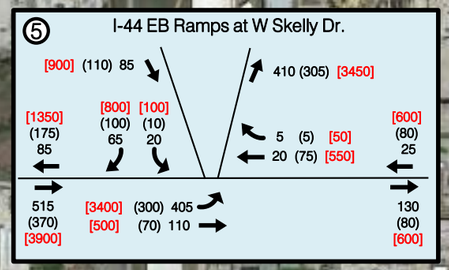
GARVER

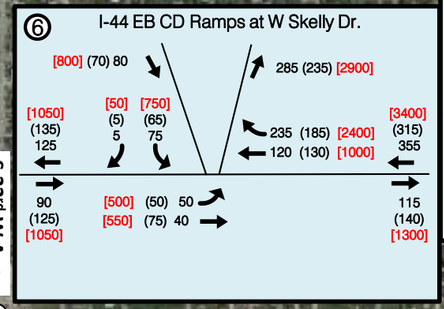
3/22/2017 10:36:17 AM L:\2016\16037070 - ODOT EC-1780 I44 from I244 Interchange\Drawings\32728_PLAN_210.dgn

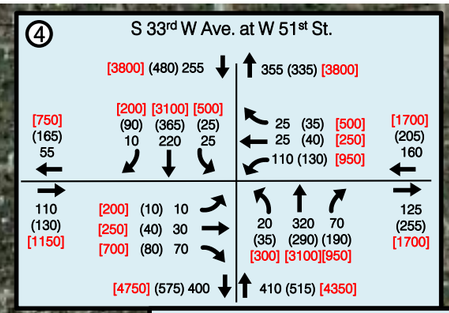
Appendix B – Traffic Volumes

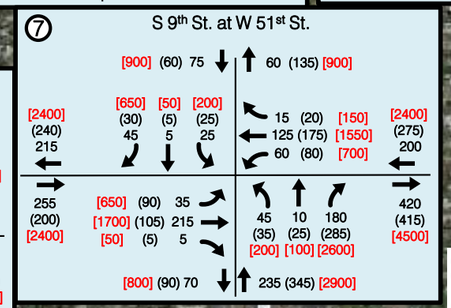
Roadway	K	D	T(AADT)	T(DHV)	T3
Freeway					
I-44 (West of I-244)	10	60	17	12	13
I-244	10	60	10	6	7
I-44 (I-244 to US-75)	10	55	17	14	12
Arterials					
Gilcrease Expwy.	10	55	7	5	3
51st St./Skelly Dr./Union Ave. near US 75	11	65	10	8	4
33rd Ave.	10	55	3	2	0
49th Ave.	10	58	10	8	4

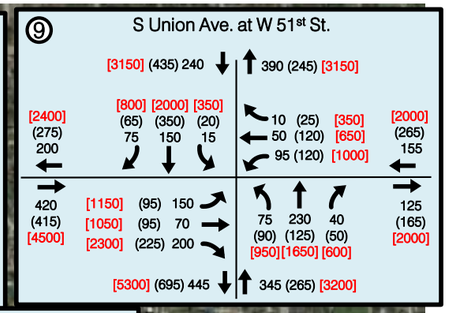


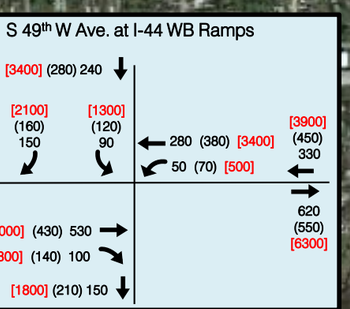


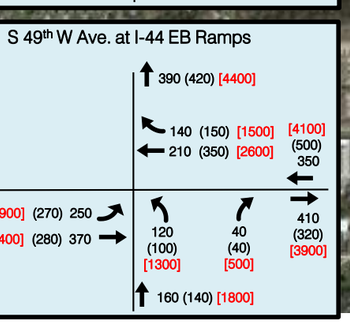


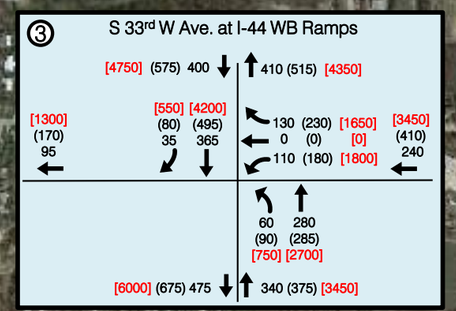


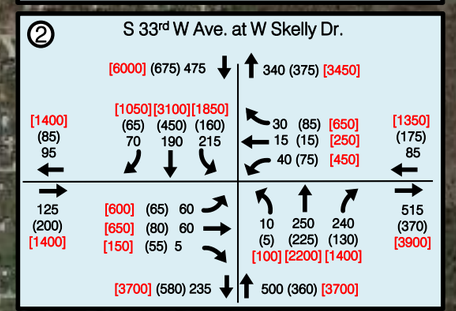


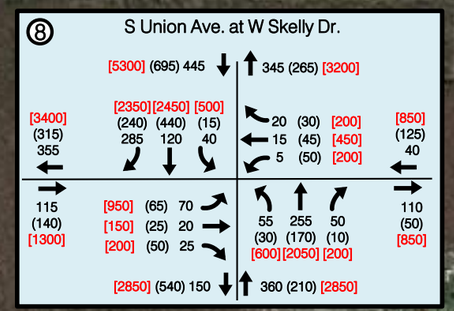












Legend

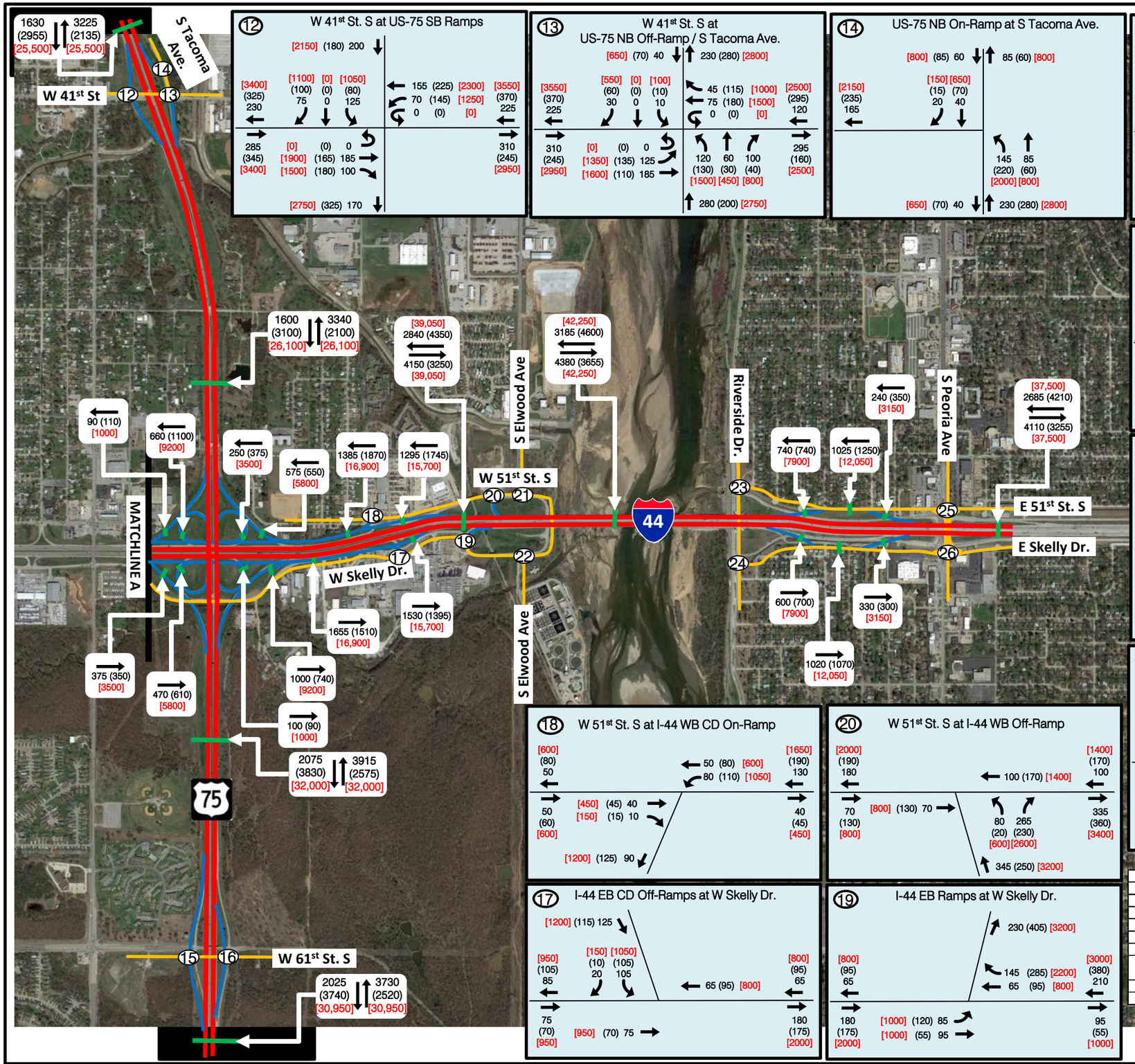
18 AM Design Hourly Volume
(18) PM Design Hourly Volume
[18] Average Annual Daily Traffic Volume

I-44 Corridor (EC-1780)
2016 Design
Traffic Volumes
Existing Configuration

Figure B-1

April 2020

GARVER



12 W 41st St. S at US-75 SB Ramps

[2150] (180) 200 ↓

[3400] (325) 230 → | [1100] (100) 75 ↘ | [0] (0) 0 ↓ | [1050] (80) 125 ↙ | ← 155 (225) [2300] | ↰ 70 (145) [1250] | ↰ 0 (0) [0] | [3550] (370) 225 ←

285 (345) [3400] → | [0] [1900] [1500] ↘ | (0) (165) (180) ↓ | 0 185 100 ↙ | ↱ [2750] (325) 170 ↓ | 310 (245) [2950] ←

13 W 41st St. S at US-75 NB Off-Ramp / S Tacoma Ave.

[650] (70) 40 ↑ | 230 (280) [2800]

[3550] (370) 225 ← | [550] (60) 30 ↘ | [0] (0) 0 ↓ | [100] (10) 10 ↙ | ↰ 45 (115) [1000] | ↰ 75 (180) [1500] | ↰ 0 (0) [0] | [2500] (295) 120 ←

310 (245) [2950] → | [0] [1350] [1600] ↘ | (0) (135) (110) ↓ | 125 185 ↙ | ↰ 120 (130) [1500] | ↑ 60 (30) [450] | ↰ 100 (40) [800] | 295 (160) [2500] ←

↓ 280 (200) [2750]

14 US-75 NB On-Ramp at S Tacoma Ave.

[800] (85) 60 ↓ | ↑ 85 (60) [800]

[2150] (235) 165 ← | [150] (15) 20 ↘ | [650] (70) 40 ↓

145 (220) [2000] ↰ | 85 (60) [800] ↑

[650] (70) 40 ↓ | ↑ 230 (280) [2800]

15 W 61st St. S at US-75 SB Ramps

[2400] (240) 140 ↓

[3850] (365) 265 ← | [1550] (125) 80 ↘ | [0] (0) 0 ↓ | [850] (115) 60 ↙ | ↰ 185 (240) 10 (10) | [2300] [100] [0] | [2400] (250) 195 ←

360 (390) [3850] → | [0] [2600] [1250] ↘ | (0) (250) (140) ↓ | 280 80 ↙ | ↱ 340 (365) [3450] ←

[1350] (150) 90 ↓

16 W 61st St. S at US-75 NB Ramps

↑ 300 (190) [2400]

[2400] (250) 195 ← | 110 (70) 90 (120) 0 (0) | [850] [1150] [0] | [2000] (190) 200 ←

340 (365) [3450] → | [0] [1550] [1900] ↘ | (0) (120) (245) ↓ | 190 150 ↙ | ↰ 105 (130) [1250] | ↑ 0 (0) [0] | ↰ 10 (5) [100] | 160 (250) [2000] ←

↑ 115 (135) [1350]

21 W 51st St. S at S Elwood Ave.

[2000] (285) 120 ↓ | ↑ 230 (160) [2000]

[1400] (170) 100 ← | [1200] (155) 80 ↘ | [800] (130) 40 ↓ | 75 (50) [800] ↰ | 20 (15) [200] ↰ | [1000] (65) 95 ←

335 (360) [3400] → | [1200] [2200] ↘ | (110) (250) ↓ | 155 180 ↙ | 220 (380) [3000] ←

22 W Skelly Dr. at S Elwood Ave.

[3000] (380) 210 ← | 205 (375) [2950] 15 (5) [50] ↰ | [3000] (380) 220 ←

95 (55) [1000] → | [950] [50] ↘ | (50) (5) ↓ | 90 5 ↙ | ↰ 5 (5) [50] | ↰ 5 (15) [50] | 95 (65) [1000] ←

[100] (10) 20 ↓ | ↑ 10 (20) [100]

23 E 51st St. S at Riverside Dr.

[10,350] (1135) 700 ↓ | ↑ 1085 (940) [10,350]

[10,350] (1135) 700 ↓ | [0] (0) 0 ↓ | [4150] (510) 285 ←

↰ 60 (130) [1250] | ↰ 225 (380) [2900]

↰ 0 (0) [0] | ↑ 1025 (810) [9100]

[13,250] (1515) 925 ↓ | ↑ 1025 (810) [9100]

24 E Skelly Dr. at Riverside Dr.

[13,250] (1515) 925 ↓ | ↑ 1025 (810) [9100]

[12,000] [1250] [0] (1395) (120) (0) 805 120 0 ↓ ↘ ↰

↰ 0 (0) [0] | ↑ 1025 (810) [9100] | ↑ 300 (250) [2900] | → 420 (370) [4150]

[12,000] (1395) 805 ↓ | ↑ 1325 (1060) [12,000]

25 E 51st St. S at S Peoria Ave.

[12,000] (1200) 855 ↓ | ↑ 965 (1000) [12,000]

[8900] (900) 785 ← | [2400] [9600] [0] (280) (920) (0) 155 700 0 ↓ ↘ ↰ | ↰ 350 (450) [5000] | ← 210 (200) [1800] [12,000] | ↰ 160 (290) [2950] (1160) | ↰ 220 (220) [2250] 940 ←

[2000] (180) 190 ↰ | ↰ 0 (0) [0] 230 (240) [2700] 615 (550) [7000]

[12,550] (1210) 860 ↓ | ↑ 845 (790) [9700]

26 E Skelly Dr. at S at S Peoria Ave.

[12,550] (1210) 860 ↓ | ↑ 845 (790) [9700]

[7150] [5400] [0] (770) (440) (0) 500 360 0 ↓ ↘ ↰

↰ 220 (220) [2250]

690 (770) [8900] → | [2000] [2650] [1150] [3100] ↘ | (180) (240) (90) (260) ↓ | 190 210 80 210 ↙ | ↰ 0 (0) [0] | ↑ 635 (550) [2700] | ↑ 250 (250) [3200] | → 910 (1000) [12,000]

[10,250] (1030) 710 ↓ | ↑ 885 (800) [10,250]

18 W 51st St. S at I-44 WB CD On-Ramp

[600] (80) 50 ← | ← 50 (80) [600] | ↰ 80 (110) [1050] | [1650] (190) 130 ←

50 (60) [600] → | [450] [150] ↘ | (45) (15) ↓ | 40 10 ↙ | 40 (45) [450] ←

[1200] (125) 90 ↓

20 W 51st St. S at I-44 WB Off-Ramp

[2000] (190) 180 ← | ← 100 (170) [1400] | [1400] (170) 100 ←

70 (130) [800] → | [800] (130) 70 → | 80 (20) [600] 265 (230) [2600] ↰ | 335 (360) [3400] ←

↑ 345 (250) [3200]

17 I-44 EB CD Off-Ramps at W Skelly Dr.

[1200] (115) 125 ↘

[950] (105) 85 ← | [150] [1050] (10) (105) 20 105 ↘ ↙ | ← 65 (95) [800] | [800] (95) 65 ←

75 (70) [950] → | [950] (70) 75 → | 180 (175) [2000] ←

19 I-44 EB Ramps at W Skelly Dr.

↰ 230 (405) [3200]

[800] (95) 65 ← | ↰ 145 (285) [2200] | [3000] (380) 210 ←

← 65 (95) [800]

180 (175) [2000] → | [1000] (120) 85 → | [1000] (55) 95 → | 95 (55) [1000] ←

Roadway	K	D	T(AADT)	T(DHV)	T3
Freeway					
US-75	10	60	8	6	4
I-44 (I-244 to US-75)	10	55	17	14	12
I-44 (US-75 to Peoria Ave.)	10	55	14	12	10
Arterials					
Peoria Ave./Riverside Dr.	10	55	5	5	2
51st St./Skelly Dr.	11	65	10	8	4
41st St.	10	60	15	10	8
61st St.	10	55	5	4	2

N

Legend

18 AM Design Hourly Volume
(18) PM Design Hourly Volume
[18] Average Annual Daily Traffic Volume

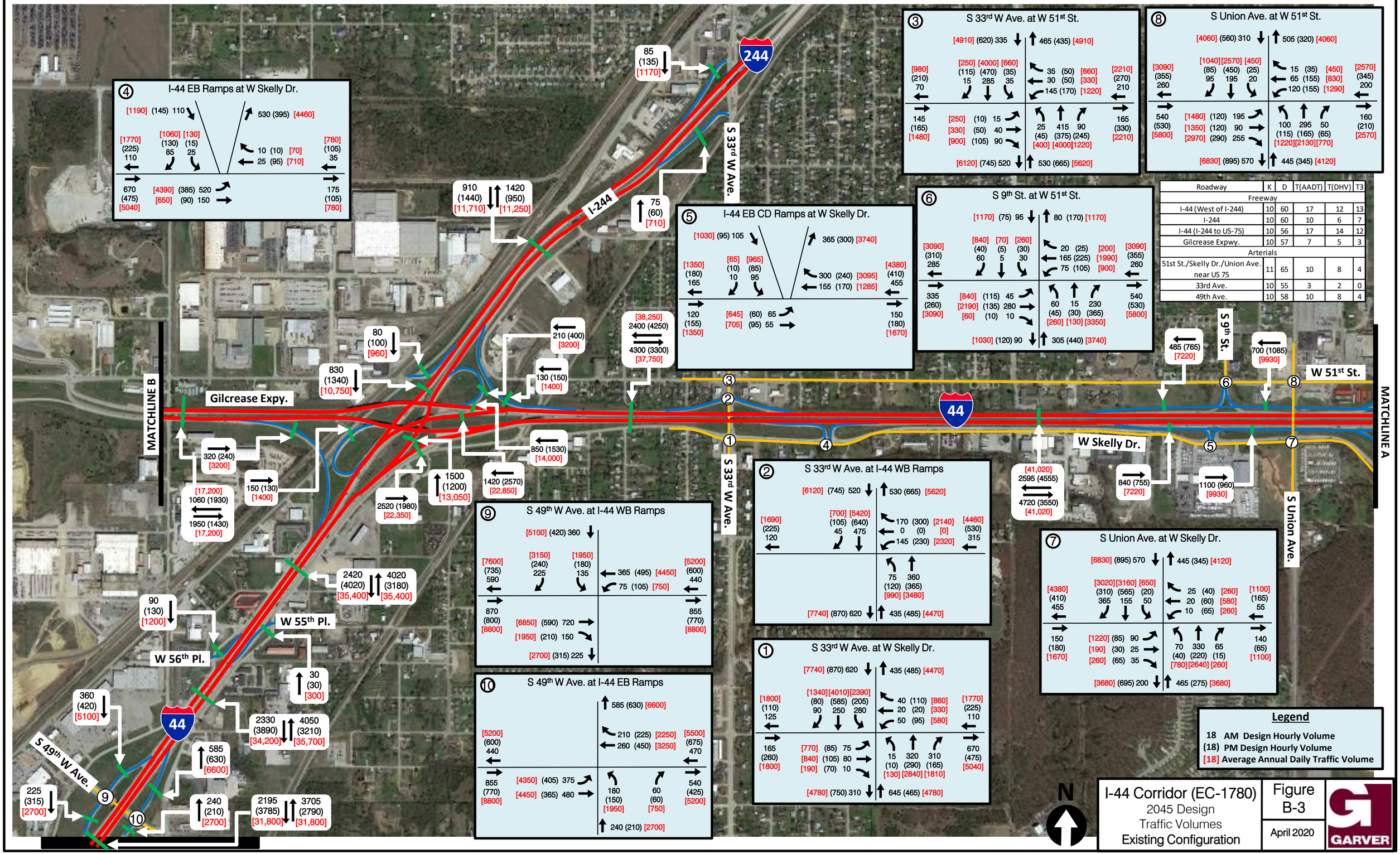
I-44 Corridor (EC-1780)

2016 Design
Traffic Volumes
Existing Configuration

Figure B-2

April 2020

GARVER



Roadway	K	D	T(AADT)	T(DHV)	T3
Freeway					
I-44 (West of I-244)	10	60	17	12	13
I-244	10	60	10	6	7
I-44 (I-244 to US-75)	10	56	17	14	12
Gilcrease Expwy.	10	57	7	5	3
Arterials					
51st St./Skelly Dr./Union Ave. near US 75	11	65	10	8	4
33rd Ave.	10	55	3	2	0
49th Ave.	10	58	10	8	4

Legend

18 AM Design Hourly Volume
(18) PM Design Hourly Volume
[18] Average Annual Daily Traffic Volume

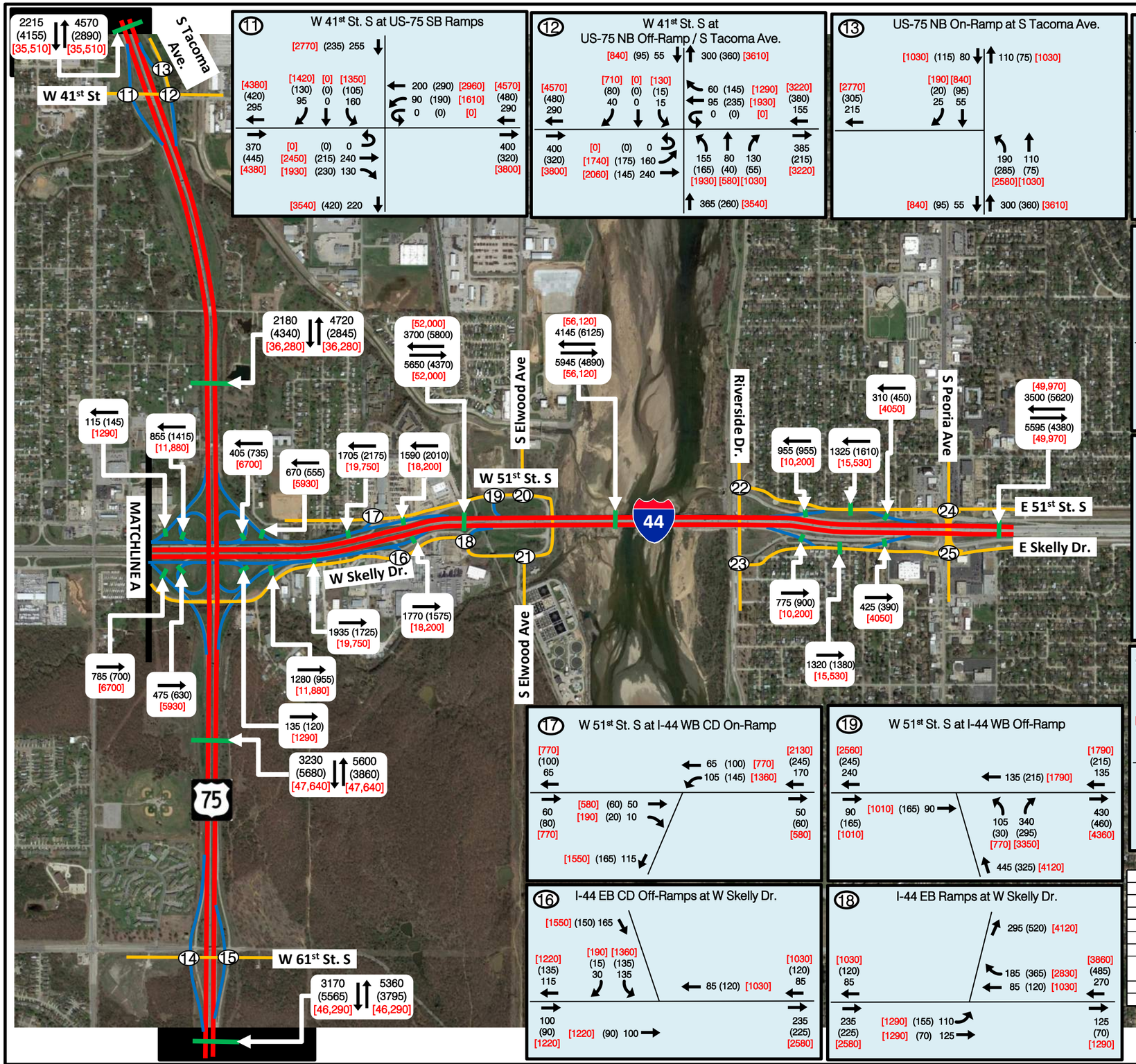
I-44 Corridor (EC-1780)

2045 Design
Traffic Volumes
Existing Configuration

Figure B-3

April 2020

GARVER



11 W 41st St. S at US-75 SB Ramps

[2770] (235) 255
[4380] (420) 295 | [1420] (130) 95 | [0] (0) 0 | [1350] (105) 160 | 200 (290) [2960] | 90 (190) [1610] | 0 (0) [0] | [4570] (480) 290
370 (445) [4380] | [0] [2450] [1930] | (0) (215) (230) 0 240 130 | 400 (320) [3800]
[3540] (420) 220

12 W 41st St. S at US-75 NB Off-Ramp / S Tacoma Ave.

[840] (95) 55
[4570] (480) 290 | [710] (80) 40 | [0] (0) 0 | [130] (15) 15 | 60 (145) [1290] | 95 (235) [1930] | 0 (0) [0] | [3220] (380) 155
400 (320) [3800] | [0] [1740] [2060] | (0) (175) (145) 160 240 | 155 (165) [1930] | 80 (40) [580] | 130 (55) [1030] | 385 (215) [3220]
300 (360) [3610]
365 (260) [3540]

13 US-75 NB On-Ramp at S Tacoma Ave.

[1030] (115) 80
[2770] (305) 215 | [190] [840] (20) 25 | (95) 55
110 (75) [1030]
190 (285) [2580] | 110 (75) [1030]
[840] (95) 55
300 (360) [3610]

14 W 61st St. S at US-75 SB Ramps

[3100] (310) 180
[4970] (470) 340 | [2000] (160) 105 | [0] (0) 0 | [1100] (150) 75 | 235 (310) [2970] | 15 (15) [130] | 0 (0) [0] | [3100] (325) 250
465 (505) [4970] | [0] [3350] [1620] | (0) (325) (180) 360 105 | 435 (475) [4450]
[1750] (195) 120

15 W 61st St. S at US-75 NB Ramps

390 (245) [3100]
[3100] (325) 250 | 145 (90) [1100] | 115 (155) [1480] | 0 (0) [0] | [2580] (245) 260
435 (475) [4450] | [0] [2000] [2450] | (0) (155) (320) 245 190 | 135 (170) [1620] | 0 (0) [0] | 15 (10) [130] | 205 (330) [2580]
150 (180) [1750]

16 I-44 EB CD Off-Ramps at W Skelly Dr.

[1550] (150) 165
[1220] (135) 115 | [190] [1360] (15) 30 | (135) 135 | 85 (120) [1030] | [1030] (120) 85
100 (90) [1220] | [1220] (90) 100 | 235 (225) [2580]

17 W 51st St. S at I-44 WB CD On-Ramp

[770] (100) 65 | 65 (100) [770] | [2130] (245) 170
105 (145) [1360]
60 (80) [770] | [580] (60) 50 [190] (20) 10 | 50 (60) [580]
[1550] (165) 115

18 I-44 EB Ramps at W Skelly Dr.

295 (520) [4120]
[1030] (120) 85 | 185 (365) [2830] | [3860] (485) 270
85 (120) [1030]
235 (225) [2580] | [1290] (155) 110 | 125 (70) [1290]
[1290] (70) 125

19 W 51st St. S at I-44 WB Off-Ramp

[2560] (245) 240 | [1790] (215) 135
135 (215) [1790]
90 (165) [1010] | [1010] (165) 90 | 105 (30) [770] | 340 (295) [3350] | 430 (460) [4360]
445 (325) [4120]

20 W 51st St. S at S Elwood Ave.

[2560] (365) 155
295 (205) [2560]
[1790] (215) 135 | [1530] (200) 105 | [1030] (165) 50 | 95 (65) [1030] | [1290] (80) 125
30 (15) [260]
430 (460) [4360] | [1530] (140) [2830] | 200 (320) 230 | 280 (485) [3860]

21 W Skelly Dr. at S Elwood Ave.

[3860] (485) 270 | 260 (475) [3790] | 20 (10) [70] | [3860] (485) 280
125 (70) [1290] | [1220] (65) [70] (5) 120 5 | 10 (10) [70] | 5 (15) [70] | 125 (80) [1290]
[140] (15) 25
15 (25) [140]

22 E 51st St. S at Riverside Dr.

[14,550] (1595) 985
1530 (1320) [14,550]
[14,550] (1595) 985 | [0] (0) 0 | 80 (170) [1610] | [5330] (660) 370
290 (490) [3720]
0 (0) [0] | 1450 (1450) [12,940]
[18,270] (2085) 1275
1450 (1150) [12,940]

23 E Skelly Dr. at Riverside Dr.

[18,270] (2085) 1275
1450 (1150) 12,940]
[16,660] [1610] (1930) 1120 | [0] (155) 155 | 0 (0) 0
545 (475) [5330]
0 (0) [0] | 1450 (1150) [12,940] | 390 (320) [3720]
[16,660] (1930) 1120
1840 (1470) [16,660]

24 E 51st St. S at S Peoria Ave.

[15,500] (1550) 1105
1245 (1290) [15,500]
[11,480] (1160) 1015 | [3100] [12,400] [0] (360) 200 | (1190) 905 | (0) 0 | 450 (580) [6460] | 270 (260) [2320] | [15,480] (1500) 1215 | 210 (375) [3800] | 285 (285) [2900]
[2580] (230) 245
0 (0) [0] | 300 (310) [3480] | 795 (710) [9040]
[16,200] (1565) 1115
1095 (1020) [12,520]

25 E Skelly Dr. at S at S Peoria Ave.

[16,200] (1565) 1115
1095 (1020) [12,520]
[9230] [6970] (1000) 650 | [0] (565) 465 | (0) 0 | 285 (285) [2900]
895 (990) [11,480] | [2580] (230) 245 [3420] (310) 270 [1480] (115) 105 [4000] (335) 275 | 0 (0) [0] | 825 (710) [9100] | 325 (320) [4130] | 1180 (1285) [15,480]
[13,230] (1335) 925
1150 (1030) [13,230]

Roadway	K	D	T(AADT)	T(DHV)	T3
Freeway					
US-75	10	60	8	6	4
I-44 (I-244 to US-75)	10	56	17	14	12
I-44 (US-75 to Peoria)	10	56	14	12	10
Arterials					
Peoria Ave./Riverside Dr.	10	55	5	5	2
51st St./Skelly Dr.	11	65	10	8	4
41st St.	10	60	15	10	8
61st St.	10	55	5	4	2

