



# Preliminary Traffic Study Memorandum

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## US 290 Fredericksburg Relief Route Study – Origin-Destination Study

TxDOT – Transportation Planning and Programming Division

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## **Introduction**

The US 290 Fredericksburg Relief Route Study seeks to evaluate potential relief routes surrounding the City of Fredericksburg in Gillespie County, Texas. Potential routes are proposed north and south of Downtown Fredericksburg, connecting US 290, US 87, and SH 16.

The feasibility study includes an origin-destination (O-D) analysis using the StreetLight InSight tool to assess traffic patterns along US 290, US 87, and SH 16 in Fredericksburg. The O-D analysis portion of the study quantified “local” vs. “through” traffic patterns along the identified roadways to evaluate the potential benefit of each potential relief route around Downtown Fredericksburg. This technical memorandum summarizes the O-D study methodology and results and the preliminary evaluation of the proposed Fredericksburg relief route alternatives.

## **Study Area**

Six study zones surrounding the Fredericksburg area were identified for the O-D analysis along US 290, US 87, and SH 16, as shown in Figure 1. The zones were placed at strategic locations to capture trips entering the Fredericksburg area along the three major roadways that would potentially use an alternative relief route. Existing traffic counts were collected at the six study zones and in Downtown Fredericksburg between Thursday, December 14, 2017, and Sunday, December 17, 2017 and between Thursday, August 16, 2018, and Sunday August 19, 2018. They are presented in Table 1. Additional data collection is proposed in the future.

The potential relief routes may divert traffic traveling through Downtown Fredericksburg, improving traffic conditions and reducing congestion in that area of town. The following three relief route alternatives connecting US 290 around Fredericksburg were considered:

- A northern route connecting US 290, east and west of Fredericksburg, re-routing “through” traffic to the north (“Northern Route”)
- A southern relief route connecting US 290, east and west of Fredericksburg, re-routing “through” traffic south of the city (“Southern Route Option A”)
- A southern relief route connecting US 290, east of Fredericksburg, to US 87, north of Fredericksburg, re-routing “through” traffic south of the city (“Southern Route Option B”)

The general paths of the proposed relief route alternatives in relation to the six study zones are presented in Figure 1.

