

TRAFFIC IMPACT ANALYSIS

Ariva Bridge Crossing Townhomes

Bob Bullock Loop and Atlanta Drive

Laredo, Texas



Prepared for: Peua Consulting, LLC
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15531 Grey Fox Terrace
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June 2, 2025
Project No. 2025004400



6/2/25

Texas TBPE Firm No. F-11727



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Bob Bullock Loop and Atlanta Drive
Laredo, Texas**

**June 2025
Version 1**

Prepared by:



**AC Group, LLC
15331 Grey Fox Terrace
San Antonio, Texas 78255
(210) 535-3558
TBPE Firm Registration No. F-11727**

EXECUTIVE SUMMARY

Project Description

As per the requirements of the City of Laredo plan review, a Traffic Impact Analysis (TIA) has been prepared on behalf of Peua Consulting, LLC for the proposed Ariva Bridge Crossing Townhomes to be located along the eastbound Bob Bullock Loop frontage road, between Atlanta Drive and Mines Road, in Laredo, Texas. The proposed Townhome (ITE Code: 220) development will have as many as 162 residential units and would be projected to generate as many as 65 morning peak hour trips and 83 evening peak hour trips. Completion of the proposed residential development is anticipated for 2027.

Access Driveways

Access to the proposed Ariva Bridge Crossing Townhomes will include two access intersections, one right-in/right-out access intersection along the eastbound Bob Bullock Loop and one full-access intersection along Atlanta Drive. The access intersection along the eastbound Bob Bullock Loop is to be located approximately 450' east of Atlanta Drive. The access intersection along Atlanta Drive is to be located approximately 270' south of the eastbound Bob Bullock Loop frontage road.

Traffic Impact Analysis

Based on trip generation and distribution projections for the proposed Ariva Bridge Crossing Townhomes, which is to be located along the eastbound Bob Bullock Loop frontage road between Atlanta Drive and Mines Road, the proposed residential subdivision would not be anticipated to have a detrimental operational impact on the surrounding roadway system, specifically Bob Bullock Loop and Atlanta Drive.

Turn Lane Analysis

Table 2-3 of the TxDOT *Access Management Manual* requires that a left or right-turn lane be installed when turn volumes exceed 50 vehicles per hour in a 45 mile per hour (or greater) speed zone and 60 vehicles per hour in speed zones less than 45 miles per hour. The eastbound Bob Bullock Loop frontage road has a posted speed limit of 45 miles per hour in the vicinity of the proposed development; therefore the 50 vehicle per hour threshold was used for the determination of turn lane requirements along the eastbound Bob Bullock Loop. Neither of the proposed access intersections were projected to exceed the turn volume threshold requiring the installation of turn lanes.

TRAFFIC IMPACT ANALYSIS

Ariva Bridge Crossing Townhomes Bob Bullock Loop and Atlanta Drive

PROJECT SCOPE

As per the requirements of the City of Laredo plan review, a Traffic Impact Analysis (TIA) has been prepared on behalf of Peua Consulting, LLC for the proposed Ariva Bridge Crossing Townhomes to be located along the eastbound Bob Bullock Loop frontage road, between Atlanta Drive and Mines Road, in Laredo, Texas. The proposed Townhome (ITE Code: 220) development will have as many as 162 residential units and would be projected to generate as many as 65 morning peak hour trips and 83 evening peak hour trips. Completion of the proposed residential development is anticipated for 2027. Figure 1 below shows a location map of the proposed Ariva Bridge Crossing Townhomes.

