OKLAHOMA Transportation

FEASIBILITY REPORT

EC -1576 SUPPLEMENT NO. 2

JP 27108(04)
US HWY 69 THRU CITY OF MUSKOGEE
MUSKOGEE COUNTY

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INTRODUCTION

Purpose of Study

This study evaluates the feasibility of providing improvements on the US-69 corridor thru Muskogee and examines three (3) possible alternatives for lane configurations from Border Ave. to Okmulgee Ave.

OPTION 1 – Divided 6-Lane W/Raised Median
OPTION 2 – 7-Lane W/Continuous Center Turn Lane
OPTION 3 – Divided 4-Lane W/Raised Median

Project Background

The current lane configuration was constructed in the 1950's. It has served local and regional traffic well but is in need of updating due to increased traffic congestion during peak hours.

In 2015 Holloway, Updike and Bellen, Inc. (HUB) was tasked with designing upgrades to the corridor to match the sister project along U.S. 69 from Okmulgee Ave. North to Shawnee Bypass which was completed in 2006.

In 2017 HUB was directed to cease design work as the Oklahoma Department of Transportation (ODOT) had decided to explore the option to realign US-69 to loop around the west side of Muskogee. The realignment was met with opposition from the City of Muskogee as well as numerous residents and property owners along the existing corridor. In response ODOT has focused attention on updating the existing corridor.

Corridor Issues

Discussion with ODOT and City of Muskogee officials identified corridor issues that centered on safety, congestion and access.

Along this corridor safety, congestion and access to local businesses all work together. US-69 is a major freight corridor connecting Texas, Oklahoma, Kansas and Missouri. High volumes of heavy trucks use this corridor daily resulting in extreme congestion during peak hour traffic.

Access along the corridor from Border Ave. to Okmulgee Ave is limited by a raised median. There are currently four (4) median openings (Denver St., Elgin St., Arline Ave., and Estelle Ave.). Numerous businesses would benefit from increased access points, however this increase would come at a cost to safety.

Project Purpose and Need

The purpose of the project is to provide a safe roadway and alleviate traffic congestion in the project area.

The need for the project is supported by the following facts:

- Approximately 23,700 vehicles per day (VPD) travel this corridor with approximately 25% being truck traffic.
- Traffic backups occur frequently at the signalized intersections.
- Level of Service (LOS) in the project area is C or worse on all but two of major intersections along the corridor. (Hancock Rd. And Harris Rd.).

Existing Conditions

Project Location

The project is located on the west side of Muskogee, Oklahoma in Muskogee County. The project area is along US-69 from approximately 0.48 miles north of the intersection of US-69 and SH-165 (Peak Blvd.) and extending north 2.49 miles to 300 feet south of the intersection of US-69 and US-62 (Okmulgee Ave.). Total mainline project length is 2.49 miles. The project will remain open section divided 4-lane roadway from beginning of project to Border Ave. The current lane arrangement from Border Ave. to end of project consists of a curbed section and raised center median with two lanes each side.

Roadway Characteristics

US-69 in the project area is a divided 4-lane Principal Arterial.

Traffic Conditions

Existing traffic volumes taken from ODOT on-line data are below.

YEAR	LOCATION			
	SOUTH OF PROJECT	BEGINNING OF PROJECT	END OF PROJECT	NORTH OF PROJECT
	S. OF PEAK BLVD (SH-165)	NEAR HADDOCK DRIVE (SOUTHGATE ADDITION)	OKMULGEE AVENUE (US-62/SH-16)	DENISON STREET (NEAR BANK OF OK)
	VEHICLES PER DAY	VEHICLES PER DAY	VEHICLES PER DAY	VEHICLES PER DAY
2019	20,100	23,000	20,600	23,700
2018	19,600	21,000	20,900	25,800
2017	19,800	20,800	23,900	25,600
2016	19,200	20,100	23,200	24,800
2015	18,600	19,600	22,500	24,000

Collision Data

Crash report data in the project area from the six-year period 2-1-2014 thru 12-31-2019 was compiled. Three fatalities in the study period were found. One of the fatalities occurred in the project area at/near the Arline intersection. Complete crash report data is provided in Appendix B.

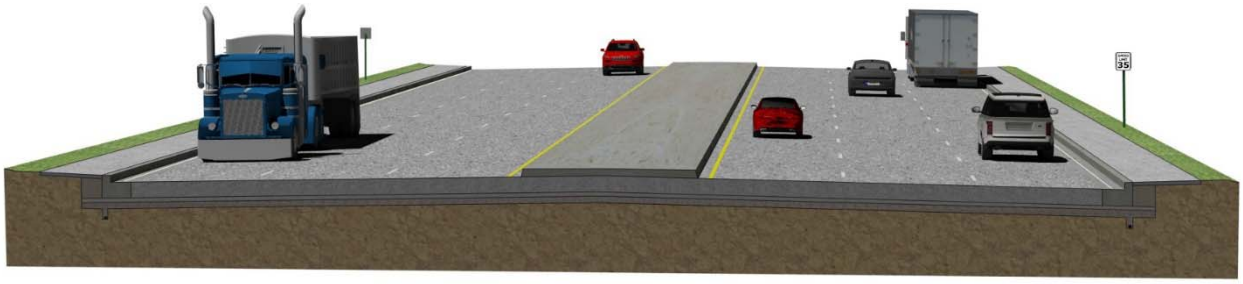
Collisions from Border Ave. to Okmulgee Ave. (CS 56, MP 14.61 to CS 18, MP 0.00)					
Location	Collisions	Possible Injury	Non-Incapacitating Injury	Suspected Serious Injury	Fatality
Denver	18	4	1	-	-
Elgin	4	1	1	-	-
Estelle	9	1	-	1	-
Okmulgee	54	4	4	-	-
Arline	36	5	4	-	1
Border	30	6	2	-	-
US-69	50	5	4	2	-

The fatality collision occurred on 5-7-2016. Associated causes include vehicle crossing median and failure to stop.

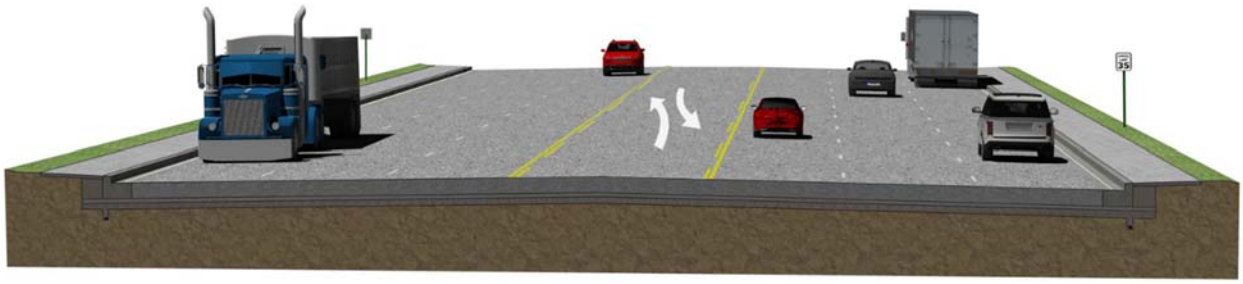
Study Options Considered

HUB was directed to evaluate three options along the US-69 corridor including cost, right-of-way and utility impacts in addition to safety and access.

OPTION 1 - Complete reconstruction of open section divided 4-lane roadway from BOP to Border Ave. and construction of 6-lane curb and gutter with raised concrete median from Border Ave. to EOP. The construction, right-of-way, and utility cost estimate for this alternative is $35,926,000. See Alternative Cost Comparison for cost breakdown and Exhibit 1 for plans.



OPTION 2 - Complete reconstruction of open section divided 4-lane roadway from BOP to Border Ave. and construction of 7-lane curb and gutter with continuous center turn lane from Border Ave. to EOP. The construction, right-of-way, and utility cost estimate for this alternative is $35,609,000. See Alternative Cost Comparison for cost breakdown and Exhibit 2 for plans.



OPTION 3 - Complete reconstruction of open section divided 4-lane roadway from BOP to Border Ave. and reconstruct from Border Ave. to EOP in existing 4-lane divided with raised median configuration. The construction, right-of-way, and utility cost estimate for this alternative is $27,277,000. See Alternative Cost Comparison for cost breakdown and Exhibit 3 for plans.

Each of the above three options include the following:

* Demolition of Existing Railroad Underpass and Replacement with Pedestrian Overpass
* Improvements to Hancock St. and Border Ave.
* New Traffic Signal System Prioritizing the US-69 Traffic
* New Street Lighting from Border Ave. to EOP

ALTERNATIVE COST COMPARISON			
	OPTION 1 (6-Lane)	OPTION 2 (7-Lane)	OPTION 3 (4-Lane)
ROADWAY	$ 22,850,000	$ 22,350,000	$ 19,400,000
BRIDGE A	$ 385,000	$ 385,000	$ 385,000
BRIDGE B	$ 880,000	$ 880,000	$ 880,000
CONST. TRAFFIC CONTROL	$ 750,000	$ 750,000	$ 750,000
SIGNING & STRIPING	$ 150,000	$ 155,000	$ 150,000
TRAFFIC SIGNALS	$ 1,450,000	$ 1,450,000	$ 1,450,000
TRAFFIC LIGHTING	$ 600,000	$ 600,000	$ 600,000
STAKING	$ 220,000	$ 220,000	$ 220,000
MOBILIZATION	$ 1,000,000	$ 1,000,000	$ 1,000,000
COSTRUCTION TOTAL	$ 28,285,000	$ 27,790,000	$ 24,835,000
RIGHT-OF-WAY	$ 5,642,000	$ 5,818,000	$ 443,000
UTILITIES	$ 1,999,000	$ 1,999,000	$ 1,999,000
TOTAL	**$ 35,926,000**	**$ 35,607,000**	**$ 27,277,000**

Level of Service

Level of Service (LOS) is a term used to qualitatively describe the operating conditions of a roadway based on factors such as speed, travel time, maneuverability, delay and safety. The level of service of a facility is designated with a letter, A to F, with A representing the best operating conditions and F the worst.

Traffic Engineering Consultants, Inc. (TEC) completed an operational analysis of a corridor that included the project area. This analysis was completed in February 2016.

This analysis also included a review of the Love Hatbox Recreational area which is currently being expanded to include additional facilities.

LOS results are in Table 2. For further information reference the Operational Analysis Report in Appendix A.

Since TEC's initial analysis, the 7-lane option was introduced and the entrance to the Hatbox Complex via Estelle Street was abandoned. Because of this, ODOT Traffic Division was tasked with updating analysis comparing the three options. Detailed operational analysis reports can be found in Appendix B and Exhibit 4.

Design traffic for the corridor for years 2018 and 2050 were provided by ODOT's Strategic Asset and Performance Management Division from 2018. These years and volumes are the basis of ODOT's operational analysis.

TABLE 2.

Intersection Capacity Analysis Results

Intersection	Type of Traffic Control	AM Peak Hour				PM Peak Hour			
		Critical Approach		Intersection		Critical Approach		Intersection	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2015 Design Traffic with Existing Lane Geometry									
US 69 & Hancock Road	Signalized	18.5 / WB	B	12.6	B	19.7 / WB	B	12.4	B
US 69 & Border Avenue	Signalized	33.1 / EB	C	19.3	B	35.9 / EB	D	14.2	B
US 69 & Estelle Street	Unsignalized	37.2 / EB	E	1.3	A	54.5 / WB	F	1.3	A
US 69 & Arline Avenue	Signalized	45.5 / EB	D	22.4	C	94.4 / SB	F	55.1	E
US 69 & Okmulgee Avenue	Signalized	40.5 / EB	D	27.3	C	45.1 / WB	D	28.4	C
US 69 & Broadway Street	Signalized	42.2 / SB	D	36.4	D	44.3 / EB	D	37.9	D
US 69 & Military Boulevard	Signalized	34.2 / WB	C	15.1	B	33.1 / WB	C	17.9	B
US 69 & Shawnee Bypass	Signalized	41.1 / EB	D	31.8	C	50.6 / WB	D	43.8	D
US 69 & Harris Road	Signalized	17.9 / WB	B	13.4	B	18.3 / WB	B	15.7	B
2015 Design Traffic with Hatbox Development (No Estelle Street Access) and Existing Lane Geometry									
US 69 & Hancock Road	Signalized	18.6 / WB	B	13.0	B	19.8 / WB	B	13.2	B
US 69 & Border Avenue	Signalized	32.6 / EB	C	19.8	B	34.7 / EB	C	17.8	B
US 69 & Estelle Street	Unsignalized	39.3 / EB	E	1.3	A	91.4 / WB	F	2.3	A
US 69 & Arline Avenue	Signalized	44.6 / EB	D	22.9	C	95.1 / SB	F	55.1	E
US 69 & Okmulgee Avenue	Signalized	40.7 / EB	D	27.3	C	44.9 / WB	D	29.1	C
US 69 & Broadway Street	Signalized	45.0 / SB	D	37.6	D	48.1 / SB	D	39.7	D
US 69 & Military Boulevard	Signalized	34.1 / WB	C	15.1	B	33.0 / WB	C	17.7	B
US 69 & Shawnee Bypass	Signalized	41.0 / EB	D	32.0	C	54.1 / WB	D	46.0	D
US 69 & Harris Road	Signalized	17.9 / WB	B	15.7	B	18.3 / WB	B	16.0	B
2015 Design Traffic with Hatbox Development (With Estelle Street Access) and Existing Lane Geometry									
US 69 & Hancock Road	Signalized	18.6 / WB	B	13.0	B	19.8 / WB	B	13.2	B
US 69 & Border Avenue	Signalized	32.8 / EB	C	19.8	B	35.4 / EB	D	14.0	B
US 69 & Estelle Street	Unsignalized	38.7 / EB	E	2.0	A	116.0 / WB	F	3.2	A
US 69 & Arline Avenue	Signalized	44.6 / EB	D	22.9	C	95.1 / SB	F	50.7	D
US 69 & Okmulgee Avenue	Signalized	40.7 / EB	D	27.3	C	44.9 / WB	D	29.1	C
US 69 & Broadway Street	Signalized	45.0 / SB	D	37.6	D	48.1 / SB	D	39.7	D
US 69 & Military Boulevard	Signalized	34.1 / WB	C	15.1	B	33.0 / WB	C	17.7	B
US 69 & Shawnee Bypass	Signalized	41.0 / EB	D	32.0	C	54.1 / WB	D	46.0	D
US 69 & Harris Road	Signalized	17.9 / WB	B	15.7	B	18.3 / WB	B	16.0	B
2040 Design Traffic with Hatbox Development (No Estelle Street Access) and Existing Lane Geometry									
US 69 & Hancock Road	Signalized	25.6 / NB	C	20.8	C	30.5 / WB	C	21.6	C
US 69 & Border Avenue	Signalized	47.1 / EB	D	34.6	C	64.9 / EB	E	35.5	D
US 69 & Estelle Street	Unsignalized	* / WB	F	10.3	A	* / WB	F	18.1	C
US 69 & Arline Avenue	Signalized	67.7 / WB	E	17.1	B	82.2 / WB	F	37.2	D
US 69 & Okmulgee Avenue	Signalized	56.7 / EB	E	39.6	D	96.7 / WB	F	56.9	E
US 69 & Broadway Street	Signalized	54.9 / EB	D	36.0	D	69.2 / EB	E	38.1	D
US 69 & Military Boulevard	Signalized	45.9 / WB	D	15.2	B	28.1 / WB	C	15.9	B
US 69 & Shawnee Bypass	Signalized	78.9 / EB	E	52.1	D	* / WB	F	103.6	F
US 69 & Harris Road	Signalized	32.7 / WB	C	22.9	C	31.0 / WB	C	24.2	C
2040 Design Traffic with Hatbox Development (With Estelle Street Access) and Existing Lane Geometry									
US 69 & Hancock Road	Signalized	25.6 / NB	C	20.8	C	30.5 / WB	C	21.6	C
US 69 & Border Avenue	Signalized	46.6 / EB	D	34.7	C	64.7 / EB	E	32.0	C
US 69 & Estelle Street	Unsignalized	* / WB	F	11.4	B	* / WB	F	23.9	C
US 69 & Arline Avenue	Signalized	67.7 / WB	E	17.1	B	82.2 / WB	F	37.2	D
US 69 & Okmulgee Avenue	Signalized	56.7 / EB	E	39.6	D	96.7 / WB	F	56.9	E
US 69 & Broadway Street	Signalized	54.9 / EB	D	36.0	D	69.2 / EB	E	38.1	D
US 69 & Military Boulevard	Signalized	45.9 / WB	D	15.2	B	28.1 / WB	C	15.9	B
US 69 & Shawnee Bypass	Signalized	78.9 / EB	E	52.1	D	* / WB	F	103.6	F
US 69 & Harris Road	Signalized	32.7 / WB	C	22.9	C	31.0 / WB	C	24.2	C
2040 Design Traffic with Hatbox Development (No Estelle Street Access) and Proposed Lane Geometry									
US 69 & Hancock Road	Signalized	20.0 / NB	B	17.0	B	27.5 / EB	C	17.6	B
US 69 & Border Avenue	Signalized	62.2 / WB	E	28.9	C	55.4 / WB	E	24.1	C
US 69 & Estelle Street	Unsignalized	* / EB	F	5.7	A	* / WB	F	15.8	C
US 69 & Arline Avenue	Signalized	44.6 / WB	D	22.9	C	49.2 / EB	D	22.1	C
US 69 & Okmulgee Avenue	Signalized	53.1 / EB	D	34.0	C	80.9 / WB	F	50.4	D
US 69 & Broadway Street	Signalized	51.2 / WB	D	41.8	D	67.0 / EB	E	42.6	D
US 69 & Military Boulevard	Signalized	41.7 / WB	D	13.9	B	45.1 / WB	D	16.9	B
US 69 & Shawnee Bypass	Signalized	77.5 / EB	E	52.8	D	* / EB	F	114.0	F
US 69 & Harris Road	Signalized	32.7 / WB	C	22.9	C	31.0 / WB	C	24.2	C
2040 Design Traffic with Hatbox Development (With Estelle Street Access) and Proposed Lane Geometry									
US 69 & Hancock Road	Signalized	20.0 / NB	B	17.0	B	27.5 / EB	C	17.6	B
US 69 & Border Avenue	Signalized	62.6 / WB	E	29.0	C	54.9 / WB	D	24.0	C
US 69 & Estelle Street	Unsignalized	* / WB	F	8.7	A	* / WB	F	24.1	C
US 69 & Arline Avenue	Signalized	44.6 / WB	D	22.9	C	49.2 / EB	D	22.1	C
US 69 & Okmulgee Avenue	Signalized	53.1 / EB	D	34.0	C	80.9 / WB	F	50.4	D
US 69 & Broadway Street	Signalized	51.2 / WB	D	41.8	D	67.0 / EB	E	42.6	D
US 69 & Military Boulevard	Signalized	41.7 / WB	D	13.9	B	45.1 / WB	D	16.9	B
US 69 & Shawnee Bypass	Signalized	77.5 / EB	E	52.8	D	* / EB	F	114.0	F
US 69 & Harris Road	Signalized	32.7 / WB	C	22.9	C	31.0 / WB	C	24.2	C

Key data and results gleaned from the analysis are illustrated in Tables 6, 7, 8 and 9. Tables 6 and 7 show arterial level of service information while Tables 8 and 9 include intersection level of service information. Note that the 6-lane and 7-lane options are reported as the same column in the tables. From an operators/analytical perspective there is little difference between these options. This is discussed further in Appendix B. The v/c ratio in Tables 8 and 9 is derived by the volume of traffic by the capacity of the roadway. V/c ratios below 0.95 are ideal, but v/c ≤1.05 during out year peak is likely acceptable since design traffic numbers usually represent worst-case conditions.

Table 6. 2018 Arterial Level of Service / Arterial Speed (mph) / Travel Time (min' sec)

Direction	Period	Repaired Signals	4-Lane Divided Option	6- and 7-Lane Options
NB	AM Peak	B / 28 / 09' 27	B / 29 / 09' 06	B / 29 / 09' 00
SB	AM Peak	B / 30 / 08' 33	B / 30 / 08' 24	B / 31 / 08' 13
NB	PM Peak	C / 27 / 09' 41	C / 27 / 09' 31	C / 28 / 09' 25
SB	PM Peak	C / 28 / 09' 05	B / 29 / 08' 48	B / 29 / 08' 42

Table 7. 2050 Arterial Level of Service / Arterial Speed (mph) / Travel Time (min' sec)

Direction	Period	Maintained Signals	4-Lane Divided Option	6- and 7-Lane Options
NB	AM Peak	E / 13 / 20' 02	E / 14 / 18' 48	E / 16 / 16' 31
SB	AM Peak	E / 15 / 17' 10	E / 16 / 16' 11	E / 19 / 13'20
NB	PM Peak	F / 11 / 22' 53	F / 12 / 21' 47	E / 14 / 19' 17
SB	PM Peak	F / 10 / 25' 00	F / 11 / 22' 51	E / 15 / 16' 58

Table 8. 2018 Intersection LOS – Maximum v/c Ratio for All Options

Intersection	2018 AM Repaired	2018 PM Repaired	2018 AM 4-Lane	2018 PM 4-Lane	2018 AM 6-/7-Lane	2018 PM 6-/7-Lane
US-69 & Fern Mountain/Harris	D – 0.88	D – 0.94	D – 0.88	D – 0.94	D – 0.88	D – 0.94
US-69 & Shawnee	D – 0.98	E – 1.05	D – 0.98	E – 1.05	D – 0.98	D – 1.05
US-69 & Military/ Tahlequah	B – 0.74	B – 0.79	B – 0.74	B – 0.79	B – 0.74	B – 0.79
US-69 & Broadway	C – 0.97	C – 0.94	C – 0.97	C – 0.94	C – 0.98	C – 0.94
US-69 & Okmulgee	D – 0.96	D – 1.04	D – 0.96	D – 1.04	C – 0.91	D – 0.95
US-69 & Arline	B – 0.77	C – 0.99	B – 0.77	C – 0.98	B – 0.63	C – 0.74
US-69 & Border	C – 0.89	C – 0.91	B – 0.77	C – 0.78	B – 0.74	B – 0.61
US-69 & Hancock	C – 0.79	C – 0.85	B – 0.74	C – 0.80	B – 0.55	B – 0.73

Major operational problems arise with the 2050 analysis. The 6 and 7-lane options perform well from Hancock to Arline; however, the Okmulgee and Broadway intersections will need modifications to handle the anticipated volumes in 2050. Potential improvements suggested from ODOT Traffic Division can be seen in Appendix B.

Table 9. 2050 Intersection LOS – Maximum v/c Ratio for All Options

Intersection	2050 AM Maintained	2050 PM Maintained	2050 AM 4-Lane	2050 PM 4-Lane	2050 AM 6-/7-Lane	2050 PM 6-/7-Lane
US-69 & Fern Mountain/Harris	F – **1.37**	F – **1.52**	F – **1.37**	F – **1.52**	F – **1.37**	F – **1.52**
US-69 & Shawnee	F – **1.37**	F – **1.56**	F – **1.37**	F – **1.56**	F – **1.37**	F – **1.56**
US-69 & Military/ Tahlequah	B – 0.98	D – **1.07**	B – 0.98	D – **1.07**	B – 0.98	D – **1.07**
US-69 & Broadway	F – **1.27**	F – **1.31**	F – **1.27**	F – **1.31**	F – **1.27**	F – **1.31**
US-69 & Okmulgee	F – **1.32**	F – **1.50**	F – **1.32**	F – **1.50**	F – **1.20**	F – **1.33**
US-69 & Arline	E – **1.31**	F – **1.41**	E – **1.31**	F – **1.41**	C – 0.92	E – **1.09**
US-69 & Border	F – **1.37**	F – **1.52**	F – **1.32**	F – **1.34**	D – 0.97	C – 1.00
US-69 & Hancock	D – **1.23**	F – **1.30**	C – 1.04	D – **1.13**	C – 0.89	C – 0.91

Right-of-Way and Utility Impacts

Options 1 and 2

Options 1 and 2 have virtually identical construction footprints resulting in the same impacts to right-of-way and utilities.

Required Right-of-Way and Utility Easements

US-69 Station 586+70.43 to 592+69.84 RT – Temporary R/W & Perpetual Utility Easement
US-69 Station 622+00 to 628+00 LT & RT – Proposed R/W to Extend Coody Creek RCB
US-69 Station 624+00 to 626+00 LT & RT – Temporary R/W to Open Channel
US-69 Station 626+00 to 636+00 RT – Temporary R/W & Perpetual Utility Easement
US-69 Station 648+35.82 to 652+37.64 RT – Temporary R/W & Perpetual Utility Easement
US-69 Station 649+00 to 652+14.90 LT – Temporary R/W & Perpetual Utility Easement
US-69 Station 653+13.89 to 656+00 LT – Temporary R/W & Perpetual Utility Easement
US-69 Station 653+38.04 to 658+00 RT – Temporary R/W & Perpetual Utility Easement
US-69 Station 665+43.00 to 678+69.34 LT – Temporary R/W & Perpetual Utility Easement
US-69 Station 666+03.48 to 695+57.09 RT – Temporary R/W & Perpetual Utility Easement
Border Ave. Station 15+25.00 to 18+99.94 LT – Proposed R/W

* Border Ave. Station 14+45.00 to 18+99.94 LT – Temporary R/W & Perpetual Utility Easement
  Border Ave. Station 20+90.11 to 24+54.45 LT – Temporary R/W & Perpetual Utility Easement

* This Utility Easement impacts a building structure at Access Storage on border Ave. This requires purchasing the building or an exception to ODOT minimum utility corridor width could be made. Overhead power and water need to fit inside a 14' corridor for approximately 166 feet.

Utility Conflicts

US-69 Station 586+70.43 to 592+69.84 RT – TUG and Water
US-69 Station 626+00 to 636+00 RT – Water and OHE
US-69 Station 648+35.82 to 652+37.64 RT – Water and OHE
US-69 Station 649+00 to 656+00 LT – Power Underground and Sanitary Sewer
US-69 Station 653+38.04 to 658+00 RT – Water
US-69 Station 665+43 to 678+69.34 LT – Gas and Sanitary Sewer
US-69 Station 666+03.48 to 695+57.09 RT – Water and Sanitary Sewer
Border Ave. Station 14+45.00 to 18+99.94 LT – Water and OHE
Border Ave. Station 20+90.11 to 24+54.45 LT – Water

Option 3

Required Right-of-Way and Utility Easements

US-69 Station 586+70.43 to 592+69.84 RT – Temporary R/W & Perpetual Utility Easement
US-69 Station 622+00 to 628+00 LT & RT – Proposed R/W to Extend Coody Creek RCB
US-69 Station 624+00 to 626+00 LT & RT – Temporary R/W to Open Channel
US-69 Station 666+03.48 to 674+31.17 RT – Temporary R/W & Perpetual Utility Easement

Border Ave. Station 15+25.00 to 18+99.94 LT – Proposed R/W

* Border Ave. Station 14+45.00 to 18+99.94 LT – Temporary R/W & Perpetual Utility Easement
  Border Ave. Station 20+90.11 to 24+54.45 LT – Temporary R/W & Perpetual Utility Easement

* This Utility Easement impacts a building structure at Access Storage on border Ave. This requires purchasing the building or an exception to ODOT minimum utility corridor width could be made. Overhead power and water need to fit inside a 14' corridor for approximately 166 feet.

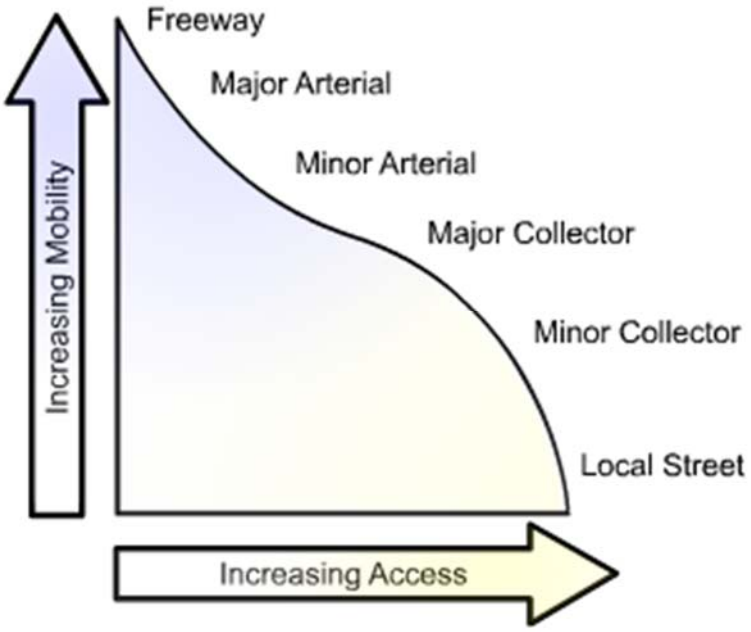
Utility Conflicts

US-69 Station 586+70.43 to 592+69.84 RT – TUG and Water
US-69 Station 626+00 to 636+00 RT – Water and OHE
US-69 Station 666+03.48 to 671+71.81 RT – Water
Border Ave. Station 14+45.00 to 18+99.94 LT – Water and OHE
Border Ave. Station 20+90.11 to 24+54.45 LT – Water

Access Review

Per Federal Highway Administration, Access Management (AM) is the proactive management of vehicular access points to land parcels adjacent to all manner of roadways. Good AM promotes safe and efficient use of the transportation network. AM encompasses a set of techniques that state and local governments can use to control access to highways, major arterials, and other adjacent roadways. AM provides an important means of maintaining mobility. It calls for effective ingress and egress to a facility, efficient spacing and design to preserve the functional integrity and overall operational viability of street and road systems. Access Management should address:

* Facility Hierarchy
* Traffic Signal Spacing
* Turning and Auxiliary Lanes
* Intersection/Interchange Spacing
* Median Treatments/Openings
* Street Connections
* Driveway Spacing



Facts to consider when choosing alternatives regarding the corridor from Border Ave. to Okmulgee Ave. are as follows:

- Approximately 4000 feet between extreme North/South driveways. 29 Driveways on west side and 31 on east side. This translates to a driveway every 138 feet.
- As access density increases crash rates increase.
- Roadways with non-traversable medians are safer than undivided roadways or those with continuous two-way left-turn lanes (TWLTL) NCHRP Report 420, 1999 (Transportation Research Board-National Cooperative Highway Research Program).

- Highway facilities with non-traversable medians had an overall accident rate of 5.2 million vehicle miles travelled (VMT) compared with 7.3 per million VMT on facilities with TWLTL's. Average crash rates are 30% less with median.

Access Management is critical in providing safe roadways especially considering the US-69 corridor is a principal arterial. Future traffic will only increase resulting in more crashes. It is important to make wise, educated decisions when choosing alternative median/non-median designs. See additional comments and map provided by Traffic Engineering Consultants in Appendix C.

Comparative Matrix of Alternatives

Item	Alternative		
	Option 1	Option 2	Option 3
Total Costs (Millions)	$35.926	$35.607	$27.277
Residential/Building Impacts	1 Impact but can be avoided w/design exception	1 Impact but can be avoided w/design exception	1 Impact but can be avoided w/design exception
Level of Service	Best, increase capacity w/reduced delays.	Slight improvement with higher crash rates.	Poor, no improvement.
Right-of-Way/Utility Conflicts	13	13	8
Non-Traversable Median	X	-	X
No Median (TWLTL)		X	

Recommendation

After a careful review and consideration of the existing conditions, cost, benefits, right-of-way and utility impacts, HUB determined that none of the alternatives solve all the traffic, safety and access concerns. HUB recommends that Option 1, a divided 6-lane w/raised median from Border Ave. to Okmulgee Ave. be advanced to design phase. The reasons to advance Option 1 rather than Option 2 or 3 are as follows:

- Providing safe roadways is paramount. Option 1 will be inherently safer than Option 2 because of the raised median. The additional lanes in Option 1 vs. Option 3 will provide better traffic flow resulting in fewer crashes.

- Level of Service between Option 1 and Option 3 offers improvements at 4 of the 5 intersections from Border to Okmulgee.

- Following good access management practices, Option 1 with a raised median is preferred over Option 2 with TWLTL.

- Cost: Option 1 is only $319,000 (0.9%) higher than Option 2 and $8,649,000 (31.7%) higher than Option 3. The additional cost is acceptable when considering Option 1 has more capacity, higher LOS and better traffic flow resulting in a safer roadway for years to come.

Appendix A
Operational Analysis Report (TEC)

OPERATIONAL ANALYSIS

US 69 & US 62 (Shawnee Bypass)
Muskogee, Oklahoma

Prepared for:

Holloway, Updike & Bellen

February 2016

Prepared by:

Traffic Engineering Consultants, Inc.

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Date

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1.0 INTRODUCTION

Traffic Engineering Consultants, Inc. (TEC) was retained to conduct an operational analysis on US 69, from Hancock Road on the south to Harris Road on the north located in Muskogee, Oklahoma as indicated in **Figures 1A and 1B**. The operational analysis was conducted to review the signalized intersections from Hancock Road to Okmulgee Avenue to determine the levels of service under future traffic conditions with regards to the proposed roadway widening project EC-1576. The intersections from Okmulgee Avenue north to Harris Road were to be analyzed to review the existing geometry under the future traffic conditions and to make recommendations regarding improvements, if needed. The study was also requested to include a review of the Love Hatbox Recreational area that is proposed to be expanded in the near future to include additional recreational facilities. This work required the need to determine the future traffic for this site during the weekday peak hour periods and to review the access to and from this site. The results of the reviews and analyses are to be used to determine if street geometry and/or traffic control modifications will be necessary to accommodate the future traffic volumes.