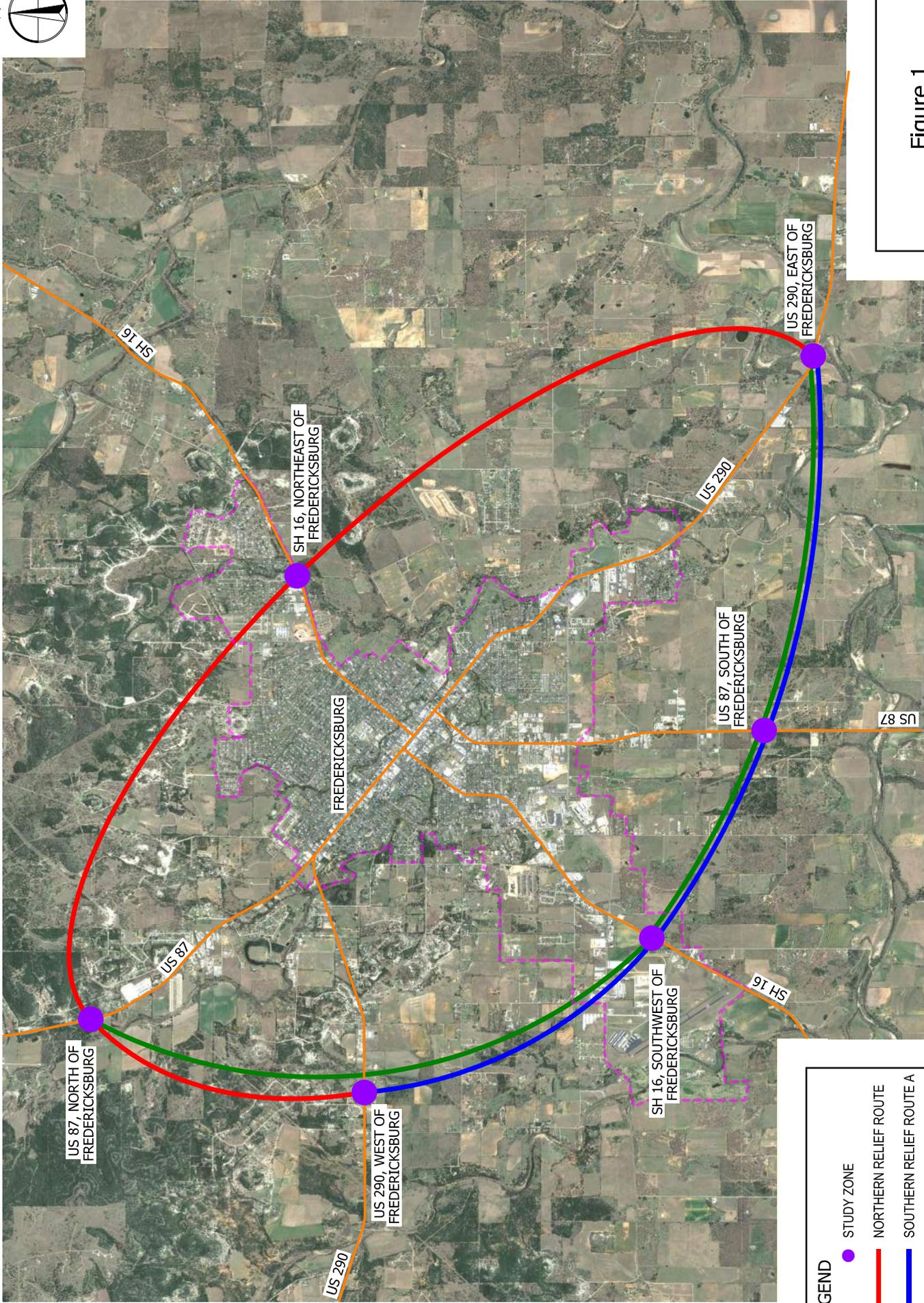
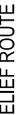
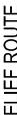
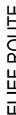
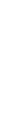


Figure 1

Overall Study Area

NOTE: RELIEF ROUTES SHOWN ARE NOT ALIGNMENTS AND ARE PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY.

**LEGEND**

-  STUDY ZONE
-  NORTHERN RELIEF ROUTE
-  SOUTHERN RELIEF ROUTE A
-  SOUTHERN RELIEF ROUTE B
-  EXISTING HIGHWAY
-  CITY LIMITS

Background Map Copyrighted by Google, 2018

*Table 1: Fredericksburg Daily Traffic Counts*

Location	Traffic Count (veh/day)							
	Thursday		Friday		Saturday		Sunday	
	12/14/17	8/16/18	12/15/17	8/17/18	12/16/17	8/18/18	12/17/17	8/19/18
Downtown Fredericksburg US 290/US 87 (Northwest of Lincoln St.)	15,902	11,793	18,708	13,530	16,365	12,587	14,554	11,140
N US 87 (North of Wilhelm Rd.)	9,661	6,348	10,578	8,311	7,958	4,826	7,364	4,735
S US 87 (South of Prairie View Tr.)	10,382	9,172	12,067	10,592	9,859	9,707	9,007	7,855
NE SH 16 (East of Frederick Rd.)	4,547	4,146	5,019	4,704	3,769	3,665	3,573	3,420
SW SH 16 (South of Friendship Ln.)	8,848	7,890	10,005	6,493	7,554	4,992	6,537	3,952
W US 290 (East of Homestead Dr.)	5,703	4,467	6,771	5,400	5,132	4,028	4,912	4,037
E US 290 (West of Cain City Rd.)	14,599	13,451	17,799	16,359	15,535	15,780	13,984	13,003

## Methodology

The StreetLight InSight tool was used for the O-D analysis between the identified study zones. This tool uses collected real-world Location-Based Services data and GPS data to track trip origins, destinations, and routes to assess traffic and mobility patterns. GPS data was selected for the analysis due to its high spatial precision and ability to differentiate between personal and commercial trips. The resulting data from the StreetLight InSight tool was analyzed to evaluate each proposed relief route.