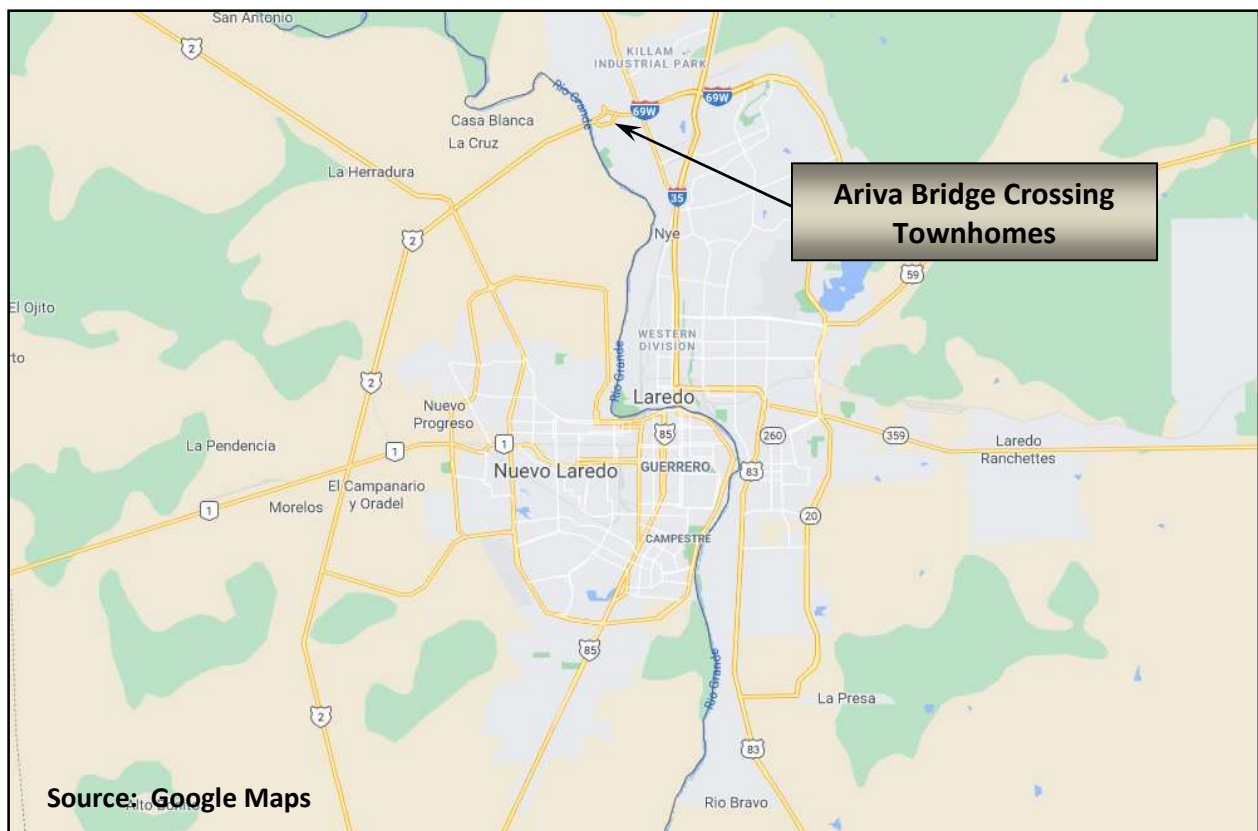


Figure 1. Location Map for the Proposed Ariva Bridge Crossing Townhomes

Access to the proposed Ariva Bridge Crossing Townhomes will include two access intersections, one right-in/right-out access intersection along the eastbound Bob Bullock Loop and one full-access intersection along Atlanta Drive. The access intersection along the eastbound Bob Bullock Loop is to be located approximately 450' east of Atlanta Drive. The access intersection along Atlanta Drive is to be located approximately 270' south of the eastbound Bob Bullock Loop frontage road. Figure 2 below shows an aerial location map of the proposed townhome residential subdivision and Figure 3 shows the site layout of the proposed townhome residential subdivision.