2.0 BACKGROUND

US 69 currently has a mixture of travelway sections throughout the study area. South of Border Avenue, the highway is a four-lane divided highway with open section shoulders. North of Border Avenue, the highway is a curbed section four-lane divided highway. The four lane section transitions to a six-lane undivided curbed section approximately 500 feet south of Okmulgee Avenue. This section then transitions to a seven lane facility that includes a two-way left turn lane north of Broadway Street through the intersection at US 62/Shawnee Bypass. North of this intersection, the highway transitions back into an undivided curbed section four-lane facility. The highway then transitions back into a four-lane divided open section highway approximately one-half mile north of Harris Road. The posted speed limit on US 69 is 55 miles per hour south of Hancock Road, 45 miles per hour between Hancock Road and Border Avenue, 35 miles per hour north of Border Avenue to just north of Inman Street, and 45 miles per hour throughout the north end of the study area. The signalized intersections reviewed within the study area along the US 69 corridor include Hancock Avenue, Border Avenue, Arline Avenue, Okmulgee Avenue, Broadway Street, Military Boulevard, US 62/Shawnee Bypass and Harris Road.

FIGURE 1A. Project Limits (South)
EC-1576 - US 69 Muskogee

FIGURE 1B. Project Limits (North)
EC-1576 - US 69 Muskogee

The current ODOT improvement project EC-1576 was developed to widen US 69 from Okmulgee south to Border Avenue to match the six-lane curbed section facility with separate auxiliary lanes. Then the improvements are to continue south of Border with the widening of the current median to 40 feet wide, but retain the four-lane divided open section roadway.

The expanded Love Hatbox recreational development is located along the west side of US 69, between Denver Avenue and Border Avenue in Muskogee as indicated in **Figure 2**. This existing recreational facility is proposed to be expanded to include a regional park of 290 acres, an arena/event center area of 46 acres, and a community center of 74,000 square feet. The recreational facility will ultimately include three primary points of access along US 69. These points of access include the intersections at Denver Avenue, Arline Avenue, and Border Avenue. Estelle Street, located between Border Avenue and Arline Avenue is also a possible future point of access. Access scenarios for the Love Hatbox recreational facility this study include access with and without access to and from Estelle Street. Currently, the side streets of Hancock Avenue, Border Avenue, Estelle Street, and Arline Avenue are all two-lane facilities in the study area. Hancock Avenue, Border Avenue, and Arline Avenue cross US 69 at signalized intersections and Estelle Street intersects US 69 at a two-way stop controlled intersection.

3.0 TRAFFIC

3.1 Design Traffic

The 2015 and 2040 design traffic volume data throughout the study area was developed by the Oklahoma Department of Transportation (ODOT) and provided to TEC for use in the analyses and reviews within this study. The data included average annual daily traffic volumes (AADT), design hour turning movement volumes and truck percentages. This data is included in the appendix. To conduct the review of the Love Hatbox recreational area, TEC collected additional weekday peak hour turning movement volumes and directional twenty-four hour approach traffic volumes at the intersection of US 69 and Estelle Street and detailed printouts of all the traffic count data are included in the appendix. The traffic data provided by ODOT is summarized, as indicated in **Figures 3A, 3B, 4A** and **4B**.

3.2 Future Total Traffic

The traffic expected to be generated by all the new recreational facilities included in the expanded Love Hatbox facility was estimated utilizing the information provided by the City of Muskogee. The additional traffic was determined utilizing the land use types and sizes along with standardized trip rate information that best fit the proposed new recreational facilities as contained in the latest ITE Trip Generation

FIGURE 2. Love Hatbox Recreational Area Proposed Access

TEC
A CLEAR DIRECTION

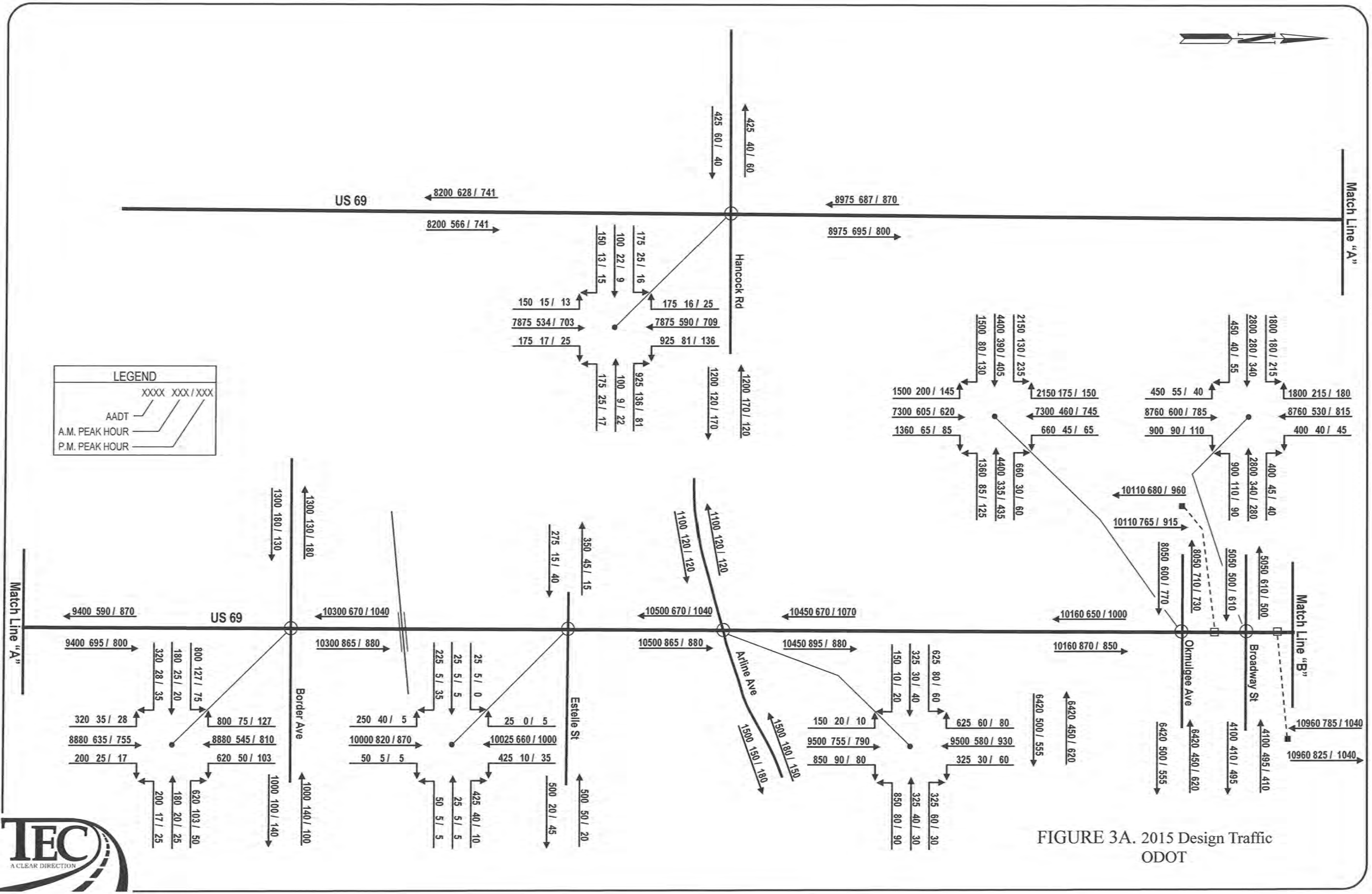


FIGURE 3A. 2015 Design Traffic
ODOT

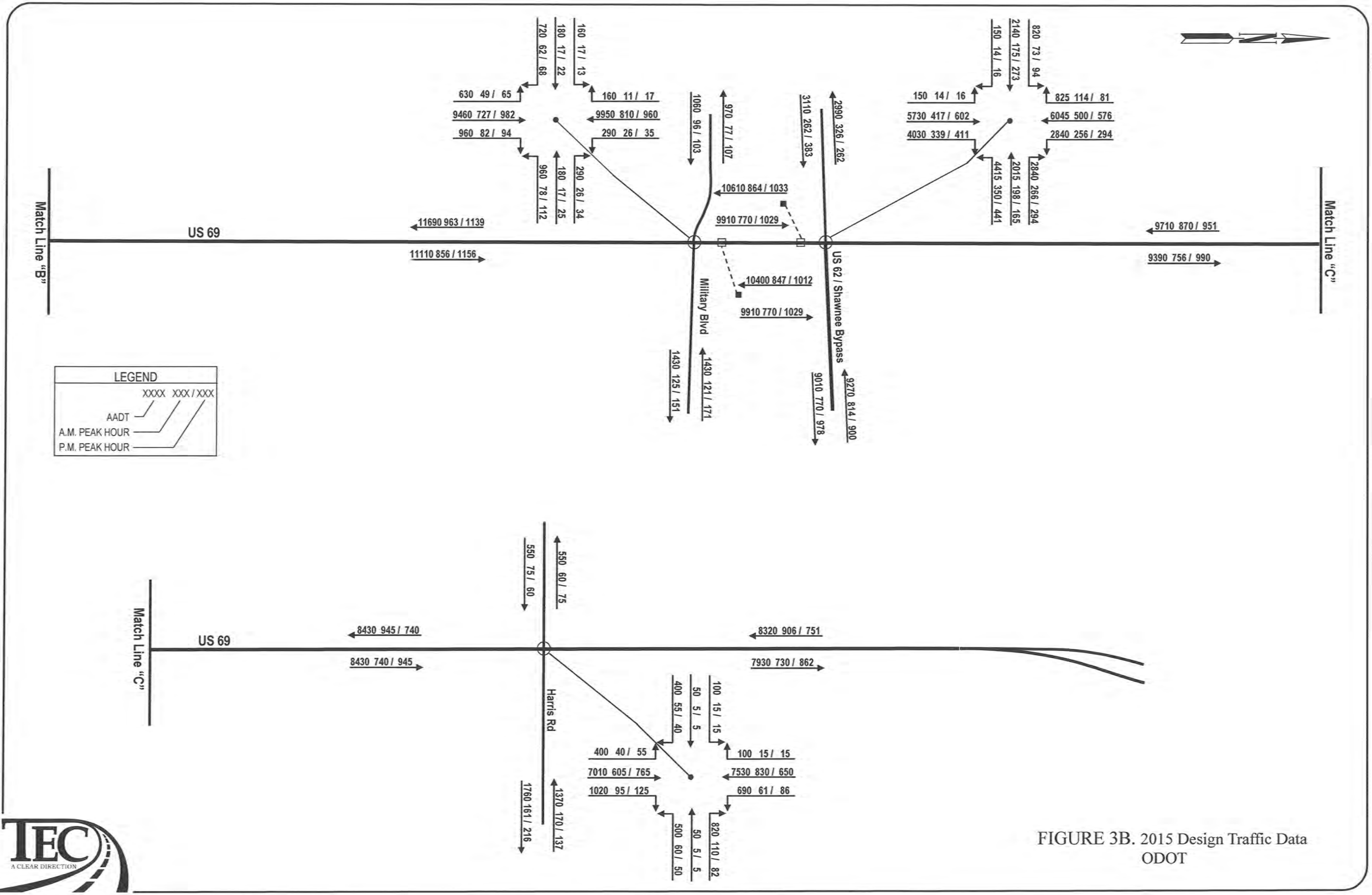


FIGURE 3B. 2015 Design Traffic Data
ODOT

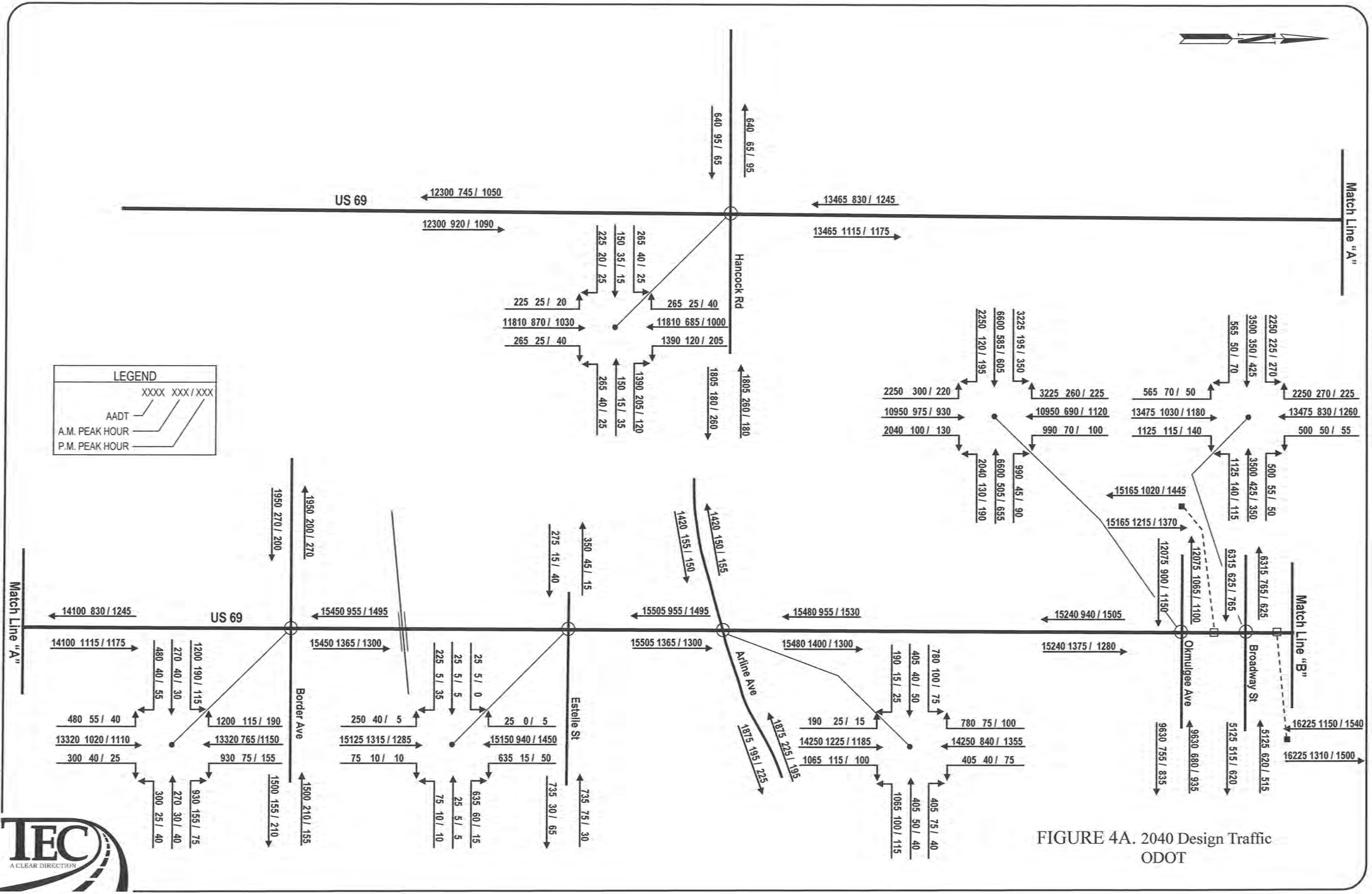


FIGURE 4A. 2040 Design Traffic
ODOT

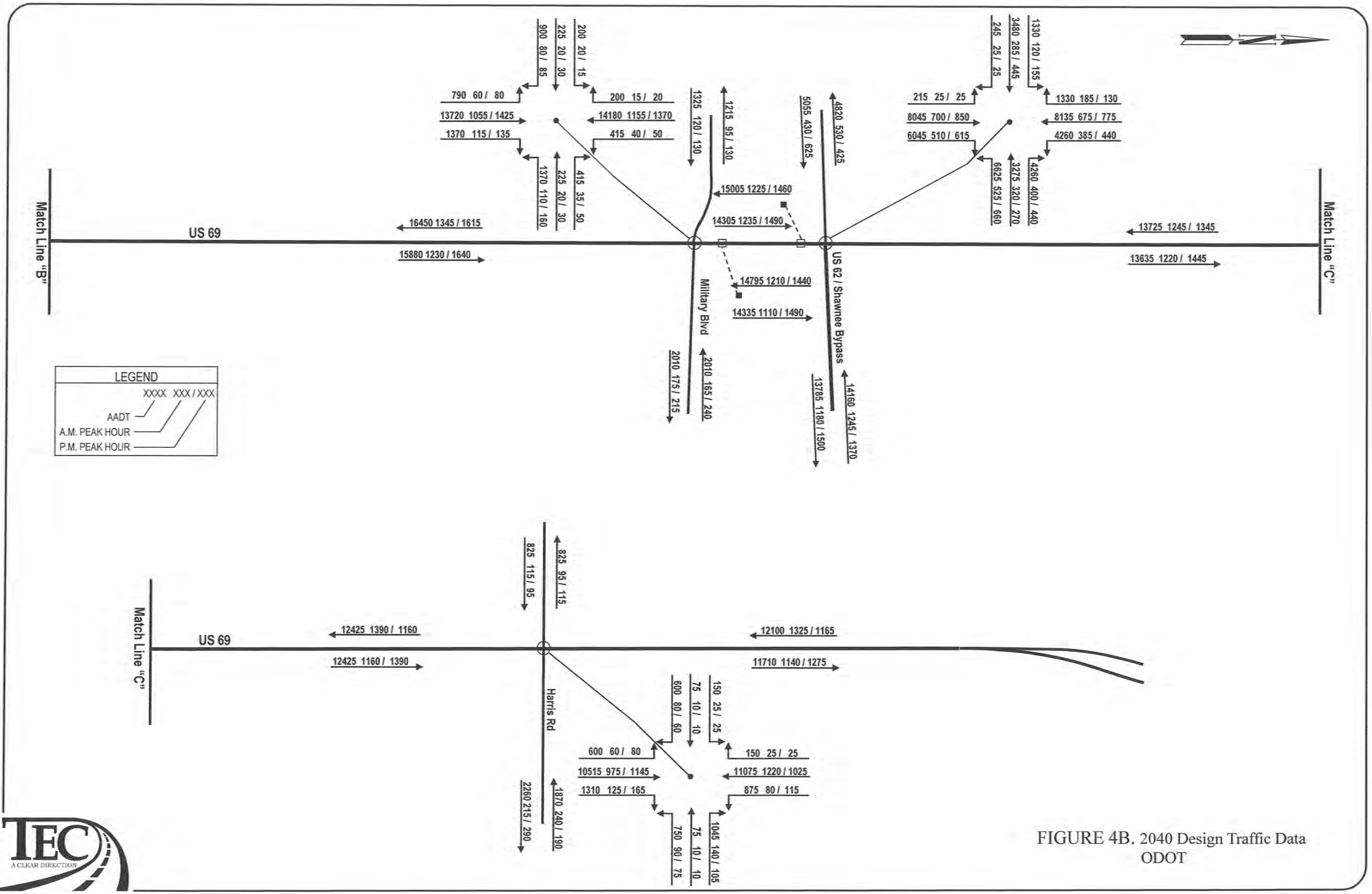


FIGURE 4B. 2040 Design Traffic Data
ODOT

Manual. The traffic volumes projected to be generated by the expanded recreational facility during the average weekday are summarized in **Table 1**. The average weekday period was selected to coincide with the ODOT developed design traffic. The peak hour traffic volumes projected to be generated by each of the expanded facility were then distributed among the adjacent street system and proposed points of access.

TABLE 1.

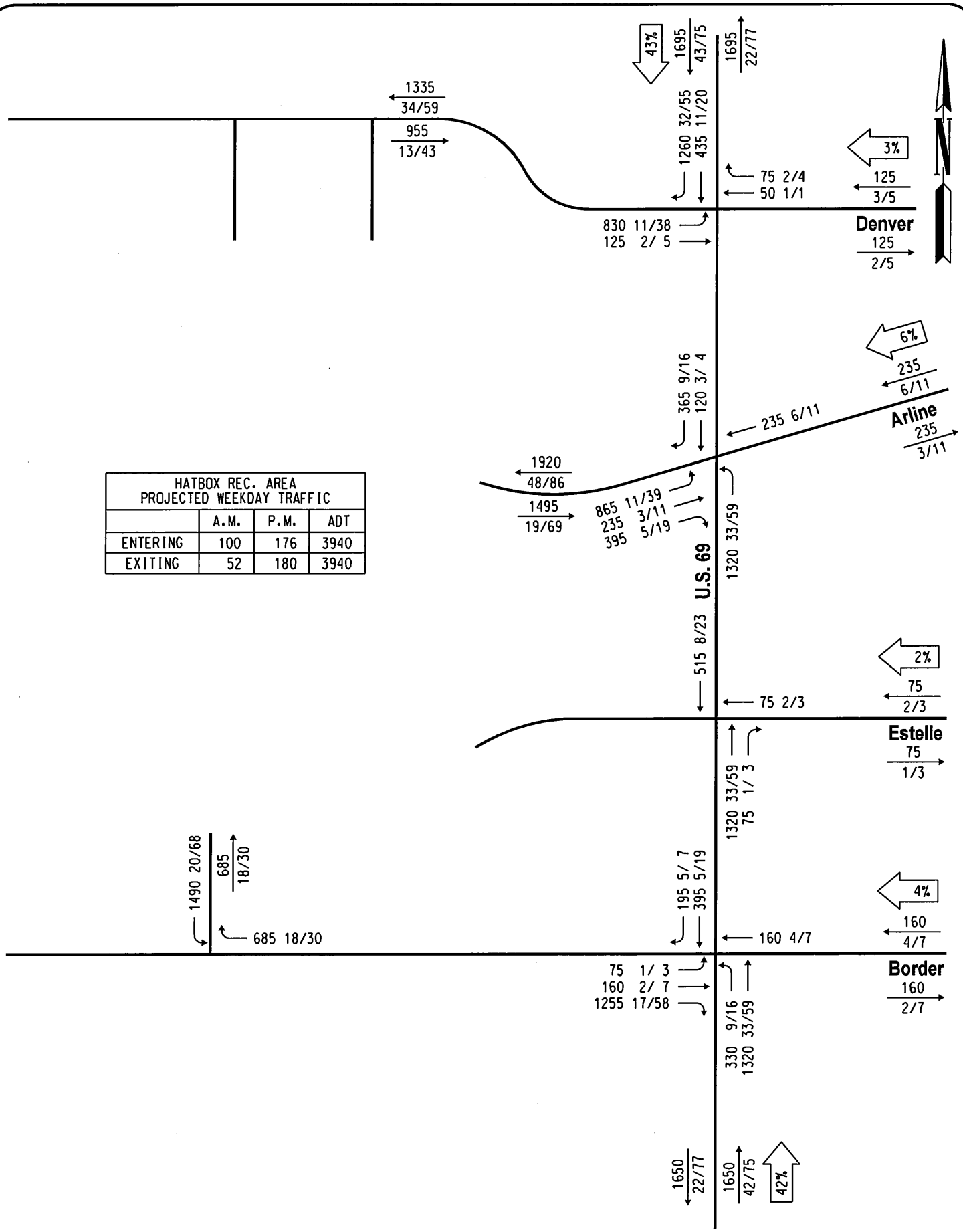
PROJECTED SITE GENERATED TRAFFIC VOLUMES
Hatbox Park and Sports Complex

(ITE Land Use) Building Type	Approx. Gross Floor Area or Other	Avg. Weekday Veh. Trip Ends: PER DAY	Per Peak Hour of Adjacent Street Traffic: One Hour Between 7am & 9am	Per Peak Hour of Adjacent Street Traffic: One Hour Between 4pm & 6pm	Average AM Peak Hour Directional Distribution		Average AM Peak Hour Directional Volume (vph)		Average PM Peak Hour Directional Distribution		Average PM Peak Hour Directional Volume (vph)	
		(vpd)	(vph)	(vph)	IN	OUT	IN	OUT	IN	OUT	IN	OUT
TRIP RATE[1]	(acres)	4.57	-----	0.20								
(417) Regional Park	290	1325	N.A	58	-----	-----	0	0	0.45	0.55	26	32
TRIP RATE[1]	(acres)	33.33	-----	3.33								
(460) Arena (Event Center)	46	1533	N.A	153	-----	-----	0	0	0.50	0.50	77	77
TRIP RATE[1]	(s.f.)	33.82	2.05	2.74								
(495) Recreational Community Center	74000	6346	152	203	0.66	0.34	100	52	0.49	0.51	99	103
TOTAL		7879	152	356			100	52			176	180

[1] Trip Rates from "TRIP GENERATION", 9th Ed., Vol. 2, Institute of Transportation Engineers.

The distribution of the site generated traffic was based on anticipated usage of the site and is summarized in **Figures 5** and **6**. **Figure 5** assumes the Hatbox recreational development does not have access at Estelle Street and **Figure 6** assumes the recreational development has an additional access point at Estelle Street. All of the traffic that accesses the recreational site via Estelle Street in **Figure 6** was reassigned to Border Avenue, as indicated in **Figure 5**. The directional distribution of the site generated traffic for the proposed development is expected to be:

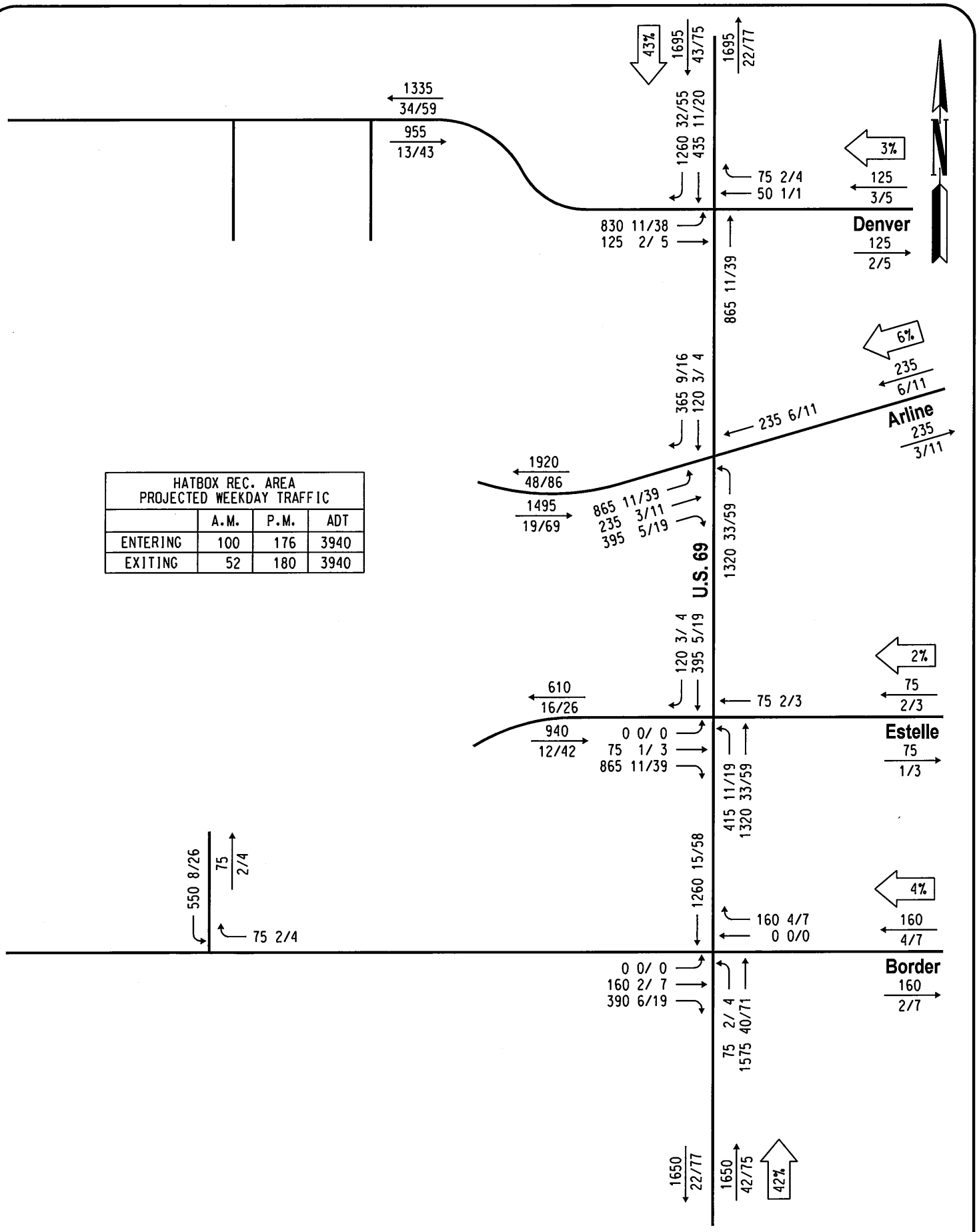
- 43% to/from US 69 north of the development
- 42% to/from US 69 south of the development
- 3% to/from Denver Avenue, east of the development
- 6% to/from Arline Avenue, east of the development
- 2% to/from Estelle Street, east of the development
- 4% to/from Border Avenue, east of the development



HATBOX REC. AREA PROJECTED WEEKDAY TRAFFIC			
	A.M.	P.M.	ADT
ENTERING	100	176	3940
EXITING	52	180	3940

FIGURE 5. Projected Distribution of Weekday Hatbox Area Recreational Traffic without Estelle St. Access

TEC
A CLEAR DIRECTION



HATBOX REC. AREA PROJECTED WEEKDAY TRAFFIC			
	A.M.	P.M.	ADT
ENTERING	100	176	3940
EXITING	52	180	3940

FIGURE 6. Projected Distribution of Weekday Hatbox Area Recreational Traffic with Estelle St. Access

TEC
A CLEAR DIRECTION

The projected site generated traffic was then added to the 2015 and 2040 design traffic. The total combined 2015 traffic without and with access to Estelle Street is summarized in **Figures 7A, 7B, 8A and 8B**, respectively. The total combined 2040 traffic without and with access to Estelle Street is summarized in **Figures 9A, 9B, 10A and 10B**, respectively.

4.0 CAPACITY ANALYSIS

The capacity analyses were conducted using *Synchro, Version 9,* which is a software package for modeling and optimizing traffic signal timings at signalized intersections, and analyzing unsignalized intersections in accordance with the methodology of the latest edition of the *Highway Capacity Manual.* The *Highway Capacity Manual* is provided by the Transportation Research Board of the National Research Council, Washington, D.C. The information has been widely accepted throughout the U.S. as a guide for defining and solving transportation challenges. The information is approved and distributed by the U.S. Department of Transportation, Federal Highway Administration.

The capacity analysis provides a measure of the amount of traffic that a given facility can accommodate. Traffic facilities generally operate poorly at or near capacity. The analysis is intended to estimate the maximum amount of traffic that can be accommodated by a facility while maintaining prescribed operational qualities. The definition of operational criteria is accomplished using level-of-service (LOS). The concept of LOS is defined as a qualitative measure and describes operational conditions in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience and safety. Six levels-of-service are defined for each type of facility for which analysis procedures are available. They are given letter designations, from "A" to "F", with LOS "A" representing the best operating conditions and LOS "F" the worst.

The average control delay, for signalized intersections, is estimated for each lane group and aggregated for each approach for the intersection as a whole. The level-of-service, for this type of traffic control, is directly related to the control delay value. The level-of-service criteria for signalized intersections are indicated below.