N

Legend

18 AM Design Hourly Volume
(18) PM Design Hourly Volume
[18] Average Annual Daily Traffic Volume

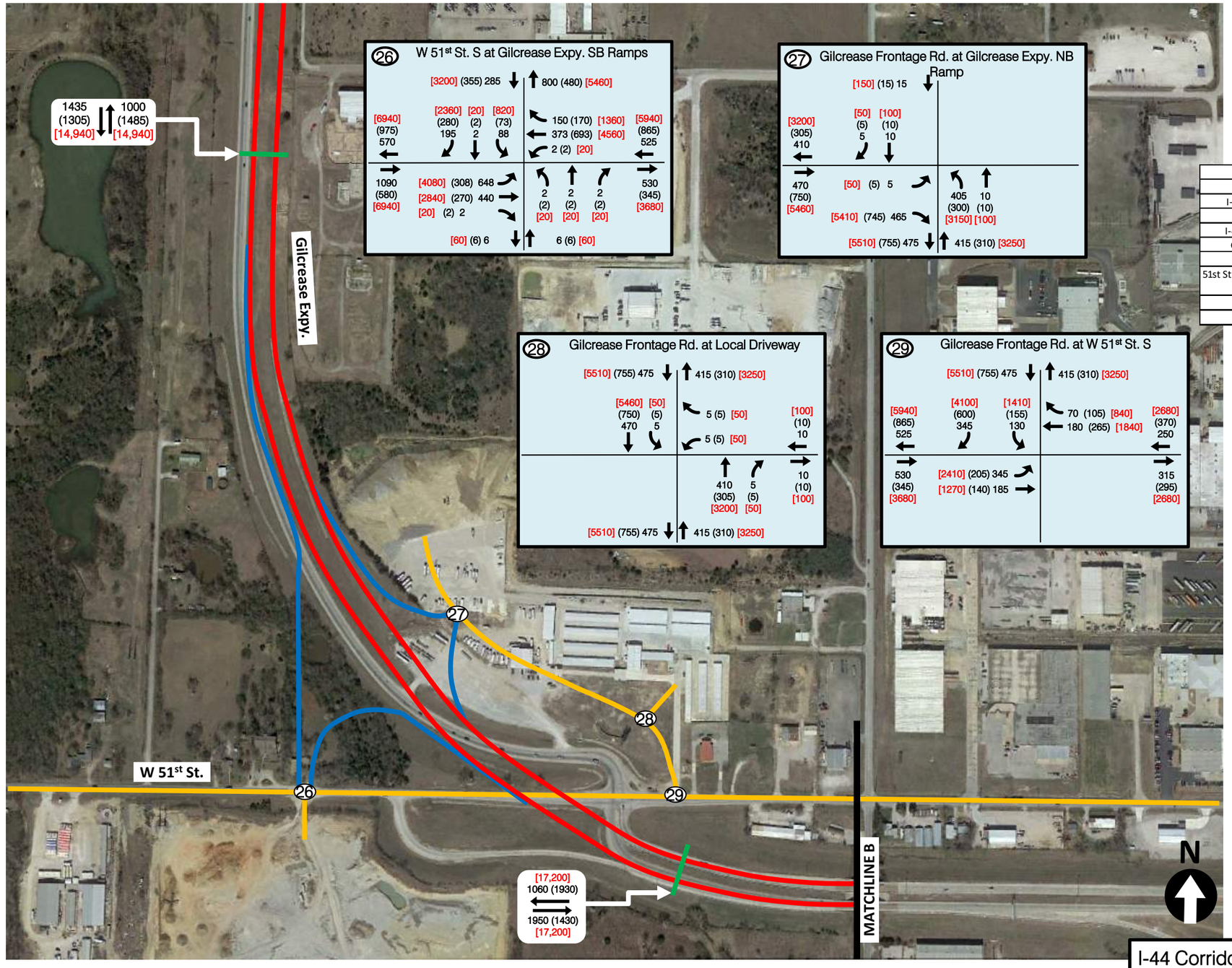
I-44 Corridor (EC-1780)

2045 Design
Traffic Volumes
Existing Configuration

Figure B-4

April 2020

GARVER



Roadway	K	D	T(AADT)	T(DHV)	T3
Freeway					
I-44 (West of I-244)	10	60	17	12	13
I-244	10	60	10	6	7
I-44 (I-244 to US-75)	10	55	17	14	12
Gilcrease Expwy.	10	55	7	5	3
Arterials					
51st St./Skelly Dr./Union Ave. near US 75	11	65	10	8	4
33rd Ave.	10	55	3	2	0
49th Ave.	10	58	10	8	4

Legend

18 AM Design Hourly Volume
(18) PM Design Hourly Volume
[18] Average Annual Daily Traffic Volume

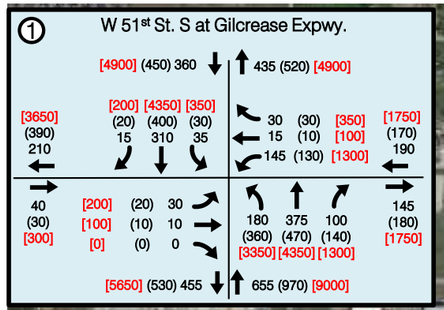
I-44 Corridor (EC-1780)
2045 Design
Traffic Volumes
Existing Configuration

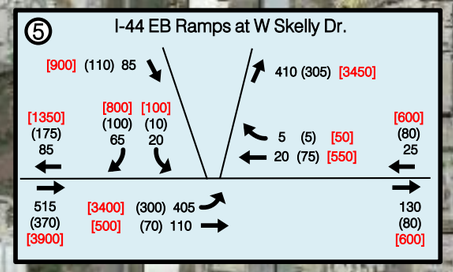
Figure B-5

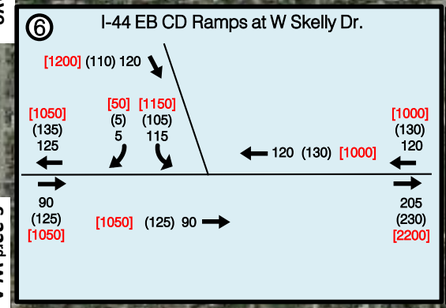
April 2020

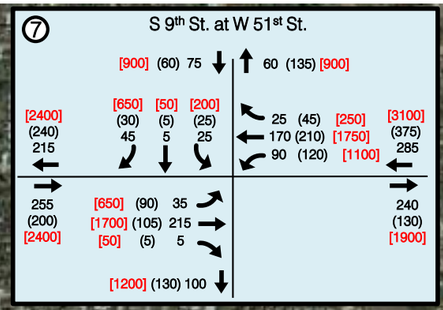
GARVER

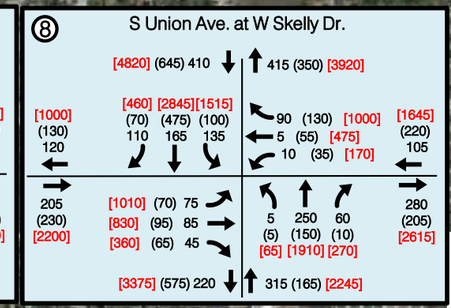
Roadway	K	D	T(AADT)	T(DHV)	T3
Freeway					
I-44 (West of I-244)	10	60	17	12	13
I-244	10	60	10	6	7
I-44 (I-244 to US-75)	10	55	17	14	12
Arterials					
Gilcrease Expwy.	10	55	7	5	3
51st St./Skelly Dr./Union Ave. near US 75	11	65	10	8	4
33rd Ave.	10	55	3	2	0
49th Ave.	10	58	10	8	4

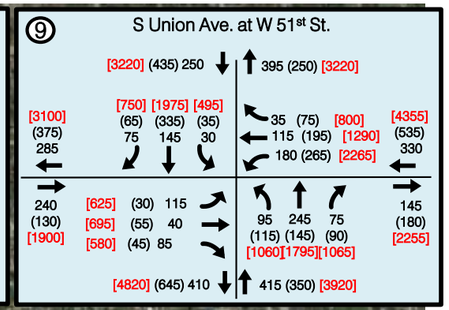


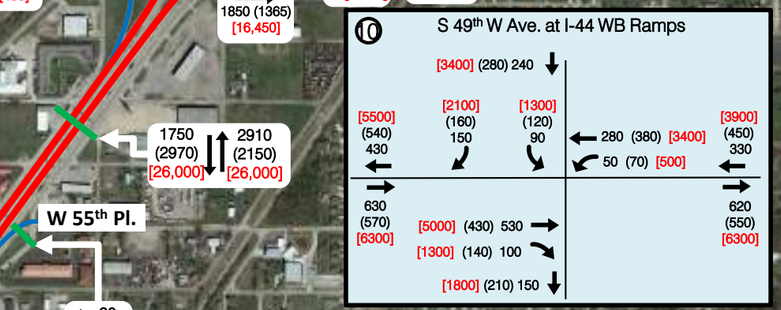


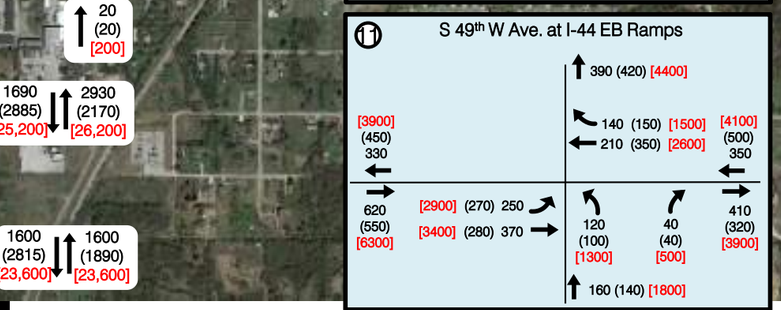


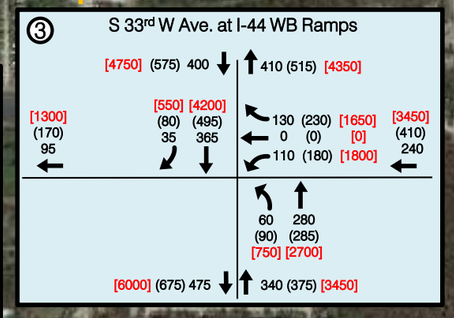


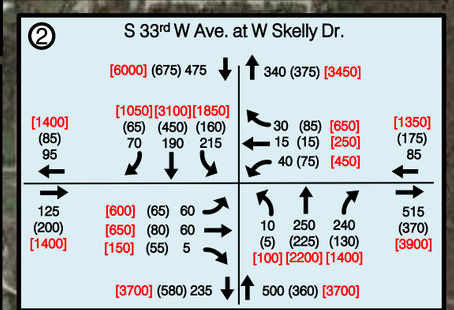












Legend

18 AM Design Hourly Volume
(18) PM Design Hourly Volume
[18] Average Annual Daily Traffic Volume

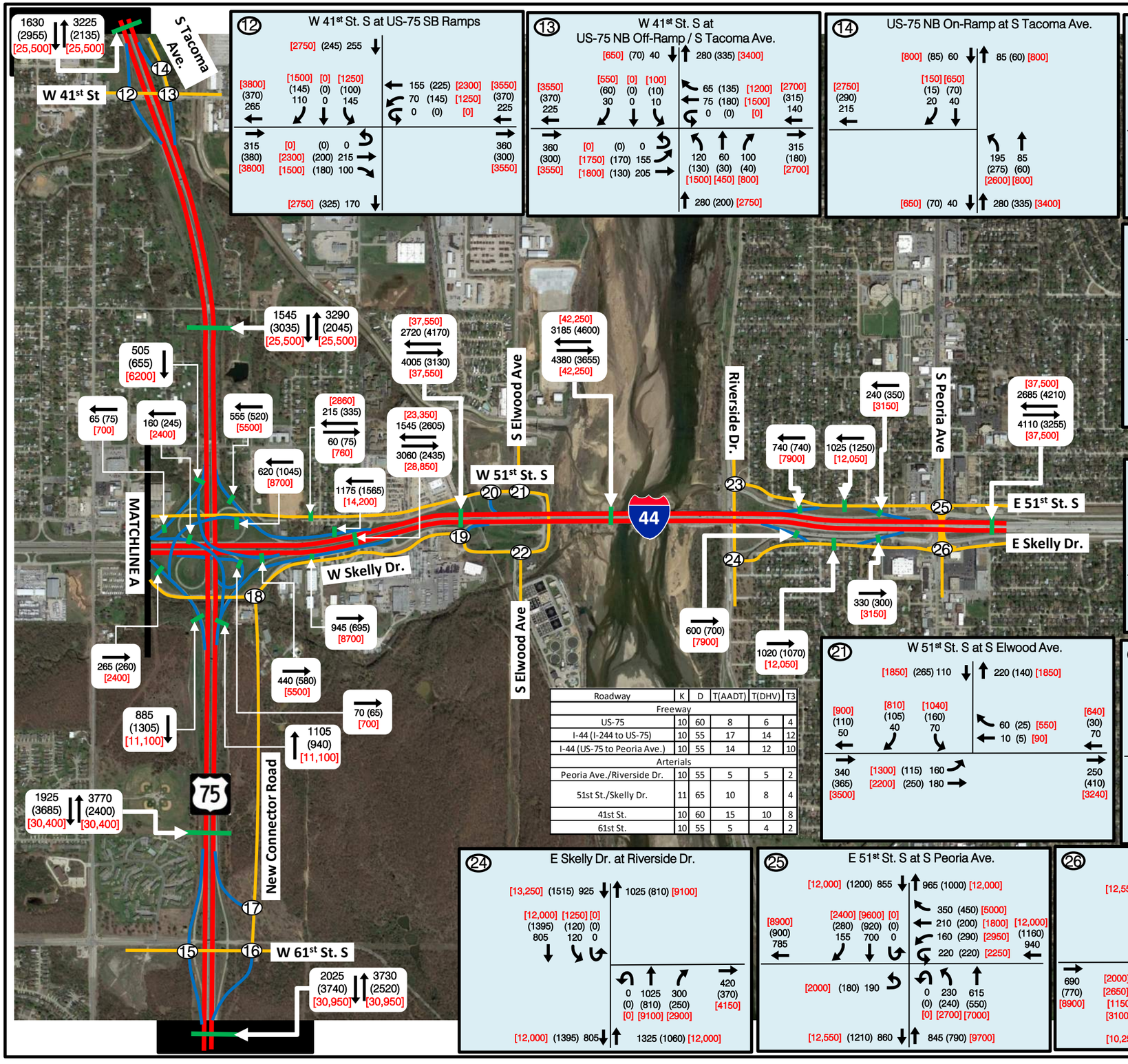
N

I-44 Corridor (EC-1780)
2016 Design
Traffic Volumes
Alt 2 Configuration

Figure B-6

April 2020

GARVER



12 W 41st St. S at US-75 SB Ramps

[2750] (245) 255 ↓

[3800] (370) 265 → | [1500] (145) 110 ↙ | [0] (0) 0 ↓ | [1250] (100) 145 ↘ | ← 155 (225) [2300] | 70 (145) [1250] ↰ | 0 (0) [0] | [3550] (370) 225 →

315 (380) [3800] → | [0] [2300] [1500] ↰ | (0) (200) (180) 0 215 100 ↱ | ↑ 360 (300) [3550]

[2750] (325) 170 ↓

13 W 41st St. S at US-75 NB Off-Ramp / S Tacoma Ave.

[650] (70) 40 ↓ | ↑ 280 (335) [3400]

[3550] (370) 225 → | [550] (60) 30 ↙ | [0] (0) 0 ↓ | [100] (10) 10 ↘ | ← 65 (135) [1200] | 75 (180) [1500] ↰ | 0 (0) [0] | [2700] (315) 140 →

360 (300) [3550] → | [0] [1750] [1800] ↰ | (0) (170) (130) 155 205 ↱ | ↑ 120 (130) [1500] | 60 (30) [450] | 100 (40) [800] | ↑ 315 (180) [2700]

↑ 280 (200) [2750]

14 US-75 NB On-Ramp at S Tacoma Ave.

[800] (85) 60 ↓ | ↑ 85 (60) [800]

[2750] (290) 215 → | [150] (15) 20 ↙ | [650] (70) 40 ↓ | ↑ 195 (275) [2600] | 85 (60) [800]

[650] (70) 40 ↓ | ↑ 280 (335) [3400]

15 W 61st St. S at US-75 SB Ramps

[2400] (240) 140 ↓

[3560] (345) 250 → | [1550] (125) 80 ↙ | [0] (0) 0 ↓ | [850] (115) 60 ↘ | ← 170 (220) [2010] | 50 (60) [570] ↰ | 0 (0) [0] | [2580] (280) 220 →

460 (450) [4690] → | [0] [2310] [2380] ↰ | (0) (215) (235) 0 270 190 ↱ | → 330 (330) [3160]

[2950] (295) 240 ↓

16 W 61st St. S at US-75 NB Ramps

[880] (100) 60 ↓ | ↑ 470 (400) [4410]

[2580] (280) 220 → | [530] (65) 40 ↙ | [350] (35) 20 ↘ | ← 125 (105) [1200] | 75 (85) [800] ↰ | 0 (0) [0] | [2000] (190) 200 →

330 (330) [3160] → | [0] [1610] [1550] ↰ | (0) (120) (210) 0 200 130 ↱ | ↑ 105 (130) [1250] | 145 (175) [1600] | 10 (5) [100] | ↑ 160 (250) [2000]

↑ 260 (310) [2950]

17 US-75 NB On-Ramp at New Connector Road

[880] (100) 60 ↓ | ↑ 170 (210) [2010]

[2400] (190) 300 → | [0] (0) 0 ↙ | [880] (100) 60 ↘ | ↑ 300 (190) [2400] | 170 (210) [2010]

[880] (100) 60 ↓ | ↑ 470 (400) [4410]

18 W Skelly Dr. at New Connector Road

[1645] (220) 105 → | ← 5 (70) [345] | 45 (70) [565] ↰ | [910] (140) 50 ←

280 (205) [2615] → | [2300] [315] ↰ | (175) (30) 265 15 ↱ | ↑ 100 (150) [1300] | 70 (60) [710] | → 335 (235) [3010]

[880] (100) 60 ↓ | ↑ 170 (210) [2010]

19 I-44 EB Ramps at W Skelly Dr.

↑ 375 (525) [4700]

[1040] (125) 90 → | ← 145 (285) [2200] | 90 (125) [1040] ↰ | [3240] (410) 235 ←

295 (260) [3140] → | [2500] [640] ↰ | (240) (20) 230 65 ↱ | → 65 (20) [640]

20 W 51st St. S at I-44 WB Off-Ramp

[3000] (310) 250 → | ← 50 (110) [900] | [900] (110) 50 ←

75 (135) [900] → | [900] (135) 75 ↰ | ↑ 200 (200) [2100] | 265 (230) [2600] | → 340 (365) [3500]

↑ 465 (430) [4700]

21 W 51st St. S at S Elwood Ave.

[1850] (265) 110 ↓ | ↑ 220 (140) [1850]

[900] (110) 50 ← | [810] (105) 40 ↙ | [1040] (160) 70 ↘ | ← 60 (25) [550] | 10 (5) [90] ↰ | [640] (30) 70 ←

340 (365) [3500] → | [1300] [2200] ↰ | (115) (250) 160 180 ↱ | → 250 (410) [3240]

22 W Skelly Dr. at S Elwood Ave.

[3240] (410) 235 → | ← 230 (405) [3170] | 20 (5) [70] ↰ | [3240] (410) 250 ←

65 (20) [640] → | [610] [30] ↰ | (15) (5) 65 0 ↱ | ↑ 5 (5) [70] | 5 (15) [30] | → 70 (30) [640]

[100] (10) 20 ↓ | ↑ 10 (20) [100]

23 E 51st St. S at Riverside Dr.

[10,350] (1135) 700 ↓ | ↑ 1085 (940) [10,350]

[10,350] (1135) 700 ↓ | [0] (0) 0 ↳ | ← 60 (130) [1250] | 225 (380) [2900] ↰ | [4150] (510) 285 ←

↑ 0 (0) [0] | ↑ 1025 (810) [9100]

[13,250] (1515) 925 ↓ | ↑ 1025 (810) [9100]

24 E Skelly Dr. at Riverside Dr.

[13,250] (1515) 925 ↓ | ↑ 1025 (810) [9100]

[12,000] (1395) 805 ↓ | [1250] [0] (120) (0) 0 ↳ | ↑ 0 (0) [0] | 1025 (810) [9100] | 300 (250) [2900] | → 420 (370) [4150]

[12,000] (1395) 805 ↓ | ↑ 1325 (1060) [12,000]

25 E 51st St. S at S Peoria Ave.

[12,000] (1200) 855 ↓ | ↑ 965 (1000) [12,000]

[8900] (900) 785 ← | [2400] [9600] [0] (280) (920) (0) 155 700 0 ↳ | ← 350 (450) [5000] | 210 (200) [1800] | 160 (290) [2950] | 220 (220) [2250] | [12,000] (1160) 940 ←

[2000] (180) 190 ↳ | ↑ 0 (0) [0] | 230 (240) [2700] | 615 (550) [7000]

[12,550] (1210) 860 ↓ | ↑ 845 (790) [9700]

26 E Skelly Dr. at S at S Peoria Ave.

[12,550] (1210) 860 ↓ | ↑ 845 (790) [9700]

[7150] [5400] [0] (770) (440) (0) 500 360 0 ↳ | ↳ 220 (220) [2250]

690 (770) [8900] → | [2000] [2650] [1150] [3100] ↰ | (180) (240) (90) (260) 190 210 80 210 ↱ | ↑ 0 (0) [0] | 635 (550) [7050] | 250 (250) [3200] | → 910 (1000) [12,000]

[10,250] (1030) 710 ↓ | ↑ 885 (800) [10,250]

Roadway	K	D	T(AADT)	T(DHV)	T3
Freeway					
US-75	10	60	8	6	4
I-44 (I-244 to US-75)	10	55	17	14	12
I-44 (US-75 to Peoria Ave.)	10	55	14	12	10
Arterials					
Peoria Ave./Riverside Dr.	10	55	5	5	2
51st St./Skelly Dr.	11	65	10	8	4
41st St.	10	60	15	10	8
61st St.	10	55	5	4	2

N

Legend

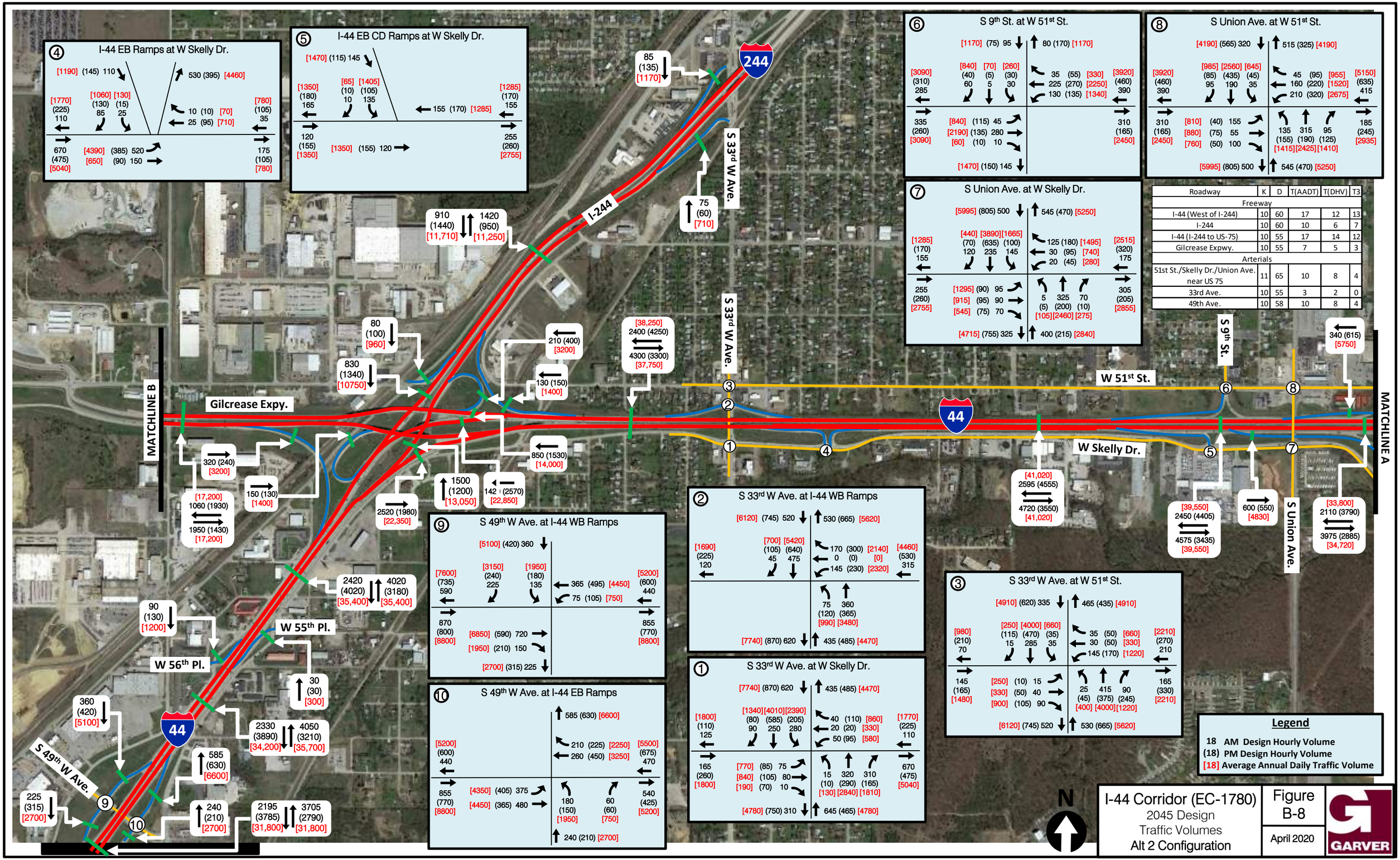
18 AM Design Hourly Volume
(18) PM Design Hourly Volume
[18] Average Annual Daily Traffic Volume

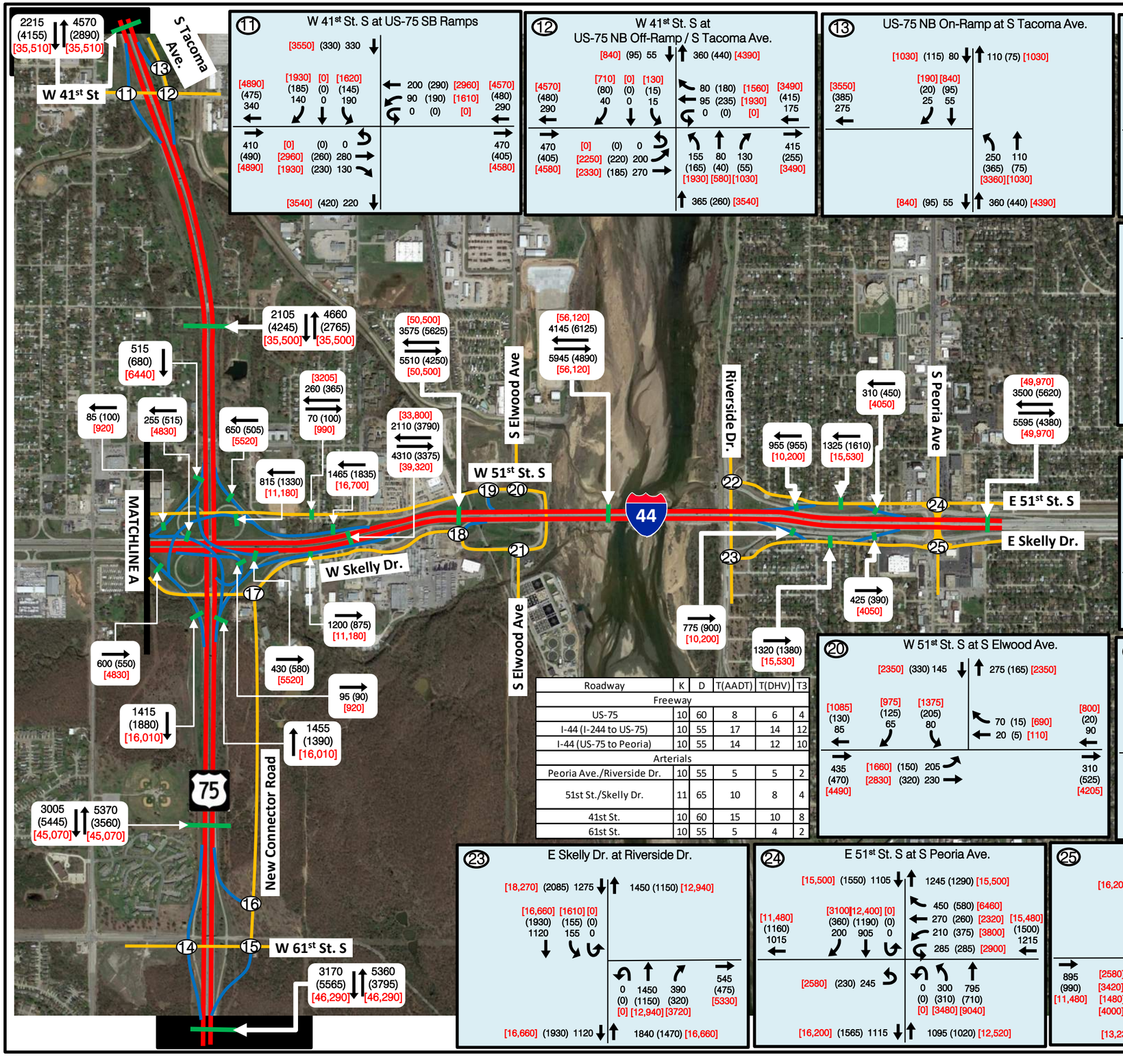
I-44 Corridor (EC-1780)
2016 Design
Traffic Volumes
Alt 2 Configuration