Figure 2. Aerial Location Map of the Proposed Ariva Bridge Crossing Townhomes

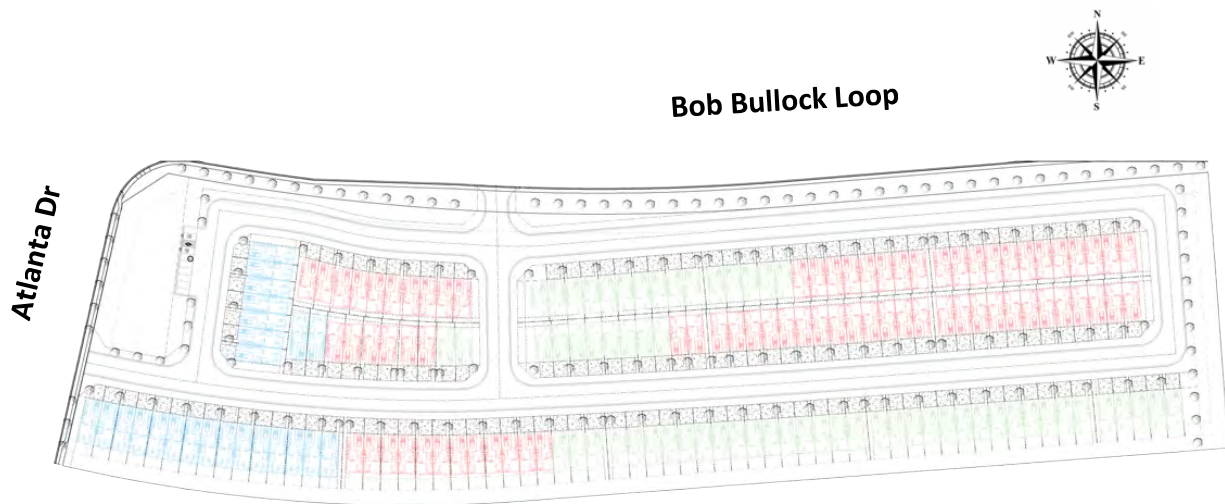


Figure 3. Site Plan for the Proposed Ariva Bridge Crossing Townhomes

STUDY AREA

The study area for this traffic impact analysis includes the two proposed access intersections along the eastbound Bob Bullock Loop and Atlanta Drive. The proposed townhome residential subdivision will be located between along the eastbound Bob Bullock Loop between Atlanta Drive and Mines Road in north Laredo, Texas, as shown in Figure 4 below.



Figure 4. Study Intersections for the Proposed Ariva Bridge Crossing Townhomes

CITY OF LAREDO ZONING

The proposed townhome residential subdivision is zoned General Business District (B-3), as shown in Figure 5 below. The purpose of the B-3 District is to provide for those businesses and services serving a trade area larger than a neighborhood, but smaller than the entire city and located primarily along minor or principal arterial streets, as classified in the Transportation Plan for the City of Laredo. The site has a legal description of VILLAS SAN AGUSTIN, BLOCK 2, LOT 1, UNIT 1. The areas surrounding the proposed development include Single Family Reduced Area District (R-1A) to the west along Atlanta Drive and Multi-Family District (R-2) south of the proposed Townhome residential subdivision, as shown in Figure 5 below. Properties along Ejido Avenue also include Community Business District (B-3).



Figure 5. City of Laredo Zoning near the Proposed Ariva Bridge Crossing Townhomes

EXISTING ROADWAYS

Bob Bullock Loop (Loop 20) Eastbound Frontage Road, adjacent to the Ariva Bridge Crossing Townhomes, is a curbed, 43' wide paved roadway with two 12' lanes, a 15' outside shoulder, and a 4' inside shoulder. Bob Bullock Loop is classified as a Freeway on the City of Laredo Future Thoroughfare Plan (2023). The Bob Bullock Loop eastbound frontage road has a posted speed limit of 45 miles per hour. Pavement conditions are good with no observed pavement failure and visible pavement markings. The eastbound Bob Bullock Loop frontage road has sidewalks on outside of the roadway and no bicycle lanes adjacent to the proposed residential development. Figure 6 below shows the eastbound Bob Bullock Loop frontage road, east of Atlanta Drive, and adjacent to the proposed residential development.



Figure 6. Bob Bullock Loop Eastbound Frontage Road – Adjacent to Proposed Development

Atlanta Drive, between Fasken Boulevard and Bob Bullock Loop, is a curbed, 38' wide paved roadway with one 12' lane in each direction, a 14' continuous two-way, left-turn lane (CTWLTL), and no shoulders. Atlanta Drive is classified as a Collector Roadway on the City of Laredo Future Thoroughfare Plan (2023) and has a 30 mile per hour posted speed limit. Pavement conditions are good with no observed pavement failure and visible pavement markings. Atlanta Drive has 4' sidewalks on both sides of the roadway and no bicycle lanes. Figure 7 below shows Atlanta Drive south of Bob Bullock Loop.



Figure 7. Atlanta Drive – Facing North towards Bob Bullock Loop

EXISTING TRAFFIC DATA

The Texas Department of Transportation (TxDOT) Traffic Count Database System (TCDS) shows that Mines Road, south of Bob Bullock Loop had an average daily traffic (ADT) volume of 26,142 vehicles per day in 2020 and 28,634 vehicles per day in 2022. The TxDOT TCDS traffic data sheets are included in Appendix D.