### O-D ANALYSIS

The study zones were created in StreetLight InSight for the identified roadway locations and Downtown Fredericksburg. Zones were set up as pass-through—meaning only trips passing

through the zone are considered—and directional—meaning only trips moving in the selected direction are considered. The six roadway study zones were set-up as directional pass-through road-segment zones, providing entry and exit “gates” for analysis. This allowed for the analysis of cars driving through the “gate” in each direction, creating both an origin and destination for each roadway study zone surrounding Fredericksburg.

To evaluate different relief routes, “local” versus “through” trips had to be differentiated. A “local” trip was defined as a trip that entered Fredericksburg via one roadway study zone and ended in the Fredericksburg area. A “through” trip was defined as a trip that entered one roadway study zone and exited another without a stopover exceeding five minutes. To study these traffic patterns, the large area of Fredericksburg encompassed by the identified study zones was defined as a non-pass-through zone to count the “local” trips ending in Fredericksburg within the zone limits. A trip is considered stopped when the Bluetooth device does not move more than five meters in five minutes or, for Navigation-GPS, when a vehicle is turned off.

To determine the amount of “through” trips in Downtown Fredericksburg, a small pass-through road segment zone, shown in Figure 2, was established along US 290 in Downtown Fredericksburg, encompassing Main Street; SH 16, north and south of Main Street; and US 87, south of Main Street.

An O-D analysis was run using the StreetLight InSight tool, producing O-D data in normalized index values for each of the six study zones surrounding Fredericksburg and the large zone encompassing Fredericksburg.

An O-D analysis with a Middle Filter was also run by limiting the O-D analysis to only those trips that passed through the pass-through zone in Downtown Fredericksburg. The Middle Filter analysis quantified the trips that passed through the Downtown Fredericksburg zone during a “through” trip between two of the six study area zones. This was done to determine the amount of “through” trips passing through Downtown Fredericksburg that would potentially be diverted by a relief route.

The resulting data was organized by vehicle type (personal and commercial vehicles) and day type (average weekday and average weekend day) for a 24-hour period. An “average weekday” was defined as Tuesday through Thursday, and an “average weekend day” was defined as Saturdays and Sundays.

