



AGENDA

PLANNING & ZONING COMMISSION

REGULAR MEETING

MONDAY, JANUARY 25, 2021, 6:30 P.M.

PUBLIC LIBRARY ANNEX, CIVIC CENTER

404 NORTH MAIN STREET

1. CALL TO ORDER

2. PUBLIC COMMENTS FOR NON-AGENDA RELATED ITEMS

Individuals may request to speak on items not on the agenda. Speaker comments are limited to three (3) minutes and no formal action can be taken. All speakers must limit their comments to the specific subject matter noted on the "PUBLIC COMMENT FORM" and refrain from personal attacks or derogatory comments directed at any Commissioner, Staff, or others.

3. CONSENT AGENDA

All matters listed below are to be considered routine by the Commission and will be enacted in one motion. There will not be separate discussion on the items. If discussion is desired, that items can be removed from the consent agenda and will be considered separately as a new business item.

<!--[if !supportLists]-->1. Consider approval of the following Minutes:

3.1. December 21, 2020 Minutes.

Documents:

[DECEMBER 21, 2020 MINUTES.PDF](#)

4. NEW BUSINESS

- 4.I. Project #: 201900797: A Preliminary Plat For "Trinity Ranch Phase 1" Located On
Parcels Of Land Known By The Bastrop County Appraisal District As Parcels 11949 &
99527, Located Adjacent To Upper Elgin River Road And South Of The Elgin Business
Park. For A Total Of 483 Lots On 106.42 Acres Of Land

- A. Staff Presentation
- B. Applicant Presentation
- C. Open Public Hearing
- D. Close Public Hearing
- E. Discussion
- F. Consideration

Documents:

[TRINITY RANCH SECTION1 PRELIMINARY PLAT COMBINED PACKET.PDF](#)

5. ANNOUNCEMENTS

6. ADJOURNMENT

The Commission may adjourn the public meeting at any time during the meeting and convene in Executive Session pursuant to Chapter 551 of the Texas Government Code to discuss any matter as specifically listed on the agenda and/or as permitted by Chapter 551 of the Texas Government Code. The Commission will return to an open session for possible discussion and action as a result of the Executive Session.

Notice of Assistance at Public Meetings, the City of Elgin is committed to compliance with the Americans with Disabilities Act. Elgin City Hall and Council Chambers are wheelchair accessible and special marked parking is available. Persons with disabilities who plan to attend this meeting and who may need assistance are requested to contact the City Secretary's Office at (512) 281-5724. Please provide a forty-eight (48) hour notice when feasible.

Para informacion en espanol favor de llamar (512) 281-0119. Servicios de traduccion disponible en la reunion.

**MINUTES
CITY OF ELGIN PLANNING AND ZONING COMMISSION
REGULAR MEETING
MONDAY, DECEMBER 21, 2020**

CALL TO ORDER: The Chair called the meeting to order at 6:35 P.M. at the Library Annex (Civic Center) located at 404 N. Main St., Elgin, TX, U.S.A.

COMMISSION PRESENT: Chair Antonio Prete, Jason Tatum, Ronnie Creppon, and David Lanford.

COMMISSION ABSENT: Vice-Chair Brian Lundgren, Gilbert Rangel, & Dorothy McCarther.

STAFF PRESENT: David Harrell, Development Services Director; Melissa Lipiec, Secretary; Michael Gonzales, Public Works Director; Beau Perry, City Engineer by conference call.

PUBLIC COMMENT FOR NON-AGENDA RELATED ITEMS: No members of the public were present to speak on this item.

CONSENT AGENDA

1. October 26, 2020 Minutes.
2. November 16, 2020 Minutes.

Ronnie Creppon moved that the Commission approve the consent agenda. David Lanford seconded the motion. The motion passed unanimously with a vote of four (4) for and zero (0) against on roll call vote.

NEW BUSINESS

1. Project #: 202001200: A re-plat for “Replat of Lot 2 Block A, Elgin Business Park III” located on parcels of land known by the Bastrop County Appraisal District as Parcels 47326 & 8712052, located west of Roy Rivers Rd. and north of Littig Rd. to create a new lot and merging a tract of land into an existing platted lot.
 - A. Staff Presentation – David Harrell conducted a power-point presentation of the staff report. David Harrell indicated that nine (9) notices were sent out for noticing requirements and that no one for or against the project came forward.
 - B. Applicant Presentation – Donald Heisch of TRC Engineers had no presentation but was present to answer any questions.
 - C. Open Public Hearing – The public hearing was opened at 6:40 P.M. There were no members of the public present to offer comments.
 - D. Close Public Hearing – The public hearing was closed at 6:40 P.M.
 - E. Discussion – David Lanford asked a question regarding including of Lot 2A and the applicant answered the question. Chair Antonio Prete mentioned there are lines that looked the same on the plat and there were discrepancies between the legend and what was shown on the plat.
 - F. Consideration – David Lanford moved that the Commission approve the project with the condition that cosmetic line types be cleaned up as shown on the re-plat. Jason Tatum seconded the motion. The motion passed unanimously with a vote of four (4) for and zero (0) against on a roll call vote.

NEW BUSINESS (CONT.)

2. Project #: 202000997: A final plat for “Homestead Estates Unit 2” located on parcels of land known by the Travis County Appraisal District as Parcels 877318 & 358740, located adjacent to the Elgin High School north property line and behind Homestead Estates Unit 1 for a total of 233 lots on 58.43 acres of land.
 - A. Staff Presentation - – David Harrell conducted a power-point presentation of the staff report.
 - B. Applicant Presentation – Jennifer Franklin of Pape Dawson Engineers had no presentation but was present to answer any questions.
 - C. Open Public Hearing – The public hearing was opened at 6:46 P.M. There were no members of the public present to offer comments.
 - D. Close Public Hearing – The public hearing was closed at 6:46 P.M.
 - E. Discussion – David Lanford asked a question regarding green space on a lot and David Harrell along with the applicant answered the question.
 - F. Consideration – Jason Tatum moved that the Commission approve the project. Ronnie Creppon seconded the motion. The motion passed unanimously with a vote of four (4) for and zero (0) against on a roll call vote.
3. Election of Chair and Vice-Chair for 2021.

Jason Tatum moved that current Chair Antonio Prete be nominated as Chair and current Vice-Chair Brian Lundgren be nominated as Vice-Chair for 2021. Ronnie Creppon seconded the motion. Antonio Prete indicated he would accept the Chair nomination. David Harrell stated that Brian Lundgren would accept the Vice-Chair nomination in writing. The motion passed unanimously with a vote of four (4) for and zero (0) against on a roll call vote.

ANNOUNCEMENTS

David Harrell announced that there were vacancies on the Building Standards Commission and discussed the function and powers of this Commission. David Lanford expressed an interest in being on this Commission.

ADJOURNMENT

The meeting was adjourned at 6:56 P.M.

Antonio Prete, Chairman

ATTEST: _____
Melissa Lipiec, Secretary

On a motion by _____, seconded by _____
the foregoing instrument was passed and approved on this 25th day of January, 2021.



Development Services Department

STAFF REPORT

Preliminary Plat for Trinity Ranch Section 1

Date: January 14, 2021

Applicant: Timothy Holland c/o BGE.

Representative: SAME

Hearing Dates: Planning & Zoning Commission – January 25, 2021

Location: Bastrop Co. Appraisal District Parcels 11949 & 99527. The general location is south of the Elgin Business Park along an extended Swenson Blvd (see attachment 2).

APPLICATION SUMMARY

Consideration of a preliminary plat for Trinity Ranch Section 1 which consists of single-family home lots. These lots widths are from 40 feet - 50 feet in size and lot areas range roughly in size from 4,600 sq. ft. – 6,000 sq. ft., with an overall average sized lot of 5,598 sq. ft. There are a total of 483 lots which consist of 470 single family lots, 13 open space lots, and lift station lot on 20 blocks. There are different right-of-way (ROW) sizes to accommodate for local (50-foot ROW), collector (60-foot ROW), and arterial roadways (70 – 80-foot ROW). This facilitates the moving of traffic from the plat and future traffic through the plat. This proposed Preliminary Plat is only a portion of the approved concept plan (see attachment 2).

DEVELOPMENT BACKGROUND

Initially the City Council approved a Development Agreement for this site in March 2005. Development was to consist of a minimum fifty (50) foot wide lots with the option to allow for smaller lots if City Code was changed to allow for it. Development would have consisted a single-family residential development with the option to allow for non-residential uses. The development would also consist of a municipal service district (MUD) and exist outside of the City limits. This agreement expired March 2020.

The Council approved a new development agreement in August 2020, for a term of twenty (20) years with the option of auto renewals unless the City desires not to renew. The entire development consists of a total 1,725 single family lots (minimum lot width may be thirty (30) feet wide and minimum lot area may be 3,600 square feet in size). However, the concept plan for the entire site has larger lots associated with it. The plan also consists of seven (7) acres of parkland, twenty-three (23) acres of open space within floodplain, seventeen (17) acres of open space outside of floodplain, five (5) acres of private amenity space for residents, and a two (2) acre public safety site as depicted on the approved concept plan (see attachment 2). Water service to be provided through

Aqua CCN and wastewater to provided by the City. Utility services will be maintained by the proposed municipal service district (MUD) inside the District and the development will be located outside the City limits.

Initially this preliminary plat was submitted in 2019 while under the 2005 Development Agreement. It was decided by the City that the 2005 Development Agreement would not be renewed, and it would require a new development agreement be in place to continue though the development process. Hence the 2020 Development Agreement was approved along with the concept plan (see attachment 2). This approval required changes to the preliminary plat, and this has been addressed by the applicant.

DEPARTMENT COMMENTS

As part of the 2020 Development Agreement a traffic impact analysis (TIA) has been submitted and will eventually be approved by the City, Bastrop County, and TXDOT to mitigate for the entire development's traffic impacts. It will consist of phased improvements starting in 2021, 2025, and 2031. Each phase will warrant improvements at specific roadways and intersections to handle traffic from the entire development. This summary of these improvements is covered in attachment 4 starting at Section 9.0 on page 9.29 and ending on page 9.37. A spreadsheet version of the summary of improvements are in Section A.13 (the pages at the end of attachment 4). This TIA has been included as information to the Commission and is still being addressed between the City, County, TXDOT, and the applicant. Staff would ask the Commission, if the plat is approved, to grant the approval with the condition the City, County, and TXDOT approve the TIA.

Under the 2020 Development Agreement, amendments to the Concept Plan were allowed and classified as major and minor. Minor amendments are regarded as minor modifications of street alignments, minor changes in lot lines, the designation of land for public or governmental uses, changes in lot sizes that do not result in an increase in the overall density of development of the Property, or any change to a public use. There are portions of the approved concept plan that do not exactly match the proposed preliminary plat. However, these portions are regarded as minor amendments to the approved concept plan and do not require approval from the City. Factoring in these minor amendments, the approved Concept Plan matches the proposed Preliminary Plat.

STAFF ANALYSIS

Staff has reviewed the Preliminary Plat and it is similar in layout and design of the approved concept plan with the minor amendments, meets City Code of Ordinances, meets the Development Agreement between City and the Developer. Based on the information within the packet, staff believes there are no issues with approving the request if the Commission imposes the following condition:

1. The Preliminary Plat is approved on the condition the City, Bastrop County, and TXDOT approves the Traffic Impact Analysis.

ATTACHMENTS

Additional information is provided through attached exhibits.

1. Application.
2. Approved Concept Plan.
3. Proposed Preliminary Plat.
4. Proposed Traffic Impact Analysis.

Attachment 1

Application

PRELIMINARY PLAT APPLICATION

Date: 5/8/2020New ☒ Modification ☐

Modification of _____

SITE INFORMATION

Project Address: Swenson & Upper Elgin River Road

Parcel Identification Number (if no address): _____

APPLICANT

Name: Timothy M. Holland, PEPostal Address: 1701 Directors Blvd., Suite 1000
Austin, TX 78744E-Mail Address: tholland@bgeinc.com; Phone Number: (512) 879-0433

The information given on this application is accurate to the best of my knowledge. All provisions of laws and ordinances governing this work will be complied with, whether specified on this application or not.


Timothy M. Holland5/8/2020

Signature

Printed Name

Date

Project Description:

Preliminary plat for 476 single family residences for Phase 1 of the Trinity Ranch subdivision



310 North Main Street
P.O. Box 591
Elgin, Texas, 78621



(512) 281-5724



www.elgintx.com

Attachment 2
Approved Concept Plan

To tie into
existing ROW for
Swenson Blvd

Area of proposed
Preliminary Plat for
Section 1

LEGEND

-  40' LOTS
-  45' LOTS
-  50' LOTS
-  OPEN SPACE (67.1 AC)
-  TANK SITE & EMS (3.9 AC)
-  RIGHT-OF-WAY (86.2 AC)
-  TRAIL

NOTES
 PROPOSED ARTERIALS AND COLLECTORS
 SHALL BE CONSTRUCTED AS TWO LANE
 ROADWAYS WITH TURN LANES AS NEEDED.

LOT TABLE

WIDTH	DEPTH (MIN)	QTY	% TOTAL
40'	120'	355	21%
45'	120'	664	40%
50'	120'	667	39%
		1,716	100%



Attachment 3
Proposed Preliminary Plat

TRINITY RANCH, PHASE I
PRELIMINARY PLAT

DATE	APR
DESCRIPTION	
REVIEWED BY	
DESIGNED BY	
DRAWN BY	
DATE	
REVIEWED BY	
DESIGNED BY	
DRAWN BY	
DATE	

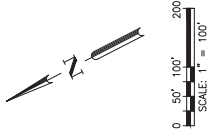


BCE, INC.
1701 DIRECTOR'S BUILDING, SUITE 1000
ALSTON, TX 75424
TEL: 972.979.0000 www.bceinc.com

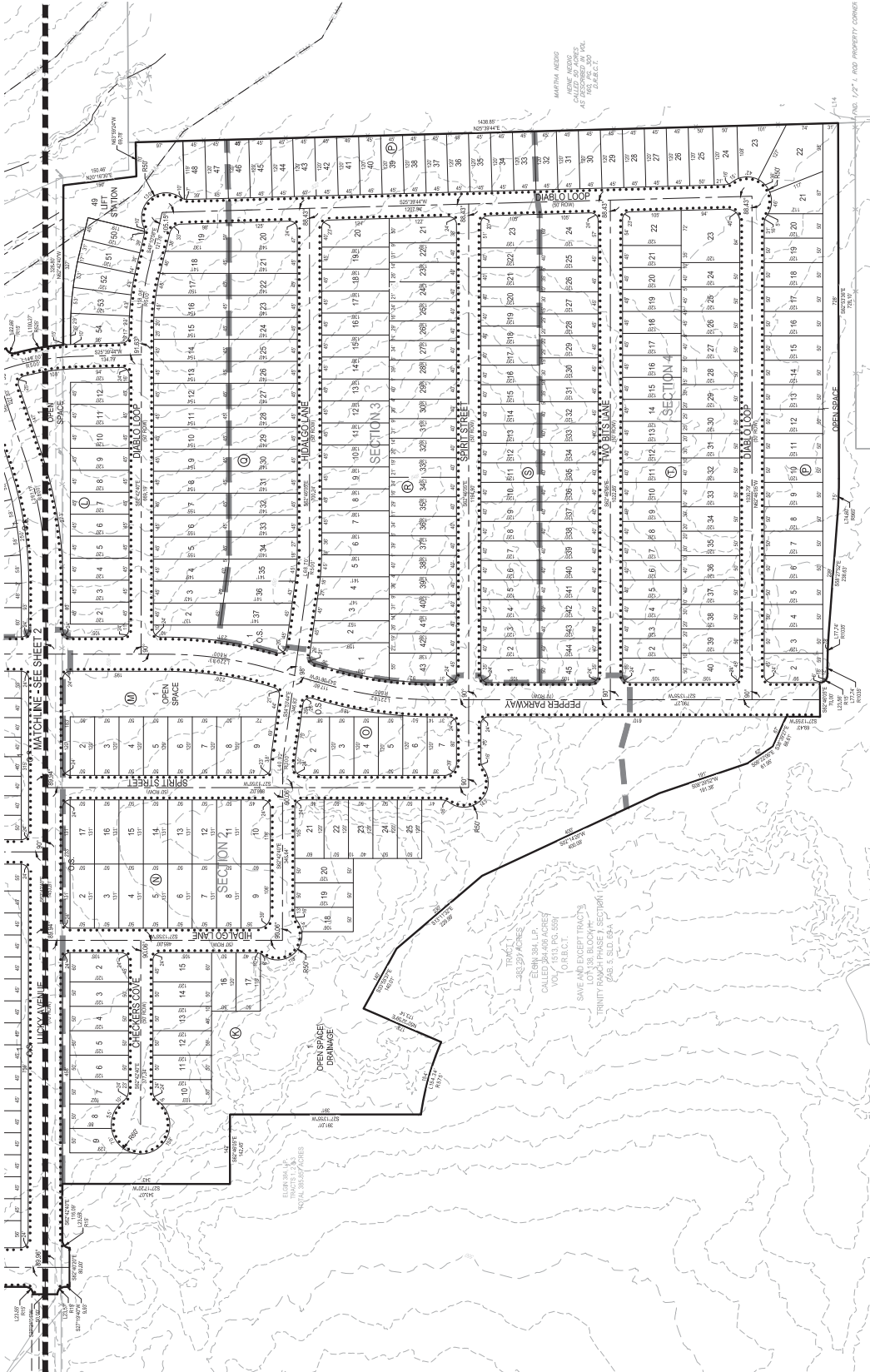
PRELIMINARY PLAT - 2 OF 2
ELGIN, TEXAS
TRINITY RANCH, PHASE I



SHEET
3 OF 3



- LEGEND
- PROPERTY BOUNDARY
 - PROPOSED RIGHT OF WAY
 - EXISTING MAJOR CONTOUR
 - EXISTING MINOR CONTOUR
 - ROAD CENTERLINE
 - PROPOSED LOT LINE
 - PROPOSED LOT NUMBER
 - PROPOSED SIDEWALK
 - PHASE LINE
 - PROPOSED EASEMENT
 - EXISTING EASEMENT
 - 100 YEAR FLOOD LINE
 - ENVIRONMENTAL BUFFER ZONE



TERRY M. LINDSEY AND LEIGH A. LINDSEY
REGISTERED PROFESSIONAL SURVEYORS
DOC. NO. 201210308
O.P.A.B.C.T.

TRINITY RANCH, PHASE I, SECTION 1
43.39 ACRES
E. 1/4 SEC. 34, T. 10N, R. 10E, S. 10E
CALLING 34.408 ACRES
VOL. 911, PG. 559H
O.P.A.B.C.T.
SAVE AND EXCEPT TRACTS
TRINITY RANCH, PHASE I, SECTION 1
648.5 S.D. 63-4



505 East Huntland Drive
Suite 250
Austin, Texas 78752

T 512.454.8716
TRCcompanies.com
T.B.P.E. #F-8632

January 14, 2021

Mr. David Harrell, Development Services Director
City of Elgin
310 N. Main St.
Elgin, Texas 78621

RE: Trinity Ranch – Preliminary Plat Review

Dear Mr. Harrell:

TRC has reviewed the following documents listed below submitted on January 8, 2021 by BGE, Inc (BGE):

1. Preliminary Plat dated January 8, 2021.
2. Other supporting documents submitted with the preliminary plat: Comment response letter.

Our review finds that these documents have been prepared in general conformance with the City of Elgin's Code of Ordinances and Resolution No. 2020-08-04-32.

As TRC did not provide the detailed design of the submitted documents, TRC and the City of Elgin must rely on the adequacy of the Registered Professional Land Surveyor and Registered Professional Engineer that prepared the documents and all responsibility for the surveying, engineering design and submitted documents shall remain with the Registered Professional Land Surveyor and Registered Professional Engineer.

Please note the final approval of the preliminary plat is contingent upon approval of the Traffic Impact Analysis.

If you have any questions regarding this information, please do not hesitate to contact this office.

Sincerely,

A handwritten signature in blue ink, appearing to read "K. Beau Perry".

K. Beau Perry, P.E.
Vice President

cc: Mr. Timothy Holland, P.E., BGE, Inc.

Attachment 4

Proposed Traffic Impact Analysis

Trinity Ranch

Transportation Impact Analysis



Prepared for:

BGE, Inc.

Prepared by:

Bobak J. Tehrany, P.E.

TBPE Firm Registration #: 19220



September 1, 2020

TRINITY RANCH

Introduction

September 1, 2020

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TRINITY RANCH

Introduction

September 1, 2020

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TRINITY RANCH

Introduction

September 1, 2020

1.0 INTRODUCTION

BOE Consulting Services, LLC (BOE) was retained by BGE, Inc. to complete a Transportation Impact Analysis (TIA) for the proposed Trinity Ranch single family subdivision development to be located along County Road (CR) 127 (Central Avenue), south of Dildy Drive in Elgin, Bastrop County, Texas. A summary of the proposed land uses and the associated trip generation for the land uses can be seen under **Section 4.1** within **Table 1** of this report. The Preliminary Site Plan has been included within the Appendix of this report as **Exhibit 1**. This project was originally submitted under Part 1 (Distribution Spreadsheets) to obtain concurrence on the overall trip distributions prior to proceeding with the remainder of the analysis. Part 1 was submitted in May 2020 and distribution approval was received from the County in June 2020. The following report is considered the full TIA report. The Part 1-Distribution Spreadsheet Submittal Letter is included in the Appendix of this report as **Exhibit 2**.

The location of the proposed development is shown in **Figure 1** below. A Site Location Map is also included within the Appendix of this report as **Exhibit 3**.

Figure 1 Proposed Site Location¹



TRINITY RANCH

Existing Conditions and Data Collection
September 1, 2020

2.0 EXISTING CONDITIONS AND DATA COLLECTION

A site visit was conducted at all the intersections and adjacent areas within the analysis network to evaluate existing conditions and understand traffic flow through the area. Within the vicinity of the site, the east-west traffic is predominately along US 290 and the north-south traffic along CR 127, and Swenson Boulevard (Blvd). With the development of the proposed site, there will be six (6) driveways utilized as means of travel to and from the site along CR 127, and Swenson Blvd. The driveways proposed from south to north along CR 127 are designated as Driveway A (southernmost), Driveway B, Driveway C, Driveway D, and Driveway E (northernmost). The Driveway F will serve the proposed development by extending the Swenson Blvd, south of Dildy Drive. Swenson Blvd exists as a two-lane roadway without any pavement markings and it currently ends at Dildy Drive. All driveways have been identified and labeled in the Site Plan provided as *Exhibit 1*.

2.1 ROADWAY NETWORK

US 290 is a five-lane divided principal arterial that provides east-west movements in the vicinity of the development. The posted speed limit on US 290 is 50 miles per hour (mph). Based on the existing traffic data collected by Gram in May 2019, the Average Daily Traffic (ADT) along US 290 is 36,409 vehicles per day (vpd) by Swenson Blvd.

CR 127 (Central Avenue) is a two-lane major collector that provides east-west movements in the vicinity of the development. The posted speed limit CR 127 is 30 mph. CR 127, south of Littig Road (CR 76) is known as Upper Elgin River Road. Based on TxDOT planning maps, CR 127 experiences a two-way total of approximately 115 vpd based on the 2018 data.

Swenson Blvd is a two-lane minor collector that provides north-south movements in the vicinity of the development. The posted speed limit on Swenson Blvd is 30 mph. Based on the existing traffic data collected by Gram in May 2019, the ADT along Swenson Blvd is 673 vpd by US 290.

Roy Rivers Road is a two-lane minor collector that provides north-south movements in the vicinity of the development. The posted speed limit on Roy Rivers Road is 35 mph. Based on the existing traffic data collected by Gram in May 2019, the ADT along Roy Rivers Road is 925 vpd by US 290.

Dildy Drive is a two-lane local street that provides north-south movements in the vicinity of the development. The speed limit is not posted along the road way, therefore, it is assumed to be 30 mph.

Bull Run Road is a two-lane local street that provides north-south movements in the vicinity of the development. The speed limit is not posted along the road way, therefore, it is assumed to be 30 mph.

TRINITY RANCH

Existing Conditions and Data Collection
September 1, 2020

The cardinal directions assumed in the intersection analysis for the study roadways are listed below:

CR 127 and Dildy Drive: CR 127 is assumed as eastbound and westbound, while Dildy Drive is northbound.

CR 127 Avenue and Bull Run Road: CR 127 is assumed as eastbound and westbound, while Bull Run Road is northbound.

Swenson Blvd and Bull Run Road: Swenson Blvd is assumed as eastbound and westbound, while Bull Run is southbound. Please note that Swenson Blvd at this intersection is analyzed as east-west.

US 290 and Swenson Blvd: US 290 is assumed as eastbound and westbound, while Swenson Blvd is northbound. Please note that Swenson Blvd at this intersection is analyzed as north-south.

US 290 and Roy Rivers Road: US 290 is assumed as eastbound and westbound, while Roy Rivers Road is northbound.

2.2 DATA COLLECTION

GRAM Traffic Counting, Inc. (GRAM) was engaged to collect traffic counts for the study intersections. Turning movement counts (TMC) were collected during weekdays in May 2019 for the peak periods from 7:00-9:00 AM and 4:00-6:00 PM. 24-Hour TMC were also collected for two of the study intersections. In addition to the TMC, 24-Hour automated bi-directional volume counts were also captured as part of this TIA. The TMC and 24-Hour counts were collected at the following locations:

Turning Movement Counts

- CR 127 (Central Avenue) and Dildy Drive
- CR 127 (Central Avenue) and Bull Run Road
- Swenson Blvd and Bull Run Road

24-Hour Turning Movement Counts

- US 290 and Swenson Blvd
- US 290 and Roy Rivers Road

24-Hour Automated Bi-Directional Counts

- CR 127 (Central Avenue), south of Dildy Drive
- CR 127 (Central Avenue), south of Littig Road (CR 76)

TRINITY RANCH

Projected Background Growth
September 1, 2020

The AM and PM peak times observed for the study intersections did not all occur at the same time. Since there were variations in the peak period, instead of using one common peak period, the highest peak periods were used at all five (5) study intersections for analysis, as it is the conservative approach. All traffic counts collected by GRAM have been included within the Appendix of this report as *Exhibit 4*. The traffic volumes analyzed for all the future conditions are provided as volume figures within the Appendix of this report as *Exhibit 5*.

3.0 PROJECTED BACKGROUND GROWTH

Between the existing condition year of 2019 (counts taken) and the build-out year of 2031, traffic around the proposed site is expected to increase by the natural growth of the area. Typically, the growth rate related to traffic is calculated utilizing historic traffic data and future traffic projections obtained from the TxDOT Statewide Planning Map. The growth percent calculated based on historical data is approximately two percent. The current projected growth rate for City of Elgin is five percent (5%); therefore, based on the directions from the City Staff, **five percent (5%)** growth rate was utilized in the TIA to project future traffic. The growth rate correspondence can be found in the Part 1-Submittal letter included in *Exhibit 2*. The **5% growth rate** was applied to this analysis.

3.1 BACKGROUND PROJECTS

Background traffic is the traffic generated by other proposed developments to be constructed during or before the time period of the proposed development within the vicinity of the Trinity Ranch. City of Elgin provided Saratoga Farms to be included as the background project within this TIA. The Saratoga Farms Single Family Subdivision with 360 dwelling units (DU) is proposed to be along Littig Road (CR 76). Since there was no TIA available for this project, the trip generation associated with the Saratoga development was calculated and allocated through the network of this TIA utilizing the distribution assumptions detailed later in the report. The trip generation for the Saratoga Farms subdivision is included within the Appendix of this report as *Exhibit 6*. The background volumes are included as Figure 2A and Figure 2B in the volume diagram within the Appendix of this report as *Exhibit 5*.

3.2 ANTICIPATED BUILD-OUT PHASING

The Trinity Ranch project consists of total 1,700 DU of Single-Family Detached Housing to occur through three (3) major build-out phases over the course of approximately 12 years. As with anything related to real estate, the market will be the driver for the Project Team's ability to move forward and at what speed. As experienced in the past, assumptions on when development will occur is an estimation at this point in time. This analysis has assumed a realistic timeline based on the information available to us at this time.

TRINITY RANCH

Projected Site and Future Build Traffic
September 1, 2020

Phase 1 - 2021

Phase 2 – 2025

Phase 3 – 2031

3.3 NO-BUILD (FORECASTED) CONDITION

For the purposes of this analysis, this TIA has assumed that the proposed residential subdivision will be fully constructed by 2025 and evaluated as three (3) build conditions. Between the 2019 existing condition and the final 2031 build-out year, traffic around the proposed site is expected to increase by the natural growth of the area. For this study, a background growth rate of **five percent (5%) per year** stated in Section 3.0 will be applied to each of the existing turning movement counts. The projected Forecasted (No-Build) traffic volumes are the growth rate applied to the existing volume, but without the site volume, generated by the proposed site. The Phase 1-2021 Forecasted (No-Build) traffic volumes are shown on Figure 3, the Phase 2-2025 Forecasted (No-Build) volumes on Figure 6, and the Phase 3-2031 Forecasted (No-Build) volumes on Figure 9 within the Appendix of this report as *Exhibit 5*.