Figure B-7

April 2020

GARVER


④ I-44 EB Ramps at W Skelly Dr.
[1190] (145) 110
530 (395) [4460]
[1060] [130]
(130) (15)
85 25
[1770]
(225)
110
10 (10) [70]
25 (95) [710]
[780]
(105)
35
670
(475)
[5040]
[4390] (385) 520
[650] (90) 150
175
(105)
[780]
⑤ I-44 EB CD Ramps at W Skelly Dr.
[1470] (115) 145
[1350]
(180)
165
[65] [1405]
(10) (105)
10 135
[1285]
(170)
155
155 (170) [1285]
120
(155)
[1350]
[1350] (155) 120
255
(260)
[2755]
⑥ S 9th St. at W 51st St.
[1170] (75) 95
80 (170) [1170]
[3090]
(310)
285
[840] [70] [260]
(40) (5) (30)
60 5 30
35 (55) [330] [3920]
225 (270) [2250] (460)
130 (135) [1340] 390
335
(260)
[3090]
[840] (115) 45
[2190] (135) 280
[60] (10) 10
310
(165)
[2450]
[1470] (150) 145
⑧ S Union Ave. at W 51st St.
[4190] (565) 320
515 (325) [4190]
[3920]
(460)
390
[985] [2560] [645]
(85) (435) (45)
95 190 35
45 (95) [955] [5150]
160 (220) [1520] (635)
210 (320) [2675] 415
310
(165)
[2450]
[810] (40) 155
[880] (75) 55
[760] (50) 100
135 315 95
(155) (190) (125)
[1415][2425][1410]
185
(245)
[2935]
[5995] (805) 500
545 (470) [5250]
⑦ S Union Ave. at W Skelly Dr.
[5995] (805) 500
545 (470) [5250]
[1285]
(170)
155
[440] [3890][1665]
(70) (635) (100)
120 235 145
125 (180) [1495] [2515]
30 (95) [740] (320)
20 (45) [280] 175
255
(260)
[2755]
[1295] (90) 95
[915] (95) 90
[545] (75) 70
5 325 70
(5) (200) (10)
[105][2460] [275]
305
(205)
[2855]
[4715] (755) 325
400 (215) [2840]
Roadway | K | D | T(AADT) | T(DHV) | T3
Freeway
I-44 (West of I-244) | 10 | 60 | 17 | 12 | 13
I-244 | 10 | 60 | 10 | 6 | 7
I-44 (I-244 to US-75) | 10 | 55 | 17 | 14 | 12
Gilcrease Expwy. | 10 | 55 | 7 | 5 | 3
Arterials
51st St./Skelly Dr./Union Ave. near US 75 | 11 | 65 | 10 | 8 | 4
33rd Ave. | 10 | 55 | 3 | 2 | 0
49th Ave. | 10 | 58 | 10 | 8 | 4
244
I-244
85 (135) [1170]
75 (60) [710]
S 33rd W Ave.
910 (1440) [11,710]
1420 (950) [11,250]
80 (100) [960]
830 (1340) [10750]
210 (400) [3200]
130 (150) [1400]
[38,250] 2400 (4250) 4300 (3300) [37,750]
S 33rd W Ave.
W 51st St.
S 9th St.
340 (615) [5750]
MATCHLINE B
Gilcrease Expy.
44
W Skelly Dr.
320 (240) [3200]
[17,200] 1060 (1930) 1950 (1430) [17,200]
150 (130) [1400]
1500 (1200) [13,050]
142 (2570) [22,850]
850 (1530) [14,000]
2520 (1980) [22,350]
[41,020] 2595 (4555) 4720 (3550) [41,020]
[39,550] 2450 (4405) 4575 (3435) [39,550]
600 (550) [4830]
S Union Ave.
[33,800] 2110 (3790) 3975 (2885) [34,720]
MATCHLINE A
⑨ S 49th W Ave. at I-44 WB Ramps
[5100] (420) 360
[7600] (735) 590
[3150] (240) 225
[1950] (180) 135
365 (495) [4450]
75 (105) [750]
[5200] (600) 440
870 (800) [8800]
[6850] (590) 720
[1950] (210) 150
[2700] (315) 225
855 (770) [8800]
2420 (4020) [35,400]
4020 (3180) [35,400]
90 (130) [1200]
W 55th Pl.
W 56th Pl.
30 (30) [300]
360 (420) [5100]
2330 (3890) [34,200]
4050 (3210) [35,700]
585 (630) [6600]
S 49th W Ave.
225 (315) [2700]
240 (210) [2700]
2195 (3785) [31,800]
3705 (2790) [31,800]
⑩ S 49th W Ave. at I-44 EB Ramps
585 (630) [6600]
[5200] (600) 440
210 (225) [2250]
260 (450) [3250]
[5500] (675) 470
855 (770) [8800]
[4350] (405) 375
[4450] (365) 480
180 (150) [1950]
60 (60) [750]
540 (425) [5200]
240 (210) [2700]
② S 33rd W Ave. at I-44 WB Ramps
[6120] (745) 520
530 (665) [5620]
[1690] (225) 120
[700] [5420] (105) (640) 45 475
170 (300) [2140] [4460]
0 (0) [0] (530)
145 (230) [2320] 315
75 (120) (365) [990] [3480]
360
[7740] (870) 620
435 (485) [4470]
① S 33rd W Ave. at W Skelly Dr.
[7740] (870) 620
435 (485) [4470]
[1800] (110) 125
[1340][4010][2390] (80) (585) (205) 90 250 280
40 (110) [860]
20 (20) [330]
50 (95) [580]
[1770] (225) 110
165 (260) [1800]
[770] (85) 75
[840] (105) 80
[190] (70) 10
15 (10) [130] 320 (290) [2840] 310 (165) [1810]
670 (475) [5040]
[4780] (750) 310
645 (465) [4780]
③ S 33rd W Ave. at W 51st St.
[4910] (620) 335
465 (435) [4910]
[980] (210) 70
[250] [4000] [660] (115) (470) (35) 15 285 35
35 (50) [660]
30 (50) [330]
145 (170) [1220]
[2210] (270) 210
145 (165) [1480]
[250] (10) 15
[330] (50) 40
[900] (105) 90
25 (45) [400] 415 (375) [4000] 90 (245) [1220]
165 (330) [2210]
[6120] (745) 520
530 (665) [5620]
N
Legend
18 AM Design Hourly Volume
(18) PM Design Hourly Volume
[18] Average Annual Daily Traffic Volume
I-44 Corridor (EC-1780)
2045 Design
Traffic Volumes
Alt 2 Configuration
Figure B-8
April 2020
GARVER



11 W 41st St. S at US-75 SB Ramps

[3550] (330) 330
[4890] (475) 340 — [1930] (185) 140 — [0] (0) 0 — [1620] (145) 190 — 200 (290) [2960] — [4570] (480) 290
90 (190) [1610]
0 (0) [0]
410 (490) [4890] — [0] [2960] [1930] — (0) (260) (230) — 0 280 130 — 470 (405) [4580]
[3540] (420) 220

12 W 41st St. S at US-75 NB Off-Ramp / S Tacoma Ave.

[840] (95) 55 — 360 (440) [4390]
[4570] (480) 290 — [710] (80) 40 — [0] (0) 0 — [130] (15) 15 — 80 (180) [1560] — [3490] (415) 175
95 (235) [1930]
0 (0) [0]
470 (405) [4580] — [0] [2250] [2330] — (0) (220) (185) — 200 270 — 415 (255) [3490]
155 (165) [1930] — 80 (40) [580] — 130 (55) [1030]
365 (260) [3540]

13 US-75 NB On-Ramp at S Tacoma Ave.

[1030] (115) 80 — 110 (75) [1030]
[3550] (385) 275 — [190] (20) 25 — [840] (95) 55
250 (365) [3360] — 110 (75) [1030]
[840] (95) 55 — 360 (440) [4390]

14 W 61st St. S at US-75 SB Ramps

[3100] (310) 180
[4590] (450) 320 — [2000] (160) 105 — [0] (0) 0 — [1100] (150) 75 — 215 (290) [2590] — [3415] (385) 275
60 (95) [825]
0 (0) [0]
635 (605) [6465] — [0] [2970] [3495] — (0) (270) (335) — 350 285 — 425 (420) [4070]
[4320] (430) 345

15 W 61st St. S at US-75 NB Ramps

[1215] (160) 70 — 655 (590) [6190]
[3415] (385) 275 — [765] (100) 45 — [450] (60) 25 — 165 (130) [1550] — [2580] (245) 260
95 (115) [1030]
0 (0) [0]
425 (420) [4070] — [0] [2070] [2000] — (0) (160) (260) — 135 230 15 — 205 (330) [2580]
135 (170) [1620] — 230 (300) [2570] — 15 (10) [130]
380 (480) [4320]

16 US-75 NB On-Ramp at New Connector Road

[1215] (160) 70 — 265 (345) [3090]
[3100] (245) 390 — [0] (0) 0 — [1215] (160) 70
390 (245) [3100] — 265 (345) [3090]
[1215] (160) 70 — 655 (590) [6190]

17 W Skelly Dr. at New Connector Road

[2515] (320) 175 — 15 (85) [450] — [1265] (190) 65
50 (105) [815]
305 (205) [2855] — [2455] (150) 285 [400] (55) 20 — 160 (235) [2065] — 105 (110) [1025] — 390 (260) [3480]
[1215] (160) 70 — 265 (345) [3090]

18 I-44 EB Ramps at W Skelly Dr.

435 (640) [5620]
[1375] (160) 110 — 185 (365) [2830] — [4205] (525) 295
110 (160) [1375]
335 (285) [3590] — [2790] (275) 250 [800] (10) 85 — 85 (10) [800]

19 W 51st St. S at I-44 WB Off-Ramp

[3355] (335) 315 — 85 (130) [1085] — [1085] (130) 85
95 (175) [1140] — [1140] (175) 95 — 230 340 (205) (295) [2270] [3350] — 435 (470) [4490]
570 (500) [5620]

20 W 51st St. S at S Elwood Ave.

[2350] (330) 145 — 275 (165) [2350]
[1085] (130) 85 — [975] (125) 65 — [1375] (205) 80 — 70 (15) [690] — [800] (20) 90
20 (5) [110]
435 (470) [4490] — [1660] [2830] (150) (320) — 205 230 — 310 (525) [4205]

21 W Skelly Dr. at S Elwood Ave.

[4205] (525) 295 — 285 (515) [4105] — [4205] (525) 310
25 (10) [100]
85 (10) [800] — [760] (5) [40] — 85 0 — 10 (10) [100] — 5 (15) [40] — 90 (20) [800]
[140] (15) 25 — 15 (25) [140]

22 E 51st St. S at Riverside Dr.

[14,550] (1595) 985 — 1530 (1320) [14,550]
[14,550] [0] (1595) (0) 985 0 — 80 (170) [1610] — [5330] (660) 370
290 (490) [3720]
0 (0) [0] — 1450 (1150) [12,940]
[18,270] (2085) 1275 — 1450 (1150) [12,940]

23 E Skelly Dr. at Riverside Dr.

[18,270] (2085) 1275 — 1450 (1150) [12,940]
[16,660] [1610] [0] (1930) (155) (0) 1120 155 0 — 0 1450 390 (0) (1150) (320) [0] [12,940] [3720] — 545 (475) [5330]
[16,660] (1930) 1120 — 1840 (1470) [16,660]

24 E 51st St. S at S Peoria Ave.

[15,500] (1550) 1105 — 1245 (1290) [15,500]
[11,480] (1160) 1015 — [3100] [12,400] [0] (360) (1190) (0) 200 905 0 — 450 (580) [6460] — 270 (260) [2320] — [15,480] (1500) 1215
210 (375) [3800]
285 (285) [2900]
[2580] (230) 245 — 0 300 795 (0) (310) (710) [0] [3480] [9040]
[16,200] (1565) 1115 — 1095 (1020) [12,520]

25 E Skelly Dr. at S at S Peoria Ave.

[16,200] (1565) 1115 — 1095 (1020) [12,520]
[9230] [6970] [0] (1000) (565) (0) 650 465 0 — 285 (285) [2900]
895 (990) [11,480] — [2580] [3420] [1480] [4000] (230) (310) (115) (335) 245 270 105 275 — 0 825 325 (0) (710) (320) [0] [9100] [4130] — 1180 (1285) [15,480]
[13,230] (1335) 925 — 1150 (1030) [13,230]

N

Legend

18 AM Design Hourly Volume
(18) PM Design Hourly Volume
[18] Average Annual Daily Traffic Volume

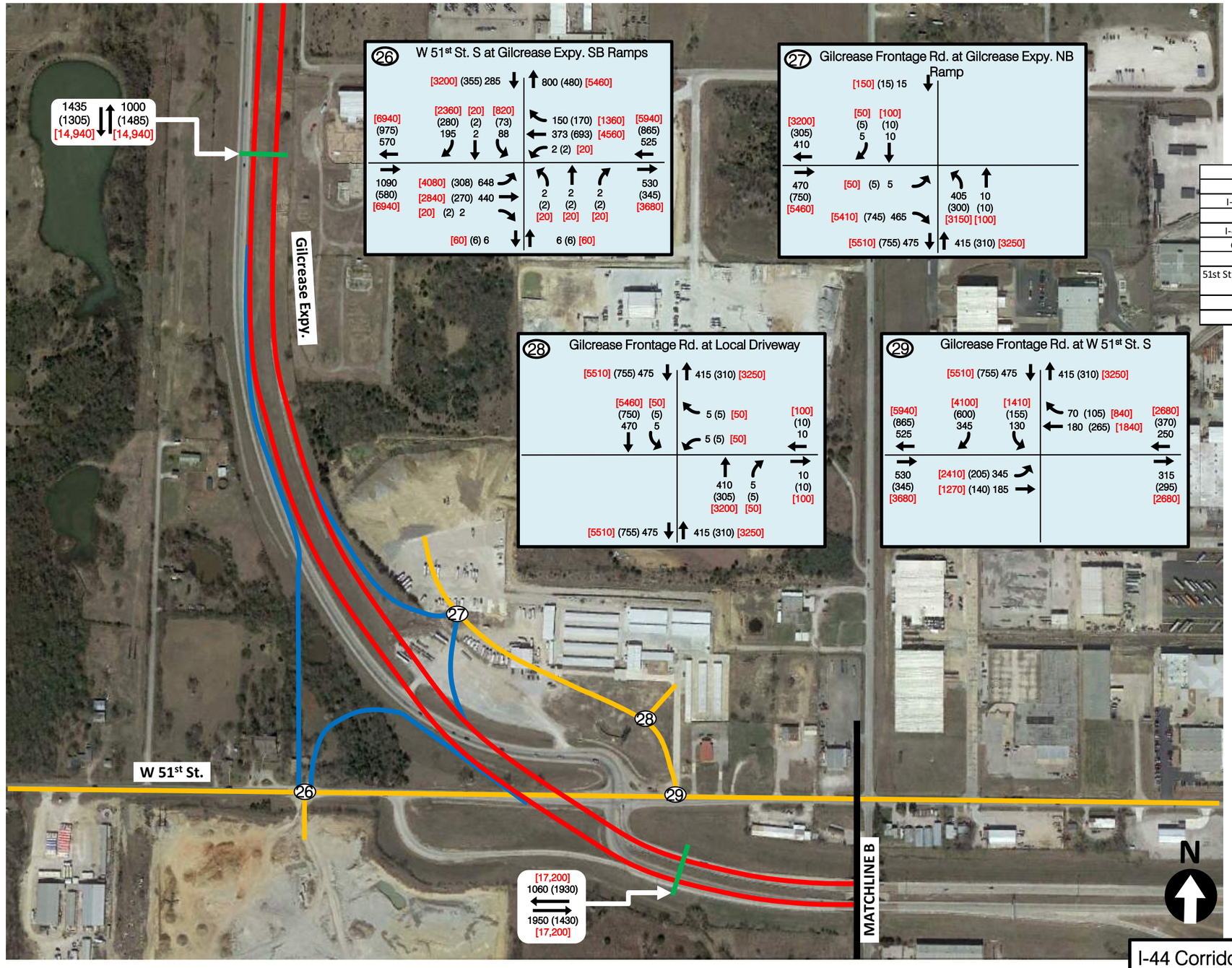
Roadway	K	D	T(AADT)	T(DHV)	T3
Freeway					
US-75	10	60	8	6	4
I-44 (I-244 to US-75)	10	55	17	14	12
I-44 (US-75 to Peoria)	10	55	14	12	10
Arterials					
Peoria Ave./Riverside Dr.	10	55	5	5	2
51st St./Skelly Dr.	11	65	10	8	4
41st St.	10	60	15	10	8
61st St.	10	55	5	4	2

I-44 Corridor (EC-1780)
2045 Design
Traffic Volumes
Alt 2 Configuration

Figure B-9

April 2020

GARVER



Roadway	K	D	T(AADT)	T(DHV)	T3
Freeway					
I-44 (West of I-244)	10	60	17	12	13
I-244	10	60	10	6	7
I-44 (I-244 to US-75)	10	55	17	14	12
Gilcrease Expwy.	10	55	7	5	3
Arterials					
51st St./Skelly Dr./Union Ave. near US 75	11	65	10	8	4
33rd Ave.	10	55	3	2	0
49th Ave.	10	58	10	8	4

Legend

18 AM Design Hourly Volume
(18) PM Design Hourly Volume
[18] Average Annual Daily Traffic Volume

I-44 Corridor (EC-1780)
2045 Design
Traffic Volumes
Alt 2 Configuration

Figure B-10

April 2020

GARVER

Location	Time Period	Direction	Study Volume	Supplemental ODOT Volume
Freeway Mainline				
I-44 Mainline Between 33rd and Union	AM	EB	3,075	2,485
		WB	1,870	1,282
	PM	EB	2,290	1,975
		WB	3,055	1,336
I-44 Mainline East of US 75 (within CD)	AM	EB	2,620	2,051
		WB	1,545	1,070
	PM	EB	1,855	1,566
		WB	2,605	1,227
US 75 North of I-44	AM	NB	3,340	3,148
		SB	1,600	1,425
	PM	NB	2,100	1,870
		SB	3,100	2,860
I-44 at US-75 Interchange Ramps				
I-44 WB to US-75 SB	AM		660	437
	PM		1,100	494
US 75 NB to I-44 WB	AM		250	136
	PM		375	141
US 75 SB to I-44 WB	AM		90	42
	PM		110	28
US 75 NB to I-44 EB	AM		1,000	397
	PM		740	481
I-44 EB to US 75 SB	AM		375	255
	PM		350	190
US 75 SB to I-44 EB	AM		470	335
	PM		610	258
I-44 EB to US 75 NB	AM		100	40
	PM		90	46
I-44 WB to US-75 NB	AM		575	614
	PM		550	460

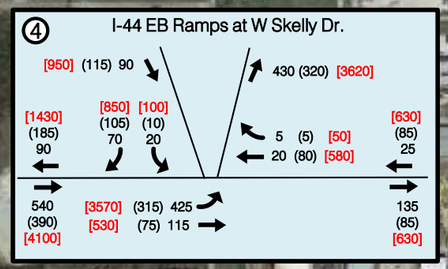
I-44 Corridor (EC-1780)
Volume Comparison

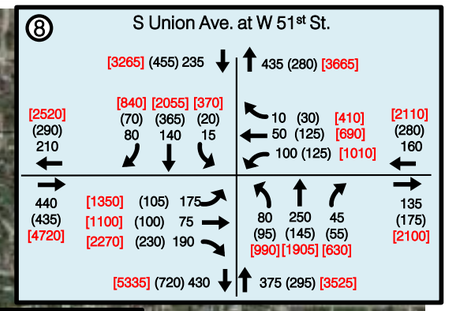
Figure B-11

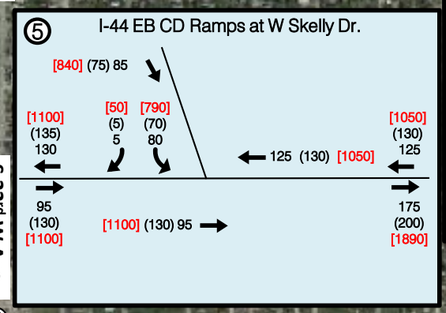
April 2020

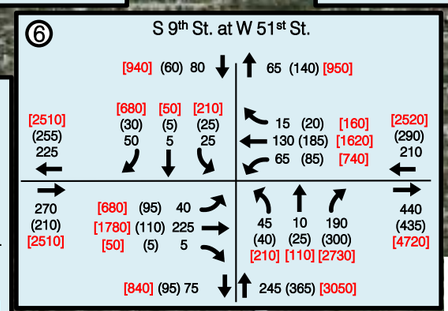
GARVER

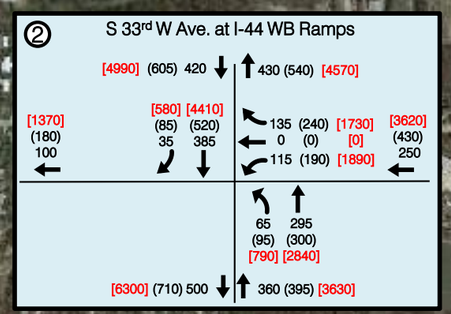
Roadway	K	D	T(AADT)	T(DHV)	T3
Freeway					
I-44 (West of I-244)	10	59	17	12	13
I-244	10	61	10	6	7
I-44 (I-244 to US-75)	10	60	17	14	12
Gilcrease Expwy.	10	61	7	5	3
Arterials					
51st St./Skelly Dr./Union Ave. near US 75	10	64	10	8	4
33rd Ave.	11	61	3	2	0
49th Ave.	10	60	10	8	4

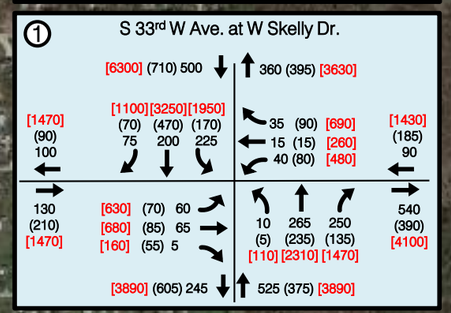


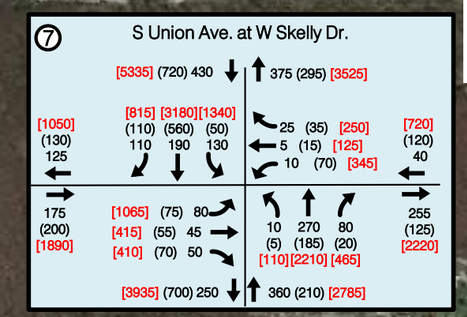


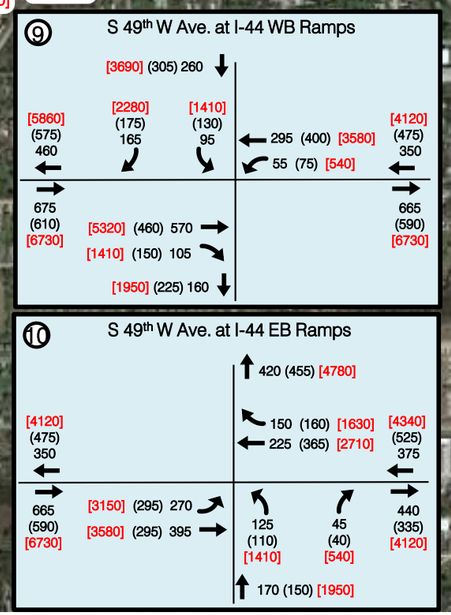












Legend

18 AM Design Hourly Volume
(18) PM Design Hourly Volume
[18] Average Annual Daily Traffic Volume

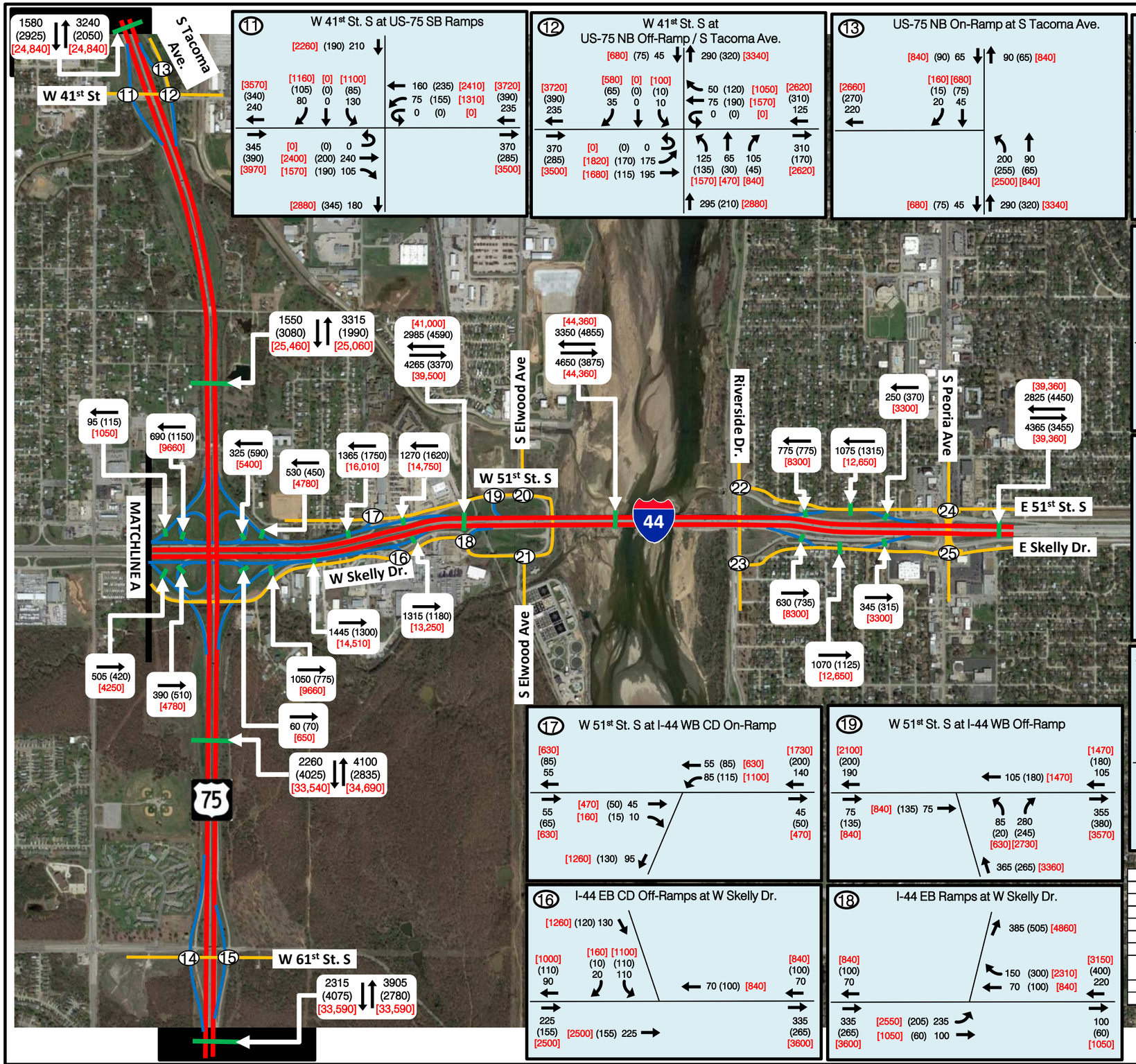
N

I-44 Corridor (EC-1780)
2021 Design
Traffic Volumes
WP #1 Configuration

Figure B-12

April 2020

GARVER

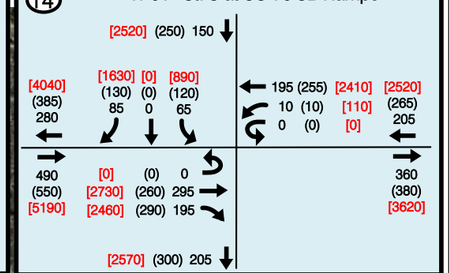


11 W 41st St. S at US-75 SB Ramps

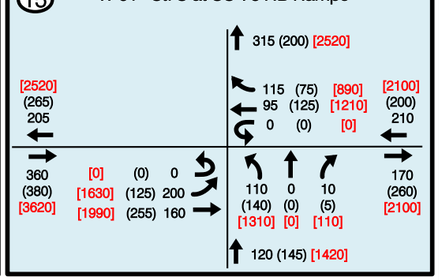
12 W 41st St. S at US-75 NB Off-Ramp / S Tacoma Ave.

13 US-75 NB On-Ramp at S Tacoma Ave.

14 W 61st St. S at US-75 SB Ramps



15 W 61st St. S at US-75 NB Ramps



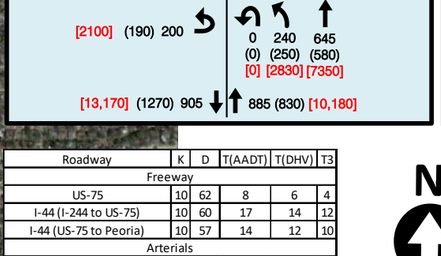
16 I-44 EB CD Off-Ramps at W Skelly Dr.

17 W 51st St. S at I-44 WB CD On-Ramp

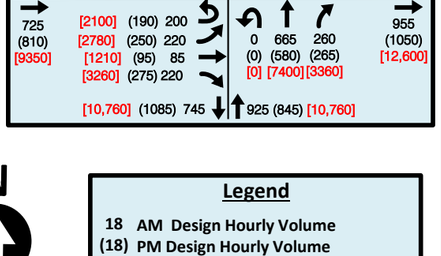
18 I-44 EB Ramps at W Skelly Dr.

19 W 51st St. S at I-44 WB Off-Ramp

20 W 51st St. S at S Elwood Ave.



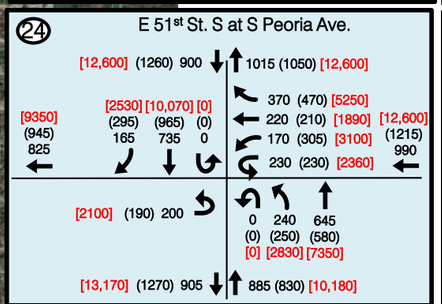
21 W Skelly Dr. at S Elwood Ave.



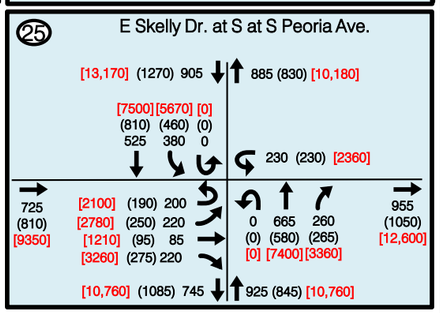
22 E 51st St. S at Riverside Dr.