SIGNALIZED INTERSECTIONS

Level-of-Service	Control Delay per Vehicle (s/veh)
A	≤ 10
B	> 10-20

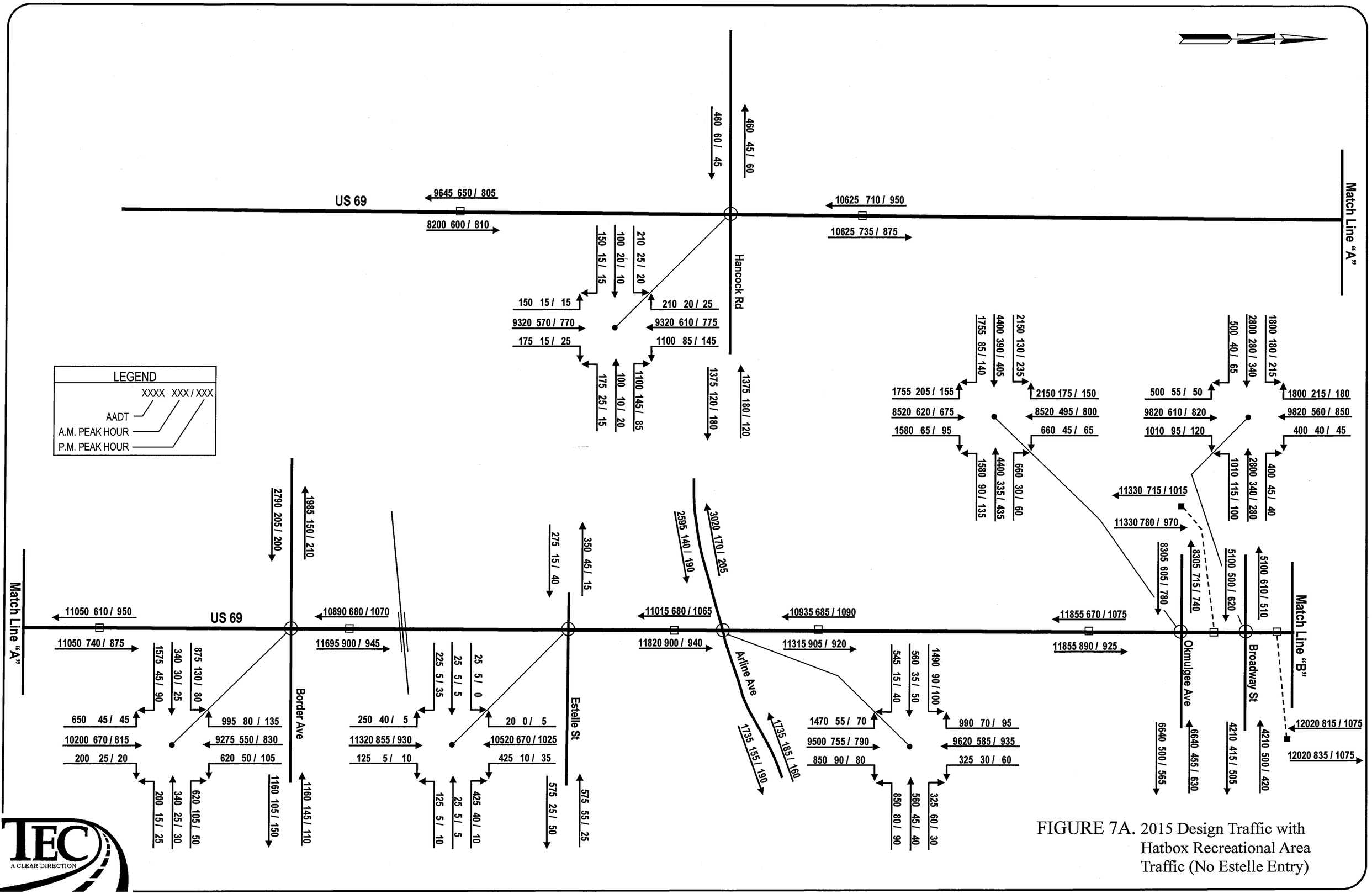


FIGURE 7A. 2015 Design Traffic with Hatbox Recreational Area Traffic (No Estelle Entry)

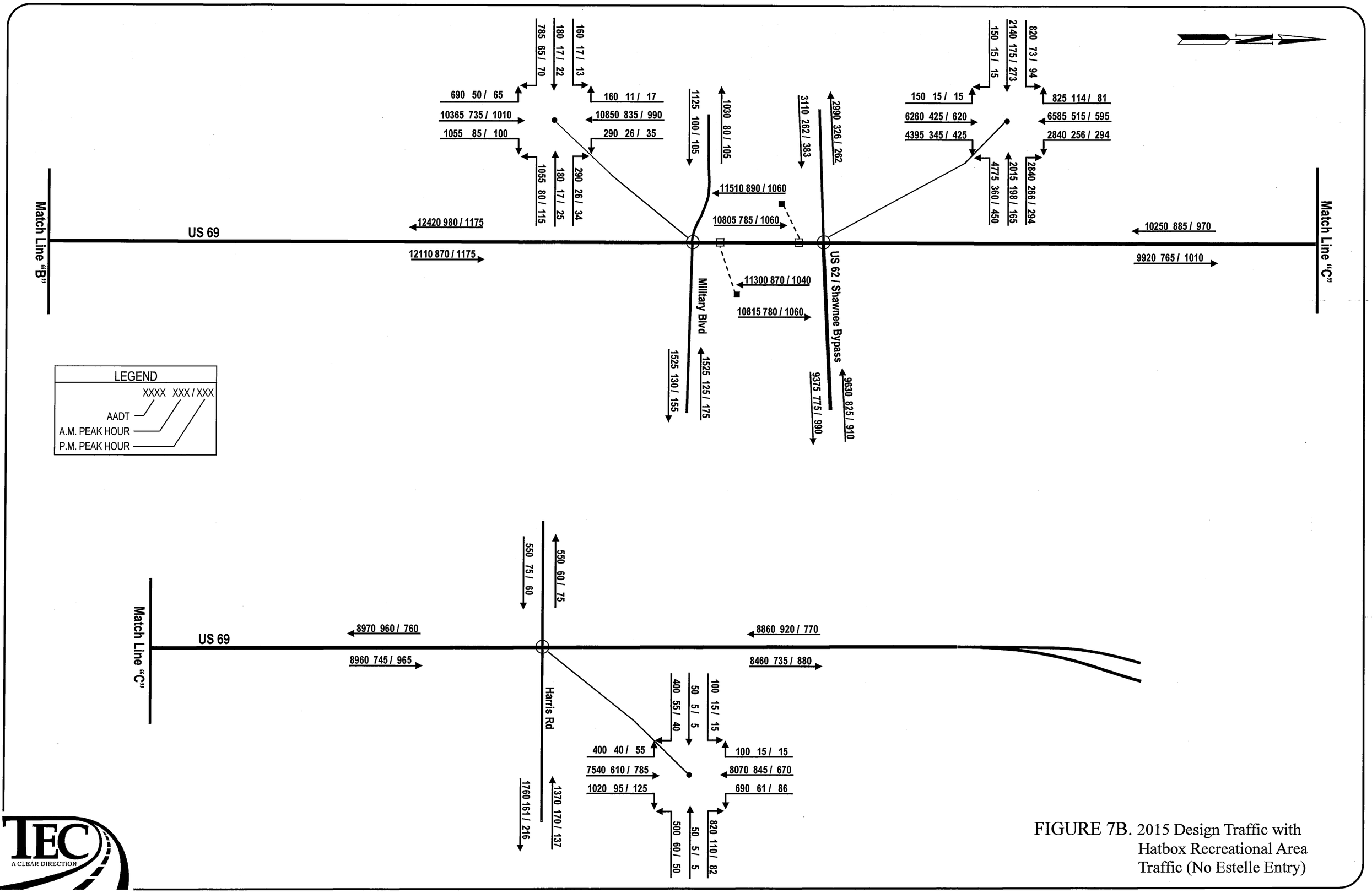


FIGURE 7B. 2015 Design Traffic with Hatbox Recreational Area Traffic (No Estelle Entry)

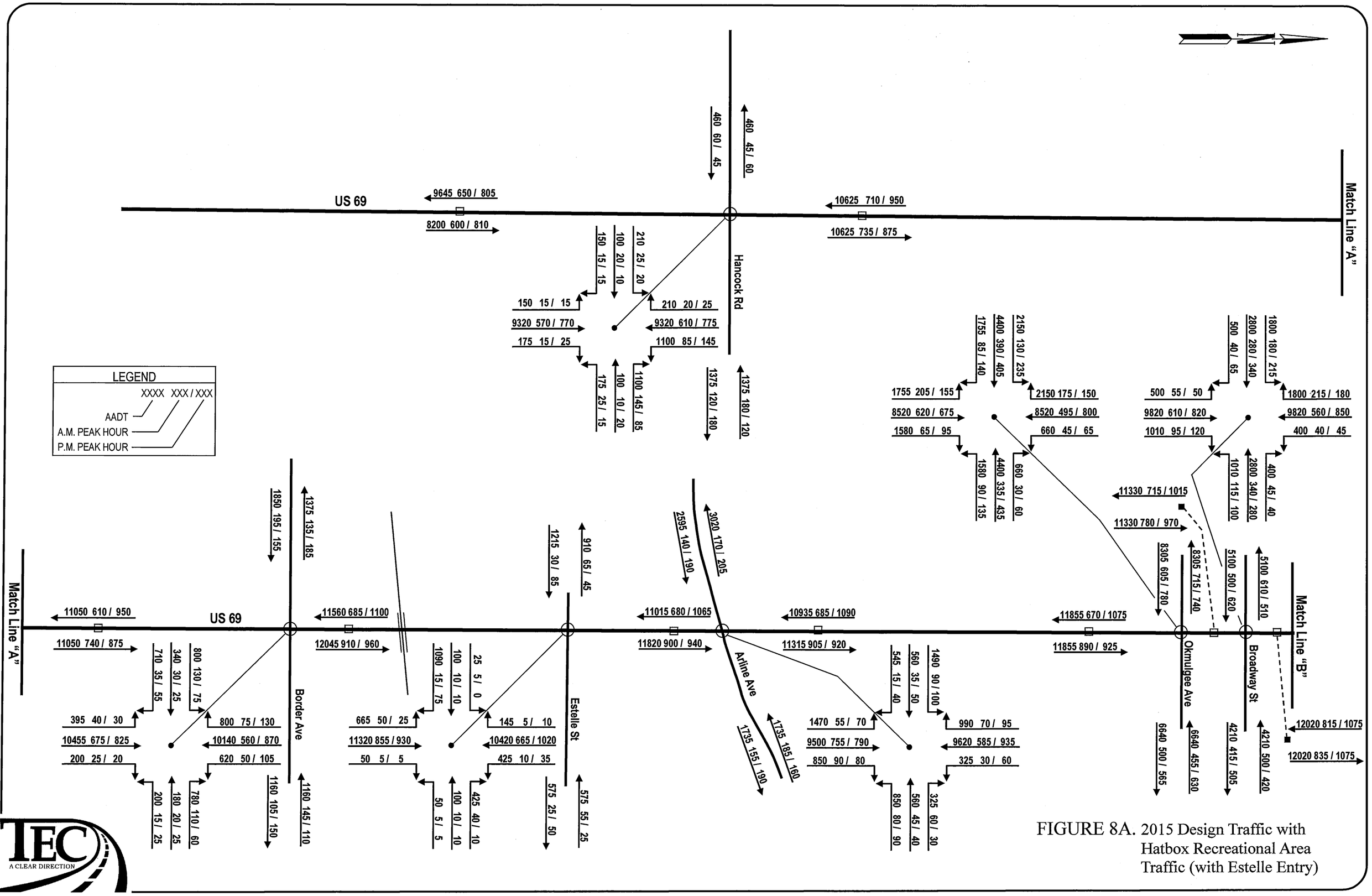


FIGURE 8A. 2015 Design Traffic with Hatbox Recreational Area Traffic (with Estelle Entry)

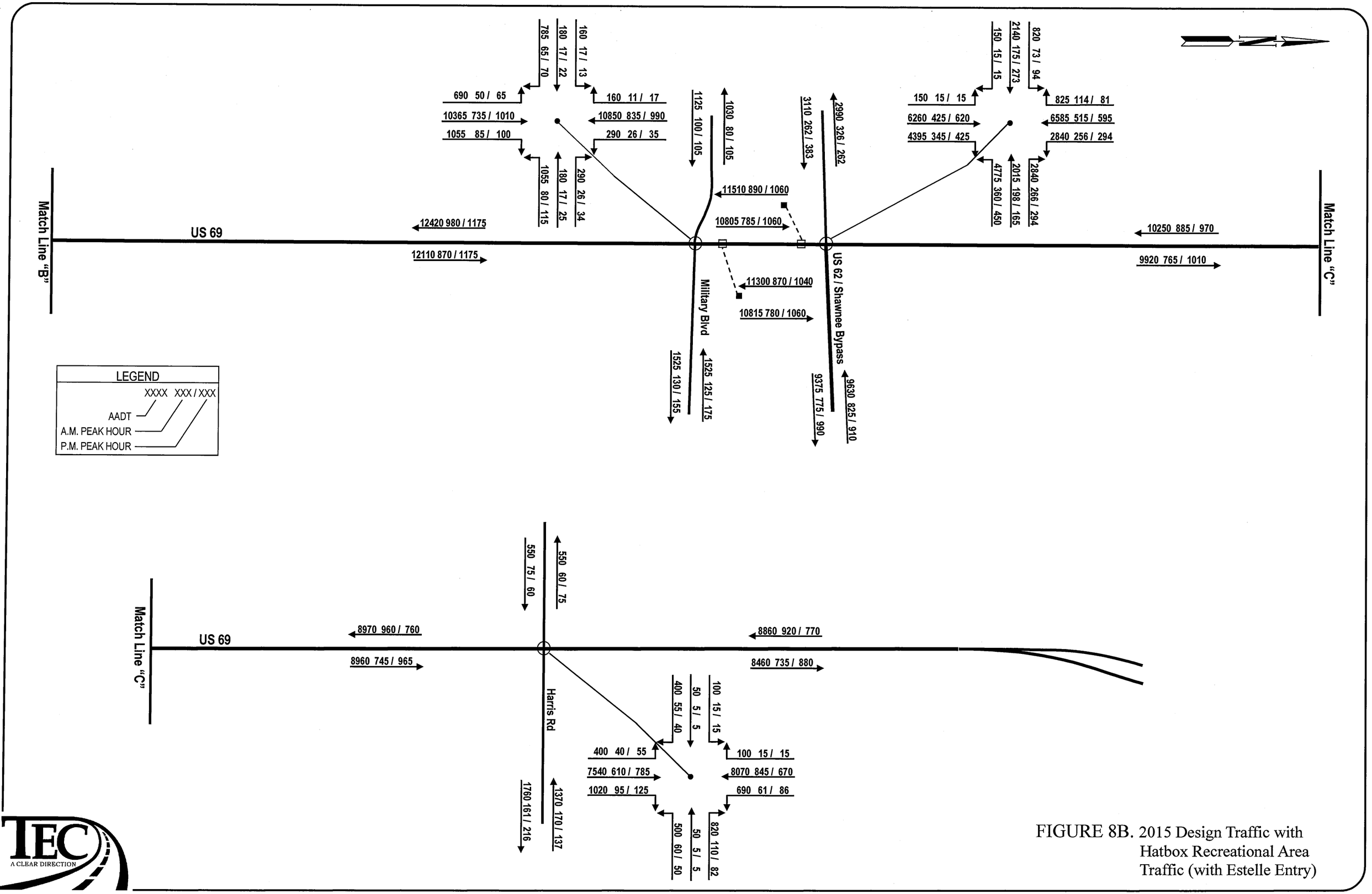


FIGURE 8B. 2015 Design Traffic with Hatbox Recreational Area Traffic (with Estelle Entry)

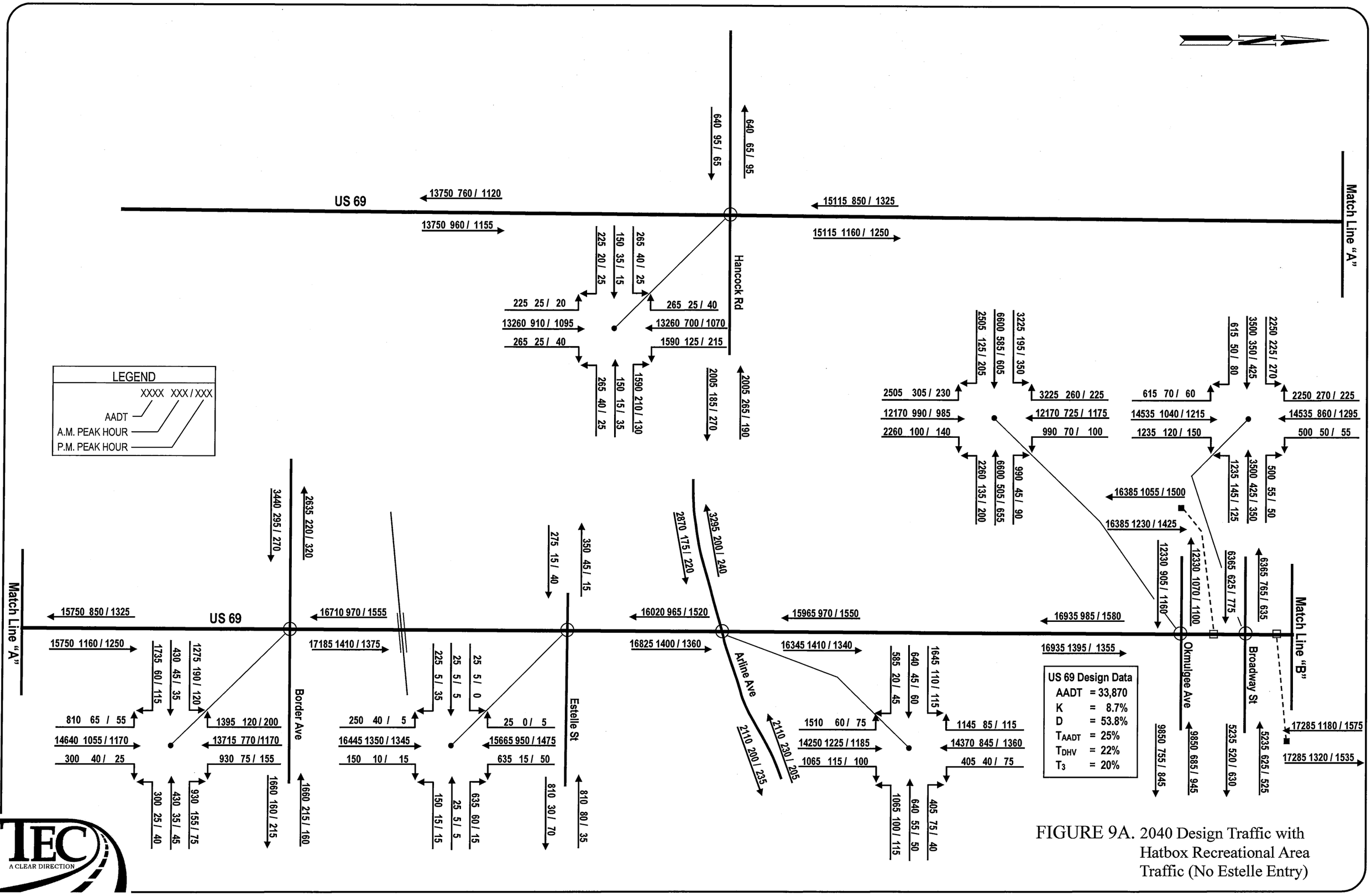


FIGURE 9A. 2040 Design Traffic with Hatbox Recreational Area Traffic (No Estelle Entry)

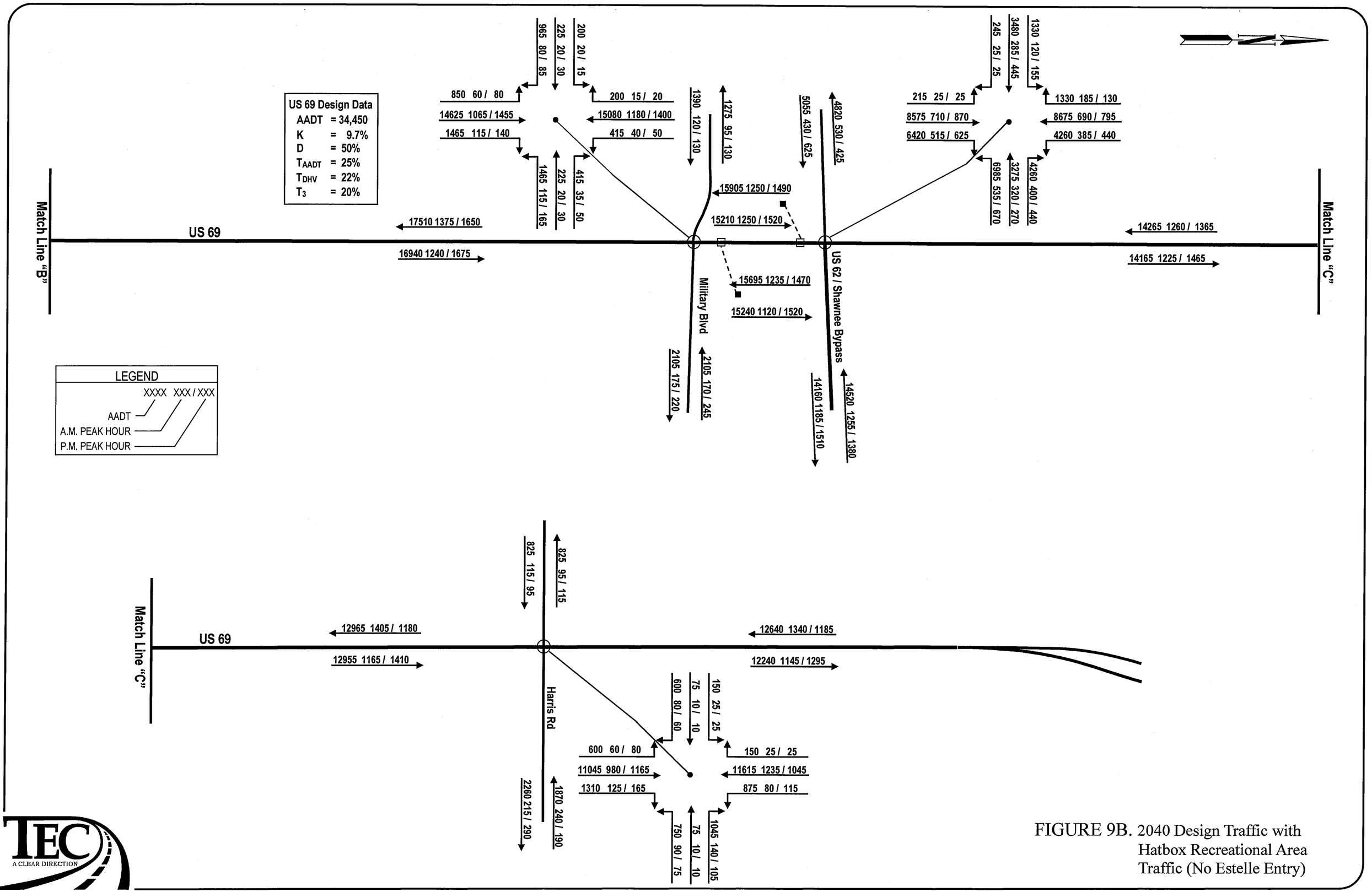


FIGURE 9B. 2040 Design Traffic with Hatbox Recreational Area Traffic (No Estelle Entry)

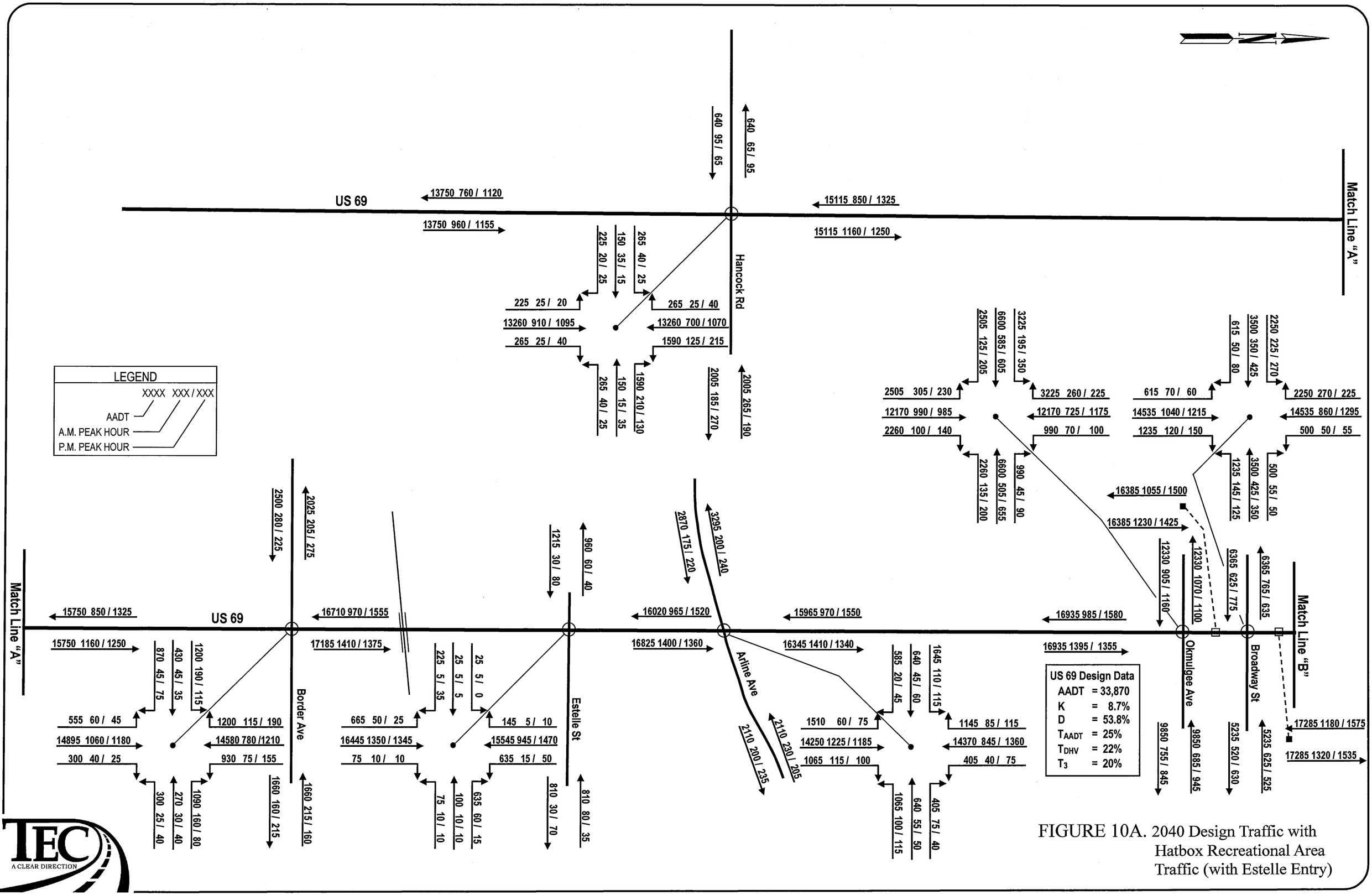


FIGURE 10A. 2040 Design Traffic with Hatbox Recreational Area Traffic (with Estelle Entry)

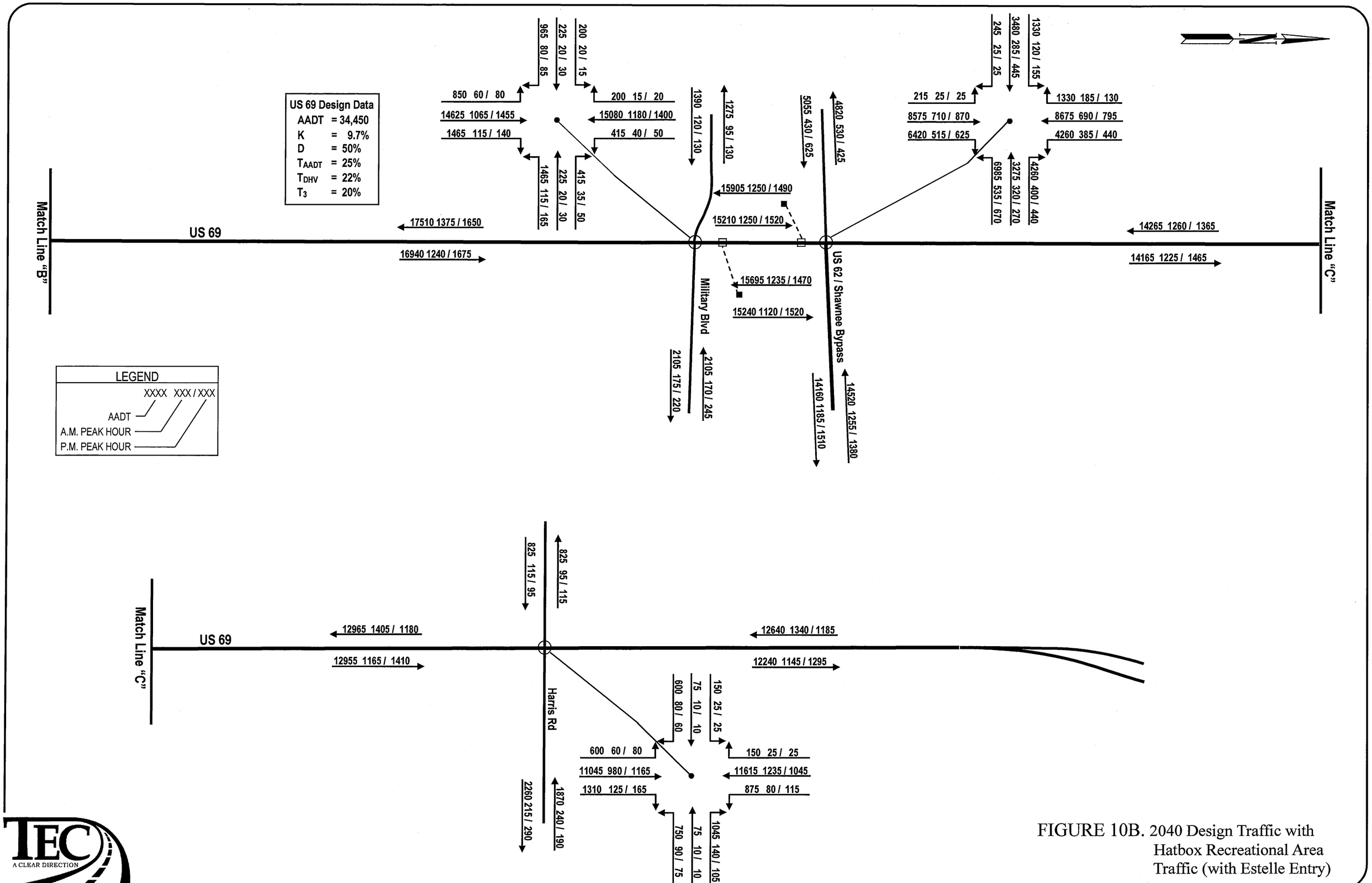


FIGURE 10B. 2040 Design Traffic with Hatbox Recreational Area Traffic (with Estelle Entry)

C	> 20-35
D	> 35-55
E	> 55-80
F	> 80

The criteria for stop controlled or unsignalized intersections have different threshold values than do those for signalized intersections. A higher level-of-service delay has been determined to be acceptable at a signalized intersection for the same level-of-service. The level-of-service criteria for unsignalized intersections are indicated below.

UNSIGNALIZED INTERSECTIONS

Level-of-Service	Control Delay per Vehicle (s/veh)
A	0-10
B	> 10-15
C	> 15-25
D	> 25-35
E	> 35-50
F	> 50

Capacity analyses were conducted for the a.m. and p.m. peak hours for the intersections of US 69 and Hancock Road, Boarder Avenue, Estelle Street, Arline Avenue, Okmulgee Avenue, Broadway Street, Military Boulevard, Shawnee Bypass and Harris Road. The intersections were analyzed and reviewed under the 2015 design traffic, 2015 design traffic with Hatbox development traffic and no Estelle Street access, 2015 design traffic with Hatbox development traffic and Estelle Street access, 2040 design traffic with Hatbox development traffic and no Estelle Street access, 2040 design traffic with Hatbox development traffic and Estelle Street access, 2040 design traffic with Hatbox development traffic and no Estelle Street access with proposed lane geometry and 2040 design traffic with Hatbox development traffic and Estelle Street access with proposed lane geometry. For purposes of this report, an overall intersection level-of-service "D" or better was considered an acceptable level-of-service. The results of the capacity analyses conducted are summarized in **Table 2** and the raw data sheets have been included in the appendix.