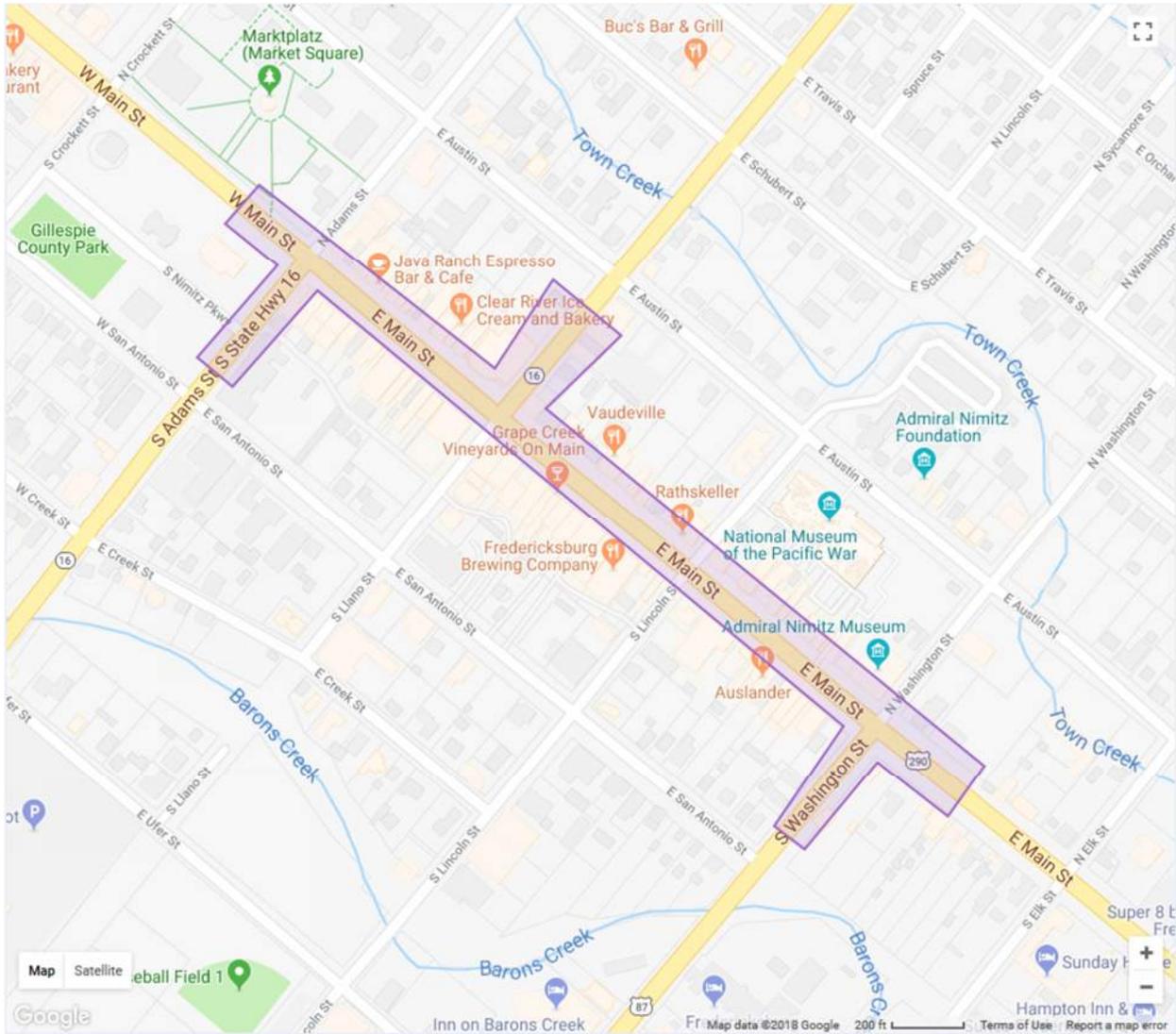


Figure 2: Downtown Pass-Through Zone

#### DATA ANALYSIS

Traffic pattern results were translated from normalized StreetLight index values to number of trips using traffic counts collected on Thursday, December 14<sup>th</sup>, 2017, and Saturday, December 16<sup>th</sup>, 2017, at the study zone locations. Traffic counts were also collected in August of 2018 and additional data collection is proposed in the future. The analysis will eventually be updated based on the full set of traffic counts in order to form a more complete picture of existing traffic conditions. From December 2017 tube count traffic data, the number of personal and commercial vehicles entering Fredericksburg from each of the study zone roadways was determined by applying heavy vehicle percentages from the Texas Department of Transportation’s (TxDOT) Statewide Planning Map (Ref. 1), shown in Table 2, to the weekday counts. Weekend commercial trips were estimated by applying a reduction factor to weekday commercial trip values at each origin. This reduction factor was the ratio

of weekend to weekday commercial trip index values from StreetLight. The traffic counts from each study zone origin were then distributed to the study zone destinations using the O-D ratios from the StreetLight analysis.

*Table 2: Heavy Vehicle Percentage of Daily Traffic Volumes*

Location	Heavy Vehicle %
N US 87	12.4%
S US 87	7.0%
NE SH 16	12.0%
SW SH 16	7.4%
W US 290	10.9%
E US 290	10.9%

Source: TxDOT Statewide Planning Map (Ref. 1)

For each vehicle and day type, the percentage of “through” and “local” traffic was calculated at each origin to determine traffic patterns on US 290, SH 16, and US 87. These percentages were combined with the actual traffic counts to produce trips characterized by origin, vehicle type, day type, and trip type (“local” or “through”).