23 E Skelly Dr. at Riverside Dr.

24 E 51st St. S at S Peoria Ave.



25 E Skelly Dr. at S at S Peoria Ave.



Roadway	K	D	T(AADT)	T(DHV)	T3
Freeway					
US-75	10	62	8	6	4
I-44 (I-244 to US-75)	10	60	17	14	12
I-44 (US-75 to Peoria)	10	57	14	12	10
Arterials					
Peoria Ave./Riverside Dr.	10	54	5	5	2
51st St./Skelly Dr.	10	64	10	8	4
41st St.	10	56	15	10	8
61st St.	10	61	5	4	2

N

Legend

18 AM Design Hourly Volume
(18) PM Design Hourly Volume
[18] Average Annual Daily Traffic Volume

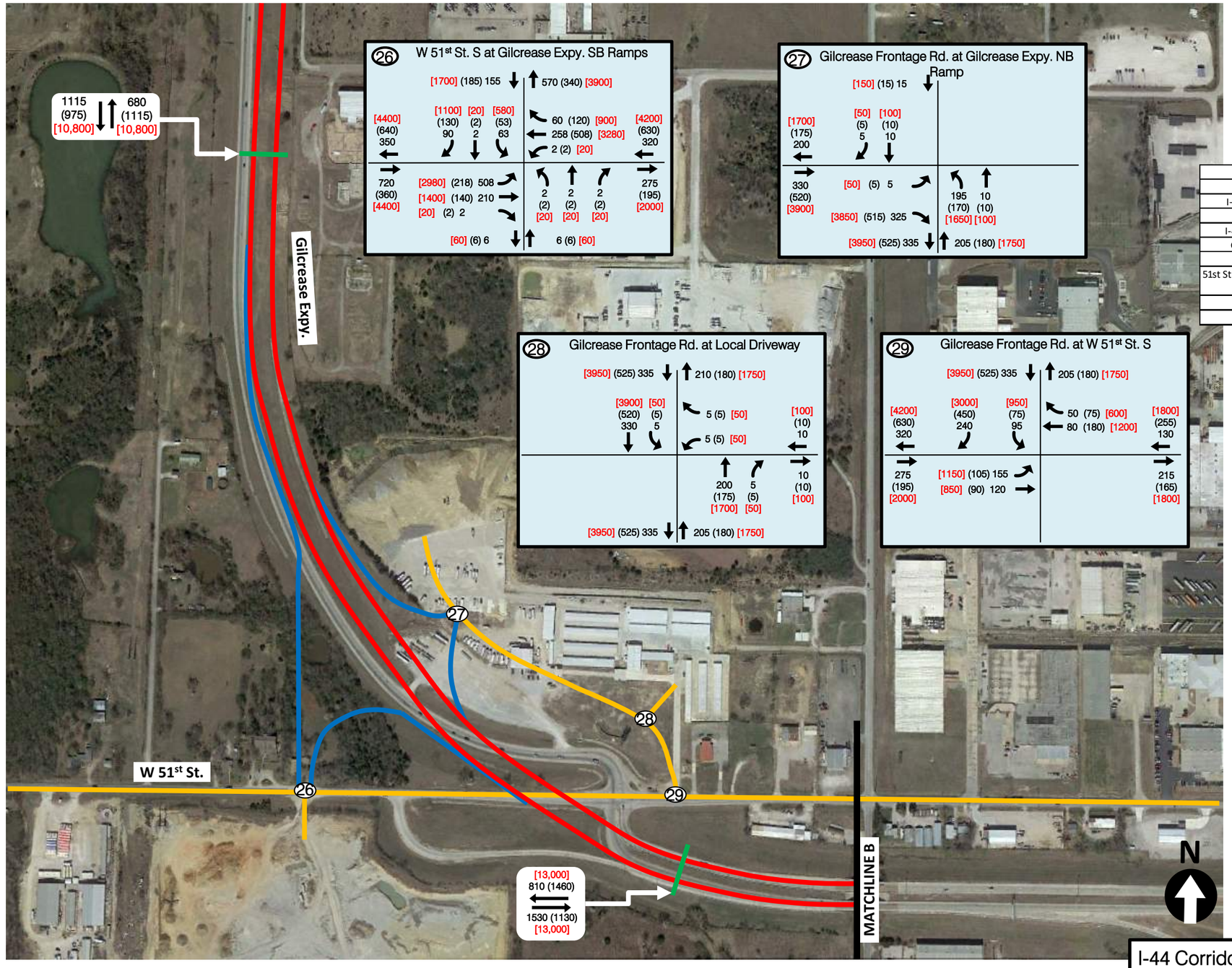
I-44 Corridor (EC-1780)

2021 Design Traffic Volumes
WP #1 Configuration

Figure B-13

April 2020

GARVER



26 W 51st St. S at Gilcrease Expy. SB Ramps

[1700] (185) 155 ↓ ↑ 570 (340) [3900]

[4400] (640) 350 ←
[1100] (130) 90
[20] (2) 2
[580] (53) 63 ↘
60 (120) [900]
258 (508) [3280] ←
2 (2) [20] ↙
[4200] (630) 320 ←

720 (360) [4400] →
[2980] (218) 508 ↘
[1400] (140) 210 →
[20] (2) 2 ↘
2 (2) [20]
2 (2) [20]
2 (2) [20]
275 (195) [2000] →

[60] (6) 6 ↓ ↑ 6 (6) [60]

27 Gilcrease Frontage Rd. at Gilcrease Expy. NB Ramp

[150] (15) 15 ↓

[1700] (175) 200 ←
[50] (5) 5 ↘
[100] (10) 10 ↓

330 (520) [3900] →
[50] (5) 5 ↘
195 (170) [1650]
10 (10) [100] ↑
[3850] (515) 325 ↘ ↑ 205 (180) [1750]

28 Gilcrease Frontage Rd. at Local Driveway

[3950] (525) 335 ↓ ↑ 210 (180) [1750]

[3900] (520) 330 ↓
[50] (5) 5 ↘
5 (5) [50] ↙
[100] (10) 10 ←

200 (175) [1700] ↑
5 (5) [50] ↖
10 (10) [100] →

[3950] (525) 335 ↓ ↑ 205 (180) [1750]

29 Gilcrease Frontage Rd. at W 51st St. S

[3950] (525) 335 ↓ ↑ 205 (180) [1750]

[4200] (630) 320 ←
[3000] (450) 240 ↘
[950] (75) 95 ↘
50 (75) [600] ↖
80 (180) [1200] ←
[1800] (255) 130 ←

275 (195) [2000] →
[1150] (105) 155 ↓
[850] (90) 120 →
215 (165) [1800] →

Roadway	K	D	T(AADT)	T(DHV)	T3
Freeway					
I-44 (West of I-244)	10	60	17	12	13
I-244	10	60	10	6	7
I-44 (I-244 to US-75)	10	55	17	14	12
Gilcrease Expwy.	10	55	7	5	3
Arterials					
51st St./Skelly Dr./Union Ave. near US 75	11	65	10	8	4
33rd Ave.	10	55	3	2	0
49th Ave.	10	58	10	8	4

Legend

18 AM Design Hourly Volume
(18) PM Design Hourly Volume
[18] Average Annual Daily Traffic Volume

I-44 Corridor (EC-1780)
2021 Design
Traffic Volumes
WP #1 Configuration

Figure B-14

April 2020

GARVER

Appendix C – Crash Data

0 0.025 0.05
Miles

Legend

- Angle Turning
- Backing
- Sideswipe Opposite
- Other
- Animal
- Fixed Object
- Right Angle
- Sideswipe Same
- Pedestrian
- Rollover
- Head On
- Rear End
- Single Vehicle
- Bicycle
- Number for Multiple Crashes

I-44 Corridor Crash Diagrams

2012-2016

Gilcrease Expy. at 51st St.

Figure C-1

March 2020

0 0.025 0.05
Miles

Legend

- Angle Turning
- Backing
- Sideswipe Opposite
- Other
- Animal
- Fixed Object
- Right Angle
- Sideswipe Same
- Pedestrian
- Rollover
- Head On
- Rear End
- Single Vehicle
- Bicycle
- Number for Multiple Crashes

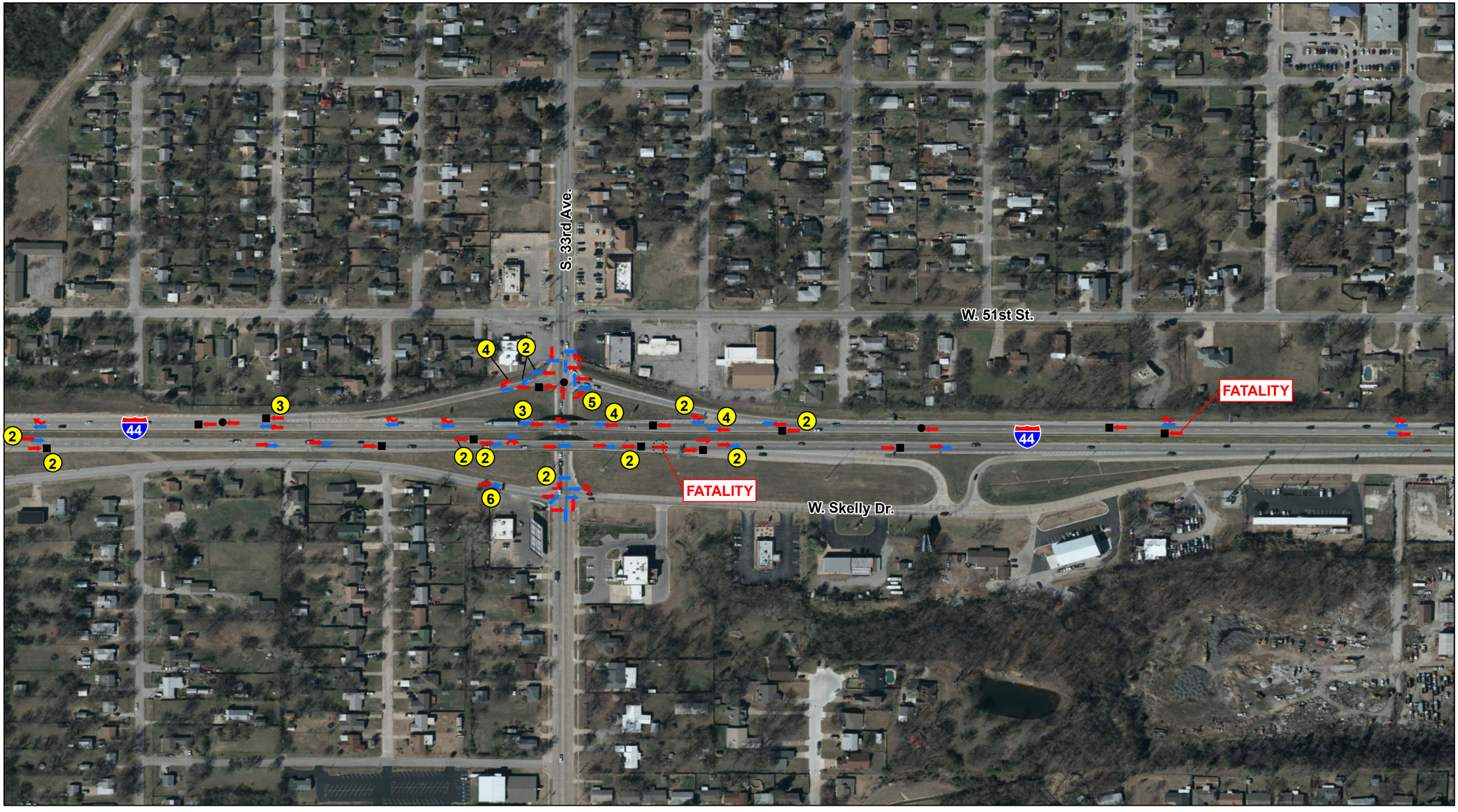
I-44 Corridor Crash Diagrams

2012-2016

I-44 at I-244 Interchange

Figure C-2

March 2020



N

0 0.025 0.05
Miles

Legend

Angle Turning	Backing	Sideswipe Opposite	Other	Animal	
Fixed Object	Right Angle	Sideswipe Same	Pedestrian	Rollover	
Head On	Rear End	Single Vehicle	Bicycle	Number for Multiple Crashes	

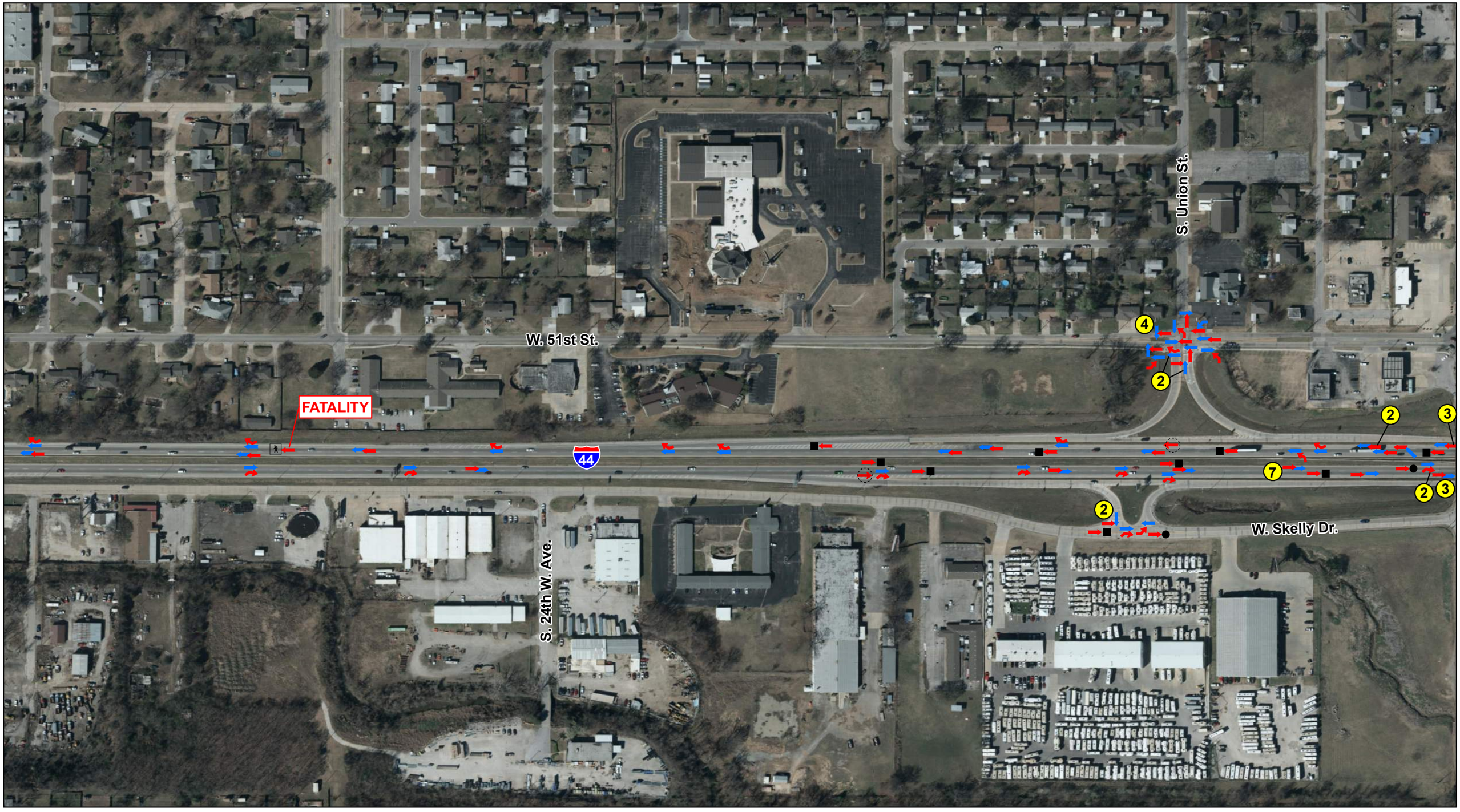
I-44 Corridor Crash Diagrams

2012-2016

I-44 at S. 33rd Ave.

Figure C-3

March 2020



0 0.025 0.05
Miles

Legend

- Angle Turning
- Backing
- Sideswipe Opposite
- Other
- Animal
- Fixed Object
- Right Angle
- Sideswipe Same
- Pedestrian
- Rollover
- Head On
- Rear End
- Single Vehicle
- Bicycle
- Number for Multiple Crashes

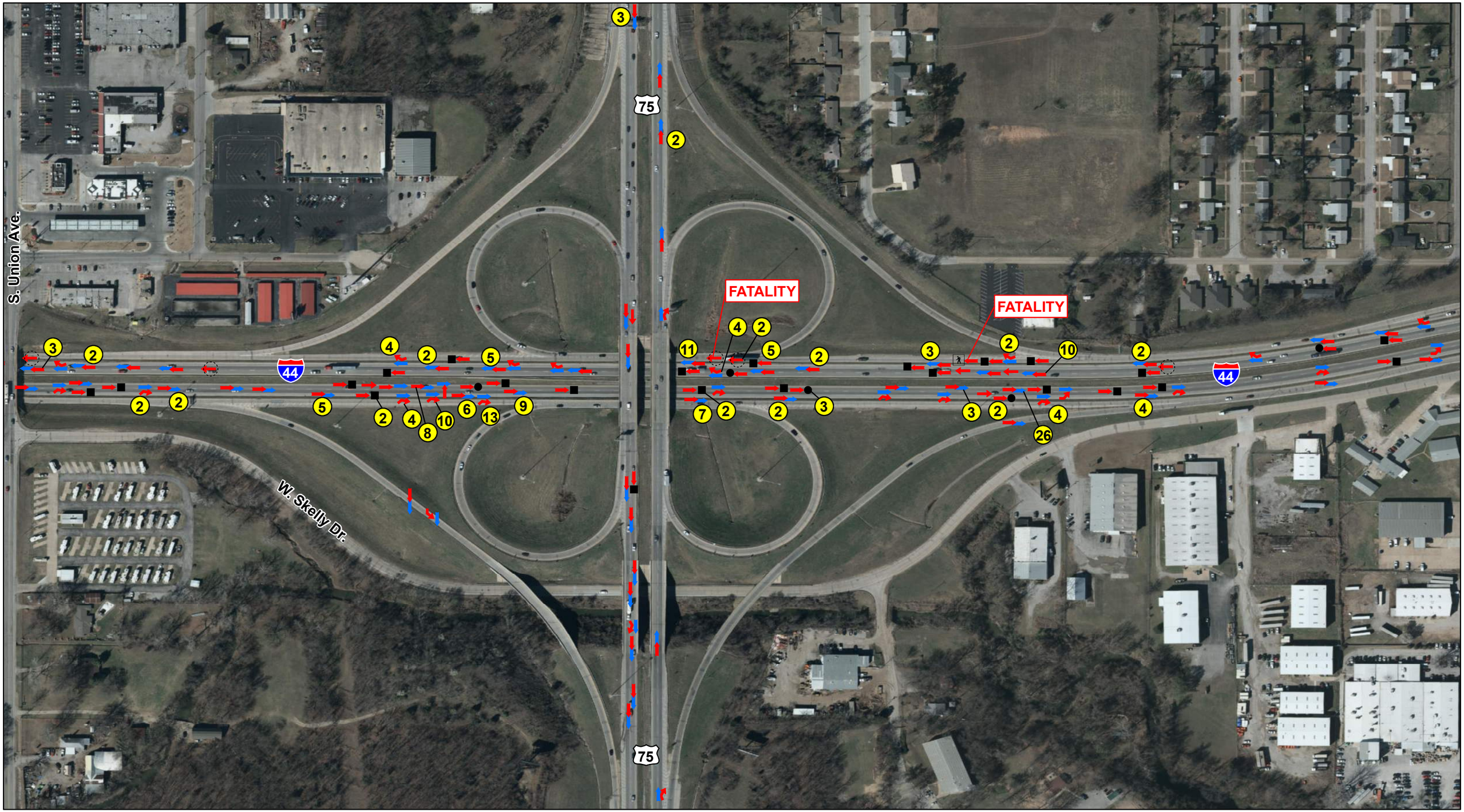
I-44 Corridor Crash Diagrams

2012-2016

West of I-44/ US 75 Interchange

Figure C-4

March 2020



0 0.025 0.05
Miles

Legend

- Angle Turning
- Backing
- Sideswipe Opposite
- Other
- Animal
- Fixed Object
- Right Angle
- Sideswipe Same
- Pedestrian
- Rollover
- Head On
- Rear End
- Single Vehicle
- Bicycle
- Number for Multiple Crashes

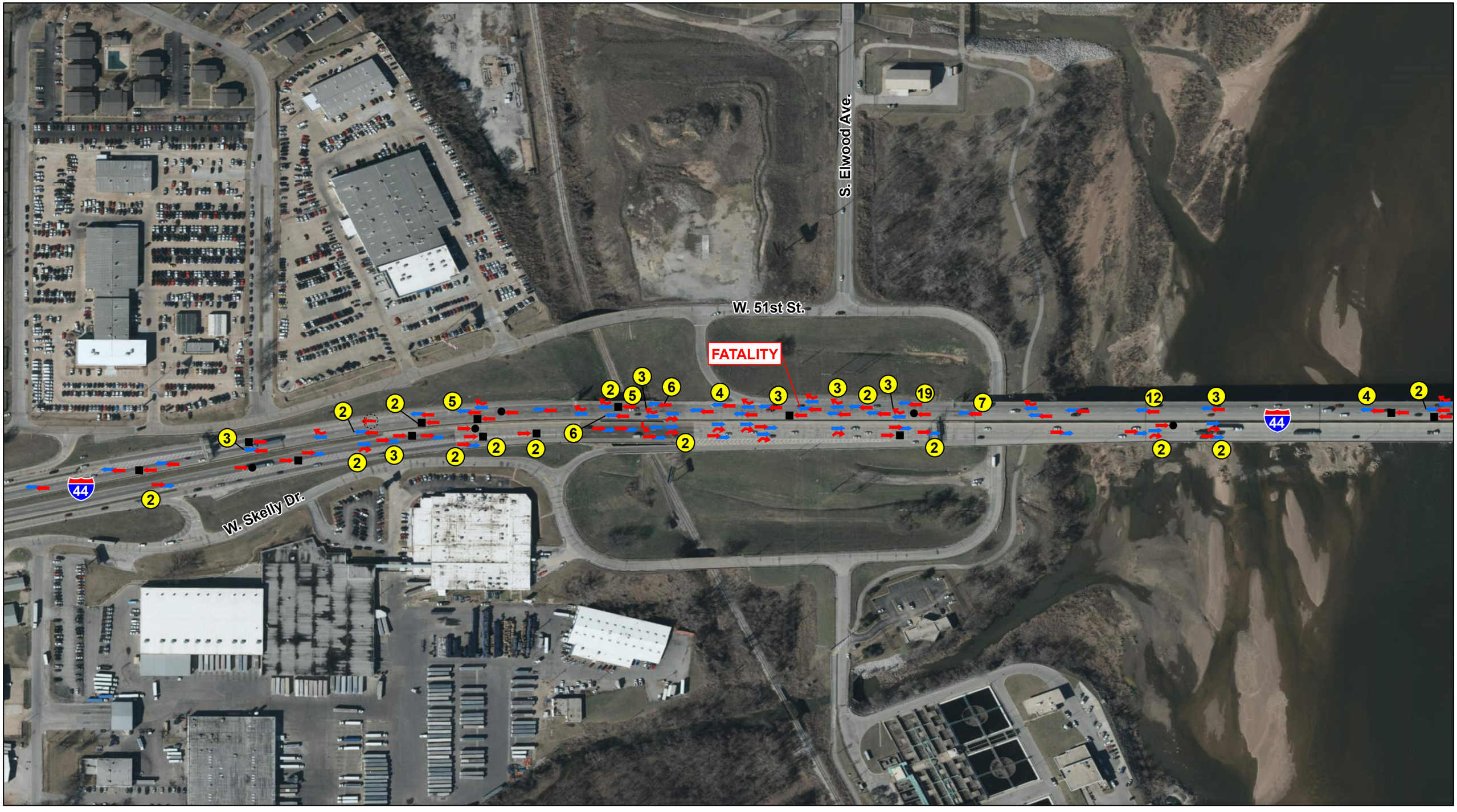
I-44 Corridor Crash Diagrams

2012-2016

I-44 at US 75 Interchange

Figure C-5

March 2020



0 0.025 0.05
Miles

Legend

- Angle Turning
- Backing
- Sideswipe Opposite
- Other
- Animal
- Fixed Object
- Right Angle
- Sideswipe Same
- Pedestrian
- Rollover
- Head On
- Rear End
- Single Vehicle
- Bicycle
- Number for Multiple Crashes

I-44 Corridor Crash Diagrams

2012-2016

I-44 at W. 51st St.

Figure C-6

March 2020

Legend

- Angle Turning
- Backing
- Sideswipe Opposite
- Other
- Animal
- Fixed Object
- Right Angle
- Sideswipe Same
- Pedestrian
- Rollover
- Head On
- Rear End
- Single Vehicle
- Bicycle
- Number for Multiple Crashes

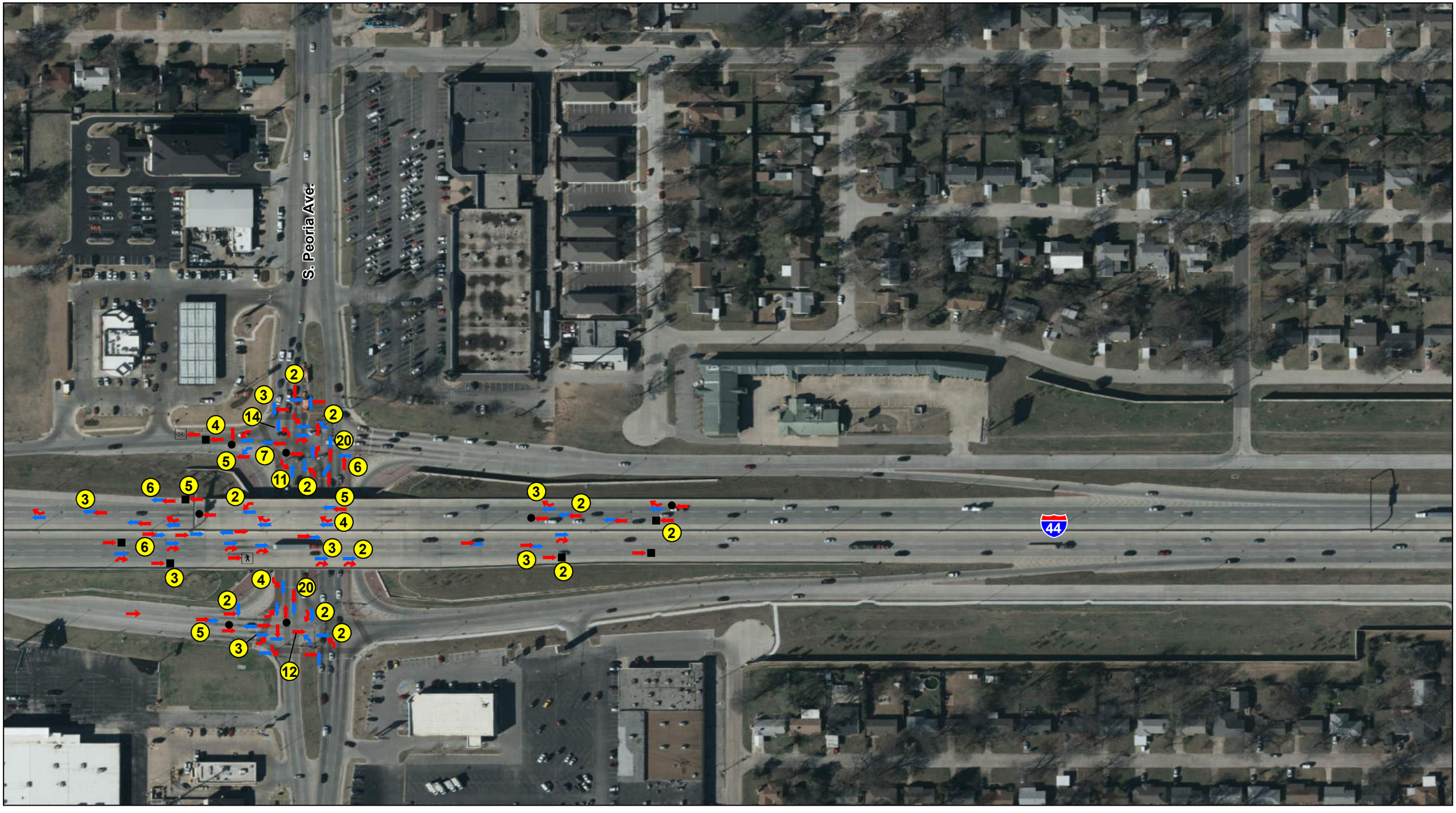
I-44 Corridor Crash Diagrams

2012-2016

I-44 at Riverside Dr.

Figure C-7

March 2020



0 0.015 0.03
Miles

Legend

- Angle Turning
- Backing
- Sideswipe Opposite
- Other
- Animal
- Fixed Object
- Right Angle
- Sideswipe Same
- Pedestrian
- Rollover
- Head On
- Rear End
- Single Vehicle
- Bicycle
- Number for Multiple Crashes

I-44 Corridor Crash Diagrams

2012-2016

I-44 at S. Peoria Ave.

Figure C-8

March 2020

0 0.025 0.05
Miles

Legend

- Angle Turning
- Backing
- Sideswipe Opposite
- Other
- Animal
- Fixed Object
- Right Angle
- Sideswipe Same
- Pedestrian
- Rollover
- Head On
- Rear End
- Single Vehicle
- Bicycle
- Number for Multiple Crashes

I-44 Corridor Crash Diagrams

2012-2016

South of I-44/ I-244 Interchange

Figure C-9

March 2020

0 0.025 0.05
Miles

Legend

Angle Turning	Backing	Sideswipe Opposite	Other	Animal
Fixed Object	Right Angle	Sideswipe Same	Pedestrian	Rollover
Head On	Rear End	Single Vehicle	Bicycle	Number for Multiple Crashes

I-44 Corridor Crash Diagrams

2012-2016

South of I-44/ I-244 Interchange

Figure C-10

March 2020

0 0.025 0.05
Miles

Legend

Angle Turning	Backing	Sideswipe Opposite	Other	Animal	
Fixed Object	Right Angle	Sideswipe Same	Pedestrian	Rollover	
Head On	Rear End	Single Vehicle	Bicycle	Number for Multiple Crashes	

I-44 Corridor Crash Diagrams

2012-2016

North of I-44/ I-244 Interchange

Figure C-11

March 2020

0 0.03 0.06
Miles

Legend

- Angle Turning
- Backing
- Sideswipe Opposite
- Other
- Animal
- Fixed Object
- Right Angle
- Sideswipe Same
- Pedestrian
- Rollover
- Head On
- Rear End
- Single Vehicle
- Bicycle
- Number for Multiple Crashes

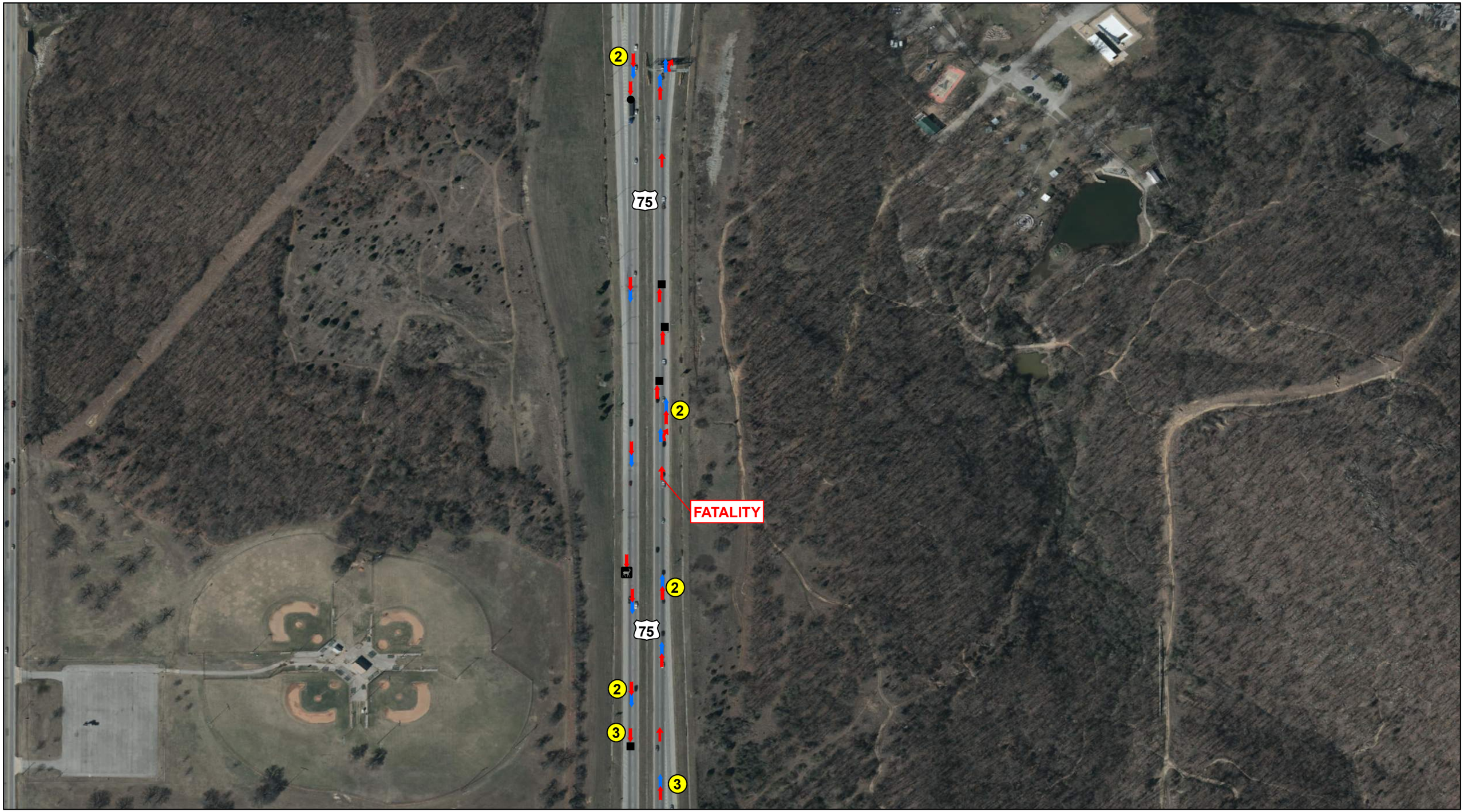
I-44 Corridor Crash Diagrams

2012-2016

South of I-44/ US 75 Interchange

Figure C-12

March 2020



0 0.025 0.05
Miles

Legend

- Angle Turning
- Backing
- Sideswipe Opposite
- Other
- Animal
- Fixed Object
- Right Angle
- Sideswipe Same
- Pedestrian
- Rollover
- Head On
- Rear End
- Single Vehicle
- Bicycle
- Number for Multiple Crashes