TABLE 2.
Intersection Capacity Analysis Results

Intersection	Type of Traffic Control	AM Peak Hour				PM Peak Hour			
		Critical Approach		Intersection		Critical Approach		Intersection	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2015 Design Traffic with Existing Lane Geometry									
US 69 & Hancock Road	Signalized	18.5 / WB	B	12.6	B	19.7 / WB	B	12.4	B
US 69 & Border Avenue	Signalized	33.1 / EB	C	19.3	B	35.9 / EB	D	14.2	B
US 69 & Estelle Street	Unsignalized	37.2 / EB	E	1.3	A	54.5 / WB	F	1.3	A
US 69 & Arline Avenue	Signalized	45.5 / EB	D	22.4	C	94.4 / SB	F	55.1	E
US 69 & Okmulgee Avenue	Signalized	40.5 / EB	D	27.3	C	45.1 / WB	D	28.4	C
US 69 & Broadway Street	Signalized	42.2 / SB	D	36.4	D	44.3 / EB	D	37.9	D
US 69 & Military Boulevard	Signalized	34.2 / WB	C	15.1	B	33.1 / WB	C	17.9	B
US 69 & Shawnee Bypass	Signalized	41.1 / EB	D	31.8	C	50.6 / WB	D	43.8	D
US 69 & Harris Road	Signalized	17.9 / WB	B	13.4	B	18.3 / WB	B	15.7	B
2015 Design Traffic with Hatbox Development (No Estelle Street Access) and Existing Lane Geometry									
US 69 & Hancock Road	Signalized	18.6 / WB	B	13.0	B	19.8 / WB	B	13.2	B
US 69 & Border Avenue	Signalized	32.6 / EB	C	19.8	B	34.7 / EB	C	17.8	B
US 69 & Estelle Street	Unsignalized	39.3 / EB	E	1.3	A	91.4 / WB	F	2.3	A
US 69 & Arline Avenue	Signalized	44.6 / EB	D	22.9	C	95.1 / SB	F	55.1	E
US 69 & Okmulgee Avenue	Signalized	40.7 / EB	D	27.3	C	44.9 / WB	D	29.1	C
US 69 & Broadway Street	Signalized	45.0 / SB	D	37.6	D	48.1 / SB	D	39.7	D
US 69 & Military Boulevard	Signalized	34.1 / WB	C	15.1	B	33.0 / WB	C	17.7	B
US 69 & Shawnee Bypass	Signalized	41.0 / EB	D	32.0	C	54.1 / WB	D	46.0	D
US 69 & Harris Road	Signalized	17.9 / WB	B	15.7	B	18.3 / WB	B	16.0	B
2015 Design Traffic with Hatbox Development (With Estelle Street Access) and Existing Lane Geometry									
US 69 & Hancock Road	Signalized	18.6 / WB	B	13.0	B	19.8 / WB	B	13.2	B
US 69 & Border Avenue	Signalized	32.8 / EB	C	19.8	B	35.4 / EB	D	14.0	B
US 69 & Estelle Street	Unsignalized	38.7 / EB	E	2.0	A	116.0 / WB	F	3.2	A
US 69 & Arline Avenue	Signalized	44.6 / EB	D	22.9	C	95.1 / SB	F	50.7	D
US 69 & Okmulgee Avenue	Signalized	40.7 / EB	D	27.3	C	44.9 / WB	D	29.1	C
US 69 & Broadway Street	Signalized	45.0 / SB	D	37.6	D	48.1 / SB	D	39.7	D
US 69 & Military Boulevard	Signalized	34.1 / WB	C	15.1	B	33.0 / WB	C	17.7	B
US 69 & Shawnee Bypass	Signalized	41.0 / EB	D	32.0	C	54.1 / WB	D	46.0	D
US 69 & Harris Road	Signalized	17.9 / WB	B	15.7	B	18.3 / WB	B	16.0	B
2040 Design Traffic with Hatbox Development (No Estelle Street Access) and Existing Lane Geometry									
US 69 & Hancock Road	Signalized	25.6 / NB	C	20.8	C	30.5 / WB	C	21.6	C
US 69 & Border Avenue	Signalized	47.1 / EB	D	34.6	C	64.9 / EB	E	35.5	D
US 69 & Estelle Street	Unsignalized	* / WB	F	10.3	A	* / WB	F	18.1	C
US 69 & Arline Avenue	Signalized	67.7 / WB	E	17.1	B	82.2 / WB	F	37.2	D
US 69 & Okmulgee Avenue	Signalized	56.7 / EB	E	39.6	D	96.7 / WB	F	56.9	E
US 69 & Broadway Street	Signalized	54.9 / EB	D	36.0	D	69.2 / EB	E	38.1	D
US 69 & Military Boulevard	Signalized	45.9 / WB	D	15.2	B	28.1 / WB	C	15.9	B
US 69 & Shawnee Bypass	Signalized	78.9 / EB	E	52.1	D	* / WB	F	103.6	F
US 69 & Harris Road	Signalized	32.7 / WB	C	22.9	C	31.0 / WB	C	24.2	C
2040 Design Traffic with Hatbox Development (With Estelle Street Access) and Existing Lane Geometry									
US 69 & Hancock Road	Signalized	25.6 / NB	C	20.8	C	30.5 / WB	C	21.6	C
US 69 & Border Avenue	Signalized	46.6 / EB	D	34.7	C	64.7 / EB	E	32.0	C
US 69 & Estelle Street	Unsignalized	* / WB	F	11.4	B	* / WB	F	23.9	C
US 69 & Arline Avenue	Signalized	67.7 / WB	E	17.1	B	82.2 / WB	F	37.2	D
US 69 & Okmulgee Avenue	Signalized	56.7 / EB	E	39.6	D	96.7 / WB	F	56.9	E
US 69 & Broadway Street	Signalized	54.9 / EB	D	36.0	D	69.2 / EB	E	38.1	D
US 69 & Military Boulevard	Signalized	45.9 / WB	D	15.2	B	28.1 / WB	C	15.9	B
US 69 & Shawnee Bypass	Signalized	78.9 / EB	E	52.1	D	* / WB	F	103.6	F
US 69 & Harris Road	Signalized	32.7 / WB	C	22.9	C	31.0 / WB	C	24.2	C
2040 Design Traffic with Hatbox Development (No Estelle Street Access) and Proposed Lane Geometry									
US 69 & Hancock Road	Signalized	20.0 / NB	B	17.0	B	27.5 / EB	C	17.6	B
US 69 & Border Avenue	Signalized	62.2 / WB	E	28.9	C	55.4 / WB	E	24.1	C
US 69 & Estelle Street	Unsignalized	* / EB	F	5.7	A	* / WB	F	15.8	C
US 69 & Arline Avenue	Signalized	44.6 / WB	D	22.9	C	49.2 / EB	D	22.1	C
US 69 & Okmulgee Avenue	Signalized	53.1 / EB	D	34.0	C	80.9 / WB	F	50.4	D
US 69 & Broadway Street	Signalized	51.2 / WB	D	41.8	D	67.0 / EB	E	42.6	D
US 69 & Military Boulevard	Signalized	41.7 / WB	D	13.9	B	45.1 / WB	D	16.9	B
US 69 & Shawnee Bypass	Signalized	77.5 / EB	E	52.8	D	* / EB	F	114.0	F
US 69 & Harris Road	Signalized	32.7 / WB	C	22.9	C	31.0 / WB	C	24.2	C
2040 Design Traffic with Hatbox Development (With Estelle Street Access) and Proposed Lane Geometry									
US 69 & Hancock Road	Signalized	20.0 / NB	B	17.0	B	27.5 / EB	C	17.6	B
US 69 & Border Avenue	Signalized	62.6 / WB	E	29.0	C	54.9 / WB	D	24.0	C
US 69 & Estelle Street	Unsignalized	* / WB	F	8.7	A	* / WB	F	24.1	C
US 69 & Arline Avenue	Signalized	44.6 / WB	D	22.9	C	49.2 / EB	D	22.1	C
US 69 & Okmulgee Avenue	Signalized	53.1 / EB	D	34.0	C	80.9 / WB	F	50.4	D
US 69 & Broadway Street	Signalized	51.2 / WB	D	41.8	D	67.0 / EB	E	42.6	D
US 69 & Military Boulevard	Signalized	41.7 / WB	D	13.9	B	45.1 / WB	D	16.9	B
US 69 & Shawnee Bypass	Signalized	77.5 / EB	E	52.8	D	* / EB	F	114.0	F
US 69 & Harris Road	Signalized	32.7 / WB	C	22.9	C	31.0 / WB	C	24.2	C

* - Indicates delay exceeds 120 seconds per vehicle

The first scenario analyzed the 2015 design traffic with existing lane geometry. The results indicated that each intersection within the study area currently operates at acceptable overall intersection levels-of-service during the a.m. and p.m. peak hours except US 69 and Arline Avenue.

The second scenario analyzed the 2015 combined traffic with the existing lane geometry. This scenario included the proposed recreational area traffic without access to Estelle Street. Under this scenario, each intersection is expected to have slightly longer delays, but will remain the same overall intersection levels-of-service.

The third scenario also analyzed the 2015 combined traffic with the existing lane geometry. This scenario included the proposed recreational area traffic with access to Estelle Street. Under this scenario, each intersection is expected to operate at an acceptable overall intersection levels-of-service.

The forth scenario analyzed the 2040 combined traffic with the existing lane geometry. This scenario included the proposed recreational area traffic without access to Estelle Street. The results of these analyses indicate that the intersections of US 69 and Okmulgee Avenue and US 69 and Shawnee Bypass would be expected to operate outside of the acceptable overall intersection levels-of-service.

The fifth scenario also analyzed the 2040 combined traffic with the existing lane geometry. This scenario included the proposed recreational area traffic with access to Estelle Street. Similar to the forth scenario, the intersections of US 69 and Okmulgee Avenue and US 69 and Shawnee Bypass would be expected to operate outside of the acceptable overall intersection levels-of-service.

The sixth scenario analyzed the 2040 combined traffic with the proposed lane geometry and no access at Estelle Street. The proposed US 69 widening includes extending the 6-lane section from south of the intersection of Okmulgee Avenue south to the intersection of Border Avenue. The scenario also assumes the construction of westbound and eastbound left-turn lanes at Border Avenue and a westbound right turn lane at Harris Road. The results of the analyses indicated that each intersection within the study area would be expected to operate at acceptable overall intersection levels-of-service except US 69 and Shawnee Bypass.

The seventh scenario analyzed the 2040 combined traffic with the proposed lane geometry and access at Estelle Street. Similar to the sixth scenario, each intersection within the study area would be expected to operate at acceptable overall intersection levels-of-service except US 69 and Shawnee Bypass.

Each scenario was analyzed with signal timing coordination implemented along US 69 on the traffic signals starting at Border Avenue north to Shawnee Bypass. The signals at the intersections of US 69 and Hancock Road and US 69 and Harris Road were not included in the signal coordination due to spacing and traffic signal coordinability factors.

Based on the results of the analyses conducted, each intersection would be expected to operate at an acceptable overall intersection level-of-service under the 2040 projected combined traffic with the proposed roadway widening project EC-1576 completed except for US 69 and Shawnee Bypass. To bring the delay to acceptable levels-of-service, the intersection would require the construction of an additional eastbound thru lane, an additional northbound thru lane and a southbound right turn lane. Three of the intersections critical approaches would be expected to operate at level-of-service "F" under the 2040 projected combined traffic scenarios. The above recommended improvements at Shawnee Bypass would improve that intersection and the critical approach at Okmulgee Avenue is only 0.9 seconds above the level-of-service "F" threshold. The unsignalized intersection of US 69 and Estelle Street would be expected to experience significant delay on the side streets. The low level-of-service for the side street movement is a common phenomenon for traffic turning onto a busy arterial during the peak hours of the day and there are no roadway improvements which could be made at this intersection to improve the delay for the side street traffic. However, the side street traffic can be expected to perform two-stage left turns, utilizing the wide median opening which would be expected to reduce the delay on this movement.

5.0 QUEUE ANALYSIS

TEC conducted a queue analysis for the three intersections along U.S. 69 that are to be included in the ODOT widening project area for EC-1576. These include US 69 and Hancock Avenue, Border Avenue and Arline Avenue. The 95th percentile queue was used to determine the left turn bay length necessary to accommodate the future traffic volumes. For the purpose of the study, scenarios that did not include Estelle Street as a point of access are included. The results are summarized in **Table 3**.

TABLE 3.

HCM 95th Percentile Queue Report

	US 69 and Hancock Road				US 69 and Border Avenue				US 69 and Arline Avenue				
	WBR	NBL	NBR	SBL	EBL	WBL	NBL	SBL	EBL	WBL	NBL	NBR	SBL
Existing Turn Lane Storage Lengths (feet)	---	200	150	300	---	---	200	200	150	125	100	60	150
2015 AM Combined Traffic, Existing Geometry	---	37	21	53	---	---	70	49	64	92	77	2	15
2015 PM Combined Traffic, Existing Geometry	---	51	25	102	---	---	55	144	97	99	69	43	33
2040 AM Combined Traffic, Existing Geometry	---	54	22	107	---	---	139	142	88	117	36	152	34
2040 PM Combined Traffic, Existing Geometry	---	34	50	261	---	---	87	183	122	124	81	42	64
2040 AM Combined Traffic, Proposed Widening	48	33	37	82	108	46	257	106	67	114	27	---	31
2040 PM Combined Traffic, Proposed Widening	64	28	41	75	88	45	93	202	99	110	80	---	54

*Widening assumes the following:
1) Extend the 3-Lane section south to Border;
2) Exclusive WBL and EBL lanes at Border;
3) Exclusive WBR lane at Hancock

Based on the results of the analyses, the existing turn lane storage lengths are sufficient for the future traffic projections. Where the resultant queue requirement was found to be shorter than the current or existing left turn lane lengths, it is recommended to keep the existing storage lengths. The proposed westbound right turn lane at Hancock Road and eastbound and westbound left turn lanes at Border Avenue should be constructed with a minimum storage length of 150 feet.

6.0 CONCLUSIONS

Traffic Engineering Consultants, Inc. (TEC) was retained to conduct a traffic impact study for a proposed recreational development to be located along the west side of US 69, between Denver Avenue and Border Avenue in Muskogee. The 2015 and 2040 design traffic volume data was provided by ODOT to be utilized for the study. The traffic expected to be generated by the proposed recreational area was determined and distributed among the points of access to the development, as well as the adjacent street intersection. The proposed development traffic was added to the 2015 and 2040 design background traffic for conducting the reviews and analyses.

A total of seven (7) scenarios were analyzed for this study. The 2015 combined traffic scenario indicate that all signalized intersections along US 69 are expected to operate at acceptable levels-of-service during the a.m. and p.m. peak hours except Arline Avenue. The 2040 combined traffic indicate that each intersection would be expected to operate at an acceptable overall intersection level-of-service except US 69 and Shawnee Bypass. The intersection would require the construction of an additional eastbound thru

lane, an additional northbound thru lane and a southbound right turn lane to bring the delay up to acceptable levels-of-service for the 2040 projected scenarios.

The US 69 widening project will help reduce delay at each intersection in the study area by providing more roadway capacity which, in turn, allows the signal coordination along the corridor to provide more time to the side street movements. The widening project is recommended to include the following lane configurations.

- Extending six-lane section on US 69 from Okmulgee Avenue to Border Avenue
- Exclusive southbound right turn lane at Border Avenue to drop a lane
- Construction of an exclusive eastbound and westbound left turn lanes on Border Avenue
- Construction of an exclusive westbound right turn lane on Hancock Road

Appendix B
Operational Analysis Report (ODOT)

US-69 OPERATIONAL ANALYSIS

MUSKOGEE, OKLAHOMA

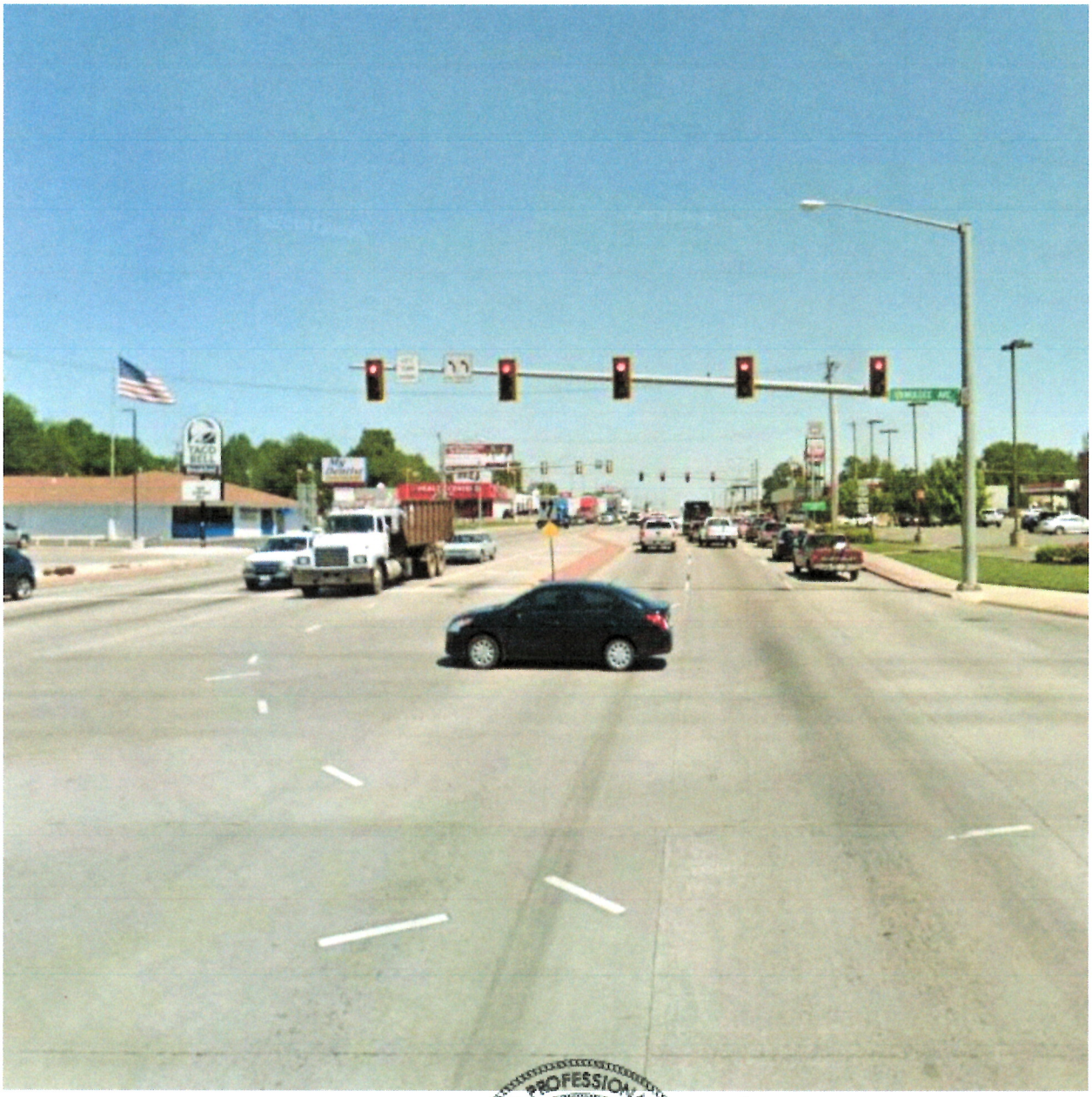


Photo: Google Street View

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INTRODUCTION

Engineering Contract 1576 was awarded to Holloway, Updike, and Bellen (HUB) for consideration of options for US-69 from just north of Peak Boulevard to just south of Okmulgee Avenue. Within the study limits, US-69 is a four-lane divided highway with a depressed median and with limited median openings.

HUB have identified three alternatives for this corridor:

Option 1. Divided six-lane with raised median
Option 2. Six mainlanes with continuous two-way left turn lane
Option 3. Divided four-lane with raised median

The intent of this document is to explore the operational differences among these options, how they fit into the corridor holistically, and what further modifications will likely be necessary to the corridor within the analysis horizon.

DATA COLLECTION

In 2018 ODOT's Strategic Asset and Performance Management Division provided no-build design traffic for the corridor for years 2018 and 2050. These years and volumes are the basis of this operational analysis. Combining the design traffic with known truck fractions, we performed a truck flow analysis to determine the truck fractions to use in our model. The volumes and truck fractions used for analysis are shown in **Figures 1 and 2**.

Figure 1. 2018 Analysis Data

Volumes - AM Peak												
Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
US-69 & Fern Mountain/Harris	45	838	105	60	901	25	30	35	55	110	30	80
US-69 & Shawnee (US-62 East)	32	704	460	270	686	120	80	185	16	420	210	240
US-69 & Military/Tahlequah	50	1137	80	26	1085	11	32	17	65	120	17	26
US-69 & Broadway	55	1012	95	40	975	215	180	280	40	115	340	45
US-69 & Okmulgee (US-62 West)	220	932	100	50	860	220	190	430	90	135	350	40
US-69 & Arline	50	1082	90	30	935	70	90	35	35	80	40	40
US-69 & Border	30	997	25	50	912	75	110	30	55	15	30	90
US-69 & Hancock	15	892	15	85	867	20	25	20	15	25	10	125

Truck Fractions - AM Peak												
Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
US-69 & Fern Mountain/Harris	1	30	28	17	31	1	1	1	1	1	1	1
US-69 & Shawnee (US-62 East)	50	38	10	6	36	12	0	0	0	11	1	7
US-69 & Military/Tahlequah	0	27	0	0	29	0	50	0	25	0	0	0
US-69 & Broadway	0	31	0	0	32	0	0	0	0	0	0	0
US-69 & Okmulgee (US-62 West)	5	30	2	2	32	22	25	2	13	2	2	2
US-69 & Arline	0	26	0	0	30	0	0	0	0	0	0	0
US-69 & Border	1	28	1	1	31	1	1	1	1	1	1	1
US-69 & Hancock	2	32	2	2	33	2	2	2	2	2	2	2

Volumes - PM Peak												
Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
US-69 & Fern Mountain/Harris	70	995	130	75	943	35	30	45	65	115	45	70
US-69 & Shawnee (US-62 East)	52	735	450	310	728	95	95	290	18	480	200	340
US-69 & Military/Tahlequah	70	1156	100	35	1172	17	60	22	70	135	25	34
US-69 & Broadway	50	1031	120	45	1112	180	215	340	65	120	280	40
US-69 & Okmulgee (US-62 West)	160	896	140	70	1027	200	240	450	190	180	450	65
US-69 & Arline	95	1016	80	60	1222	95	100	50	60	110	50	30
US-69 & Border	40	1056	20	105	1167	130	75	35	90	25	40	60
US-69 & Hancock	15	1001	25	145	1102	25	20	10	15	25	20	85

Truck Fractions - PM Peak												
Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
US-69 & Fern Mountain/Harris	1	21	36	21	27	1	1	1	1	1	1	1
US-69 & Shawnee (US-62 East)	50	32	11	7	29	25	0	0	0	9	3	7
US-69 & Military/Tahlequah	0	24	0	0	24	0	50	0	37	0	0	0
US-69 & Broadway	0	27	0	0	25	0	0	0	0	0	0	0
US-69 & Okmulgee (US-62 West)	9	27	2	2	24	27	23	2	7	2	2	2
US-69 & Arline	0	25	0	0	21	0	0	0	0	0	0	0
US-69 & Border	1	24	1	1	22	1	1	1	1	1	1	1
US-69 & Hancock	2	25	2	2	23	2	2	2	2	2	2	2

Figure 2. 2050 Analysis Data

Volumes - AM Peak												
Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
US-69 & Fern Mountain/Harris	67	1559	155	89	1517	37	44	51	82	162	45	118
US-69 & Shawnee (US-62 East)	32	1317	600	360	1253	158	105	245	22	560	277	317
US-69 & Military/Tahlequah	68	1935	105	34	1786	15	32	22	85	158	22	34
US-69 & Broadway	72	1788	125	53	1666	280	230	369	53	150	440	60
US-69 & Okmulgee (US-62 West)	290	1680	140	68	1511	290	250	560	120	180	460	55
US-69 & Arline	68	1897	118	40	1628	93	120	47	47	105	53	53
US-69 & Border	80	1757	37	70	1592	110	160	44	80	22	45	130
US-69 & Hancock	22	1634	23	125	1519	30	35	25	22	35	15	185

Truck Fractions - AM Peak												
Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
US-69 & Fern Mountain/Harris	1	23	19	11	26	1	1	1	1	1	1	1
US-69 & Shawnee (US-62 East)	50	28	10	6	28	9	0	0	0	10	1	7
US-69 & Military/Tahlequah	0	22	0	0	24	0	50	0	19	0	0	0
US-69 & Broadway	0	24	0	0	26	0	0	0	0	0	0	0
US-69 & Okmulgee (US-62 West)	7	23	2	2	25	20	23	2	17	2	2	2
US-69 & Arline	0	21	0	0	24	0	0	0	0	0	0	0
US-69 & Border	1	23	1	1	25	1	1	1	1	1	1	1
US-69 & Hancock	2	24	2	2	26	2	2	2	2	2	2	2

Volumes - PM Peak												
Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
US-69 & Fern Mountain/Harris	104	1586	192	170	1607	52	45	67	96	170	67	114
US-69 & Shawnee (US-62 East)	54	1317	600	410	1348	125	125	380	25	635	265	450
US-69 & Military/Tahlequah	92	1879	135	46	1937	23	58	29	92	170	33	45
US-69 & Broadway	66	1733	158	60	1861	240	280	440	85	158	360	53
US-69 & Okmulgee (US-62 West)	212	1554	185	87	1752	265	317	590	250	235	590	86
US-69 & Arline	120	1729	106	78	2004	125	140	68	40	132	68	80
US-69 & Border	125	1752	30	150	1894	190	110	52	130	35	60	90
US-69 & Hancock	23	1682	35	210	1814	35	30	15	24	35	25	175

Truck Fractions - PM Peak												
Intersection	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
US-69 & Fern Mountain/Harris	1	23	24	9	25	1	1	1	1	1	1	1
US-69 & Shawnee (US-62 East)	50	29	13	5	27	19	0	0	0	11	2	4
US-69 & Military/Tahlequah	0	25	0	0	24	0	50	0	29	0	0	0
US-69 & Broadway	0	27	0	0	25	0	0	0	0	0	0	0
US-69 & Okmulgee (US-62 West)	10	26	2	2	23	25	21	2	9	2	2	2
US-69 & Arline	0	25	0	0	21	0	0	0	0	0	0	0
US-69 & Border	1	24	1	1	23	1	1	1	1	1	1	1
US-69 & Hancock	2	25	2	2	24	2	2	2	2	2	2	2

FIELD DATA COLLECTION

In September 2020, staff from Traffic Engineering Division visited the corridor to collect data on flow characteristics and signal timing to ensure we have a reliable existing conditions model that could then be used as the basis for alternatives analysis.

The flow characteristics sought were ideal saturated flow rate and passenger car equivalent for heavy vehicles. The data for saturated flow rate were collected in a manner generally consistent with Highway Capacity Manual 6.0, Chapter 31[1]. Because the technique measures each cycle separately, and because heavy vehicles are recorded separately from passenger cars, the computed saturation flow rate for each cycle can be paired with the observed heavy vehicle fraction for that cycle in a scatter plot. The resulting trend line can be used to determine ideal saturation flow rate (equivalent to the *y*-intercept) and the passenger car equivalent for heavy vehicles.

The technique documentation states that in order for the observation to be statistically significant, there must have been 15 cycles or more observed with eight or more vehicles in queue at onset of green. While we gathered 25 cycles, only ten cycles had the required eight or more vehicles in queue at onset of green. Furthermore, the observed truck fraction averaged 35% with a range [20%, 75%]. This range is appropriate for the mainlanes of US-69 but is not representative of the truck fractions in most minor movements. To address both of these problems, we examined the possibility of combining the Muskogee data set with a data set recently gathered on Council Road at I-40 in Oklahoma City, with truck fractions averaging 15% and ranging [0%, 30%]. We found that when combining the data sets, the fit of the regression was decent ($R^2 = 0.512$), and far better than the Muskogee data on its own ($R^2 = 0.265$). The resulting flow characteristic measures are shown in **Table 1**.

Table 1. Flow Characteristics

Measure	Value for This Study	Synchro Default
Ideal Saturated Flow Rate	1631	1900
Passenger Car Equivalent for Heavy Vehicles	2.35	2.00

Field data collection also included recording the timing scheme in use at each traffic signal, as well as examining the controller in operation to verify that everything is working as intended. While poorly-conceived or obsolete timing parameters can certainly affect the quality of service the signal provides, the most common and most disruptive traffic signal problem is malfunctioning detection. Indeed, we observed several intersections at which one or more movements were experiencing detection problems, tabulated in **Table 2**.

[1] Field Measurement of Saturation Flow Rate, pages 31-105 to 31-110.

Table 2. Observed Traffic Signal Problems

Intersection	Problem	Effect of Problem
US-69 & Fern Mountain/Harris	SBT advance and NBT stop bar detectors faulted	NB and SB extend to max green regardless of demand, resulting in no decision zone protection in either direction
US-69 & Shawnee (US-62 East)	EBR yellow and green arrows do not turn on	Small missed opportunity to allow EBR to move during NBL
US-69 & Military/ Tahlequah	EB & WB phases run separately but neither has a green arrow for left turns	Sluggish take-off from unfamiliar drivers who are turning left and unaware they need not give way to oncoming vehicles
US-69 & Broadway	No problems observed	
US-69 & Okmulgee (US-62 West)	No problems observed	
US-69 & Arline	SBT stop bar, NBL stop bar, NBT stop bar, WB stop bar detectors all faulted	SBT, NBL, NBT, and WB extend to max green regardless of demand. This signal is essentially running pre-timed.
US-69 & Border	SBT stop bar, SBL stop bar, WB stop bar detectors all faulted	SBT, SBL, and WB extend to max green regardless of demand. This signal is essentially running pre-timed.
US-69 & Hancock	NBT stop bar detector fault	NBT extends to max green regardless of demand
US-69 & Hancock	SBT advance detector turned off	No SB decision zone protection (posted speed is 55 mi/hr)

The observed signal problems are included in the existing conditions model, discussed later.

ITERIS CLEARGUIDE

Iteris ClearGuide is a transportation analytics solution that provides real-time and historical travel time and speed data. We used this to data to verify the output of our existing conditions models. Relevant output from Iteris ClearGuide is included in discussion of the existing conditions models.

MEASURES OF EFFECTIVENESS USED IN THIS STUDY

Most measures of effectiveness used in this study are some version of Level of Service. With A being best and F being worst, the value used to define Level of Service depends on what is being measured. In general, LOS A indicates very few vehicles are on the road, while LOS F indicates that demand exceeds capacity. Recognizing that perpetual widening is not a sustainable solution to congestion, neither ODOT nor Federal Highway Administration prescribe a minimum level of service for any particular project; rather, the target level of service depends on the goals of the project. **Table 3** describes the LOS types used in this study.

Table 3. Level of Service Definition

LOS Type	Measurement Basis
Intersection LOS	Average control delay per vehicle
Arterial LOS	Average fraction of free-flow speed experienced along the corridor

Two other, equally important, measures of effectiveness used in this study are:

- v/c ratio: the fraction of capacity used by a particular movement. In general, we want to keep signals' v/c ratios below 0.95, but v/c ≤ 1.05 during the out year peak is likely acceptable since design traffic numbers usually represent worst-case conditions.
- Arterial travel time: the average time to drive from one end of the corridor to the other

EVALUATION OF EXISTING CONDITIONS

Synchro 11 was used to model the existing conditions, including the observed problems with the signals. Additionally, we modeled the existing network with the signals operating properly, coordinated as appropriate, and with a minor recommended network change:

➔ Shawnee EB left turn lane should be restriped to allow through movement, and the controller should be reprogrammed so that EB and WB run separately (split phase). All further analysis assumes this change.

Table 4 shows arterial level of service for existing conditions, without and with fixing the signals.

Table 4. No-Build Arterial Level of Service / Arterial Speed (mph) / Travel Time (min' sec)

Direction	Period	Existing Signals (2018 Volumes)	Repaired Signals (2018 Volumes)	Maintained Signals (2050 Volumes)
NB	AM Peak	D / 21 / 12' 10	B / 28 / 09' 27	E / 13 / 20' 02
SB	AM Peak	C / 23 / 10' 56	B / 30 / 08' 33	E / 15 / 17' 10
NB	PM Peak	D / 18 / 14' 26	C / 27 / 09' 41	F / 11 / 22' 53
SB	PM Peak	D / 18 / 13' 47	C / 28 / 09' 05	F / 10 / 25' 00

Table 5 shows individual intersection LOS and maximum v/c ratios.

Table 5. No-Build Intersection LOS - Maximum v/c Ratio

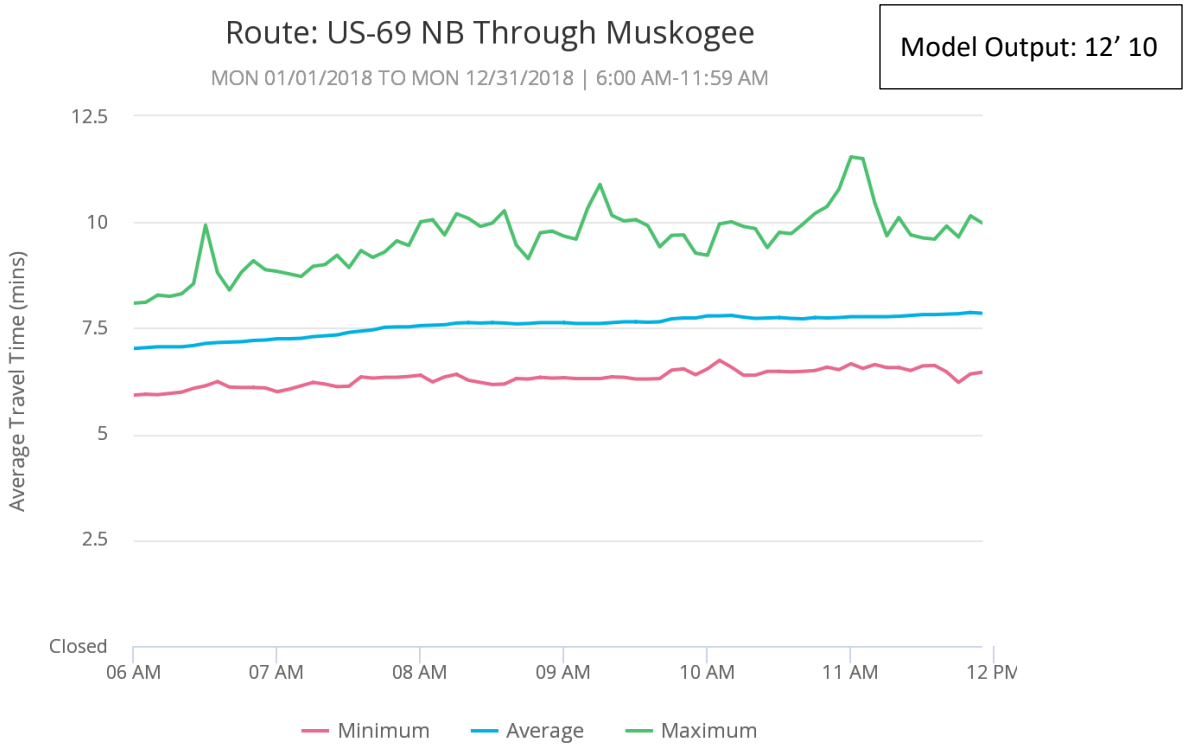
Intersection	2018 AM Existing	2018 PM Existing	2018 AM Repaired	2018 PM Repaired	2050 AM Maintained	2050 PM Maintained
US-69 & Fern Mountain/Harris	D – 1.03	E – **1.17**	D – 0.88	D – 0.94	F – **1.37**	F – **1.52**
US-69 & Shawnee	E – **1.09**	E – **1.24**	D – 0.98	E – 1.05	F – **1.37**	F – **1.56**
US-69 & Military/ Tahlequah	C – 0.76	D – 0.84	B – 0.74	B – 0.79	B – 0.98	D – **1.07**
US-69 & Broadway	E – 1.01	E – **1.09**	C – 0.97	C – 0.94	F – **1.27**	F – **1.31**
US-69 & Okmulgee	D – 0.87	E – **1.06**	D – 0.96	D – 1.04	F – **1.32**	F – **1.50**
US-69 & Arline	D – 0.99	E – **1.17**	B – 0.77	C – 0.99	E – **1.31**	F – **1.41**
US-69 & Border	D – **1.42**	D – **1.18**	C – 0.89	C – 0.91	F – **1.37**	F – **1.52**
US-69 & Hancock	B – 0.69	C – 0.80	C – 0.79	C – 0.85	D – **1.23**	F – **1.30**

As can be seen in Tables 4 and 5, repairing the existing signals and updating the signal timings would reduce much of the current pain associated with rush hour. However, these tables also show that the corridor is projected to have serious capacity problems by 2050 if no other changes are made.

To validate the existing conditions model[2], we extracted corridor travel times for the entirety of 2018 from Iteris ClearGuide. As illustrated in **Figures 3 and 4**, consistent with design volumes representing worst-case conditions, we see that the worst-case corridor travel times generally line up with the model output well.

[2] It is likely that most of the failed detectors have been in that state since at least 2018.