The potential number of existing trips utilizing a certain relief route was estimated by summing the “through” trips whose origin and destination study zone roadways both connect to the proposed relief route; e.g., trips from north US 87 to south US 87 would be served by Southern Route Option B since the relief route connects to both termini. The trips potentially diverted from Downtown Fredericksburg by the relief route alternatives were estimated using the percentage of “through” trips from each origin that pass through Downtown via the Middle Filter and whose destination is served by the proposed relief route. The resulting data summarizes the number of trips that currently travel through Fredericksburg and would potentially use the proposed relief routes, organized by type of vehicle and weekday/weekend trips. The methodology does not account for route preferences, travel distance, or other factors that may affect the use of a potential relief route.

### **Origin-Destination Study Results and Analysis**

Origin-destination traffic patterns for both personal and commercial vehicles approaching the Fredericksburg area from each study zone are presented in Table 3 and Table 4. The heaviest incoming traffic for personal vehicles is from US 290, east of Fredericksburg, but US 87, north and south of Fredericksburg, and SH 16, southwest of Fredericksburg, also are notable sources of personal trips during both weekdays and weekends. Based on the study, the majority of personal vehicles in the Fredericksburg area travel locally within Fredericksburg on both weekdays and weekends. During weekends, an influx of “local” trips

originate from US 290, east of Fredericksburg, while trips originating from southwest SH 16, west US 290, and north US 87 experience a decrease in “local” traffic percentages. Routes with a significant percentage of personal “through” trips in Fredericksburg are:

- US 87, north of Fredericksburg, to US 87, south of Fredericksburg (24 percent and 29 percent of incoming N US 87 traffic during the weekday and weekend, respectively)
- SH 16, southwest of Fredericksburg, to US 290, east of Fredericksburg (23 percent and 33 percent of incoming SW SH 16 traffic during the weekday and weekend, respectively)
- US 290, west of Fredericksburg, to US 290, east of Fredericksburg (26 percent and 37 percent of incoming W US 290 traffic during the weekday and weekend, respectively)

Commercial traffic makes up a small portion of traffic in Fredericksburg when compared to the personal vehicle trips. The largest amount of commercial traffic originates from US 290, east of Fredericksburg, and SH 16 provides the lowest amount of commercial traffic compared to the other roadways studied. Generally, the large majority of commercial vehicles are “through” traffic, with the exception of incoming traffic at SH 16, southwest of Fredericksburg. The roadway origins with the greatest “through” traffic percentages are US 290, west of Fredericksburg, and US 87, north of Fredericksburg. US 290, west of Fredericksburg, experiences the largest percentage change in the “local” and “through” traffic ratio, as it serves 7 percent less “local” traffic on the weekends. Routes with a significant percentage of commercial “through” trips in Fredericksburg are:

- US 87, north of Fredericksburg, to US 87, south of Fredericksburg (67 percent and 75 percent of incoming N US 87 traffic during the weekday and weekend, respectively)
- US 87, south of Fredericksburg, to US 87, north of Fredericksburg (37 percent and 45 percent of incoming S US 87 traffic during the weekday and weekend, respectively)
- SH 16, northeast of Fredericksburg, to US 87, south of Fredericksburg (33 percent and 37 percent of incoming NE SH 16 traffic during the weekday and weekend, respectively)
- SH 16, southwest of Fredericksburg, to US 290, east of Fredericksburg (23 percent and 30 percent of incoming SW SH 16 traffic during the weekday and weekend, respectively)
- US 290, west of Fredericksburg, to US 290, east of Fredericksburg (78 percent and 86 percent of incoming W US 90 traffic during the weekday and weekend, respectively)
- US 290, east of Fredericksburg, to US 290, west of Fredericksburg (25 percent and 33 percent of incoming E US 290 traffic during the weekday and weekend, respectively)