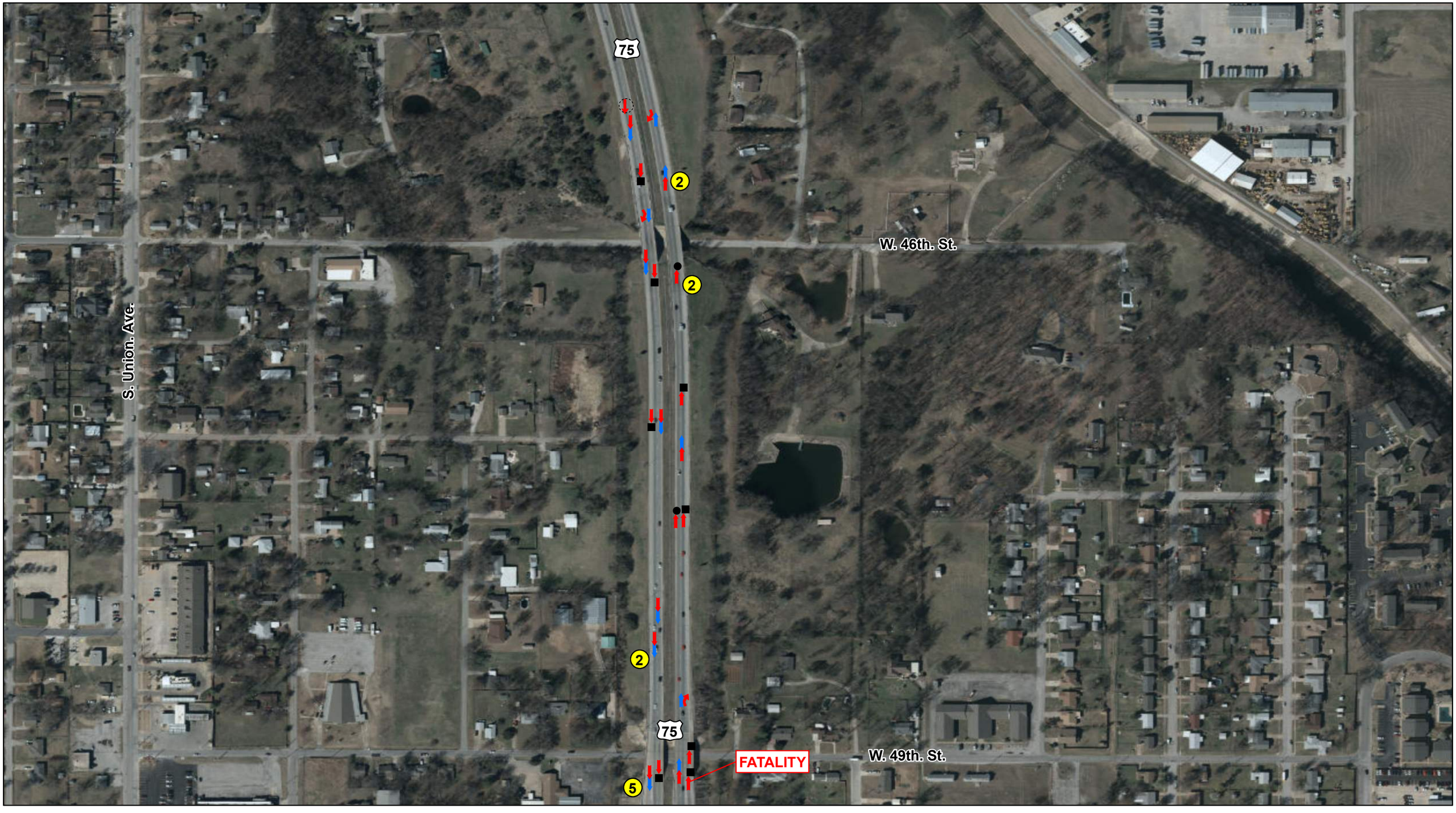
I-44 Corridor Crash Diagrams

2012-2016

South of I-44/ US 75 Interchange

Figure C-13

March 2020



Legend

Angle Turning	Backing	Sideswipe Opposite	Other	Animal
Fixed Object	Right Angle	Sideswipe Same	Pedestrian	Rollover
Head On	Rear End	Single Vehicle	Bicycle	Number for Multiple Crashes

0 0.03 0.06
Miles

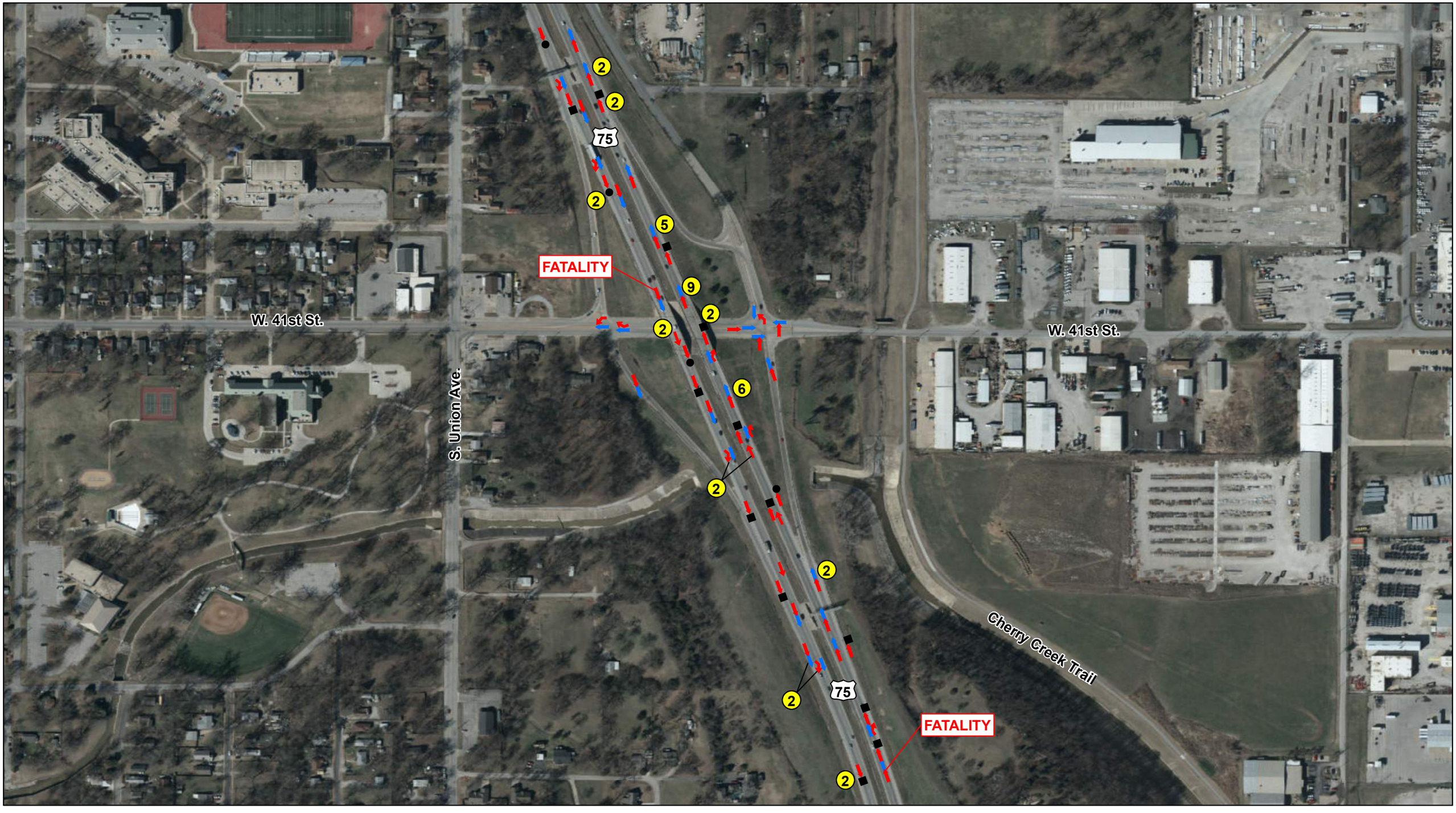
I-44 Corridor Crash Diagrams

2012-2016

North of I-44/ US 75 Interchange

Figure C-14

March 2020



0 0.035 0.07
Miles

Legend

- Angle Turning
- Backing
- Sideswipe Opposite
- Other
- Animal
- Fixed Object
- Right Angle
- Sideswipe Same
- Pedestrian
- Rollover
- Head On
- Rear End
- Single Vehicle
- Bicycle
- Number for Multiple Crashes

I-44 Corridor Crash Diagrams

2012-2016

North of I-44/ I-244 Interchange

Figure C-15

March 2020

Appendix D – Work Package 1 Freeway Level of Service

Table D-1 – Freeway Level of Service, Eastbound I-44 – AM Peak Period

Direction	I-44 Segment	Existing		No-Build 2045		Interim 2021	
		Type	LOS	Type	LOS	Type	LOS
EB	South of 49th Ave.	Basic	C	Basic	C	Basic	C
	Off-Ramp to 49th Ave.	Diverge	B	Diverge	C	Diverge	B
	Between 49th Ave. Ramps	Basic	B	Basic	C	Basic	B
	On-Ramp from 49th Ave. through Off-Ramp to 55th Pl.	Weave	B	Weave	C	Weave	B
	Between Off-Ramp to 55th Pl. and I-244 Interchange	Basic	C	Basic	C	Basic	C
	West of Gilcrease Expwy. On-Ramp	Basic	C	Basic	C	Basic	C
	On-Ramp from Gilcrease Expwy. through Off-Ramp to Skelly Rd.	Weave	D	Weave	F[3]	Weave	E
	Between Off-Ramp to Skelly Rd. and On-Ramp from Skelly Rd.	Basic	D	Basic	D[4]	Basic	D
	On-Ramp from Skelly Rd.	Merge	D	Merge	F[1]	Merge	E
	West of Union Ave. Overpass	Ramp Overlap	E	Ramp Overlap	F	Ramp Overlap	E
	Off-Ramp to CD	Diverge	E	Diverge	E[4]	Diverge	E
	Across US-75	Basic	D	Basic	D	Basic	D
	I-44 CD Weaving Segment within US-75 Interchange	Weave	B	Weave	B[2]	Weave	A
	I-44 CD Weaving Segment between US-75 and Skelly Rd.	Does not Exist				Weave	C
	On-Ramp from CD east of US-75 Interchange	Merge	D	Merge	D[2]	Merge	D
	Between On-Ramp from CD and On-Ramp from Skelly Rd.	Basic	D	Basic	D	Basic	D
	On-Ramp from Skelly Rd.	Merge	D	Merge	D	Merge	D
	Across River	Ramp Overlap	D	Ramp Overlap	D[2]	Ramp Overlap	D
	Off-Ramp to Peoria Ave.	Diverge	C	Diverge	D	Diverge	D
	Between Off-Ramp to Peoria Ave. and On-Ramp from Riverside Dr.	Basic	C	Basic	D	Basic	D
	On-Ramp from Riverside Dr.	Merge	C	Merge	D	Merge	C
	Across Peoria Ave.	Basic	D	Basic	D[2]	Basic	D

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Constrained volumes were factored from adjacent US 75 model/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown
[3]Weave capacity is exceeded
[4]Volumes are constrained upstream; actual demand would result in LOS F
[5]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1

Table D-2 – Freeway Level of Service, Westbound I-44 – AM Peak Period

Direction	I-44 Segment	Existing		No-Build 2045		Interim 2021	
		Type	LOS	Type	LOS	Type	LOS
WB	East of Peoria Ave.	Basic	B	Basic	C	Basic	C
	Off-Ramp to Riverside Dr.	Diverge	C	Diverge	C	Diverge	C
	Between Off-Ramp to Riverside Dr. and On-Ramp from Peoria Ave.	Basic	B	Basic	C	Basic	B
	On-Ramp from Peoria Ave.	Merge	C	Merge	C	Merge	C
	Between On-Ramp from Peoria Ave. and Off-Ramp to 51st St.	Basic	C	Basic	C	Basic	C
	Off-Ramp to 51st St.	Diverge	C	Diverge	C	Diverge	C
	Between Off-Ramp to 51st St. and Off-Ramp to CD	Basic	C	Basic	C	Basic	C
	Off-Ramp to CD	Diverge	C	Diverge	C	Diverge	C
	Between CD Ramps	Basic	B	Basic	C	Basic	B
	I-44 WB CD Weaving Segment between 51st St. and US-75	Does not Exist				Weave	C
	I-44 WB CD Weaving Segment within US-75 Interchange	Weave	B	Weave	C	Weave	C
	On-Ramp from CD	Merge	C	Merge	C	Merge	C
	Between On-Ramp from CD and Off-Ramp to 33rd Ave.	Basic	C	Basic	C	Basic	C
	Off-Ramp to 33rd Ave.	Diverge	C	Diverge	D	Diverge	C
	Between 33rd Ave. Ramps	Basic	B	Basic	C	Basic	C
	On-Ramp from 33rd Ave. through Off-Ramp to I-244 NB	Weave	B	Weave	B	Weave	B
	Off-Ramp to Gilcrease Expwy.	Diverge	C	Diverge	C	Diverge	C
	North of On-Ramp from Gilcrease Expwy.	Basic	A	Basic	A	Basic	A
	On-Ramp from Gilcrease Expwy. through Off-Ramp to 56th St.	Weave	A	Weave	B	Weave	B
	Between Off-Ramp to 56th St. and Off-Ramp to 49th Ave.	Basic	B	Basic	B	Basic	B
	Off-Ramp to 49th Ave.	Diverge	A	Diverge	B	Diverge	B
	Between 49th Ave. Ramps	Basic	B	Basic	B	Basic	A
	On-Ramp from 49th Ave.	Merge	B	Merge	B	Merge	B

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Constrained volumes were factored from adjacent US 75 model/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown
[3]Weave capacity is exceeded
[4]Volumes are constrained upstream; actual demand would result in LOS F
[5]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1

Table D-3 – Freeway Level of Service, Eastbound I-44 – PM Peak Period

Direction	I-44 Segment	Existing		No-Build 2045		Interim 2021	
		Type	LOS	Type	LOS	Type	LOS
EB	South of 49th Ave.	Basic	B	Basic	C	Basic	B
	Off-Ramp to 49th Ave.	Diverge	B	Diverge	B	Diverge	B
	Between 49th Ave. Ramps	Basic	A	Basic	B	Basic	B
	On-Ramp from 49th Ave. through Off-Ramp to 55th Pl.	Weave	B	Weave	B	Weave	B
	Between Off-Ramp to 55th Pl. and I-244 Interchange	Basic	B	Basic	C	Basic	B
	West of Gilcrease Expwy. On-Ramp	Basic	B	Basic	B	Basic	B
	On-Ramp from Gilcrease Expwy. through Off-Ramp to Skelly Rd.	Weave	C	Weave	E	Weave	C
	Between Off-Ramp to Skelly Rd. and On-Ramp from Skelly Rd.	Basic	C	Basic	D	Basic	C
	On-Ramp from Skelly Rd.	Merge	C	Merge	E	Merge	D
	West of Union Ave. Overpass	Ramp Overlap	C	Ramp Overlap	E	Ramp Overlap	D
	Off-Ramp to CD	Diverge	C	Diverge	E	Diverge	D
	Across US-75	Basic	B	Basic	C	Basic	C
	I-44 CD Weaving Segment within US-75 Interchange	Weave	B	Weave	A[2]	Weave	A
	I-44 CD Weaving Segment between US-75 and Skelly Rd.	Does not Exist				Weave	C
	On-Ramp from CD east of US-75 Interchange	Merge	C	Merge	C	Merge	C
	Between On-Ramp from CD and On-Ramp from Skelly Rd.	Basic	C	Basic	C	Basic	C
	On-Ramp from Skelly Rd.	Merge	C	Merge	D	Merge	C
	Across River	Ramp Overlap	C	Ramp Overlap	D	Ramp Overlap	D
	Off-Ramp to Peoria Ave.	Diverge	C	Diverge	C	Diverge	C
	Between Off-Ramp to Peoria Ave. and On-Ramp from Riverside Dr.	Basic	B	Basic	C	Basic	C
	On-Ramp from Riverside Dr.	Merge	B	Merge	C	Merge	C
	Across Peoria Ave.	Basic	C	Basic	C	Basic	C

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Constrained volumes were factored from adjacent US 75 model/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown
[3]Weave capacity is exceeded
[4]Volumes are constrained upstream; actual demand would result in LOS F
[5]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1

Table D-4 – Freeway Level of Service, Westbound I-44 – PM Peak Period

Direction	I-44 Segment	Existing		No-Build 2045		Interim 2021	
		Type	LOS	Type	LOS	Type	LOS
WB	East of Peoria Ave.	Basic	D	Basic	F[5]	Basic	D
	Off-Ramp to Riverside Dr.	Diverge	D	Diverge	F[5]	Diverge	D
	Between Off-Ramp to Riverside Dr. and On-Ramp from Peoria Ave.	Basic	C	Basic	F[5]	Basic	C
	On-Ramp from Peoria Ave.	Merge	C	Merge	F[5]	Merge	D
	Between On-Ramp from Peoria Ave. and Off-Ramp to 51st St.	Basic	D	Basic	F[5]	Basic	D
	Off-Ramp to 51st St.	Diverge	D	Diverge	F[5]	Diverge	D
	Between Off-Ramp to 51st St. and Off-Ramp to CD	Basic	D	Basic	F[5]	Basic	D
	Off-Ramp to CD	Diverge	F[1]	Diverge	F	Diverge	D
	Between CD Ramps	Basic	C	Basic	F[5]	Basic	D
	I-44 WB CD Weaving Segment between 51st St. and US-75	Does not Exist				Weave	D
	I-44 WB CD Weaving Segment within US-75 Interchange	Weave	D	Weave	F[3]	Weave	E
	On-Ramp from CD	Merge	D	Merge	E[4]	Merge	E
	Between On-Ramp from CD and Off-Ramp to 33rd Ave.	Basic	D	Basic	E[4]	Basic	E
	Off-Ramp to 33rd Ave.	Diverge	D[2]	Diverge	E[4]	Diverge	E
	Between 33rd Ave. Ramps	Basic	C	Basic	D[4]	Basic	D
	On-Ramp from 33rd Ave. through Off-Ramp to I-244 NB	Weave	B	Weave	C	Weave	C
	Off-Ramp to Gilcrease Expwy.	Diverge	D	Diverge	E[4]	Diverge	E
	North of On-Ramp from Gilcrease Expwy.	Basic	B	Basic	C	Basic	B
	On-Ramp from Gilcrease Expwy. through Off-Ramp to 56th St.	Weave	B	Weave	C	Weave	B
	Between Off-Ramp to 56th St. and Off-Ramp to 49th Ave.	Basic	B	Basic	C	Basic	C
	Off-Ramp to 49th Ave.	Diverge	C	Diverge	C	Diverge	C
	Between 49th Ave. Ramps	Basic	B	Basic	C	Basic	B
	On-Ramp from 49th Ave.	Merge	B	Merge	C	Merge	B

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Constrained volumes were factored from adjacent US 75 model/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown
[3]Weave capacity is exceeded
[4]Volumes are constrained upstream; actual demand would result in LOS F
[5]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1

Table D-5 – Freeway Level of Service, Northbound US-75 – AM Peak Period

Direction	US-75 Segment	Existing		No-Build 2045		Interim 2021	
		Type	LOS	Type	LOS	Type	LOS
NB	South of 61st St.	Basic	F	Basic	F	Basic	F
	Off-Ramp to 61st St.	Diverge	F[1]	Diverge	F	Diverge	F[1]
	Between 61st St. Ramps	Basic	F	Basic	F	Basic	F
	On-Ramp from 61st St.	Merge	E	Merge	E[2]	Merge	E[2]
	Between On-Ramp from 61st St. and Off-Ramp to I-44 EB	Ramp Overlap	E[2]	Ramp Overlap	E[2]	Ramp Overlap	E[2]
	Off-Ramp to I-44 EB	Diverge	E[2]	Diverge	E[2]	Diverge	E[2]
	Between I-44 EB Ramps	Basic	C	Basic	D[2]	Basic	C
	On-Ramp from I-44 EB through Off-Ramp to I-44 WB	Weave	B	Weave	C	Weave	B
	Between I-44 WB Ramps	Basic	C	Basic	C	Basic	C
	On-Ramp from I-44 WB	Merge	D	Merge	D[2]	Merge	D
	Between On-Ramp from I-44 WB and Off-Ramp to 41st St.	Basic	D	Basic	D[2]	Basic	D
	Off-Ramp to 41st St.	Diverge	D	Diverge	E[2]	Diverge	D
	Between 41st St. Ramps	Basic	D	Basic	D[2]	Basic	C
	On-Ramp from 41st St.	Merge	D	Merge	D[2]	Merge	D
	North of 41st St.	Basic	D	Basic	D[2]	Basic	D

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Volumes are constrained upstream; actual demand would result in LOS F
[3]Weave capacity is exceeded
[4]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1
[5]Constrained volumes were factored from adjacent I-44/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown

Table D-6 – Freeway Level of Service, Southbound US-75 – AM Peak Period

Direction	US-75 Segment	Existing		No-Build 2045		Interim 2021	
		Type	LOS	Type	LOS	Type	LOS
SB	North of 41st St.	Basic	B	Basic	C	Basic	B
	Off-Ramp to 41st St.	Diverge	B	Diverge	C	Diverge	B
	Between 41st St. Ramps	Basic	B	Basic	B	Basic	B
	On-Ramp from 41st St.	Merge	B	Merge	C	Merge	B
	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	B	Basic	C	Basic	B
	Off-Ramp to I-44 WB	Diverge	B	Diverge	C	Diverge	B
	Between I-44 WB Ramps	Basic	B	Basic	B	Basic	B
	On-Ramp from I-44 WB through Off-Ramp to I-44 EB	Weave	B	Weave	C	Weave	B
	Between Off-Ramp to I-44 EB and On-Ramp from I-44 EB	Basic	B	Basic	C	Basic	B
	On-Ramp from I-44 EB	Merge	C	Merge	D	Merge	C
	Between On-Ramp from I-44 EB and Off-Ramp to 61st St.	Ramp Overlap	C	Ramp Overlap	D	Ramp Overlap	C
	Off-Ramp to 61st St.	Diverge	C	Diverge	D	Diverge	C
	Between 61st St. Ramps	Basic	B	Basic	D	Basic	C
	On-Ramp from 61st St.	Merge	C	Merge	D	Merge	C
	South of 61st St.	Basic	C	Basic	D	Basic	C

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Volumes are constrained upstream; actual demand would result in LOS F
[3]Weave capacity is exceeded
[4]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1
[5]Constrained volumes were factored from adjacent I-44/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown

Table D-7 – Freeway Level of Service, Northbound US-75 – PM Peak Period

Direction	US-75 Segment	Existing		No-Build 2045		Interim 2021	
		Type	LOS	Type	LOS	Type	LOS
NB	South of 61st St.	Basic	C	Basic	E	Basic	C
	Off-Ramp to 61st St.	Diverge	C	Diverge	E	Diverge	D
	Between 61st St. Ramps	Basic	C	Basic	D	Basic	C
	On-Ramp from 61st St.	Merge	C	Merge	E	Merge	D
	Between On-Ramp from 61st St. and Off-Ramp to I-44 EB	Ramp Overlap	D	Ramp Overlap	E	Ramp Overlap	D
	Off-Ramp to I-44 EB	Diverge	C	Diverge	E	Diverge	D
	Between I-44 EB Ramps	Basic	B	Basic	C	Basic	C
	On-Ramp from I-44 EB through Off-Ramp to I-44 WB	Weave	B	Weave	C	Weave	B
	Between I-44 WB Ramps	Basic	B	Basic	C	Basic	B
	On-Ramp from I-44 WB	Merge	C	Merge	C	Merge	B
	Between On-Ramp from I-44 WB and Off-Ramp to 41st St.	Basic	C	Basic	C	Basic	B
	Off-Ramp to 41st St.	Diverge	C	Diverge	D	Diverge	C
	Between 41st St. Ramps	Basic	B	Basic	C	Basic	B
	On-Ramp from 41st St.	Merge	C	Merge	D	Merge	C
	North of 41st St.	Basic	C	Basic	C	Basic	C

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Volumes are constrained upstream; actual demand would result in LOS F
[3]Weave capacity is exceeded
[4]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1
[5]Constrained volumes were factored from adjacent I-44/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown

Table D-8 – Freeway Level of Service, Southbound US-75 – PM Peak Period

Direction	US-75 Segment	Existing		No-Build 2045		Interim 2021	
		Type	LOS	Type	LOS	Type	LOS
SB	North of 41st St.	Basic	D	Basic	F[4]	Basic	D
	Off-Ramp to 41st St.	Diverge	D	Diverge	F[4]	Diverge	D
	Between 41st St. Ramps	Basic	C	Basic	F[4]	Basic	C
	On-Ramp from 41st St.	Merge	D	Merge	F[1]	Merge	D
	Between On-Ramp from 41st St. and Off-Ramp to I-44 WB	Basic	D	Basic	F[4]	Basic	D
	Off-Ramp to I-44 WB	Diverge	D	Diverge	F[1]	Diverge	D
	Between I-44 WB Ramps	Basic	D	Basic	F[4]	Basic	D
	On-Ramp from I-44 WB through Off-Ramp to I-44 EB	Weave	E	Weave	F[3]	Weave	E
	Between Off-Ramp to I-44 EB and On-Ramp from I-44 EB	Basic	D	Basic	F	Basic	E
	On-Ramp from I-44 EB	Merge	E	Merge	E[2]	Merge	E
	Between On-Ramp from I-44 EB and Off-Ramp to 61st St.	Ramp Overlap	E	Ramp Overlap	E[2]	Ramp Overlap	F
	Off-Ramp to 61st St.	Diverge	E	Diverge	E[2]	Diverge	E
	Between 61st St. Ramps	Basic	E	Basic	E[2]	Basic	E
	On-Ramp from 61st St.	Merge	E	Merge	E[2]	Merge	E
	South of 61st St.	Basic	E	Basic	E[2]	Basic	E

[1]LOS F is due to density >45 pc/mi/ln on freeway within the influence area of the diverge.
[2]Volumes are constrained upstream; actual demand would result in LOS F
[3]Weave capacity is exceeded
[4]Downstream constraint creates spillback and LOS F conditions to segments with d/c ratios less than 1
[5]Constrained volumes were factored from adjacent I-44/CD Weave to better resemble actual flows; constrained LOS differs from demand LOS and is shown

Appendix E – Work Package 1 Intersection Level of Service

Table E-1 – Intersection Movement LOS - HCM – AM Peak Period

Signalized Junctions										
		No Build 2016			No Build 2045			Build 2021		
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+
Gilcrease Expwy at W 51st St.	Signal	12.1	B	4.2	Does not Exist			Does not Exist		
Gilcrease Expwy SB Ramps at W 51st St.	Signal	Does not Exist			40.9	D	21.7	25.3	C	8.4
Gilcrease Expwy On-Ramp at W 51st St.	Signal	Does not Exist			18.1	B	6.3	15.8	B	3.2
S 33rd W Ave. at W 51st St.	Signal[1]	12.5	B	3.2	10.5	B	3.6	10.1	B	2.7
S 33rd W Ave. at I-44 WB Ramps	Signal[1]	See Unsignalized Results			8.6	B	3.0	8.4	A	2.4
S 33rd W Ave. at W Skelly Dr.	Signal[1]	See Unsignalized Results			15.9	B	6.8	12.4	B	4.3
Union Ave. at W 51st St.	Signal	17.6	B	5.7	31.4	C	13.0	29.7	C	10.0
Union Ave. at W Skelly Dr.	Signal	14.5	B	3.9	9.3	A	3.2	8.7	A	2.4
Riverside Dr. at E Skelly Drive	Signal	6.1	A	3.4	7.3	A	5.7	6.0	A	3.6
Riverside Dr. at E 51st St.	Signal[1]	2.2	A	1.4	4.4	A	3.8	2.5	A	1.7
Peoria Ave. at E Skelly Dr.	Signal	25.5	C	17.1	21.6	C	18.8	15.6	B	11.0
Peoria Ave. at E 51st St.	Signal	18.9	B	11.8	24.2	C	19.6	25.0	C	16.4
Total Signalized Delay (veh-hr)				**50.6**			**105.5**			**66.1**
Unsignalized Junctions										
		No Build 2016			No Build 2045			Build 2021		
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+
Gilcrease Expwy On-Ramp at W 51st St.	Free[2]	No HCM 6th Results			Does not Exist			Does not Exist		
S 33rd W Ave. at I-44 WB Ramps	1-Way Stop	32.1	D	1.6	See Signalized Results			See Signalized Results		
S 33rd W Ave. at W Skelly Dr.	Stop Sign	47.4	E	9.1	See Signalized Results			See Signalized Results		
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	12.0	B	1.2	25.9	D	2.1	12.7	B	1.3
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	13.1	B	0.4	16.5	C	0.6	10.1	B	0.2
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	15.7	C	1.3	21.6	C	2.1	16.2	C	1.4
I-44 WB CD On-Ramp at W 51st St.	Free[2]	No HCM 6th Results			No HCM 6th Results			No HCM 6th Results		
I-44 EB Off-Ramp (near Elwood Ave.) at W Skelly Dr.	1-Way Stop	10.3	B	0.4	11.2	B	0.5	12.3	B	0.4
I-44 EB On-Ramp (near Elwood Ave.) at W Skelly Dr.	Free[2]	No HCM 6th Results			No HCM 6th Results			No HCM 6th Results		
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	10.7	B	1.0	12.0	B	1.5	10.9	B	1.1
S Elwood Ave. at W 51st St.	1-Way Stop	12.7	B	0.8	16.5	C	1.2	13.0	B	0.8
S Elwood Ave. at W Skelly Dr.	1-Way Stop	10.1	B	0.1	11.4	B	0.1	10.2	B	0.1
US 75 SB Ramps at W 41st St.	1-Way Stop	8.3	A	0.5	8.8	A	0.7	8.6	A	0.6
US 75 NB On-Ramp at Tacoma Ave.	Free[2]	No HCM 6th Results			No HCM 6th Results			No HCM 6th Results		
Tacoma Ave./US 75 NB Off-Ramp at W 41st St.	2-Way Stop	25.8	D	2.0	18.1	C	3.9	43.5	E	3.1
US 75 SB Ramps at W 41st St.	1-Way Stop	13.8	B	0.5	17.2	C	0.7	15.3	C	0.5
US 75 NB Ramps at W 41st St.	1-Way Stop	22.4	C	1.1	16.9	C	3.3	24.9	C	1.2
Total Unsignalized Delay (veh-hr)				**19.9**			**16.6**			**10.8**
Total Intersection Delay (veh-hr)		**70.5**			**122.1**			**77.0**		