4.0 PROJECTED SITE AND FUTURE BUILD TRAFFIC

The proposed site traffic was estimated through trip generation and trip distribution analyses. This section also provides the resulting turning movement volumes at each study intersection generated by the proposed sites.

4.1 TRIP GENERATION

For the purposes of estimating trip generation for the proposed land use, the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition, was utilized. The guidelines within the Trip Generation Manual have been utilized when evaluating rates versus equations. The ITE Trip Generation Handbook, 3rd Edition was referenced to determine whether to utilize the rates versus equations for the land use assumed in the TIA. The trip generation handbook recommends using the regression equation only when the data sample has at least 20 data points. These requirements were taken into account when calculating the trip generation. The proposed Trinity Ranch development is planned to provide Single-Family Housing. A summary of the proposed land uses and the anticipated trip generation can be seen within **Table 1** below. The trip generation summary based on the ITE Trip Generation, 10th Edition is provided in the Appendix as *Exhibit 6*.

TRINITY RANCH

Projected Site and Future Build Traffic

September 1, 2020

Table 1 Proposed Unadjusted Site Trip Generation

ITE Code	Land Use	Size		Daily Volume	AM Peak Hour			PM Peak Hour		
					Enter	Exit	Total	Enter	Exit	Total
Proposed - Phase 1 (2021)										
210	Single-Family Housing	100	DU	1,040	19	57	76	64	38	102
Proposed - Phase 1 & Phase 2 (2025)										
210	Single-Family Housing	500	DU	4,571	90	270	360	300	176	476
Proposed - Phase 1, Phase 2, & Phase 3 (2031)										
210	Single-Family Housing	1,700	DU	14,091	303	909	1,212	971	571	1,542
Total Proposed - Phases 1, 2, & 3 (2031)				14,091	303	909	1,212	971	571	1,542

4.2 TRIP DISTRIBUTION

Now that the trip generation has been set as discussed above, the anticipated site generated trips are then distributed through the analysis network. The trip distribution for the site was evaluated utilizing the existing traffic counts as well as applying engineering judgment. The calculation is based on the volume of traffic traveling to/from the cardinal directions near the site. As a starting point for the trip distribution, the existing data captured on May 2019 was evaluated to understand how vehicles are currently traveling through the roadway system. Please find the existing traffic counts that is used to calculate the distribution percentages on Figure 1 included in the Appendix as *Exhibit 5*. This is done by calculating the percentage of vehicles entering or exiting the system along a specific roadway over the total volume of vehicles in the entire system. **Table 2** below provides a summary of the existing, overall trip distributions calculated from the existing traffic data.

Table 2 Overall Directional Distribution of Site Traffic based on Existing Counts

Direction	AM			PM		
	% Enter	% Exit	Avg. %	% Enter	% Exit	Avg. %
West US 290	36%	52%	44%	50%	38%	44%
East US 290	60%	44%	52%	43%	55%	49%
West CR 127 (Central Avenue)	2%	2%	2%	4%	3%	4%
East CR 127 (Central Avenue)	3%	2%	2%	3%	4%	3%
Total	100%	100%	100%	100%	100%	100%

After calculating the existing trip distributions, the site trips were evaluated for how it would move throughout the network. The development is proposed to have residential land uses. Based on engineering judgment, the overall distribution percentages were finalized and was approved by the City with submittal of

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Part 1-Distribution. **Table 3** provides a summary of the overall bi-directional trip distribution to and from the development. The Traffic Distribution Map is attached as *Exhibit 7* showing these overall bi-directional trip distributions to and from the site.

Table 3 Overall Directional Distribution of Site Traffic

Direction	% of Site Traffic
West US 290	55%
East US 290	40%
West CR 127 (Central Avenue)	2%
East CR 127 (Central Avenue)	3%

4.3 SITE TRAFFIC VOLUMES

Once the analyses of the overall distribution were completed and established, the site-specific trip assignment was then evaluated to understand the most likely path for people entering and exiting the subdivision itself. The distribution analysis considered five (5) driveways along Upper Elgin River Road and one (1) driveway aligned with Swenson Blvd, south of Dildy Drive. The various site driveway assignments can be seen in the electronic copy of the Distribution Spreadsheet. **Table 4** provides the summary of the driveway distribution percentages of site traffic entering and exiting at each driveway for the first phase. All other phases will follow the same pattern.

Table 4 Driveway Distribution of Site Traffic

Direction	Overall Distribution	Driveway A		Driveway B		Driveway C		Driveway D		Driveway E		Driveway F	
		Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit	Enter	Exit
West US 290	55%	5%	5%	10%	10%	15%	15%	15%	15%	25%	25%	30%	30%
East US 290	40%	5%	5%	10%	10%	15%	15%	15%	15%	25%	25%	30%	30%
West Central Avenue	2%	30%	30%	25%	25%	20%	20%	15%	15%	10%	10%	-	-
East Central Avenue	3%	5%	5%	10%	10%	15%	15%	15%	15%	25%	25%	30%	30%

The site volumes were calculated based on the distribution percentages provided in **Table 3**. The Phase 1-2021 Site volumes are shown on **Figure 4A** and **Figure 4B**; Phase 2-2025 Site volumes on **Figure 7A** and **Figure 7B**; Phase 3-2031 Site volumes on **Figure 10A** and **Figure 10B** within the Appendix of this report as *Exhibit 5*.

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4.4 BUILD (SITE+FORECASTED) CONDITION

The projected Build (Site+Forecasted) traffic condition is the combined volume of the No-Build (Forecasted) condition detailed in **Section 3.3** and the site traffic described in **Section 4.3** of this report. As mentioned earlier in this report, the proposed Trinity Ranch residential subdivision is expected to be completed in three (3) phases.

Phase 1 of the proposed development will include the first 100 DU of single-family which is estimated to be completed in 2021. The Phase 1-2021 Site+Forecasted volumes are shown on Figure 5A and Figure 5B within the Appendix of this report as *Exhibit 5*.

Phase 2 of the proposed development will add an additional 400 DU of single-family homes (500) total including Phase 1 and Phase 2), and is estimated to be completed by 2025. The Phase 2-2025 Site+Forecasted volumes are shown on Figure 8A and Figure 8B within the Appendix of this report as *Exhibit 5*.

Phase 3 will introduce the final 1,200 DU of single-family home for a total of 1,700 DU. It is estimated that Phase 3 will be completed by 2031. The Phase 3-2031 Site+Forecasted volumes are shown on Figure 11A and Figure 11B within the Appendix of this report as *Exhibit 5*.

5.0 ROADWAY SIZING ANALYSIS

The objective of a road sizing analysis is to determine the number of lanes needed for a roadway by comparing the Average Daily Traffic (ADT) travelling along the roadway with the allowable ADT based on the relevant roadway classification. CR 127, along the frontage of the proposed Trinity Ranch development, south of Bull Run Road has been evaluated for roadway sizing as part of this TIA. As the City of Elgin or Bastrop County does not have any specific roadway sizing guidelines based on ADT, the road-sizing for CR 127 is based on the Travis County Guidelines which follow the City of Austin Transportation Criteria Manual and the criteria is provided within **Table 5** below:

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Table 5 Road-sizing Criteria

Number of Lanes	Max ADT
2	~10,000
3	~20,000
4 (Undivided)	~30,000
4 (Divided)	~40,000
6 (Divided)	Over 40,000+

Travis County Guidelines

CR 127 is a two-lane undivided roadway that is classified as major collector described in **Section 2.1** of the report. ADT counts were not collected for the CR 127. Therefore, the average PM peak hour volume collected from the TMC counts along CR 127 was used to calculate the ADT. The two-way PM peak volume along CR 127 at Dildy Drive is 218 vehicles per hour (vph), and at Bull Run Road is 223 vph; thus, an average PM peak hour volume of 221 vph. PM peak is nine percent (9%) of ADT based on the county guidelines. Therefore, the ADT is calculated to 2,456 vpd. The calculations are provided below:

PM peak volume on CR 127 at Dildy Drive = 218 vph

PM peak volume on CR 127 at Bull Run Road = 223 vph

Average PM peak volume on CR 127 = 221 vph

ADT = PM peak volume / 9% = 221 / 9% = 2,456 vpd

With the background growth rate of 5% per year stated in **Section 3.0** applied to the existing volume, and background project volume, the 2031 Forecasted (No-build) traffic along CR 127 is calculated as shown below:

The Forecasted volume is based on the equation, $F = P (1+i)^n$ and the background project volume.

P = 2019 ADT = 2,456 vpd

i = 5%

n = 2031-2019 = 12

F = 2,456 (1+.05)¹² = 4,410 vpd

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The maximum peak hour Saratoga Farms volume along CR 127 (please see electronic submittal of distribution spreadsheet) is 14 vph, where the ADT volume of $(14 / 9\%)$ 155 vpd is calculated. Therefore, the forecasted ADT volume along CR 127 is calculated to be $(4,410 \text{ vpd} + 155 \text{ vpd})$ 4,565 vpd.

The proposed development will generate a total daily volume of 14,091 vpd with the complete build-out of the site in 2031. Approximately, 78% of this proposed ADT is utilizing CR 127, which is 10,983 vpd $(14,091 * 78\%)$ of proposed ADT will be along CR 127.

Therefore, the 2031 Site+Forecasted daily volumes along CR 127 is anticipated to be 15,548 vpd, which is the combination of proposed site volume (10,983 vpd) and Forecasted volume (4,565 vpd).

Therefore, the existing two-lane cross-section provided along CR 127 is not adequate for the proposed future volume 15,548 vpd, since it is above the threshold of 10,000 vpd for a two-lane roadway. Based on the results of the analysis for the projected future volumes to be added by the proposed development, the roadway is recommended to be a 3-lane cross section between Driveway A and Bull Run Road.

The road-sizing volumes are summarized in **Table 6** below:

Table 6 Road-Sizing Analysis Volumes

Analysis Condition	ADT Volumes (vpd)
Existing	2,456
Forecasted	4,565
Site	10,983
Site+Forecasted	15,548

6.0 AUXILIARY LANE ANALYSIS

An auxiliary lane analysis has been performed for this development to evaluate the need, if any, for a right-turn deceleration lane or a left-turn lane improvement along Upper Elgin River Road and at Swenson Blvd/Dildy Drive for all the proposed Driveways to the site.

6.1 RIGHT-TURN DECELERATION LANE

The TxDOT Austin District Access Management Manual stipulates that a right-turn deceleration is required for a driveway access when there are more than 50 vph performing a right turn during the peak hour.

Driveway A at Upper Elgin River Road: Based on the site trip distribution, maximum of six (6) vehicles are anticipated to make a northbound right turn into Driveway A during PM peak period by the full build out in

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2031. Therefore, a right-turn deceleration lane is **not** recommended to be constructed along northbound Upper Elgin River Road at Driveway A.

Driveway B at Upper Elgin River Road: Based on the site trip distribution, maximum of five (5) vehicles are anticipated to make a northbound right turn into Driveway B during PM peak period by the full build out in 2031. Therefore, right-turn deceleration lane is **not** recommended along northbound Upper Elgin River Road at Driveway B at this time.

Driveway C at Upper Elgin River Road: Based on the site trip distribution, maximum of four (4) vehicles are anticipated to make a northbound right turn into Driveway C during PM peak period by the full build out in 2031. Therefore, right-turn deceleration lane is **not** recommended along northbound Upper Elgin River Road at Driveway C at this time.

Driveway D at Upper Elgin River Road: Based on the site trip distribution, maximum of three (3) vehicles are anticipated to make a northbound right turn into Driveway C during PM peak period by the full build out in 2031. Therefore, right-turn deceleration lane is **not** recommended along northbound Upper Elgin River Road at Driveway D at this time.

Driveway E at Upper Elgin River Road: Based on the site trip distribution, maximum of two (2) vehicles are anticipated to make a northbound right turn into Driveway E during PM peak period by the full build out in 2031. Therefore, right-turn deceleration lane is **not** recommended along northbound Upper Elgin River Road at Driveway E at this time.

Per the TxDOT Roadway Design Manual Table 3-3, based on the posted speed limit of 30 mph, the right-turn deceleration lane should have a minimum storage length of 100 feet with 50 feet taper.

In summary, right-turn deceleration lane is not warranted at any of the proposed driveways along Upper Elgin River Road.

6.2 LEFT-TURN BAY

Upper Elgin River Road and Swenson Blvd are both classified as 2-lane collector roadways; therefore, Chapter 3, **Section 4.0** of the Roadway Design Manual was referenced when analyzing the need for a left-turn bay for all the site driveways along Upper Elgin River Road and Driveway F/Swenson Blvd at Dildy Drive. Table 3-11 of the TxDOT Roadway Design Manual provides the volumes necessary to justify the need for the improvement which is based on the advancing volume, opposing volume and the percentage of vehicles performing left turn for the posted speed limit.

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Driveway A at Upper Elgin River Road: Based on the site trip distribution, the highest left-turn volume of 48 vph into the site at Driveway A along Upper Elgin River Road during PM peak period by the full build out in 2031.

LEFT-TURN BAY CALCULATIONS

Advancing Volume = $48 + 11 = 59$ vph

Percent of Left Turning Vehicles = $48 / (48 + 11) = 81\%$

Opposing Volume = $18 + 6 = 24$ vph

		Upper Elgin River Road			
THRU	LEFT			28	RIGHT
11	48			3	LEFT
				Driveway A	
		Upper Elgin River Road		18	6
				THRU	RIGHT

At Driveway A, the advancing volume is 59 vph, the opposing volume is 24 vph and the posted speed limit is 30 mph along Upper Elgin River Road. A total of 48 vehicles are anticipated to perform a southbound left-turn into the development during the highest PM Peak; therefore, 81% of the vehicles performing a left-turn. Table 3-11, only lists the thresholds for a minimum of 40 mph speed limit, minimum opposing volume of 100 vph, and a maximum of 30% left-turns. Therefore, evaluating Table 3-11, for the 40 mph criteria, 30% left turns, and 100 vph of opposing volume, the advancing volume required to justify a left-turn is 340 vph. The site trip at Driveway A shows an actual advancing volume of only 59 vph. Since the actual advancing volume of 59 vph is much less than the threshold advancing volume of 340 vph, a left-turn bay is **NOT** required along southbound Upper Elgin River Road at Driveway A.

Driveway B at Upper Elgin River Road: Based on the site trip distribution, the highest left-turn volume of 95 vph into the site at Driveway B along Upper Elgin River Road during PM peak period by the full build out in 2031.

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LEFT-TURN BAY CALCULATIONS

Advancing Volume = $95 + 55 = 150$ vph

Percent of Left Turning Vehicles = $95 / (95 + 55) = 63\%$

Opposing Volume = $41 + 5 = 46$ vph

THRU 55	LEFT 95	Upper Elgin River Road	56	RIGHT
			3	LEFT
Driveway B				
		Upper Elgin River Road	41	5
			THRU	RIGHT

At Driveway B, the advancing volume is 150 vph, the opposing volume is 46 vph and the posted speed limit is 30 mph along Upper Elgin River Road. A total of 95 vehicles are anticipated to perform a southbound left-turn into the development during the highest PM Peak; therefore, 63% of the vehicles performing a left-turn. Table 3-11, only lists the thresholds for a minimum of 40 mph speed limit, minimum opposing volume of 100 vph, and a maximum of 30% left-turns. Please note that the required advancing volume to justify a left-turn will be higher, if Table 3-11 were to list the threshold values for a lesser speed limit of 30 mph. Evaluating Table 3-11, for the 40 mph criteria, 30% left turns, and 100 vph of opposing volume, the advancing volume required to justify a left-turn is 340 vph. The site trip at Driveway B shows an actual advancing volume of only 150 vph. Since the actual advancing volume of 150 vph is much less than the threshold advancing volume of 340 vph, a left-turn bay is **NOT** required along southbound Upper Elgin River Road at Driveway B.

Driveway C at Upper Elgin River Road: Based on the site trip distribution, the highest left-turn volume of 143 vph into the site at Driveway C along Upper Elgin River Road during PM peak period by the full build out in 2031.

LEFT-TURN BAY CALCULATIONS

Advancing Volume = $143 + 148 = 291$ vph

Percent of Left Turning Vehicles = $143 / (143 + 148) = 49\%$

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Opposing Volume = $93 + 4 = 97$ vph

THRU 148	LEFT 143	Upper Elgin River Road	84	RIGHT
			2	LEFT
			Driveway C	
			93	4
Upper Elgin River Road			THRU	RIGHT

At Driveway C, the advancing volume is 291 vph, the opposing volume is 97 vph and the posted speed limit is 30 mph along Upper Elgin River Road. A total of 143 vehicles are anticipated to perform a southbound left-turn into the development during the highest PM Peak; therefore, 49% of the vehicles performing a left-turn. Table 3-11, only lists the thresholds for a minimum of 40 mph speed limit, minimum opposing volume of 100 vph, and a maximum of 30% left-turns. Please note that the required advancing volume to justify a left-turn will be higher, if Table 3-11 were to list the threshold values for a lesser speed limit of 30 mph. Evaluating Table 3-11, for the 40 mph criteria, 30% left turns, and 100 vph of opposing volume, the advancing volume required to justify a left-turn is 340 vph. The site trip at Driveway C shows an actual advancing volume of only 291 vph. Since the actual advancing volume of 291 vph is less than the threshold advancing volume of 340 vph, a left-turn bay is **NOT** required along southbound Upper Elgin River Road at Driveway C.

Driveway D at Upper Elgin River Road: Based on the site trip distribution, the highest left-turn volume of 143 vph into the site at Driveway D along Upper Elgin River Road during PM peak period by the full build out in 2031.

LEFT-TURN BAY CALCULATIONS (2031)

Advancing Volume = $143 + 289 = 432$ vph

Percent of Left Turning Vehicles = $143 / (143 + 289) = 33\%$

Opposing Volume = $174 + 3 = 177$ vph

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THRU 289	LEFT 143	Upper Elgin River Road	84	RIGHT
			2	LEFT
			Driveway D	
			174	3
Upper Elgin River Road			THRU	RIGHT

At Driveway D, the advancing volume is 432 vph, the opposing volume is 177 vph and the posted speed limit is 30 mph along Upper Elgin River Road. A total of 143 vehicles are anticipated to perform a southbound left-turn into the development during the highest PM Peak; therefore, 33% of the vehicles performing a left-turn. Table 3-11, only lists the thresholds for a minimum of 40 mph speed limit, minimum opposing volume of 100 vph, and a maximum of 30% left-turns. Please note that the required advancing volume to justify a left-turn will be higher, if Table 3-11 were to list the threshold values for a lesser speed limit of 30 mph. Evaluating Table 3-11, for the 40 mph criteria, 30% left turns, and 177 vph of opposing volume, the advancing volume required to justify a left-turn is 313 vph. The threshold advancing volume at 30 is not expected to be higher than the actual advancing volume of 432 vph. Since the actual advancing volume of 432 vph is much higher than the threshold advancing volume of 313 vph, a left-turn bay **is required** along southbound Upper Elgin River Road at Driveway D by the full build out in 2031.

Since a left-turn lane is warranted by the full build-out in 2031, a left-turn analysis is also conducted below for Phase 2-2025 build out to see if a left-turn bay is required by Phase 2.

Driveway D at Upper Elgin River Road: Based on the site trip distribution, the highest left-turn volume of 44 vph into the site at Driveway D along Upper Elgin River Road during PM peak period by the Phase 2-build out in 2025.

LEFT-TURN BAY CALCULATIONS (2025)

Advancing Volume = $44 + 91 = 135$ vph

Percent of Left Turning Vehicles = $44 / (44 + 91) = 33\%$

Opposing Volume = $57 + 1 = 58$ vph

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THRU	LEFT	Upper Elgin		
91	44	River Road	26	RIGHT
			1	LEFT
				Driveway D
		Upper Elgin	57	1
		River Road	THRU	RIGHT

At Driveway D, the advancing volume is 135 vph, the opposing volume is 58 vph and the posted speed limit is 30 mph along Upper Elgin River Road. A total of 135 vehicles are anticipated to perform a southbound left-turn into the development during the highest PM Peak; therefore, 33% of the vehicles performing a left-turn. Table 3-11, only lists the thresholds for a minimum of 40 mph speed limit, minimum opposing volume of 100 vph, and a maximum of 30% left-turns. Please note that the required advancing volume to justify a left-turn will be higher, if Table 3-11 were to list the threshold values for a lesser speed limit of 30 mph. Evaluating Table 3-11, for the 40 mph criteria, 30% left turns, and 100 vph of opposing volume, the advancing volume required to justify a left-turn is 340 vph. The site trip at Driveway D shows an actual advancing volume of only 135 vph. Since the actual advancing volume of 135 vph is much less than the threshold advancing volume of 340 vph, a left-turn bay is **NOT** required along southbound Upper Elgin River Road at Driveway D in Phase 2-build out in 2025.

Driveway E at Upper Elgin River Road: Based on the site trip distribution, the highest left-turn volume of 238 vph into the site at Driveway E along Upper Elgin River Road during PM peak period by the full build out in 2031.

LEFT-TURN BAY CALCULATIONS (2031)

Advancing Volume = $238 + 431 = 669$ vph

Percent of Left Turning Vehicles = $238 / (238 + 431) = 36\%$

Opposing Volume = $256 + 2 = 258$ vph

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THRU 431	LEFT 238	Upper Elgin			Driveway E
		River Road	140	RIGHT	
			1	LEFT	
			256	2	
		Upper Elgin			
		River Road	THRU	RIGHT	

At Driveway E, the advancing volume is 669 vph, the opposing volume is 258 vph and the posted speed limit is 30 mph along Upper Elgin River Road. A total of 238 vehicles are anticipated to perform a southbound left-turn into the development during the highest PM Peak; therefore, 36% of the vehicles performing a left-turn. Table 3-11, only lists the thresholds for a minimum of 40 mph speed limit, minimum opposing volume of 100 vph, and a maximum of 30% left-turns. Please note that the required advancing volume to justify a left-turn will be higher, if Table 3-11 were to list the threshold values for a lesser speed limit of 30 mph. Evaluating Table 3-11, for the 40 mph criteria, 30% left turns, and 258 vph of opposing volume, the advancing volume required to justify a left-turn is 288 vph. The threshold advancing volume at 30 mph is not expected to be higher than the actual advancing volume of 669 vph. Since the actual advancing volume of 669 vph is much higher than the threshold advancing volume of 288 vph, a left-turn bay **is required** along southbound Upper Elgin River Road at Driveway E by the full build out in 2031.

Since a left-turn lane is warranted by the full build-out in 2031, a left-turn analysis is also conducted below for Phase 2-2025 build out to see if a left-turn bay is required by Phase 2.

Driveway E at Upper Elgin River Road: Based on the site trip distribution, the highest left-turn volume of 74 vph into the site at Driveway E along Upper Elgin River Road during PM peak period by the Phase 2-build out in 2025.

LEFT-TURN BAY CALCULATIONS (2025)

Advancing Volume = $74 + 135 = 209$ vph

Percent of Left Turning Vehicles = $74 / (74 + 135) = 35\%$

Opposing Volume = $82 + 1 = 83$ vph

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THRU 135	LEFT 74	Upper Elgin River Road	43	RIGHT
			0	LEFT
Driveway E				
		Upper Elgin River Road	82	1
			THRU	RIGHT

At Driveway E, the advancing volume is 209 vph, the opposing volume is 83 vph and the posted speed limit is 30 mph along Upper Elgin River Road. A total of 74 vehicles are anticipated to perform a southbound left-turn into the development during the highest PM Peak; therefore, 35% of the vehicles performing a left-turn. Table 3-11, only lists the thresholds for a minimum of 40 mph speed limit, minimum opposing volume of 100 vph, and a maximum of 30% left-turns. Please note that the required advancing volume to justify a left-turn will be higher, if Table 3-11 were to list the threshold values for a lesser speed limit of 30 mph. Evaluating Table 3-11, for the 40 mph criteria, 30% left turns, and 100 vph of opposing volume, the advancing volume required to justify a left-turn is 340 vph. The site trip at Driveway E shows an actual advancing volume of only 209 vph. Since the actual advancing volume of 209 vph is much less than the threshold advancing volume of 340 vph, a left-turn bay is **NOT** required along southbound Upper Elgin River Road at Driveway E in Phase 2-build out in 2025.

Per the TxDOT Roadway Design Manual Table 3-3, based on the posted speed limit of 30 mph, the left-turn deceleration lane should have a minimum storage length of 100 feet with 50 feet taper.

In summary, a left-turn lane is warranted at Driveway D and Driveway E by the full build-out in 2031, but not required for Phase 1 (2021) or for Phase 2 (2025). These left-turn lanes should be constructed with a minimum storage length of 100 feet with 50 feet taper.

7.0 TRAFFIC ANALYSIS

The traffic analysis performed for this study includes a level of service and delay analysis for each of the study intersections. This section describes the methodology used in the traffic analysis, and the turning movement volumes for the future condition including the site trips from the proposed development.

7.1 TRAFFIC MODELING METHODOLOGY

Synchro™ Version 10 was used to perform capacity analysis at each intersection. The capacity analysis functions are based on the Highway Capacity Manual (HCM) 2010 by the Transportation Research Board. The HCM is a nationally recognized standard for performing capacity analyses. The Synchro outputs with existing geometry (**No Improvements**) have been provided in the Appendix of this report as *Exhibit 8*

Capacity analyses are evaluated based on a level of service (LOS) that ranges from A to F. LOS A and B typically represent roadways that experience zero delay with vehicles traveling at or just above the 85th percentile speed. This typically occurs during the middle of the day or in the middle of the night. LOS C and D typically represent roadways that experience minor levels of delay with vehicles traveling at or just below the 85th percentile speed. This typically occurs just before or just after the peak hour conditions (rush hour). LOS E and F represent roadways that experience higher levels of delay with vehicles traveling below the 85th percentile speed. This typically occurs during the peak hour conditions. Facilities that perform at a LOS A through C at all times of the day are considered to be overdesigned and unnecessary. In contrast, some have suggested that LOS E and F, while representing congestion, may also reflect a robust economy.

The LOS criteria for signalized and unsignalized intersections are different and is mainly because how the drivers function at a signalized versus unsignalized intersections. The level of service thresholds from the Highway Capacity Manual are shown in **Table 7** below.

Table 7 Intersection Level of Service Thresholds

LOS	Control Delay Per Vehicle (seconds)	
	Signalized Intersection	Stop-Controlled Intersection
A	≤ 10	≤ 10
B	>10 and ≤ 20	>10 and ≤ 15
C	>20 and ≤ 35	>15 and ≤ 25
D	>35 and ≤ 55	>25 and ≤ 35
E	>55 and ≤ 80	>35 and ≤ 50
F	> 80	> 50

For unsignalized intersections with side-street/two-way stop-controlled approaches, the LOS are reported for the stop-controlled approaches rather than the overall intersection LOS, since the major approaches are free to proceed through the intersection. However, for unsignalized four-way stop-controlled intersections, the LOS is reported for the overall intersections. In cases where intersections and/or approaches did not meet an acceptable level of service, recommendations were made for improving the intersection.

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7.2 TRAFFIC ANALYSIS RESULTS

The existing traffic analysis includes existing traffic volumes obtained by counts and the current geometric conditions. The findings of LOS and delay **without improvements** have been included within the appendix of this report as *Exhibit 9*. The analysis results provided in *Exhibit 9* are broken down by LOS, Delay, V/C ratios, and 95th percentile queue for each intersection.

All of the study intersections analyzed within this TIA are unsignalized Side-Street Stop Controlled (SSSC) intersections. The LOS shown for unsignalized intersection is only defined for minor approaches. The LOS for the SSSC intersections is not reported for the overall intersection or for major street approaches that are free to move, since the major approaches experience zero delay, except for the major left-turn movement onto the side street approaches. Therefore, the LOS for the SSSC intersections are reported **only** for the major street left-turn movement onto side street approaches and the stop-controlled minor approaches. Please note that the results show how the intersections perform as it currently exists without any improvements.

8.0 SIGNAL WARRANT ANALYSIS

A traffic signal warrant analysis has been completed for two (2) of the following study intersections:

1. US 290 and Swenson Blvd.
2. US 290 and Roy Rivers Road.

In order to perform the analysis, 24-hour traffic counts were collected on all three (3) existing approaches in May 2019. All data was captured at a time when schools were in session. The 24-hour count data can be found in the Appendix of this report as *Exhibit 4*.

8.1 INTERSECTION DESCRIPTION

The intersection of US 290 and Swenson Blvd exists as a three-leg intersection. The posted speed limit along US 290 near the intersection is 50 mph and the speed limit along Swenson Blvd is 30 mph. According to the 24-hour traffic counts obtained in May 2019, eastbound US 290 has an ADT of 17,767 vpd, westbound US 290 with 18,642 vpd, and NB Swenson Blvd with 673 vpd near the intersection.

The intersection of US 290 and Roy Rivers Road also exists as a three-leg intersection. The posted speed limit along US 290 near the intersection is 50 mph and the speed limit along Roy Rivers Road is 35 mph. According to the 24-hour traffic counts obtained in May 2019, eastbound US 290 has an ADT of 16,028 vpd, westbound US 290 with 16,180 vpd, and NB Roy Rivers Road with 925 vpd near the intersection.