Figure 3. Iteris ClearView 2018 Travel Time Plot, AM



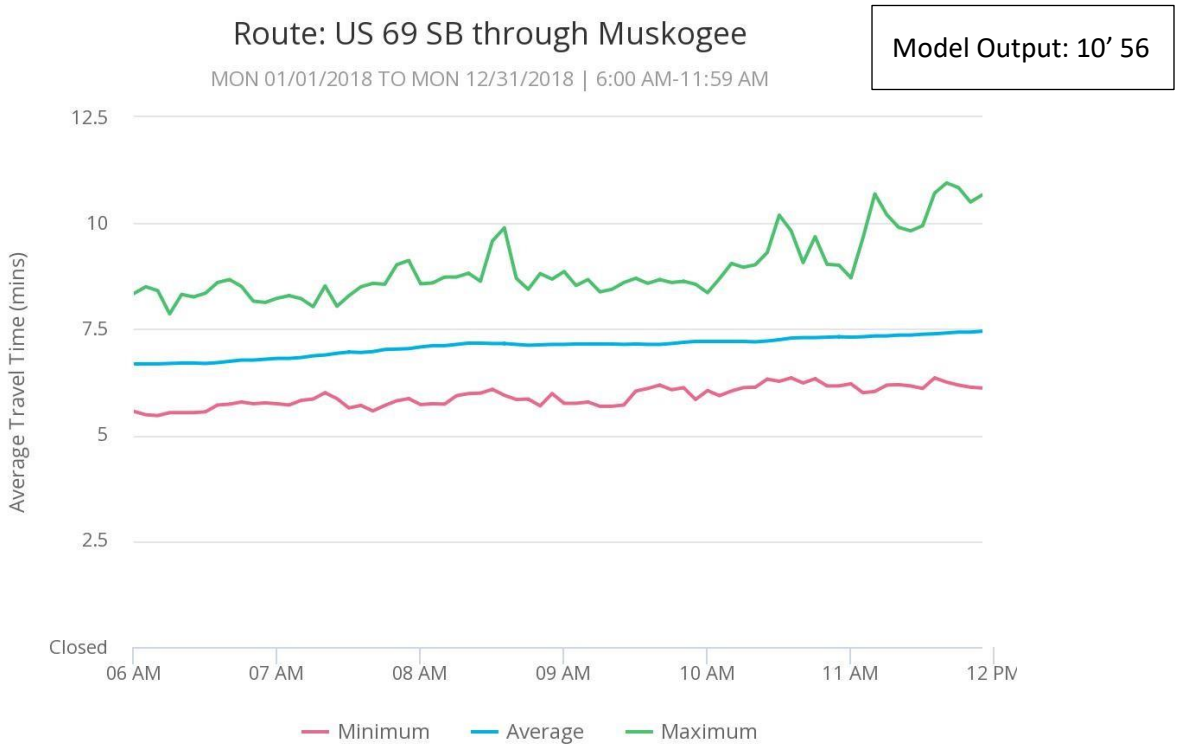
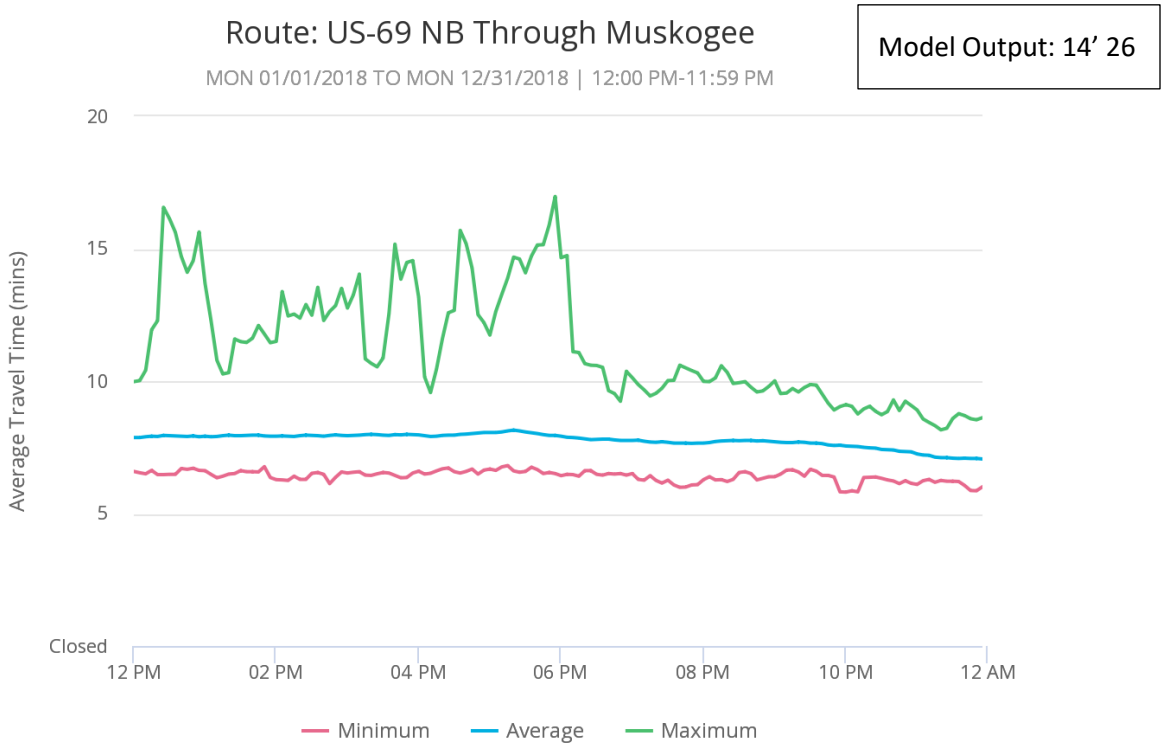
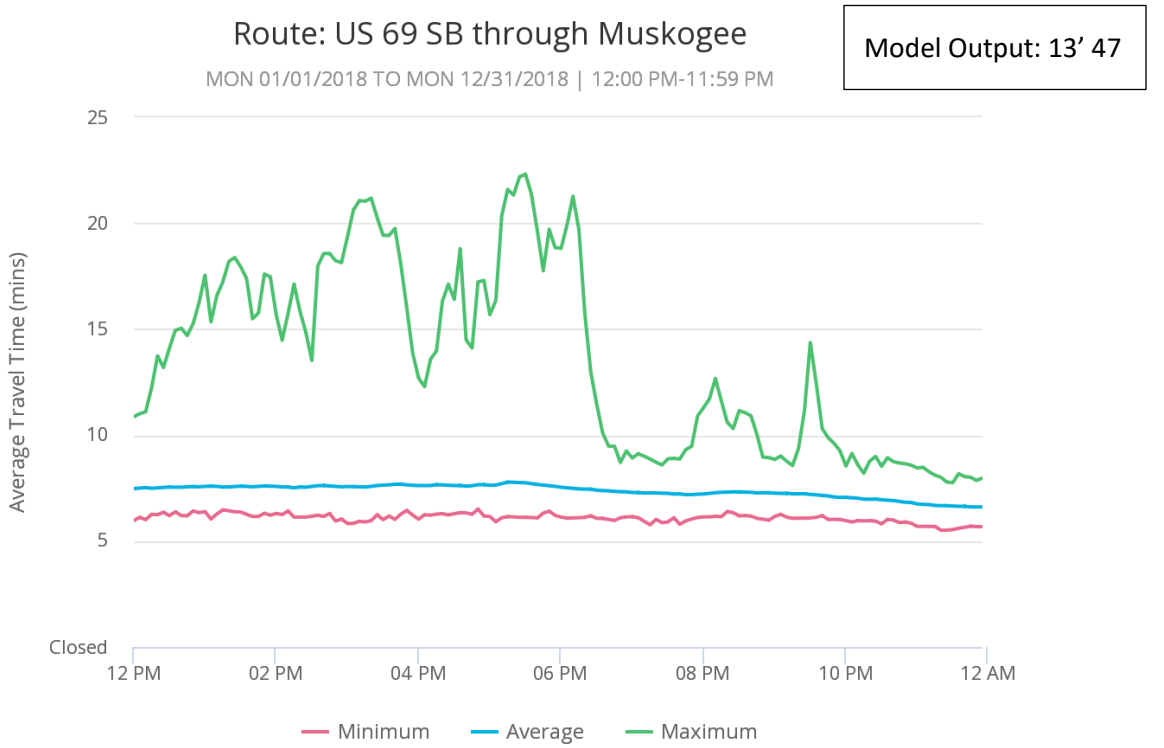


Figure 4. Iteris ClearView 2018 Travel Time Plot, PM





EVALUATION OF CORRIDOR OPTIONS

HUB have presented three options for this corridor. However, from the day-to-day operations perspective, there is little difference between the six-lane with raised median option and the seven-lane option. For a given corridor, average travel speed will be a little lower with a center turn lane, compared to a raised median, due to the increased friction on the inside of the mainlanes. Therefore, average travel time will be a little higher. Because the seven-lane option has no operational benefit, and has a safety disbenefit, compared to the six lane option, Traffic Engineering Division expresses a preference for the six-lane option with raised median compared to the seven-lane option. In this report, the operational result reported for the six-lane option will also apply to the seven-lane option since there is no discernible analytical difference between these two options.

Tables 6 and 7 show the arterial LOS measures for 2018 and 2050 volumes, respectively. It can be seen from these tables that:

- Under 2018 volumes, there will be little difference in performance regardless of the option chosen.
- The six lane option performs marginally better than either four-lane option in 2050.

Tables 8 and 9 show intersection-level performance for 2018 and 2050 volumes, respectively.

Table 6. 2018 Arterial Level of Service / Arterial Speed (mph) / Travel Time (min' sec)

Direction	Period	Repaired Signals	4-Lane Divided Option	6- and 7-Lane Options
NB	AM Peak	B / 28 / 09' 27	B / 29 / 09' 06	B / 29 / 09' 00
SB	AM Peak	B / 30 / 08' 33	B / 30 / 08' 24	B / 31 / 08' 13
NB	PM Peak	C / 27 / 09' 41	C / 27 / 09' 31	C / 28 / 09' 25
SB	PM Peak	C / 28 / 09' 05	B / 29 / 08' 48	B / 29 / 08' 42

Table 7. 2050 Arterial Level of Service / Arterial Speed (mph) / Travel Time (min' sec)

Direction	Period	Maintained Signals	4-Lane Divided Option	6- and 7-Lane Options
NB	AM Peak	E / 13 / 20' 02	E / 14 / 18' 48	E / 16 / 16' 31
SB	AM Peak	E / 15 / 17' 10	E / 16 / 16' 11	E / 19 / 13'20
NB	PM Peak	F / 11 / 22' 53	F / 12 / 21' 47	E / 14 / 19' 17
SB	PM Peak	F / 10 / 25' 00	F / 11 / 22' 51	E / 15 / 16' 58

Table 8. 2018 Intersection LOS – Maximum v/c Ratio for All Options

Intersection	2018 AM Repaired	2018 PM Repaired	2018 AM 4-Lane	2018 PM 4-Lane	2018 AM 6-/7-Lane	2018 PM 6-/7-Lane
US-69 & Fern Mountain/Harris	D – 0.88	D – 0.94	D – 0.88	D – 0.94	D – 0.88	D – 0.94
US-69 & Shawnee	D – 0.98	E – 1.05	D – 0.98	E – 1.05	D – 0.98	D – 1.05
US-69 & Military/ Tahlequah	B – 0.74	B – 0.79	B – 0.74	B – 0.79	B – 0.74	B – 0.79
US-69 & Broadway	C – 0.97	C – 0.94	C – 0.97	C – 0.94	C – 0.98	C – 0.94
US-69 & Okmulgee	D – 0.96	D – 1.04	D – 0.96	D – 1.04	C – 0.91	D – 0.95
US-69 & Arline	B – 0.77	C – 0.99	B – 0.77	C – 0.98	B – 0.63	C – 0.74
US-69 & Border	C – 0.89	C – 0.91	B – 0.77	C – 0.78	B – 0.74	B – 0.61
US-69 & Hancock	C – 0.79	C – 0.85	B – 0.74	C – 0.80	B – 0.55	B – 0.73

Table 9. 2050 Intersection LOS – Maximum v/c Ratio for All Options

Intersection	2050 AM Maintained	2050 PM Maintained	2050 AM 4-Lane	2050 PM 4-Lane	2050 AM 6-/7-Lane	2050 PM 6-/7-Lane
US-69 & Fern Mountain/Harris	F – **1.37**	F – **1.52**	F – **1.37**	F – **1.52**	F – **1.37**	F – **1.52**
US-69 & Shawnee	F – **1.37**	F – **1.56**	F – **1.37**	F – **1.56**	F – **1.37**	F – **1.56**
US-69 & Military/ Tahlequah	B – 0.98	D – **1.07**	B – 0.98	D – **1.07**	B – 0.98	D – **1.07**
US-69 & Broadway	F – **1.27**	F – **1.31**	F – **1.27**	F – **1.31**	F – **1.27**	F – **1.31**
US-69 & Okmulgee	F – **1.32**	F – **1.50**	F – **1.32**	F – **1.50**	F – **1.20**	F – **1.33**
US-69 & Arline	E – **1.31**	F – **1.41**	E – **1.31**	F – **1.41**	C – 0.92	E – **1.09**
US-69 & Border	F – **1.37**	F – **1.52**	F – **1.32**	F – **1.34**	D – 0.97	C – 1.00
US-69 & Hancock	D – **1.23**	F – **1.30**	C – 1.04	D – **1.13**	C – 0.89	C – 0.91

As can be seen in Table 9, even with construction of the six-lane option, major operational problems are projected to remain from Okmulgee Avenue to the north in 2050, although the six-lane option is projected to serve the corridor well through 2050 from Arline to the south.

POTENTIAL FURTHER MODIFICATIONS TO THE CORRIDOR

For this very important highway to remain effective through Muskogee, further modifications will be necessary in Muskogee by 2050.

As stated previously, neither ODOT nor Federal Highway Administration embrace a minimum Level of Service for its highways. Instead, our goal in this instance is to make sure US-69 keeps moving through town without undue delay on the minor movements.

FERN MOUNTAIN/HARRIS ROAD INTERSECTION

In 2050, peak hour demand is projected to exceed capacity by up to 50% on all movements except eastbound. The following modifications are recommended:

- ➔ Extend six-lane section north past Fern Mountain/Harris.
- ➔ Add left turn pockets on Fern Mountain/Harris.
- ➔ Add northbound right-turn pocket.

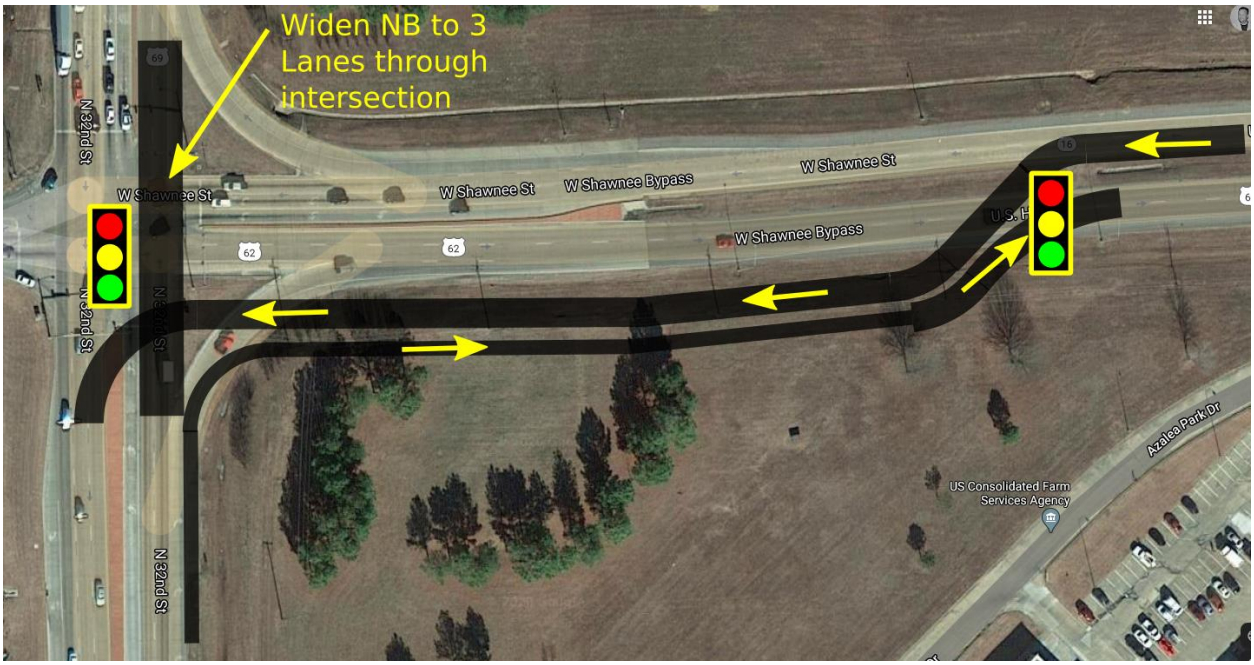
As a result of these modifications, the demand is projected to remain within capacity in 2050.

SHAWNEE INTERSECTION

In 2050, peak hour demand is expected to exceed capacity by up to 56% on the NBT and WBL movements. These movements conflict with each other, and there is no good way to keep them from

doing so. However, we can reduce the number of phases that the main intersection must serve. We recommend introducing a displaced left turn westbound at this intersection. As seen in **Figure 5**, with this configuration, vehicles from the east turning south onto US-69 would begin their left turn in advance of the main intersection by crossing onto a parallel roadway to the left. Then, at the main intersection, the westbound left turn can run at the same time as the eastbound through movement.

Figure 5. Displaced Left Turn at Shawnee

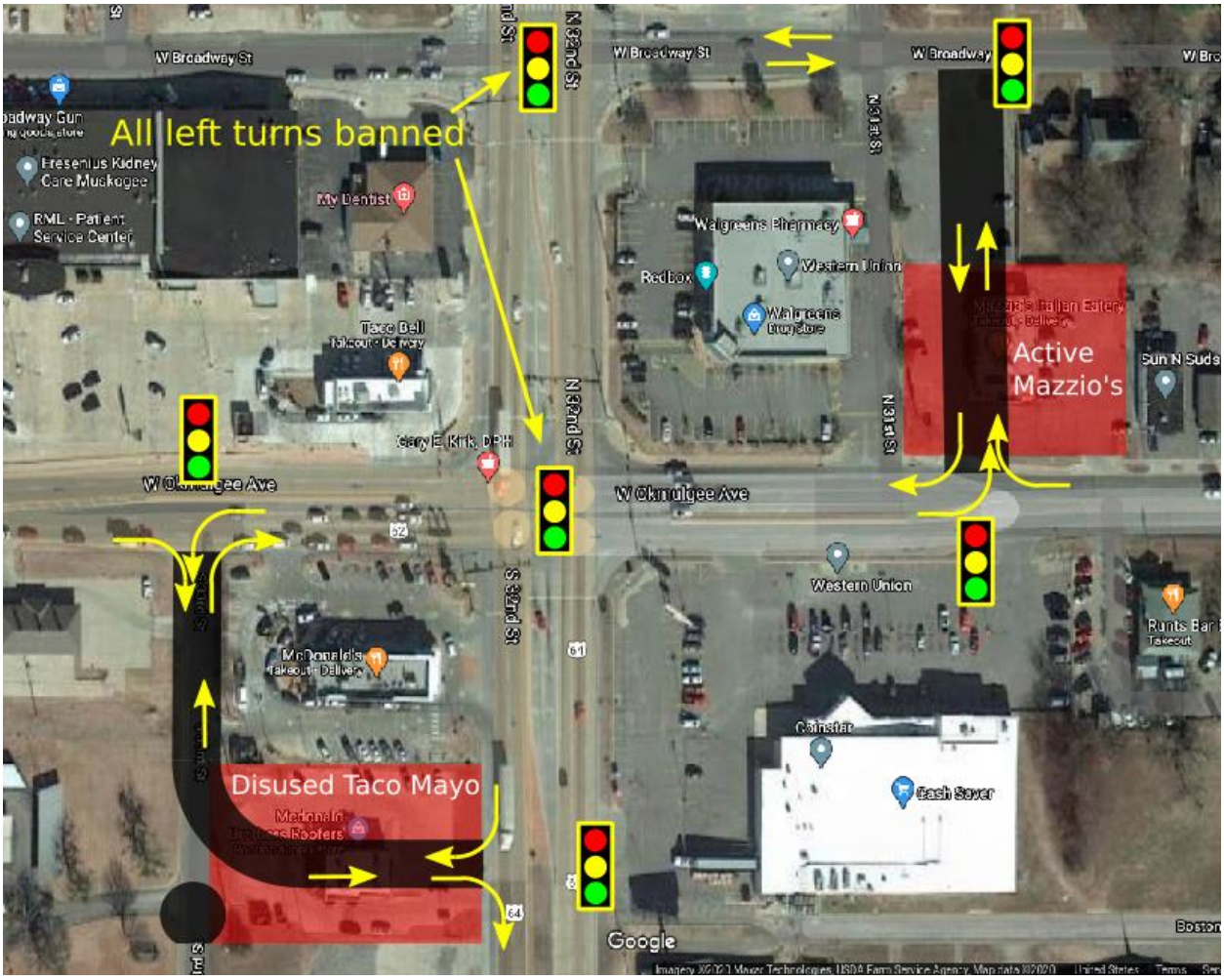


As a result of these modifications, the demand is projected to remain within capacity in 2050.

OKMULGEE & BROADWAY INTERSECTIONS

In 2050, peak hour demand is projected to exceed demand by up to 33% on most movements at these intersections, including the through movements on US-69. While there is not room to widen the approaches to these intersections, like with Shawnee, we can reduce the number of conflicting phases that must be served along US-69 and the crossroads. For these junctions, we recommend banning left turns at both intersections and constructing two quadrant roadways to allow indirect left turn movements, as shown in **Figure 6**.

Figure 6. Quadrant Roadways at Okmulgee and Broadway



As a result of these modifications, the demand is projected to remain within capacity in 2050.

CORRIDOR CAPACITY ANALYSIS OF ADDITIONAL MODIFICATIONS

Projected performance of the ultimate corridor under 2050 volumes, compared with the six-lane option of HUB's study, are shown in **Tables 10 and 11**.

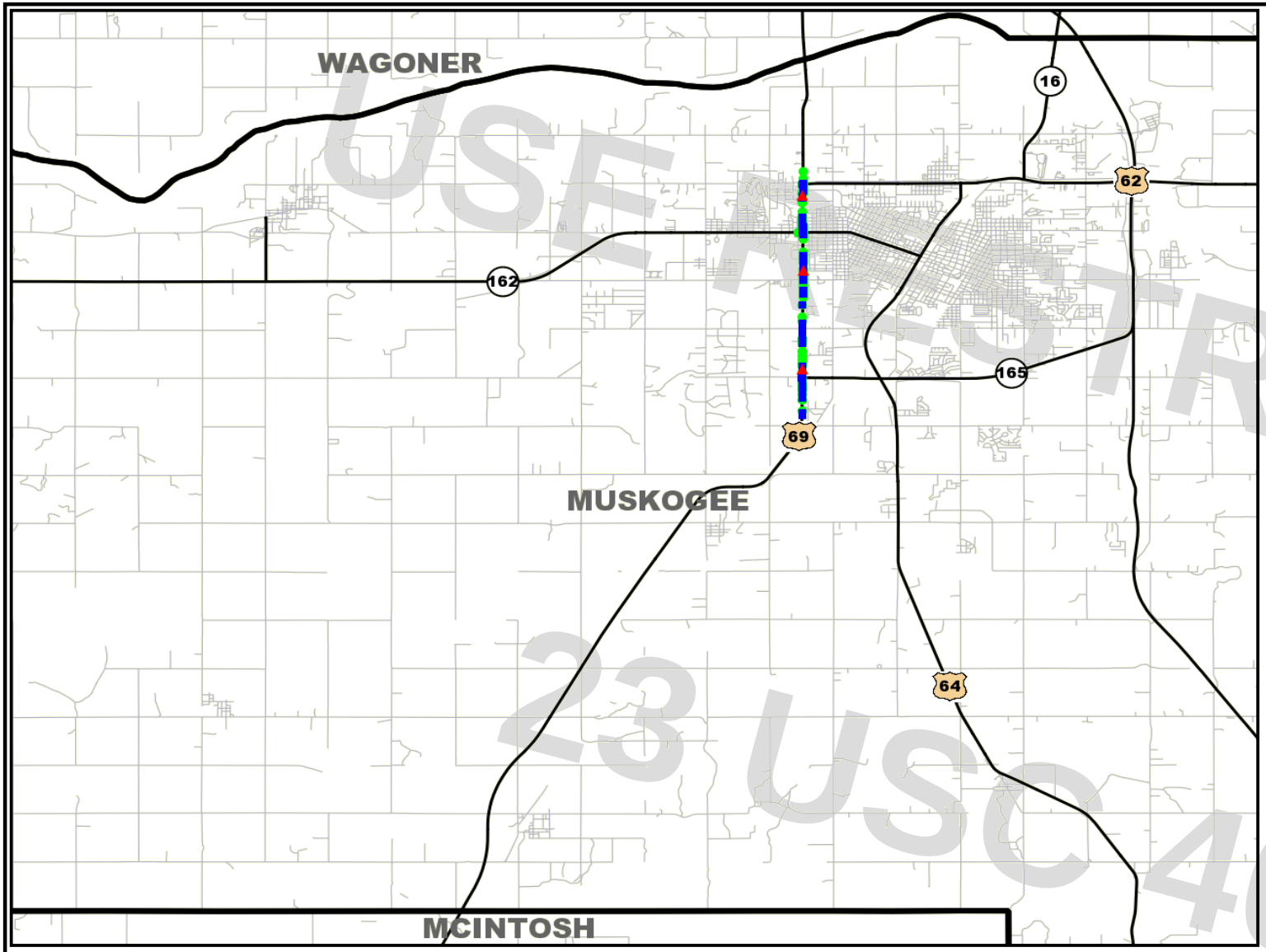
Table 10. 2050 Arterial Level of Service / Arterial Speed (mph) / Travel Time (min' sec)

Direction	Period	6- and 7-Lane Options	With Additional Modifications
NB	AM Peak	E / 16 / 16' 31	B / 29 / 08' 56
SB	AM Peak	E / 19 / 13'20	B / 30 / 08' 25
NB	PM Peak	E / 14 / 19' 17	C / 24 / 11' 04
SB	PM Peak	E / 15 / 16' 58	C / 24 / 10' 44

Table 11. 2050 Intersection LOS – Maximum v/c Ratio with Additional Modifications

Intersection	2050 AM 6-/7-Lane	2050 PM 6-/7-Lane	2050 AM Additional Mods	2050 PM Additional Mods
US-69 & Fern Mountain/Harris	F – **1.37**	F – **1.52**	C – 0.91	E – 0.97
US-69 & Shawnee	F – **1.37**	F – **1.56**	C – 0.94	D – 1.01
US-69 & Military/ Tahlequah	B – 0.98	D – **1.07**	C – 0.90	D – 0.99
US-69 & Broadway	F – **1.27**	F – **1.31**	C – 0.95	D – 0.96
US-69 & Okmulgee	F – **1.20**	F – **1.33**	C – 0.90	D – 0.93
US-69 & Arline	C – 0.92	E – **1.09**	C – 0.92	D – 1.02
US-69 & Border	D – 0.97	C – 1.00	C – 0.97	D – 1.00
US-69 & Hancock	C – 0.89	C – 0.91	B – 0.91	C – 0.91

Appendix C
Crash Report Data



USE RESTRICTED
23 USC 409

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 09/16/2020
by Edward Dihrberg

Study Map & Totals

Legend

- Fatality
- Injury
- Property Damage

N
W E
S

Remarks:

NONE

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 thru 09-16-2020

	2014						2015						2016					
	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot
Collisions	1	5	12	12	62	92		3	15	17	72	107	1	1	6	11	72	91
Persons	1	7	14	23		45		3	20	23		46	1	1	8	16		26

STUDY TOTALS (CONT.)

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
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	2017						2018*						2019*					
	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot
Collisions		1	9	16	66	92		1	3	13	58	75	1	3	5	20	68	97
Persons		1	13	21		35		1	3	19		23	1	3	5	42		51

* DENOTES A YEAR FOR WHICH DATA MAY BE INCOMPLETE.

	2020*					
	Fat	SRS Inj	Non-Incap Inj	Poss Inj	PD	Tot
Collisions					3	3
Persons						0

* DENOTES A YEAR FOR WHICH DATA MAY BE INCOMPLETE.

	Study Total					
	Fatality	Suspected Serious Injury	Non-Incapacitating Injury	Possible Injury	Property Damage	Total
Collisions	3	14	50	89	401	557
Persons	3	16	63	144		226

STUDY TOTALS - BY CITY AND HWY CLASS

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 09/16/2020 by Edward Dihrberg

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23 USC 409

STUDY TOTALS

	HIGHWAY COLLISIONS				CITY STREET COLLISIONS				COUNTY ROAD COLLISIONS				TOTAL COLLISIONS			
Year	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
2014	1	29	62	92									1	29	62	92
2015		35	72	107										35	72	107
2016	1	18	72	91									1	18	72	91
2017		26	66	92										26	66	92
2018 *		17	58	75										17	58	75
2019 *	1	28	68	97									1	28	68	97
2020 *			3	3											3	3
Total:	3	153	401	557				0				0	3	153	401	557

* DENOTES A YEAR FOR WHICH DATA MAY BE INCOMPLETE.

County: (51) MUSKOGEE

	HIGHWAY COLLISIONS				CITY STREET COLLISIONS				COUNTY ROAD COLLISIONS				TOTAL COLLISIONS			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
(30) MUSKOGEE	3	153	401	557									3	153	401	557

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

STUDY TOTALS - BY FISCAL YEAR

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
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Number of Collisions By Fiscal Year *

	2014	2015					2016					2017				
	Qtr4	Qtr1	Qtr2	Qtr3	Qtr4	Tot	Qtr1	Qtr2	Qtr3	Qtr4	Tot	Qtr1	Qtr2	Qtr3	Qtr4	Tot
Fatal	1									1	1					
Injury **	3	10	10	8	6	34	8	13	2	3	26	6	7	7	6	26
Property Damage	7	28	23	16	21	88	21	14	5	18	58	22	27	17	16	82
Total	11	38	33	24	27	122	29	27	7	22	85	28	34	24	22	108

Number of Collisions By Fiscal Year *

	2018					2019					2020				
	Qtr1	Qtr2	Qtr3	Qtr4	Tot	Qtr1	Qtr2	Qtr3	Qtr4	Tot	Qtr1	Qtr2	Qtr3	Qtr4	Tot
Fatal												1			1
Injury **	6	7	2	8	23	4	3	10	9	26	3	6			9
Property Damage	11	22	13	15	61	12	18	20	14	64	21	13	3		37
Total	17	29	15	23	84	16	21	30	23	90	24	20	3		47

* Fiscal year dates are defined as 07-01 of the prior year to 06-30.