BACKGROUND TRAFFIC

An annual average growth rate (AAGR) was calculated at **4.50%** per year based on historical average daily traffic (ADT) counts available on the Texas Department of Transportation (TxDOT) Traffic Count Database System (TCDS) for 2020 and 2022. Historical average daily traffic data was available for Mines Road, south of Bob Bullock Loop. This rate represents the annual average growth rate (AAGR) for the area surrounding in the vicinity of the proposed development. The table below illustrates ADT data Mines Road, south of Bob Bullock Loop and near the proposed development.

Table 1. Annual Average Growth Rate for Mines Road, South of Bob Bullock Loop

Location	Year	ADT	Rate of Growth	Proposed AAGR (%)
	2020	26,142	-	
Mines Rd	2022	28,634	0.046578	4.50%

PROJECTED TRAFFIC DATA

Projected traffic volume data may be calculated for a 2027 project built-out using a 4.50% annual average growth rate (AAGR), as determined in the previous section. The 2027 projected average daily traffic (ADT) volume for Mines Road, south of Bob Bullock Loop, was calculated as 35,683 vehicles per day.

TRIP GENERATION

Using the Eleventh Edition of the ITE *TRIP GENERATION MANUAL* reference, the proposed Ariva Bridge Crossing Townhomes will generate trips based on a the total number of Multi-Family Housing (ITE Code: 220) units within the proposed subdivision. The proposed Ariva Bob Bullock Townhome Subdivision will have as many as 162 townhome dwelling units. Table 2 below shows the projected trip generation calculations for the proposed Ariva Bridge Crossing Townhomes.

The ITE Trip Generation Manual describes a **Multifamily Housing (Low-Rise) (ITE Code: 220)** as housing that includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have two or three floors (levels). Various configurations fit this description, including walkup apartment, mansion apartment, and stacked townhouse.

Table 2. Trip Generation for the Proposed Ariva Bridge Crossing Townhomes

TRIP GENERATION										
ITE Code	Weekday 24 Hour		Weekday AM Peak		Weekday PM Peak		Saturday 24 Hour		Saturday Peak Hour	
220	Multi-Family Housing									
Rate / DU	6.74		0.40		0.51		4.55		0.41	
Dwelling Unit	162		162		162		162		162	
Trips	1,092		65		83		737		66	
% Enter/Exit	50%	50%	24%	76%	63%	37%	50%	50%	50%	50%
# Enter/Exit	546	546	16	49	52	31	368	369	33	33

Source: ITE Trip Generation Manual, Eleventh Edition

TRIP DISTRIBUTION

Trip distribution for the proposed Ariva Bridge Crossing Townhomes was based on the surrounding roadway system and anticipated routes to and from the surrounding major roadway system, specifically along Mines Road and Bob Bullock Loop. Trip distribution for the proposed Ariva Bridge Crossing Townhomes was forecasted as 20% from areas north of the proposed development along Mines Road, 40% from areas south of the proposed development along Mines Road, and 20% from the areas east of the proposed development along Bob Bullock Loop. Table 3 below shows the projected trip distribution for the proposed Ariva Bridge Crossing Townhomes.

Table 3. Trip Distribution for the Proposed Ariva Bridge Crossing Townhomes

TRIP DISTRIBUTION								
	Weekday AM Peak				Weekday PM Peak			
Enter	NB Mines Rd	SB Mines Rd	WB Loop 20		NB Mines Rd	SB Mines Rd	WB Loop 20	
	40%	20%	40%		40%	20%	40%	
	6	4	6		21	10	21	
	16				52			
Exit	NB Mines Rd	SB Mines Rd	EB Loop 20		NB Mines Rd	SB Mines Rd	EB Loop 20	
	20%	40%	40%		20%	40%	40%	
	9	20	20		7	12	12	
	49				31			

DRIVEWAY ACCESS

Access to the proposed Ariva Bridge Crossing Townhomes will include two access intersections, one right-in/right-out access intersection along the eastbound Bob Bullock Loop and one full-access intersection along Atlanta Drive. The access intersection along the eastbound Bob Bullock Loop is to be located approximately 450' east of Atlanta Drive. The access intersection along Atlanta Drive is to be located approximately 270' south of the eastbound Bob Bullock Loop frontage road. Figure 8 below shows the two proposed access intersections for the proposed Ariva Bridge Crossing Townhomes.