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Signal Warrant Analysis

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8.2 SIGNAL WARRANT ANALYSIS – 1

US 290 and Swenson Blvd

The signal warrant analysis for the intersection of US 290 and Swenson Blvd was completed for the 2019 existing condition and Phase 1-2021 Site+Forecasted Condition based on the 2011 Texas Manual on Uniform Traffic Control Devices (TMUTCD). The volumes and the Signal Warrant Worksheets for Existing and 2021 Site+Forecasted condition can be found within the Appendix of this report as *Exhibit 10.1*. A signal is not warranted at the intersection of US 290 and Swenson Blvd in the existing condition; therefore, the future volumes were used to determine if a signal is warranted with the completion of Phase 1 development.

Please note that the following analysis and summary is specific to the Phase 1-2021 Site+Forecasted Condition. The Phase 1 is planned to be completed in 2021; therefore, growth rate of **5%** was applied to the existing traffic data to calculate volume for the Forecasted condition. The site traffic was also included in the analysis. The following steps were taken to account for the site volumes into the 2025 Site+Forecasted condition:

- From the peak hour site volume analysis, the percentage of site volume using the intersection was determined. Per the peak hour analysis, 68% site volumes were using the intersection in the AM and 71% in the PM peak. Therefore, an average of 70% was used with the 24-Hour two-way trips generated volume of 1,040 vpd to calculate the number of site trips ($1,040 \text{ vpd} \times 70\% = 728 \text{ vpd}$) going through the intersection. Based on the hourly break-down from existing counts and the above methodology, approximately 677 vpd have been assigned to the intersection; this is lower than the calculated 728 vpd, because site trips were only assigned from 7:00 AM to 9:00 PM.
- From the 24-Hour counts, an hourly percentage breakdown of the traffic using the intersection by approaches were determined from the distribution spreadsheet for AM and PM peak Periods; then an average of the approach breakdowns for AM and PM were determined. From the distribution spreadsheet, the average percentage of traffic through eastbound was calculated to be 14%. This was then applied to the 24-Hour two-way trips and the hourly break-down from existing counts to calculate eastbound site volume. (Sample calculation for EB site volume at 9 am: $1,040 \times 14\% \times 4.4\% = 7 \text{ vph}$).
- Tables 1, 2, 3, and 4 provided within the Appendix of this report as *Exhibit 10.1* details the summary of 2019 Existing, 2021 Forecasted, 2021 Site, and 2021 Site+Forecasted traffic volumes used for the signal warrant analysis, respectively.

The TMUTCD requires that certain warrants be met prior to the installation of a traffic signal. These warrants are summarized as follows:

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Signal Warrant Analysis

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- | | |
|--------------------------------|---------------------------------------|
| 1. Eight Hour Vehicular Volume | 6. Coordinated Signal System |
| 2. Four Hour Vehicular Volume | 7. Crash Experience |
| 3. Peak Hour | 8. Roadway Network |
| 4. Pedestrian Volume | 9. Intersection Near a Grade Crossing |
| 5. School Crossing | |

Below are the TMUTCD descriptions of all the nine (9) Traffic Signal Warrants. City of Elgin considers sound engineering judgment and recommendations as enough evidence to warrant the necessity of a traffic signal.

1. Warrant 1 – Eight-Hour Vehicular Volume

This warrant involves three (3) conditions (A, B, or a combination of A and B) which can individually satisfy the conditions of Warrant 1. Condition A is the Minimum Vehicular Volume which is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal. Condition B is the Interruption of Continuous Traffic which is intended for application where the traffic volume on a major street is so heavy that traffic on a minor street suffers excessively. The combination of Condition A and B is used at locations where Condition A or B is not satisfied; with the combination analysis, the vehicles per hour given in both of the 80% columns of Condition A and B are utilized from Table 4C-1. The Table with the threshold for the Warrant 1 also notes that Condition C where 70% columns from the table are satisfied only if the major street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.

US 290 has a speed limit of 50 mph. The population for the City of Elgin was estimated to be 10,775 in 2020. Condition C can be applied for the warrant analysis since the major roadway has a speed limit of 50 mph.

Per TMUTCD (2011) the need for a signal is considered, if Condition A or Condition B is met when only 100% columns are utilized. However, when 70% columns are allowed to be used, both Condition A and Condition B have to meet in order for Warrant 1 to be satisfied.

For the analysis, US 290 is considered the major roadway with two-lane approach and Swenson Blvd is the minor roadway with one-lane approach. With the 2021 Site+Forecasted volume, Condition A and Condition B were not satisfied at 100% factor. However, while condition A was not satisfied, Condition B was satisfied with 70% factor. Since both Condition A, and Condition B have to be satisfied when 70% columns are utilized, the Warrant 1, Eight-hour volume warrant is not met for US 290 and Swenson Blvd in the Phase 1-2021 Site+Forecasted condition.

2. Warrant 2 – Four-Hour Vehicular Volume

This warrant is intended to be applied where the volumes of intersecting traffic is the principal reason to consider installing a traffic control signal. The Warrant 2 is met if each of any four (4) hours of an average

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day, when points plotted for the major street (total of both approaches) and the corresponding vehicles per hour on the higher volume minor street approach (one direction only) all fall above the appropriate curve in Figure 4C-1 for the existing number of approach lanes. In this case, the total volumes for the highest 4-hour volumes fall above the curve on the two (2) or more lanes for the major street and one (1) lane for the minor street scenario in Figure 4C-1. Therefore, Warrant 2, 4-hour vehicular volume warrant **is met** for US 290 and Swenson Blvd intersection for the Phase 1-2021 Site+Forecasted condition.

3. **Warrant 3 – Peak Hour**

This warrant is intended for use at a location where conditions are such that the traffic on the minor-street suffers an undue delay when entering or crossing the major street for a minimum of one (1) hour of an average day. Warrant 3, Peak hour vehicular volume warrant **is met** for US 290 and Swenson Blvd intersection for the Phase 1-2021 Site+Forecasted condition.

4. **Warrant 4 – Pedestrian Volume**

This warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

5. **Warrant 5 – School Crossing**

This warrant is intended for application where the fact that school children cross the major street is the principal reason to consider installing a traffic control signal.

6. **Warrant 6 – Coordinated Signal System**

This warrant is when progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles.

7. **Warrant 7 – Crash Experience**

This warrant is intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.

8. **Warrant 8 – Roadway Network**

This warrant is analyzed when installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway.

9. **Warrant 9 – Intersection near a Grade Crossing**

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This warrant is intended for use at a location where none of the conditions described in the other eight (8) traffic warrants are met, but the proximity to the intersection of an at-grade crossing on an intersection approach by a STOP or YIELD sign is the principle reason to consider installing a traffic control signal.

8.3 SIGNAL WARRANT ANALYSIS – 2

US 290 and Roy Rivers Road

The signal warrant analysis for the intersection of US 290 and Roy Rivers Road was completed for the 2019 existing condition based on the 2011 TMUTCD. The volumes and the Signal Warrant Worksheets for Existing condition can be found within the Appendix of this report as *Exhibit 10.2*. A signal is warranted at the intersection of US 290 and Roy Rivers Road in the existing condition. *Exhibit 10.2* includes the 2019 existing 24-Hour volumes by approaches, volumes sorted for minor approach, and signal warrant sheets.

The TMUTCD requires that certain warrants be met prior to the installation of a traffic signal. These warrants are summarized as follows:

- | | |
|--------------------------------|---------------------------------------|
| 1. Eight Hour Vehicular Volume | 6. Coordinated Signal System |
| 2. Four Hour Vehicular Volume | 7. Crash Experience |
| 3. Peak Hour | 8. Roadway Network |
| 4. Pedestrian Volume | 9. Intersection Near a Grade Crossing |
| 5. School Crossing | |

Below are the TMUTCD descriptions of all the nine (9) Traffic Signal Warrants. City of Elgin considers sound engineering judgment and recommendations as enough evidence to warrant the necessity of a traffic signal.

1. Warrant 1 – Eight-Hour Vehicular Volume

This warrant involves three (3) conditions (A, B, or a combination of A and B) which can individually satisfy the conditions of Warrant 1. Condition A is the Minimum Vehicular Volume which is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal. Condition B is the Interruption of Continuous Traffic which is intended for application where the traffic volume on a major street is so heavy that traffic on a minor street suffers excessively. The combination of Condition A and B is used at locations where Condition A or B is not satisfied; with the combination analysis, the vehicles per hour given in both of the 80% columns of Condition A and B are utilized from Table 4C-1. The Table with the threshold for the Warrant 1 also notes that Condition C where 70% columns from the table are satisfied only if the major street speed exceeds 40 mph or in an isolated community with a population of less than 10,000.

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US 290 has a speed limit of 50 mph. The population for the City of Elgin was estimated to be 10,775 in 2020. Condition C can be applied for the warrant analysis since the major roadway has a speed limit of 50 mph.

Per TMUTCD (2011) the need for a signal is considered, if Condition A or Condition B is met when only 100% columns are utilized. However, when 70% columns are allowed to be used, both Condition A and Condition B have to meet in order for the Warrant 1 to be satisfied.

For the analysis, US 290 is considered the major roadway with two-lane approach Roy Rivers Road is the minor roadway with one-lane approach. With the 2019 Existing volume, Condition A and Condition B were not satisfied at 100% factor. However, while condition A was not satisfied, Condition B was satisfied with 70% factor. Since both Condition A, and Condition B have to be satisfied when 70% columns are utilized, the Warrant 1, Eight-hour volume warrant is **not met** for the intersection of US 290 and Roy Rivers Road in the existing condition.

2. Warrant 2 – Four-Hour Vehicular Volume

This warrant is intended to be applied where the volumes of intersecting traffic is the principal reason to consider installing a traffic control signal. The Warrant 2 is met if each of any four (4) hours of an average day, when points plotted for the major street (total of both approaches) and the corresponding vehicles per hour on the higher volume minor street approach (one direction only) all fall above the appropriate curve in Figure 4C-1 for the existing number of approach lanes. In this case, the total volumes for the highest 4-hour volumes fall above the curve on the two (2) or more lanes for the major street and one (1) lane for the minor street scenario in Figure 4C-2 (70% factor). Therefore, Warrant 2, 4-hour vehicular volume warrant **is met** for US 290 and Roy Rivers Road intersection for the existing condition.

3. Warrant 3 – Peak Hour

This warrant is intended for use at a location where conditions are such that the traffic on the minor-street suffers an undue delay when entering or crossing the major street for a minimum of one (1) hour of an average day. In this case, the total volumes of both approaches on the major roadway and the corresponding vehicles per hour on the highest volume minor street approach for one (1) hour falls above the curve on the two (2) or more lanes for the major street and one (1) lane for the minor street scenario in Figure 4C-4 (70% factor). Therefore, Warrant 3, Peak hour vehicular volume warrant **is met** for the 70% factor at the US 290 and Roy Rivers Road intersection under 2019 Existing condition.

4. Warrant 4 – Pedestrian Volume

This warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.

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5. Warrant 5 – School Crossing

This warrant is intended for application where the fact that school children cross the major street is the principal reason to consider installing a traffic control signal.

6. Warrant 6 – Coordinated Signal System

This warrant is when progressive movement in a coordinated signal system sometimes necessitates installing traffic control signals at intersections where they would not otherwise be needed in order to maintain proper platooning of vehicles.

7. Warrant 7 – Crash Experience

This warrant is intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal.

8. Warrant 8 – Roadway Network

This warrant is analyzed when installing a traffic control signal at some intersections might be justified to encourage concentration and organization of traffic flow on a roadway.

9. Warrant 9 – Intersection near a Grade Crossing

This warrant is intended for use at a location where none of the conditions described in the other eight (8) traffic warrants are met, but the proximity to the intersection of an at-grade crossing on an intersection approach by a STOP or YIELD sign is the principle reason to consider installing a traffic control signal.

8.4 SUMMARY OF SIGNAL WARRANT ANALYSIS

The following signal warrant analysis results and recommendations are based on data that has been collected, and standards set by the TMUTCD.

The signal warrant analysis evaluated the intersections of US 290 and Swenson Blvd, and US 290 and Roy Rivers Road for the 2019 Existing and Phase 1-2021 Site+Forecasted Condition. A signal warrant analysis was completed to understand if the necessary traffic volumes are present at these two (2) intersections to meet warrants. Per the results of the signal warrant analysis, warrants are met for the intersection of US 290 and Swenson Blvd under 2021 Site+Forecasted condition; warrants are also met for the intersection of US 290 and Roy Rivers Road under 2019 Existing condition. Therefore, it is recommended that a traffic signal be installed at the intersection of US 290 and Swenson Blvd, and at US 290 and Roy Rivers Road.

Please refer to *Exhibit 10* within the Appendix of this report for the detailed signal warrant worksheets for the two (2) analyzed intersections.

9.0 FINDINGS AND RECOMMENDATIONS

Upon completing the analysis for the roadway network, it became evident that with the anticipated future growth of the area and with the proposed development, the intersections within the study area begin to operate at deficient levels of service. Improvements have been identified for deficient intersection and approaches. The analyses result with improvements in tabular format can be seen in Appendix of this report as *Exhibit 11*. The Synchro outputs for the intersections with improvements has been included within the Appendix of this report as *Exhibit 12*. The Improvements Summary Table summarizing the recommended improvements discussed below is provided in the Appendix of this report as *Exhibit 13*. The intersections identified below will require mitigation to improve the level of service.

9.1 PHASE 1 (2021)

US 290 and Swenson Blvd (Node #4): This intersection is a traditional 3-legged SSSC intersection where US 290 approaches are free movement while the northbound Swenson Blvd is stop controlled. As stated in **Section 7.2** of this report, the LOS for the SSSC intersections are reported only for the major street left-turn movement onto side street approaches and the stop-controlled minor approaches. Therefore, LOS at this intersection is reported for westbound left-turn along US 290, and northbound Swenson Blvd approaches. The intersection is operating at LOS A in the existing condition during both AM and PM peak hours. All the reported movements are operating at an acceptable LOS D or better during AM peak hour in the existing condition. All, except the northbound left-turn movement is operating at acceptable LOS C or better during PM peak in the existing condition, where the northbound left-turn is operating at LOS F.

The northbound left-turn movement is operating at LOS E, while all the reported movements are operating at LOS B or better during AM peak in the 2021 Forecasted condition. The northbound left-turn continues to operate at LOS F, while all other movements are operating at LOS D or better during PM peak in the 2021 Forecasted condition.

The northbound left-turn movement continues to operate at LOS E, while all the reported movements are operating at LOS B or better during AM peak in the 2021 Site+Forecasted condition. The northbound left-turn movement is operating at LOS F, while all the reported movements are operating at LOS D or better during PM peak in the 2021 Site+Forecasted condition.

In order to mitigate for the addition of site traffic, the following improvements are recommended:

- Traffic Signal. (Pro-rata = 2 percent)

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A traffic signal is warranted for this intersection by the completion of Phase 1 in 2021 based on traffic volume and is detailed within **Section 8.2** of this report. An updated signal warrant analysis should be performed in the future, in order to validate future growth assumptions for the purposes of warranting a traffic signal. With the traffic signal, the intersection will operate at LOS B and all the movements will operate at acceptable LOS D or better during both AM and PM peak periods.

US 290 and Roy Rivers Road (Node #5): This intersection is a traditional 3-legged SSSC intersection where US 290 approaches are free movement while the northbound Roy Rivers Road is stop controlled. The LOS at this intersection is reported for westbound left-turn along US 290, and northbound Roy Rivers Road approaches. The intersection is operating at LOS A and LOS E in the existing condition during AM and PM peak periods, respectively. All, except the northbound left-turn movement is operating at acceptable LOS C or better during both AM and PM peak in the existing condition, where the northbound left-turn is operating at LOS F.

The intersection is operating at LOS E and LOS F in the 2021 Forecasted condition during AM and PM peak periods, respectively. The northbound left-turn movement is operating at LOS F, while all the reported movements are operating at LOS B during AM peak in the 2021 Forecasted condition. The northbound left-turn continues to operate at LOS F, while all other movements are operating at LOS D or better during PM peak in the 2021 Forecasted condition.

The intersection continues to operate at LOS E and LOS F in the 2021 Site+Forecasted condition during AM and PM peak periods, respectively. The northbound left-turn movement continues to operate at LOS F, while all the reported movements are operating at LOS B during AM peak in the 2021 Site+Forecasted condition. The northbound left-turn movement is operating at LOS F, while all the reported movements are operating at LOS D or better during PM peak in the 2021 Site+Forecasted condition.

In order to mitigate for the addition of site traffic, the following improvements are recommended:

- Traffic Signal. (Pro-rata = 2 percent)

A traffic signal is warranted for the 2019 Existing condition based on traffic volume and is detailed within Section 8.3 of this report. An updated signal warrant analysis should be performed in the future in order to validate future growth assumptions for the purposes of warranting a traffic signal. With the traffic signal, the intersection will operate at LOS B and all the movements will operate at acceptable LOS D or better during both AM and PM peak periods.

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9.2 PHASE 2 (2025)

Any mitigation measures identified as part of Phase 1 of the Project in **Section 9.1** has been assumed to be in place when evaluating Phase 2 of the Project. The following provides a summary of mitigation measures for Phase 2, which is in addition to Phase 1 mitigation measures.

US 290 and Swenson Blvd (Node #4): LOS at this intersection is reported for westbound left-turn along US 290, and northbound Swenson Blvd approaches. As stated in **Section 9.1**, all the reported movements are operating at an acceptable LOS D or better during AM peak hour in the existing condition. All, except the northbound left-turn movement is operating at acceptable LOS C or better during PM peak in the existing condition, where the northbound left-turn is operating at LOS F.

The northbound left-turn movement is operating at LOS F, while all the reported movements are operating at LOS C or better during AM peak in the 2025 Forecasted condition. The northbound left-turn continues to operate at LOS F, and the northbound right-turn movement starting to operate at unacceptable LOS E during PM peak in the 2025 Forecasted condition.

The northbound left-turn movement continues to operate at LOS F, while all the reported movements are operating at LOS D or better during AM peak in the 2025 Site+Forecasted condition. All the reported movements are operating at LOS F during PM peak in the 2025 Site+Forecasted condition.

In addition to the traffic signal proposed in Phase 1, the following improvement is recommended:

- Widen eastbound approach to provide a right-turn deceleration lane along EB US 290 at 425-foot storage and 100-foot taper. **(Pro-rata = 83 percent)**

With the traffic signal, and the proposed right-turn deceleration lane, the intersection will operate at LOS B and all the movements will operate at acceptable LOS D or better during AM peak period in the 2025 Site+Forecasted condition. The intersection will operate at LOS C during PM period. The westbound left-turn movement and the northbound movements will operate at unacceptable LOS, but with reduced delay.

US 290 and Roy Rivers Road (Node #5): The LOS at this intersection is reported for westbound left-turn along US 290, and northbound Roy Rivers Road approaches. The intersection is operating at LOS A and LOS E in the existing condition during AM and PM peak periods, respectively. All, except the northbound left-turn movement is operating at acceptable LOS C or better during both AM and PM peak in the existing condition, where the northbound left-turn is operating at LOS F.

The intersection is operating at LOS F in the 2025 Forecasted condition during both AM and PM peak periods. The northbound left-turn movement is operating at LOS F, while all the reported movements are

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operating at LOS B during AM peak in the 2025 Forecasted condition. The northbound left-turn, and westbound left-turn movements are operating at LOS F, while the northbound right-turn movement is operating at LOS D during PM peak in the 2025 Forecasted condition.

The intersection continues to operate at LOS F in the 2025 Site+Forecasted condition during both AM and PM peak periods. The northbound left-turn movement continues to operate at LOS F, while all the reported movements are operating at LOS B during AM peak in the 2025 Site+Forecasted condition. The northbound left-turn, and westbound left-turn movements continue to operate at LOS F, while the northbound right-turn movement is operating at LOS D during PM peak in the 2025 Site+Forecasted condition.

Mitigation measures identified as part of Phase 1 continue to mitigate trips from Phase 2 of the Project. The intersection has separated lanes for all movements and therefore, no additional mitigation measures are proposed for this phase.

With the traffic signal, the intersection will operate at acceptable LOS B and all the movements will operate at LOS D or better during both AM peak period in the 2025 Site+Forecasted condition. The intersection will operate at LOS D, and all the movements, except eastbound through movement, will operate at LOS D or better; eastbound through movement will operate at LOS E during PM peak period in the 2025 Site+Forecasted condition.

9.3 PHASE 3 (2031)

As previously stated, any mitigation measures identified as part of Phase 1 and 2 of the Project above have been assumed to be in place when evaluating Phase 3 of the Project. The following provides a summary of mitigation measures for Phase 3, which is in addition to Phase 1 and 2 mitigation measures.

CR 127 and Dildy Drive (Node #1): This intersection is a traditional 3-legged SSSC intersection where CR 127 approaches are free movement while the northbound Dildy Drive is stop controlled. LOS at this intersection is reported for westbound left-through movement along CR 127, and northbound Dildy Drive approaches. The intersection is operating at LOS A in the existing condition during both AM and PM peak hours. All the reported movements are operating at an acceptable LOS B or better during both AM and PM peak hour in the existing condition.

The intersection and all the reported movements are operating at LOS D or better during AM peak for all the analyzed conditions. The intersection and all the reported movements are operating at LOS B or better for all the analyzed conditions during PM peak, except for the 2031 Site+Forecasted condition. The intersection is operating at LOS A and all the reported movements are operating at LOS B or better except for the

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northbound left-turn movement along Dildy Drive during PM peak period in the 2031 Site+Forecasted; where the northbound left-turn movement is operating at LOS F.

In order to mitigate for the addition of all the site traffic at the full build-out, the following improvements are recommended:

- Provide pavement striping along northbound Dildy Drive to separate turn lanes. **(Pro-rata = 75 percent)**
- Provide right-turn deceleration lane along eastbound CR 127 at 100-foot storage and 50-foot taper. **(Pro-rata = 70 percent)**

With these mitigation measures, the intersection will operate at LOS A and the northbound left-turn movement continue to operate at LOS F with reduced delay. No additional mitigation measures are proposed for this intersection at this time.

CR 127 and Bull Run Road (Node #2): This intersection is a traditional 3-legged SSSC intersection where CR 127 approaches are free movement while the northbound Bull run Road is stop controlled. LOS at this intersection is reported for westbound shared left-through movement along CR 127, and northbound Bull Run Road approaches. The intersection is operating at LOS A in the existing condition during both AM and PM peak hours. All the reported movements are operating at an acceptable LOS B or better during both AM and PM peak hour in the existing condition.

The intersection and all the reported movements are operating at LOS D or better during AM peak for all the analyzed conditions. The intersection and all the reported movements are operating at LOS C or better for all the analyzed conditions during PM peak, except in the 2031 Site+Forecasted condition. The intersection and the northbound shared left-right movement is operating at LOS F while the westbound shared left-through movement is operating at LOS A during PM peak period in the 2031 Site+Forecasted condition.

In order to mitigate for the addition of all the site traffic at the full build-out, the following improvement is recommended:

- Provide right-turn deceleration lane along eastbound CR 127 at 100-foot storage and 50-foot taper. **(Pro-rata = 96 percent)**

With these mitigation measures, the intersection and the northbound shared left-right movement will continue to operate at LOS F but with reduced delay. No additional mitigation measures are proposed for this intersection at this time.

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Swenson Blvd and Bull Run Road (Node #3): This intersection is a traditional 3-legged SSSC intersection where Swenson Blvd approaches are free movement while the southbound Bull Run Road is stop controlled. LOS at this intersection is reported for eastbound left-through movement along Swenson Blvd, and southbound Bull Run Road approaches. The intersection is operating at LOS A in the existing condition during both AM and PM peak hours. All the reported movements are operating at an acceptable LOS A during both AM and PM peak hour in the existing condition.

The intersection and all the reported movements are operating at LOS B or better during AM peak for all the analyzed conditions, except for 2031 Site+Forecasted condition. The intersection and the southbound shared left-right movement is operating at LOS F while the eastbound shared left-through movement is operating at LOS A during AM peak period in the 2031 Site+Forecasted condition.

The intersection and all the reported movements are operating at LOS B or better during PM peak for all the analyzed conditions, except for 2031 Site+Forecasted condition. The intersection and the southbound shared left-right movement is operating at LOS F while the eastbound shared left-through movement is operating at LOS B during PM peak period in the 2031 Site+Forecasted condition.

In order to mitigate for the addition of all the site traffic at the full build-out, the following improvements are recommended:

- Provide pavement striping along westbound Swenson Blvd to separate turn lanes at the intersection.
(Pro-rata = 89 percent)

With these mitigation measures, the intersection and the southbound shared left-right movement will continue to operate at LOS F but with reduced delay during AM peak. During PM peak, the intersection will operate at an improved LOS C, while the southbound shared left-right movement will continue to operate at LOS F but with reduced delay. No additional mitigation measures are proposed for this intersection at this time.

US 290 and Swenson Blvd (Node #4): LOS at this intersection is reported for westbound left-turn along US 290, and northbound Swenson Blvd approaches. As stated earlier in **Section 9.1** and **9.2** of this report, all the reported movements are operating at an acceptable LOS D or better during AM peak hour in the existing condition. All, except the northbound left-turn movement is operating at acceptable LOS C or better during PM peak in the existing condition, where the northbound left-turn is operating at LOS F.

The intersection is operating at LOS A and LOS C in the 2031 Forecasted condition during AM peak, and PM peak periods, respectively. The northbound left-turn movement is operating at LOS F, while all the reported

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movements are operating at LOS C or better during AM peak in the 2031 Forecasted condition. All the reported movement are operating at LOS F during PM peak in the 2031 Forecasted condition.

The intersection and all the reporting movements are operating at LOS F in the 2031 Site+Forecasted condition during both AM peak and PM peak periods.

With the traffic signal proposed as part of Phase 1, and the proposed right-turn deceleration lane along eastbound US 290 in Phase 2, the intersection and all except the eastbound right-turn movement continue to operate at LOS F with reduced delay during AM peak; the eastbound right-turn movement operates at LOS C. The intersection and all except the eastbound right-turn and westbound through movements continue to operate at LOS F with reduced delay during PM peak; the eastbound right-turn and westbound through movement operate at LOS B. No additional mitigation measures are proposed for this phase.

US 290 and Roy Rivers Road (Node #5): The LOS at this intersection is reported for westbound left-turn along US 290, and northbound Roy Rivers Road approaches. The intersection is operating at LOS A and LOS E in the existing condition during AM and PM peak periods, respectively. All, except the northbound left-turn movement is operating at acceptable LOS C or better during both AM and PM peak in the existing condition, where the northbound left-turn is operating at LOS F.

The intersection is operating at LOS F and LOS B in the 2031 Forecasted condition during AM and PM peak periods, respectively. The northbound left-turn movement is operating at LOS F, while all the reported movements are operating at LOS C during AM peak in the 2031 Forecasted condition. All the reported movements are operating at LOS F during PM peak in the 2031 Forecasted condition.

The northbound left-turn movement continues to operate at LOS F, while all the reported movements are operating at LOS D or better during AM peak in the 2031 Site+Forecasted condition. All the reported movements are operating at LOS F during PM peak in the 2031 Site+Forecasted condition.

Mitigation measures identified as part of Phase 1 continue to mitigate trips from Phase 2, and Phase 3 of the Project. The intersection has separated lanes for all movements and therefore, no additional mitigation measures are proposed for this phase.

With the traffic signal identified as mitigation measure in Phase 1, the intersection will operate at an acceptable LOS D and all except northbound left-turn movements will operate at LOS D or better during AM peak period; where northbound left-turn movement will operate at LOS F with reduced delay. During PM peak, all except eastbound right-turn and westbound through movement will operate at LOS F with reduced delay. The eastbound right-turn and westbound through movement will operate at LOS A and LOS B, respectively.

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Upper Elgin River Road and Driveway D (Node #40): The intersection and all the reported movements are operating at an acceptable LOS C or better during both AM and PM peak periods with the completion of each phases of the Trinity Ranch development. Based on the auxiliary lane analysis, a left-turn lane is warranted and therefore, a left-turn deceleration lane with 100-foot storage and 50-foot taper is recommended by the completion of development in 2031 along westbound Upper Elgin River Road at Driveway D. This improvement is associated with the proposed development, and therefore, it shall be the responsibility of the developer to provide this improvement by the full built-out in 2031.

Based on the auxiliary lane analysis, the following improvement is recommended Driveway D:

- Provide left-turn deceleration lane along westbound Upper Elgin River Road at 100-foot storage and 50-foot taper. **(Pro-rata = 100 percent)**

Upper Elgin River Road and Driveway E (Node #50): The intersection and all the reported movements are operating at an acceptable LOS D or better during both AM and PM peak periods with the completion of each phases of the Trinity Ranch development. Based on the auxiliary lane analysis, a left-turn lane is warranted and therefore, a left-turn deceleration lane with 100-foot storage and 50-foot taper is recommended by the completion of development in 2031 along westbound Upper Elgin River Road at Driveway E. This improvement is associated with the proposed development, and therefore, it shall be the responsibility of the developer to provide this improvement by the full built-out in 2031.