Table 3: Personal Vehicle Origin-Destination Summary

Origin	Day Type	Incoming Trips from Origin	Destination %								% Through	% Local
			Fredericksburg	N US 87	S US 87	NE SH 16	SW SH 16	W US 290	E US 290			
N US 87	Weekday	4,362	62%	-	24%	1%	6%	1%	1%	7%	38%	62%
	Weekend	3,831	53%	-	29%	1%	2%	1%	15%	47%	53%	
S US 87	Weekday	4,879	80%	6%	-	4%	1%	1%	4%	20%	80%	
	Weekend	4,662	81%	5%	-	1%	7%	0%	6%	19%	81%	
NE SH 16	Weekday	1,998	80%	0%	6%	-	7%	0%	6%	20%	80%	
	Weekend	1,852	78%	0%	9%	-	5%	0%	8%	22%	78%	
SW SH 16	Weekday	4,212	70%	1%	3%	3%	-	0%	23%	30%	70%	
	Weekend	3,704	59%	1%	3%	4%	-	0%	33%	41%	59%	
W US 290	Weekday	2,660	69%	0%	4%	1%	1%	-	26%	31%	69%	
	Weekend	2,373	60%	0%	2%	0%	1%	-	37%	40%	60%	
E US 290	Weekday	6,846	71%	2%	3%	2%	16%	6%	-	29%	71%	
	Weekend	7,793	80%	2%	3%	1%	11%	3%	-	20%	80%	

Table 4: Commercial Vehicle Origin-Destination Summary

Origin	Day Type	Incoming Trips from Origin	Destination %								% Through	% Local
			Fredericksburg	N US 87	S US 87	NE SH 16	SW SH 16	W US 290	E US 290			
N US 87	Weekday	617	17%	-	67%	0%	6%	2%	8%	83%	17%	
	Weekend	291	13%	-	75%	0%	2%	1%	9%	87%	13%	
S US 87	Weekday	367	45%	37%	-	6%	3%	2%	7%	55%	45%	
	Weekend	293	44%	45%	-	3%	1%	2%	5%	56%	44%	
NE SH 16	Weekday	272	41%	1%	33%	-	17%	2%	5%	59%	41%	
	Weekend	56	36%	1%	37%	-	17%	2%	7%	64%	36%	
SW SH 16	Weekday	337	60%	7%	4%	6%	-	1%	23%	40%	60%	
	Weekend	94	60%	3%	3%	5%	-	0%	30%	40%	60%	
W US 290	Weekday	325	16%	2%	3%	1%	1%	-	78%	84%	16%	
	Weekend	205	9%	0%	3%	1%	0%	-	86%	91%	9%	
E US 290	Weekday	838	43%	6%	8%	1%	18%	25%	-	57%	43%	
	Weekend	598	39%	11%	3%	1%	13%	33%	-	61%	39%	

The percentages of total Fredericksburg “through” traffic captured by each relief route alternative are summarized for personal and commercial vehicles in Table 5 and Table 6. By connecting US 87, north of Fredericksburg, the Southern Relief Route Option B captures 15 to 20 percent more personal “through” trips compared to the Southern Relief Route Option A, and the Northern Relief Route captures the least. There is no significant difference between the relief route capture for personal trips between the weekdays and the weekend.

The Southern Route Option B captures nearly all commercial “through” trips, with 90 percent and 95 percent of commercial “through” trips captured during a weekday and weekend, respectively. Commercial “through” trips are captured by the Southern Route Option B nearly three times as much as the Northern Route during weekdays. During both weekdays and weekends, Southern Route Option B captures almost double the amount of “through” Fredericksburg traffic than Southern Route Option A.

*Table 5: Personal Vehicle Relief Route Capture Summary*

Day Type	Through Trip Relief Route Capture		
	Northern Route	Southern Route - A	Southern Route - B
Weekday	25%	62%	78%
Weekend	23%	62%	80%

*Table 6: Commercial Vehicle Relief Route Capture Summary*

Day Type	Through Trip Relief Route Capture		
	Northern Route	Southern Route - A	Southern Route - B
Weekday	32%	50%	90%
Weekend	42%	51%	95%

Results based on a preliminary methodology indicated that approximately 6,500 total trips, including 1,000 commercial trips, could be diverted from Downtown with the Southern Route Option B; however, after further refinement of the methodology and updates to the assumed commercial vehicle percentages from TxDOT, the analysis results were updated and are provided in Tables 7 through 10.