** Includes Suspected Serious, Non-Incapacitating, and Possible Injuries.

TABULATION OF COLLISIONS

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
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Collisions By Type Of Collision

Type Of Collision	2014				2015				2016				2017				2018*			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
Rear-End (front-to-rear)		14	24	38		16	36	52		6	30	36		11	29	40		8	30	38
Head-On (front-to-front)											1	1								
Right Angle (front-to-side)		7	5	12		4	8	12	1	6	8	15		6	6	12		2	1	3
Angle Turning		2	13	15		5	10	15		3	10	13		4	12	16		4	9	13
Other Angle											2	2								
Sideswipe Same Direction		2	13	15		1	10	11		2	15	17		2	10	12		1	14	15
Sideswipe Opposite Direction																				
Fixed Object		2	2	4		4	3	7			2	2		1	1	2		1	2	3
Pedestrian	1	1		2		1		1		1		1		1	1	2				
Pedal Cycle		1		1							1	1								
Animal											1	1			3	3				
Overturn/Rollover						1		1						1		1		1		1
Vehicle-Train																				
Other Single Vehicle Crash						3	1	4												
Other			5	5			4	4			2	2			4	4			2	2
Total	1	29	62	92		35	72	107	1	18	72	91		26	66	92		17	58	75
Percent	0.2	5.2	11.1	16.5		6.3	12.9	19.2	0.2	3.2	12.9	16.3		4.7	11.8	16.5		3.1	10.4	13.5

Collisions By Type Of Collision

Type Of Collision	2019*				2020*				Total				
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Pct
Rear-End (front-to-rear)		10	36	46						65	185	250	44.9
Head-On (front-to-front)	1			1					1		1	2	0.4
Right Angle (front-to-side)		7	5	12			1	1	1	32	34	67	12.0
Angle Turning		6	8	14			1	1		24	63	87	15.6
Other Angle											2	2	0.4
Sideswipe Same Direction			10	10						8	72	80	14.4
Sideswipe Opposite Direction			1	1							1	1	0.2
Fixed Object		2	4	6			1	1		10	15	25	4.5
Pedestrian		1		1					1	5	1	7	1.3
Pedal Cycle										1	1	2	0.4
Animal											4	4	0.7
Overturn/Rollover		1		1						4		4	0.7
Vehicle-Train													
Other Single Vehicle Crash										3	1	4	0.7
Other		1	4	5						1	21	22	3.9
Total	1	28	68	97			3	3	3	153	401	557	100
Percent	0.2	5.0	12.2	17.4			0.5	0.5	0.5	27.5	72.0	100	

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

TABULATION OF COLLISIONS

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
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Units By Unit Type

Unit Type	2014				2015				2016				2017				2018*			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
Train																				
Pedestrian	1	2		3		1		1		1		1		1	1	2				
Animal											1	1			3	3				
Pedal Cycle						1		1			1	1								
Parked Vehicle																			1	1
CMV		3	12	15		6	17	23	2	1	10	13		6	14	20		5	16	21
Other Single Vehicle	1	4	2	7		9	2	11		1	4	5		3	4	7		2	2	4
Other Multi-Vehicle		51	109	160		49	125	174	2	35	133	170		42	112	154		28	97	125
Total	2	60	123	185		66	144	210	4	38	149	191		52	134	186		35	116	151
Percent	0.2	5.4	11.0	16.5		5.9	12.9	18.8	0.4	3.4	13.3	17.1		4.6	12.0	16.6		3.1	10.4	13.5

Units By Unit Type

Unit Type	2019*				2020*				Total				
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Pct
Train													
Pedestrian		1		1					1	6	1	8	0.7
Animal											4	4	0.4
Pedal Cycle										1	1	2	0.2
Parked Vehicle			1	1							2	2	0.2
CMV	1	3	23	27			3	3	3	24	95	122	10.9
Other Single Vehicle		4	5	9					1	23	19	43	3.8
Other Multi-Vehicle	1	48	104	153			3	3	3	253	683	939	83.8
Total	2	56	133	191			6	6	8	307	805	1120	100
Percent	0.2	5.0	11.9	17.1			0.5	0.5	0.7	27.4	71.9	100	

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

TABULATION OF COLLISIONS

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
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23 USC 409

Vehicles By Vehicle Type

Vehice Type	2014				2015				2016				2017				2018*			
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot
Passenger Vehicle-2 Door		1	8	9		2	9	11		3	9	12		2	5	7		4	2	6
Passenger Vehicle-4 Door		14	49	63		21	55	76	1	13	73	87		15	69	84		7	47	54
Passenger Vehicle-Convertible																				
Pickup Truck		7	40	47		9	35	44		3	30	33		4	31	35		4	31	35
Single-Unit Truck (2 axles)							1	1			2	2							1	1
Single-Unit Truck (3 or more axles)			1	1											1	1			1	1
School Bus																				
Truck/Trailer			3	3			2	2			2	2						1	4	5
Truck-Tractor (bobtail)							1	1							1	1				
Truck-Tractor/Semi-Trailer		1	10	11		1	20	21			10	10		1	17	18		1	14	15
Truck-Tractor/Double							1	1												
Truck-Tractor/Triple																				
Bus/Large Van (9-15 seats)																				
Bus (16+ seats)																				
Motorcycle																				
Motor Scooter/Moped																				
Motor Home											1	1								
Farm Machinery																				
ATV																				
Sport Utility Vehicle (SUV)		8	21	29		5	28	33		2	30	32		8	10	18		5	13	18
Passenger Van			6	6		1	9	10			2	2		1	9	10			3	3
Truck More Than 10,000 lbs.			2	2			1	1							1	1				
Van (10,000 lbs. or less)		1	1	2			1	1		1		1			2	2		1	1	2
Other		1	8	9			6	6			6	6			4	4			11	11
Total		33	149	182		39	169	208	1	22	165	188		31	150	181		23	128	151
Percent		3.0	13.5	16.5		3.5	15.3	18.8	0.1	2.0	14.9	17.0		2.8	13.6	16.4		2.1	11.6	13.7

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

TABULATION OF COLLISIONS

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 09/16/2020 by Edward Dihrberg

USE RESTRICTED
23 USC 409

Vehicles By Vehicle Type

Vehice Type	2019*				2020*				Total				
	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Fat	Inj *	PD	Tot	Pct
Passenger Vehicle-2 Door		2	9	11						14	42	56	5.1
Passenger Vehicle-4 Door	1	14	58	73			3	3	2	84	354	440	39.8
Passenger Vehicle-Convertible			1	1							1	1	0.1
Pickup Truck		6	25	31						33	192	225	20.3
Single-Unit Truck (2 axles)											4	4	0.4
Single-Unit Truck (3 or more axles)											3	3	0.3
School Bus													
Truck/Trailer			6	6						1	17	18	1.6
Truck-Tractor (bobtail)			1	1							3	3	0.3
Truck-Tractor/Semi-Trailer			16	16			3	3		4	90	94	8.5
Truck-Tractor/Double			1	1							2	2	0.2
Truck-Tractor/Triple													
Bus/Large Van (9-15 seats)													
Bus (16+ seats)													
Motorcycle		2		2						2		2	0.2
Motor Scooter/Moped													
Motor Home											1	1	0.1
Farm Machinery													
ATV													
Sport Utility Vehicle (SUV)		7	24	31						35	126	161	14.6
Passenger Van		2	3	5						4	32	36	3.3
Truck More Than 10,000 lbs.			1	1							5	5	0.5
Van (10,000 lbs. or less)		1	2	3						4	7	11	1.0
Other		2	6	8						3	41	44	4.0
Total	1	36	153	190			6	6	2	184	920	1106	100
Percent	0.1	3.3	13.8	17.2			0.5	0.5	0.2	16.6	83.2	100	

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

TABULATION OF COLLISIONS

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
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USE RESTRICTED
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Day And Time Of Occurrence Of Collisions

Day	Hour Of The Day																									
	AM												PM													
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	Tot	Pcnt
Sunday	1	1	2	1			1	3	2	2	3	3	5	2	1	6	2	2	5	2	2	3	1	2	52	9.3
Monday					2	2	1	7	2	2	7	6	9	9	5	3	3	3	2	5			2		70	12.6
Tuesday	1			1		2	2	2	3	2	6	8	8	6	6	8	7	6	5	2	5	1	1		82	14.7
Wednesday		1			2		6	6	8	4	8	12	6	7	9	6	4	3	1	5	3	3			94	16.9
Thursday			1	1	2	5	3	3	3	8	5	7	8	10	8	7	5	4	3	3	2	2			90	16.2
Friday	1		2	1	1	2	4	10	5	4	6	8	4	10	7	8	12	8	4	3	1	5	2	1	109	19.6
Saturday	1	2				2	3		2	5	6	6	3	3	3	3	3	6	1	1	3	3	2	2	60	10.8
	Early Morning - Sunrise						Morning Peak			Mid Morning/Afternoon						PM Peak			Evening - Late Night						Tot	100
Total	37						76			247						109			88						557	
Percent	6.6						13.6			44.3						19.6			15.8						100	

Roadway/Lighting

Roadway Conditions	Lighting Conditions					Total	Percent
	Daylight	Darkness	Twilight	Lighted	Unknown		
Dry	345	20	8	78	1	452	81.1
Wet (Water)	61	1	2	23		87	15.6
Ice, Snow, or Slush	8	3	1	2		14	2.5
Mud, Dirt, Gravel, or Sand							
Other	1		1		2	4	0.7
Total	415	24	12	103	3	557	100
Percent	74.5	4.3	2.2	18.5	0.5	100	

Weather Conditions

Weather Conditions	Total	Percent
Clear	374	67.1
Clouds Present	96	17.2
Raining/Fog	69	12.4
Snowing/Sleet/Hail	14	2.5
Other	4	0.7
Total	557	100

TABULATION OF COLLISIONS

UPDATED US 69 CRASH DATA

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USE RESTRICTED
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Drivers By Driver Conditions

Unsafe/Unlawful	Apparently Normal			Alcohol Involved						Sleep Suspected			Drug Use Indicated			Unknown Condition			Total				
				Ability Impaired			Odor Detected																
	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	PD	Fat	Inj *	PD	Total	Pcnt
Failed to Yield		31	53		1												4	5		36	58	94	8.5
Failed to Stop		18	21													1	2	6	1	20	27	48	4.3
Failed to Signal																							
Improper Turn		3	24									1					1	5		4	30	34	3.1
Improper Start			3																		3	3	0.3
Improper Stop																		1			1	1	0.1
Improper Backing			8															1			9	9	0.8
Improper Parking																							
Improper Passing			4															1			5	5	0.5
Improper Lane Change		6	44												1			8		6	53	59	5.3
Left of Center			2															1			3	3	0.3
Following Too Close		40	114									1			2		3	5		43	122	165	14.9
Unsafe Speed		6	8														2			8	8	16	1.4
DWI					4	8			3					4						8	11	19	1.7
Inattention		10	30		1						1	3					2			14	33	47	4.3
Negligent Driving			4															3			7	7	0.6
Defective Vehicle		1	3																	1	3	4	0.4
Wrong Way				1															1			1	0.1
No Improper Action	5	138	376														8	7	5	146	383	534	48.4
Other		10	30														4	11		14	41	55	5.0
Total	5	263	724	1	6	8			3		1	5		4	3	1	26	54	7	300	797	1104	100
Percent	0.5	23.8	65.6	0.1	0.5	0.7			0.3		0.1	0.5		0.4	0.3	0.1	2.4	4.9	0.6	27.2	72.2	100	

Severities Indicate Highest Severity in Collision

Collisions By Special Feature

Special Feature	Total			
	Fat	Inj *	PD	Tot
Bridge		1	3	4
Work Zone		2	9	11
Cross Median	1	3		4
Train Collision				

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

Program Provided by:
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(405) 522-0985
Created: 09/16/2020 by Edward Dihrberg

Collision Rate Analysis

USE RESTRICTED
23 USC 409

UPDATED US 69 CRASH DATA
Time Period: 02-01-2014 to 09-16-2020 (2419 days)

RATE = No. of Collisions per 100 Million Vehicle Miles

Rate Type	Location Rates	Statewide Rates ** (2015 - 2017)	Critical Rates
Queried Collisions:	223.16	180.60	194.79
Fatal Collisions:	1.20	1.07	
Vis. Injury Collisions *:	25.64	21.41	
Vis. Injury + Fatal:	26.84	22.48	27.62

Collision History Summary
(Number of Years = 7)

# Collisions		# People	
Involving Fatality:	3	Killed:	3
Vis. Injury *:	64	Vis. Injured *:	79
Poss. Injury:	89	Poss. Injured:	144
Property Damage Only:	401		
TOTAL:	557		

* Includes Suspected Serious and Non-Incapacitating Injuries.

Road Characteristics

Roadway Length (miles):	04.78
Roadway Width (feet):	24 - 76
Avg. Daily Traffic (Veh/Day):	21586
Number of Lanes *:	FOUR LANES
Access Control *:	NONE
Urban Area Type *:	URBAN
Rural or Municipal *:	MUNICIPAL
Median Type *:	OPEN WITH SHOULDERS
Median Width (feet):	10 - 40

* Predominate value.

$$\text{RATE} = \frac{\text{NO. OF COLLISIONS}}{\text{EXPOSURE}}$$

$$\text{CRIT RATE} = \text{STATE RATE} + 1.645 \times \text{SQRT}\left(\frac{\text{STATE RATE}}{\text{EXPOSURE}}\right) + \left(\frac{0.5}{\text{EXPOSURE}}\right)$$

$$\text{EXPOSURE} = \frac{\text{ADT} \times \text{LENGTH} \times \text{NO. OF DAYS IN REPORT}}{100{,}000{,}000}$$

** Statewide rates are computed based on similiar roadways pertaining to number of lanes, divided or undivided, rural or urban, and access control.
Statewide rates cannot be compared to Queried Collisions unless the queried collisions include every collision type.

HIGHWAY SYSTEM COLLISION LISTING

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
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USE RESTRICTED
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(51) MUSKOGEE (30) MUSKOGEE HWY: US-69, 32 ST. AT: US-62, SHAWNEE BYPASS

Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	W	-	1			F-O TRAFF-SIGN	D-W-I	DARK	DRY	PDO	03-30-2014
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	E	E	2	1		SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	P INJ	08-08-2014
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	2			REAR-END	NO-IMP-ACT	DYLGT	DRY	PDO	09-05-2014
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y			2			OTHER	OTHER	Other	OTHER	PDO	09-24-2014
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	2			SIDESWIPE-SAME	OTHER	DYLGT	WET	PDO	10-10-2014
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	S	2			ANGLE-TURNING	F-YIELD	DARK	WET	PDO	12-20-2014
51	30	18	04	01.00	SHAWNEE BYPASS	TURN LN MRGE	YES	Y	N	N	2			REAR-END	INATT	DYLGT	DRY	PDO	02-12-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	SNOW	PDO	02-23-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	SNOW	PDO	02-23-2015
51	30	18	04	01.00	SHAWNEE BYPASS	WKZONE	YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	04-06-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2	1		REAR-END	INATT	DYLGT	DRY	P INJ	04-10-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2			SIDESWIPE-SAME	NEG-DRVING	DYLGT	DRY	PDO	04-16-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	E	E	2			ANGLE-TURNING	NEG-DRVING	DYLGT	DRY	PDO	05-20-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	3	2		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	07-01-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2	2		REAR-END	F-STOP	DARK	DRY	SS INJ	09-17-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2			REAR-END	D-W-I	DARK	DRY	PDO	09-22-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	W	N	2			RIGHT-ANGLE	F-STOP	DARK	DRY	PDO	09-30-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y			2			RIGHT-ANGLE	F-YIELD	DYLGT	DRY	PDO	10-25-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DARK	WET	PDO	10-30-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	N-I INJ	11-07-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	2			ANGLE-TURNING	IMP-LN-CHG	DYLGT	DRY	PDO	11-12-2015
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	3			REAR-END	INATT	DYLGT	DRY	PDO	01-04-2016
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2			SIDESWIPE-SAME	IMP-TURN	DYLGT	WET	PDO	03-29-2016
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	2			REAR-END	INATT	DYLGT	DRY	PDO	07-21-2016
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	12-17-2016
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	W	W	2	1		REAR-END	INATT	DARK	WET	N-I INJ	12-24-2016
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	12-30-2016
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	E	E	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	01-17-2017
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	2			ANGLE-TURNING	OTHER	DYLGT	DRY	PDO	05-23-2017
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	08-04-2017
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	W	W	3			REAR-END	FOL-CLOSE	DARK	DRY	PDO	09-20-2017
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	2			REAR-END	OTHER	DYLGT	WET	PDO	10-04-2017
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	2			REAR-END	F-YIELD	DARK	WET	PDO	10-04-2017
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	S	S	2			REAR-END	INATT	DYLGT	DRY	PDO	04-08-2018
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	04-29-2018
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	E	E	2			ANGLE-TURNING	IMP-LN-CHG	DYLGT	DRY	PDO	05-29-2018
51	30	18	04	01.00	SHAWNEE BYPASS	TURN LN MRGE	YES	Y	N	N	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	07-06-2018
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	E	E	2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	07-09-2018

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

HIGHWAY SYSTEM COLLISION LISTING

UPDATED US 69 CRASH DATA

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USE RESTRICTED
23 USC 409

				HIGHWAY COLLISIONS		CITY STREET COLLISIONS	COUNTY ROAD COLLISIONS							TOTAL COLLISIONS					
Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	07-12-2018
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2			REAR-END	IMP-PASS	DYLGT	DRY	PDO	09-12-2018
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	W	-	1			F-O UTIL-POLE	NO-IMP-ACT	DYLGT	WET	PDO	10-19-2018
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	11-29-2018
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	E	S	2	1		RIGHT-ANGLE	F-STOP	DARK	WET	N-I INJ	01-16-2019
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DARK	WET	PDO	02-17-2019
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DARK	DRY	PDO	02-25-2019
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	03-01-2019
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	S	2			SIDESWIPE-OPP	DEF-VEH	DYLGT	DRY	PDO	03-27-2019
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2			REAR-END	INATT	DYLGT	DRY	PDO	04-26-2019
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	E	E	2			REAR-END	INATT	DYLGT	DRY	PDO	06-20-2019
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	E	E	2	2		REAR-END	F-STOP	DARK	DRY	P INJ	06-20-2019
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	W	-	1	1		F-O CURB	NO-IMP-ACT	DYLGT	DRY	P INJ	06-27-2019
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	W	W	2			REAR-END	INATT	DYLGT	DRY	PDO	08-13-2019
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	09-03-2019
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	E	E	2			OTH-BACKING	IMP-BACK	DYLGT	WET	PDO	10-24-2019
51	30	18	04	01.00	SHAWNEE BYPASS	TURN LN MRGE	YES	Y	E	E	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	11-06-2019
51	30	18	04	01.00	SHAWNEE BYPASS	WKZONE	YES	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	11-20-2019
51	30	18	04	01.00	SHAWNEE BYPASS		YES	Y	W	W	2			ANGLE-TURNING	F-YIELD	DUSK	DRY	PDO	11-29-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.													
51	30	18	04	01.10			NO	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	09-25-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.													
51	30	18	04	01.25		WKZONE	NO	Y	N	N	2			SIDESWIPE-SAME	F-YIELD	DYLGT	DRY	PDO	07-27-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: ,	SHAWNEE BYPASS		AT: US-69,					32 ST.						
51	30	47	04	00.00	32 ST.		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	08-18-2014
51	30	47	04	00.00	32 ST.		YES	Y	W	W	2	2		REAR-END	FOL-CLOSE	DARK	DRY	N-I INJ	10-24-2014
51	30	47	04	00.00	32 ST.		YES	Y	S	S	2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	11-10-2014
51	30	47	04	00.00	32 ST.		YES	Y	N	E	2			ANGLE-TURNING	F-STOP	DYLGT	WET	PDO	01-11-2015
51	30	47	04	00.00	32 ST.		YES	Y	W	W	3			REAR-END	INATT	DYLGT	DRY	PDO	04-10-2015
51	30	47	04	00.00	32 ST.		YES	Y	E	E	2			REAR-END	INATT	DYLGT	DRY	PDO	08-05-2015
51	30	47	04	00.00	32 ST.		YES	Y	N	-	1	1		OTH-SINGLE-VEH	OTHER	DARK	DRY	P INJ	08-15-2015
51	30	47	04	00.00	32 ST.		YES	Y	S	N	2	2		ANGLE-TURNING	F-STOP	DYLGT	DRY	N-I INJ	09-12-2015
51	30	47	04	00.00	32 ST.		YES	Y	S	S	2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	09-17-2015
51	30	47	04	00.00	32 ST.		YES	Y			3	1		REAR-END	INATT	DYLGT	DRY	P INJ	12-15-2015
51	30	47	04	00.00	32 ST.		YES	Y	W	W	2	1		REAR-END	F-STOP	DYLGT	DRY	N-I INJ	12-17-2015
51	30	47	04	00.00	32 ST.		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DARK	WET	PDO	05-24-2016
51	30	47	04	00.00	32 ST.		YES	Y	N	N	2			SIDESWIPE-SAME	OTHER	DYLGT	DRY	PDO	09-05-2016

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

HIGHWAY SYSTEM COLLISION LISTING

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 09/16/2020 by Edward Dihrberg

USE RESTRICTED
23 USC 409

				HIGHWAY COLLISIONS		CITY STREET COLLISIONS	COUNTY ROAD COLLISIONS							TOTAL COLLISIONS					
Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	47	04	00.00	32 ST.		YES	Y	E	E	2			REAR-END	FOL-CLOSE	DARK	WET	PDO	01-22-2017
51	30	47	04	00.00	32 ST.		YES	Y	N	N	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	05-17-2017
51	30	47	04	00.00	32 ST.		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	05-25-2017
51	30	47	04	00.00	32 ST.		YES	Y	S	S	2	1		REAR-END	F-STOP	DYLGT	DRY	N-I INJ	06-20-2017
51	30	47	04	00.00	32 ST.		YES	Y	E	W	2			REAR-END	INATT	DYLGT	DRY	PDO	07-25-2017
51	30	47	04	00.00	32 ST.		YES	Y	N	N	2			REAR-END	IMP-START	DYLGT	DRY	PDO	07-25-2017
51	30	47	04	00.00	32 ST.		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	11-27-2017
51	30	47	04	00.00	32 ST.		YES	Y	W	W	2			REAR-END	IMP-PASS	DYLGT	DRY	PDO	10-10-2018
51	30	47	04	00.00	32 ST.		YES	Y	W	W	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	10-26-2018
51	30	47	04	00.00	32 ST.		YES	Y	S	E	3	5		ANGLE-TURNING	F-STOP	DYLGT	WET	SS INJ	01-02-2019
51	30	47	04	00.00	32 ST.		YES	Y	S	W	2	2		RIGHT-ANGLE	F-YIELD	DYLGT	WET	P INJ	01-11-2019
51	30	47	04	00.00	32 ST.		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	01-16-2019
51	30	47	04	00.00	32 ST.		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	06-04-2019
51	30	47	04	00.00	32 ST.		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	08-30-2019
51	30	47	04	00.00	32 ST.		YES	Y	E	N	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	08-30-2019
51	30	47	04	00.00	32 ST.		YES	Y	W	W	3			REAR-END	OTHER	DARK	DRY	PDO	11-12-2019
(51) MUSKOGEE		(30) MUSKOGEE		HWY: ,	OKMULGEE AVE.			AT: US-69,						32 ST./FINDLAY					
51	30	07	05	13.72	32 ST./FINDLAY		YES	Y	E	E	2			ANGLE-TURNING	F-YIELD	DARK	DRY	PDO	12-09-2014
51	30	07	05	13.72	32 ST./FINDLAY		YES	Y	W	W	2			OTH-BACKING	IMP-BACK	DYLGT	WET	PDO	03-09-2015
51	30	07	05	13.72	32 ST./FINDLAY	TURN LN MRGE	YES	Y	E	E	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	04-15-2016
51	30	07	05	13.72	32 ST./FINDLAY		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	05-07-2016
51	30	07	05	13.72	32 ST./FINDLAY		YES	Y	E	W	2			ANGLE-OTHER	IMP-TURN	DYLGT	DRY	PDO	09-15-2016
51	30	07	05	13.72	32 ST./FINDLAY		YES	Y	W	S	2			ANGLE-TURNING	F-STOP	DARK	DRY	PDO	10-24-2016
51	30	07	05	13.72	32 ST./FINDLAY		YES	Y	W	W	2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	11-10-2016
51	30	07	05	13.72	32 ST./FINDLAY		YES	Y	S	W	2	1		ANGLE-TURNING	F-YIELD	DARK	DRY	SS INJ	03-21-2017
51	30	07	05	13.72	32 ST./FINDLAY		YES	Y	E	E	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	04-21-2017
51	30	07	05	13.72	32 ST./FINDLAY		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	10-26-2017
51	30	07	05	13.72	32 ST./FINDLAY		YES	Y	E	E	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	02-14-2018
51	30	07	05	13.72	32 ST./FINDLAY		YES	Y	S	-	1			F-O UTIL-POLE	OTHER	DARK	WET	PDO	03-27-2018
51	30	07	05	13.72	32 ST./FINDLAY		YES	Y	W	W	2			REAR-END	F-STOP	DYLGT	WET	PDO	03-27-2018
51	30	07	05	13.72	32 ST./FINDLAY		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	03-06-2019
(51) MUSKOGEE		(30) MUSKOGEE		HWY: US-69,	32 ST.			AT: US-62,						OKMULGEE AVE.					
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	04-03-2014
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2	1		REAR-END	INATT	DYLGT	DRY	P INJ	05-13-2014
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y		S	2			SIDESWIPE-SAME	IMP-LN-CHG	DUSK	OTHER	PDO	07-13-2014
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	E	E	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	07-23-2014
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2			REAR-END	INATT	DYLGT	DRY	PDO	09-10-2014

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HIGHWAY SYSTEM COLLISION LISTING

UPDATED US 69 CRASH DATA

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Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 09/16/2020 by Edward Dihrberg

USE RESTRICTED
23 USC 409

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Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	10-17-2014
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	11-14-2014
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DARK	WET	PDO	11-23-2014
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	3	1		REAR-END	FOL-CLOSE	DARK	WET	N-I INJ	12-05-2014
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	W	S	2			RIGHT-ANGLE	OTHER	DARK	WET	PDO	12-27-2014
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	E	S	2			RIGHT-ANGLE	F-STOP	DYLGT	DRY	PDO	01-18-2015
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	N-I INJ	04-25-2015
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	04-27-2015
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	S	2			REAR-END	D-W-I	DARK	DRY	PDO	06-01-2015
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	07-24-2015
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	09-24-2015
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	09-27-2015
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2			REAR-END	INATT	DYLGT	DRY	PDO	11-03-2015
51	30	18	05	00.00	OKMULGEE AVE.	DRIVEWAY	YES	Y		N	2			ANGLE-OTHER	F-YIELD	DYLGT	DRY	PDO	06-09-2016
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	W	-	1			F-O TRAFF-SIGN	IMP-TURN	DARK	DRY	PDO	06-18-2016
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	3			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	07-02-2016
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	07-10-2016
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	W	N	2	2		RIGHT-ANGLE	F-STOP	DYLGT	DRY	N-I INJ	08-11-2016
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	E	E	2			ANGLE-TURNING	NO-IMP-ACT	DARK	DRY	PDO	09-01-2016
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	-	1			PEDAL-CYCLE	NO-IMP-ACT	DYLGT	DRY	PDO	09-09-2016
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	09-12-2016
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	W	S	2			ANGLE-TURNING	F-YIELD	DARK	WET	PDO	09-25-2016
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	-	1			F-O TRAFF-SIGNAL	IMP-TURN	DARK	DRY	PDO	12-20-2016
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	02-09-2017
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	02-12-2017
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	W	2	1		ANGLE-TURNING	F-STOP	DARK	DRY	P INJ	03-08-2017
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	S	2			REAR-END	IMP-LN-CHG	DYLGT	DRY	PDO	08-16-2017
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	S	2			REAR-END	D-W-I	DARK	DRY	PDO	09-30-2017
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	E	N	2	1		RIGHT-ANGLE	NO-IMP-ACT	DARK	DRY	N-I INJ	01-13-2018
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	E	E	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	06-09-2018
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	07-28-2018
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	09-12-2018
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	09-28-2018
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2			REAR-END	INATT	DARK	DRY	PDO	12-01-2018
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	E	S	2			ANGLE-TURNING	F-YIELD	DARK	DRY	PDO	12-25-2018
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	E	2	3		RIGHT-ANGLE	F-STOP	DARK	DRY	P INJ	01-27-2019
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	N	2			ANGLE-TURNING	IMP-TURN	DARK	DRY	PDO	03-01-2019

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HIGHWAY SYSTEM COLLISION LISTING

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USE RESTRICTED
23 USC 409

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Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	S	2			REAR-END	INATT	DYLGT	DRY	PDO	07-01-2019
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	07-31-2019
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S		2			REAR-END	OTHER	DYLGT	DRY	PDO	08-29-2019
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	S	2			SIDESWIPE-SAME	NEG-DRVING	DYLGT	DRY	PDO	11-05-2019
51	30	18	05	00.00	OKMULGEE AVE.		YES	Y	S	S	2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	11-26-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.		AT: US-62,						OKMULGEE AVE.					
51	30	56	05	15.87	OKMULGEE AVE.		YES	Y	N	N	2			ANGLE-TURNING	IMP-LN-CHG	DYLGT	DRY	PDO	03-10-2014
51	30	56	05	15.87	OKMULGEE AVE.		YES	Y	W	S	2			RIGHT-ANGLE	F-STOP	DYLGT	DRY	PDO	05-30-2017
51	30	56	05	15.87	OKMULGEE AVE.		YES	Y	N	N	2			REAR-END	IMP-LN-CHG	DYLGT	DRY	PDO	08-07-2017
51	30	56	05	15.87	OKMULGEE AVE.		YES	Y	N	N	2	1		REAR-END	F-STOP	DARK	DRY	P INJ	09-03-2017
51	30	56	05	15.87	OKMULGEE AVE.		YES	Y	S	S	2			ANGLE-TURNING	IMP-TURN	DYLGT	WET	PDO	10-03-2017
51	30	56	05	15.87	OKMULGEE AVE.		YES	Y	W	S	3			SIDESWIPE-SAME	OTHER	DYLGT	DRY	PDO	06-20-2018
51	30	56	05	15.87	OKMULGEE AVE.		YES	Y	S	E	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	07-11-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY:								AT: 32 ST.						
51	30	66	05	00.00	32 ST.		YES	Y	E	E	3			SIDESWIPE-SAME	INATT	DYLGT	DRY	PDO	07-05-2014
51	30	66	05	00.00	32 ST.		YES	Y	E		2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	07-17-2014
51	30	66	05	00.00	32 ST.		YES	Y	E	E	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	08-15-2014
51	30	66	05	00.00	32 ST.		YES	Y	E	E	2			REAR-END	OTHER	DYLGT	DRY	PDO	10-14-2014
51	30	66	05	00.00	32 ST.		YES	Y	E	E	2			OTH-BACKING	IMP-BACK	DARK	DRY	PDO	11-11-2014
51	30	66	05	00.00	32 ST.		YES	Y	W	W	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	WET	PDO	12-17-2014
51	30	66	05	00.00	32 ST.		YES	Y	E	E	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	06-25-2015
51	30	66	05	00.00	32 ST.		YES	Y	W	W	2			REAR-END	INATT	DYLGT	DRY	PDO	09-23-2015
51	30	66	05	00.00	32 ST.		YES	Y			3	2		ANGLE-TURNING	SLEEPY	DYLGT	DRY	P INJ	10-08-2015
51	30	66	05	00.00	32 ST.		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	11-03-2015
51	30	66	05	00.00	32 ST.		YES	Y			2			REAR-END	INATT	DYLGT	DRY	PDO	04-26-2016
51	30	66	05	00.00	32 ST.		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	11-03-2016
51	30	66	05	00.00	32 ST.		YES	Y	E	E	2			ANGLE-TURNING	IMP-LN-CHG	DYLGT	DRY	PDO	01-04-2017
51	30	66	05	00.00	32 ST.		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	02-13-2017
51	30	66	05	00.00	32 ST.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	11-16-2018
51	30	66	05	00.00	32 ST.		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	05-28-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: ,	PEAK BLVD		AT: US-69											
51	30	44	12	00.00	US-69		YES	Y	E	W	2	1		ANGLE-TURNING	F-YIELD	DAWN	DRY	P INJ	04-29-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.		AT: US-64,						PEAK BLV.SB EN					
51	30	56	12	12.09	PEAK BLV.SB EN	M/L RAMP MRG	YES	Y	S	S	2	1		ANGLE-TURNING	INATT	DARK	DRY	P INJ	09-21-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.													
51	30	56	12	12.14		WKZONE	NO	Y	N	-	1	1		OTH-SINGLE-VEH	DEF-VEH	DYLGT	DRY	P INJ	01-02-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.		AT: US-64,						PEAK BLVD.NB EXIT					

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Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	56	12	12.19	PEAK BLVD.NB EXIT		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	06-22-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.													
51	30	56	12	12.39			NO	Y	S	S	2			SIDESWIPE-SAME	F-YIELD	DARK	DRY	PDO	01-10-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.													
51	30	56	12	12.40			NO	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DUSK	DRY	PDO	03-01-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.													
51	30	56	12	12.44		DRIVEWAY	NO	Y	N	N	2	2		REAR-END	FOL-CLOSE	DARK	DRY	N-I INJ	09-24-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.			AT: US-64,					PEAK BLVD.SB EXIT					
51	30	56	12	12.52	PEAK BLVD.SB EXIT	M/L LOOP GOR	NO	Y	S	-	1	3		F-O TRAFF-SIGN	UNSAF-SPD	DUSK	SNOW	P INJ	11-16-2014
51	30	56	12	12.52	PEAK BLVD.SB EXIT	M/L LOOP GOR	NO	Y	S	-	1	1		F-O TRAFF-SIGN	OTHER	DYLGT	DRY	N-I INJ	09-12-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.													
51	30	56	12	12.53			NO	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	06-02-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.													
51	30	56	12	12.54		X-MEDIAN	NO	Y	E	-	1	1		OTH-SINGLE-VEH	OTH-ANIMAL	DARK	DRY	N-I INJ	10-08-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.			AT: US-64,					PEAK BLVD. O.P.					
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC LFT	YES	Y	S	E	2	2		RIGHT-ANGLE	F-YIELD	DYLGT	DRY	SS INJ	02-28-2014
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC RIT	YES	Y	N	N	2	1		SIDESWIPE-SAME	IMP-TURN	DARK	DRY	N-I INJ	03-06-2014
51	30	56	12	12.64	PEAK BLVD. O.P.	BRIDGE	NO	Y	S	-	1			F-O BARR-CONCRETE	UNSAF-SPD	DARK	ICE	PDO	01-01-2015
51	30	56	12	12.64	PEAK BLVD. O.P.	BRIDGE	NO	Y	N	-	1			F-O GUARDRL-FACE	UNSAF-SPD	DARK	ICE	PDO	01-01-2015
51	30	56	12	12.64	PEAK BLVD. O.P.	TURN LN MRGE	YES	Y	N	N	2			REAR-END	INATT	DYLGT	DRY	PDO	01-13-2015
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC LFT	YES	Y	W	-	1	1		F-O DITCH	INATT	DARK	DRY	P INJ	01-16-2015
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC RIT	YES	Y	N	E	2	1		RIGHT-ANGLE	F-YIELD	DYLGT	DRY	SS INJ	02-06-2015
51	30	56	12	12.64	PEAK BLVD. O.P.	BRIDGE	NO	Y	S	-	1			F-O BR-ABUTMENT	UNSAF-SPD	DYLGT	ICE	PDO	03-04-2015
51	30	56	12	12.64	PEAK BLVD. O.P.	BR ON X-ROAD	NO	Y	N	-	1	1		F-O BARR-OTHER	D-W-I	DARK	DRY	P INJ	03-15-2015
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC RIT TURN LN MRGE	YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	05-27-2015
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC RIT TURN LN MRGE	YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	06-08-2015
51	30	56	12	12.64	PEAK BLVD. O.P.	TURN LN MRGE	YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	09-16-2015
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC LFT	YES	Y	S	E	2	1		RIGHT-ANGLE	F-YIELD	DARK	DRY	P INJ	10-16-2015
51	30	56	12	12.64	PEAK BLVD. O.P.	DRIVEWAY	YES	Y	S	E	2	1		RIGHT-ANGLE	F-YIELD	DYLGT	DRY	P INJ	10-23-2015
51	30	56	12	12.64	PEAK BLVD. O.P.	BRIDGE	NO	Y	S	S	2	1		SIDESWIPE-SAME	D-W-I	DYLGT	WET	N-I INJ	03-11-2016
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC UND	YES	Y	S	N	2			OTH-BACKING	IMP-BACK	DYLGT	DRY	PDO	08-22-2016
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC RIT	YES	Y	W	W	2	2		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	11-18-2016
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC RIT	YES	Y	E	W	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	11-26-2016