Based on the auxiliary lane analysis, the following improvement is recommended at Driveway E:

- Provide left-turn deceleration lane along westbound Upper Elgin River Road at 100-foot storage and 50-foot taper. **(Pro-rata = 100 percent)**

Upper Elgin River Road and Driveway F (Node #60): The intersection and all the reported movements are operating at an acceptable LOS A during both AM and PM peak periods with the completion of each phases of the Trinity Ranch development. Since this T-intersection is being established as part of the proposed development, separated lanes for all three (3) approaches are recommended at this T-intersection location. The existing eastbound Dildy Drive and southbound Swenson Blvd have adequate pavement width to accommodate the separated lane configuration. The extension of Swenson Blvd (*Driveway A*) south of the T-intersection comes into place as part of the proposed development; therefore, the extension of Swenson Blvd (*Driveway A*) south of Dildy Drive shall be the responsibility of the developer, in addition to the following recommendations below:

- Stripe eastbound Dildy Drive approach at the T-intersection to provide separate left-turn, right-turn lane and one (1) receiving lane. **(Pro-rata = 100 percent)**

TRINITY RANCH

Findings and Recommendations

September 1, 2020

- Stripe southbound Swenson Blvd approach at the T-intersection to provide separate through, right-turn lane and one (1) receiving lane. **(Pro-rata = 100 percent)**
- The proposed northbound approach at the T-intersection Driveway F/Swenson Blvd should also be three (3) lanes at the Dildy Drive intersection; left-turn, through lane, and one (1) receiving lane. **(Pro-rata = 100 percent)**

This improvement is associated with the proposed development, and therefore, it shall be the responsibility of the developer to provide this improvement by the full built-out in 2031.

CR 127 Roadway Sizing Recommendation: Based on the results of the roadway sizing analysis provided within **Section 5.0** for the projected future volumes with the addition of proposed development, the roadway is recommended to be a 3-lane cross section between Driveway A (southern-most driveway on CR 127) and Bull Run Road. Based on the cross-section information available for a 3-lane roadway (Figure 8.2, Page 149) from Bastrop County Transportation Plan (2016), the three-lane cross section between Driveway A and Bull Run Road should be proposed between zero to four feet (0-4') of shoulders, 10 to 12 feet of travel lanes, and 10 to 12 feet of continuous center left-turn lane.

The pro-rata share has been calculated based on the average daily trips from the proposed development divided by the total future daily trips across the road. The volumes and the road sizing analysis are provided in detail within **Section 5.0** of this report. The pro-rata share and the volumes used for the calculation are shown in **Table 8** below:

Table 8 Roadway Sizing & Pro-rata Share for CR 127

Site Volume	Site + Forecasted Volume	Pro-rata
10,983	15,548	71%

As experienced in the past, assumptions on when development will occur is an estimation at this point in time. This analysis has assumed a realistic timeline based on the information available to us at this time. It is recommended that this traffic study be updated after the completion of Phase 2 (2025) to understand the current status and progress of the site development at that time and re-evaluate the improvements as well as the pro-rata contribution based on the updated and real time field conditions within the study area.

TRINITY RANCH

References

September 1, 2020

10.0 REFERENCES

1. "Elgin." 30°20'20.68" N and 97°23'24.20" W. **Google Earth**. November 22, 2019. August 24, 2020.
2. Trafficware, LLC. Synchro®10 plus SimTraffic®. Version 10.1, build 2, revision 20 (10.1.2.20) Sugar Land, Texas.
3. Trafficware, LLC. TripGen®10. Version 10.1, build 2, revision 20 (10.1.2.20)
4. HCM 2010: Highway Capacity Manual. Washington, D.C.: Transportation Research Board, 2010. Print.
5. Trip Generation Manual 10th Edition Desk Reference. Institute of Transportation Engineers, Washington, D.C. 2017.
6. Trip Generation Handbook, 3rd Edition. A Recommended Practice of the Institute of Transportation Engineers. Institute of Transportation Engineers, Washington, D.C., 2017.

Appendix A

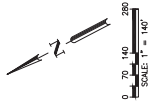
- A.1 SITE PLAN
- A.2 PART 1-DISTRIBUTION SPREADSHEET SUBMITTAL LETTER
- A.3 SITE LOCATION MAP
- A.4 TRAFFIC COUNTS
- A.5 VOLUME FIGURES
- A.6 TRIP GENERATION SUMMARY
- A.7 TRAFFIC DISTRIBUTION MAP
- A.8 SYNCHRO OUTPUTS (NO IMPROVEMENTS)
- A.9 INTERSECTION PERFORMANCE TABLES (NO IMPROVEMENTS)
- A.10 SIGNAL WARRANT WORKSHEETS
 - A.10.1 SIGNAL WARRANT ANALYSIS - US 290 & SWENSON BLVD
 - A.10.2 SIGNAL WARRANT ANALYSIS – US 290 & ROY RIVERS ROAD
- A.11 INTERSECTION PERFORMANCE TABLES (WITH IMPROVEMENTS)
- A.12 SYNCHRO OUTPUTS (WITH IMPROVEMENTS)
- A.13 SUMMARY OF IMPROVEMENTS

A.1 SITE PLAN

ELGIN TRINITY EXHIBIT "A" - 1/24/2019

LEGEND

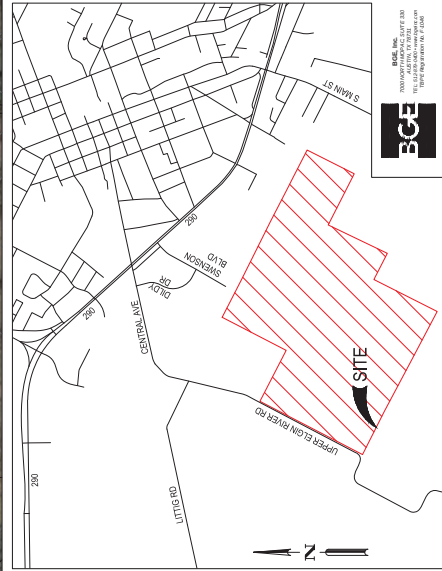
- 40' LOTS
- 45' LOTS
- 50' LOTS
- OPEN SPACE (67.1 AC)
- TANK SITE & EMS (3.9 AC)
- RIGHT-OF-WAY (86.2 AC)
- EXISTING RIGHT-OF-WAY
- TRAIL



NOTES
PROPOSED ARTERIALS AND COLLECTORS
SHALL BE CONSTRUCTED AS TWO LANE
ROADWAYS WITH TURN LANES AS NEEDED.

LOT TABLE

WIDTH	DEPTH (MIN)	QTY	% TOTAL
40'	120'	355	21%
45'	120'	694	40%
50'	120'	667	39%
		1,716	100%



BCE ENGINEERING
1000 W. 10TH ST. SUITE 200
DENVER, CO 80202
TEL: 303.733.1100
WWW.BCEENGINEERING.COM

A.2 PART 1-DISTRIBUTION SPREADSHEET SUBMITTAL LETTER



BOE Consulting Services, LLC.
9901 Brodie Lane 160-303, Austin, Texas 78748

May 18, 2020
File: 100270

Attention: **Mr. Kevin Perry, P.E.**
Vice President
TRC Companies
Public Works PO Box 1748
505 E. Huntland Drive, Suite 250
Austin, Texas 78752

Dear Mr. Perry,

Reference: **Revised Submittal #1 – Distribution Spreadsheet**
 New Elgin Trinity

This letter summarizes the revised submittal of our Distribution spreadsheet. Based on the zoom meeting held on Monday, April 27, 2020, we have revised the distribution spreadsheet for the New Elgin Trinity Development. Based on your comments at the meeting, we have reduced the trips utilizing Swenson Blvd at US 290. In order to balance the trips, more trips have been routed to Littig Road to the proposed Roy Rivers Road to traverse on to west US 290. Additionally, more trips have been allotted to Central Avenue underpass and then utilize local streets to get to US 290.

The first submittal of the Elgin Trinity distribution spreadsheet to City of Elgin was on early July 2019. We have received comments from your office as email on July 2019. In addition to your comments from the meeting detailed above, we have also incorporated the comments received on July 2019. Below is our response to comments for the Elgin Trinity Distribution Spreadsheets received from your office on July 31, 2019. We have reviewed these comments and respond in the following manner:

The following comments summarize the responses:

Comment Responses:

1. Revise existing roadway layout and counts. Roy Rivers does not connect to Littig Road at this time. There are future plans to extend Roy Rivers Road and connect the two.

We understand that Roy Rivers is not yet connected. We have shown the connection with traffic distributions for future conditions since TxDOT requested that we analyze the intersection Roy Rivers

Reference: Comment Response #1 – Distribution Spreadsheets

and US 290. Since our development has such a long build-out period, we assumed this connection to be made in the future to account for the potential of site trips utilizing the future Roy Rivers connection to get to/from US 290. We feel like this connection should remain in the analysis as it will provide a more complete picture of potential traffic operations in the network.

2. Swenson Boulevard is misspelled.

Comment noted and fixed the spelling error.

3. Update the assumed growth rate to 5%. The City of Elgin's current projected growth rate is 5% per year over the next 10 years.

Comment noted and updated the spreadsheet with the 5% growth rate.

4. How are the peak trips determined? Some of the values shown seem low for example 2021 Site (phase 1)-AM Peak Period shows 100 single family homes generating 76 trips.

We utilize the ITE Trip Generation Manual, 10th Edition to calculate the Trip Generation for projects. As an example, I have attached screen shots from the ITE software for Phase 1 of the project (100 du). For single family, the conditions have been met to utilize the Equation (Fitted Curve) to calculate the trips instead of the Average Rates. Thus, we utilize the Fitted Curve Equations to calculate the trip generation for Weekday, AM Peak, and PM Peak. Please let us know if you need any additional information on trip generation.

5. The future estimates at the Swenson Boulevard and Highway 290 intersection seem off. The spreadsheets show more people headed to or coming from the east rather than Austin.

The existing data that we collected showed more people heading east than west, but we agree with this comment. Per the engineering judgment, there should be more people headed to Austin. The overall distribution in the spreadsheets have been revised to show more people headed to west than east.

6. Confirm the total single-family units. The spreadsheets show 2,300 units.

The total Single-Family units have been confirmed with BGE and the spreadsheets have been

Reference: Comment Response #1 – Distribution Spreadsheets

corrected to show the accurate total dwelling units.

7. Provide documentation that the County did not want to review the plan, based on our understanding this is not correct.

We will coordinate with BGE to obtain documentation, if any, from the County regarding the review of the TIA.

The revised spreadsheets for both AM and PM peak per the comments received from the meeting on April 2020, and the email comments received from your office have been included in this package for your review.

Please contact our office should you have any questions or if we can be of further assistance.

Sincerely,

BOE Consulting Services, LLC

A handwritten signature in blue ink, appearing to read 'Bobak J. Tehrany', followed by a stylized flourish.

Bobak J. Tehrany, P.E., PTOE
President
Phone: 512.632.7509
bobak@bo-engineering.com

Reference: Comment Response #1 – Distribution Spreadsheets

ATTACHMENTS: NEW ELGIN TRINITY

ATTACHMENTS

1. SAMPLE ITE OUTPUT PHASE 1 AM PEAK
2. DISTRIBUTION SPREADSHEET FOR BOTH AM AND PM PEAK

Query

Filter

DATA SOURCE:

Trip Gen Manual, 10th Ed + Supplement

SEARCH BY LAND USE CODE:

210

LAND USE GROUP:

(200-299) Residential

LAND USE:

210 - Single-Family Detached Housing

LAND USE SUBCATEGORY:

All Sites

INDEPENDENT VARIABLE (IV):

Dwelling Units

TIME PERIOD:

Weekday, Peak Hour of Adjacent Street Traffic

SETTING/LOCATION:

General Urban/Suburban

TRIP TYPE:

Vehicle

ENTER IV VALUE TO CALCULATE TRIPS:

100

Calculate

DATA STATISTICS

Land Use:

Single-Family Detached Housing (210) [Click for more details](#)

Independent Variable:

Dwelling Units

Time Period:

Weekday
Peak Hour of Adjacent Street Traffic
One Hour Between 7 and 9 a.m.

Setting/Location:

General Urban/Suburban

Trip Type:

Vehicle

Number of Studies:

173

Avg. Num. of Dwelling Units

219

Average Rate:

0.74

Range of Rates:

0.33 - 2.27

Standard Deviation:

0.27

Fitted Curve Equation:

$T = 0.71(X) + 4.80$

R^2 :

0.89

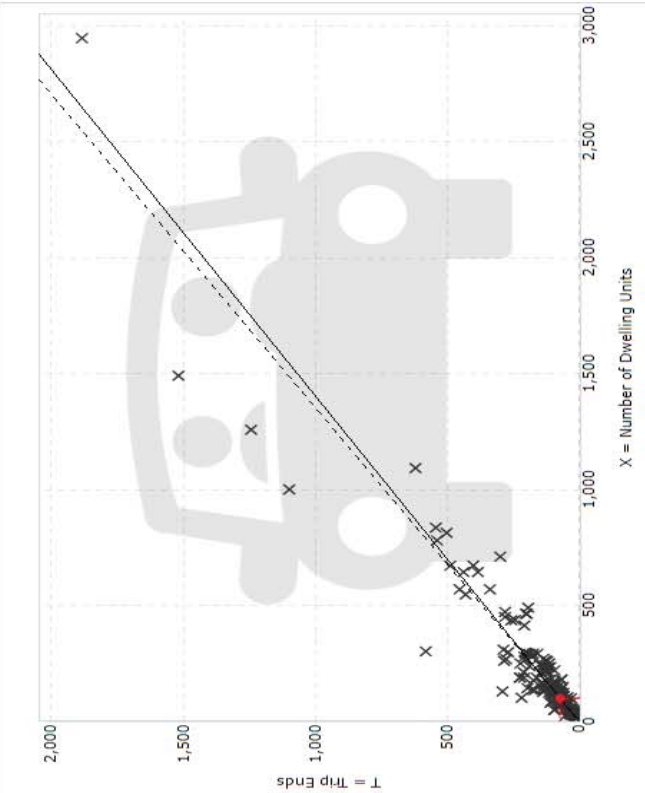
Directional Distribution:

25% entering, 75% exiting

Calculated Trip Ends:

Average Rate: 74 (Total), 18 (Entry), 56 (Exit)
Fitted Curve: 76 (Total), 19 (Entry), 57 (Exit)

Data Plot and Equation



X Study Site

Reset Zoom

Restore

—— Fitted Curve

--- Average Rate

Use the mouse wheel to Zoom Out or Zoom In.
Hover the mouse pointer on data points to view X and T values.

Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 173

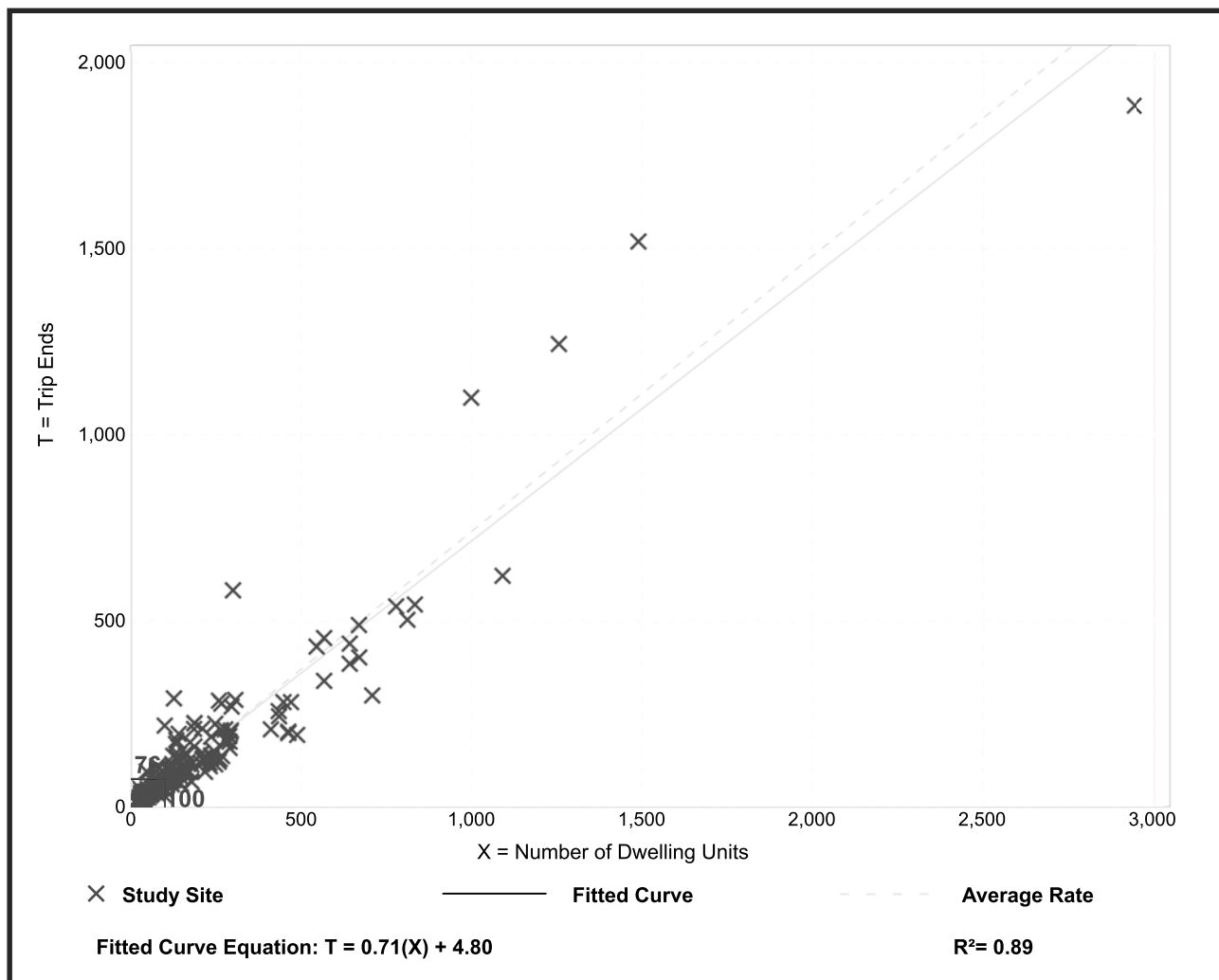
Avg. Num. of Dwelling Units: 219

Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



Rachel John

From: Heisch, Donald <DHeisch@trccompanies.com>
Sent: Wednesday, July 31, 2019 9:59 AM
To: Rachel John; Perry, Kevin
Cc: Timothy Holland; Bobak J. Tehrany
Subject: RE: Elgin Trinity Distribution Spreadsheet

Rachel,

I have listed the review comments below.

- Revise existing roadway layout and counts. Roy Rivers Road does not connect to Littig Road at this time. There are future plans to extend Roy Rivers Road and connect the two.
- Swenson Boulevard is misspelled.
- Update the assumed growth rate to 5%. The City of Elgin's current projected growth rate is 5% per year over the next 10 years.
- How are the peak trips determined? Some of the values shown seem low for example 2021 Site (Phase 1) – AM Peak Period shows 100 single family homes generating 76 trips.
- The future estimates at the Swenson Boulevard and Highway 290 intersection seem off. The spreadsheets show more people headed to or coming from the east rather than Austin.
- Confirm the total single family units. The spreadsheets shows 2,300 units.
- Provide documentation that the County did not want to review the plan, based on our understanding this is not correct.

Thanks,

Donald Heisch, P.E., CFM
Design Engineer



505 E. Huntland Dr., Ste. 250, Austin, TX 78752
C 254.718.7095 | **D** 512.684.3196 | **F** 512.454.2433
[LinkedIn](#) | [Twitter](#) | [Blog](#) | TRCcompanies.com

A.3 SITE LOCATION MAP



LEGEND * STUDY INTERSECTION EXHIBIT 03	BOE Consulting Services, LLC 9901 Brodie Lane 160-303 Austin, Texas 78748 Tel. (512) 632-7509 TBPE Registration Number: F-19220

A.4 TRAFFIC COUNTS

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site A - Central Ave & Dildy Dr - AM

Site Code : A

Start Date : 5/23/2019

Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	1	7	0	0	8	1	0	1	0	2	0	9	2	0	11	21
07:15	0	0	0	0	0	4	11	0	0	15	0	0	0	0	0	0	10	1	0	11	26
07:30	0	0	0	0	0	4	13	0	0	17	0	0	5	0	5	0	8	0	0	8	30
07:45	0	0	0	0	0	7	8	0	0	15	1	0	2	0	3	0	9	2	0	11	29
Total	0	0	0	0	0	16	39	0	0	55	2	0	8	0	10	0	36	5	0	41	106
08:00	0	0	0	0	0	1	7	0	0	8	3	0	0	0	3	0	9	5	0	14	25
08:15	0	0	0	0	0	4	6	0	0	10	2	0	3	0	5	0	3	1	0	4	19
08:30	0	0	0	0	0	2	13	0	0	15	4	0	2	0	6	0	6	2	0	8	29
08:45	0	0	0	0	0	2	7	0	0	9	2	0	2	0	4	0	11	2	0	13	26
Total	0	0	0	0	0	9	33	0	0	42	11	0	7	0	18	0	29	10	0	39	99
Grand Total	0	0	0	0	0	25	72	0	0	97	13	0	15	0	28	0	65	15	0	80	205
Apprch %	0	0	0	0		25.8	74.2	0	0		46.4	0	53.6	0		0	81.2	18.8	0		
Total %	0	0	0	0	0	12.2	35.1	0	0	47.3	6.3	0	7.3	0	13.7	0	31.7	7.3	0	39	
Vehicles % Vehicles	0	0	0	0	0	24	71	0	0	95	12	0	13	0	25	0	63	13	0	76	196
Heavy Vehicles	0	0	0	0	0	1	1	0	0	2	1	0	2	0	3	0	2	2	0	4	9
% Heavy Vehicles	0	0	0	0	0	4	1.4	0	0	2.1	7.7	0	13.3	0	10.7	0	3.1	13.3	0	5	4.4

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	4	11	0	0	15	0	0	0	0	0	0	10	1	0	11	26
07:30	0	0	0	0	0	4	13	0	0	17	0	0	5	0	5	0	8	0	0	8	30
07:45	0	0	0	0	0	7	8	0	0	15	1	0	2	0	3	0	9	2	0	11	29
08:00	0	0	0	0	0	1	7	0	0	8	3	0	0	0	3	0	9	5	0	14	25
Total Volume	0	0	0	0	0	16	39	0	0	55	4	0	7	0	11	0	36	8	0	44	110
% App. Total	0	0	0	0		29.1	70.9	0	0		36.4	0	63.6	0		0	81.8	18.2	0		
PHF	.000	.000	.000	.000	.000	.571	.750	.000	.000	.809	.333	.000	.350	.000	.550	.000	.900	.400	.000	.786	.917
Vehicles	0	0	0	0	0	16	39	0	0	55	4	0	6	0	10	0	35	8	0	43	108
% Vehicles													85.7	0	90.9	0	97.2	100	0	97.7	98.2
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	14.3	0	9.1	0	2.8	0	0	2.3	1.8

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site A - Central Ave & Dildy Dr - AM

Site Code : A

Start Date : 5/23/2019

Page No : 2

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					07:00					08:00					07:15				
+0 mins.	0	0	0	0	0	1	7	0	0	8	3	0	0	0	3	0	10	1	0	11
+15 mins.	0	0	0	0	0	4	11	0	0	15	2	0	3	0	5	0	8	0	0	8
+30 mins.	0	0	0	0	0	4	13	0	0	17	4	0	2	0	6	0	9	2	0	11
+45 mins.	0	0	0	0	0	7	8	0	0	15	2	0	2	0	4	0	9	5	0	14
Total Volume	0	0	0	0	0	16	39	0	0	55	11	0	7	0	18	0	36	8	0	44
% App. Total	0	0	0	0	0	29.1	70.9	0	0		61.1	0	38.9	0		0	81.8	18.2	0	
PHF	.000	.000	.000	.000	.000	.571	.750	.000	.000	.809	.688	.000	.583	.000	.750	.000	.900	.400	.000	.786
Vehicles	0	0	0	0	0	15	39	0	0	54	11	0	7	0	18	0	35	8	0	43
% Vehicles																				
Heavy Vehicles	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1
% Heavy Vehicles	0	0	0	0	0	6.2	0	0	0	1.8	0	0	0	0	0	0	2.8	0	0	2.3

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site A - Central Ave & Dildy Dr - AM

Site Code : A

Start Date : 5/23/2019

Page No : 3

Groups Printed- Vehicles

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	8	0	0	8	15
07:15	0	0	0	0	0	4	11	0	0	15	0	0	0	0	0	0	9	1	0	10	25
07:30	0	0	0	0	0	4	13	0	0	17	0	0	4	0	4	0	8	0	0	8	29
07:45	0	0	0	0	0	7	8	0	0	15	1	0	2	0	3	0	9	2	0	11	29
Total	0	0	0	0	0	15	39	0	0	54	1	0	6	0	7	0	34	3	0	37	98
08:00	0	0	0	0	0	1	7	0	0	8	3	0	0	0	3	0	9	5	0	14	25
08:15	0	0	0	0	0	4	5	0	0	9	2	0	3	0	5	0	3	1	0	4	18
08:30	0	0	0	0	0	2	13	0	0	15	4	0	2	0	6	0	6	2	0	8	29
08:45	0	0	0	0	0	2	7	0	0	9	2	0	2	0	4	0	11	2	0	13	26
Total	0	0	0	0	0	9	32	0	0	41	11	0	7	0	18	0	29	10	0	39	98
Grand Total	0	0	0	0	0	24	71	0	0	95	12	0	13	0	25	0	63	13	0	76	196
Apprch %	0	0	0	0		25.3	74.7	0	0		48	0	52	0		0	82.9	17.1	0		
Total %	0	0	0	0	0	12.2	36.2	0	0	48.5	6.1	0	6.6	0	12.8	0	32.1	6.6	0	38.8	

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	4	11	0	0	15	0	0	0	0	0	0	9	1	0	10	25
07:30	0	0	0	0	0	4	13	0	0	17	0	0	4	0	4	0	8	0	0	8	29
07:45	0	0	0	0	0	7	8	0	0	15	1	0	2	0	3	0	9	2	0	11	29
08:00	0	0	0	0	0	1	7	0	0	8	3	0	0	0	3	0	9	5	0	14	25
Total Volume	0	0	0	0	0	16	39	0	0	55	4	0	6	0	10	0	35	8	0	43	108
% App. Total	0	0	0	0		29.1	70.9	0	0		40	0	60	0		0	81.4	18.6	0		
PHF	.000	.000	.000	.000	.000	.571	.750	.000	.000	.809	.333	.000	.375	.000	.625	.000	.972	.400	.000	.768	.931

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					07:15					08:00					07:15				
+0 mins.	0	0	0	0	0	4	11	0	0	15	3	0	0	0	3	0	9	0	0	8
+15 mins.	0	0	0	0	0	4	13	0	0	17	2	0	3	0	5	0	8	0	0	8
+30 mins.	0	0	0	0	0	7	8	0	0	15	4	0	2	0	6	0	9	2	0	11
+45 mins.	0	0	0	0	0	1	7	0	0	8	2	0	2	0	4	0	9	5	0	14
Total Volume	0	0	0	0	0	16	39	0	0	55	11	0	7	0	18	0	35	8	0	43
% App. Total	0	0	0	0		29.1	70.9	0	0		61.1	0	38.9	0		0	81.4	18.6	0	
PHF	.00	.00	.00	.00	.000	.57	.75	.00	.00	.809	.68	.00	.58	.00	.750	.00	.97	.40	.00	.768
	0	0	0	0		1	0	0	0		8	0	3	0		0	2	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site A - Central Ave & Dildy Dr - AM

Site Code : A

Start Date : 5/23/2019

Page No : 4

Groups Printed- Heavy Vehicles

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	1	0	0	0	1	1	0	1	0	2	0	1	2	0	3	6
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	0	0	1	1	0	2	0	3	0	2	2	0	4	8
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	1	1	0	0	2	1	0	2	0	3	0	2	2	0	4	9
Apprch %	0	0	0	0	0	50	50	0	0		33.3	0	66.7	0		0	50	50	0		
Total %	0	0	0	0	0	11.1	11.1	0	0	22.2	11.1	0	22.2	0	33.3	0	22.2	22.2	0	44.4	

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	1	0	0	0	1	1	0	1	0	2	0	1	2	0	3	6
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
07:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	0	0	1	1	0	2	0	3	0	2	2	0	4	8
% App. Total	0	0	0	0	0	100	0	0	0		33.3	0	66.7	0		0	50	50	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.250	.000	.500	.000	.375	.000	.500	.250	.000	.333	.333

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	1				1	1		1		2		1	2		3
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	0	0	1	1	0	2	0	3	0	2	2	0	4
% App. Total	0	0	0	0	0	100	0	0	0		33.3	0	66.7	0		0	50	50	0	
PHF	.00	.00	.00	.00	.000	.25	.00	.00	.00	.250	.25	.00	.50	.00	.375	.00	.50	.25	.00	.333
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site A - Central Ave & Dildy Dr - AM

Site Code : A

Start Date : 5/23/2019

Page No : 5

Groups Printed- Pedestrians

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site A - Central Ave & Dildy Dr - PM