Figure 8. Driveway Access for Proposed Ariva Bridge Crossing Townhomes

TURN LANE ANALYSIS

Table 2-3 of the TxDOT *Access Management Manual* requires that a left or right-turn lane be installed when turn volumes exceed 50 vehicles per hour in a 45 mile per hour (or greater) speed zone and 60 vehicles per hour in speed zones less than 45 miles per hour. The eastbound Bob Bullock Loop frontage road has a posted speed limit of 45 miles per hour in the vicinity of the proposed development; therefore the 50 vehicle per hour threshold was used for the determination of turn lane requirements along the eastbound Bob Bullock Loop.

Access No. 1 along the eastbound Bob Bullock Loop frontage road has a projected eastbound right-turn volume of 6 vehicles per hour during the morning weekday peak hour and 21 vehicles per hour during the evening weekday peak hour. The installation of an eastbound right-turn lane along Bob Bullock Loop at Access No. 1 would not be required.

Access No. 2 along Atlanta Drive has a projected northbound right-turn volume of 6 vehicles per hour during the morning weekday peak hour and 21 vehicles per hour during the evening weekday peak hour. The installation of a northbound right-turn lane along Atlanta Drive at Access No. 2 would not be required.

Access No. 2 also has a projected southbound left-turn volume of 4 vehicles per hour during the morning weekday peak hour and 10 vehicles per hour during the evening weekday peak hour. The installation of a southbound left-turn lane along Atlanta Drive at Access No. 2 would not be required.

CONCLUSION

Based on trip generation and distribution projections for the proposed Ariva Bridge Crossing Townhomes, which is to be located along the eastbound Bob Bullock Loop frontage road between Atlanta Drive and Mines Road, the proposed residential subdivision would not be anticipated to have a detrimental operational impact on the surrounding roadway system, specifically Bob Bullock Loop and Atlanta Drive.

Turn Lane Analysis

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Prepared by:

A handwritten signature in blue ink, appearing to read "Rene Arredondo", written over a light blue rectangular background.

Rene Arredondo, P.E., P.T.O.E.

APPENDIX INDEX

Appendix A Site Layout - Exhibit A

Appendix B Aerial Photo – Exhibit B

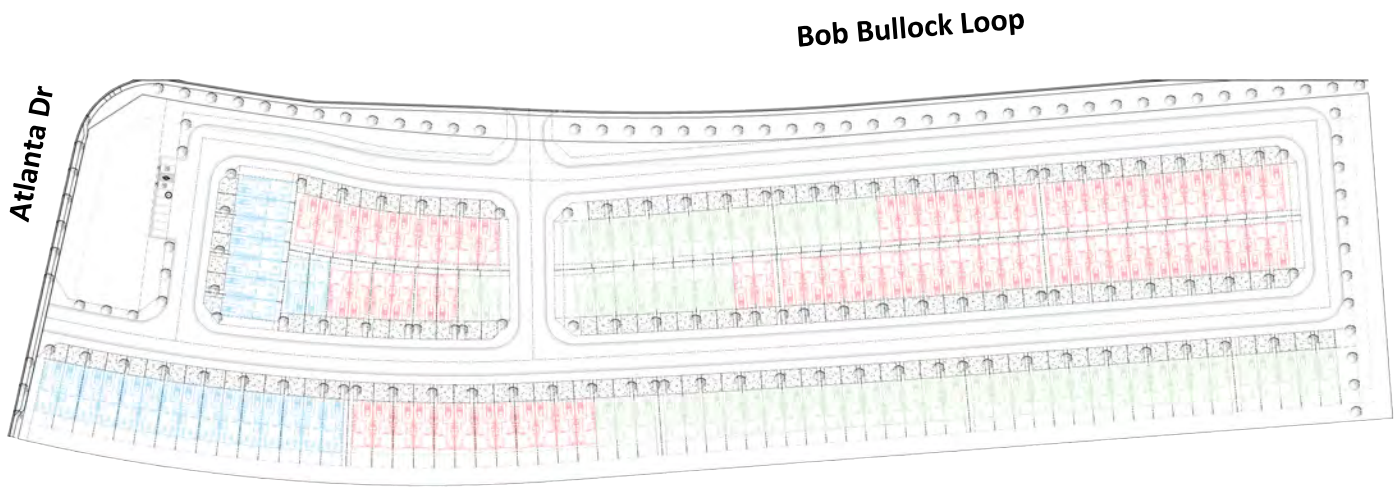
Appendix C Trip Distribution Exhibits – Exhibits C and D