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

HIGHWAY SYSTEM COLLISION LISTING

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 09/16/2020 by Edward Dihrberg

USE RESTRICTED
23 USC 409

				HIGHWAY COLLISIONS		CITY STREET COLLISIONS	COUNTY ROAD COLLISIONS							TOTAL COLLISIONS					
Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC RIT TURN LN MRGE	YES	Y	E	E	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	12-12-2016
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC LFT TURN LN MRGE	YES	Y	E	E	2	1		REAR-END	FOL-CLOSE	DYLGT	WET	P INJ	05-19-2017
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC LFT TURN LN MRGE	YES	Y	N	N	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	05-29-2017
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC LFT	YES	Y	S	E	2	1		ANGLE-TURNING	F-YIELD	DARK	WET	P INJ	06-30-2017
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC LFT	YES	Y	S	E	2	1		RIGHT-ANGLE	F-YIELD	DYLGT	DRY	P INJ	11-11-2017
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC UND	YES	Y	E	E	2			OTHER	NEG-DRVING	DYLGT	DRY	PDO	11-20-2017
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC LFT TURN LN MRGE	YES	Y	N	N	2			REAR-END	FOL-CLOSE	DARK	DRY	PDO	03-20-2018
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC LFT	YES	Y	S	E	2	1		RIGHT-ANGLE	F-YIELD	DYLGT	DRY	P INJ	04-03-2019
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC RIT	YES	Y	E	E	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	06-21-2019
51	30	56	12	12.64	PEAK BLVD. O.P.	TERM LOC RIT	YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	08-26-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.														
51	30	56	12	12.68			NO	Y	S	-	1	1		F-O GUARDRL-END	D-W-I	DYLGT	DRY	P INJ	07-30-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.														
51	30	56	12	12.70		IMPACT ATNU8	NO	Y	N	-	1			OTHER	UNSAF-SPD	DYLGT	ICE	PDO	01-02-2019
51	30	56	12	12.70			NO	Y	N	-	1	2		F-O BARR-CONCRETE	UNSAF-SPD	DARK	ICE	P INJ	01-02-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.														
51	30	56	12	12.73		WKZONE	NO	Y	S	-	1	1		PEDESTRIAN	OTHER	DARK	DRY	SS INJ	12-28-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.														
51	30	56	12	12.74		DRIVEWAY	NO	Y	S	-	1			F-O UTIL-POLE	IMP-TURN	DYLGT	DRY	PDO	04-30-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.														
51	30	56	12	12.75		X-MEDIAN	NO	Y	N	S	2	2		OTHER	UNSAF-SPD	DARK	ICE	N-I INJ	02-28-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.														
51	30	56	12	12.84		DRIVEWAY	NO	Y	W	S	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	07-31-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.														
51	30	56	12	12.89			NO	Y	S	S	2	2		SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	P INJ	11-22-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.									AT: 00.03 after OKMULGEE AVE.					
51	30	18		00.03			NO	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	10-30-2015
51	30	18		00.03			NO	Y	S	-	1			OTHER	IMP-TURN	DYLGT	DRY	PDO	12-03-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.									AT: 00.04 after OKMULGEE AVE.					
51	30	18		00.04			NO	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	09-02-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.									AT: BROADWAY					
51	30	18		00.08	BROADWAY		YES	Y	S	S	2	1		REAR-END	FOL-CLOSE	DARK	DRY	P INJ	02-11-2014

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

HIGHWAY SYSTEM COLLISION LISTING

UPDATED US 69 CRASH DATA

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Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
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USE RESTRICTED
23 USC 409

				HIGHWAY COLLISIONS		CITY STREET COLLISIONS	COUNTY ROAD COLLISIONS						TOTAL COLLISIONS						
Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	18		00.08	BROADWAY		YES	Y	E	E	2			REAR-END	OTHER	DYLGT	DRY	PDO	07-24-2014
51	30	18		00.08	BROADWAY		YES	Y	W	S	2	1		RIGHT-ANGLE	INATT	DARK	DRY	N-I INJ	08-04-2014
51	30	18		00.08	BROADWAY		YES	Y			2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	08-08-2014
51	30	18		00.08	BROADWAY		YES	Y			2			ANGLE-TURNING	F-STOP	DYLGT	WET	PDO	10-11-2014
51	30	18		00.08	BROADWAY		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DARK	DRY	PDO	12-19-2014
51	30	18		00.08	BROADWAY		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	ICE	PDO	02-16-2015
51	30	18		00.08	BROADWAY		YES	Y			2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	05-01-2015
51	30	18		00.08	BROADWAY		YES	Y	N	E	2			RIGHT-ANGLE	F-STOP	DYLGT	WET	PDO	05-29-2015
51	30	18		00.08	BROADWAY		YES	Y	S	S	2	4		REAR-END	FOL-CLOSE	DYLGT	DRY	N-I INJ	06-26-2015
51	30	18		00.08	BROADWAY		YES	Y			2			RIGHT-ANGLE	F-YIELD	DYLGT	DRY	PDO	10-18-2015
51	30	18		00.08	BROADWAY		YES	Y	S	W	2			RIGHT-ANGLE	F-STOP	DARK	WET	PDO	10-22-2015
51	30	18		00.08	BROADWAY		YES	Y	E	N	2			RIGHT-ANGLE	F-STOP	DARK	WET	PDO	11-05-2015
51	30	18		00.08	BROADWAY		YES	Y	N	E	2			RIGHT-ANGLE	F-STOP	DYLGT	DRY	PDO	05-01-2016
51	30	18		00.08	BROADWAY		YES	Y	S	S	3			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	08-26-2016
51	30	18		00.08	BROADWAY		YES	Y	N	W	2	2		RIGHT-ANGLE	F-STOP	DYLGT	DRY	N-I INJ	09-06-2016
51	30	18		00.08	BROADWAY		YES	Y	W	W	2			REAR-END	INATT	DYLGT	DRY	PDO	09-13-2016
51	30	18		00.08	BROADWAY		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	10-19-2016
51	30	18		00.08	BROADWAY		YES	Y	E	N	2	2		ANGLE-TURNING	OTHER	DYLGT	DRY	N-I INJ	10-24-2016
51	30	18		00.08	BROADWAY		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	11-11-2016
51	30	18		00.08	BROADWAY		YES	Y	S	W	2	1		RIGHT-ANGLE	F-STOP	DYLGT	DRY	P INJ	02-01-2017
51	30	18		00.08	BROADWAY		YES	Y	S	W	2			RIGHT-ANGLE	UNSAF-SPD	DYLGT	WET	PDO	04-29-2017
51	30	18		00.08	BROADWAY		YES	Y	W	E	2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	06-08-2017
51	30	18		00.08	BROADWAY		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	08-24-2017
51	30	18		00.08	BROADWAY		YES	Y	S	W	2	2		RIGHT-ANGLE	F-STOP	DARK	DRY	N-I INJ	08-28-2017
51	30	18		00.08	BROADWAY		YES	Y	N	E	2			RIGHT-ANGLE	F-STOP	DARK	WET	PDO	12-22-2017
51	30	18		00.08	BROADWAY		YES	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	04-29-2018
51	30	18		00.08	BROADWAY		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	06-28-2018
51	30	18		00.08	BROADWAY		YES	Y	W	W	2			ANGLE-TURNING	IMP-TURN	DARK	DRY	PDO	10-28-2018
51	30	18		00.08	BROADWAY		YES	Y	S	S	2			REAR-END	OTHER	DYLGT	DRY	PDO	06-01-2019
51	30	18		00.08	BROADWAY		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	07-03-2019
51	30	18		00.08	BROADWAY		YES	Y	W	W	2			REAR-END	INATT	DYLGT	DRY	PDO	07-03-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 after BROADWAY						
51	30	18		00.09			NO	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	02-20-2015
51	30	18		00.09			NO	Y	N	N	2			REAR-END	NEG-DRVING	DYLGT	WET	PDO	10-19-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.03 after BROADWAY						
51	30	18		00.11			NO	Y	S	S	2			SIDESWIPE-SAME	L-CENTER	DARK	DRY	PDO	07-30-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.03 before OKLAHOMA AVE.						

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HIGHWAY SYSTEM COLLISION LISTING

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USE RESTRICTED
23 USC 409

				HIGHWAY COLLISIONS		CITY STREET COLLISIONS	COUNTY ROAD COLLISIONS						TOTAL COLLISIONS						
Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	18		00.12			NO	Y	N	N	2			SIDESWIPE-SAME	OTHER	DYLGT	DRY	PDO	09-17-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.02 before OKLAHOMA AVE.						
51	30	18		00.13			NO	Y	S	-	1	1		PEDESTRIAN	NO-IMP-ACT	DARK	DRY	SS INJ	12-06-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 before OKLAHOMA AVE.						
51	30	18		00.14			NO	Y	S	S	2			SIDESWIPE-SAME	F-YIELD	DYLGT	DRY	PDO	03-29-2016
51	30	18		00.14			NO	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	08-27-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: OKLAHOMA AVE.						
51	30	18		00.15	OKLAHOMA AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	08-01-2014
51	30	18		00.15	OKLAHOMA AVE.	DRIVEWAY	YES	Y	N	S	2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	10-22-2014
51	30	18		00.15	OKLAHOMA AVE.	DRIVEWAY	YES	Y	E	S	2	1		RIGHT-ANGLE	F-YIELD	DYLGT	WET	N-I INJ	10-23-2014
51	30	18		00.15	OKLAHOMA AVE.		YES	Y	E	W	2			RIGHT-ANGLE	F-STOP	DYLGT	DRY	PDO	08-27-2016
51	30	18		00.15	OKLAHOMA AVE.	DRIVEWAY	YES	Y	N	S	2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	10-04-2016
51	30	18		00.15	OKLAHOMA AVE.		YES	Y	S	S	2			SIDESWIPE-SAME	OTHER	DARK	DRY	PDO	12-30-2016
51	30	18		00.15	OKLAHOMA AVE.		YES	Y	S	S	2			ANGLE-TURNING	F-YIELD	DARK	DRY	PDO	12-13-2017
51	30	18		00.15	OKLAHOMA AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	01-03-2018
51	30	18		00.15	OKLAHOMA AVE.	DRIVEWAY	YES	Y	W	S	2	2		RIGHT-ANGLE	F-YIELD	DYLGT	WET	P INJ	03-13-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.02 after OKLAHOMA AVE.						
51	30	18		00.17		DRIVEWAY	NO	Y	N	N	3			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	09-02-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 before EATON AVE.						
51	30	18		00.19		DRIVEWAY	NO	Y	N	S	2	2		ANGLE-TURNING	F-YIELD	DYLGT	DRY	N-I INJ	02-19-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: COURT ST.						
51	30	18		00.23	COURT ST.		YES	Y	S	N	2	2		ANGLE-TURNING	F-YIELD	DARK	DRY	P INJ	12-18-2015
51	30	18		00.23	COURT ST.		YES	Y			2			RIGHT-ANGLE	F-YIELD	DYLGT	DRY	PDO	03-28-2016
51	30	18		00.23	COURT ST.		YES	Y	E	-	1			PEDESTRIAN	IMP-TURN	DYLGT	DRY	PDO	02-09-2017
51	30	18		00.23	COURT ST.		YES	Y	N	S	3			ANGLE-TURNING	IMP-TURN	Other	DRY	PDO	06-20-2017
51	30	18		00.23	COURT ST.		YES	Y	S	S	2	2		ANGLE-TURNING	IMP-TURN	DYLGT	DRY	P INJ	06-01-2018
51	30	18		00.23	COURT ST.		YES	Y	N	S	2	1		ANGLE-TURNING	F-YIELD	DYLGT	DRY	P INJ	06-13-2019
51	30	18		00.23	COURT ST.		YES	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DARK	DRY	PDO	12-05-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 after COURT ST.						
51	30	18		00.24		DRIVEWAY	NO	Y	W	S	2			ANGLE-TURNING	F-YIELD	DYLGT	WET	PDO	07-16-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.02 after COURT ST.						
51	30	18		00.25		DRIVEWAY	NO	Y	N	N	2	1		REAR-END	INATT	DYLGT	DRY	P INJ	11-29-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 before DENISON						
51	30	18		00.29			NO	Y	S	-	1	1		ROLLOVER	UNSAF-SPD	DYLGT	DRY	SS INJ	11-21-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: DENISON						
51	30	18		00.30	DENISON	DRIVEWAY	YES	Y	S	S	2			RIGHT-ANGLE	F-YIELD	DYLGT	DRY	PDO	10-24-2016
51	30	18		00.30	DENISON		YES	Y	N	S	2	2		ANGLE-TURNING	F-YIELD	DYLGT	DRY	P INJ	01-03-2018

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

HIGHWAY SYSTEM COLLISION LISTING

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 09/16/2020 by Edward Dihrberg

USE RESTRICTED
23 USC 409

				HIGHWAY COLLISIONS		CITY STREET COLLISIONS	COUNTY ROAD COLLISIONS						TOTAL COLLISIONS						
Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	18		00.30	DENISON		YES	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DAWN	WET	PDO	02-16-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: RANSOM						
51	30	18		00.32	RANSOM		YES	Y	S	S	3	3		REAR-END	FOL-CLOSE	DAWN	DRY	N-I INJ	03-22-2014
51	30	18		00.32	RANSOM		YES	Y	E	S	2			RIGHT-ANGLE	F-YIELD	DYLGT	DRY	PDO	10-14-2014
51	30	18		00.32	RANSOM		YES	Y	E	S	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	05-12-2015
51	30	18		00.32	RANSOM		YES	Y	N	S	2	1		ANGLE-TURNING	IMP-TURN	DYLGT	DRY	P INJ	04-17-2018
51	30	18		00.32	RANSOM		YES	Y	N	N	3	2		ANGLE-TURNING	F-YIELD	DYLGT	DRY	P INJ	04-17-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 after RANSOM						
51	30	18		00.33			NO	Y	S	S	2			REAR-END	FOL-CLOSE	DARK	DRY	PDO	11-21-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 before MOPAC RR BR.						
51	30	18		00.42			NO	Y	S	-	1			ANIMAL	DEER	DARK	DRY	PDO	10-31-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.16 before INMAN ST.						
51	30	18		00.62			NO	Y	S	S	2			SIDESWIPE-SAME	NEG-DRVING	DYLGT	DRY	PDO	04-14-2016
51	30	18		00.62		WKZONE	NO	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	03-12-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.11 before INMAN ST.						
51	30	18		00.67			NO	Y	N	N	2			SIDESWIPE-SAME	INATT	DYLGT	WET	PDO	07-29-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.07 before INMAN ST.						
51	30	18		00.71			NO	Y	N	N	2	2		REAR-END	F-YIELD	DARK	DRY	N-I INJ	09-24-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.04 before INMAN ST.						
51	30	18		00.74		DRIVEWAY	NO	Y	S	N	2	3		ANGLE-TURNING	F-YIELD	DYLGT	DRY	P INJ	05-24-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.03 before INMAN ST.						
51	30	18		00.75			NO	Y	S	S	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	08-11-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 before INMAN ST.						
51	30	18		00.77			NO	Y	N	-	1		1	PEDESTRIAN	NO-IMP-ACT	DARK	DRY	FAT	04-13-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 after INMAN ST.						
51	30	18		00.79			NO	Y	N	N	2			SIDESWIPE-SAME	F-YIELD	DYLGT	WET	PDO	05-09-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.02 after INMAN ST.						
51	30	18		00.80		DRIVEWAY	NO	Y	W	N	2			RIGHT-ANGLE	OTHER	DYLGT	DRY	PDO	05-28-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.03 before FOND DU LAC ST.						
51	30	18		00.81			NO	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DARK	WET	PDO	12-03-2016
51	30	18		00.81		DRIVEWAY	NO	Y	S	-	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	04-08-2019
51	30	18		00.81		DRIVEWAY	NO	Y	W	N	3			ANGLE-TURNING	F-YIELD	DUSK	WET	PDO	01-17-2020
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.02 before FOND DU LAC ST.						
51	30	18		00.82			NO	Y	N	N	2			SIDESWIPE-SAME	OTHER	DARK	DRY	PDO	12-07-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 before TALEQUAH(MILITARY)						
51	30	18		00.86			NO	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	04-17-2014
51	30	18		00.86			NO	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	WET	PDO	06-18-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: TALEQUAH(MILITARY)						

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

HIGHWAY SYSTEM COLLISION LISTING

UPDATED US 69 CRASH DATA

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USE RESTRICTED
23 USC 409

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Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	E	N	2			ANGLE-TURNING	D-W-I	DARK	DRY	PDO	05-08-2014
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	E	2			ANGLE-TURNING	F-STOP	DYLGT	DRY	PDO	08-26-2014
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	S	2			REAR-END	OTHER	DYLGT	DRY	PDO	11-12-2014
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	W	N	2	1		RIGHT-ANGLE	OTHER	DYLGT	DRY	P INJ	01-18-2015
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	02-18-2015
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	S	2			OTH-BACKING	IMP-BACK	DYLGT	DRY	PDO	03-06-2015
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	06-20-2015
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	N	3			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	08-12-2015
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	S	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	N-I INJ	09-06-2015
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	-	1			OTH-SINGLE-VEH	OTHER	DARK	DRY	PDO	12-04-2015
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	W	2	1		RIGHT-ANGLE	F-STOP	DYLGT	DRY	N-I INJ	03-29-2016
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	06-04-2016
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	E	2	1		RIGHT-ANGLE	F-STOP	DYLGT	DRY	P INJ	06-29-2016
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	E	N	2			RIGHT-ANGLE	F-STOP	DYLGT	DRY	PDO	07-02-2016
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y			2	1		REAR-END	FOL-CLOSE	DYLGT	WET	P INJ	08-15-2016
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	E	3	1		ANGLE-TURNING	F-STOP	DYLGT	DRY	P INJ	08-19-2016
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	S	2			RIGHT-ANGLE	OTHER	DYLGT	DRY	PDO	10-10-2016
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	S	2			REAR-END	SLEEPY	DARK	DRY	PDO	10-13-2016
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	S	2	1		ANGLE-TURNING	IMP-TURN	DYLGT	DRY	P INJ	11-21-2016
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	N	2			REAR-END	F-STOP	DARK	DRY	PDO	12-06-2016
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	S	2			REAR-END	INATT	DYLGT	DRY	PDO	01-05-2017
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	N	2			ANGLE-TURNING	NO-IMP-ACT	DYLGT	SNOW	PDO	01-06-2017
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	S	2	1		REAR-END	F-STOP	DARK	DRY	P INJ	01-19-2017
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	N	2			REAR-END	D-W-I	DARK	WET	PDO	01-21-2017
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	-	1			OTHER	IMP-TURN	DYLGT	DRY	PDO	03-06-2017
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	W	2	1		RIGHT-ANGLE	F-STOP	DARK	DRY	P INJ	03-17-2017
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	06-25-2017
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	E	3	1		RIGHT-ANGLE	F-YIELD	DYLGT	DRY	N-I INJ	07-07-2017
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	S	2			REAR-END	IMP-START	DYLGT	DRY	PDO	10-25-2017
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	E	E	2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	10-29-2017
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	W	N	2			RIGHT-ANGLE	F-STOP	DYLGT	DRY	PDO	11-01-2017
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	E	E	2			REAR-END	INATT	DARK	DRY	PDO	01-05-2018
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	01-31-2018
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	S	3	2		SIDESWIPE-SAME	UNSAF-SPD	DYLGT	DRY	P INJ	04-27-2018
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	W	W	2			OTH-BACKING	IMP-LN-CHG	DYLGT	DRY	PDO	05-12-2018
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	06-30-2018
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	N	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	07-12-2018

*** INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.**

HIGHWAY SYSTEM COLLISION LISTING

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Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	S	2			REAR-END	F-STOP	DYLGT	DRY	PDO	09-24-2018
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	N	W	2			RIGHT-ANGLE	F-STOP	DARK	DRY	PDO	10-15-2018
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	10-19-2018
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	W	2			ANGLE-TURNING	F-STOP	DYLGT	WET	PDO	02-19-2019
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	S	N	2			ANGLE-TURNING	F-STOP	DARK	WET	PDO	02-22-2019
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	W	-	1			F-O TRAFF-SIGNAL	IMP-TURN	DYLGT	DRY	PDO	04-15-2019
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	W	S	2			RIGHT-ANGLE	F-YIELD	DYLGT	WET	PDO	06-05-2019
51	30	18		00.87	TALEQUAH(MILITARY)		YES	Y	W	N	2			RIGHT-ANGLE	OTHER	DYLGT	DRY	PDO	08-14-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.01 after TALEQUAH(MILITARY)						
51	30	18		00.88		DRIVEWAY	NO	Y	S	N	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	07-12-2014
51	30	18		00.88			NO	Y	N	N	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	N-I INJ	04-28-2015
51	30	18		00.88			NO	Y	N	N	3			SIDESWIPE-SAME	IMP-LN-CHG	DARK	DRY	PDO	01-31-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.02 after TALEQUAH(MILITARY)						
51	30	18		00.89			NO	Y	W	S	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	12-11-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.06 after TALEQUAH(MILITARY)						
51	30	18		00.93			NO	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DUSK	DRY	PDO	11-12-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.06 before SHAWNEE BYPASS						
51	30	18		00.94			NO	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	07-19-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.01 before SHAWNEE BYPASS						
51	30	18		00.99			NO	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	11-20-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.01 before ENT. DIV. 1 HDQTRS						
51	30	56		12.96			NO	Y	N	-	1	1		PEDESTRIAN	NO-IMP-ACT	DARK	DRY	N-I INJ	05-06-2017
51	30	56		12.96			NO	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	01-22-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.06 before HADDOCK DR.						
51	30	56		13.04			NO	Y	N	S	2		1	HEAD-ON	WRNG-WAY	DARK	DRY	FAT	11-17-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.02 before HADDOCK DR.						
51	30	56		13.08			NO	Y	N	-	1	1		F-O TRAFF-SIGN	INATT	DYLGT	DRY	P INJ	11-15-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: HADDOCK DR.						
51	30	56		13.10	HADDOCK DR.		YES	Y	N	N	3	1		REAR-END	INATT	DARK	DRY	P INJ	05-24-2018
51	30	56		13.10	HADDOCK DR.		YES	Y	N	-	1			F-O POLE-OTHER	IMP-TURN	DYLGT	WET	PDO	02-11-2020
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.05 after HADDOCK DR.						
51	30	56		13.15			NO	Y	W		2			SIDESWIPE-SAME	F-YIELD	DYLGT	DRY	PDO	09-25-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.13 after HADDOCK DR.						
51	30	56		13.23			NO	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	06-16-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.20 after HADDOCK DR.						
51	30	56		13.30			NO	Y	N	-	1			ANIMAL	DEER	DARK	DRY	PDO	11-04-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.25 before HANCOCK RD.						

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Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	56		13.40		SECONDARY	NO	Y	N	N	2			REAR-END	F-YIELD	DYLGT	DRY	PDO	05-24-2018
51	30	56		13.40		DRIVEWAY	NO	Y	N		2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	06-07-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.10 before HANCOCK RD.						
51	30	56		13.55		TRAFFIC BACKUP	NO	Y	N	N	2			REAR-END	INATT	DYLGT	DRY	PDO	09-21-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.08 before HANCOCK RD.						
51	30	56		13.57			NO	Y	N	N	2	2		REAR-END	FOL-CLOSE	DYLGT	DRY	SS INJ	07-28-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.05 before HANCOCK RD.						
51	30	56		13.60			NO	Y	S	S	2	1		REAR-END	FOL-CLOSE	DARK	DRY	P INJ	09-30-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.01 before HANCOCK RD.						
51	30	56		13.64		X-MEDIAN	NO	Y		-	1	1		F-O MAILBOX	UNSAF-SPD	DYLGT	SNOW	P INJ	12-28-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: HANCOCK RD.						
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	2	2		REAR-END	FOL-CLOSE	DYLGT	DRY	N-I INJ	06-04-2014
51	30	56		13.65	HANCOCK RD.		YES	Y	S	S	2			REAR-END	D-W-I	DYLGT	DRY	PDO	06-22-2014
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	2	1		REAR-END	FOL-CLOSE	DYLGT	WET	P INJ	07-10-2014
51	30	56		13.65	HANCOCK RD.		YES	Y	N	S	2	1		ANGLE-TURNING	F-YIELD	DYLGT	WET	P INJ	07-17-2014
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	08-07-2014
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	3	2		REAR-END	INATT	DYLGT	DRY	N-I INJ	08-09-2014
51	30	56		13.65	HANCOCK RD.		YES	Y	S	S	2	2		REAR-END	FOL-CLOSE	DYLGT	WET	P INJ	09-12-2014
51	30	56		13.65	HANCOCK RD.		YES	Y	S	N	2	3		ANGLE-TURNING	F-YIELD	DYLGT	WET	N-I INJ	09-15-2014
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	09-30-2014
51	30	56		13.65	HANCOCK RD.		YES	Y			2			REAR-END	INATT	DYLGT	DRY	PDO	12-26-2014
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	2			REAR-END	UNSAF-SPD	DYLGT	WET	PDO	05-25-2016
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	3			SIDESWIPE-SAME	INATT	DYLGT	DRY	PDO	12-14-2016
51	30	56		13.65	HANCOCK RD.		YES	Y	N	W	2			RIGHT-ANGLE	F-STOP	DARK	DRY	PDO	12-19-2016
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	03-12-2017
51	30	56		13.65	HANCOCK RD.		YES	Y	S	S	2			OTH-BACKING	IMP-BACK	DARK	DRY	PDO	03-23-2017
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	12-17-2017
51	30	56		13.65	HANCOCK RD.		YES	Y	S	S	2	1		REAR-END	OTHER	Other	OTHER	P INJ	04-06-2018
51	30	56		13.65	HANCOCK RD.		YES	Y	E	-	1	1		ROLLOVER	UNSAF-SPD	DYLGT	DRY	SS INJ	05-04-2018
51	30	56		13.65	HANCOCK RD.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DARK	WET	PDO	12-14-2018
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	05-29-2019
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	3	1		REAR-END	FOL-CLOSE	DYLGT	DRY	N-I INJ	07-16-2019
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	2			REAR-END	INATT	DYLGT	DRY	PDO	09-06-2019
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	3	2		REAR-END	UNSAF-SPD	DYLGT	ICE	P INJ	11-11-2019
51	30	56		13.65	HANCOCK RD.		YES	Y	N	N	2	1		REAR-END	FOL-CLOSE	DYLGT	WET	SS INJ	11-29-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.01 after HANCOCK RD.						
51	30	56		13.66			NO	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	12-05-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.09 after HANCOCK RD.						

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

HIGHWAY SYSTEM COLLISION LISTING

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 09/16/2020 by Edward Dihrberg

USE RESTRICTED
23 USC 409

				HIGHWAY COLLISIONS		CITY STREET COLLISIONS	COUNTY ROAD COLLISIONS						TOTAL COLLISIONS						
Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	56		13.74			NO	Y	N	-	1	1		ROLLOVER	D-W-I	DARK	DRY	P INJ	03-13-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.10 after HANCOCK RD.						
51	30	56		13.75			NO	Y	N	N	2	1		REAR-END	FOL-CLOSE	DARK	DRY	P INJ	12-19-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.18 before RAMONA DR./CIR.						
51	30	56		13.85			NO	Y	N	N	2	1		SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	N-I INJ	12-06-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.04 before RAMONA DR./CIR.						
51	30	56		13.99			NO	Y	N	N	2	2		REAR-END	FOL-CLOSE	DYLGT	DRY	N-I INJ	10-18-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: RAMONA DR./CIR.						
51	30	56		14.03	RAMONA DR./CIR.		YES	Y	S	S	2			ANGLE-TURNING	F-YIELD	DARK	DRY	PDO	11-24-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.09 after RAMONA DR./CIR.						
51	30	56		14.12			NO	Y	N	-	1			ANIMAL	DEER	DARK	DRY	PDO	09-17-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.04 after COODY CR.						
51	30	56		14.37			NO	Y	N	-	1	1		PEDESTRIAN	OTHER	DUSK	DRY	N-I INJ	03-18-2015
51	30	56		14.37			NO	Y	N	N	2			SIDESWIPE-SAME	DEF-VEH	DYLGT	DRY	PDO	10-05-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.10 after BEG 35 MPH						
51	30	56		14.52			NO	Y	N	N	2			SIDESWIPE-SAME	IMP-PASS	DARK	DRY	PDO	11-17-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.04 before BORDER AVE.						
51	30	56		14.58			NO	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	07-08-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.02 before BORDER AVE.						
51	30	56		14.60			NO	Y	N	N	2	2		SIDESWIPE-SAME	IMP-LN-CHG	DARK	DRY	P INJ	11-27-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 before BORDER AVE.						
51	30	56		14.61			NO	Y	E	W	2			HEAD-ON	D-W-I	DARK	DRY	PDO	05-13-2016
51	30	56		14.61			NO	Y	N	-	1			ANIMAL	DEER	DARK	DRY	PDO	11-01-2017
51	30	56		14.61			NO	Y	S	-	1			F-O OTHER	DEER	DARK	DRY	PDO	08-11-2019
51	30	56		14.61			NO	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	WET	PDO	10-24-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: BORDER AVE.						
51	30	56		14.62	BORDER AVE.		YES	Y	S	W	2			RIGHT-ANGLE	F-YIELD	DYLGT	DRY	PDO	02-11-2014
51	30	56		14.62	BORDER AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	07-13-2014
51	30	56		14.62	BORDER AVE.		YES	Y	S	S	2			OTH-BACKING	IMP-BACK	DYLGT	DRY	PDO	09-24-2014
51	30	56		14.62	BORDER AVE.		YES	Y	S	S	2			REAR-END	INATT	DARK	DRY	PDO	10-21-2014
51	30	56		14.62	BORDER AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	11-06-2014
51	30	56		14.62	BORDER AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	07-21-2015
51	30	56		14.62	BORDER AVE.		YES	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	08-18-2015
51	30	56		14.62	BORDER AVE.		YES	Y	N	N	3			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	09-15-2015
51	30	56		14.62	BORDER AVE.		YES	Y			2			RIGHT-ANGLE	F-YIELD	DYLGT	DRY	PDO	06-20-2016
51	30	56		14.62	BORDER AVE.		YES	Y	N	N	2			REAR-END	DEF-VEH	DYLGT	DRY	PDO	07-15-2016
51	30	56		14.62	BORDER AVE.		YES	Y	W	E	2			OTHER	L-CENTER	DYLGT	DRY	PDO	10-25-2016

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

HIGHWAY SYSTEM COLLISION LISTING

UPDATED US 69 CRASH DATA

Date Range: 02-01-2014 Thru 09-16-2020

Program Provided by:
Traffic Engineering Division
Collision Analysis and Safety Branch
(405) 522-0985
Created: 09/16/2020 by Edward Dihrberg

USE RESTRICTED
23 USC 409

				HIGHWAY COLLISIONS		CITY STREET COLLISIONS	COUNTY ROAD COLLISIONS						TOTAL COLLISIONS						
Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	56		14.62	BORDER AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DARK	DRY	PDO	12-09-2016
51	30	56		14.62	BORDER AVE.		YES	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DARK	DRY	PDO	01-27-2017
51	30	56		14.62	BORDER AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	05-13-2017
51	30	56		14.62	BORDER AVE.		YES	Y	N	N	2			REAR-END	INATT	DYLGT	DRY	PDO	05-15-2017
51	30	56		14.62	BORDER AVE.		YES	Y	N	N	2	2		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	08-03-2017
51	30	56		14.62	BORDER AVE.		YES	Y	S	S	3			OTH-BACKING	IMP-BACK	DYLGT	DRY	PDO	12-05-2017
51	30	56		14.62	BORDER AVE.		YES	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	12-12-2017
51	30	56		14.62	BORDER AVE.		YES	Y	W	W	2	3		REAR-END	D-W-I	DARK	DRY	N-I INJ	12-15-2017
51	30	56		14.62	BORDER AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	03-14-2018
51	30	56		14.62	BORDER AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	03-15-2018
51	30	56		14.62	BORDER AVE.		YES	Y	E	-	1	1		F-O OTHER	D-W-I	DARK	DRY	P INJ	04-06-2018
51	30	56		14.62	BORDER AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	07-04-2018
51	30	56		14.62	BORDER AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	07-05-2018
51	30	56		14.62	BORDER AVE.		YES	Y	S	S	2	1		REAR-END	INATT	DYLGT	DRY	P INJ	09-15-2018
51	30	56		14.62	BORDER AVE.		YES	Y	N	W	2	2		RIGHT-ANGLE	F-YIELD	DYLGT	WET	P INJ	10-31-2018
51	30	56		14.62	BORDER AVE.		YES	Y	N	N	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	02-08-2019
51	30	56		14.62	BORDER AVE.		YES	Y	E	S	2	1		RIGHT-ANGLE	OTHER	DYLGT	DRY	P INJ	03-05-2019
51	30	56		14.62	BORDER AVE.		YES	Y	W	W	3			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	03-20-2019
51	30	56		14.62	BORDER AVE.		YES	Y	N	-	1	1		PEDESTRIAN	F-YIELD	DYLGT	DRY	N-I INJ	11-18-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.02 after BORDER AVE.						
51	30	56		14.64			NO	Y	S	S	2			OTHER	IMP-LN-CHG	DYLGT	DRY	PDO	06-14-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.03 before TP RR UP						
51	30	56		14.67			NO	Y	N	N	2	3		REAR-END	D-W-I	DYLGT	DRY	N-I INJ	12-30-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 after TP RR UP						
51	30	56		14.71		DRIVEWAY	NO	Y	N	N	2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	05-19-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.03 after TP RR UP						
51	30	56		14.73		WKZONE	NO	Y	S	S	3			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	10-23-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.10 after TP RR UP						
51	30	56		14.80			NO	Y	S	-	1			F-O UTIL-POLE	UNSAF-SPD	DYLGT	DRY	PDO	03-12-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.04 before ESTELLE AVE.						
51	30	56		14.87			NO	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DARK	DRY	PDO	11-16-2017
51	30	56		14.87			NO	Y	S	-	1	1		ROLLOVER	OTHER	DYLGT	DRY	SS INJ	04-21-2019
51	30	56		14.87			NO	Y	S	-	1			F-O CULVERT	D-W-I	DARK	DRY	PDO	08-16-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.03 before ESTELLE AVE.						
51	30	56		14.88		DRIVEWAY	NO	Y	S	S	2	1		REAR-END	FOL-CLOSE	DUSK	DRY	P INJ	10-07-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 before ESTELLE AVE.						
51	30	56		14.90		WKZONE	NO	Y	W		2			OTHER	OTHER	DYLGT	DRY	PDO	08-10-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: ESTELLE AVE.						