Site Code : A

Start Date : 5/23/2019

Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	5	19	0	0	24	1	0	6	0	7	0	15	3	0	18	49
16:15	0	0	0	0	0	2	16	0	0	18	5	0	3	0	8	0	21	0	0	21	47
16:30	0	0	0	0	0	1	26	0	0	27	3	0	2	0	5	0	17	3	0	20	52
16:45	0	0	0	0	0	3	20	0	0	23	4	0	2	0	6	0	33	6	0	39	68
Total	0	0	0	0	0	11	81	0	0	92	13	0	13	0	26	0	86	12	0	98	216
17:00	0	0	0	0	0	2	22	0	0	24	2	0	9	0	11	0	30	3	0	33	68
17:15	0	0	0	0	0	1	20	0	0	21	3	0	4	0	7	0	27	2	0	29	57
17:30	0	0	0	0	0	0	17	0	0	17	2	0	4	0	6	0	28	4	0	32	55
17:45	0	0	0	0	0	0	17	0	0	17	2	0	2	0	4	0	20	0	0	20	41
Total	0	0	0	0	0	3	76	0	0	79	9	0	19	0	28	0	105	9	0	114	221
Grand Total	0	0	0	0	0	14	157	0	0	171	22	0	32	0	54	0	191	21	0	212	437
Apprch %	0	0	0	0		8.2	91.8	0	0		40.7	0	59.3	0		0	90.1	9.9	0		
Total %	0	0	0	0	0	3.2	35.9	0	0	39.1	5	0	7.3	0	12.4	0	43.7	4.8	0	48.5	
Vehicles % Vehicles	0	0	0	0	0	12	156	0	0	168	21	0	31	0	52	0	190	21	0	211	431
Heavy Vehicles	0	0	0	0	0	2	1	0	0	3	1	0	1	0	2	0	1	0	0	1	6
% Heavy Vehicles	0	0	0	0	0	14.3	0.6	0	0	1.8	4.5	0	3.1	0	3.7	0	0.5	0	0	0.5	1.4

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	3	20	0	0	23	4	0	2	0	6	0	33	6	0	39	68
17:00	0	0	0	0	0	2	22	0	0	24	2	0	9	0	11	0	30	3	0	33	68
17:15	0	0	0	0	0	1	20	0	0	21	3	0	4	0	7	0	27	2	0	29	57
17:30	0	0	0	0	0	0	17	0	0	17	2	0	4	0	6	0	28	4	0	32	55
Total Volume	0	0	0	0	0	6	79	0	0	85	11	0	19	0	30	0	118	15	0	133	248
% App. Total	0	0	0	0	0	7.1	92.9	0	0		36.7	0	63.3	0		0	88.7	11.3	0		
PHF	.000	.000	.000	.000	.000	.500	.898	.000	.000	.885	.688	.000	.528	.000	.682	.000	.894	.625	.000	.853	.912
Vehicles	0	0	0	0	0	4	78	0	0	82	10	0	19	0	29	0	118	15	0	133	244
% Vehicles						66.7	98.7	0	0	96.5	90.9	0	100	0	96.7	0	100	100	0	100	98.4
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	33.3	1.3	0	0	3.5	9.1	0	0	0	3.3	0	0	0	0	0	1.6

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site A - Central Ave & Dildy Dr - PM

Site Code : A

Start Date : 5/23/2019

Page No : 2

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					16:30					16:15					16:45				
+0 mins.	0	0	0	0	0	1	26	0	0	27	5	0	3	0	8	0	33	6	0	39
+15 mins.	0	0	0	0	0	3	20	0	0	23	3	0	2	0	5	0	30	3	0	33
+30 mins.	0	0	0	0	0	2	22	0	0	24	4	0	2	0	6	0	27	2	0	29
+45 mins.	0	0	0	0	0	1	20	0	0	21	2	0	9	0	11	0	28	4	0	32
Total Volume	0	0	0	0	0	7	88	0	0	95	14	0	16	0	30	0	118	15	0	133
% App. Total	0	0	0	0	0	7.4	92.6	0	0		46.7	0	53.3	0		0	88.7	11.3	0	
PHF	.000	.000	.000	.000	.000	.583	.846	.000	.000	.880	.700	.000	.444	.000	.682	.000	.894	.625	.000	.853
Vehicles	0	0	0	0	0	5	87	0	0	92	13	0	16	0	29	0	118	15	0	133
% Vehicles																				
Heavy Vehicles	0	0	0	0	0	2	1	0	0	3	1	0	0	0	1	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	28.6	1.1	0	0	3.2	7.1	0	0	0	3.3	0	0	0	0	0

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site A - Central Ave & Dildy Dr - PM

Site Code : A

Start Date : 5/23/2019

Page No : 3

Groups Printed- Vehicles

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	5	19	0	0	24	1	0	5	0	6	0	15	3	0	18	48
16:15	0	0	0	0	0	2	16	0	0	18	5	0	3	0	8	0	21	0	0	21	47
16:30	0	0	0	0	0	1	26	0	0	27	3	0	2	0	5	0	17	3	0	20	52
16:45	0	0	0	0	0	1	20	0	0	21	3	0	2	0	5	0	33	6	0	39	65
Total	0	0	0	0	0	9	81	0	0	90	12	0	12	0	24	0	86	12	0	98	212
17:00	0	0	0	0	0	2	22	0	0	24	2	0	9	0	11	0	30	3	0	33	68
17:15	0	0	0	0	0	1	19	0	0	20	3	0	4	0	7	0	27	2	0	29	56
17:30	0	0	0	0	0	0	17	0	0	17	2	0	4	0	6	0	28	4	0	32	55
17:45	0	0	0	0	0	0	17	0	0	17	2	0	2	0	4	0	19	0	0	19	40
Total	0	0	0	0	0	3	75	0	0	78	9	0	19	0	28	0	104	9	0	113	219
Grand Total	0	0	0	0	0	12	156	0	0	168	21	0	31	0	52	0	190	21	0	211	431
Apprch %	0	0	0	0	0	7.1	92.9	0	0		40.4	0	59.6	0		0	90	10	0		
Total %	0	0	0	0	0	2.8	36.2	0	0	39	4.9	0	7.2	0	12.1	0	44.1	4.9	0	49	

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	1	20	0	0	21	3	0	2	0	5	0	33	6	0	39	65
17:00	0	0	0	0	0	2	22	0	0	24	2	0	9	0	11	0	30	3	0	33	68
17:15	0	0	0	0	0	1	19	0	0	20	3	0	4	0	7	0	27	2	0	29	56
17:30	0	0	0	0	0	0	17	0	0	17	2	0	4	0	6	0	28	4	0	32	55
Total Volume	0	0	0	0	0	4	78	0	0	82	10	0	19	0	29	0	118	15	0	133	244
% App. Total	0	0	0	0	0	4.9	95.1	0	0		34.5	0	65.5	0		0	88.7	11.3	0		
PHF	.000	.000	.000	.000	.000	.500	.886	.000	.000	.854	.833	.000	.528	.000	.659	.000	.894	.625	.000	.853	.897

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					16:30					16:15					16:45				
+0 mins.	0	0	0	0	0	1	26	0	0	27	5	0	2	0	5	0	33	6	0	39
+15 mins.	0	0	0	0	0	1	20	0	0	21	3	0	2	0	5	0	30	3	0	33
+30 mins.	0	0	0	0	0	2	22	0	0	24	3	0	2	0	5	0	27	2	0	29
+45 mins.	0	0	0	0	0	1	19	0	0	20	2	0	9	0	11	0	28	4	0	32
Total Volume	0	0	0	0	0	5	87	0	0	92	13	0	16	0	29	0	118	15	0	133
% App. Total	0	0	0	0	0	5.4	94.6	0	0		44.8	0	55.2	0		0	88.7	11.3	0	
PHF	.00	.00	.00	.00	.000	.62	.83	.00	.00	.852	.65	.00	.44	.00	.659	.00	.89	.62	.00	.853
	0	0	0	0		5	7	0	0		0	0	4	0		0	4	5	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site A - Central Ave & Dildy Dr - PM

Site Code : A

Start Date : 5/23/2019

Page No : 4

Groups Printed- Heavy Vehicles

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	3
Total	0	0	0	0	0	2	0	0	0	2	1	0	1	0	2	0	0	0	0	0	4
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	2
Grand Total	0	0	0	0	0	2	1	0	0	3	1	0	1	0	2	0	1	0	0	1	6
Apprch %	0	0	0	0		66.7	33.3	0	0		50	0	50	0		0	100	0	0		
Total %	0	0	0	0	0	33.3	16.7	0	0	50	16.7	0	16.7	0	33.3	0	16.7	0	0	16.7	

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	2	0	0	0	2	1	0	0	0	1	0	0	0	0	0	3
Total Volume	0	0	0	0	0	2	0	0	0	2	1	0	1	0	2	0	0	0	0	0	4
% App. Total	0	0	0	0		100	0	0	0		50	0	50	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.000	.000	.250	.250	.000	.250	.000	.500	.000	.000	.000	.000	.000	.333

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					16:30					16:00					17:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1		1					
+15 mins.	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1
Total Volume	0	0	0	0	0	2	1	0	0	3	1	0	1	0	2	0	1	0	0	1
% App. Total	0	0	0	0		66.7	33.3	0	0		50	0	50	0		0	100	0	0	
PHF	.00	.00	.00	.00	.000	.25	.25	.00	.00	.375	.25	.00	.25	.00	.500	.00	.25	.00	.00	.250
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site A - Central Ave & Dildy Dr - PM

Site Code : A

Start Date : 5/23/2019

Page No : 5

Groups Printed- Pedestrians

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Southbound					Central Ave Westbound					Dildy Dr Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site B - Central Ave & Bull Run Rd - AM

Site Code : B

Start Date : 5/23/2019

Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	2	5	0	0	7	3	0	1	0	4	0	6	4	0	10	21
07:15	0	0	0	0	0	1	14	0	0	15	0	0	4	0	4	0	7	2	0	9	28
07:30	0	0	0	0	0	0	13	0	0	13	4	0	2	0	6	0	10	2	0	12	31
07:45	0	0	0	0	0	4	11	0	0	15	4	0	3	0	7	0	10	2	0	12	34
Total	0	0	0	0	0	7	43	0	0	50	11	0	10	0	21	0	33	10	0	43	114
08:00	0	0	0	0	0	5	8	0	0	13	0	0	1	0	1	0	7	2	0	9	23
08:15	0	0	0	0	0	2	9	0	0	11	2	0	0	0	2	0	6	0	0	6	19
08:30	0	0	0	0	0	2	12	0	0	14	1	0	0	0	1	0	5	4	0	9	24
08:45	0	0	0	0	0	3	7	0	0	10	2	0	2	0	4	0	11	3	0	14	28
Total	0	0	0	0	0	12	36	0	0	48	5	0	3	0	8	0	29	9	0	38	94
Grand Total	0	0	0	0	0	19	79	0	0	98	16	0	13	0	29	0	62	19	0	81	208
Apprch %	0	0	0	0		19.4	80.6	0	0		55.2	0	44.8	0		0	76.5	23.5	0		
Total %	0	0	0	0	0	9.1	38	0	0	47.1	7.7	0	6.2	0	13.9	0	29.8	9.1	0	38.9	
Vehicles % Vehicles	0	0	0	0	0	18	79	0	0	97	15	0	7	0	22	0	60	16	0	76	195
Heavy Vehicles	0	0	0	0	0	1	0	0	0	1	1	0	6	0	7	0	2	3	0	5	13
% Heavy Vehicles	0	0	0	0	0	5.3	0	0	0	1	6.2	0	46.2	0	24.1	0	3.2	15.8	0	6.2	6.2

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	1	14	0	0	15	0	0	4	0	4	0	7	2	0	9	28
07:30	0	0	0	0	0	0	13	0	0	13	4	0	2	0	6	0	10	2	0	12	31
07:45	0	0	0	0	0	4	11	0	0	15	4	0	3	0	7	0	10	2	0	12	34
08:00	0	0	0	0	0	5	8	0	0	13	0	0	1	0	1	0	7	2	0	9	23
Total Volume	0	0	0	0	0	10	46	0	0	56	8	0	10	0	18	0	34	8	0	42	116
% App. Total	0	0	0	0	0	17.9	82.1	0	0		44.4	0	55.6	0		0	81	19	0		
PHF	.000	.000	.000	.000	.000	.500	.821	.000	.000	.933	.500	.000	.625	.000	.643	.000	.850	1.00	.000	.875	.853
Vehicles	0	0	0	0	0	10	46	0	0	56	8	0	5	0	13	0	33	7	0	40	109
% Vehicles													50.0	0	72.2	0	97.1	87.5	0	95.2	94.0
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	50.0	0	27.8	0	2.9	12.5	0	4.8	6.0

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site B - Central Ave & Bull Run Rd - AM

Site Code : B

Start Date : 5/23/2019

Page No : 2

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					07:15					07:00					07:00				
+0 mins.	0	0	0	0	0	1	14	0	0	15	3	0	1	0	4	0	6	4	0	10
+15 mins.	0	0	0	0	0	0	13	0	0	13	0	0	4	0	4	0	7	2	0	9
+30 mins.	0	0	0	0	0	4	11	0	0	15	4	0	2	0	6	0	10	2	0	12
+45 mins.	0	0	0	0	0	5	8	0	0	13	4	0	3	0	7	0	10	2	0	12
Total Volume	0	0	0	0	0	10	46	0	0	56	11	0	10	0	21	0	33	10	0	43
% App. Total	0	0	0	0	0	17.9	82.1	0	0		52.4	0	47.6	0		0	76.7	23.3	0	
PHF	.000	.000	.000	.000	.000	.500	.821	.000	.000	.933	.688	.000	.625	.000	.750	.000	.825	.625	.000	.896
Vehicles	0	0	0	0	0	10	46	0	0	56	11	0	4	0	15	0	31	7	0	38
% Vehicles																				
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0	2	3	0	5
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	60	0	28.6	0	6.1	30	0	11.6

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site B - Central Ave & Bull Run Rd - AM

Site Code : B

Start Date : 5/23/2019

Page No : 3

Groups Printed- Vehicles

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	2	5	0	0	7	3	0	0	0	3	0	5	2	0	7	17
07:15	0	0	0	0	0	1	14	0	0	15	0	0	1	0	1	0	7	1	0	8	24
07:30	0	0	0	0	0	0	13	0	0	13	4	0	1	0	5	0	9	2	0	11	29
07:45	0	0	0	0	0	4	11	0	0	15	4	0	2	0	6	0	10	2	0	12	33
Total	0	0	0	0	0	7	43	0	0	50	11	0	4	0	15	0	31	7	0	38	103
08:00	0	0	0	0	0	5	8	0	0	13	0	0	1	0	1	0	7	2	0	9	23
08:15	0	0	0	0	0	2	9	0	0	11	1	0	0	0	1	0	6	0	0	6	18
08:30	0	0	0	0	0	2	12	0	0	14	1	0	0	0	1	0	5	4	0	9	24
08:45	0	0	0	0	0	2	7	0	0	9	2	0	2	0	4	0	11	3	0	14	27
Total	0	0	0	0	0	11	36	0	0	47	4	0	3	0	7	0	29	9	0	38	92
Grand Total	0	0	0	0	0	18	79	0	0	97	15	0	7	0	22	0	60	16	0	76	195
Apprch %	0	0	0	0		18.6	81.4	0	0		68.2	0	31.8	0		0	78.9	21.1	0		
Total %	0	0	0	0	0	9.2	40.5	0	0	49.7	7.7	0	3.6	0	11.3	0	30.8	8.2	0	39	

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15																					
07:15	0	0	0	0	0	1	14	0	0	15	0	0	1	0	1	0	7	1	0	8	24
07:30	0	0	0	0	0	0	13	0	0	13	4	0	1	0	5	0	9	2	0	11	29
07:45	0	0	0	0	0	4	11	0	0	15	4	0	2	0	6	0	10	2	0	12	33
08:00	0	0	0	0	0	5	8	0	0	13	0	0	1	0	1	0	7	2	0	9	23
Total Volume	0	0	0	0	0	10	46	0	0	56	8	0	5	0	13	0	33	7	0	40	109
% App. Total	0	0	0	0		17.9	82.1	0	0		61.5	0	38.5	0		0	82.5	17.5	0		
PHF	.000	.000	.000	.000	.000	.500	.821	.000	.000	.933	.500	.000	.625	.000	.542	.000	.825	.875	.000	.833	.826

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					07:15					07:00					07:15				
+0 mins.	0	0	0	0	0	1	14	0	0	15	0	0	1	0	1	0	9	2	0	11
+15 mins.	0	0	0	0	0	0	13	0	0	13	0	0	1	0	1	0	10	2	0	12
+30 mins.	0	0	0	0	0	4	11	0	0	15	4	0	1	0	5	0	7	2	0	9
+45 mins.	0	0	0	0	0	5	8	0	0	13	4	0	2	0	6	0	7	2	0	9
Total Volume	0	0	0	0	0	10	46	0	0	56	11	0	4	0	15	0	33	7	0	40
% App. Total	0	0	0	0		17.9	82.1	0	0		73.3	0	26.7	0		0	82.5	17.5	0	
PHF	.00	.00	.00	.00	.000	.50	.82	.00	.00	.933	.68	.00	.50	.00	.625	.00	.82	.87	.00	.833
	0	0	0	0		0	1	0	0		8	0	0	0		0	5	5	0	

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

Page No : 4

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	2	0	3	4
07:15	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	1	0	1	4
07:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	2
07:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0	2	3	0	5	11
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	2
Grand Total	0	0	0	0	0	1	0	0	0	1	1	0	6	0	7	0	2	3	0	5	13
Apprch %	0	0	0	0	0	100	0	0	0	0	14.3	0	85.7	0	0	0	40	60	0	0	0
Total %	0	0	0	0	0	7.7	0	0	0	7.7	7.7	0	46.2	0	53.8	0	15.4	23.1	0	38.5	0

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound						
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total	
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 07:00																						
07:00	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	2	0	3	4
07:15	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	1	0	0	1	4
07:30	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	0	0	1	2
07:45	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	0	2	3	0	0	5	11
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0	40	60	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.000	.500	.375	.000	.417	.688	

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

Run Near-Track Approach Begins at:																					
	07:00					08:00					07:00					07:00					
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	2		3	
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	0	0	1	0	1	
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	1	0	0	1	
+45 mins.	0	0	0	0	0	1	0	0	0	0	1	0	0	1	0	1	0	0	0	0	
Total Volume	0	0	0	0	0	1	0	0	0	0	1	0	0	6	0	6	0	2	3	0	5
% App. Total	0	0	0	0		100	0	0	0	0		0	0	100	0		0	40	60	0	
PHF	.00	.00	.00	.00	.000	.25	.00	.00	.00	.00	.250	.00	.00	.50	.00	.500	.00	.50	.37	.00	.417
	0	0	0	0		0	0	0	0	0		0	0	0	0		0	0	5	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site B - Central Ave & Bull Run Rd - AM

Site Code : B

Start Date : 5/23/2019

Page No : 5

Groups Printed- Pedestrians

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site B - Central Ave & Bull Run Rd - PM

Site Code : B

Start Date : 5/23/2019

Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	2	21	0	0	23	3	0	3	0	6	0	20	2	0	22	51
16:15	0	0	0	0	0	1	12	0	0	13	5	0	1	0	6	0	20	3	0	23	42
16:30	0	0	0	0	0	3	22	0	0	25	5	0	3	0	8	0	15	6	0	21	54
16:45	0	0	0	0	0	0	19	0	0	19	4	0	3	0	7	0	29	6	0	35	61
Total	0	0	0	0	0	6	74	0	0	80	17	0	10	0	27	0	84	17	0	101	208
17:00	0	0	0	0	0	4	22	0	0	26	0	0	3	0	3	0	32	7	0	39	68
17:15	0	0	0	0	0	4	18	0	0	22	3	0	2	0	5	0	24	5	0	29	56
17:30	0	0	0	0	0	4	15	0	0	19	2	0	1	0	3	0	26	8	0	34	56
17:45	0	0	0	0	0	1	16	0	0	17	1	0	1	0	2	0	19	3	0	22	41
Total	0	0	0	0	0	13	71	0	0	84	6	0	7	0	13	0	101	23	0	124	221
Grand Total	0	0	0	0	0	19	145	0	0	164	23	0	17	0	40	0	185	40	0	225	429
Apprch %	0	0	0	0		11.6	88.4	0	0		57.5	0	42.5	0		0	82.2	17.8	0		
Total %	0	0	0	0	0	4.4	33.8	0	0	38.2	5.4	0	4	0	9.3	0	43.1	9.3	0	52.4	
Vehicles % Vehicles	0	0	0	0	0	19	144	0	0	163	22	0	17	0	39	0	184	40	0	224	426
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	3
% Heavy Vehicles	0	0	0	0	0	0	0.7	0	0	0.6	4.3	0	0	0	2.5	0	0.5	0	0	0.4	0.7

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	0	19	0	0	19	4	0	3	0	7	0	29	6	0	35	61
17:00	0	0	0	0	0	4	22	0	0	26	0	0	3	0	3	0	32	7	0	39	68
17:15	0	0	0	0	0	4	18	0	0	22	3	0	2	0	5	0	24	5	0	29	56
17:30	0	0	0	0	0	4	15	0	0	19	2	0	1	0	3	0	26	8	0	34	56
Total Volume	0	0	0	0	0	12	74	0	0	86	9	0	9	0	18	0	111	26	0	137	241
% App. Total	0	0	0	0	0	14	86	0	0		50	0	50	0		0	81	19	0		
PHF	.000	.000	.000	.000	.000	.750	.841	.000	.000	.827	.563	.000	.750	.000	.643	.000	.867	.813	.000	.878	.886
Vehicles % Vehicles	0	0	0	0	0	12	74	0	0	86	8	0	9	0	17	0	111	26	0	137	240
Heavy Vehicles											88.9	0	100	0	94.4	0	100	100	0	100	99.6
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	11.1	0	0	0	5.6	0	0	0	0	0	0.4

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site B - Central Ave & Bull Run Rd - PM

Site Code : B

Start Date : 5/23/2019

Page No : 2

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	16:00					16:30					16:00					16:45					
+0 mins.	0	0	0	0	0	3	22	0	0	25	3	0	3	0	6	0	29	6	0	35	
+15 mins.	0	0	0	0	0	0	19	0	0	19	5	0	1	0	6	0	32	7	0	39	
+30 mins.	0	0	0	0	0	4	22	0	0	26	5	0	3	0	8	0	24	5	0	29	
+45 mins.	0	0	0	0	0	4	18	0	0	22	4	0	3	0	7	0	26	8	0	34	
Total Volume	0	0	0	0	0	11	81	0	0	92	17	0	10	0	27	0	111	26	0	137	
% App. Total	0	0	0	0	0	12	88	0	0	0	63	0	37	0	0	0	81	19	0	0	
PHF	.000	.000	.000	.000	.000	.688	.920	.000	.000	.885	.850	.000	.833	.000	.844	.000	.867	.813	.000	.878	
Vehicles	0	0	0	0	0	11	80	0	0	91	16	0	10	0	26	0	111	26	0	137	
% Vehicles																					
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	
% Heavy Vehicles	0	0	0	0	0	0	1.2	0	0	1.1	5.9	0	0	0	3.7	0	0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site B - Central Ave & Bull Run Rd - PM

Site Code : B

Start Date : 5/23/2019

Page No : 3

Groups Printed- Vehicles

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	2	21	0	0	23	3	0	3	0	6	0	20	2	0	22	51
16:15	0	0	0	0	0	1	12	0	0	13	5	0	1	0	6	0	20	3	0	23	42
16:30	0	0	0	0	0	3	21	0	0	24	5	0	3	0	8	0	15	6	0	21	53
16:45	0	0	0	0	0	0	19	0	0	19	3	0	3	0	6	0	29	6	0	35	60
Total	0	0	0	0	0	6	73	0	0	79	16	0	10	0	26	0	84	17	0	101	206
17:00	0	0	0	0	0	4	22	0	0	26	0	0	3	0	3	0	32	7	0	39	68
17:15	0	0	0	0	0	4	18	0	0	22	3	0	2	0	5	0	24	5	0	29	56
17:30	0	0	0	0	0	4	15	0	0	19	2	0	1	0	3	0	26	8	0	34	56
17:45	0	0	0	0	0	1	16	0	0	17	1	0	1	0	2	0	18	3	0	21	40
Total	0	0	0	0	0	13	71	0	0	84	6	0	7	0	13	0	100	23	0	123	220
Grand Total	0	0	0	0	0	19	144	0	0	163	22	0	17	0	39	0	184	40	0	224	426
Apprch %	0	0	0	0		11.7	88.3	0	0		56.4	0	43.6	0		0	82.1	17.9	0		
Total %	0	0	0	0	0	4.5	33.8	0	0	38.3	5.2	0	4	0	9.2	0	43.2	9.4	0	52.6	

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	0	19	0	0	19	3	0	3	0	6	0	29	6	0	35	60
17:00	0	0	0	0	0	4	22	0	0	26	0	0	3	0	3	0	32	7	0	39	68
17:15	0	0	0	0	0	4	18	0	0	22	3	0	2	0	5	0	24	5	0	29	56
17:30	0	0	0	0	0	4	15	0	0	19	2	0	1	0	3	0	26	8	0	34	56
Total Volume	0	0	0	0	0	12	74	0	0	86	8	0	9	0	17	0	111	26	0	137	240
% App. Total	0	0	0	0		14	86	0	0		47.1	0	52.9	0		0	81	19	0		
PHF	.000	.000	.000	.000	.000	.750	.841	.000	.000	.827	.667	.000	.750	.000	.708	.000	.867	.813	.000	.878	.882

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					16:30					16:00					16:45				
+0 mins.	0	0	0	0	0	3	21	0	0	24	3	0	3	0	6	0	32	7	0	39
+15 mins.	0	0	0	0	0	0	19	0	0	19	5	0	1	0	6	0	24	5	0	29
+30 mins.	0	0	0	0	0	4	22	0	0	26	5	0	3	0	8	0	26	8	0	34
+45 mins.	0	0	0	0	0	4	18	0	0	22	3	0	3	0	6	0	26	8	0	34
Total Volume	0	0	0	0	0	11	80	0	0	91	16	0	10	0	26	0	111	26	0	137
% App. Total	0	0	0	0		12.	87.	0	0		61.	0	38.	0		0	81	19	0	
						1	9				5		5							
PHF	.00	.00	.00	.00	.000	.68	.90	.00	.00	.875	.80	.00	.83	.00	.813	.00	.86	.81	.00	.878
	0	0	0	0		8	9	0	0		0	0	3	0		0	7	3	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site B - Central Ave & Bull Run Rd - PM

Site Code : B

Start Date : 5/23/2019

Page No : 4

Groups Printed- Heavy Vehicles

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	2
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1	3
Apprch %	0	0	0	0	0	0	100	0	0	100	100	0	0	0	100	0	100	0	0	100	
Total %	0	0	0	0	0	0	33.3	0	0	33.3	33.3	0	0	0	33.3	0	33.3	0	0	33.3	

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:45	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	2
% App. Total	0	0	0	0	0	0	100	0	0	100	100	0	0	0	100	0	0	0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.500

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					17:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	1	0	0	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	1	0	0	1
Total Volume	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	0	1	0	0	1
% App. Total	0	0	0	0	0	0	100	0	0	100	100	0	0	0	100	0	100	0	0	100
PHF	.00	.00	.00	.00	.000	.00	.25	.00	.00	.250	.25	.00	.00	.00	.250	.00	.25	.00	.00	.250
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site B - Central Ave & Bull Run Rd - PM

Site Code : B

Start Date : 5/23/2019

Page No : 5

Groups Printed- Pedestrians

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Southbound					Central Ave Westbound					Bull Run Rd Northbound					Central Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site C - Swenson Ave & Bull Run Rd - AM

Site Code : C

Start Date : 5/23/2019

Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	5	0	1	0	6	0	6	1	0	7	0	0	0	0	0	1	3	0	0	4	17
07:15	2	0	1	0	3	0	4	2	0	6	0	0	0	0	0	3	2	0	0	5	14
07:30	3	0	0	0	3	0	7	5	0	12	0	0	0	0	0	1	5	0	0	6	21
07:45	3	0	2	0	5	0	12	4	0	16	0	0	0	0	0	3	7	0	0	10	31
Total	13	0	4	0	17	0	29	12	0	41	0	0	0	0	0	8	17	0	0	25	83
08:00	6	0	1	0	7	0	13	2	0	15	0	0	0	0	0	0	9	0	0	9	31
08:15	3	0	0	0	3	0	9	3	0	12	0	0	0	0	0	0	2	0	0	2	17
08:30	6	0	1	0	7	0	1	2	0	3	0	0	0	0	0	0	6	0	0	6	16
08:45	5	0	2	0	7	0	4	2	0	6	0	0	0	0	0	2	3	0	0	5	18
Total	20	0	4	0	24	0	27	9	0	36	0	0	0	0	0	2	20	0	0	22	82
Grand Total	33	0	8	0	41	0	56	21	0	77	0	0	0	0	0	10	37	0	0	47	165
Apprch %	80.5	0	19.5	0		0	72.7	27.3	0		0	0	0	0	0	21.3	78.7	0	0		
Total %	20	0	4.8	0	24.8	0	33.9	12.7	0	46.7	0	0	0	0	0	6.1	22.4	0	0	28.5	
Vehicles % Vehicles	31	0	6	0	37	0	54	18	0	72	0	0	0	0	0	6	27	0	0	33	142
Heavy Vehicles	2	0	2	0	4	0	2	3	0	5	0	0	0	0	0	4	10	0	0	14	23
% Heavy Vehicles	6.1	0	25	0	9.8	0	3.6	14.3	0	6.5	0	0	0	0	0	40	27	0	0	29.8	13.9