Appendix D Traffic Data Sheets

SITE LAYOUT

EXHIBIT A

APPENDIX A



FIRM FBPE No. F/11727

15331 Gray Fox Terrace
San Antonio, Texas 78255

Office: (210) 535-3568
Fax: (210) 509-8680

SITE LAYOUT

ARIVA BRIDGE CROSSING TOWNHOMES



NORTH

EXHIBIT A

AERIAL PHOTOGRAPH

EXHIBIT B

APPENDIX B



FIRM TYPE No. F111727

15931 Gray Pine Terrace
San Antonio, Texas 78256

Office (210) 535-3568
Fax: (210) 503-9690

AERIAL PHOTOGRAPH

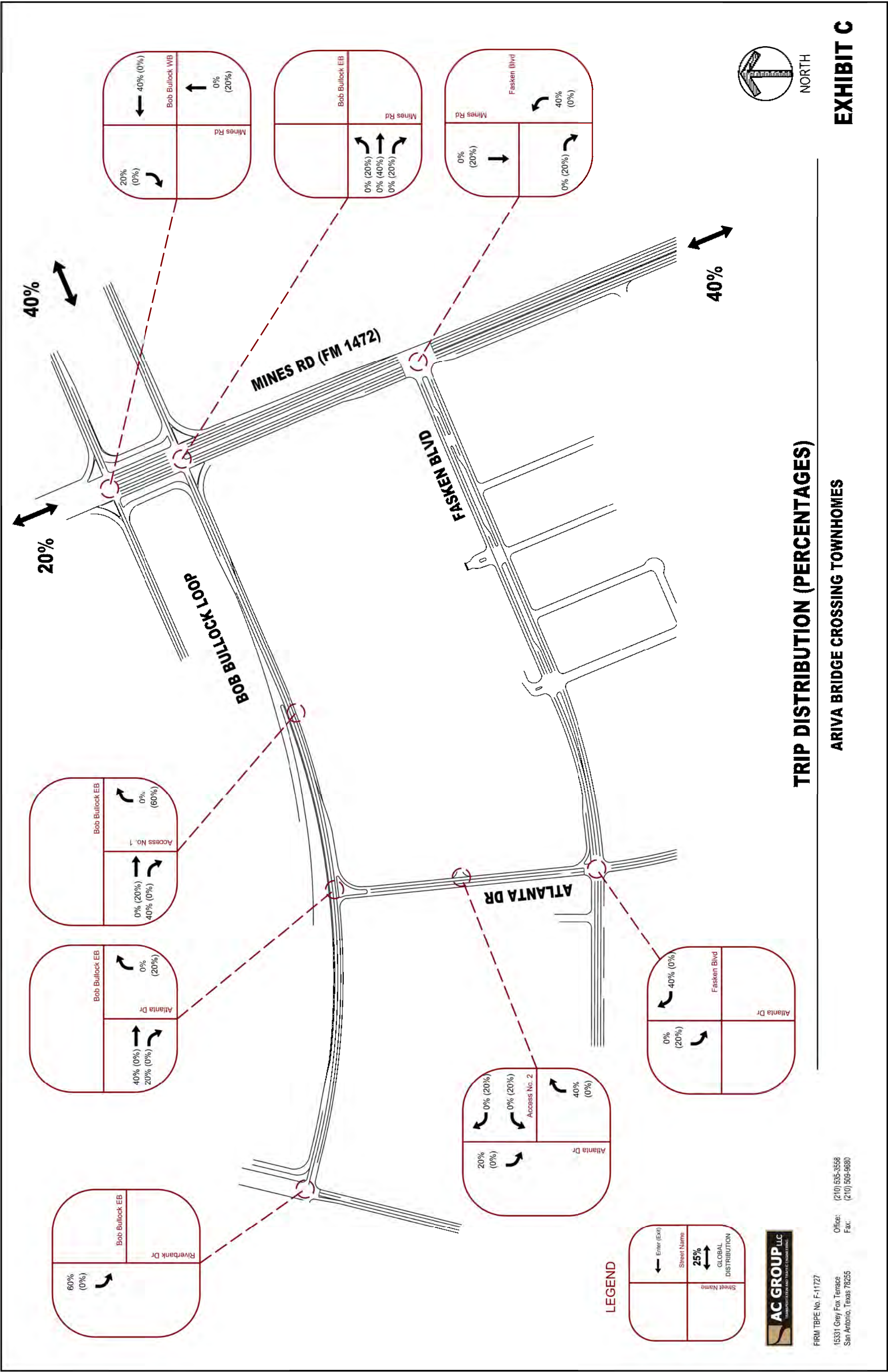
ARIVA BRIDGE CROSSING TOWNHOMES

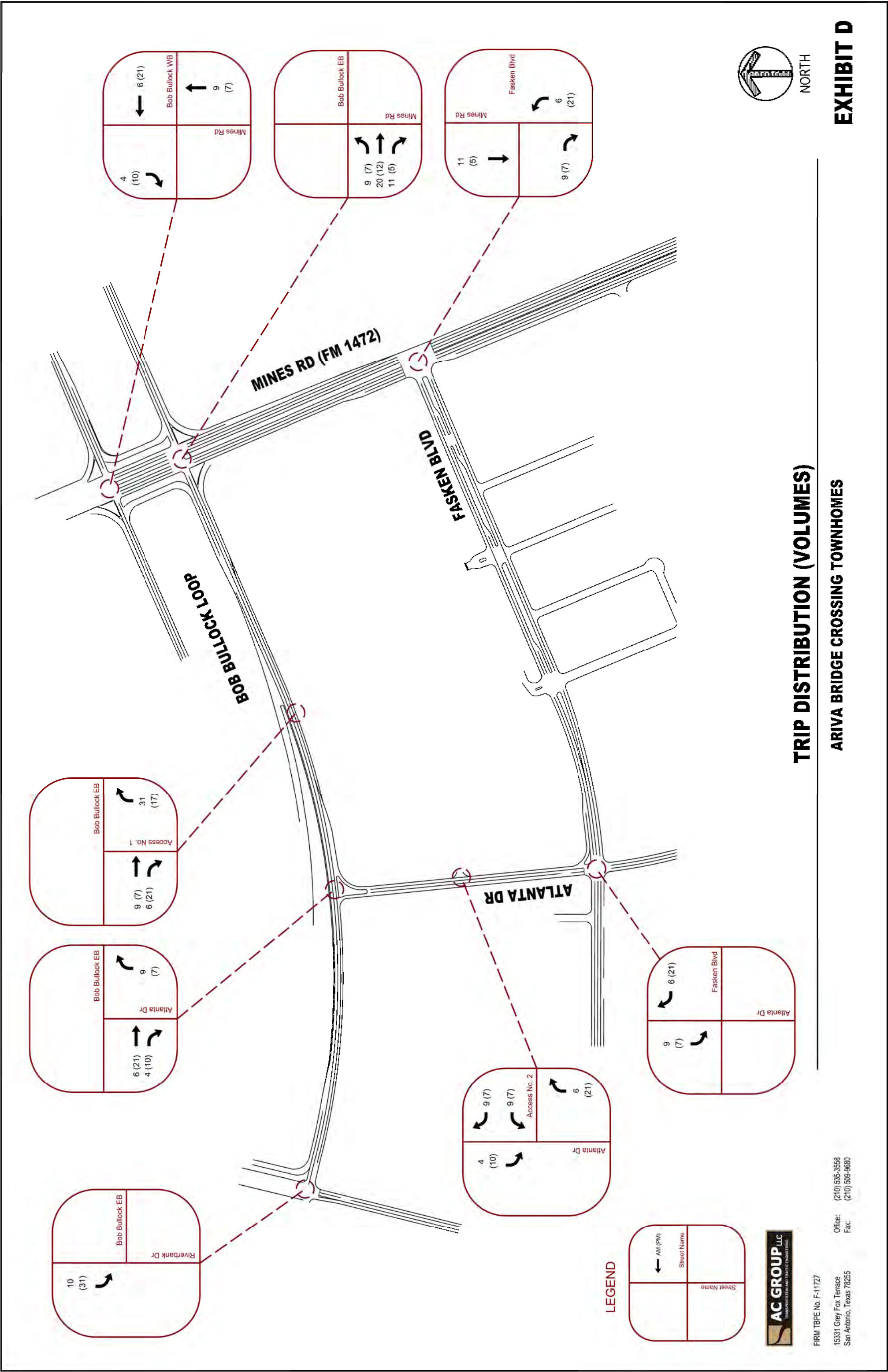


EXHIBIT B

TRIP DISTRIBUTION EXHIBITS

- Exhibit C – Trip Generation and Distribution Percentages
- Exhibit D – Trip Generation and Distribution Volumes





TRAFFIC DATA SHEETS

APPENDIX D



Traffic Count (TCDS)