Table 7 and Table 8 present the potential personal trip diversion of “through” trips, including those passing through Downtown Fredericksburg, during weekdays and weekends for each origin and each relief route alternative. This was determined by evaluating the percent of “through” trips captured by each relief route and the percent of “through” trips that could potentially be diverted from Downtown with the exclusion and inclusion, respectively, of the Middle Filter in the O-D analysis.

A southern route provides greater personal trip diversion during both weekdays and weekends compared to a northern route option, and the addition of US 87 North to form Southern Route Option B significantly increases the personal “through” trips diverted from the Fredericksburg area and Downtown Fredericksburg. The Southern Route Option B captures about three times as many “through” trips as the Northern Route and about 2,000 more trips than Southern Route Option A during both weekdays and weekends. The percentage of trips captured by the relief routes from each origin is generally low, as the majority of personal trips around Fredericksburg are “local” and may not use a relief route.

The majority of personal “through” trips potentially captured by the Northern Route currently pass through Downtown Fredericksburg. Southern Route Option A potentially diverts approximately the same number of trips from Downtown as the Northern Route, but Southern Route Option B potentially captures about 2,000 more daily trips from Downtown than each of the other two alternatives during weekdays and weekends. Southern Route Option B may divert almost 4,000 personal “through” trips passing through Downtown—roughly twenty-five percent of existing traffic on US 290 in Downtown Fredericksburg, based on collected traffic counts provided in Table 1.

Table 9 and Table 10 present the potential commercial trip diversion on both weekdays and weekends for all relief route alternatives. Southern Relief Route Option B is expected to serve almost three times and two times the amount of commercial “through” traffic as the Northern Route and Southern Route Option A, respectively. The connection of US 87, north of Fredericksburg, with a southern relief route doubles the potential trips diverted, as a large amount of commercial traffic passing through Fredericksburg originates from US 87 North.

Southern Route Option B diverts more than double the commercial traffic passing through Downtown during weekdays and weekends compared to Southern Route Option A and the Northern Route due to the connection of US 87 North.

During both the weekdays and weekends, the Southern Route Option B may divert about 30 percent of the total traffic on US 290/US 87 in Downtown Fredericksburg, based on the collected traffic counts provided in Table 1. It should be noted that a significant amount of “through” trips to and from the southern study zones are not accounted for when analyzing the trips passing through Downtown, indicating that other existing routes are being utilized

**Table 7: Weekday Personal Trip Diversion by Relief Route**

Origin	Relief Route Alternative														
	Northern Route					Southern Route - A					Southern Route - B				
	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown
N US 87	8%	350	291	0%	0	0	37%	1,632	0	0	37%	1,632	1,447	1,632	1,447
S US 87	0%	0	0	9%	423	78	14%	705	0	0	14%	705	360	705	360
NE SH 16	6%	128	96	0%	0	0	0%	0	0	0	0%	0	0	0	0
SW SH 16	0%	0	0	26%	1,097	321	27%	1,149	0	0	27%	1,149	351	1,149	351
W US 290	27%	716	716	30%	795	780	30%	795	780	780	30%	795	780	795	780
E US 290	10%	708	647	25%	1,679	726	27%	1,817	726	726	27%	1,817	864	1,817	864
Total	-	1,902	1,750	-	3,994	1,905	-	6,098	1,905	1,905	-	6,098	3,802	6,098	3,802

**Table 8: Weekend Personal Trip Diversion by Relief Route**

Origin	Relief Route Alternative														
	Northern Route					Southern Route - A					Southern Route - B				
	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown
N US 87	16%	630	600	0%	0	0	46%	1,765	0	0	46%	1,765	1,677	1,765	1,677
S US 87	0%	0	0	7%	314	99	12%	556	0	0	12%	556	333	556	333
NE SH 16	8%	144	93	0%	0	0	0%	0	0	0	0%	0	0	0	0
SW SH 16	0%	0	0	36%	1,337	367	37%	1,357	0	0	37%	1,357	376	1,357	376
W US 290	37%	879	879	40%	944	922	40%	944	922	922	40%	944	922	944	922
E US 290	6%	458	419	17%	1,314	532	19%	1,456	532	532	19%	1,456	673	1,456	673
Total	-	2,111	1,991	-	3,909	1,920	-	6,078	1,920	1,920	-	6,078	3,981	6,078	3,981