*Critical approach only +Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology does not provide results for intersections with exclusive ped phases. Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

Table E-2 – Intersection Movement LOS - SimTraffic – AM Peak Period

Signalized Junctions										
		No Build 2016			No Build 2045			Build 2021		
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+
Gilcrease Expwy at W 51st St.	Signal	13.2	B	4.6	Does not Exist			Does not Exist		
Gilcrease Expwy SB Ramps at W 51st St.	Signal	Does not Exist			24.7	C	13.1	18.6	B	6.2
Gilcrease Expwy On-Ramp at W 51st St.	Signal	Does not Exist			153.0	F	53.3	11.7	B	2.4
S 33rd W Ave. at W 51st St.	Signal	5.7	A	1.5	9.0	A	3.1	8.1	A	2.2
S 33rd W Ave. at I-44 WB Ramps	Signal	See Unsignalized Results			7.7	A	2.7	6.9	A	2.0
S 33rd W Ave. at W Skelly Dr.	Signal	See Unsignalized Results			14.2	B	6.1	12.3	B	4.3
Union Ave. at W 51st St.	Signal	14.1	B	4.5	25.2	C	10.5	23.5	C	7.9
Union Ave. at W Skelly Dr.	Signal	17.6	B	4.7	20.7	C	7.1	11.0	B	3.1
Riverside Dr. at E Skelly Drive	Signal	8.2	A	4.6	11.1	B	8.6	8.7	A	5.2
Riverside Dr. at E 51st St.	Signal[1]	2.3	A	1.4	4.1	A	3.5	2.5	A	1.7
Peoria Ave. at E Skelly Dr.	Signal	20.0	B	13.4	25.7	C	22.3	17.3	B	12.2
Peoria Ave. at E 51st St.	Signal	19.3	B	12.0	19.5	B	15.8	15.9	B	10.4
Total Signalized Delay (veh-hr)				**46.8**			**146.2**			**57.5**
Unsignalized Junctions										
		No Build 2016			No Build 2045			Build 2021		
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+
Gilcrease Expwy On-Ramp at W 51st St.	Free[2]	6.0	A	0.6	Does not Exist			Does not Exist		
S 33rd W Ave. at I-44 WB Ramps	1-Way Stop	17.8	C	1.4	See Signalized Results			See Signalized Results		
S 33rd W Ave. at W Skelly Dr.	Stop Sign	17.5	C	4.1	See Signalized Results			See Signalized Results		
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	16.3	C	0.6	24.2	C	0.9	14.9	B	0.6
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	6.7	A	0.4	115.0	F	0.8	4.8	A	0.1
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	10.7	B	0.8	14.9	B	1.6	10.5	B	1.0
I-44 WB CD On-Ramp at W 51st St.	Free[2]	2.6	A	0.1	2.7	A	0.1	2.7	A	0.1
I-44 EB Off-Ramp (near Elwood Ave.) at W Skelly Dr.	1-Way Stop	4.7	A	0.2	5.3	A	0.2	5.3	A	0.2
I-44 EB On-Ramp (near Elwood Ave.) at W Skelly Dr.	Free[2]	4.2	A	0.2	5.3	A	0.4	5.5	A	0.5
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	6.0	A	0.5	7.0	A	0.8	6.3	A	0.5
S Elwood Ave. at W 51st St.	1-Way Stop	8.7	A	0.4	11.9	B	0.6	8.8	A	0.4
S Elwood Ave. at W Skelly Dr.	1-Way Stop	4.2	A	0.1	5.6	A	0.1	5.5	A	0.1
US 75 SB Ramps at W 41st St.	1-Way Stop	10.9	B	0.6	18.5	C	1.3	13.6	B	0.7
US 75 NB On-Ramp at Tacoma Ave.	Free[2]	2.3	A	0.1	2.9	A	0.2	2.3	A	0.2
Tacoma Ave./US 75 NB Off-Ramp at W 41st St.	2-Way Stop	16.9	C	1.1	13.1	B	2.4	22.2	C	1.6
US 75 SB Ramps at W 41st St.	1-Way Stop	6.9	A	0.4	8.6	A	0.7	7.9	A	0.6
US 75 NB Ramps at W 41st St.	1-Way Stop	10.7	B	0.7	10.3	B	1.9	10.4	B	0.8
Total Unsignalized Delay (veh-hr)				**12.0**			**12.0**			**7.3**
Total Intersection Delay (veh-hr)		**58.8**			**158.2**			**64.8**		

*Critical approach only +Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology does not provide results for intersections with exclusive ped phases. Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

Table E-3 – Intersection Movement LOS - HCM – PM Peak Period

Signalized Junctions											
		No Build 2016			No Build 2045			Build 2021			
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	
Gilcrease Expwy at W 51st St.	Signal	17.3	B	7.8	Does not Exist			Does not Exist			
Gilcrease Expwy SB Ramps at W 51st St.	Signal	Does not Exist			33.8	C	17.0	15.2	B	5.0	
Gilcrease Expwy On-Ramp at W 51st St.	Signal	Does not Exist			14.0	B	5.7	17.2	B	4.7	
S 33rd W Ave. at W 51st St.	Signal[1]	218	C	8.1	110	B	5.3	9.4	A	3.7	
S 33rd W Ave. at I-44 WB Ramps	Signal[1]	See Unsignalized Results			9.6	A	4.7	9.7	B	3.9	
S 33rd W Ave. at W Skelly Dr.	Signal[1]	See Unsignalized Results			17.9	B	9.0	15.2	B	6.2	
Union Ave. at W 51st St.	Signal	217	C	8.3	410	D	20.3	29.2	C	119	
Union Ave. at W Skelly Dr.	Signal	19.9	B	6.5	11.7	B	4.9	10.3	B	3.6	
Riverside Dr. at E Skelly Drive	Signal	8.9	A	6.1	9.5	A	9.0	9.0	A	6.6	
Riverside Dr. at E 51st St.	Signal[1]	16	A	1.1	3.1	A	3.1	1.8	A	1.4	
Peoria Ave. at E Skelly Dr.	Signal	25.8	C	21.0	31.6	C	33.2	18.8	B	16.1	
Peoria Ave. at E 51st St.	Signal	17.2	B	12.4	23.9	C	22.3	18.4	B	14.0	
Total Signalized Delay (veh-hr)				**71.3**			**134.4**			**76.9**	
Unsignalized Junctions											
		No Build 2016			No Build 2045			Build 2021			
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	
Gilcrease Expwy On-Ramp at W 51st St.	Free[2]	No HCM 6th Results			Does not Exist			Does not Exist			
S 33rd W Ave. at I-44 WB Ramps	1-Way Stop	111.4	F	6.6	See Signalized Results			See Signalized Results			
S 33rd W Ave. at W Skelly Dr.	Stop Sign	174.2	F	36.0	See Signalized Results			See Signalized Results			
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	8.8	A	0.9	9.1	A	1.3	8.9	A	1.0	
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	12.4	B	0.4	14.7	B	0.5	10.1	B	0.2	
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	18.4	C	1.5	44.6	E	3.2	19.6	C	2.0	
I-44 WB CD On-Ramp at W 51st St.	Free[2]	No HCM 6th Results			No HCM 6th Results			No HCM 6th Results			
I-44 EB Off-Ramp (near Elwood Ave.) at W Skelly Dr.	1-Way Stop	10.3	B	0.3	11.1	B	0.5	11.3	B	0.4	
I-44 EB On-Ramp (near Elwood Ave.) at W Skelly Dr.	Free[2]	No HCM 6th Results			No HCM 6th Results			No HCM 6th Results			
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	10.7	B	0.7	11.9	B	1.1	10.9	B	0.8	
S Elwood Ave. at W 51st St.	1-Way Stop	16.6	C	1.5	31.2	D	3.5	18.0	C	1.8	
S Elwood Ave. at W Skelly Dr.	1-Way Stop	9.6	A	0.1	10.8	B	0.1	9.7	A	0.1	
US 75 SB Ramps at W 41st St.	1-Way Stop	8.9	A	0.7	9.8	A	1.0	9.2	A	0.8	
US 75 NB On-Ramp at Tacoma Ave.	Free[2]	No HCM 6th Results			No HCM 6th Results			No HCM 6th Results			
Tacoma Ave./US 75 NB Off-Ramp at W 41st St.	2-Way Stop	24.7	C	1.7	18.8	C	4.4	34.0	D	2.3	
US 75 SB Ramps at W 41st St.	1-Way Stop	16.0	C	0.9	23.8	C	1.6	18.7	C	1.0	
US 75 NB Ramps at W 41st St.	1-Way Stop	20.2	C	1.0	19.5	C	4.0	22.2	C	1.1	
Total Unsignalized Delay (veh-hr)				**52.4**			**21.0**			**11.5**	
Total Intersection Delay (veh-hr)		**123.7**			**155.4**			**88.4**			

*Critical approach only +Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology does not provide results for intersections with exclusive ped phases. Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

Table E-4 – Intersection Movement LOS - SimTraffic – PM Peak Period

Signalized Junctions											
		No Build 2016			No Build 2045			Build 2021			
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	
Gilcrease Expwy at W 51st St.	Signal	32.1	C	14.4	Does not Exist			Does not Exist			
Gilcrease Expwy SB Ramps at W 51st St.	Signal	Does not Exist			21.5	C	10.8	10.8	B	3.5	
Gilcrease Expwy On-Ramp at W 51st St.	Signal	Does not Exist			12.7	B	5.2	13.3	B	3.6	
S 33rd W Ave. at W 51st St.	Signal	14.6	B	5.4	10.3	B	4.9	9.4	A	3.7	
S 33rd W Ave. at I-44 WB Ramps	Signal	See Unsignalized Results			10.0	A	4.9	9.0	A	3.6	
S 33rd W Ave. at W Skelly Dr.	Signal	See Unsignalized Results			14.5	B	7.3	12.6	B	5.2	
Union Ave. at W 51st St.	Signal	23.9	C	9.2	52.3	D	25.9	28.9	C	11.8	
Union Ave. at W Skelly Dr.	Signal	28.6	C	9.3	32.9	C	13.8	14.8	B	5.1	
Riverside Dr. at E Skelly Drive	Signal	11.0	B	7.5	13.4	B	12.7	11.4	B	8.3	
Riverside Dr. at E 51st St.	Signal[1]	2.6	A	1.9	4.3	A	4.2	2.9	A	2.2	
Peoria Ave. at E Skelly Dr.	Signal	27.8	C	22.6	33.8	C	35.5	22.3	C	19.0	
Peoria Ave. at E 51st St.	Signal	13.3	B	9.6	24.2	C	22.6	16.3	B	12.4	
Total Signalized Delay (veh-hr)				**79.9**			**147.8**			**78.4**	
Unsignalized Junctions											
		No Build 2016			No Build 2045			Build 2021			
Intersection	Control	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	Delay (sec/veh)*	LOS*	Delay (veh-hr)+	
Gilcrease Expwy On-Ramp at W 51st St.	Free[2]	2.8	A	0.3	Does not Exist			Does not Exist			
S 33rd W Ave. at I-44 WB Ramps	1-Way Stop	55.9	F	6.6	See Signalized Results			See Signalized Results			
S 33rd W Ave. at W Skelly Dr.	Stop Sign	29.6	D	7.4	See Signalized Results			See Signalized Results			
I-44 EB Ramps (east of S 33rd W Ave.) at W Skelly Dr.	1-Way Stop	11.7	B	0.4	15.0	B	0.5	12.2	B	0.5	
I-44 EB Ramps (west of Union Ave.) at W Skelly Dr.	1-Way Stop	6.8	A	0.4	9.6	A	0.7	4.8	A	0.1	
I-44 WB Ramps (west of Union Ave.) at W 51st St.	2-Way Stop	11.0	B	0.9	32.1	D	4.8	17.5	C	1.4	
I-44 WB CD On-Ramp at W 51st St.	Free[2]	2.6	A	0.1	3.0	A	0.2	2.6	A	0.1	
I-44 EB Off-Ramp (near Elwood Ave.) at W Skelly Dr.	1-Way Stop	4.4	A	0.2	5.0	A	0.3	5.4	A	0.2	
I-44 EB On-Ramp (near Elwood Ave.) at W Skelly Dr.	Free[2]	7.3	A	0.5	10.3	B	0.9	9.2	A	0.8	
I-44 WB Off-Ramp (near Elwood Ave.) at W 51st St.	1-Way Stop	6.0	A	0.4	6.9	A	0.6	6.1	A	0.4	
S Elwood Ave. at W 51st St.	1-Way Stop	10.2	B	0.7	16.2	C	1.6	10.7	B	0.9	
S Elwood Ave. at W Skelly Dr.	1-Way Stop	6.1	A	0.1	7.8	A	0.1	7.1	A	0.1	
US 75 SB Ramps at W 41st St.	1-Way Stop	15.6	C	0.7	41.8	E	2.5	19.4	C	0.9	
US 75 NB On-Ramp at Tacoma Ave.	Free[2]	2.4	A	0.2	3.1	A	0.3	2.3	A	0.2	
Tacoma Ave./US 75 NB Off-Ramp at W 41st St.	2-Way Stop	22.2	C	1.4	16.5	C	2.8	20.8	C	1.4	
US 75 SB Ramps at W 41st St.	1-Way Stop	9.2	A	0.8	14.4	B	1.5	9.5	A	1.1	
US 75 NB Ramps at W 41st St.	1-Way Stop	11.0	B	0.7	10.9	B	2.2	10.4	B	0.8	
Total Unsignalized Delay (veh-hr)				**21.8**			**18.9**			**8.7**	
Total Intersection Delay (veh-hr)		**101.7**			**166.7**			**87.2**			

*Critical approach only +Entire junction, including uncontrolled movements

[1] HCM 6th Edition methodology does not provide results for intersections with exclusive ped phases. Synchro results have been shown instead.

[2] HCM 6th Edition methodology does not provide results for free intersections.

Appendix F – VISSIM Methodology and Results

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I-44 from I-244 Interchange to the Arkansas River: VISSIM Calibration

Introduction

The Oklahoma Department of Transportation (ODOT) is requesting an Access Justification Report (AJR) on Interstate 44 (I-44) in Tulsa County that will use VISSIM software to provide a traffic simulation of the ultimate corridor configuration, which will be constructed in work packages. This document describes the analysis framework for the alternative evaluation using VISSIM and identifies the analysis years, the study limits, and modeling methodologies.

Analysis Years and Study Period

The analysis years for this project are 2016 and 2045. The Existing Configuration, No Build Configuration (which includes Gilcrease Expressway) and Ultimate Build Configuration will be modeled using VISSIM.

Traffic operations will be analyzed for the weekday one-hour peak period from 7:30 to 8:30AM and 4:30 to 5:30 PM. Intersection analysis, freeway analysis, and network-wide measures of effectiveness will be collected for the one-hour peak period. A seeding time of 10 minutes with full input volumes will be used to prime the network per ODOT Standards.

Data Collection

The traffic counts and speed data were collected in 2016. The count data has been reviewed and approved for use in the analysis tools. More recent supplemental ramp counts will be reviewed to confirm the current year data for AJR purposes. The collected speed data records the number of vehicles traveling within speed ranges per lane beginning at 10 miles per hour (mph) and increasing by an increment of 5 mph. This information is used to determine the average and 85th percentile speed by location.

GPS travel time runs were conducted in September 2018. The data is processed using PC-Travel which allows the modeler to see speeds throughout the entire corridor as well as at key bottlenecks within the area. This data shows the slowing on northbound US-75 between the 61st St and I-44 EB off-ramp in the AM peak and heading westbound over the river on I-44 in the PM peak. Field observations accompanied the travel time runs to confirm the processed information. In addition, the observations were used to note queue lengths and driver aggressiveness at merge, diverge and weave segments. The field observations agree with the slower areas on US-75 and I-44 and match the queue lengths seen in the travel time runs.

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Study Area

The I-44 corridor will be modeled using Scenario Management with scenarios and modifications for the different builds. The models should include the following limits within VISSIM

Freeway Segments

- US-75 from 41st Street to 61st Street
- I-44 from Peoria Avenue to I-244
- I-244/I-44 from 49th Street to 33rd Avenue
- Gilcrease Expressway from 51st Street to I-44/ I-244 Interchange

Arterials

- 51st Street from 33rd Avenue to Union Avenue
- 51st Street from Union Avenue to N Elwood Ave (Future Build Models)
- W Skelly Drive from 33rd Avenue/WB CD On-Ramp to Elwood Avenue
- Modeled arterials will use continuous corridors with source/sinks constructs between the nodes of interest

Signalized Intersections

- Gilcrease Expressway at 51st Street
- 33rd Avenue at 51st Street
- Union Avenue at 51st St
- Union Avenue at W Skelly Drive
- Riverside Drive at E Skelly Drive
- Riverside Drive at W Skelly Drive
- Peoria Avenue at E Skelly Drive
- Peoria Avenue at W Skelly Drive
- 33rd W Avenue at I-44 EB Ramps (Signalized in Future Models)
- 33rd W Avenue at W Skelly Drive (Signalized in Future Models)

Methods and Assumptions

The traffic operations analysis will address intersection, freeway, and ramp operations. The freeway and intersection operations analyses will be conducted using procedures and methodologies consistent with the Highway Capacity Manual 6th Edition (Transportation Research Board, 2016). The Level of Service (LOS) thresholds and basic methodologies will be applied using the VISSIM traffic analysis software.

The existing conditions VISSIM model will be calibrated and validated to traffic counts, travel times, observed queues and Google Traffic data. The procedures will be consistent with the *Traffic Analysis Toolbox Volume III: Guidelines for Applying Traffic Microsimulation Modeling Software* (FHWA, 2004).

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- Data Collection and Preparation (Geometry, Controls, Existing Demands and calibration data)
- Base Model Development
- Error Checking
- Microsimulation Model Calibration
- Alternatives Analysis
- Final Report and Technical Documentation

The PM peak period model will be constructed and calibrated first because the model has more capacity issues and shows more congestion. The AM peak period model will be built by modifying the PM peak period model because the necessary aggressive behavior should be satisfied by the settings within the PM model.

Geometry and Intersection Coding

- Embedded Bing aerial maps will be used to draw the roadway network to scale.
- Field observations will be used to confirm number of lanes, turning restrictions (shared or exclusive movements), and locations of lane additions/drops.
- Conflict areas will be used at every intersection and other potential points of conflict such as merge and diverge areas at freeways. For example, yields and merges within the CD roads
- Priority rules will be used in locations where conflict areas could not effectively simulate a yield sign, such as channelized rights.
- Ring barrier controllers (RBCs) were used at all signalized intersections. The signal timings were imported using Synchro.
- Intersection turning speeds make use of Desired Speed Distributions provided by ODOT

Vehicle Inputs and Routing Decisions

- Vehicle inputs will be entered in four 15-minute intervals based on the traffic counts.
- “Exact” input volume type will be used for 2016 analysis; “Stochastic” input volumes type will be used for future volumes to introduce variability.
- Future inputs will be calculated using PHFs based on ODOT Functional Classification Roadmap
- Use of ODOT’s VISSIM seed information for regular vehicles (Type 10/car), trucks, and heavy truck acceleration/deceleration.
- Routing decisions will be used to distribute traffic in the network. Routing decisions are assigned to specific vehicle class.
- Separate O-D routing will be set up for regular vehicles and trucks to reflect the correct percentage of trucks using off-ramps and side streets
    - Truck will differ for freeways and arterials. The freeway segments are broken into I-44 (west of I-244), I-244, US-75, I-44 (from I-244 to US-75), I-44 (US-75 to Peoria), and US-

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75. The arterial segments are 51st Street/Skelly Drive/Union Avenue, 33rd Street, 41st Street, 61st Street, and Riverside Drive/Peoria Avenue.
    - Model will distinguish between T/T3s with largest vehicle being WB-65 (other articulated semis will be included under T3).
    - ODOT provided 2D/3D model distributions for the vehicle types

Simulation Parameters

- The simulations will start at a Random Seed of 1000 with a consistent Seed Increment of 767 for all models
- Fifteen iterations will be run for each model and the results will be averaged together.
- The simulation resolution will be set to 10-time steps per simulation second. This means that the program performs 10 calculations per simulation second. VISSIM allows anywhere from 1 to 20-time steps per simulation second. A lower resolution is less precise while a higher resolution requires much more computer power, which increases processing time.

Model Calibration

- Freeway throughput volumes and mainline travel times will be used as key targets for the base model calibration.
- Field observations and Google traffic data will be used to accurately recreate the current congestion and queueing. Queue lengths were noted in the field on NB/SB US-75, EB/WB I-44, CD roads and ramps during both AM and PM peak periods. These will be used to best match the simulation queues. This is a visual review of the simulation animation to the analyst's and ODOTs satisfaction.
- Time-Space Diagrams can provide an easy way to visualize phenomena on the corridor. By defining a color scale, the speed can be seen at locations along the corridor.
- Field collected travel times runs will be used to match free flow speeds and speeds through the problem areas. A 7:15am northbound travel time run on US-75 shows speeds dropping below 20mph between the 61st Street on-ramp and the off-ramp to I-44 EB. This data will be used show slowing and queues in this area during the AM peak hour.
- Speed data shows speeds below 25mph between 5:15-6:15pm on US-75 SB just north of the I-44 Interchange. In addition, I-44 WB shows below 30mph between 5:00-5:15pm in the far right lane. The model will be calibrated to show similar results.
- Collected traffic volumes and turning movement counts will be compared to the volume outputs in the model to ensure reliability of the runs based on the calibration targets. Car-following and lane-changing parameters can be adjusted to meet observed volumes

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- Lane change distance for downstream connectors will be edited to better match driver reaction points (per lane setting used to better represent exit induced lane changes). Key areas will be NB US-75 off-ramp to I-44 EB and WB I-44 off-ramp to CD/US-75
- Car diffusion time will be increased to 60 seconds to prevent model from removing vehicles

Car Following model

- Time distributions were created with adjusted mean and standard deviation values for the CC1 parameter
- The following vehicle behavior ranges will be applied (different regimes for basic segments and ramp areas)

Wiedemann 99 Car Following Model				
	Parameter	Default	Basic Segment	Ramp Areas
CC0	Standstill Distance	4.92 ft	4.5 – 5.5	>4.92
CC1	Headway Time	0.9 sec	0.85 – 1.05	0.90 – 1.50
CC2	Following Variation	13.12 ft	6.56 – 22.97	13.12 – 39.37
CC3	Threshold for Entering Following	-8	Use Default	
CC4	Negative Following Threshold	-0.35	Use Default	
CC5	Positive Following Threshold	0.35	Use Default	
CC6	Speed Dependency of Oscillation	11.44	Use Default	
CC7	Oscillation Acceleration	0.82 ft/s^2	Use Default	
CC8	Standstill Acceleration	11.48 ft/s^2	Use Default	
CC9	Acceleration with 50	4.92 ft/s^2	Use Default	

Wiedemann 74 Car Following Model		
Parameter	Default	Suggested
Average Standstill Distance	6.56 ft	3.28 ft
Additive Part of Safety Distance	2.00	1.75
Multiplicative Part of Safety Distance	3.00	2.50

Lane Change behavior

- The following vehicle behavior ranges will be applied
  - Anticipate using default values for basic segments and using values within the suggested range for more aggressive maneuvers related to lane changes.
  - Consider using Cooperative Lane Change

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Parameter	Default		Suggested Range	
	Own	Trailing	Own	Trailing
Maximum Deceleration	-13.12 ft/s^2	-9.84 ft/s^2	-15 to 12 ft/s^2	-12 to -8 ft/s^2
-1 ft/s^2 per distance	200 m	200 m	150 to 250 m	150 to 250 m
Accepted Deceleration	-3.28 ft/s^2	-1.64 ft/s^2	-12 to -2.5 ft/s^2	-12 to -1.5 ft/s^2
Waiting Time before Diffusion	60 sec		60 sec	
Min. Headway (front/rear)	1.64 ft		1.5 to 2.0 ft	
Safety Distance Reduction Factor	0.6		.2 to 1.0	
Maximum Deceleration for Cooperative Braking	-9.84 ft/s^2		-8 to -15 ft/s^2	

Evaluations

- Nodes will be placed on every major intersection in the network. Nodes measure the number of vehicles that pass through the intersection in a predefined time interval and allow the user to record vehicular delay per movement. Output data will be collected in 15 minute bins and combined to show the peak hour sum
- Data collection points will be placed at entry and exit points, freeway ramps and all mainline freeway locations. Data collection points collect information on vehicle traffic and vehicle speed per lane or per lane group
- Vehicle travel times will be broken into segments between ramps but results will be shown as full length runs.
- Link evaluation captures speed and density data on a link, which is required to calculate the level of service along the freeway. For the densities, we have an in-house tool that uses Visual Basic (VB) to find and transform the Link Segment Results per lane to reflect the HCM thresholds for LOS
- Link evaluations were used to create time-Space diagrams for calibration purposes

Model Validation

- Vissim outputs will be compared against observed data to measure the models accuracy using FHWA suggested validation criteria
    - Volume targets for freeway links, entry and exit locations, entrance and exit ramps, intersection turning movements and flows exceeding 2700 vehicles per hour will

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meet acceptance targets found in Oregon DOT's *Table 6-2: Traffic Volumes Calibration Targets*

- Travel time and visual audit targets will be taken from Table 4 from *Traffic Analysis Toolbox Volume III – Guidelines for Applying Traffic Microsimulation Modeling Software*
- The Vissim output versus observed Calibration data comparisons can be found in the PDFs to follow

Table 6-2: Traffic Volume Calibration Criteria

Criteria	Acceptance Targets
GEH < 5.0	At least 85% of freeway links within the calibration area
GEH < 5.0	All entry and exit locations within the calibration area
GEH < 5.0	All entrance and exit ramps within the calibration area
GEH < 5.0	All intersection turn movements greater than 100 vehicles per hour
Individual flows within ±400 vehicles per hour for flows exceeding 2,700 vehicles per hour	At least 85% of applicable mainline links
Sum of all link flows within the calibration area	Within 5%

Table 4. Wisconsin DOT freeway model calibration criteria

Travel Times, Model Versus Observed	
Journey Times, Network	
Within 15% (or 1 min, if higher)	> 85% of cases
Visual Audits	
Individual Link Speeds	
Visually Acceptable Speed-Flow Relationship	To analyst's satisfaction
Bottlenecks	
Visually Acceptable Queuing	To analyst's satisfaction

*The GEH statistic is computed as follows:

$$GEH = \sqrt{\frac{(E-V)^2}{(E+V)/2}} \quad (4)$$

where:

E = model estimated volume
V = field count

Source: "Freeway System Operational Assessment," *Paramics Calibration and Validation Guidelines* (Draft), Technical Report I-33, Wisconsin DOT, District 2, June 2002.

Travel Time Calibration					
GPS vs Vissim - AM					
Description	**Field Travel Time**	**Vissim Travel Time**	**Vehicles**	**Difference**	**% Difference**
I-44 EB - Full Length	0:02:59	0:03:27	2368	+0:00:28	15.6
I-44 WB - Full Length	0:03:02	0:02:56	1079	-0:00:06	-3.3
US-75 NB - Full Length	0:02:08	0:02:25	2342	+0:00:17	13.3
US-75 SB - Full Length	0:02:10	0:02:06	976	-0:00:04	-3.1
GPS vs Vissim - PM					
Description	**Field Travel Time**	**Vissim Travel Time**	**Vehicles**	**Difference**	**% Difference**
I-44 EB - Full Length	0:04:10	0:04:17	729	+0:00:07	2.8
I-44 WB - Full Length	0:04:32	0:05:27	1293	+0:00:55	20.2
US-75 NB - Full Length	0:02:05	0:02:00	1361	-0:00:05	-4.0
US-75 SB - Full Length	0:03:20	0:03:15	2180	-0:00:05	-2.5

Entry and Exit Point Calibration					
Freeways					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-44 EB Entry	3	2700	2699	0.019247	1
I-44 WB Exit	85	1600	1432	4.31479	168
I-44 WB Entry	283	2685	2679	0.115857	6
I-44 EB Exit	274	4110	4049	0.955051	61
I-244 WB Entry	182	595	595	0	0
I-244 EB Exit	179	975	968	0.224583	7
SB US-75 Entry	130	1630	1629	0.024773	1
NB US-75 Exit	453	3225	3093	2.348546	132
NB US-75 Entry	102	3730	3614	1.914285	116
SB US-75 Exit	71	2025	2058	0.730364	-33
I-44 WB Exit to 56th St	190	60	59	0.129641	1
I-44 EB Exit to 55th Pl	196	20	19	0.226455	1
I-244 WB On-Ramp from 33rd Ave	181	65	64	0.124515	1
I-244 EB Off-Ramp to33rd Ave	180	55	54	0.135457	1
Arterials					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
EB from Gilcrease Expy Entry	304	360	361	0.052668	-1
WB from Gilcrease Expy Exit	305	435	422	0.628012	13
EB Gilrcrease Expy from W 51st St Entry	31	500	497	0.134366	3
EB W 51st St at S 33rd W Ave Entry	204	110	108	0.191565	2
WB W 51st St at S 33rd W Ave Exit	206	55	64	1.166767	-9
SB S 33rd W Ave at W 51st St Entry	201	255	254	0.062684	1
NB S 33rd W Ave at W 51st St Exit	202	355	371	0.839782	-16
NB S 33rd W Ave at W Skelly Dr Entry	32	500	497	0.134366	3
SB S 33rd W Ave at W Skelly Dr Exit	33	235	283	2.982575	-48
SB S 9th St Entry	207	75	73	0.232495	2
NB S 9th St Exit	208	60	56	0.525226	4
SB S Union Ave at W 51st St Entry	218	240	238	0.129369	2
NB S Union Ave at W 51st St Exit	219	390	404	0.70264	-14
WB W 51st St at S Union Ave Entry	215	155	155	0	0
EB W 51st St at S Union Ave Exit	216	125	122	0.269953	3
NB S Union Ave at W Skelly Dr Entry	58	360	358	0.105556	2
SB S Union Ave at W Skelly Dr Exit	59	150	160	0.803219	-10
SB Tacoma Ave Entry	129	60	59	0.129641	1
NB Tacoma Ave Exit	128	85	119	3.366502	-34
EB W 41st St at US-75 SB Ramps Entry	133	285	282	0.178174	3
WB W 41st St at US-75 SB Ramps Exit	134	230	220	0.666667	10
WB W 41st St at US-75 NB Ramps Entry	124	120	119	0.091478	1
EB W 41st St at US-75 NB Ramps Exit	123	295	287	0.468968	8
EB W 61st St at US-75 SB Ramps Entry	67	360	358	0.105556	2
WB W 61st St at US-75 SB Ramps Exit	68	265	258	0.432875	7
WB W 61st St at US-75 NB Ramps Entry	106	200	198	0.141776	2
EB W 61st St at US-75 NB Ramps Exit	107	160	159	0.079181	1
EB Olympia Ave Entry	232	50	48	0.285714	2