Home Locate Locate All Email This Auto-Locate ☒

List View All DIRs Report Center

Record	1 of 1	Go to Record	Go
Location ID 240H145			
Type	SPOT	HPMS ID ASSIGNED	MPO ID 205
SF Group	LAREDO FC 3 (2024)	Route Type	FIM
AF Group	M1804 (2024)	Route	1472
GF Group	LAREDO FC - (2015)	Active	Yes
Class Dist Grp		Category	ANNUAL ACR
Seas Class Grp	LAREDO (2016)		
WM Group			
QC Group	Volume Group 4		
Facet Class	(3)Principal Arterial-Other		
Located On	FIM1472		
Loc On Alias	Mines Rd		
More Detail			

STATION DATA

Directions: 23WY NE SE

Year	AACT	DRH-30	K %	D %	PA	BC	Src
2023	33,061				29,501 (89%)	3,560 (11%)	
2022	28,634				25,126 (88%)	3,508 (12%)	
2021	32,920	2,231	7	54	29,529 (90%)	3,391 (10%)	
2020	26,142	2,280	9	52	23,222 (89%)	2,920 (11%)	
2019	34,485 ^a				31,212 (91%)	3,273 (9%)	

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VOLUME COUNT

Date	Int	Total
Wed 1/18/2023	-	36,461
Mon 1/24/2022	-	29,896
Wed 1/13/2021	15	30,271
Mon 1/27/2020	15	31,477
Wed 1/31/2018	15	32,039
Tue 1/15/2013	15	31,681

VOLUME TREND

Year	Annual Growth
2024	5%
2023	15%
2022	-13%
2021	26%
2020	-24%
2019	0%
2018	3%

SPEED

Date	Int	Pace	85th	Total
No Data				

CLASSIFICATION

Date	Int	Total
No Data		

WEIGHT-IN-MOTION

Date	Axles	Avg GWT	Total
No Data			

PER VEHICLE

Date	Axles	85th	Total
No Data			

GAP

Date	Int	Total
No Data		

PARTIAL COUNT

Date	Int	24-Hr Total
No Data		

NOTES/FILES

Note	Date





Traffic Count (TCDS)

[Home](#)
[Back](#)
[Login](#)
[+ Locate](#)
[+ Locate All](#)
[Auto-Locate ON](#)

Volume Count Report

LOCATION INFO

Location ID	240H145
Type	SPOT
Funct'l Class	3
Located On	FM1472
Loc On Alias	Mines Rd
Direction	2-WAY
County	Webb
Community	Laredo
MPO ID	205
HPMS ID	ASSIGNED
Agency	Texas DOT

COUNT DATA INFO

Count Status	Accepted
Holiday	No
Start Date	Wed 1/13/2021
End Date	Thu 1/14/2021
Start Time	6:15:00 AM
End Time	6:15:00 AM
Direction	
Notes	
Station	
Study	
Speed Limit	
Description	
Sensor Type	Axle/Tube
Source	TCDS_COUNT_IMPORT_COMBINE
Latitude, Longitude	

INTERVAL:15-MIN

Time	15-min Interval				Hourly Count
	1st	2nd	3rd	4th	
0:00-1:00	81	52	39	51	223
1:00-2:00	28	24	24	14	90
2:00-3:00	14	19	22	22	77
3:00-4:00	17	23	38	29	107
4:00-5:00	33	40	49	55	177
5:00-6:00	58	63	90	164	373
6:00-7:00	135	129	216	281	741
7:00-8:00	231	260	376	444	1,311
8:00-9:00	406	426	488	576	1,896
9:00-10:00	493	433	411	412	1,749
10:00-11:00	361	488	474	408	1,731
11:00-12:00	419	394	469	513	1,795
12:00-13:00	526	553	520	511	2,110
13:00-14:00	566	536	558	606	2,266
14:00-15:00	575	607	589	611	2,382
15:00-16:00	592	587	624	549	2,352
16:00-17:00	546	551	561	476	2,134
17:00-18:00	536	542	503	587	2,168
18:00-19:00	558	562	537	481	2,138
19:00-20:00	442	403	383	327	1,555
20:00-21:00	344	301	273	211	1,129
21:00-22:00	241	215	195	149	800
22:00-23:00	128	160	132	126	546
23:00-24:00	131	79	102	109	421
Total					30,271
AADT					32,920
AM Peak	11:45-12:45				2,112
PM Peak	14:45-15:45				2,414