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	3	0	0	0	3	0	7	5	0	12	0	0	0	0	0	1	5	0	0	6	21
07:45	3	0	2	0	5	0	12	4	0	16	0	0	0	0	0	3	7	0	0	10	31
08:00	6	0	1	0	7	0	13	2	0	15	0	0	0	0	0	0	9	0	0	9	31
08:15	3	0	0	0	3	0	9	3	0	12	0	0	0	0	0	0	2	0	0	2	17
Total Volume	15	0	3	0	18	0	41	14	0	55	0	0	0	0	0	4	23	0	0	27	100
% App. Total	83.3	0	16.7	0		0	74.5	25.5	0		0	0	0	0	0	14.8	85.2	0	0		
PHF	.625	.000	.375	.000	.643	.000	.788	.700	.000	.859	.000	.000	.000	.000	.000	.333	.639	.000	.000	.675	.806
Vehicles	15	0	3	0	18	0	39	13	0	52	0	0	0	0	0	3	17	0	0	20	90
% Vehicles							95.1	92.9	0	94.5	0	0	0	0	0	75.0	73.9	0	0	74.1	90.0
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	4.9	7.1	0	5.5	0	0	0	0	0	25.0	26.1	0	0	25.9	10.0

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site C - Swenson Ave & Bull Run Rd - AM

Site Code : C

Start Date : 5/23/2019

Page No : 2

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	08:00					07:30					07:00					07:15				
+0 mins.	6	0	1	0	7	0	7	5	0	12	0	0	0	0	0	3	2	0	0	5
+15 mins.	3	0	0	0	3	0	12	4	0	16	0	0	0	0	0	1	5	0	0	6
+30 mins.	6	0	1	0	7	0	13	2	0	15	0	0	0	0	0	3	7	0	0	10
+45 mins.	5	0	2	0	7	0	9	3	0	12	0	0	0	0	0	0	9	0	0	9
Total Volume	20	0	4	0	24	0	41	14	0	55	0	0	0	0	0	7	23	0	0	30
% App. Total	83.3	0	16.7	0		0	74.5	25.5	0		0	0	0	0		23.3	76.7	0	0	
PHF	.833	.000	.500	.000	.857	.000	.788	.700	.000	.859	.000	.000	.000	.000	.000	.583	.639	.000	.000	.750
Vehicles	19	0	3	0	22	0	39	13	0	52	0	0	0	0	0	3	17	0	0	20
% Vehicles																				
Heavy Vehicles	1	0	1	0	2	0	2	1	0	3	0	0	0	0	0	4	6	0	0	10
% Heavy Vehicles	5	0	25	0	8.3	0	4.9	7.1	0	5.5	0	0	0	0	0	57.1	26.1	0	0	33.3

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site C - Swenson Ave & Bull Run Rd - AM

Site Code : C

Start Date : 5/23/2019

Page No : 3

Groups Printed- Vehicles

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	5	0	0	0	5	0	6	1	0	7	0	0	0	0	0	1	0	0	0	1	13
07:15	1	0	1	0	2	0	4	1	0	5	0	0	0	0	0	0	2	0	0	2	9
07:30	3	0	0	0	3	0	7	5	0	12	0	0	0	0	0	1	2	0	0	3	18
07:45	3	0	2	0	5	0	12	4	0	16	0	0	0	0	0	2	5	0	0	7	28
Total	12	0	3	0	15	0	29	11	0	40	0	0	0	0	0	4	9	0	0	13	68
08:00	6	0	1	0	7	0	12	2	0	14	0	0	0	0	0	0	8	0	0	8	29
08:15	3	0	0	0	3	0	8	2	0	10	0	0	0	0	0	0	2	0	0	2	15
08:30	6	0	1	0	7	0	1	1	0	2	0	0	0	0	0	0	5	0	0	5	14
08:45	4	0	1	0	5	0	4	2	0	6	0	0	0	0	0	2	3	0	0	5	16
Total	19	0	3	0	22	0	25	7	0	32	0	0	0	0	0	2	18	0	0	20	74
Grand Total	31	0	6	0	37	0	54	18	0	72	0	0	0	0	0	6	27	0	0	33	142
Apprch %	83.8	0	16.2	0		0	75	25	0		0	0	0	0		18.2	81.8	0	0		
Total %	21.8	0	4.2	0	26.1	0	38	12.7	0	50.7	0	0	0	0	0	4.2	19	0	0	23.2	

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30																					
07:30	3	0	0	0	3	0	7	5	0	12	0	0	0	0	0	1	2	0	0	3	18
07:45	3	0	2	0	5	0	12	4	0	16	0	0	0	0	0	2	5	0	0	7	28
08:00	6	0	1	0	7	0	12	2	0	14	0	0	0	0	0	0	8	0	0	8	29
08:15	3	0	0	0	3	0	8	2	0	10	0	0	0	0	0	0	2	0	0	2	15
Total Volume	15	0	3	0	18	0	39	13	0	52	0	0	0	0	0	3	17	0	0	20	90
% App. Total	83.3	0	16.7	0		0	75	25	0		0	0	0	0		15	85	0	0		
PHF	.625	.000	.375	.000	.643	.000	.813	.650	.000	.813	.000	.000	.000	.000	.000	.375	.531	.000	.000	.625	.776

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:45					07:30					07:00					07:45				
+0 mins.	3	0	2				5									2				
+15 mins.	6	0	1	0	7	0	12	4	0	16	0	0	0	0	0	0	8	0	0	8
+30 mins.	3	0	0	0	3	0	12	2	0	14	0	0	0	0	0	0	2	0	0	2
+45 mins.	6	0	1	0	7	0	8	2	0	10	0	0	0	0	0	0	5	0	0	5
Total Volume	18	0	4	0	22	0	39	13	0	52	0	0	0	0	0	2	20	0	0	22
% App. Total	81.8	0	18.2	0		0	75	25	0		0	0	0	0		9.1	90.9	0	0	
PHF	.75	.00	.50	.00	.786	.00	.81	.65	.00	.813	.00	.00	.00	.00	.000	.25	.62	.00	.00	.688
	0	0	0	0		0	3	0	0		0	0	0	0		0	5	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site C - Swenson Ave & Bull Run Rd - AM

Site Code : C

Start Date : 5/23/2019

Page No : 4

Groups Printed- Heavy Vehicles

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound						
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total	
07:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	4
07:15	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	3	0	0	0	0	3	5
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3	3
Total	1	0	1	0	2	0	0	1	0	1	0	0	0	0	0	4	8	0	0	0	12	15
08:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0	1	2
08:15	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	2
08:30	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	1	2
08:45	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	1	0	1	0	2	0	2	2	0	4	0	0	0	0	0	0	2	0	0	0	2	8
Grand Total	2	0	2	0	4	0	2	3	0	5	0	0	0	0	0	4	10	0	0	0	14	23
Apprch %	50	0	50	0		0	40	60	0		0	0	0	0		28.6	71.4	0	0			
Total %	8.7	0	8.7	0	17.4	0	8.7	13	0	21.7	0	0	0	0	0	17.4	43.5	0	0	0	60.9	

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound							
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total		
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																							
Peak Hour for Entire Intersection Begins at 07:00																							
07:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	4
07:15	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0	3	0	0	0	0	3	5
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	3
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	0	0	3	3
Total Volume	1	0	1	0	2	0	0	1	0	1	0	0	0	0	0	0	4	8	0	0	0	12	15
% App. Total	50	0	50	0		0	0	100	0		0	0	0	0			33.3	66.7	0	0			
PHF	.250	.000	.250	.000	.500	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.000	.333	.667	.000	.000	1.00	.750	

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					07:45					07:00					07:00				
+0 mins.	0	0	1		1											3				3
+15 mins.	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3	0	0	0	3
+30 mins.	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	3	0	0	3
+45 mins.	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1	2	0	0	3
Total Volume	1	0	1	0	2	0	2	2	0	4	0	0	0	0	0	4	8	0	0	12
% App. Total	50	0	50	0		0	50	50	0		0	0	0	0		33.3	66.7	0	0	
PHF	.250	.000	.250	.000	.500	.000	.500	.500	.000	.500	.000	.000	.000	.000	.000	.333	.667	.000	.000	1.000

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site C - Swenson Ave & Bull Run Rd - AM

Site Code : C

Start Date : 5/23/2019

Page No : 5

Groups Printed- Pedestrians

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00																					
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	07:00					07:00					07:00					07:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site C - Swenson Ave & Bull Run Rd - PM

Site Code : C

Start Date : 5/23/2019

Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	5	0	0	0	5	0	6	5	0	11	0	0	0	0	0	1	11	0	0	12	28
16:15	2	0	1	0	3	0	9	5	0	14	0	0	0	0	0	1	14	0	0	15	32
16:30	7	0	2	0	9	0	10	4	0	14	0	0	0	0	0	4	14	0	0	18	41
16:45	5	0	1	0	6	0	4	5	0	9	0	0	0	0	0	1	13	0	0	14	29
Total	19	0	4	0	23	0	29	19	0	48	0	0	0	0	0	7	52	0	0	59	130
17:00	11	0	0	0	11	0	5	1	0	6	0	0	0	0	0	1	10	0	0	11	28
17:15	8	0	1	0	9	0	2	6	0	8	0	0	0	0	0	0	9	0	0	9	26
17:30	9	0	2	0	11	0	6	3	0	9	0	0	0	0	0	0	5	0	0	5	25
17:45	3	0	1	0	4	0	6	1	0	7	0	0	0	0	0	1	5	0	0	6	17
Total	31	0	4	0	35	0	19	11	0	30	0	0	0	0	0	2	29	0	0	31	96
Grand Total	50	0	8	0	58	0	48	30	0	78	0	0	0	0	0	9	81	0	0	90	226
Apprch %	86.2	0	13.8	0		0	61.5	38.5	0		0	0	0	0		10	90	0	0		
Total %	22.1	0	3.5	0	25.7	0	21.2	13.3	0	34.5	0	0	0	0	0	4	35.8	0	0	39.8	
Vehicles % Vehicles	49	0	7	0	56	0	44	30	0	74	0	0	0	0	0	9	80	0	0	89	219
Heavy Vehicles	1	0	1	0	2	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	7
% Heavy Vehicles	2	0	12.5	0	3.4	0	8.3	0	0	5.1	0	0	0	0	0	0	1.2	0	0	1.1	3.1

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total		Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	5	0	0	0	5	0	6	5	0	11	0	0	0	0	0	1	11	0	0	12	28
16:15	2	0	1	0	3	0	9	5	0	14	0	0	0	0	0	1	14	0	0	15	32
16:30	7	0	2	0	9	0	10	4	0	14	0	0	0	0	0	4	14	0	0	18	41
16:45	5	0	1	0	6	0	4	5	0	9	0	0	0	0	0	1	13	0	0	14	29
Total Volume	19	0	4	0	23	0	29	19	0	48	0	0	0	0	0	7	52	0	0	59	130
% App. Total	82.6	0	17.4	0		0	60.4	39.6	0		0	0	0	0		11.9	88.1	0	0		
PHF	.679	.000	.500	.000	.639	.000	.725	.950	.000	.857	.000	.000	.000	.000	.000	.438	.929	.000	.000	.819	.793
Vehicles	18	0	3	0	21	0	26	19	0	45	0	0	0	0	0	7	51	0	0	58	124
% Vehicles	94.7	0	75.0	0	91.3	0	89.7	100	0	93.8	0	0	0	0	0	100	98.1	0	0	98.3	95.4
Heavy Vehicles																					
% Heavy Vehicles	5.3	0	25.0	0	8.7	0	10.3	0	0	6.3	0	0	0	0	0	0	1.9	0	0	1.7	4.6

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site C - Swenson Ave & Bull Run Rd - PM

Site Code : C

Start Date : 5/23/2019

Page No : 2

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:45					16:00					16:00					16:00				
+0 mins.	5	0	1	0	6	0	6	5	0	11	0	0	0	0	0	1	11	0	0	12
+15 mins.	11	0	0	0	11	0	9	5	0	14	0	0	0	0	0	1	14	0	0	15
+30 mins.	8	0	1	0	9	0	10	4	0	14	0	0	0	0	0	4	14	0	0	18
+45 mins.	9	0	2	0	11	0	4	5	0	9	0	0	0	0	0	1	13	0	0	14
Total Volume	33	0	4	0	37	0	29	19	0	48	0	0	0	0	0	7	52	0	0	59
% App. Total	89.2	0	10.8	0		0	60.4	39.6	0		0	0	0	0		11.9	88.1	0	0	
PHF	.750	.000	.500	.000	.841	.000	.725	.950	.000	.857	.000	.000	.000	.000	.000	.438	.929	.000	.000	.819
Vehicles	33	0	3	0	36	0	26	19	0	45	0	0	0	0	0	7	51	0	0	58
% Vehicles																				
Heavy Vehicles	0	0	1	0	1	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1
% Heavy Vehicles	0	0	25	0	2.7	0	10.3	0	0	6.2	0	0	0	0	0	0	1.9	0	0	1.7

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site C - Swenson Ave & Bull Run Rd - PM

Site Code : C

Start Date : 5/23/2019

Page No : 3

Groups Printed- Vehicles

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	4	0	0	0	4	0	5	5	0	10	0	0	0	0	0	1	11	0	0	12	26
16:15	2	0	1	0	3	0	8	5	0	13	0	0	0	0	0	1	14	0	0	15	31
16:30	7	0	2	0	9	0	9	4	0	13	0	0	0	0	0	4	14	0	0	18	40
16:45	5	0	0	0	5	0	4	5	0	9	0	0	0	0	0	1	12	0	0	13	27
Total	18	0	3	0	21	0	26	19	0	45	0	0	0	0	0	7	51	0	0	58	124
17:00	11	0	0	0	11	0	5	1	0	6	0	0	0	0	0	1	10	0	0	11	28
17:15	8	0	1	0	9	0	2	6	0	8	0	0	0	0	0	0	9	0	0	9	26
17:30	9	0	2	0	11	0	6	3	0	9	0	0	0	0	0	0	5	0	0	5	25
17:45	3	0	1	0	4	0	5	1	0	6	0	0	0	0	0	1	5	0	0	6	16
Total	31	0	4	0	35	0	18	11	0	29	0	0	0	0	0	2	29	0	0	31	95
Grand Total	49	0	7	0	56	0	44	30	0	74	0	0	0	0	0	9	80	0	0	89	219
Apprch %	87.5	0	12.5	0		0	59.5	40.5	0		0	0	0	0		10.1	89.9	0	0		
Total %	22.4	0	3.2	0	25.6	0	20.1	13.7	0	33.8	0	0	0	0	0	4.1	36.5	0	0	40.6	

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:15																					
16:15	2	0	1	0	3	0	8	5	0	13	0	0	0	0	0	1	14	0	0	15	31
16:30	7	0	2	0	9	0	9	4	0	13	0	0	0	0	0	4	14	0	0	18	40
16:45	5	0	0	0	5	0	4	5	0	9	0	0	0	0	0	1	12	0	0	13	27
17:00	11	0	0	0	11	0	5	1	0	6	0	0	0	0	0	1	10	0	0	11	28
Total Volume	25	0	3	0	28	0	26	15	0	41	0	0	0	0	0	7	50	0	0	57	126
% App. Total	89.3	0	10.7	0		0	63.4	36.6	0		0	0	0	0		12.3	87.7	0	0		
PHF	.568	.000	.375	.000	.636	.000	.722	.750	.000	.788	.000	.000	.000	.000	.000	.438	.893	.000	.000	.792	.788

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:45					16:00					16:00					16:00				
+0 mins.	5	0	0	0	5	0	5	5	0	10	0	0	0	0	0	1	14	0	0	15
+15 mins.	11	0	0	0	11	0	8	5	0	13	0	0	0	0	0	4	14	0	0	18
+30 mins.	8	0	1	0	9	0	9	4	0	13	0	0	0	0	0	1	12	0	0	13
+45 mins.	9	0	2	0	11	0	4	5	0	9	0	0	0	0	0	1	12	0	0	13
Total Volume	33	0	3	0	36	0	26	19	0	45	0	0	0	0	0	7	51	0	0	58
% App. Total	91.7	0	8.3	0		0	57.8	42.2	0		0	0	0	0		12.1	87.9	0	0	
PHF	.750	.000	.375	.000	.818	.000	.722	.950	.000	.865	.000	.000	.000	.000	.000	.438	.911	.000	.000	.806

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site C - Swenson Ave & Bull Run Rd - PM

Site Code : C

Start Date : 5/23/2019

Page No : 4

Groups Printed- Heavy Vehicles

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
16:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Total	1	0	1	0	2	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	6
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Grand Total	1	0	1	0	2	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	7
Apprch %	50	0	50	0		0	100	0	0		0	0	0	0		0	100	0	0		
Total %	14.3	0	14.3	0	28.6	0	57.1	0	0	57.1	0	0	0	0	0	0	14.3	0	0	14.3	

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
16:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
16:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2
Total Volume	1	0	1	0	2	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1	6
% App. Total	50	0	50	0		0	100	0	0		0	0	0	0		0	100	0	0		
PHF	.250	.000	.250	.000	.500	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.750

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	1				1	1				1										
+15 mins.	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total Volume	1	0	1	0	2	0	3	0	0	3	0	0	0	0	0	0	1	0	0	1
% App. Total	50	0	50	0		0	100	0	0		0	0	0	0		0	100	0	0	
PHF	.25	.00	.25	.00	.500	.00	.75	.00	.00	.750	.00	.00	.00	.00	.000	.00	.25	.00	.00	.250
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site C - Swenson Ave & Bull Run Rd - PM

Site Code : C

Start Date : 5/23/2019

Page No : 5

Groups Printed- Pedestrians

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					

	Bull Run Rd Southbound					Swenson Ave Westbound					Northbound					Swenson Ave Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:00																					
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	16:00					16:00					16:00					16:00				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume																				
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

Site Code : D

Start Date : 5/23/2019

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Groups Printed- Vehicles - Heavy Vehicles

Start Time	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					Int. Total
	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	
00:00	0	0	0	0	0	0	38	0	0	38	0	0	0	0	0	0	31	1	0	32	70
00:15	0	0	0	0	0	0	30	0	0	30	0	0	1	0	1	0	30	0	0	30	61
00:30	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	32	1	0	33	54
00:45	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	20	0	0	20	36
Total	0	0	0	0	0	0	105	0	0	105	0	0	1	0	1	0	113	2	0	115	221
01:00	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	32	0	0	32	56
01:15	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	19	0	0	19	40
01:30	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	27	0	0	27	41
01:45	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	22	0	0	22	40
Total	0	0	0	0	0	0	77	0	0	77	0	0	0	0	0	0	100	0	0	100	177
02:00	0	0	0	0	0	0	14	0	0	14	1	0	0	0	1	0	17	0	0	17	32
02:15	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	11	0	0	11	28
02:30	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	13	0	0	13	30
02:45	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	13	0	0	13	26
Total	0	0	0	0	0	0	61	0	0	61	1	0	0	0	1	0	54	0	0	54	116
03:00	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	12	0	0	12	29
03:15	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	18	0	0	18	35
03:30	0	0	0	0	0	0	24	0	0	24	1	0	0	0	1	0	25	0	0	25	50
03:45	0	0	0	0	0	0	32	0	0	32	1	0	0	0	1	0	22	0	0	22	55
Total	0	0	0	0	0	0	90	0	0	90	2	0	0	0	2	0	77	0	0	77	169
04:00	0	0	0	0	0	0	30	0	0	30	0	0	0	0	0	0	26	0	0	26	56
04:15	0	0	0	0	0	0	66	0	0	66	0	0	0	0	0	0	29	0	0	29	95
04:30	0	0	0	0	0	1	76	0	0	77	0	0	0	0	0	0	33	1	0	34	111
04:45	0	0	0	0	0	0	78	0	0	78	0	0	1	0	1	0	44	1	0	45	124
Total	0	0	0	0	0	1	250	0	0	251	0	0	1	0	1	0	132	2	0	134	386
05:00	0	0	0	0	0	1	153	0	0	154	0	0	0	0	0	0	36	0	0	36	190
05:15	0	0	0	0	0	1	224	0	0	225	0	0	1	0	1	0	41	0	0	41	267
05:30	0	0	0	0	0	5	303	0	0	308	1	0	1	0	2	0	68	0	0	68	378
05:45	0	0	0	0	0	5	300	0	0	305	0	0	2	0	2	0	75	3	0	78	385
Total	0	0	0	0	0	12	980	0	0	992	1	0	4	0	5	0	220	3	0	223	1220
06:00	0	0	0	0	0	2	304	0	0	306	0	0	2	0	2	0	84	4	0	88	396
06:15	0	0	0	0	0	2	302	0	0	304	0	0	0	0	0	0	129	1	0	130	434
06:30	0	0	0	0	0	7	284	0	0	291	1	0	2	0	3	0	126	3	0	129	423
06:45	0	0	0	0	0	9	282	0	0	291	0	0	12	0	12	0	146	6	0	152	455
Total	0	0	0	0	0	20	1172	0	0	1192	1	0	16	0	17	0	485	14	0	499	1708
07:00	0	0	0	0	0	3	288	0	0	291	1	0	6	0	7	0	176	5	0	181	479
07:15	0	0	0	0	0	1	338	0	0	339	2	0	3	0	5	0	220	4	0	224	568
07:30	0	0	0	0	0	6	318	0	0	324	4	0	3	0	7	0	203	8	0	211	542
07:45	0	0	0	0	0	9	299	0	0	308	2	0	11	0	13	0	211	10	0	221	542
Total	0	0	0	0	0	19	1243	0	0	1262	9	0	23	0	32	0	810	27	0	837	2131
08:00	0	0	0	0	0	10	313	0	0	323	3	0	10	0	13	0	209	3	0	212	548
08:15	0	0	0	0	0	7	261	0	0	268	1	0	5	0	6	0	176	7	0	183	457

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

Site Code : D

Start Date : 5/23/2019

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Groups Printed- Vehicles - Heavy Vehicles

Start Time	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					Int. Total
	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	
08:30	0	0	0	0	0	2	243	0	0	245	2	0	9	0	11	0	225	1	0	226	482
08:45	0	0	0	0	0	5	228	0	0	233	3	0	5	0	8	0	206	0	0	206	447
Total	0	0	0	0	0	24	1045	0	0	1069	9	0	29	0	38	0	816	11	0	827	1934
09:00	0	0	0	0	0	8	218	0	0	226	3	0	4	0	7	0	187	9	0	196	429
09:15	0	0	0	0	0	5	266	0	0	271	5	0	7	0	12	0	183	4	0	187	470
09:30	0	0	0	0	0	6	194	0	0	200	5	0	6	0	11	0	189	6	0	195	406
09:45	0	0	0	0	0	6	200	0	0	206	3	0	1	0	4	0	203	3	0	206	416
Total	0	0	0	0	0	25	878	0	0	903	16	0	18	0	34	0	762	22	0	784	1721
10:00	0	0	0	0	0	3	205	0	0	208	2	0	3	0	5	0	231	3	0	234	447
10:15	0	0	0	0	0	7	238	0	0	245	4	0	10	0	14	0	191	5	0	196	455
10:30	0	0	0	0	0	4	229	0	0	233	3	0	8	0	11	0	207	6	0	213	457
10:45	0	0	0	0	0	5	220	0	0	225	3	0	11	0	14	0	209	6	0	215	454
Total	0	0	0	0	0	19	892	0	0	911	12	0	32	0	44	0	838	20	0	858	1813
11:00	0	0	0	0	0	6	227	0	0	233	3	0	12	0	15	0	193	4	0	197	445
11:15	0	0	0	0	0	6	233	0	0	239	4	0	8	0	12	0	236	7	0	243	494
11:30	0	0	0	0	0	9	269	0	0	278	3	0	14	0	17	0	216	7	0	223	518
11:45	0	0	0	0	0	8	268	0	0	276	7	0	12	0	19	0	209	8	0	217	512
Total	0	0	0	0	0	29	997	0	0	1026	17	0	46	0	63	0	854	26	0	880	1969
12:00	0	0	0	0	0	4	236	0	0	240	4	0	10	0	14	0	250	9	0	259	513
12:15	0	0	0	0	0	6	211	0	0	217	5	0	8	0	13	0	214	10	0	224	454
12:30	0	0	0	0	0	6	251	0	0	257	7	0	10	0	17	0	254	6	0	260	534
12:45	0	0	0	0	0	5	245	0	0	250	2	0	8	0	10	0	240	6	0	246	506
Total	0	0	0	0	0	21	943	0	0	964	18	0	36	0	54	0	958	31	0	989	2007
13:00	0	0	0	0	0	8	260	0	0	268	3	0	10	0	13	0	274	8	0	282	563
13:15	0	0	0	0	0	10	257	0	0	267	3	0	9	0	12	0	247	7	0	254	533
13:30	0	0	0	0	0	4	258	0	0	262	4	0	4	0	8	0	226	4	0	230	500
13:45	0	0	0	0	0	4	237	0	0	241	5	0	9	0	14	0	254	8	0	262	517
Total	0	0	0	0	0	26	1012	0	0	1038	15	0	32	0	47	0	1001	27	0	1028	2113
14:00	0	0	0	0	0	3	250	0	0	253	4	0	13	0	17	0	253	4	0	257	527
14:15	0	0	0	0	0	5	267	0	0	272	3	0	3	0	6	0	276	6	0	282	560
14:30	0	0	0	0	0	2	272	0	0	274	4	0	10	0	14	0	301	6	0	307	595
14:45	0	0	0	0	0	4	265	0	0	269	7	0	5	0	12	0	311	4	0	315	596
Total	0	0	0	0	0	14	1054	0	0	1068	18	0	31	0	49	0	1141	20	0	1161	2278
15:00	0	0	0	0	0	6	272	0	0	278	2	0	10	0	12	0	322	4	0	326	616
15:15	0	0	0	0	0	3	260	0	0	263	3	0	7	0	10	0	365	6	0	371	644
15:30	0	0	0	0	0	8	284	0	0	292	1	0	6	0	7	0	358	6	0	364	663
15:45	0	0	0	0	0	2	312	0	0	314	6	0	7	0	13	0	391	8	0	399	726
Total	0	0	0	0	0	19	1128	0	0	1147	12	0	30	0	42	0	1436	24	0	1460	2649
16:00	0	0	0	0	0	3	324	0	0	327	10	0	6	0	16	0	364	7	0	371	714
16:15	0	0	0	0	0	10	291	0	0	301	4	0	11	0	15	0	422	7	0	429	745
16:30	0	0	0	0	0	6	318	0	0	324	5	0	17	0	22	0	378	5	0	383	729
16:45	0	0	0	0	0	5	339	0	0	344	7	0	8	0	15	0	406	3	0	409	768
Total	0	0	0	0	0	24	1272	0	0	1296	26	0	42	0	68	0	1570	22	0	1592	2956
17:00	0	0	0	0	0	6	323	0	0	329	4	0	18	0	22	0	407	3	0	410	761

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

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Groups Printed- Vehicles - Heavy Vehicles