WB Olympia Ave Exit	233	50	68	2.3434	-18
NB S Elwood Ave Entry	222	10	9	0.324443	1
SB S Elwood Ave Exit	223	20	19	0.226455	1
SB S Elwood Ave Entry	226	120	117	0.275589	3
NB S Elwood Ave Exit	227	230	231	0.065866	-1
SB Riverside Dr Entry	242	700	697	0.113511	3
NB Riverside Dr Exit	241	1085	1022	1.94099	63
NB Riverside Dr Entry	291	1325	1323	0.054965	2
SB Riverside Dr Exit	247	805	768	1.319327	37
NB Peoria Ave Entry	290	885	884	0.033624	1
SB Peoria Ave Exit	260	710	724	0.52284	-14
SB Peoria Ave Entry	289	855	855	0	0
NB Peoria Ave Exit	286	965	966	0.032183	-1
WB E Skelly Dr at Peoria Ave Entry	280	940	939	0.032625	1
EB E 51st St at Peoria Ave Exit	272	910	904	0.199227	6
EB W 51st St at Gilcrease Expy Entry	299	40	39	0.159111	1
WB W 51st St at Gilcrease Expy Exit	301	210	204	0.417029	6
WB W 51st St at Gilcrease Expy Entry	298	190	190	0	0
EB W 51st St at Gilcrease Expy Exit	303	145	143	0.166667	2
WB S 49th W Ave Entry	81	350	349	0.05349	1
EB S 49th W Ave Exit	80	410	414	0.197066	-4
EB S 49th W Ave Entry	73	630	630	0	0
WB S 49th W Ave Exit	82	430	429	0.048252	1
WB I-244 Exit to 51st St	185	65	69	0.488678	-4

Entry and Exit Point Calibration					
Freeways					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-44 EB Entry	3	1890	1886	0.092057	4
I-44 EB Exit	85	2815	2440	7.315768	375
I-44 WB Entry	283	4210	4208	0.030828	2
I-44 EB Exit	274	3255	3149	1.873248	106
I-244 WB Entry	182	1045	1042	0.09287	3
I-244 WB Exit	179	715	706	0.337645	9
SB US-75 Entry	130	2955	2953	0.036798	2
NB US-75 Exit	453	2135	2108	0.586195	27
NB US-75 Entry	102	2520	2517	0.059779	3
SB US-75 Exit	71	3740	3637	1.695947	103
I-44 WB Exit to 56th St	190	85	83	0.218218	2
I-44 EB Exit to 55th Pl	196	20	21	0.220863	-1
I-244 WB On-Ramp from 33rd Ave	181	105	104	0.097823	1
I-244 EB Off-Ramp to33rd Ave	180	45	43	0.301511	2
Arterials					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
EB from Gilcrease Expy Entry	304	450	449	0.047167	1
EB from Gilcrease Expy Exit	305	520	493	1.199704	27
EB Gilrcrease Expy from W 51st St Entry	31	230	229	0.06601	1
EB W 51st St at S 33rd W Ave Entry	204	130	129	0.087875	1
WB W 51st St at S 33rd W Ave Exit	206	165	150	1.195229	15
SB S 33rd W Ave at W 51st St Entry	201	480	468	0.551178	12
NB S 33rd W Ave at W 51st St Exit	202	335	314	1.165768	21
NB S 33rd W Ave at W Skelly Dr Entry	32	360	358	0.105556	2
SB S 33rd W Ave at W Skelly Dr Exit	33	580	522	2.470883	58
SB S 9th St Entry	207	60	58	0.260378	2
NB S 9th St Exit	208	135	155	1.66091	-20
SB S Union Ave at W 51st St Entry	218	435	432	0.144088	3
NB S Union Ave at W 51st St Exit	219	245	243	0.128037	2
WB W 51st St at S Union Ave Entry	215	265	262	0.184812	3
EB W 51st St at S Union Ave Exit	216	165	162	0.234619	3
NB S Union Ave at W Skelly Dr Entry	58	210	208	0.138343	2
SB S Union Ave at W Skelly Dr Exit	59	540	533	0.302213	7
SB Tacoma Ave Entry	129	85	85	0	0
NB Tacoma Ave Exit	128	60	85	2.936101	-25
EB W 41st St at US-75 SB Ramps Entry	133	345	342	0.161867	3
WB W 41st St at US-75 SB Ramps Exit	134	325	313	0.671871	12
WB W 41st St at US-75 NB Ramps Entry	124	295	294	0.058272	1
EB W 41st St at US-75 NB Ramps Exit	123	160	161	0.078934	-1
EB W 61st St at US-75 SB Ramps Entry	67	390	387	0.152204	3
WB W 61st St at US-75 SB Ramps Exit	68	365	361	0.209946	4
WB W 61st St at US-75 NB Ramps Entry	106	190	188	0.145479	2
EB W 61st St at US-75 NB Ramps Exit	107	250	248	0.126745	2
EB Olympia Ave Entry	232	60	58	0.260378	2

WB Olympia Ave Exit	233	80	75	0.567962	5
NB S Elwood Ave Entry	222	20	17	0.697486	3
SB S Elwood Ave Exit	223	10	9	0.324443	1
SB S Elwood Ave Entry	226	285	283	0.118678	2
NB S Elwood Ave Exit	227	160	130	2.491364	30
SB Riverside Dr Entry	242	1135	1132	0.089107	3
NB Riverside Dr Exit	241	940	829	3.732279	111
NB Riverside Dr Entry	291	1060	1059	0.030722	1
SB Riverside Dr Exit	247	1395	1280	3.144495	115
NB Peoria Ave Entry	290	800	800	0	0
SB Peoria Ave Exit	260	1030	1022	0.249756	8
SB Peoria Ave Entry	289	1200	1198	0.057759	2
NB Peoria Ave Exit	286	1000	984	0.508001	16
WB E Skelly Dr at Peoria Ave Entry	280	1160	1157	0.08814	3
EB E 51st St at Peoria Ave Exit	272	1000	1004	0.126365	-4
EB W 51st St at Gilcrease Expy Entry	299	30	29	0.184115	1
WB W 51st St at Gilcrease Expy Exit	301	390	371	0.974039	19
WB W 51st St at Gilcrease Expy Entry	298	170	170	0	0
EB W 51st St at Gilcrease Expy Exit	303	180	174	0.450988	6
WB S 49th W Ave Entry	81	500	498	0.089532	2
EB S 49th W Ave Exit	80	320	326	0.333849	-6
EB S 49th W Ave Entry	73	570	568	0.083844	2
WB S 49th W Ave Exit	82	540	530	0.432338	10
WB I-244 Exit to 51st St	185	80	84	0.441726	-4

Freeway Calibration					
I-44 Eastbound					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-44 EB before S 49th W Ave Off-Ramp	86	2700	2699	0.019247	1
I-44 EB after S 49th W Ave Off-Ramp	193	2540	2540	0	0
I-44 EB before S 49th W Ave On-Ramp	193	2540	2541	0.01984	-1
I-44 EB after S 49th W Ave On-Ramp	195	2930	2928	0.036955	2
I-44 EB after 55th Pl Off-Ramp	197	2910	2909	0.018539	1
I-44EB Ramp to merge with Gilcrease	14	1850	1857	0.162593	-7
I-44 EB before S 33rd W Ave Off-Ramp	10	2750	2755	0.095303	-5
I-44 EB after S 33rd W Ave Off-Ramp	9	2665	2668	0.058097	-3
I-44 EB before S 33rd W Ave On-Ramp	9	2665	2669	0.077455	-4
I-44 EB after S 33rd W Ave On-Ramp	1	3075	3110	0.62938	-35
I-44 EB after EB CD Off-Ramp	1	2620	2640	0.389989	-20
I-44 EB under US-75	1	2620	2636	0.31211	-16
I-44 EB before EB CD On-Ramp	1	2620	2640	0.389989	-20
I-44 EB after EB CD On-Ramp	56	4150	4082	1.059915	68
I-44 EB before W Skelly Dr On-Ramp	56	4150	4083	1.044265	67
I-44 EB over the Arkansas River	57	4380	4316	0.970589	64
I-44 EB after Peoria Ave Off-Ramp	252	3780	3720	0.979796	60
I-44 EB after Peoria Ave Ramps	252	3780	3718	1.012591	62
I-44 EB before Peoria Ave On-Ramp	252	3780	3718	1.012591	62
I-44 EB after Peoria Ave On-Ramp	269	4110	4050	0.939336	60
I-44 EB Exit Volume	274	4110	4049	0.955051	61
I-44 Westbound					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-44 WB Entry Volume	282	2685	2679	0.115857	6
I-44 WB before Riverside Dr Off-Ramp	140	2685	2682	0.057912	3
I-44 WB after Riverside Dr Off-Ramp	140	2445	2441	0.080928	4
I-44 WB between Riverside Dr Ramps	140	2445	2442	0.06069	3
I-44 WB before Riverside Dr On-Ramp	140	2445	2444	0.020226	1
I-44 WB over the Arkansas River	143	3185	3176	0.159586	9
I-44 WB after Elwood Ave Off-Ramp	145	2840	2820	0.375956	20
I-44 WB after WB CD Off-Ramp	147	1545	1547	0.050866	-2
I-44 WB under US-75	147	1545	1547	0.050866	-2
I-44 WB before WB CD On-Ramp	147	1545	1550	0.127103	-5
I-44 WB before S 33rd W Ave Off-Ramp	159	1870	1865	0.115702	5
I-44 WB after S 33rd W Ave Off-Ramp	159	1630	1627	0.074341	3
I-44 WB before S 33rd W Ave On-Ramp	159	1630	1629	0.024773	1
I-44 WB before I-244 EB Off-Ramp	162	1725	1733	0.192394	-8
I-44 WB after I-244 EB Off-Ramp	167	1690	1697	0.1701	-7
I-44 WB after Gilcrease Expy Off-Ramp	167	1100	1126	0.779338	-26
I-44 WB Ramp to merge with I-244 WB	167	1100	1127	0.809131	-27
I-44 WB before Gilcrease Expy On-Ramp	188	1665	1693	0.683333	-28
I-44 WB after Gilcrease Expy On-Ramp	188	1750	1776	0.619223	-26
I-44 WB after 56th St Off-Ramp	189	1690	1717	0.654173	-27
I-44 WB after S 49th W Ave Off-Ramp	189	1450	1474	0.627679	-24

I-44 WB before S 49th W Ave On-Ramp	189	1450	1472	0.575569	-22
I-44 WB Exit Volume	85	1600	1432	4.31479	168
US-75 Northbound					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
US-75 NB Entry Volume	102	3730	3614	1.914285	116
US-75 NB between W 61st St Ramps	103	3615	3461	2.589058	154
US-75 NB after W 61st St On-Ramp	6	3915	3708	3.352914	207
US-75 NB after EB CD Off-Ramp	72	2915	2760	2.909804	155
US-75 NB between CD Loop Ramps	109	3015	2869	2.69173	146
US-75 NB after WB CD Off-Ramp	111	2765	2638	2.443438	127
US-75 NB after WB CD On-Ramp	114	3340	3218	2.130537	122
US-75 NB between W 41st St Ramps	453	3060	2963	1.767585	97
US-75 NB after W 41st St On-Ramp	453	3225	3093	2.348546	132
US-75 Southbound					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
US-75 SB Entry Volume	130	1630	1629	0.024773	1
US-75 SB between W 41st St Ramps	130	1430	1431	0.02644	-1
US-75 SB after W 41st St On-Ramp	452	1600	1595	0.125098	5
US-75 SB after WB CD Off-Ramp	452	1510	1513	0.077164	-3
US-75 SB between CD Loop Ramps	139	2170	2181	0.235838	-11
US-75 SB after EB CD Off-Ramp	62	1700	1702	0.048493	-2
US-75 SB after EB CD On-Ramp	62	2075	2112	0.808659	-37
US-75 SB between W 61st St Ramps	62	1935	1968	0.747016	-33
US-75 SB after W 61st St On-Ramp	71	2025	2058	0.730364	-33
I-244 Eastbound					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-244 EB after split from I-44 EB	177	1060	1053	0.215359	7
I-244 EB after Gilcrease Expy Off-Ramp	177	995	989	0.1905	6
I-244 EB before I-44 WB On-Ramp	177	995	988	0.222306	7
I-244 EB after I-44 WB On-Ramp	179	1030	1023	0.218483	7
I-244 EB after 33rd W Ave Off-Ramp	179	975	968	0.224583	7
I-244 Westbound					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-244 WB before 33rd Ave On-Ramp	182	595	595	0	0
I-244 WB after 33rd Ave On-Ramp	184	660	659	0.03894	1
I-244 WB after 51st St Off-Ramp	184	595	593	0.082061	2
I-244 WB after I-44 EB Off-Ramp	187	565	563	0.084215	2
I-244 WB before merge with I-44 WB	187	565	563	0.084215	2

Freeway Calibration					
I-44 Eastbound					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-44 EB before S 49th W Ave Off-Ramp	86	1890	1886	0.092057	4
I-44 EB after S 49th W Ave Off-Ramp	193	1750	1747	0.071744	3
I-44 EB before S 49th W Ave On-Ramp	193	1750	1747	0.071744	3
I-44 EB after S 49th W Ave On-Ramp	195	2170	2159	0.236436	11
I-44 EB after 55th Pl Off-Ramp	197	2150	2139	0.237536	11
I-44EB Ramp to merge with Gilcrease	14	1365	1366	0.027062	-1
I-44 EB before S 33rd W Ave Off-Ramp	10	2095	2096	0.021845	-1
I-44 EB after S 33rd W Ave Off-Ramp	9	1985	1981	0.089825	4
I-44 EB before S 33rd W Ave On-Ramp	9	1985	1981	0.089825	4
I-44 EB after S 33rd W Ave On-Ramp	1	2290	2248	0.881723	42
I-44 EB after EB CD Off-Ramp	1	1855	1815	0.933774	40
I-44 EB under US-75	1	1855	1815	0.933774	40
I-44 EB before EB CD On-Ramp	1	1855	1814	0.957249	41
I-44 EB after EB CD On-Ramp	56	3250	3169	1.42977	81
I-44 EB before W Skelly Dr On-Ramp	56	3250	3172	1.376494	78
I-44 EB over the Arkansas River	57	3655	3523	2.203369	132
I-44 EB after Peoria Ave Off-Ramp	252	2955	2849	1.967692	106
I-44 EB after Peoria Ave Ramps	252	2955	2847	2.005164	108
I-44 EB before Peoria Ave On-Ramp	252	2955	2846	2.023905	109
I-44 EB after Peoria Ave On-Ramp	269	3255	3149	1.873248	106
I-44 EB Exit Volume	274	3255	3149	1.873248	106
I-44 Westbound					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-44 WB Entry Volume	282	4210	4208	0.030828	2
I-44 WB before Riverside Dr Off-Ramp	140	4210	4203	0.107929	7
I-44 WB after Riverside Dr Off-Ramp	140	3860	3844	0.257796	16
I-44 WB between Riverside Dr Ramps	140	3860	3820	0.645497	40
I-44 WB before Riverside Dr On-Ramp	140	3860	3791	1.115591	69
I-44 WB over the Arkansas River	143	4600	4490	1.631645	110
I-44 WB after Elwood Ave Off-Ramp	145	4350	4249	1.540325	101
I-44 WB after WB CD Off-Ramp	147	2605	2563	0.826234	42
I-44 WB under US-75	147	2605	2567	0.747256	38
I-44 WB before WB CD On-Ramp	147	2605	2564	0.806484	41
I-44 WB before S 33rd W Ave Off-Ramp	159	3055	3008	0.853629	47
I-44 WB after S 33rd W Ave Off-Ramp	159	2645	2604	0.800314	41
I-44 WB before S 33rd W Ave On-Ramp	159	2645	2602	0.839514	43
I-44 WB before I-244 EB Off-Ramp	162	2815	2763	0.984644	52
I-44 WB after I-244 EB Off-Ramp	167	2780	2732	0.914327	48
I-44 WB after Gilcrease Expy Off-Ramp	167	1870	1866	0.092549	4
I-44 WB Ramp to merge with I-244 WB	167	1870	1865	0.115702	5
I-44 WB before Gilcrease Expy On-Ramp	188	2890	2878	0.223452	12
I-44 WB after Gilcrease Expy On-Ramp	188	2970	2957	0.238804	13
I-44 WB after 56th St Off-Ramp	189	2885	2874	0.204991	11
I-44 WB after S 49th W Ave Off-Ramp	189	2605	2597	0.156863	8

I-44 WB before S 49th W Ave On-Ramp	189	2605	2602	0.058795	3
I-44 WB Exit Volume	85	2815	2440	7.315768	375
US-75 Northbound					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
US-75 NB Entry Volume	102	2520	2517	0.059779	3
US-75 NB between W 61st St Ramps	103	2385	2388	0.06141	-3
US-75 NB after W 61st St On-Ramp	6	2575	2572	0.059137	3
US-75 NB after EB CD Off-Ramp	72	1835	1835	0	0
US-75 NB between CD Loop Ramps	109	1925	1926	0.022789	-1
US-75 NB after WB CD Off-Ramp	111	1550	1553	0.076163	-3
US-75 NB after WB CD On-Ramp	114	2100	2083	0.371723	17
US-75 NB between W 41st St Ramps	453	1900	1898	0.045895	2
US-75 NB after W 41st St On-Ramp	453	2135	2108	0.586195	27
US-75 Southbound					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
US-75 SB Entry Volume	130	2955	2953	0.036798	2
US-75 SB between W 41st St Ramps	130	2775	2770	0.094959	5
US-75 SB after W 41st St On-Ramp	452	3100	3068	0.576226	32
US-75 SB after WB CD Off-Ramp	452	2990	2930	1.102822	60
US-75 SB between CD Loop Ramps	139	4090	3984	1.668309	106
US-75 SB after EB CD Off-Ramp	62	3480	3389	1.552779	91
US-75 SB after EB CD On-Ramp	62	3830	3731	1.610129	99
US-75 SB between W 61st St Ramps	62	3590	3495	1.596132	95
US-75 SB after W 61st St On-Ramp	71	3740	3637	1.695947	103
I-244 Eastbound					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-244 EB after split from I-44 EB	177	785	778	0.2504	7
I-244 EB after Gilcrease Expy Off-Ramp	177	725	717	0.297936	8
I-244 EB before I-44 WB On-Ramp	177	725	718	0.260603	7
I-244 EB after I-44 WB On-Ramp	179	760	749	0.400464	11
I-244 EB after 33rd W Ave Off-Ramp	179	715	706	0.337645	9
I-244 Westbound					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-244 WB before 33rd Ave On-Ramp	182	1045	1042	0.09287	3
I-244 WB after 33rd Ave On-Ramp	184	1150	1148	0.059002	2
I-244 WB after 51st St Off-Ramp	184	1070	1064	0.183683	6
I-244 WB after I-44 EB Off-Ramp	187	1020	1016	0.125368	4
I-244 WB before merge with I-44 WB	187	1020	1016	0.125368	4

Exit and Entrance Ramps Calibration					
Exit Ramps					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-44 EB Off-Ramp to S 49th W Ave	79	160	159	0.079181	1
I-44 WB Off-Ramp to S 49th W Ave	191	240	243	0.193047	-3
I-44 EB Off-Ramp to 55th Pl	196	20	19	0.226455	1
I-44 WB Off-Ramp to 56th St	190	60	59	0.129641	1
I-244 EB Off-Ramp to Gilcrease Expy	176	65	66	0.12356	-1
I-244 WB Off-Ramp to I-44 EB	174	30	29	0.184115	1
I-244 WB Off-Ramp to W 51st St	185	65	69	0.488678	-4
I-244 EB Off-Ramp to 33rd W Ave	180	55	54	0.135457	1
EB Gilcrease Expy Off-Ramp to I-44 WB	172	85	84	0.108786	1
I-44 WB Off-Ramp to I-244 EB	166	35	34	0.170251	1
I-44 EB Off-Ramp to 33rd W Ave	12	85	89	0.428845	-4
I-44 WB Off-Ramp to S 33rd W Ave	160	240	235	0.324443	5
I-44 EB Off-Ramp to EB CD	2	455	467	0.558896	-12
EB CD Off-Ramp to W Skelly Dr	5	80	80	0	0
WB CD Off-Ramp to W 51st St	155	235	220	0.99449	15
EB CD Off-Ramp to US-75 SB	28	375	411	1.81596	-36
EB CD Off-Ramp to US-75 NB	42	100	110	0.9759	-10
WB CD Off-Ramp to US-75 SB	137	660	668	0.31046	-8
WB CD Off-Ramp to US-75 NB	112	575	577	0.083333	-2
EB CD Off-Ramp to W Skelly Dr near PepsiCo	47	125	124	0.089622	1
I-44 WB Off-Ramp to WB CD	148	1295	1272	0.641992	23
I-44 WB Off-Ramp to Elwood Ave	146	345	352	0.37497	-7
I-44 EB Off-Ramp to Peoria Ave	251	600	595	0.204551	5
I-44 WB Off-Ramp to Riverside Dr	267	240	239	0.064617	1
US-75 NB Off-Ramp to 61st St	104	115	106	0.856173	9
US-75 SB Off-Ramp to 61st St	63	140	141	0.084365	-1
US-75 NB Off-Ramp to EB CD	43	1000	907	3.011776	93
US-75 NB Off-Ramp to WB CD	110	250	233	1.093932	17
US-75 SB Off-Ramp to ED CD	39	470	477	0.32169	-7
US-75 SB Off-Ramp to WB CD	138	90	84	0.643268	6
US-75 NB Off-Ramp to 41st St	115	280	256	1.466033	24
US-75 SB Off-Ramp to 41st St	131	200	198	0.141776	2
Entrance Ramps					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-44 WB On-Ramp from S 49th W Ave	83	150	149	0.081786	1
I-44 EB On-Ramp from S 49th W Ave	194	390	386	0.203069	4
I-244 WB On-Ramp from 33rd W Ave	181	65	64	0.124515	1
EB Gilcrease Expy On-Ramp from W 51st St	31	500	497	0.134366	3
I-44 WB On-Ramp from 33rd W Ave	163	95	104	0.902258	-9
I-44 EB On-Ramp from 33rd W Ave	8	410	441	1.502837	-31
WB CD On-Ramp from W 51st St	158	70	72	0.237356	-2
I-44 WB On-Ramp from WB CD	157	325	315	0.559017	10
EB CD On-Ramp from W Skelly Dr	24	285	327	2.40098	-42
WB CD On-Ramp from Olympia Ave	149	90	127	3.552114	-37

I-44 EB On-Ramp from EB CD	45	1530	1443	2.256508	87
44 EB On-Ramp from W Sklley Dr near Pepsi(	55	230	238	0.522976	-8
I-44 EB On-Ramp from Riverside Dr	255	330	334	0.219529	-4
I-44 WB On-Ramp from Peoria Ave	142	740	728	0.442928	12
US-75 NB On-Ramp from 61st St	108	300	296	0.231714	4
US-75 SB On-Ramp from 61st St	69	90	91	0.105118	-1
US-75 NB On-Ramp from 41st St	127	165	128	3.056912	37
US-75 SB On-Ramp from 41st St	135	170	163	0.542489	7

Exit and Entrance Ramps Calibration					
Exit Ramps					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-44 EB Off-Ramp to S 49th W Ave	79	140	140	0	0
I-44 WB Off-Ramp to S 49th W Ave	191	280	276	0.239904	4
I-44 EB Off-Ramp to 55th Pl	196	20	21	0.220863	-1
I-44 WB Off-Ramp to 56th St	190	85	83	0.218218	2
I-244 EB Off-Ramp to Gilcrease Expy	176	60	59	0.129641	1
I-244 WB Off-Ramp to I-44 EB	174	50	49	0.142134	1
I-244 WB Off-Ramp to W 51st St	185	80	84	0.441726	-4
I-244 EB Off-Ramp to 33rd W Ave	180	45	43	0.301511	2
EB Gilcrease Expy Off-Ramp to I-44 WB	172	80	78	0.225018	2
I-44 WB Off-Ramp to I-244 EB	166	35	31	0.696311	4
I-44 EB Off-Ramp to 33rd W Ave	12	110	112	0.189832	-2
I-44 WB Off-Ramp to S 33rd W Ave	160	410	397	0.647175	13
I-44 EB Off-Ramp to EB CD	2	435	435	0	0
EB CD Off-Ramp to W Skelly Dr	5	70	67	0.362473	3
WB CD Off-Ramp to W 51st St	155	345	336	0.487735	9
EB CD Off-Ramp to US-75 SB	28	350	356	0.319348	-6
EB CD Off-Ramp to US-75 NB	42	90	92	0.209657	-2
WB CD Off-Ramp to US-75 SB	137	1100	1062	1.155768	38
WB CD Off-Ramp to US-75 NB	112	550	531	0.817252	19
EB CD Off-Ramp to W Skelly Dr near PepsiCo	47	115	119	0.3698	-4
I-44 WB Off-Ramp to WB CD	148	1745	1685	1.448836	60
I-44 WB Off-Ramp to Elwood Ave	146	250	241	0.574403	9
I-44 EB Off-Ramp to Peoria Ave	251	700	671	1.107629	29
I-44 WB Off-Ramp to Riverside Dr	267	350	347	0.160701	3
US-75 NB Off-Ramp to 61st St	104	135	133	0.172774	2
US-75 SB Off-Ramp to 61st St	63	240	236	0.259281	4
US-75 NB Off-Ramp to EB CD	43	740	734	0.221013	6
US-75 NB Off-Ramp to WB CD	110	375	372	0.15523	3
US-75 SB Off-Ramp to ED CD	39	610	592	0.734235	18
US-75 SB Off-Ramp to WB CD	138	110	107	0.288009	3
US-75 NB Off-Ramp to 41st St	115	200	185	1.081125	15
US-75 SB Off-Ramp to 41st St	131	180	183	0.222681	-3
Entrance Ramps					
Description	**Link**	**Field**	**Vissim**	**GEH**	**Difference**
I-44 WB On-Ramp from S 49th W Ave	83	210	211	0.068925	-1
I-44 EB On-Ramp from S 49th W Ave	194	420	412	0.392232	8
I-244 WB On-Ramp from 33rd W Ave	181	105	104	0.097823	1
EB Gilcrease Expy On-Ramp from W 51st St	31	230	229	0.06601	1
I-44 WB On-Ramp from 33rd W Ave	163	170	161	0.69959	9
I-44 EB On-Ramp from 33rd W Ave	8	305	265	2.369396	40
WB CD On-Ramp from W 51st St	158	90	91	0.105118	-1
I-44 WB On-Ramp from WB CD	157	450	448	0.094386	2
EB CD On-Ramp from W Skelly Dr	24	235	235	0	0
WB CD On-Ramp from Olympia Ave	149	125	124	0.089622	1
I-44 EB On-Ramp from EB CD	45	1395	1356	1.051561	39
I-44 EB On-Ramp from W Sklley Dr near PepsiCo	55	405	353	2.671061	52
I-44 EB On-Ramp from Riverside Dr	255	300	303	0.172774	-3
I-44 WB On-Ramp from Peoria Ave	142	740	729	0.405879	11
US-75 NB On-Ramp from 61st St	108	190	185	0.365148	5
US-75 SB On-Ramp from 61st St	69	150	150	0	0
US-75 NB On-Ramp from 41st St	127	235	211	1.607159	24
US-75 SB On-Ramp from 41st St	135	325	317	0.446516	8

Intersection Turning Movement Calibration				
S 33rd W Avenue at W 51st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	25	24	0.202031	1
SBT	220	218	0.135147	2
SBR	10	10	0	0
WBL	110	147	3.264	-37
WBT	25	34	1.657034	-9
WBR	25	33	1.485563	-8
NBL	20	20	0	0
NBT	320	329	0.499615	-9
NBR	70	70	0	0
EBL	10	9	0.324443	1
EBT	30	30	0	0
EBR	70	69	0.119952	1
S 33rd W Avenue at I-44 WB Ramps				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBT	365	392	1.387813	-27
SBR	35	38	0.496564	-3
WBL	110	109	0.095564	1
WBT	0	0	0	0
WBR	130	126	0.353553	4
NBL	60	67	0.878438	-7
NBT	280	294	0.826394	-14
S 33rd W Avenue at W Skelly Drive				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	215	226	0.740779	-11
SBT	190	202	0.857143	-12
SBR	70	73	0.354787	-3
WBL	40	77	4.837531	-37
WBT	15	31	3.336231	-16
WBR	30	57	4.093729	-27
NBL	10	9	0.324443	1
NBT	250	246	0.254	4
NBR	240	243	0.193047	-3
EBL	60	57	0.392232	3
EBT	60	59	0.129641	1
EBR	5	4	0.471405	1
W 51st Street at S 9th Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	25	25	0	0
SBT	5	4	0.471405	1
SBR	45	42	0.454859	3
WBL	60	60	0	0
WBT	125	128	0.266733	-3
WBR	15	15	0	0
NBL	45	42	0.454859	3

NBT	10	10	0	0
NBR	180	168	0.909718	12
EBL	35	33	0.342997	2
EBT	215	216	0.06812	-1
EBR	5	6	0.426401	-1
W 51st Street at S Union Avenue				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	15	13	0.534522	2
SBT	150	154	0.324443	-4
SBR	75	71	0.468165	4
WBL	95	96	0.102329	-1
WBT	50	48	0.285714	2
WBR	10	9	0.324443	1
NBL	75	85	1.118034	-10
NBT	230	248	1.164323	-18
NBR	40	43	0.46569	-3
EBUT	0	0	0	0
EBT	70	67	0.362473	3
EBR	200	196	0.284268	4
W Skelly Drive at S Union Avenue				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	40	39	0.159111	1
SBT	120	122	0.181818	-2
SBR	285	285	0	0
WBL	5	10	1.825742	-5
WBT	15	28	2.803652	-13
WBR	20	42	3.951317	-22
NBL	55	58	0.399114	-3
NBT	255	255	0	0
NBR	50	47	0.430775	3
EBL	70	79	1.042712	-9
EBT	20	25	1.054093	-5
EBR	25	29	0.7698	-4
US-75 NB Ramps at W 41st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	10	10	0	0
SBR	30	29	0.184115	1
WBT	75	74	0.115857	1
WBR	45	46	0.14825	-1
NBL	120	112	0.742781	8
NBT	60	53	0.931266	7
NBR	100	91	0.92096	9
EBL	125	127	0.178174	-2
EBT	185	186	0.073422	-1
US-75 SB Ramps at W 41st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	125	125	0	0

SBT	0	0	0	0
SBR	75	73	0.232495	2
WBL	70	68	0.240772	2
WBT	155	148	0.568711	7
EBT	185	187	0.146647	-2
EBR	100	96	0.404061	4
US-75 SB Ramps at W 61st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	60	61	0.128565	-1
SBT	0	0	0	0
SBR	80	81	0.111456	-1
WBL	10	11	0.308607	-1
WBT	185	177	0.594635	8
EBT	280	278	0.119737	2
EBR	80	80	0	0
US-75 NB Ramps at W 61st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
WBT	90	88	0.212	2
WBR	110	110	0	0
NBL	105	98	0.694808	7
NBT	0	0	0	0
NBR	10	9	0.324443	1
EBL	190	187	0.218507	3
EBT	150	152	0.162758	-2
Riverside Drive at E Skelly Drive				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBT	700	697	0.113511	3
WBL	225	225	0	0
WBR	60	60	0	0
NBT	1025	1018	0.219018	7
Riverside Drive at E 51st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	120	121	0.091098	-1
SBT	805	801	0.141157	4
NBT	1025	1017	0.250367	8
NBR	300	306	0.344691	-6
S Peoria Avenue at E Skelly Drive				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBT	700	703	0.113268	-3
SBR	155	151	0.323381	4
WBL	160	161	0.078934	-1
WBUT	220	219	0.067497	1
WBT	210	214	0.274721	-4
WBR	350	339	0.59265	11
NBL	230	227	0.198462	3
NBT	615	624	0.361595	-9
S Peoria Avenue at E 51st Street				