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

HIGHWAY SYSTEM COLLISION LISTING

UPDATED US 69 CRASH DATA

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23 USC 409

				HIGHWAY COLLISIONS		CITY STREET COLLISIONS	COUNTY ROAD COLLISIONS						TOTAL COLLISIONS						
Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	56		14.91	ESTELLE AVE.		YES	Y	S	E	2	1		RIGHT-ANGLE	F-YIELD	DARK	ICE	P INJ	03-02-2014
51	30	56		14.91	ESTELLE AVE.		YES	Y			2			RIGHT-ANGLE	F-YIELD	DYLGT	DRY	PDO	08-06-2014
51	30	56		14.91	ESTELLE AVE.		YES	Y	W	S	2			RIGHT-ANGLE	F-YIELD	DYLGT	DRY	PDO	08-08-2014
51	30	56		14.91	ESTELLE AVE.		YES	Y	N	-	1			F-O TRAFF-SIGN	SLEEPY	DARK	DRY	PDO	09-26-2014
51	30	56		14.91	ESTELLE AVE.		YES	Y	E	N	2	1		RIGHT-ANGLE	F-YIELD	DYLGT	DRY	SS INJ	11-07-2014
51	30	56		14.91	ESTELLE AVE.		YES	Y	S	S	2			SIDESWIPE-SAME	OTHER	DYLGT	DRY	PDO	07-01-2015
51	30	56		14.91	ESTELLE AVE.		YES	Y	N	N	2			ANGLE-TURNING	F-YIELD	DYLGT	WET	PDO	05-12-2017
51	30	56		14.91	ESTELLE AVE.		YES	Y	S	S	2			REAR-END	OTHER	DYLGT	DRY	PDO	07-11-2017
51	30	56		14.91	ESTELLE AVE.		YES	Y	E	N	2			RIGHT-ANGLE	F-YIELD	DYLGT	DRY	PDO	02-02-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.01 after ESTELLE AVE.						
51	30	56		14.92			NO	Y	S	S	2			SIDESWIPE-SAME	L-CENTER	DYLGT	WET	PDO	04-29-2017
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.04 after ESTELLE AVE.						
51	30	56		14.95			NO	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	01-18-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.03 before ARLINE AVE.						
51	30	56		15.05		DRIVEWAY	NO	Y	N	N	2	4		ANGLE-TURNING	F-YIELD	DYLGT	DRY	P INJ	06-10-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.01 before ARLINE AVE.						
51	30	56		15.07			NO	Y	S	S	2			SIDESWIPE-SAME	OTHER	DYLGT	DRY	PDO	06-08-2016
51	30	56		15.07		DRIVEWAY	NO	Y	N	N	2	1		REAR-END	D-W-I	DARK	DRY	N-I INJ	11-23-2018
51	30	56		15.07		WKZONE	NO	Y	S	S	2			REAR-END	F-STOP	DYLGT	WET	PDO	06-06-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: ARLINE AVE.						
51	30	56		15.08	ARLINE AVE.		YES	Y	W	N	2	3		RIGHT-ANGLE	F-YIELD	DYLGT	DRY	N-I INJ	03-27-2014
51	30	56		15.08	ARLINE AVE.		YES	Y	N	N	2			SIDESWIPE-SAME	IMP-TURN	DARK	DRY	PDO	04-22-2014
51	30	56		15.08	ARLINE AVE.		YES	Y	W	W	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	07-30-2014
51	30	56		15.08	ARLINE AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	09-20-2014
51	30	56		15.08	ARLINE AVE.		YES	Y	N	N	2			OTH-BACKING	IMP-BACK	DYLGT	DRY	PDO	11-20-2014
51	30	56		15.08	ARLINE AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	12-05-2014
51	30	56		15.08	ARLINE AVE.		YES	Y	S	S	2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	02-06-2015
51	30	56		15.08	ARLINE AVE.		YES	Y	S	N	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	N-I INJ	02-19-2015
51	30	56		15.08	ARLINE AVE.		YES	Y	S	E	3			RIGHT-ANGLE	F-STOP	DYLGT	DRY	PDO	04-02-2015
51	30	56		15.08	ARLINE AVE.		YES	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DARK	DRY	PDO	04-14-2015
51	30	56		15.08	ARLINE AVE.		YES	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	05-02-2015
51	30	56		15.08	ARLINE AVE.		YES	Y	S	S	2	1		REAR-END	FOL-CLOSE	DYLGT	WET	P INJ	05-05-2015
51	30	56		15.08	ARLINE AVE.		YES	Y	S	S	2	1		REAR-END	IMP-LN-CHG	DYLGT	DRY	N-I INJ	06-11-2015
51	30	56		15.08	ARLINE AVE.		YES	Y			2			ANGLE-TURNING	IMP-TURN	DARK	DRY	PDO	07-26-2015
51	30	56		15.08	ARLINE AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	12-02-2015
51	30	56		15.08	ARLINE AVE.		YES	Y	N	N	2	2		REAR-END	FOL-CLOSE	DYLGT	DRY	N-I INJ	12-11-2015
51	30	56		15.08	ARLINE AVE.		YES	Y	N	N	2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	05-06-2016

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

HIGHWAY SYSTEM COLLISION LISTING

UPDATED US 69 CRASH DATA

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Created: 09/16/2020 by Edward Dihrberg

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				HIGHWAY COLLISIONS		CITY STREET COLLISIONS	COUNTY ROAD COLLISIONS							TOTAL COLLISIONS					
Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	56		15.08	ARLINE AVE.	X-MEDIAN	YES	Y	E	S	4		1	RIGHT-ANGLE	F-STOP	DYLGT	DRY	FAT	05-07-2016
51	30	56		15.08	ARLINE AVE.		YES	Y	N	N	3	1		REAR-END	F-STOP	DYLGT	DRY	P INJ	05-29-2016
51	30	56		15.08	ARLINE AVE.	DRIVEWAY	YES	Y	N	E	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	09-14-2016
51	30	56		15.08	ARLINE AVE.		YES	Y	S	S	2			ANGLE-TURNING	F-YIELD	DARK	DRY	PDO	01-18-2017
51	30	56		15.08	ARLINE AVE.		YES	Y	N	W	3	1		ANGLE-TURNING	F-YIELD	DYLGT	DRY	P INJ	02-20-2017
51	30	56		15.08	ARLINE AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	06-06-2018
51	30	56		15.08	ARLINE AVE.	DRIVEWAY	YES	Y	N	W	2			REAR-END	F-YIELD	DARK	DRY	PDO	10-27-2018
51	30	56		15.08	ARLINE AVE.		YES	Y	N	N	2			REAR-END	IMP-START	DYLGT	DRY	PDO	11-21-2018
51	30	56		15.08	ARLINE AVE.		YES	Y	S	S	2			REAR-END	UNSAF-SPD	DYLGT	DRY	PDO	01-21-2019
51	30	56		15.08	ARLINE AVE.	WKZONE	YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	01-30-2019
51	30	56		15.08	ARLINE AVE.		YES	Y	S	S	2	3		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	03-17-2019
51	30	56		15.08	ARLINE AVE.		YES	Y	E	E	2			OTH-BACKING	OTHER	DYLGT	DRY	PDO	06-19-2019
51	30	56		15.08	ARLINE AVE.		YES	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	06-27-2019
51	30	56		15.08	ARLINE AVE.		YES	Y	S	S	3			REAR-END	D-W-I	DARK	DRY	PDO	07-31-2019
51	30	56		15.08	ARLINE AVE.		YES	Y	N	N	2			RIGHT-ANGLE	F-YIELD	DYLGT	DRY	PDO	08-11-2019
51	30	56		15.08	ARLINE AVE.		YES	Y	N	N	2			REAR-END	F-STOP	DARK	DRY	PDO	09-28-2019
51	30	56		15.08	ARLINE AVE.		YES	Y	S	S	2			SIDESWIPE-SAME	D-W-I	DYLGT	DRY	PDO	12-22-2019
51	30	56		15.08	ARLINE AVE.		YES	Y	N	N	2			REAR-END	INATT	DYLGT	DRY	PDO	12-26-2019
51	30	56		15.08	ARLINE AVE.		YES	Y	W	W	2	1		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	12-29-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 after ARLINE AVE.						
51	30	56		15.09			NO	Y	S	S	2			SIDESWIPE-SAME	F-YIELD	DYLGT	DRY	PDO	06-22-2014
51	30	56		15.09			NO	Y	S	S	3			REAR-END	F-STOP	DYLGT	DRY	PDO	12-26-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.02 after ARLINE AVE.						
51	30	56		15.10			NO	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	03-26-2014
51	30	56		15.10			NO	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	03-10-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.07 before ELGIN AVE.						
51	30	56		15.18			NO	Y	S	S	3	1		REAR-END	INATT	DYLGT	DRY	N-I INJ	12-23-2014
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 before ELGIN AVE.						
51	30	56		15.24			NO	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	04-01-2014
51	30	56		15.24			NO	Y			2	2		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	04-13-2016
51	30	56		15.24			NO	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	10-04-2017
51	30	56		15.24			NO	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	WET	PDO	07-09-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: ELGIN AVE.						
51	30	56		15.25	ELGIN AVE.		YES	Y	N	E	2	2		RIGHT-ANGLE	F-YIELD	DYLGT	WET	N-I INJ	05-27-2014
51	30	56		15.25	ELGIN AVE.		YES	Y	W	S	2			RIGHT-ANGLE	F-YIELD	DYLGT	WET	PDO	10-03-2017
51	30	56		15.25	ELGIN AVE.		YES	Y	N	S	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	10-04-2018
51	30	56		15.25	ELGIN AVE.		YES	Y	E	N	2	2		ANGLE-TURNING	F-YIELD	DARK	WET	P INJ	11-22-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 after ELGIN AVE.						

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Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	56		15.26			NO	Y	S	S	2			REAR-END	INATT	DYLGT	DRY	PDO	09-14-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: DENVER AVE.						
51	30	56		15.34	DENVER AVE.		YES	Y	N	N	2			REAR-END	F-YIELD	DYLGT	DRY	PDO	07-30-2015
51	30	56		15.34	DENVER AVE.		YES	Y	E	N	2			OTHER	F-YIELD	DYLGT	DRY	PDO	09-20-2015
51	30	56		15.34	DENVER AVE.		YES	Y	N	N	2			ANGLE-TURNING	F-YIELD	DARK	WET	PDO	12-26-2015
51	30	56		15.34	DENVER AVE.		YES	Y	S	S	3			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	06-23-2016
51	30	56		15.34	DENVER AVE.		YES	Y			2	1		RIGHT-ANGLE	F-YIELD	DYLGT	DRY	P INJ	07-16-2016
51	30	56		15.34	DENVER AVE.		YES	Y	E	N	2	2		RIGHT-ANGLE	F-YIELD	DYLGT	DRY	P INJ	10-24-2016
51	30	56		15.34	DENVER AVE.		YES	Y	N	N	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	05-12-2017
51	30	56		15.34	DENVER AVE.		YES	Y	N	E	2	1		RIGHT-ANGLE	F-YIELD	DYLGT	DRY	P INJ	08-24-2017
51	30	56		15.34	DENVER AVE.		YES	Y	S	S	2	2		REAR-END	FOL-CLOSE	DARK	WET	P INJ	12-19-2017
51	30	56		15.34	DENVER AVE.		YES	Y	S	N	2			ANGLE-TURNING	IMP-TURN	DYLGT	DRY	PDO	04-17-2018
51	30	56		15.34	DENVER AVE.		YES	Y	E	N	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	05-21-2018
51	30	56		15.34	DENVER AVE.		YES	Y	N	N	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	11-24-2018
51	30	56		15.34	DENVER AVE.		YES	Y	W	W	2			REAR-END	F-YIELD	DARK	DRY	PDO	12-23-2018
51	30	56		15.34	DENVER AVE.		YES	Y	E	N	2			RIGHT-ANGLE	F-YIELD	DYLGT	DRY	PDO	03-19-2019
51	30	56		15.34	DENVER AVE.	WKZONE	YES	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	06-27-2019
51	30	56		15.34	DENVER AVE.		YES	Y	E	N	2			ANGLE-TURNING	F-YIELD	DYLGT	DRY	PDO	07-25-2019
51	30	56		15.34	DENVER AVE.		YES	Y	W	S	2	1		RIGHT-ANGLE	F-YIELD	DYLGT	WET	N-I INJ	12-16-2019
51	30	56		15.34	DENVER AVE.		YES	Y	S	S	2			RIGHT-ANGLE	F-YIELD	DARK	DRY	PDO	01-05-2020
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 after DENVER AVE.						
51	30	56		15.35		DRIVEWAY	NO	Y		S	2			OTHER	IMP-LN-CHG	DYLGT	OTHER	PDO	07-15-2014
51	30	56		15.35		DRIVEWAY	NO	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	04-20-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.03 before GARLAND AVE.						
51	30	56		15.38			NO	Y	N	N	2	3		REAR-END	FOL-CLOSE	DYLGT	DRY	P INJ	05-31-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.03 after GARLAND AVE.						
51	30	56		15.44		DRIVEWAY	NO	Y	N	N	2			ANGLE-TURNING	IMP-PASS	DYLGT	WET	PDO	11-17-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.01 before COLUMBUS AVE.						
51	30	56		15.46		DRIVEWAY	NO	Y	N	E	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	03-01-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.14 before OKMULGEE AVE.						
51	30	56		15.73			NO	Y	N	N	2			REAR-END	FOL-CLOSE	DAWN	DRY	PDO	10-26-2016
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.10 before OKMULGEE AVE.						
51	30	56		15.77			NO	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	04-10-2015
51	30	56		15.77			NO	Y	N	N	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	04-21-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.09 before OKMULGEE AVE.						
51	30	56		15.78			NO	Y	N	N	2			SIDESWIPE-SAME	IMP-LN-CHG	DARK	DRY	PDO	09-12-2018
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69,	32 ST.							AT: 00.04 before OKMULGEE AVE.						

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				HIGHWAY COLLISIONS		CITY STREET COLLISIONS	COUNTY ROAD COLLISIONS						TOTAL COLLISIONS						
Cnty	City	CS #	Int. #	Mile Post	Location	Features	Int. Related	On Map	Dir. 1	Dir. 2	# Veh.	# Inj.*	# Fat.	Type of Collision	Unsafe Unlawful	Lighting Cond.	Roadway Cond.	Severity	Date
51	30	56		15.83			NO	Y	S	S	2	1		SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	N-I INJ	10-23-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.03 before OKMULGEE AVE.						
51	30	56		15.84			NO	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	02-09-2015
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.02 before OKMULGEE AVE.						
51	30	56		15.85			NO	Y	S	-	1	1		PEDAL-CYCLE	F-YIELD	DARK	DRY	SS INJ	07-05-2014
51	30	56		15.85			NO	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	09-30-2016
51	30	56		15.85			NO	Y	N	N	2	1		REAR-END	FOL-CLOSE	DYLGT	WET	P INJ	08-18-2019
(51) MUSKOGEE				(30) MUSKOGEE	HWY: US-69, 32 ST.								AT: 00.01 before OKMULGEE AVE.						
51	30	56		15.86			NO	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	07-09-2016
51	30	56		15.86		DRIVEWAY	NO	Y	S	S	2			ANGLE-TURNING	F-YIELD	DARK	DRY	PDO	11-06-2016
51	30	56		15.86			NO	Y	S	S	2			SIDESWIPE-SAME	IMP-LN-CHG	DYLGT	DRY	PDO	11-07-2016
51	30	56		15.86		DRIVEWAY	NO	Y	E	S	2			ANGLE-TURNING	FOL-CLOSE	DYLGT	DRY	PDO	01-05-2017
51	30	56		15.86			NO	Y	S	S	2			SIDESWIPE-SAME	FOL-CLOSE	DYLGT	DRY	PDO	03-29-2017
51	30	56		15.86			NO	Y	S	S	2			REAR-END	FOL-CLOSE	DYLGT	DRY	PDO	09-16-2019

* INCLUDES SUSPECTED SERIOUS, NON-INCAPACITATING, AND POSSIBLE INJURIES.

STUDY CRITERIA

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ROADWAY / REGION

	QUERY OVER	SELECTIONS
1	Control Section	County: 51, Control Section: 56, CS Type: hwy, CS Query On: range, Mile Start: 12.09, Mile End: 15.87
2	Control Section	County: 51, Control Section: 18, CS Type: hwy, CS Query On: range, Mile Start: 00.00, Mile End: 1.00

DATE

Date Range	02-01-2014 to 09-16-2020

REPORT SECTIONS

Collision Map & Study Totals	(Included)
Collision Analysis Tables	(Included)
- Totals By City, Hwy Class	Checked
- Totals By Fiscal Year	Checked
- Other Analysis Tables	Checked
Rate Analysis	(Included)
Collision Listing	(Included)
- Highway Collision Listing	Checked, By Control Section
- City Street Collision Listing	Checked
- County Road Collision Listing	Checked
Query Criteria	(Included)

FILTER COLLISIONS

Roadway Type	All Collision Data
Incl. Crashes Assoc. w/ Every Int.	Checked
Environment Fields	

REPORT FORMAT OPTIONS

Print Watermark	Checked
Print DPS Case Numbers	Unchecked

Appendix D
Traffic Engineering Consultants, Inc.
Access Review Comments and Map

Access Review Information – US 69 from Border to Okmulgee

Approximate length of area is 1 mile
29 driveways on west side and 32 driveways on east side within review area

- As access density increases crash rates increase

- Roadways with non-traversable medians are safer than undivided roadways or those with continuous two-way left-turn lanes (TWLTL) NCHRP Report 420, 1999 (Transportation Research Board – National Cooperative Highway Research Program)

- Highway facilities with non-traversable medians had an overall accident rate of 5.2 per million vehicle miles travelled (VMT) compared with 7.3 per million VMT on facilities with TWLTLs. Average crash rates are 30% less with median

Selection of a median alternative depends upon factors related to policy, land use and traffic.

These factors include:

1. The access management policy for and access class of the roadway under consideration.
2. The types and intensities of the adjacent land use.
3. The supporting street system and the opportunities for re-routing left turns.
4. Existing driveway spacing.
5. Existing geometric design and traffic control features (e.g., proximity to traffic signals and provisions for left turns.
6. Traffic volumes speeds and accidents
7. Costs associated with roadway widening and reconstruction.

- Median Opening - 40 or more access points per mile results in reduction in free-flow speed of 10 mph

- Raised Medians – 25% to 35% reduction in total crashes
  30% decrease in delay
  30% increase in capacity

- As traffic volumes rise beyond 20,000 vpd, two-way left-turn lanes (TWLTL) begin to decrease in functionality, resulting in safety problems.

- Traffic Data – S. of Okmulgee
  2015 – 20,320 vpd P.M. 1000 SB/850 NB K=9.1%, D= 54%

  2040 – 30,480 vpd P.M. 1505 SB/1280 NB K= 9.1%, D= 54%

- Truck Data – T_{AADT} = 25%
  T_{DHV} = 22%
  T_3 = 20%

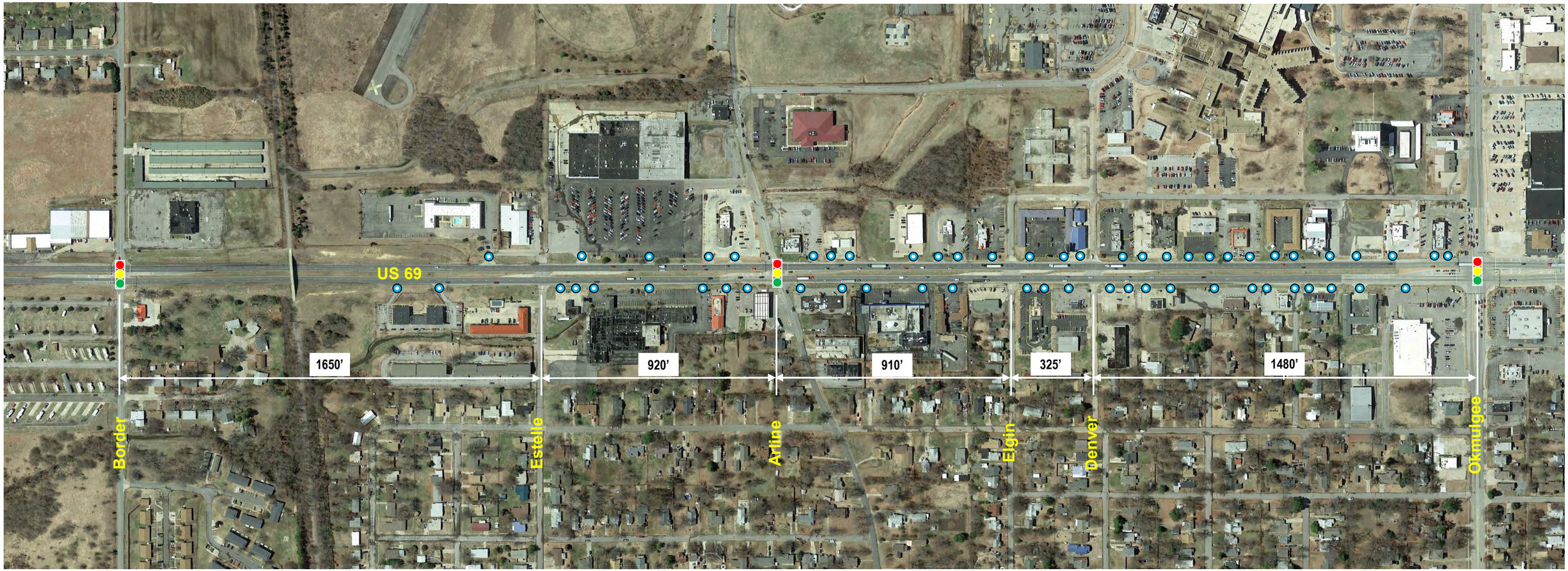

FIGURE 1. US 69 Access Review

Appendix E
Environmental Constraints, Considerations and Alternatives Matrix

ENVIRONMENTAL CONSTRAINTS/CONSIDERATIONS

Known environmental constraints and considerations, based on a Reconnaissance Data Report completed in December of 2011 and updated with subsequent field studies and consultation with Federal and State Agencies, current information from the Oklahoma Corporation Commission (OCC), Oklahoma Department of Environmental Quality (DEQ), are provided for this summary. An environmental constraints matrix has also bee developed.

Cultural Resources

A cultural resources report and consultation was completed in February of 2015. Consultation with the State Historic Preservation Office (4/27/2015) and the State Archaeologist (4/7/2015) resulted in concurrence with the assessment and determination listed below.

Historic Properties:

There are no eligible National Register of Historic Places (NRHP) structures or properties within the project area.

The 1952 bridge (Centennial Trail pedestrian bridge) and the two remnant railroad localities identified during the archaeological inspection are considered not eligible for the NRHP. The two railroad localities lack physical integrity and are too limited of representations of the railroads to be recorded as archaeological sites. The bridge is considered not eligible for the NRHP. None of these resources exhibit characteristics that qualify them for listing in the NRHP (pursuant to 36 CFR 60.4).

No previously listed NRHP or DOE properties are located within the study area.

The bridge over Coody Creek has been modified such that it is not eligible for NRHP consideration.

Archeological Sites

No archeological sites are located within the project action area.

Cemeteries

No cemeteries are located within the project action area.

UST and LUST Sites within Proposed ROW

Sites that the Department may purchase or encounter during construction that pose a risk to worker health and safety or contamination issues are identified. No soil or groundwater testing were conducted. Hazardous waste data was derived from the Recon Report, OCC, and ODEQ records, and identification from aerial imagery.

There is one (1) underground storage tank (UST) and two (2) leaking underground storage tanks (LUSTs) within the proposed right-of-way (R/W) for Options 1 and 2. There are two (2) LUSTs within the proposed R/W for Option 3.

No EPA regulated facilities of concern were identified within the study area.

No current or abandoned coal mines are located within the study area.

The ISA completed in 2016 recommended that in the event the project scope changes or additional ROW is acquired further investigation may be needed at the location of the Kum & Go (702 S. 32nd Street) and Al's Texaco (located at the corner of 32nd and Denver).

Oil and Gas Wells
No oil and gas wells or infrastructure were identified in the project area.

Impaired Streams
Coody Creek is designated as an impaired waterbody under Section 303(d) of the Clean Water Act (CWA) due to elevated levels of Enterococcus Bacteria and E. Coli. The impact is similar in nature with 277.5 linear feet for all options.

Potential Wetlands
Potential jurisdictional wetlands and blue line streams were identified through the reconnaissance report, Waters & Wetlands Report, and USGS data. Wetland locations and boundaries were updated according to field survey and aerial imagery and have been identified in the constraint's matrix.

There is one likely jurisdictional wetland (classified as PEM1A) and one unlikely jurisdictional wetland (PFO1A) located approximately 1,500 feet south of Border Avenue on either side of US-69. All proposed options would have the same wetland impacts (0.559 acres permanent R/W and 0.78 permanent and temporary R/W).

Streams and Drainages:

Total Field Sites	Water Body Name	USGS Designation	Potential Jurisdictional Status	Acres within study footprint	Linear Feet within study footprint
1	Coody Creek	Mapped perennial	Likely	0.12	304
1	Tributary to Coody Creek	Mapped intermittent	Likely	0.01	55
1	Tributary to Coody Creek	Unmapped intermittent	Likely	0.07	339
Total Likely Jurisdictional				**0.2**	**698**
10	Ephemeral drainages	Unmapped	Unlikely	N/A	2,851

Blue Line Streams
The blue line streams that are crossed by the project are also similar in nature with 381.7 linear feet of impact for all options.

Threatened and Endangered Species
The following listed species are listed for Muskogee County according to the US Fish and Wildlife Service and the Oklahoma Natural Heritage Inventory.

- American Burying Beetle (ABB) (Endangered)
- Interior Least Turn (Endangered)

- Piping Plover (Threatened)
- Red Knot (Threatened)
- Gray Bat (Endangered)
- Northern Long-Eared Bat (Threatened)
- Whooping Crane (Endangered)

The completed Biological Assessment Report dated May 15, 2015 states the following:

- The proposed project will have no effect on the Whooping Crane, Interior Least Tern, Piping Plover, and Red Knot.

- The proposed project may affect, not likely to adversely affect the Gray Bat and Northern Long-Eared Bat.

- The appropriate effect determination for the ABB will be determined following the preconstruction survey.

- No Bald Eagle or Golden Eagle habitat was observed in the study area.

Based on the design, similar plane notes would be required for the species impacted including the ABB, Gray Bat and Northern Long-Eared Bat.

Critical Habitat
There is no critical habitat in the project action area for threatened and endangered species.

Migratory Birds.
Plan notes will be added for migratory birds for any option selected.

Floodplains
The drainage area of Coody Creek is within Zone A floodplains according to Flood Insurance Rate Maps and those areas have been identified in the constraints matrix. Floodplain impacts include 2.0 acres of permanent right-of-way and 1.05 acres of temporary right-of-way. This is the same for all options.

Tribal Property
There was no tribal property identified within the project area. There is land owned by the Muskogee Creek Nation near the interchange of US-69 and US-64 on both sides of the roadway, but this area is not within the project.

Section 4(f) Centennial Trail
Section 4(f) will need to be completed for the Centennial Trail for any option selected with similar impacts.

A Section 4(f) recreational trail (Centennial Trail) transects the study area and has been identified in the constraint's matrix. No Land and Water Conservation Fund Act (LWCFA) funds were used for the purchase or improvement of the Centennial Trail Path. The Centennial Trail Path pedestrian bridge over US-69 was originally a railroad bridge built in 1952 by the Missouri Pacific railroad. After the railroad track was abandoned, the City of Muskogee claimed ownership of the abandoned railroad right of way in

1996 for public use. The City converted the railroad track bridge to accommodate pedestrian traffic with the addition of asphalt paving and safety fencing in 1998. This unconventional pedestrian overpass is planned to be replaced with a new structure designed specifically for bicycle and pedestrian traffic. The entire Centennial Trail path consists of asphalt, 10 foot wide on right-of-way that is 100 feet wide. The new pedestrian overpass structure will be 12 feet wide in width and connect with the existing 10 foot wide asphalt path. The replacement of this structure allows for more room to accommodate the roadway improvements on US-69 and will improve drainage on the roadway.
Coody Creek to the east was confirmed by the city not to have used Land and Water Conservation Fund Act (LWCFA).

Section 4(f) Public Parks/ Refuges

There are no parks, wildlife refuges, waterfowl refuges, or wildlife management areas identified within the project area.

Noise

A noise study was completed for the proposed US-69 project utilized the preliminary design plans dated January 2010 and the FHWA Traffic Noise Model version 2.5 in accordance with FHWA 23 CFR 772 and complies with the ODOT Noise Policy dated July 13, 2011. Noise measurements were performed at three (3) locations along existing US-69 within the project limits for the purpose of validating the noise model which proved satisfactory. Land use is described as developed land consisting of small business, motels, an RV Park with some residential lots, two (2) places-of-worship, a non-motorized foot/bicycle trail and single-family residential dwellings. The traffic noise analysis for the proposed action predicts the greatest noise levels to occur at noise sensitive sites near the proposed action composed of twenty-seven (27) model receivers. Those considered as noise sensitive receivers include the hospital, residential dwellings, the places-of-worship, the RV Park, and the trail. For the existing condition (2015), one residential and the trail crossing experience noise levels that approach or meet 67. 0 dB(A) Leq (h) for Noise Abatement Criteria (NAC) for Activity Categories B and C. Based on the future condition, (design year 2040), two (2) residential receivers, one place of worship (Jehovah's Witnesses) and the trail crossing will experience noise impacts with future noise levels approaching, meeting or exceeding the 67. 0 dB(A) Leq (h) for NAC Activity Categories B and C. However, no receivers will experience a substantial increase (15 dB) over the existing noise levels, with the highest increase at 3. 3 dB.

Noise mitigation in the form of a free-standing noise wall placed within the project right-of-way was considered for the impacted receivers. The two (2) residential receivers and the place-of-worship receiver have direct driveway access onto US-69. Without access control, the gap that would be required for the driveway connections would make noise abatement measures ineffective, and therefore, noise mitigation would not prove feasible. With regards to the trail crossing, only that portion within the project right-of-way that spans across US-69 is impacted, and thus, noise mitigation is not feasible.

Airports

The Hatbox Downtown Airport (a closed airfield) is located within 4 miles of the radius of the study area.

EC-1576 | Muskogee County | JP27108(04) | US-69 Alternatives Matrix

	No Build	Option 1	Option 2	Option 3
New Right of Way Required (Acres)	0	0.927 (Permanent) 4.73 (Temp, Perm, & PUE*)	0.927 (Permanent) 4.73 (Temp, Perm, & PUE)	0.926 (Permanent) 3.06 (Temp, Perm, & PUE)
Historic Properties	None	None	None	None
Archeological Sites	None	None	None	None
Cemeteries	None	None	None	None
UST Sites within Proposed ROW LUST Sites 100ft of Proposed ROW	None	1 UST Site, POOU 2 LUST Sites, Closed	1 UST Site, POOU 2 LUST Sites, Closed	2 LUST Sites, Closed
Oil and Gas Wells	None	None	None	None
303d Impaired Streams (Linear Ft)**	0	277.5 (Perm R/W) 498.2 (Temp & Perm R/W)	277.5 (Perm R/W) 498.2 (Temp & Perm R/W)	277.5 (Perm R/W) 498.2 (Temp & Perm R/W)
Potential Wetlands (Acres)	0	0.559 (Perm R/W) 0.78 (Temp & Perm R/W)	0.559 (Perm R/W) 0.78 (Temp & Perm R/W)	0.559 (Perm R/W) 0.78 (Temp & Perm R/W)
Blue Line Streams (Linear Ft)	0	381.7 (Perm R/W) 602.4 (Temp & Perm R/W)	381.7 (Perm R/W) 602.4 (Temp & Perm R/W)	381.7 (Perm R/W) 602.4 (Temp & Perm R/W)
Threatened & Endangered Species	Same	Same	Same	Same
Critical Habitat	None	None	None	None
Migratory Birds	Same	Same	Same	Same
Floodplains (Acres)	0	2.0 (Perm R/W) 3.05 (Temp & Perm R/W)	2.0 (Perm R/W) 3.05 (Temp & Perm R/W)	2.0 (Perm R/W) 3.05 (Temp & Perm R/W)
Tribal Property	None	None	None	None
Section 4(f) Centennial Trail (Linear ft)	0	795.2	795.2	795.2
Section 4(F) Public Parks / Refuges	None	None	None	None
Noise	No Change	Same	Same	Same

Sources: Oklahoma Corporation Commission, EPA, ODEQ, USGS, USFWS, FEMA, Reconnaissance Report, and HUB survey.
*Permanent Utility Easement (PUE)
**Waterbody: Coody Creek. Cause of impairment: Enterococcus Bacteria; Escherichia Coli (E. Coli).

Exhibit 1
Option 1 Preliminary Plans

Exhibit 2
Option 2 Preliminary Plans

Exhibit 3
Option 3 Preliminary Plans

Exhibit 4
Operational Analysis Report Annex (ODOT)