**Table 9: Weekday Commercial Trip Diversion by Relief Route**

Origin	Relief Route Alternative														
	Northern Route					Southern Route - A					Southern Route - B				
	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown
N US 87	10%	60	48	0%	0	0	83%	509	0	83%	509	478	83%	509	478
S US 87	0%	0	0	12%	44	16	49%	179	16	49%	179	151	49%	179	151
NE SH 16	9%	24	19	0%	0	0	0%	0	0	0%	0	0	0%	0	0
SW SH 16	0%	0	0	27%	91	25	34%	114	25	34%	114	40	34%	114	40
W US 290	80%	262	254	81%	265	262	83%	270	262	83%	270	262	83%	270	262
E US 290	32%	266	262	50%	420	271	56%	471	271	56%	471	322	56%	471	322
Total	-	612	583	-	820	574	-	1,543	574	-	1,543	1,253	-	1,543	1,253

**Table 10: Weekend Commercial Trip Diversion by Relief Route**

Origin	Relief Route Alternative														
	Northern Route					Southern Route - A					Southern Route - B				
	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown	% of Total Trips from Origin on Route	# of Trips from Origin	# of Trips Diverted from Downtown
N US 87	10%	29	25	0%	0	0	87%	254	0	87%	254	245	87%	254	245
S US 87	0%	0	0	8%	24	12	53%	156	12	53%	156	144	53%	156	144
NE SH 16	10%	6	4	0%	0	0	0%	0	0	0%	0	0	0%	0	0
SW SH 16	0%	0	0	33%	31	8	36%	34	8	36%	34	10	36%	34	10
W US 290	87%	179	178	90%	185	184	90%	185	184	90%	185	184	90%	185	184
E US 290	45%	268	266	49%	292	231	60%	359	231	60%	359	298	60%	359	298
Total	-	482	473	-	532	435	-	988	435	-	988	881	-	988	881

around the Downtown area. This disparity can be seen between the trip totals between the number of trips from each origin and the number of trips diverted from Downtown in Tables 7 through 10. For example, from Table 7 and Table 8, over 1,000 personal “through” trips from SH 16, southwest of Fredericksburg, are captured by the Southern Route Option B; however, less than 400 of those trips pass through Downtown Fredericksburg, suggesting that most of those “through” trips use an alternate route to cross the Fredericksburg area.

## **Conclusion**

This memorandum summarizes the methodology undertaken to characterize personal and commercial traffic patterns in Fredericksburg, Texas, to evaluate potential relief routes connecting US 290, SH 16, and US 87. The study estimated “through” and “local” trips for personal and commercial vehicles to determine the potential trip diversion from Fredericksburg and the Downtown area due to the relief route alternatives. Results indicate:

- The majority of personal trips in Fredericksburg are “local” trips with destinations in Fredericksburg
- The majority of commercial trips are “through” trips that may use a relief route circumventing the city
- A southern route connecting US 290 around Fredericksburg would serve more trips than a northern route
- Southern Relief Route Option B is similar to Option A, but offers a connection to US 87, north of Fredericksburg. This roadway could serve a significant amount of “through” traffic in Fredericksburg
- From all relief route alternatives proposed, the Southern Relief Route Option B has the potential to divert the greatest number of both personal and commercial “through” trips from the Fredericksburg area and Downtown Fredericksburg.

## References

1. Statewide Planning Map, Texas Department of Transportation, Austin, Texas, [txdot.gov/apps/statewide\\_mapping/StatewidePlanningMap.html](http://txdot.gov/apps/statewide_mapping/StatewidePlanningMap.html), accessed July 2018.