Movement	Field	Vissim	GEH	Difference
SBL	360	363	0.157786	-3
SBT	500	511	0.489251	-11
NBT	635	643	0.316475	-8
NBR	250	244	0.381771	6
EBL	210	204	0.417029	6
EBUT	190	185	0.365148	5
EBT	80	83	0.332309	-3
EBR	210	211	0.068925	-1
Gilcrease Expressway at W 51st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	35	36	0.167836	-1
SBT	310	310	0	0
SBR	15	14	0.262613	1
WBL	145	146	0.082903	-1
WBT	15	13	0.534522	2
WBR	30	31	0.181071	-1
NBL	180	177	0.224544	3
NBT	375	363	0.624695	12
NBR	100	97	0.302276	3
EBL	30	29	0.184115	1
EBT	10	9	0.324443	1
EBR	0	0	0	0
I-44 EB Ramps at S 49th W Ave				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
WBT	210	211	0.068925	-1
WBR	140	139	0.084667	1
NBL	120	120	0	0
NBT	0	0	0	0
NBR	40	38	0.320256	2
EBL	250	246	0.254	4
EBT	370	377	0.362204	-7
I-44 WB Ramps at S 49th W Ave				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	90	95	0.519875	-5
SBT	0	0	0	0
SBR	150	148	0.163846	2
WBL	50	49	0.142134	1
WBT	280	282	0.11931	-2
EBT	530	527	0.130496	3
EBR	100	101	0.099751	-1
W Skelly Drive at S Elwood Avenue				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
WBL	15	13	0.534522	2
WBT	205	191	0.994937	14
NBL	5	5	0	0
NBR	5	5	0	0

EBT	90	108	1.809068	-18
EBR	5	7	0.816497	-2
W 51st Street at S Elwood Avenue				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	40	36	0.648886	4
SBR	80	80	0	0
WBT	20	23	0.646997	-3
WBR	75	90	1.651446	-15
EBL	155	143	0.983078	12
EBT	180	167	0.986947	13
W 51st Street at S Elwood Avenue Off-Ramp				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
WBT	100	103	0.297775	-3
NBL	80	82	0.222222	-2
NBR	265	271	0.366508	-6
EBT	70	39	4.19917	31
I-44 EB Ramps to 33rd W Avenue				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	20	23	0.646997	-3
SBR	65	66	0.12356	-1
WBT	20	100	10.32796	-80
WBR	5	27	5.5	-22
EBL	405	413	0.395575	-8
EBT	110	115	0.471405	-5
EB CD Off-Ramp to W Skelly Drive				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	75	74	0.115857	1
SBR	5	5	0	0
WBT	120	123	0.272166	-3
WBR	235	249	0.899954	-14
EBL	50	79	3.610922	-29
EBT	40	59	2.700542	-19
EB CD Off-Ramp to W Skelly Drive near PepsiCo				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	105	105	0	0
SBR	20	19	0.226455	1
WBT	65	61	0.503953	4
EBT	75	110	3.639127	-35
W Skelly Drive at I-44 EB On-Ramp				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
WBL	65	60	0.632456	5
WBR	145	135	0.845154	10
EBL	85	102	1.758098	-17
EBR	95	114	1.858641	-19
W 51st Street at WB CD On-Ramp				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
WBL	80	117	3.728066	-37

WBT	50	68	2.3434	-18
EBT	40	39	0.159111	1
EBR	10	9	0.324443	1

Intersection Turning Movement Calibration				
S 33rd W Avenue at W 51st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	25	20	1.054093	5
SBT	365	322	2.320091	43
SBR	90	90	0	0
WBL	130	93	3.504002	37
WBT	40	25	2.631174	15
WBR	35	25	1.825742	10
NBL	35	34	0.170251	1
NBT	290	279	0.652156	11
NBR	190	184	0.438763	6
EBL	10	10	0	0
EBT	40	41	0.157135	-1
EBR	80	78	0.225018	2
S 33rd W Avenue at I-44 WB Ramps				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBT	495	419	3.55513	76
SBR	80	70	1.154701	10
WBL	180	176	0.299813	4
WBT	0	0	0	0
WBR	230	220	0.666667	10
NBL	90	90	0	0
NBT	285	279	0.357295	6
S 33rd W Avenue at W Skelly Drive				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	160	143	1.381156	17
SBT	450	395	2.675773	55
SBR	65	56	1.157084	9
WBL	75	95	2.169305	-20
WBT	15	18	0.738549	-3
WBR	85	107	2.245366	-22
NBL	5	4	0.471405	1
NBT	225	226	0.066593	-1
NBR	130	128	0.17609	2
EBL	65	37	3.920784	28
EBT	80	47	4.141208	33
EBR	55	32	3.487251	23
W 51st Street at S 9th Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	25	24	0.202031	1
SBT	5	6	0.426401	-1
SBR	30	29	0.184115	1
WBL	80	77	0.3386	3
WBT	175	171	0.304114	4
WBR	20	19	0.226455	1
NBL	35	32	0.518321	3

NBT	25	26	0.19803	-1
NBR	285	277	0.47724	8
EBL	90	111	2.09477	-21
EBT	105	126	1.954017	-21
EBR	5	8	1.176697	-3
W 51st Street at S Union Avenue				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	20	19	0.226455	1
SBT	350	349	0.05349	1
SBR	65	64	0.124515	1
WBL	120	121	0.091098	-1
WBT	120	116	0.36823	4
WBR	25	25	0	0
NBL	90	88	0.212	2
NBT	125	120	0.451754	5
NBR	50	46	0.57735	4
EBUT	0	0	0	0
EBT	95	96	0.102329	-1
EBR	225	231	0.39736	-6
W Skelly Drive at S Union Avenue				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	15	15	0	0
SBT	440	444	0.190261	-4
SBR	240	244	0.25713	-4
WBL	50	40	1.490712	10
WBT	45	39	0.92582	6
WBR	30	26	0.755929	4
NBL	30	30	0	0
NBT	170	170	0	0
NBR	10	9	0.324443	1
EBL	65	59	0.762001	6
EBT	25	23	0.408248	2
EBR	50	48	0.285714	2
US-75 NB Ramps at W 41st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	10	9	0.324443	1
SBR	60	61	0.128565	-1
WBT	180	176	0.299813	4
WBR	115	119	0.3698	-4
NBL	130	121	0.803379	9
NBT	30	26	0.755929	4
NBR	40	39	0.159111	1
EBL	135	137	0.171499	-2
EBT	110	112	0.189832	-2
US-75 SB Ramps at W 41st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	80	83	0.332309	-3

SBT	0	0	0	0
SBR	100	100	0	0
WBL	145	143	0.166667	2
WBT	225	214	0.742464	11
EBT	165	167	0.15523	-2
EBR	180	175	0.375293	5
US-75 SB Ramps at W 61st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	115	113	0.187317	2
SBT	0	0	0	0
SBR	125	122	0.269953	3
WBL	10	10	0	0
WBT	240	237	0.194257	3
EBT	250	245	0.317821	5
EBR	140	141	0.084365	-1
US-75 NB Ramps at W 61st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
WBT	120	119	0.091478	1
WBR	70	70	0	0
NBL	130	128	0.17609	2
NBT	0	0	0	0
NBR	5	4	0.471405	1
EBL	120	116	0.36823	4
EBT	245	244	0.063953	1
Riverside Drive at E Skelly Drive				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBT	1135	1131	0.118835	4
WBL	380	377	0.154201	3
WBR	130	130	0	0
NBT	810	808	0.070316	2
Riverside Drive at E 51st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	120	121	0.091098	-1
SBT	1395	1388	0.187653	7
NBT	810	809	0.035147	1
NBR	250	252	0.126239	-2
S Peoria Avenue at E Skelly Drive				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBT	920	917	0.098988	3
SBR	280	275	0.30015	5
WBL	290	301	0.639903	-11
WBUT	220	220	0	0
WBT	200	207	0.4907	-7
WBR	450	434	0.761042	16
NBL	240	239	0.064617	1
NBT	550	548	0.085358	2
S Peoria Avenue at E 51st Street				

Movement	Field	Vissim	GEH	Difference
SBL	440	442	0.095238	-2
SBT	770	774	0.143963	-4
NBT	550	557	0.297536	-7
NBR	250	245	0.317821	5
EBL	240	226	0.91717	14
EBUT	180	174	0.450988	6
EBT	90	92	0.209657	-2
EBR	260	248	0.752947	12
Gilcrease Expressway at W 51st Street				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	30	30	0	0
SBT	400	402	0.099875	-2
SBR	20	18	0.458831	2
WBL	130	132	0.174741	-2
WBT	10	9	0.324443	1
WBR	30	30	0	0
NBL	360	344	0.852803	16
NBT	470	444	1.216229	26
NBR	140	133	0.599145	7
EBL	20	20	0	0
EBT	10	10	0	0
EBR	0	0	0	0
I-44 EB Ramps at S 49th W Ave				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
WBT	350	350	0	0
WBR	150	148	0.163846	2
NBL	100	100	0	0
NBT	0	0	0	0
NBR	40	41	0.157135	-1
EBL	270	264	0.367194	6
EBT	280	285	0.297482	-5
I-44 WB Ramps at S 49th W Ave				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	120	125	0.451754	-5
SBT	0	0	0	0
SBR	160	151	0.721734	9
WBL	70	70	0	0
WBT	380	379	0.051333	1
EBT	430	427	0.144926	3
EBR	140	142	0.16843	-2
W Skelly Drive at S Elwood Avenue				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
WBL	5	4	0.471405	1
WBT	375	307	3.682406	68
NBL	5	4	0.471405	1
NBR	15	12	0.816497	3

EBT	50	48	0.285714	2
EBR	5	5	0	0
W 51st Street at S Elwood Avenue				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	130	129	0.087875	1
SBR	155	156	0.080193	-1
WBT	15	13	0.534522	2
WBR	50	48	0.285714	2
EBL	110	82	2.857738	28
EBT	250	184	4.480372	66
W 51st Street at S Elwood Avenue Off-Ramp				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
WBT	170	169	0.07681	1
NBL	20	18	0.458831	2
NBR	230	224	0.398234	6
EBT	130	45	9.086882	85
I-44 EB Ramps to 33rd W Avenue				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	10	11	0.308607	-1
SBR	100	101	0.099751	-1
WBT	75	120	4.557327	-45
WBR	5	10	1.825742	-5
EBL	300	256	2.638945	44
EBT	70	65	0.608581	5
EB CD Off-Ramp to W Skelly Drive				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	65	62	0.376473	3
SBR	5	5	0	0
WBT	130	127	0.264649	3
WBR	185	186	0.073422	-1
EBL	50	48	0.285714	2
EBT	75	69	0.707107	6
EB CD Off-Ramp to W Skelly Drive near PepsiCo				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
SBL	105	110	0.482243	-5
SBR	10	9	0.324443	1
WBT	95	78	1.827851	17
EBT	70	65	0.608581	5
W Skelly Drive at I-44 EB On-Ramp				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
WBL	95	77	1.94099	18
WBR	285	234	3.165931	51
EBL	120	121	0.091098	-1
EBR	55	54	0.135457	1
W 51st Street at WB CD On-Ramp				
Movement	**Field**	**Vissim**	**GEH**	**Difference**
WBL	110	108	0.191565	2

WBT	80	74	0.683763	6
EBT	45	43	0.301511	2
EBR	15	13	0.534522	2

Appendix G – Signing Plan

OKLAHOMA DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY
4/21/2020

WEST
66 44
Sapulpa
Okla. City

EXIT 223 B
PIKEPASS OR PLATE PAY
344 NORTH TOLL
Gilcrease Expwy

WEST
66 44
Sapulpa
Okla. City

EXIT 223 B
PIKEPASS OR PLATE PAY
344 NORTH TOLL
Gilcrease Expwy

EXIT 223 A
244 EAST
Downtown
Tulsa
EXIT ONLY

I-44/SR-66

I-44

W SKELLY DR

EXIT 223 C
33RD W. Ave
½ MILE

EXIT 224 B
75 NORTH
Bartlesville
1½ MILE

EXIT 224 A
75 SOUTH
Okmulgee
1 MILE

ALTERNATIVE 2

0 100 200 300
SCALE

Oklahoma Department
of Transportation

I-44 FROM I-244 TO
THE ARKANSAS RIVER

I-44 MAINLINE PLANS
WAYFINDING SIGNAGE
(SHEET 1 OF 10)

SHEET NO. 01

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FIGURE G-1

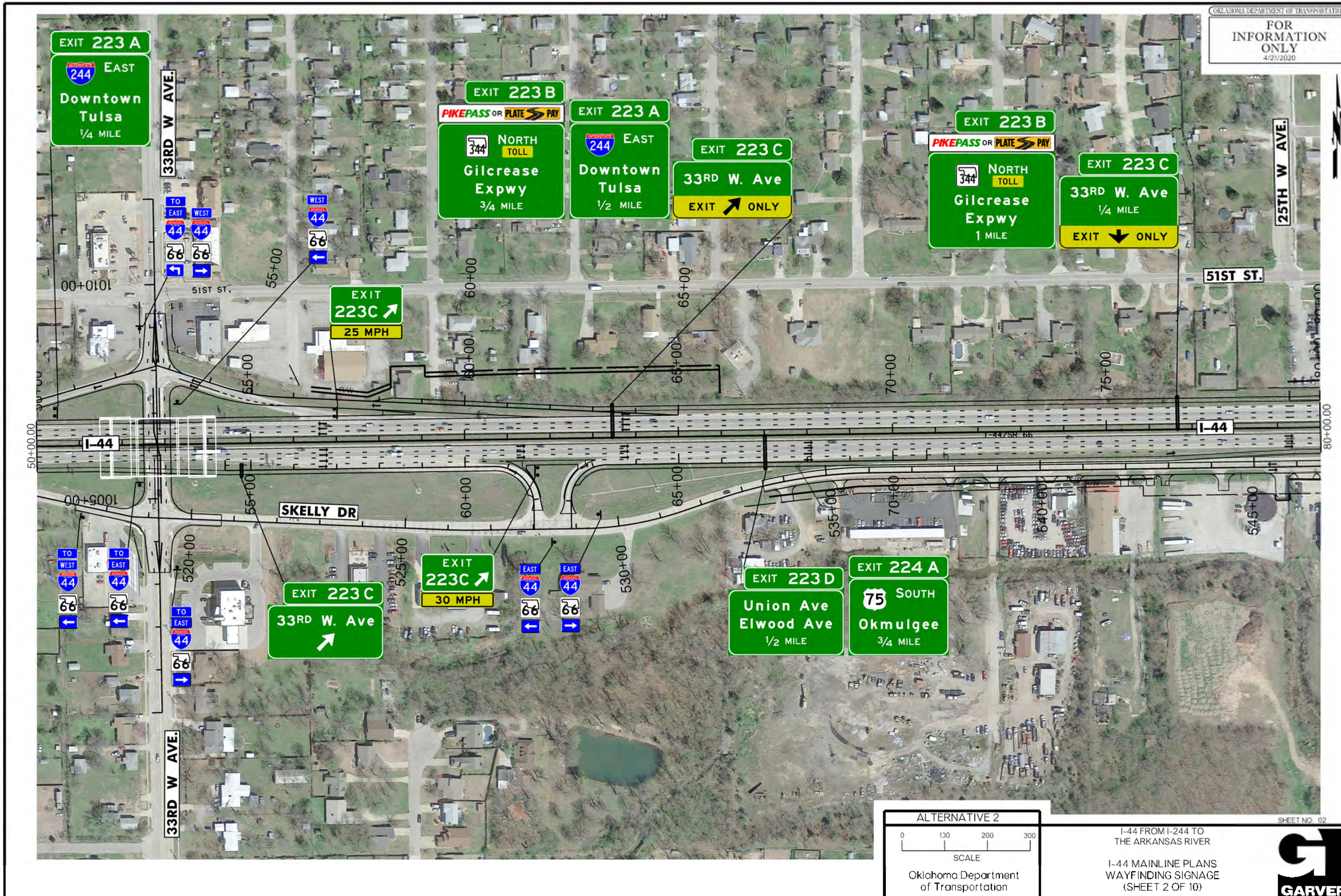
OKLAHOMA DEPARTMENT OF TRANSPORTATION
FOR INFORMATION ONLY
4/21/2020
EXIT 223 A
244 EAST
Downtown Tulsa
1/4 MILE
EXIT 223 B
PIKEPASS OR PLATE PAY
344 NORTH TOLL
Gilcrease Expwy
3/4 MILE
EXIT 223 A
244 EAST
Downtown Tulsa
1/2 MILE
EXIT 223 C
33RD W. Ave
EXIT ONLY
EXIT 223 B
PIKEPASS OR PLATE PAY
344 NORTH TOLL
Gilcrease Expwy
1 MILE
EXIT 223 C
33RD W. Ave
1/4 MILE
EXIT ONLY
33RD W AVE.
25TH W AVE.
51ST ST.
EXIT 223C
25 MPH
TO EAST 44 66
WEST 44 66
I-44
SKELLY DR
EXIT 223C
30 MPH
EXIT 223 C
33RD W. Ave
EXIT 223 D
Union Ave
Elwood Ave
1/2 MILE
EXIT 224 A
75 SOUTH
Okmulgee
3/4 MILE
TO WEST 44 66
TO EAST 44 66
EAST 44 66
ALTERNATIVE 2
SCALE
Oklahoma Department of Transportation
I-44 FROM I-244 TO THE ARKANSAS RIVER
I-44 MAINLINE PLANS WAYFINDING SIGNAGE (SHEET 2 OF 10)
GARVER

FIGURE G-2

OKLAHOMA DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY
4/21/2020

SIGN MOUNTED ON BRIDGE

33RD W. Ave 1
JCT I-244 1½

51ST ST.

I-44

SKELLY DR.

UNION AVE.

EXIT 223 D
Union Ave
Elwood Ave

EXIT 223D
30 MPH

EXIT 224 B
75 NORTH
Bartlesville
½ MILE

EXIT 224 A
75 SOUTH
Okmulgee

EXIT 224A
35 MPH

ALTERNATIVE 2

0 100 200 300
SCALE

Oklahoma Department of Transportation

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLANS
WAYFINDING SIGNAGE
(SHEET 3 OF 10)

SHEET NO. 03

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FIGURE G-3

OKLAHOMA DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY
4/21/2020

EXIT 224

35 MPH

US 75

I-44

51ST ST.

SKELLY DR

OLYMPIA AVE.

LAWTON AVE.

JACKSON AVE.

MOOSER CREEK

SEE SHEET 09 FOR SIGNAGE AT THE INTERCHANGE

ALTERNATIVE 2

0 100 200 300

SCALE

Oklahoma Department of Transportation

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLANS
WAYFINDING SIGNAGE
(SHEET 4 OF 10)

SHEET NO. 04

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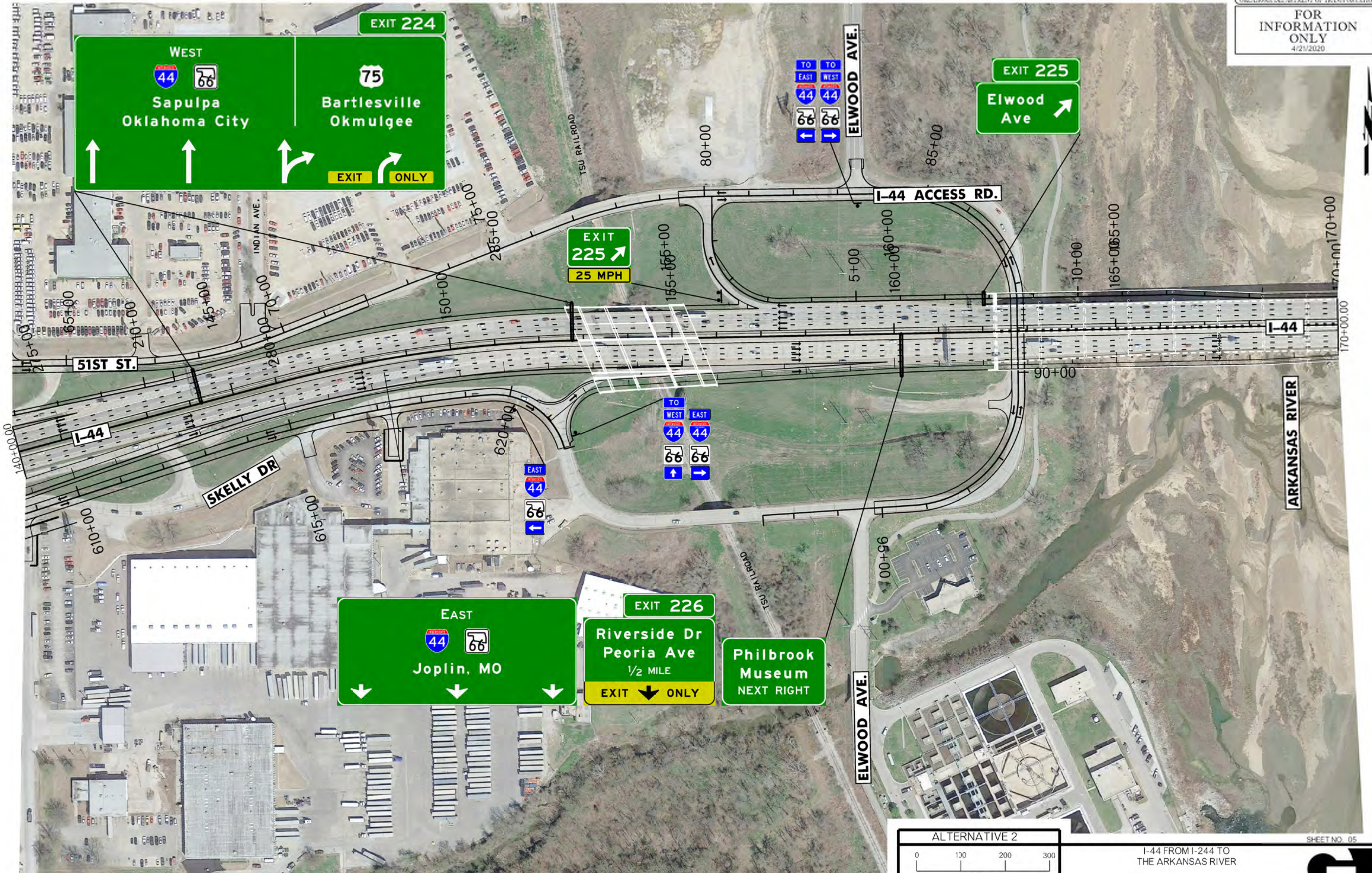
FIGURE G-4



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ALTERNATIVE 2

0 100 200 300
SCALE

Oklahoma Department of Transportation

SHEET NO. 05

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLANS
WAYFINDING SIGNAGE
(SHEET 5 OF 10)

GARVER

FIGURE G-5

OKLAHOMA DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY
4/21/2020

I-44

170+00.00

175+00

180+00

185+00

RIVERSIDE DR.

190+00

195+00

200+00

SKELLY DR.

I-44

SKELLY DR.

ARKANSAS RIVER

EXIT 226

Lewis Ave	1
Harvard Ave	2½
Yale Ave	3¼

Riverside Dr
Peoria Ave
EXIT ↗ ONLY

RIVERSIDE DR.

ALTERNATIVE 2

0 100 200 300
SCALE

Oklahoma Department of Transportation

I-44 FROM I-244 TO THE ARKANSAS RIVER

I-44 MAINLINE PLANS
WAYFINDING SIGNAGE
(SHEET 6 OF 10)

SHEET NO. 06

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FIGURE G-6

OKLAHOMA DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY
4/21/2020

81ST St S. 1
Jens/Main St 2½
Creek Trnpk 3¼

71ST St S.
Union Ave
EXIT ONLY

TO 71ST ST.

US 75

JUNCTION
44 66
Joplin
Oklahoma City
EXIT 1 MILE

61ST St S.
EXIT ¼ MILE
EXIT ONLY

236+57.00

61ST ST.

51ST ST.

TO NORTH 75 TO SOUTH 75

TO NORTH 75 SOUTH 75

210+00

215+00

220+00

R/W

SOUTH 75

US 75

206+00

200+00

EXIT

61ST St S.
EXIT ONLY

TO NORTH 75

TO SOUTH 75

TO SOUTH 75 TO NORTH 75

NORTH 75

TO SOUTH 75 NORTH 75

195+00

61ST ST.

ALTERNATIVE 2

0 100 200 300
SCALE

Oklahoma Department of Transportation

I-44 FROM I-244 TO THE ARKANSAS RIVER

US-75 MAINLINE PLAN
WAYFINDING SIGNAGE
(SHEET 7 OF 10)

SHEET NO. 07

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FIGURE G-7

OKLAHOMA DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY
4/21/2020

61ST St S.
EXIT ONLY

61ST St S.
EXIT 1/4 MILE
EXIT ONLY

220+00.00

225+00

230+00

235+00

240+00

245+00

250+00.00

160+00

165+00

170+00

175+00

180+00

195+00

US 75

E FRONTAGE RD.

R/W

75 NORTH
Tulsa
Bartlesville

44 66
Joplin
Oklahoma City
EXIT 1/4 MILE
EXIT ONLY

75 NORTH
Tulsa
Bartlesville

44 66
Joplin
Oklahoma City
EXIT ONLY

SHEET NO. 08

ALTERNATIVE 2

0 100 200 300
SCALE

Oklahoma Department of Transportation

I-44 FROM I-244 TO THE ARKANSAS RIVER

US-75 MAINLINE PLANS
WAYFINDING SIGNAGE
(SHEET 8 OF 10)

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FIGURE G-8

OKLAHOMA DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY
4/21/2020

EXIT 224 B
75 NORTH
Bartlesville

EAST
44 66
Claremore
Joplin

WEST
44 66
Sapulpa
Okla. City

TO EAST 44 TO 66 75

SKELLY DR

I-44

US 75

49TH ST.

EXIT
224B
25 MPH

WEST
44 66
Sapulpa
Okla. City

EAST
44 66
Claremore
Joplin

75 SOUTH
Okmulgee

75 NORTH
Bartlesville

E FRONTAGE RD.

ESMT.

R/W

ALTERNATIVE 2

0 100 200 300
SCALE

Oklahoma Department of Transportation

I-44 FROM I-244 TO THE ARKANSAS RIVER

US-75 MAINLINE PLANS
WAYFINDING SIGNAGE
(SHEET 9 OF 10)

SHEET NO. 09

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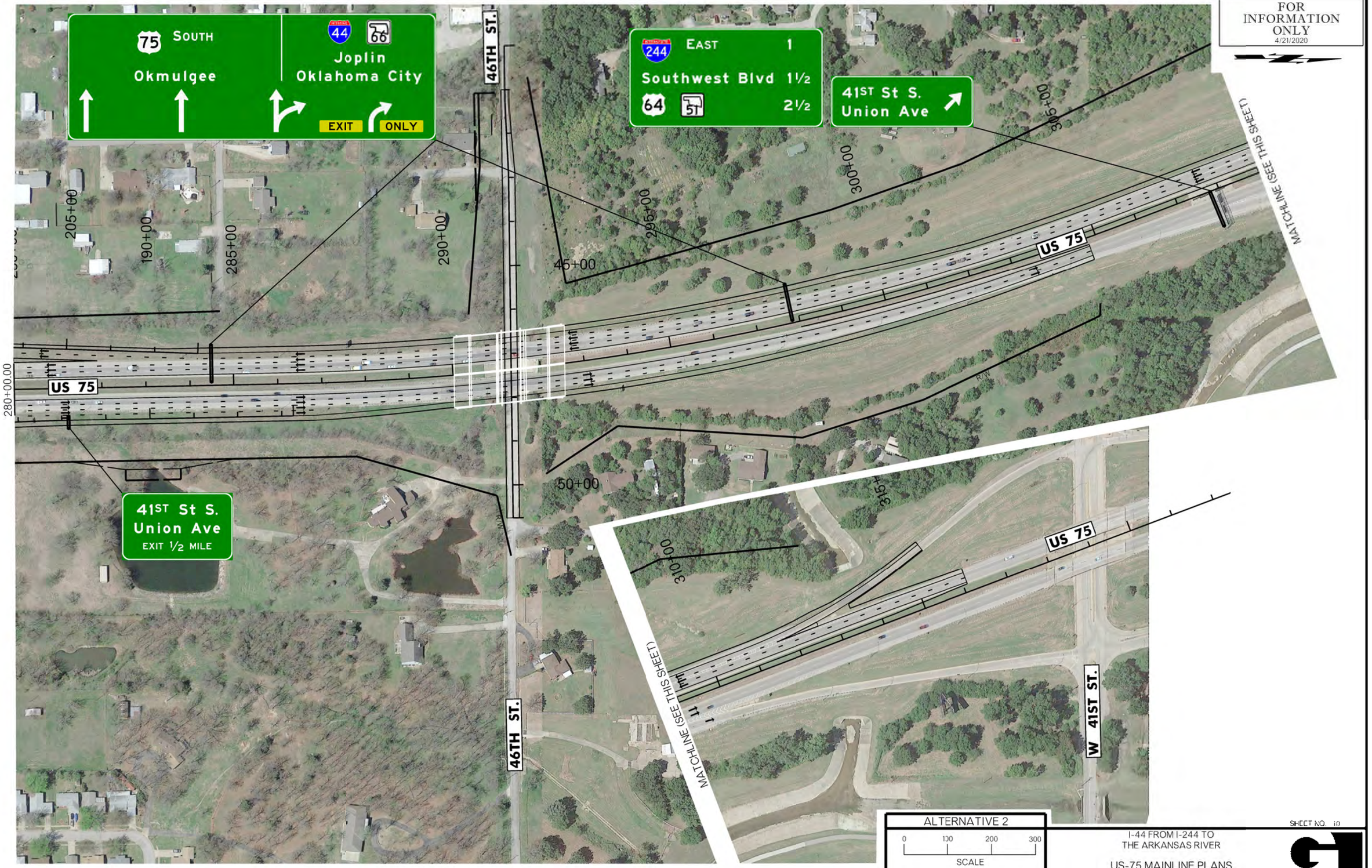
FIGURE G-9

OKLAHOMA DEPARTMENT OF TRANSPORTATION

FOR INFORMATION ONLY
4/21/2020



ALTERNATIVE 2

0 100 200 300
SCALE

Oklahoma Department of Transportation

I-44 FROM I-244 TO THE ARKANSAS RIVER

US-75 MAINLINE PLANS
WAYFINDING SIGNAGE
(SHEET 10 OF 10)

SHEET NO. 10

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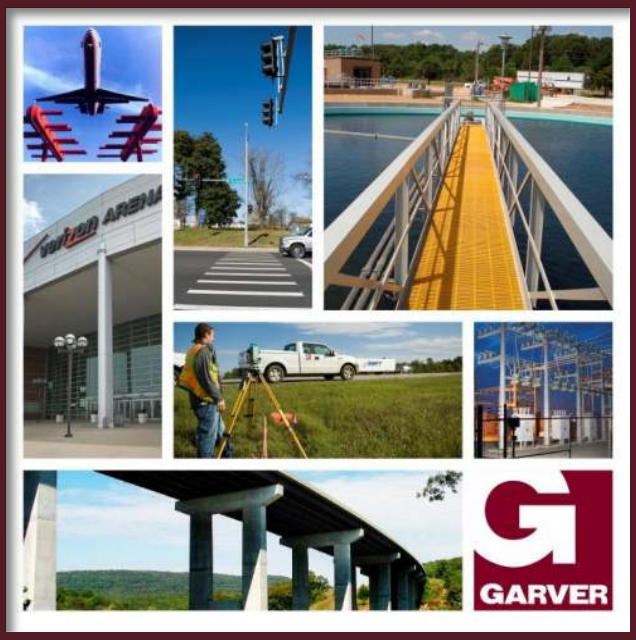
FIGURE G-10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