	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
17:15	0	0	0	0	0	5	323	0	0	328	5	0	13	0	18	0	422	4	0	426	772
17:30	0	0	0	0	0	4	294	0	0	298	4	0	10	0	14	0	367	4	0	371	683
17:45	0	0	0	0	0	5	330	0	0	335	3	0	6	0	9	0	381	3	0	384	728
Total	0	0	0	0	0	20	1270	0	0	1290	16	0	47	0	63	0	1577	14	0	1591	2944
18:00	0	0	0	0	0	5	242	0	0	247	3	0	6	0	9	0	386	4	0	390	646
18:15	0	0	0	0	0	5	252	0	0	257	1	0	14	0	15	0	350	7	0	357	629
18:30	0	0	0	0	0	2	233	0	0	235	1	0	8	0	9	0	390	1	0	391	635
18:45	0	0	0	0	0	3	212	0	0	215	1	0	8	0	9	0	312	2	0	314	538
Total	0	0	0	0	0	15	939	0	0	954	6	0	36	0	42	0	1438	14	0	1452	2448
19:00	0	0	0	0	0	1	201	0	0	202	4	0	12	0	16	0	304	3	0	307	525
19:15	0	0	0	0	0	3	250	0	0	253	5	0	8	0	13	0	250	1	0	251	517
19:30	0	0	0	0	0	2	222	0	0	224	0	0	4	0	4	0	233	0	0	233	461
19:45	0	0	0	0	0	2	203	0	0	205	1	0	2	0	3	0	238	0	0	238	446
Total	0	0	0	0	0	8	876	0	0	884	10	0	26	0	36	0	1025	4	0	1029	1949
20:00	0	0	0	0	0	1	199	0	0	200	0	0	4	0	4	0	261	2	0	263	467
20:15	0	0	0	0	0	3	203	0	0	206	2	0	3	0	5	0	198	1	0	199	410
20:30	0	0	0	0	0	1	187	0	0	188	2	0	6	0	8	0	191	2	0	193	389
20:45	0	0	0	0	0	5	176	0	0	181	1	0	1	0	2	0	189	0	0	189	372
Total	0	0	0	0	0	10	765	0	0	775	5	0	14	0	19	0	839	5	0	844	1638
21:00	0	0	0	0	0	1	190	0	0	191	1	0	5	0	6	0	183	1	0	184	381
21:15	0	0	0	0	0	2	155	0	0	157	0	0	1	0	1	0	145	0	0	145	303
21:30	0	0	0	0	0	2	172	0	0	174	0	0	1	0	1	0	164	1	0	165	340
21:45	0	0	0	0	0	2	136	0	0	138	0	0	0	0	0	0	126	1	0	127	265
Total	0	0	0	0	0	7	653	0	0	660	1	0	7	0	8	0	618	3	0	621	1289
22:00	0	0	0	0	0	0	115	0	0	115	1	0	0	0	1	0	143	1	0	144	260
22:15	0	0	0	0	0	1	148	0	0	149	0	0	2	0	2	0	112	1	0	113	264
22:30	0	0	0	0	0	0	93	0	0	93	0	0	3	0	3	0	98	0	0	98	194
22:45	0	0	0	0	0	0	71	0	0	71	0	0	1	0	1	0	96	0	0	96	168
Total	0	0	0	0	0	1	427	0	0	428	1	0	6	0	7	0	449	2	0	451	886
23:00	0	0	0	0	0	2	83	0	0	85	0	0	0	0	0	0	77	0	0	77	162
23:15	0	0	0	0	0	0	83	0	0	83	0	0	0	0	0	0	61	1	0	62	145
23:30	0	0	0	0	0	0	31	0	0	31	0	0	0	0	0	0	22	0	0	22	53
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	197	0	0	199	0	0	0	0	0	0	160	1	0	161	360
Grand Total	0	0	0	0	0	316	18326	0	0	18642	196	0	477	0	673	0	17473	294	0	17767	37082
Apprch %	0	0	0	0	0	1.7	98.3	0	0		29.1	0	70.9	0		0	98.3	1.7	0		
Total %	0	0	0	0	0	0.9	49.4	0	0	50.3	0.5	0	1.3	0	1.8	0	47.1	0.8	0	47.9	
Vehicles	0	0	0	0	0	301	17126			17427							16198			16477	34542
% Vehicles	0	0	0	0	0	95.3	93.5	0	0	93.5	90.3	0	96.6	0	94.8	0	92.7	94.9	0	92.7	93.2
Heavy Vehicles							1200										1275				
% Heavy Vehicles	0	0	0	0	0	4.7	6.5	0	0	6.5	9.7	0	3.4	0	5.2	0	7.3	5.1	0	7.3	6.8

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

Site Code : D

Start Date : 5/23/2019

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	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	6	318	0	0	324	5	0	17	0	22	0	378	5	0	383	729
16:45	0	0	0	0	0	5	339	0	0	344	7	0	8	0	15	0	406	3	0	409	768
17:00	0	0	0	0	0	6	323	0	0	329	4	0	18	0	22	0	407	3	0	410	761
17:15	0	0	0	0	0	5	323	0	0	328	5	0	13	0	18	0	422	4	0	426	772
Total Volume	0	0	0	0	0	22	1303	0	0	1325	21	0	56	0	77	0	1613	15	0	1628	3030
% App. Total	0	0	0	0	0	1.7	98.3	0	0		27.3	0	72.7	0		0	99.1	0.9	0		
PHF	.000	.000	.000	.000	.000	.917	.961	.000	.000	.963	.750	.000	.778	.000	.875	.000	.956	.750	.000	.955	.981
Vehicles	0	0	0	0	0	20	1238									1569					
% Vehicles	0	0	0	0	0	90.9	95.0	0	0	94.9	100	0	98.2	0	98.7	0	97.3	100	0	97.3	96.3
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	9.1	5.0	0	0	5.1	0	0	1.8	0	1.3	0	2.7	0	0	2.7	3.7

Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	00:00					16:30					16:30					16:15				
+0 mins.	0	0	0	0	0	6	318	0	0	324	5	0	17	0	22	0	422	7	0	429
+15 mins.	0	0	0	0	0	5	339	0	0	344	7	0	8	0	15	0	378	5	0	383
+30 mins.	0	0	0	0	0	6	323	0	0	329	4	0	18	0	22	0	406	3	0	409
+45 mins.	0	0	0	0	0	5	323	0	0	328	5	0	13	0	18	0	407	3	0	410
Total Volume	0	0	0	0	0	22	1303	0	0	1325	21	0	56	0	77	0	1613	18	0	1631
% App. Total	0	0	0	0	0	1.7	98.3	0	0		27.3	0	72.7	0		0	98.9	1.1	0	
PHF	.000	.000	.000	.000	.000	.917	.961	.000	.000	.963	.750	.000	.778	.000	.875	.000	.956	.643	.000	.950
Vehicles	0	0	0	0	0	20	1238				21	0	55	0	76	0	1554	18	0	1572
% Vehicles																				
Heavy Vehicles	0	0	0	0	0	2	65	0	0	67	0	0	1	0	1	0	59	0	0	59
% Heavy Vehicles	0	0	0	0	0	9.1	5	0	0	5.1	0	0	1.8	0	1.3	0	3.7	0	0	3.6

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

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Groups Printed- Vehicles

	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
00:00	0	0	0	0	0	0	36	0	0	36	0	0	0	0	0	0	28	1	0	29	65
00:15	0	0	0	0	0	0	27	0	0	27	0	0	1	0	1	0	28	0	0	28	56
00:30	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	29	1	0	30	48
00:45	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	18	0	0	18	30
Total	0	0	0	0	0	0	93	0	0	93	0	0	1	0	1	0	103	2	0	105	199
01:00	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	28	0	0	28	49
01:15	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	14	0	0	14	32
01:30	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	22	0	0	22	35
01:45	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	16	0	0	16	29
Total	0	0	0	0	0	0	65	0	0	65	0	0	0	0	0	0	80	0	0	80	145
02:00	0	0	0	0	0	0	12	0	0	12	1	0	0	0	1	0	14	0	0	14	27
02:15	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	7	0	0	7	22
02:30	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	11	0	0	11	23
02:45	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	10	0	0	10	21
Total	0	0	0	0	0	0	50	0	0	50	1	0	0	0	1	0	42	0	0	42	93
03:00	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	9	0	0	9	24
03:15	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	11	0	0	11	25
03:30	0	0	0	0	0	0	14	0	0	14	1	0	0	0	1	0	19	0	0	19	34
03:45	0	0	0	0	0	0	27	0	0	27	1	0	0	0	1	0	20	0	0	20	48
Total	0	0	0	0	0	0	70	0	0	70	2	0	0	0	2	0	59	0	0	59	131
04:00	0	0	0	0	0	0	27	0	0	27	0	0	0	0	0	0	18	0	0	18	45
04:15	0	0	0	0	0	0	54	0	0	54	0	0	0	0	0	0	25	0	0	25	79
04:30	0	0	0	0	0	1	67	0	0	68	0	0	0	0	0	0	26	1	0	27	95
04:45	0	0	0	0	0	0	70	0	0	70	0	0	1	0	1	0	36	1	0	37	108
Total	0	0	0	0	0	1	218	0	0	219	0	0	1	0	1	0	105	2	0	107	327
05:00	0	0	0	0	0	0	140	0	0	140	0	0	0	0	0	0	32	0	0	32	172
05:15	0	0	0	0	0	1	208	0	0	209	0	0	1	0	1	0	34	0	0	34	244
05:30	0	0	0	0	0	5	288	0	0	293	0	0	1	0	1	0	57	0	0	57	351
05:45	0	0	0	0	0	5	287	0	0	292	0	0	2	0	2	0	63	3	0	66	360
Total	0	0	0	0	0	11	923	0	0	934	0	0	4	0	4	0	186	3	0	189	1127
06:00	0	0	0	0	0	2	288	0	0	290	0	0	2	0	2	0	68	3	0	71	363
06:15	0	0	0	0	0	2	291	0	0	293	0	0	0	0	0	0	106	1	0	107	400
06:30	0	0	0	0	0	7	269	0	0	276	0	0	2	0	2	0	117	3	0	120	398
06:45	0	0	0	0	0	9	263	0	0	272	0	0	12	0	12	0	129	4	0	133	417
Total	0	0	0	0	0	20	1111	0	0	1131	0	0	16	0	16	0	420	11	0	431	1578
07:00	0	0	0	0	0	3	272	0	0	275	1	0	3	0	4	0	158	5	0	163	442
07:15	0	0	0	0	0	1	309	0	0	310	1	0	3	0	4	0	197	3	0	200	514
07:30	0	0	0	0	0	6	300	0	0	306	3	0	1	0	4	0	186	8	0	194	504
07:45	0	0	0	0	0	9	285	0	0	294	1	0	10	0	11	0	194	9	0	203	508
Total	0	0	0	0	0	19	1166	0	0	1185	6	0	17	0	23	0	735	25	0	760	1968
08:00	0	0	0	0	0	10	289	0	0	299	2	0	10	0	12	0	180	3	0	183	494
08:15	0	0	0	0	0	5	233	0	0	238	1	0	5	0	6	0	156	7	0	163	407
08:30	0	0	0	0	0	2	225	0	0	227	1	0	9	0	10	0	209	0	0	209	446
08:45	0	0	0	0	0	5	205	0	0	210	2	0	5	0	7	0	171	0	0	171	388
Total	0	0	0	0	0	22	952	0	0	974	6	0	29	0	35	0	716	10	0	726	1735

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

Site Code : D

Start Date : 5/23/2019

Page No : 6

Groups Printed- Vehicles

	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
09:00	0	0	0	0	0	5	204	0	0	209	1	0	3	0	4	0	150	8	0	158	371
09:15	0	0	0	0	0	5	249	0	0	254	3	0	7	0	10	0	164	4	0	168	432
09:30	0	0	0	0	0	6	181	0	0	187	5	0	5	0	10	0	164	6	0	170	367
09:45	0	0	0	0	0	6	180	0	0	186	3	0	1	0	4	0	168	3	0	171	361
Total	0	0	0	0	0	22	814	0	0	836	12	0	16	0	28	0	646	21	0	667	1531
10:00	0	0	0	0	0	3	188	0	0	191	2	0	3	0	5	0	190	2	0	192	388
10:15	0	0	0	0	0	5	220	0	0	225	2	0	10	0	12	0	165	5	0	170	407
10:30	0	0	0	0	0	4	207	0	0	211	3	0	8	0	11	0	182	6	0	188	410
10:45	0	0	0	0	0	5	195	0	0	200	3	0	10	0	13	0	184	6	0	190	403
Total	0	0	0	0	0	17	810	0	0	827	10	0	31	0	41	0	721	19	0	740	1608
11:00	0	0	0	0	0	6	206	0	0	212	3	0	12	0	15	0	168	4	0	172	399
11:15	0	0	0	0	0	6	218	0	0	224	4	0	8	0	12	0	207	6	0	213	449
11:30	0	0	0	0	0	9	246	0	0	255	2	0	14	0	16	0	189	7	0	196	467
11:45	0	0	0	0	0	7	246	0	0	253	7	0	11	0	18	0	194	7	0	201	472
Total	0	0	0	0	0	28	916	0	0	944	16	0	45	0	61	0	758	24	0	782	1787
12:00	0	0	0	0	0	3	204	0	0	207	4	0	10	0	14	0	236	9	0	245	466
12:15	0	0	0	0	0	6	183	0	0	189	5	0	7	0	12	0	183	10	0	193	394
12:30	0	0	0	0	0	6	235	0	0	241	7	0	10	0	17	0	235	5	0	240	498
12:45	0	0	0	0	0	5	229	0	0	234	2	0	7	0	9	0	216	6	0	222	465
Total	0	0	0	0	0	20	851	0	0	871	18	0	34	0	52	0	870	30	0	900	1823
13:00	0	0	0	0	0	8	245	0	0	253	2	0	10	0	12	0	242	8	0	250	515
13:15	0	0	0	0	0	10	232	0	0	242	3	0	8	0	11	0	223	7	0	230	483
13:30	0	0	0	0	0	4	239	0	0	243	4	0	4	0	8	0	207	3	0	210	461
13:45	0	0	0	0	0	4	224	0	0	228	5	0	9	0	14	0	235	7	0	242	484
Total	0	0	0	0	0	26	940	0	0	966	14	0	31	0	45	0	907	25	0	932	1943
14:00	0	0	0	0	0	3	234	0	0	237	3	0	13	0	16	0	242	4	0	246	499
14:15	0	0	0	0	0	5	239	0	0	244	3	0	3	0	6	0	249	6	0	255	505
14:30	0	0	0	0	0	2	258	0	0	260	4	0	10	0	14	0	274	6	0	280	554
14:45	0	0	0	0	0	4	247	0	0	251	7	0	5	0	12	0	290	4	0	294	557
Total	0	0	0	0	0	14	978	0	0	992	17	0	31	0	48	0	1055	20	0	1075	2115
15:00	0	0	0	0	0	6	252	0	0	258	2	0	10	0	12	0	299	4	0	303	573
15:15	0	0	0	0	0	3	251	0	0	254	3	0	7	0	10	0	342	6	0	348	612
15:30	0	0	0	0	0	7	265	0	0	272	1	0	5	0	6	0	336	4	0	340	618
15:45	0	0	0	0	0	2	288	0	0	290	4	0	6	0	10	0	376	8	0	384	684
Total	0	0	0	0	0	18	1056	0	0	1074	10	0	28	0	38	0	1353	22	0	1375	2487
16:00	0	0	0	0	0	2	302	0	0	304	10	0	6	0	16	0	347	7	0	354	674
16:15	0	0	0	0	0	9	271	0	0	280	4	0	11	0	15	0	399	7	0	406	701
16:30	0	0	0	0	0	5	292	0	0	297	5	0	17	0	22	0	363	5	0	368	687
16:45	0	0	0	0	0	5	324	0	0	329	7	0	7	0	14	0	398	3	0	401	744
Total	0	0	0	0	0	21	1189	0	0	1210	26	0	41	0	67	0	1507	22	0	1529	2806
17:00	0	0	0	0	0	6	315	0	0	321	4	0	18	0	22	0	394	3	0	397	740
17:15	0	0	0	0	0	4	307	0	0	311	5	0	13	0	18	0	414	4	0	418	747
17:30	0	0	0	0	0	4	284	0	0	288	4	0	10	0	14	0	356	4	0	360	662
17:45	0	0	0	0	0	5	314	0	0	319	3	0	6	0	9	0	371	3	0	374	702
Total	0	0	0	0	0	19	1220	0	0	1239	16	0	47	0	63	0	1535	14	0	1549	2851

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site D - Swenson Blvd & US 290

Site Code : D

Start Date : 5/23/2019

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Groups Printed- Vehicles

Start Time	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					Int. Total
	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	
18:00	0	0	0	0	0	5	233	0	0	238	3	0	6	0	9	0	373	4	0	377	624
18:15	0	0	0	0	0	5	241	0	0	246	1	0	14	0	15	0	343	7	0	350	611
18:30	0	0	0	0	0	2	225	0	0	227	1	0	8	0	9	0	382	1	0	383	619
18:45	0	0	0	0	0	3	201	0	0	204	1	0	8	0	9	0	297	2	0	299	512
Total	0	0	0	0	0	15	900	0	0	915	6	0	36	0	42	0	1395	14	0	1409	2366
19:00	0	0	0	0	0	1	194	0	0	195	4	0	12	0	16	0	298	3	0	301	512
19:15	0	0	0	0	0	3	241	0	0	244	5	0	8	0	13	0	244	1	0	245	502
19:30	0	0	0	0	0	2	212	0	0	214	0	0	4	0	4	0	231	0	0	231	449
19:45	0	0	0	0	0	2	198	0	0	200	1	0	2	0	3	0	232	0	0	232	435
Total	0	0	0	0	0	8	845	0	0	853	10	0	26	0	36	0	1005	4	0	1009	1898
20:00	0	0	0	0	0	1	195	0	0	196	0	0	4	0	4	0	253	2	0	255	455
20:15	0	0	0	0	0	3	197	0	0	200	2	0	3	0	5	0	193	1	0	194	399
20:30	0	0	0	0	0	1	178	0	0	179	2	0	6	0	8	0	183	2	0	185	372
20:45	0	0	0	0	0	5	171	0	0	176	1	0	1	0	2	0	185	0	0	185	363
Total	0	0	0	0	0	10	741	0	0	751	5	0	14	0	19	0	814	5	0	819	1589
21:00	0	0	0	0	0	1	183	0	0	184	1	0	5	0	6	0	178	1	0	179	369
21:15	0	0	0	0	0	2	151	0	0	153	0	0	1	0	1	0	142	0	0	142	296
21:30	0	0	0	0	0	2	165	0	0	167	0	0	1	0	1	0	160	1	0	161	329
21:45	0	0	0	0	0	2	130	0	0	132	0	0	0	0	0	0	123	1	0	124	256
Total	0	0	0	0	0	7	629	0	0	636	1	0	7	0	8	0	603	3	0	606	1250
22:00	0	0	0	0	0	0	110	0	0	110	1	0	0	0	1	0	137	1	0	138	249
22:15	0	0	0	0	0	1	143	0	0	144	0	0	2	0	2	0	106	1	0	107	253
22:30	0	0	0	0	0	0	88	0	0	88	0	0	3	0	3	0	94	0	0	94	185
22:45	0	0	0	0	0	0	68	0	0	68	0	0	1	0	1	0	91	0	0	91	160
Total	0	0	0	0	0	1	409	0	0	410	1	0	6	0	7	0	428	2	0	430	847
23:00	0	0	0	0	0	2	77	0	0	79	0	0	0	0	0	0	77	0	0	77	156
23:15	0	0	0	0	0	0	74	0	0	74	0	0	0	0	0	0	57	1	0	58	132
23:30	0	0	0	0	0	0	29	0	0	29	0	0	0	0	0	0	21	0	0	21	50
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	180	0	0	182	0	0	0	0	0	0	155	1	0	156	338
Grand Total	0	0	0	0	0	301	17126	0	0	17427	177	0	461	0	638	0	16198	279	0	16477	34542
Apprch %	0	0	0	0	0	1.7	98.3	0	0	0	27.7	0	72.3	0	0	0	98.3	1.7	0	0	0
Total %	0	0	0	0	0	0.9	49.6	0	0	50.5	0.5	0	1.3	0	1.8	0	46.9	0.8	0	47.7	0

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

Site Code : D

Start Date : 5/23/2019

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	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:30																					
16:30	0	0	0	0	0	5	292	0	0	297	5	0	17	0	22	0	363	5	0	368	687
16:45	0	0	0	0	0	5	324	0	0	329	7	0	7	0	14	0	398	3	0	401	744
17:00	0	0	0	0	0	6	315	0	0	321	4	0	18	0	22	0	394	3	0	397	740
17:15	0	0	0	0	0	4	307	0	0	311	5	0	13	0	18	0	414	4	0	418	747
Total Volume	0	0	0	0	0	20	1238	0	0	1258	21	0	55	0	76	0	1569	15	0	1584	2918
% App. Total	0	0	0	0	0	1.6	98.4	0	0		27.6	0	72.4	0		0	99.1	0.9	0		
PHF	.000	.000	.000	.000	.000	.833	.955	.000	.000	.956	.750	.000	.764	.000	.864	.000	.947	.750	.000	.947	.977

Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	00:00					16:30					16:30					16:30				
+0 mins.	0	0	0	0	0	5	292	0	0	297	5	0	17	0	22			5		
+15 mins.	0	0	0	0	0	5	324	0	0	329	7	0	7	0	14	0	398	3	0	401
+30 mins.	0	0	0	0	0	6	315	0	0	321	4	0	18	0	22	0	394	3	0	397
+45 mins.	0	0	0	0	0	4	307	0	0	311	5	0	13	0	18	0	414	4	0	418
Total Volume	0	0	0	0	0	20	1238	0	0	1258	21	0	55	0	76	0	1569	15	0	1584
% App. Total	0	0	0	0	0	1.6	98.4	0	0		27.6	0	72.4	0		0	99.1	0.9	0	
							4				6		4				1			
PHF	.00	.00	.00	.00	.000	.83	.95	.00	.00	.956	.75	.00	.76	.00	.864	.00	.94	.75	.00	.947
	0	0	0	0		3	5	0	0		0	0	4	0		0	7	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

Site Code : D

Start Date : 5/23/2019

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Groups Printed- Heavy Vehicles

	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
00:00	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
00:15	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	5
00:30	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	3	0	0	3	6
00:45	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
Total	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	10	0	0	10	22
01:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	7
01:15	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	8
01:30	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	5	0	0	5	6
01:45	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	6	0	0	6	11
Total	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	20	0	0	20	32
02:00	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
02:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
02:30	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	7
02:45	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
Total	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	12	0	0	12	23
03:00	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
03:15	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	7	0	0	7	10
03:30	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	6	0	0	6	16
03:45	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	7
Total	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	0	18	0	0	18	38
04:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	8	0	0	8	11
04:15	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	4	0	0	4	16
04:30	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	7	0	0	7	16
04:45	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	16
Total	0	0	0	0	0	0	32	0	0	32	0	0	0	0	0	0	27	0	0	27	59
05:00	0	0	0	0	0	1	13	0	0	14	0	0	0	0	0	0	4	0	0	4	18
05:15	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	7	0	0	7	23
05:30	0	0	0	0	0	0	15	0	0	15	1	0	0	0	1	0	11	0	0	11	27
05:45	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	12	0	0	12	25
Total	0	0	0	0	0	1	57	0	0	58	1	0	0	0	1	0	34	0	0	34	93
06:00	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	16	1	0	17	33
06:15	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	23	0	0	23	34
06:30	0	0	0	0	0	0	15	0	0	15	1	0	0	0	1	0	9	0	0	9	25
06:45	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	17	2	0	19	38
Total	0	0	0	0	0	0	61	0	0	61	1	0	0	0	1	0	65	3	0	68	130
07:00	0	0	0	0	0	0	16	0	0	16	0	0	3	0	3	0	18	0	0	18	37
07:15	0	0	0	0	0	0	29	0	0	29	1	0	0	0	1	0	23	1	0	24	54
07:30	0	0	0	0	0	0	18	0	0	18	1	0	2	0	3	0	17	0	0	17	38
07:45	0	0	0	0	0	0	14	0	0	14	1	0	1	0	2	0	17	1	0	18	34
Total	0	0	0	0	0	0	77	0	0	77	3	0	6	0	9	0	75	2	0	77	163
08:00	0	0	0	0	0	0	24	0	0	24	1	0	0	0	1	0	29	0	0	29	54
08:15	0	0	0	0	0	2	28	0	0	30	0	0	0	0	0	0	20	0	0	20	50
08:30	0	0	0	0	0	0	18	0	0	18	1	0	0	0	1	0	16	1	0	17	36
08:45	0	0	0	0	0	0	23	0	0	23	1	0	0	0	1	0	35	0	0	35	59
Total	0	0	0	0	0	2	93	0	0	95	3	0	0	0	3	0	100	1	0	101	199

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

Site Code : D

Start Date : 5/23/2019

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Groups Printed- Heavy Vehicles

	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
09:00	0	0	0	0	0	3	14	0	0	17	2	0	1	0	3	0	37	1	0	38	58
09:15	0	0	0	0	0	0	17	0	0	17	2	0	0	0	2	0	19	0	0	19	38
09:30	0	0	0	0	0	0	13	0	0	13	0	0	1	0	1	0	25	0	0	25	39
09:45	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	0	35	0	0	35	55
Total	0	0	0	0	0	3	64	0	0	67	4	0	2	0	6	0	116	1	0	117	190
10:00	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	41	1	0	42	59
10:15	0	0	0	0	0	2	18	0	0	20	2	0	0	0	2	0	26	0	0	26	48
10:30	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	25	0	0	25	47
10:45	0	0	0	0	0	0	25	0	0	25	0	0	1	0	1	0	25	0	0	25	51
Total	0	0	0	0	0	2	82	0	0	84	2	0	1	0	3	0	117	1	0	118	205
11:00	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	25	0	0	25	46
11:15	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	29	1	0	30	45
11:30	0	0	0	0	0	0	23	0	0	23	1	0	0	0	1	0	27	0	0	27	51
11:45	0	0	0	0	0	1	22	0	0	23	0	0	1	0	1	0	15	1	0	16	40
Total	0	0	0	0	0	1	81	0	0	82	1	0	1	0	2	0	96	2	0	98	182
12:00	0	0	0	0	0	1	32	0	0	33	0	0	0	0	0	0	14	0	0	14	47
12:15	0	0	0	0	0	0	28	0	0	28	0	0	1	0	1	0	31	0	0	31	60
12:30	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	19	1	0	20	36
12:45	0	0	0	0	0	0	16	0	0	16	0	0	1	0	1	0	24	0	0	24	41
Total	0	0	0	0	0	1	92	0	0	93	0	0	2	0	2	0	88	1	0	89	184
13:00	0	0	0	0	0	0	15	0	0	15	1	0	0	0	1	0	32	0	0	32	48
13:15	0	0	0	0	0	0	25	0	0	25	0	0	1	0	1	0	24	0	0	24	50
13:30	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	19	1	0	20	39
13:45	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	19	1	0	20	33
Total	0	0	0	0	0	0	72	0	0	72	1	0	1	0	2	0	94	2	0	96	170
14:00	0	0	0	0	0	0	16	0	0	16	1	0	0	0	1	0	11	0	0	11	28
14:15	0	0	0	0	0	0	28	0	0	28	0	0	0	0	0	0	27	0	0	27	55
14:30	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	27	0	0	27	41
14:45	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	21	0	0	21	39
Total	0	0	0	0	0	0	76	0	0	76	1	0	0	0	1	0	86	0	0	86	163
15:00	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	0	23	0	0	23	43
15:15	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	23	0	0	23	32
15:30	0	0	0	0	0	1	19	0	0	20	0	0	1	0	1	0	22	2	0	24	45
15:45	0	0	0	0	0	0	24	0	0	24	2	0	1	0	3	0	15	0	0	15	42
Total	0	0	0	0	0	1	72	0	0	73	2	0	2	0	4	0	83	2	0	85	162
16:00	0	0	0	0	0	1	22	0	0	23	0	0	0	0	0	0	17	0	0	17	40
16:15	0	0	0	0	0	1	20	0	0	21	0	0	0	0	0	0	23	0	0	23	44
16:30	0	0	0	0	0	1	26	0	0	27	0	0	0	0	0	0	15	0	0	15	42
16:45	0	0	0	0	0	0	15	0	0	15	0	0	1	0	1	0	8	0	0	8	24
Total	0	0	0	0	0	3	83	0	0	86	0	0	1	0	1	0	63	0	0	63	150
17:00	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	13	0	0	13	21
17:15	0	0	0	0	0	1	16	0	0	17	0	0	0	0	0	0	8	0	0	8	25
17:30	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	11	0	0	11	21
17:45	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	10	0	0	10	26
Total	0	0	0	0	0	1	50	0	0	51	0	0	0	0	0	0	42	0	0	42	93

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

Site Code : D

Start Date : 5/23/2019

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Groups Printed- Heavy Vehicles

	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
18:00	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	13	0	0	13	22
18:15	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	7	0	0	7	18
18:30	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	8	0	0	8	16
18:45	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	15	0	0	15	26
Total	0	0	0	0	0	0	39	0	0	39	0	0	0	0	0	0	43	0	0	43	82
19:00	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	6	0	0	6	13
19:15	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	6	0	0	6	15
19:30	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	2	0	0	2	12
19:45	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	6	0	0	6	11
Total	0	0	0	0	0	0	31	0	0	31	0	0	0	0	0	0	20	0	0	20	51
20:00	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	8	0	0	8	12
20:15	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	5	0	0	5	11
20:30	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	8	0	0	8	17
20:45	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	9
Total	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	25	0	0	25	49
21:00	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	5	0	0	5	12
21:15	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
21:30	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	4	0	0	4	11
21:45	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	3	0	0	3	9
Total	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	15	0	0	15	39
22:00	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	6	0	0	6	11
22:15	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	6	0	0	6	11
22:30	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	9
22:45	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	0	0	5	8
Total	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	21	0	0	21	39
23:00	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	0	0	0	0	6
23:15	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	4	0	0	4	13
23:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	5	0	0	5	22
Grand Total	0	0	0	0	0	15	1200	0	0	1215	19	0	16	0	35	0	1275	15	0	1290	2540
Apprch %	0	0	0	0	0	1.2	98.8	0	0		54.3	0	45.7	0		0	98.8	1.2	0		
Total %	0	0	0	0	0	0.6	47.2	0	0	47.8	0.7	0	0.6	0	1.4	0	50.2	0.6	0	50.8	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

Site Code : D

Start Date : 5/23/2019

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	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 09:45																					
09:45	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	0	35	0	0	35	55
10:00	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	41	1	0	42	59
10:15	0	0	0	0	0	2	18	0	0	20	2	0	0	0	2	0	26	0	0	26	48
10:30	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	25	0	0	25	47
Total Volume	0	0	0	0	0	2	77	0	0	79	2	0	0	0	2	0	127	1	0	128	209
% App. Total	0	0	0	0	0	2.5	97.5	0	0		100	0	0	0		0	99.2	0.8	0		
PHF	.000	.000	.000	.000	.000	.250	.875	.000	.000	.898	.250	.000	.000	.000	.250	.000	.774	.250	.000	.762	.886

Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	00:00					11:30					07:00					09:30				
+0 mins.	0	0	0	0	0	0	23	0	0	23	0	0	3		3					
+15 mins.	0	0	0	0	0	1	22	0	0	23	1	0	0	0	1	0	35	0	0	35
+30 mins.	0	0	0	0	0	1	32	0	0	33	1	0	2	0	3	0	41	1	0	42
+45 mins.	0	0	0	0	0	0	28	0	0	28	1	0	1	0	2	0	26	0	0	26
Total Volume	0	0	0	0	0	2	105	0	0	107	3	0	6	0	9	0	127	1	0	128
% App. Total	0	0	0	0	0	1.9	98.1	0	0		33.3	0	66.7	0		0	99.2	0.8	0	
PHF	.00	.00	.00	.00	.000	.50	.82	.00	.00	.811	.75	.00	.50	.00	.750	.00	.77	.25	.00	.762
	0	0	0	0		0	0	0	0		0	0	0	0		0	4	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

Site Code : D

Start Date : 5/23/2019

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Groups Printed- Pedestrians

Start Time	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					Int. Total
	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	
00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
00:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
01:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
02:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
08:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

Page No : 14

	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
09:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
11:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
12:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

Site Code : D

Start Date : 5/23/2019

Page No : 15

Groups Printed- Pedestrians

	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	3
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	66.7	33.3	0		
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	66.7	33.3	0	100	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site D - Swenson Blvd & US 290

Site Code : D

Start Date : 5/23/2019

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	Southbound					US 290 Westbound					Swenson Blvd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45																					
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.250

Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	00:00					00:00					00:00					07:45				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	
PHF	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.00	.00	.00	.000	.00	.25	.00	.00	.250
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

Page No : 1

Groups Printed- Vehicles - Heavy Vehicles

Start Time	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					Int. Total
	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	
00:00	0	0	0	0	0	1	26	0	2	29	1	0	0	0	1	0	34	0	0	34	64
00:15	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	0	25	0	0	25	50
00:30	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	0	33	0	0	33	53
00:45	0	0	0	0	0	0	15	0	0	15	1	0	0	0	1	0	16	0	0	16	32
Total	0	0	0	0	0	1	86	0	2	89	2	0	0	0	2	0	108	0	0	108	199
01:00	0	0	0	0	0	0	17	0	1	18	0	0	0	0	0	0	29	0	0	29	47
01:15	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	19	0	1	20	41
01:30	0	0	0	0	0	1	17	0	0	18	1	0	0	0	1	0	28	0	0	28	47
01:45	0	0	0	0	0	0	9	0	0	9	1	0	1	0	2	0	19	0	0	19	30
Total	0	0	0	0	0	1	64	0	1	66	2	0	1	0	3	0	95	0	1	96	165
02:00	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	12	0	0	12	24
02:15	0	0	0	0	0	1	18	0	0	19	0	0	0	0	0	0	13	0	0	13	32
02:30	0	0	0	0	0	0	16	0	0	16	2	0	0	0	2	0	18	0	0	18	36
02:45	0	0	0	0	0	0	19	0	0	19	1	0	0	0	1	0	14	0	0	14	34
Total	0	0	0	0	0	1	65	0	0	66	3	0	0	0	3	0	57	0	0	57	126
03:00	0	0	0	0	0	0	13	0	0	13	1	0	0	0	1	0	14	0	0	14	28
03:15	0	0	0	0	0	1	21	0	0	22	1	0	0	0	1	0	19	0	0	19	42
03:30	0	0	0	0	0	0	25	0	0	25	2	0	0	0	2	0	27	0	0	27	54
03:45	0	0	0	0	0	0	27	0	0	27	0	0	0	0	0	0	21	0	3	24	51
Total	0	0	0	0	0	1	86	0	0	87	4	0	0	0	4	0	81	0	3	84	175
04:00	0	0	0	0	0	0	32	0	0	32	1	0	0	0	1	0	21	0	2	23	56
04:15	0	0	0	0	0	0	61	0	0	61	0	0	0	0	0	0	22	0	2	24	85
04:30	0	0	0	0	0	0	81	0	0	81	4	0	0	0	4	0	26	0	0	26	111
04:45	0	0	0	0	0	1	82	0	0	83	4	0	0	0	4	0	38	0	0	38	125
Total	0	0	0	0	0	1	256	0	0	257	9	0	0	0	9	0	107	0	4	111	377
05:00	0	0	0	0	0	1	157	0	0	158	4	0	0	0	4	0	38	1	1	40	202
05:15	0	0	0	0	0	4	203	0	2	209	4	0	0	0	4	0	43	0	0	43	256
05:30	0	0	0	0	0	0	340	0	0	340	8	0	0	0	8	0	53	0	0	53	401
05:45	0	0	0	0	0	1	272	0	1	274	4	0	0	0	4	0	86	2	0	88	366
Total	0	0	0	0	0	6	972	0	3	981	20	0	0	0	20	0	220	3	1	224	1225
06:00	0	0	0	0	0	1	256	0	4	261	8	0	0	0	8	0	86	0	0	86	355
06:15	0	0	0	0	0	0	230	0	2	232	7	0	2	0	9	0	109	0	0	109	350
06:30	0	0	0	0	0	2	231	0	1	234	6	0	1	0	7	0	121	0	0	121	362
06:45	0	0	0	0	0	1	231	0	0	232	10	0	0	0	10	0	161	0	1	162	404
Total	0	0	0	0	0	4	948	0	7	959	31	0	3	0	34	0	477	0	1	478	1471
07:00	0	0	0	0	0	2	202	0	1	205	7	0	0	0	7	0	191	0	0	191	403
07:15	0	0	0	0	0	9	203	0	3	215	7	0	0	0	7	0	199	0	0	199	421
07:30	0	0	0	0	0	4	291	0	1	296	7	0	2	0	9	0	187	0	0	187	492
07:45	0	0	0	0	0	3	222	0	3	228	11	0	1	0	12	0	205	0	0	205	445
Total	0	0	0	0	0	18	918	0	8	944	32	0	3	0	35	0	782	0	0	782	1761
08:00	0	0	0	0	0	4	268	0	0	272	16	0	1	0	17	0	188	0	0	188	477
08:15	0	0	0	0	0	2	219	0	0	221	8	0	1	0	9	0	161	1	0	162	392

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

Page No : 2

Groups Printed- Vehicles - Heavy Vehicles

Start Time	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					Int. Total
	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	
08:30	0	0	0	0	0	3	228	0	3	234	8	0	3	0	11	0	186	0	0	186	431
08:45	0	0	0	0	0	1	212	0	1	214	6	0	2	0	8	0	177	0	0	177	399
Total	0	0	0	0	0	10	927	0	4	941	38	0	7	0	45	0	712	1	0	713	1699
09:00	0	0	0	0	0	2	208	0	2	212	7	0	1	0	8	0	169	0	0	169	389
09:15	0	0	0	0	0	4	249	0	2	255	4	0	1	0	5	0	166	1	0	167	427
09:30	0	0	0	0	0	2	186	0	1	189	3	0	4	0	7	0	176	1	0	177	373
09:45	0	0	0	0	0	7	150	0	1	158	7	0	0	0	7	0	190	0	0	190	355
Total	0	0	0	0	0	15	793	0	6	814	21	0	6	0	27	0	701	2	0	703	1544
10:00	0	0	0	0	0	6	189	0	3	198	10	0	1	0	11	0	207	0	0	207	416
10:15	0	0	0	0	0	2	200	0	4	206	4	0	1	0	5	0	161	0	0	161	372
10:30	0	0	0	0	0	4	211	0	5	220	11	0	3	0	14	0	203	0	0	203	437
10:45	0	0	0	0	0	11	211	0	1	223	8	0	3	0	11	0	208	0	0	208	442
Total	0	0	0	0	0	23	811	0	13	847	33	0	8	0	41	0	779	0	0	779	1667
11:00	0	0	0	0	0	6	209	0	3	218	7	0	3	0	10	0	176	1	0	177	405
11:15	0	0	0	0	0	2	194	0	5	201	10	0	6	0	16	0	223	0	0	223	440
11:30	0	0	0	0	0	4	203	0	4	211	12	0	3	0	15	0	198	0	0	198	424
11:45	0	0	0	0	0	4	216	0	4	224	7	0	4	0	11	0	194	0	0	194	429
Total	0	0	0	0	0	16	822	0	16	854	36	0	16	0	52	0	791	1	0	792	1698
12:00	0	0	0	0	0	8	233	0	3	244	10	0	4	0	14	0	224	0	0	224	482
12:15	0	0	0	0	0	4	194	0	2	200	8	0	3	0	11	0	227	0	0	227	438
12:30	0	0	0	0	0	6	212	0	6	224	18	0	4	0	22	0	231	0	0	231	477
12:45	0	0	0	0	0	1	217	0	2	220	13	0	3	0	16	0	209	1	0	210	446
Total	0	0	0	0	0	19	856	0	13	888	49	0	14	0	63	0	891	1	0	892	1843
13:00	0	0	0	0	0	8	223	0	4	235	9	0	5	0	14	0	244	0	0	244	493
13:15	0	0	0	0	0	2	207	0	1	210	7	0	3	0	10	0	229	0	0	229	449
13:30	0	0	0	0	0	6	195	0	6	207	9	0	2	0	11	0	214	0	0	214	432
13:45	0	0	0	0	0	7	190	0	4	201	12	0	2	0	14	0	247	0	0	247	462
Total	0	0	0	0	0	23	815	0	15	853	37	0	12	0	49	0	934	0	0	934	1836
14:00	0	0	0	0	0	6	219	0	4	229	13	0	1	0	14	0	243	0	0	243	486
14:15	0	0	0	0	0	5	213	0	2	220	13	0	1	0	14	0	245	0	0	245	479
14:30	0	0	0	0	0	4	249	0	4	257	11	0	4	0	15	0	281	0	0	281	553
14:45	0	0	0	0	0	2	243	0	3	248	9	0	3	0	12	0	310	1	0	311	571
Total	0	0	0	0	0	17	924	0	13	954	46	0	9	0	55	0	1079	1	0	1080	2089
15:00	0	0	0	0	0	8	254	0	1	263	10	0	4	0	14	0	312	0	0	312	589
15:15	0	0	0	0	0	3	238	0	3	244	8	0	5	0	13	0	327	0	0	327	584
15:30	0	0	0	0	0	6	239	0	4	249	15	0	2	0	17	0	366	0	0	366	632
15:45	0	0	0	0	0	1	265	0	4	270	22	0	7	0	29	0	348	0	0	348	647
Total	0	0	0	0	0	18	996	0	12	1026	55	0	18	0	73	0	1353	0	0	1353	2452
16:00	0	0	0	0	0	3	264	0	2	269	18	0	5	0	23	0	375	0	0	375	667
16:15	0	0	0	0	0	4	293	0	1	298	13	0	3	0	16	0	396	0	0	396	710
16:30	0	0	0	0	0	6	222	0	0	228	6	0	3	0	9	0	336	0	0	336	573
16:45	0	0	0	0	0	4	298	0	0	302	12	0	3	0	15	0	403	0	0	403	720
Total	0	0	0	0	0	17	1077	0	3	1097	49	0	14	0	63	0	1510	0	0	1510	2670
17:00	0	0	0	0	0	5	234	0	3	242	9	0	1	0	10	0	379	0	0	379	631

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

Page No : 3

Groups Printed- Vehicles - Heavy Vehicles

	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
17:15	0	0	0	0	0	5	266	0	1	272	21	0	4	0	25	0	388	0	0	388	685
17:30	0	0	0	0	0	4	264	0	1	269	26	0	2	0	28	0	376	1	0	377	674
17:45	0	0	0	0	0	5	215	0	3	223	9	0	3	0	12	0	282	0	0	282	517
Total	0	0	0	0	0	19	979	0	8	1006	65	0	10	0	75	0	1425	1	0	1426	2507
18:00	0	0	0	0	0	2	225	0	3	230	10	0	3	0	13	0	323	0	0	323	566
18:15	0	0	0	0	0	4	219	0	3	226	15	0	1	0	16	0	319	1	0	320	562
18:30	0	0	0	0	0	1	151	0	3	155	5	0	0	0	5	0	230	0	0	230	390
18:45	0	0	0	0	0	4	180	0	2	186	19	0	0	0	19	0	279	0	0	279	484
Total	0	0	0	0	0	11	775	0	11	797	49	0	4	0	53	0	1151	1	0	1152	2002
19:00	0	0	0	0	0	4	171	0	4	179	11	0	1	0	12	0	251	0	0	251	442
19:15	0	0	0	0	0	1	201	0	1	203	21	0	3	0	24	0	253	1	0	254	481
19:30	0	0	0	0	0	3	237	0	2	242	11	0	0	0	11	0	233	0	0	233	486
19:45	0	0	0	0	0	3	180	0	3	186	20	0	1	0	21	0	195	0	0	195	402
Total	0	0	0	0	0	11	789	0	10	810	63	0	5	0	68	0	932	1	0	933	1811
20:00	0	0	0	0	0	2	174	0	3	179	15	0	1	0	16	0	230	0	0	230	425
20:15	0	0	0	0	0	3	209	0	3	215	10	0	3	0	13	0	170	0	0	170	398
20:30	0	0	0	0	0	1	202	0	3	206	14	0	4	0	18	0	178	0	0	178	402
20:45	0	0	0	0	0	1	138	0	3	142	13	0	2	0	15	0	155	0	0	155	312
Total	0	0	0	0	0	7	723	0	12	742	52	0	10	0	62	0	733	0	0	733	1537
21:00	0	0	0	0	0	3	154	0	1	158	12	0	0	0	12	0	157	0	0	157	327
21:15	0	0	0	0	0	1	147	0	3	151	16	0	0	0	16	0	130	0	0	130	297
21:30	0	0	0	0	0	1	117	0	0	118	10	0	0	0	10	0	137	0	0	137	265
21:45	0	0	0	0	0	1	138	0	0	139	10	0	0	0	10	0	121	0	0	121	270
Total	0	0	0	0	0	6	556	0	4	566	48	0	0	0	48	0	545	0	0	545	1159
22:00	0	0	0	0	0	3	69	0	1	73	9	0	0	0	9	0	106	0	0	106	188
22:15	0	0	0	0	0	1	94	0	0	95	1	0	0	0	1	0	85	0	0	85	181
22:30	0	0	0	0	0	0	97	0	2	99	9	0	0	0	9	0	83	0	0	83	191
22:45	0	0	0	0	0	2	77	0	0	79	7	0	0	0	7	0	89	0	0	89	175
Total	0	0	0	0	0	6	337	0	3	346	26	0	0	0	26	0	363	0	0	363	735
23:00	0	0	0	0	0	0	65	0	0	65	4	0	0	0	4	0	61	0	0	61	130
23:15	0	0	0	0	0	0	48	0	1	49	3	0	1	0	4	0	30	0	0	30	83
23:30	0	0	0	0	0	1	46	0	0	47	3	0	0	0	3	0	48	0	0	48	98
23:45	0	0	0	0	0	0	29	0	0	29	4	0	0	0	4	0	41	0	0	41	74
Total	0	0	0	0	0	1	188	0	1	190	14	0	1	0	15	0	180	0	0	180	385
Grand Total	0	0	0	0	0	252	15763	0	165	16180	784	0	141	0	925	0	16006	12	10	16028	33133
Apprch %	0	0	0	0	0	1.6	97.4	0	1		84.8	0	15.2	0		0	99.9	0.1	0.1		
Total %	0	0	0	0	0	0.8	47.6	0	0.5	48.8	2.4	0	0.4	0	2.8	0	48.3	0	0	48.4	
Vehicles	0	0	0	0	0	248	14789			15200						15016				15016	31125
% Vehicles	0	0	0	0	0	98.4	93.8	0	98.8	93.9	98.2	0	98.6	0	98.3	0	93.8	0	0	93.7	93.9
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	1.6	6.2	0	1.2	6.1	1.8	0	1.4	0	1.7	0	6.2	100	100	6.3	6.1

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

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	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	4	298	0	0	302	12	0	3	0	15	0	403	0	0	403	720
17:00	0	0	0	0	0	5	234	0	3	242	9	0	1	0	10	0	379	0	0	379	631
17:15	0	0	0	0	0	5	266	0	1	272	21	0	4	0	25	0	388	0	0	388	685
17:30	0	0	0	0	0	4	264	0	1	269	26	0	2	0	28	0	376	1	0	377	674
Total Volume	0	0	0	0	0	18	1062	0	5	1085	68	0	10	0	78	0	1546	1	0	1547	2710
% App. Total	0	0	0	0	0	1.7	97.9	0	0.5		87.2	0	12.8	0		0	99.9	0.1	0		
PHF	.000	.000	.000	.000	.000	.900	.891	.000	.417	.898	.654	.000	.625	.000	.696	.000	.959	.250	.000	.960	.941
Vehicles	0	0	0	0	0	18	1018									1519					
% Vehicles	0	0	0	0	0	100	95.9	0	100	95.9	98.5	0	100	0	98.7	0	98.3	0	0	98.2	97.3
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	0	4.1	0	0	4.1	1.5	0	0	0	1.3	0	1.7	100	0	1.8	2.7

Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	00:00					05:30					15:30					16:45				
+0 mins.	0	0	0	0	0	0	340	0	0	340	15	0	2	0	17	0	403	0	0	403
+15 mins.	0	0	0	0	0	1	272	0	1	274	22	0	7	0	29	0	379	0	0	379
+30 mins.	0	0	0	0	0	1	256	0	4	261	18	0	5	0	23	0	388	0	0	388
+45 mins.	0	0	0	0	0	0	230	0	2	232	13	0	3	0	16	0	376	1	0	377
Total Volume	0	0	0	0	0	2	1098	0	7	1107	68	0	17	0	85	0	1546	1	0	1547
% App. Total	0	0	0	0	0	0.2	99.2	0	0.6		80	0	20	0		0	99.9	0.1	0	
PHF	.000	.000	.000	.000	.000	.500	.807	.000	.438	.814	.773	.000	.607	.000	.733	.000	.959	.250	.000	.960
Vehicles	0	0	0	0	0	2	1048	0	6	1056	68	0	17	0	85	0	1519	0	0	1519
% Vehicles																				
Heavy Vehicles	0	0	0	0	0	0	50	0	1	51	0	0	0	0	0	0	27	1	0	28
% Heavy Vehicles	0	0	0	0	0	0	4.6	0	14.3	4.6	0	0	0	0	0	0	1.7	100	0	1.8

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

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Groups Printed- Vehicles

Start Time	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					Int. Total
	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	
00:00	0	0	0	0	0	1	24	0	2	27	1	0	0	0	1	0	32	0	0	32	60
00:15	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	23	0	0	23	47
00:30	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	29	0	0	29	46
00:45	0	0	0	0	0	0	12	0	0	12	1	0	0	0	1	0	16	0	0	16	29
Total	0	0	0	0	0	1	77	0	2	80	2	0	0	0	2	0	100	0	0	100	182
01:00	0	0	0	0	0	0	14	0	1	15	0	0	0	0	0	0	25	0	0	25	40
01:15	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	14	0	0	14	32
01:30	0	0	0	0	0	1	15	0	0	16	1	0	0	0	1	0	23	0	0	23	40
01:45	0	0	0	0	0	0	4	0	0	4	1	0	1	0	2	0	17	0	0	17	23
Total	0	0	0	0	0	1	51	0	1	53	2	0	1	0	3	0	79	0	0	79	135
02:00	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	9	0	0	9	20
02:15	0	0	0	0	0	1	15	0	0	16	0	0	0	0	0	0	9	0	0	9	25
02:30	0	0	0	0	0	0	14	0	0	14	2	0	0	0	2	0	15	0	0	15	31
02:45	0	0	0	0	0	0	15	0	0	15	1	0	0	0	1	0	12	0	0	12	28
Total	0	0	0	0	0	1	55	0	0	56	3	0	0	0	3	0	45	0	0	45	104
03:00	0	0	0	0	0	0	11	0	0	11	1	0	0	0	1	0	10	0	0	10	22
03:15	0	0	0	0	0	1	19	0	0	20	1	0	0	0	1	0	12	0	0	12	33
03:30	0	0	0	0	0	0	16	0	0	16	2	0	0	0	2	0	18	0	0	18	36
03:45	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	19	0	0	19	40
Total	0	0	0	0	0	1	67	0	0	68	4	0	0	0	4	0	59	0	0	59	131
04:00	0	0	0	0	0	0	28	0	0	28	0	0	0	0	0	0	16	0	0	16	44
04:15	0	0	0	0	0	0	55	0	0	55	0	0	0	0	0	0	21	0	0	21	76
04:30	0	0	0	0	0	0	71	0	0	71	2	0	0	0	2	0	25	0	0	25	98
04:45	0	0	0	0	0	1	74	0	0	75	3	0	0	0	3	0	32	0	0	32	110
Total	0	0	0	0	0	1	228	0	0	229	5	0	0	0	5	0	94	0	0	94	328
05:00	0	0	0	0	0	1	144	0	0	145	3	0	0	0	3	0	30	0	0	30	178
05:15	0	0	0	0	0	4	192	0	2	198	4	0	0	0	4	0	35	0	0	35	237
05:30	0	0	0	0	0	0	325	0	0	325	8	0	0	0	8	0	49	0	0	49	382
05:45	0	0	0	0	0	1	259	0	1	261	3	0	0	0	3	0	75	0	0	75	339
Total	0	0	0	0	0	6	920	0	3	929	18	0	0	0	18	0	189	0	0	189	1136
06:00	0	0	0	0	0	1	244	0	4	249	8	0	0	0	8	0	75	0	0	75	332
06:15	0	0	0	0	0	0	220	0	1	221	7	0	1	0	8	0	89	0	0	89	318
06:30	0	0	0	0	0	2	220	0	1	223	6	0	1	0	7	0	115	0	0	115	345
06:45	0	0	0	0	0	1	212	0	0	213	9	0	0	0	9	0	146	0	0	146	368
Total	0	0	0	0	0	4	896	0	6	906	30	0	2	0	32	0	425	0	0	425	1363
07:00	0	0	0	0	0	2	193	0	1	196	7	0	0	0	7	0	178	0	0	178	381
07:15	0	0	0	0	0	9	178	0	3	190	7	0	0	0	7	0	184	0	0	184	381
07:30	0	0	0	0	0	4	270	0	1	275	7	0	2	0	9	0	172	0	0	172	456
07:45	0	0	0	0	0	3	207	0	3	213	11	0	1	0	12	0	193	0	0	193	418
Total	0	0	0	0	0	18	848	0	8	874	32	0	3	0	35	0	727	0	0	727	1636
08:00	0	0	0	0	0	4	250	0	0	254	16	0	1	0	17	0	172	0	0	172	443
08:15	0	0	0	0	0	2	196	0	0	198	7	0	1	0	8	0	144	0	0	144	350
08:30	0	0	0	0	0	3	213	0	3	219	8	0	3	0	11	0	169	0	0	169	399
08:45	0	0	0	0	0	1	193	0	1	195	6	0	2	0	8	0	154	0	0	154	357
Total	0	0	0	0	0	10	852	0	4	866	37	0	7	0	44	0	639	0	0	639	1549

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

Page No : 6

Groups Printed- Vehicles

Start Time	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					Int. Total
	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	
09:00	0	0	0	0	0	2	190	0	2	194	7	0	1	0	8	0	137	0	0	137	339
09:15	0	0	0	0	0	4	234	0	2	240	4	0	1	0	5	0	152	0	0	152	397
09:30	0	0	0	0	0	2	174	0	1	177	1	0	4	0	5	0	154	0	0	154	336
09:45	0	0	0	0	0	7	136	0	1	144	7	0	0	0	7	0	157	0	0	157	308
Total	0	0	0	0	0	15	734	0	6	755	19	0	6	0	25	0	600	0	0	600	1380
10:00	0	0	0	0	0	6	173	0	3	182	10	0	1	0	11	0	181	0	0	181	374
10:15	0	0	0	0	0	2	192	0	4	198	4	0	1	0	5	0	142	0	0	142	345
10:30	0	0	0	0	0	4	196	0	5	205	11	0	3	0	14	0	185	0	0	185	404
10:45	0	0	0	0	0	11	196	0	1	208	8	0	3	0	11	0	178	0	0	178	397
Total	0	0	0	0	0	23	757	0	13	793	33	0	8	0	41	0	686	0	0	686	1520
11:00	0	0	0	0	0	6	190	0	3	199	7	0	3	0	10	0	157	0	0	157	366
11:15	0	0	0	0	0	2	187	0	5	194	10	0	6	0	16	0	199	0	0	199	409
11:30	0	0	0	0	0	4	186	0	4	194	12	0	3	0	15	0	180	0	0	180	389
11:45	0	0	0	0	0	4	199	0	4	207	6	0	4	0	10	0	184	0	0	184	401
Total	0	0	0	0	0	16	762	0	16	794	35	0	16	0	51	0	720	0	0	720	1565
12:00	0	0	0	0	0	8	212	0	3	223	10	0	4	0	14	0	210	0	0	210	447
12:15	0	0	0	0	0	4	177	0	2	183	8	0	3	0	11	0	204	0	0	204	398
12:30	0	0	0	0	0	6	197	0	6	209	18	0	4	0	22	0	210	0	0	210	441
12:45	0	0	0	0	0	1	203	0	2	206	13	0	3	0	16	0	198	0	0	198	420
Total	0	0	0	0	0	19	789	0	13	821	49	0	14	0	63	0	822	0	0	822	1706
13:00	0	0	0	0	0	7	205	0	4	216	9	0	5	0	14	0	225	0	0	225	455
13:15	0	0	0	0	0	2	190	0	1	193	7	0	3	0	10	0	216	0	0	216	419
13:30	0	0	0	0	0	5	178	0	5	188	9	0	2	0	11	0	204	0	0	204	403
13:45	0	0	0	0	0	7	177	0	4	188	12	0	2	0	14	0	231	0	0	231	433
Total	0	0	0	0	0	21	750	0	14	785	37	0	12	0	49	0	876	0	0	876	1710
14:00	0	0	0	0	0	6	205	0	4	215	12	0	1	0	13	0	228	0	0	228	456
14:15	0	0	0	0	0	5	197	0	2	204	13	0	1	0	14	0	225	0	0	225	443
14:30	0	0	0	0	0	4	235	0	4	243	11	0	3	0	14	0	262	0	0	262	519
14:45	0	0	0	0	0	2	229	0	3	234	9	0	3	0	12	0	290	0	0	290	536
Total	0	0	0	0	0	17	866	0	13	896	45	0	8	0	53	0	1005	0	0	1005	1954
15:00	0	0	0	0	0	8	235	0	1	244	9	0	4	0	13	0	298	0	0	298	555
15:15	0	0	0	0	0	3	226	0	3	232	8	0	5	0	13	0	309	0	0	309	554
15:30	0	0	0	0	0	6	228	0	4	238	15	0	2	0	17	0	347	0	0	347	602
15:45	0	0	0	0	0	1	245	0	4	250	22	0	7	0	29	0	337	0	0	337	616
Total	0	0	0	0	0	18	934	0	12	964	54	0	18	0	72	0	1291	0	0	1291	2327
16:00	0	0	0	0	0	3	245	0	2	250	18	0	5	0	23	0	361	0	0	361	634
16:15	0	0	0	0	0	4	283	0	1	288	13	0	3	0	16	0	382	0	0	382	686
16:30	0	0	0	0	0	5	210	0	0	215	6	0	3	0	9	0	327	0	0	327	551
16:45	0	0	0	0	0	4	280	0	0	284	12	0	3	0	15	0	395	0	0	395	694
Total	0	0	0	0	0	16	1018	0	3	1037	49	0	14	0	63	0	1465	0	0	1465	2565
17:00	0	0	0	0	0	5	229	0	3	237	9	0	1	0	10	0	370	0	0	370	617
17:15	0	0	0	0	0	5	254	0	1	260	20	0	4	0	24	0	378	0	0	378	662
17:30	0	0	0	0	0	4	255	0	1	260	26	0	2	0	28	0	376	0	0	376	664
17:45	0	0	0	0	0	5	202	0	3	210	9	0	3	0	12	0	276	0	0	276	498
Total	0	0	0	0	0	19	940	0	8	967	64	0	10	0	74	0	1400	0	0	1400	2441

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

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Groups Printed- Vehicles

Start Time	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					Int. Total
	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	
18:00	0	0	0	0	0	2	214	0	3	219	10	0	3	0	13	0	311	0	0	311	543
18:15	0	0	0	0	0	3	210	0	3	216	15	0	1	0	16	0	310	0	0	310	542
18:30	0	0	0	0	0	1	146	0	3	150	5	0	0	0	5	0	230	0	0	230	385
18:45	0	0	0	0	0	4	166	0	2	172	19	0	0	0	19	0	264	0	0	264	455
Total	0	0	0	0	0	10	736	0	11	757	49	0	4	0	53	0	1115	0	0	1115	1925
19:00	0	0	0	0	0	4	166	0	4	174	11	0	1	0	12	0	247	0	0	247	433
19:15	0	0	0	0	0	1	198	0	1	200	21	0	3	0	24	0	246	0	0	246	470
19:30	0	0	0	0	0	3	223	0	2	228	11	0	0	0	11	0	229	0	0	229	468
19:45	0	0	0	0	0	3	175	0	3	181	20	0	1	0	21	0	190	0	0	190	392
Total	0	0	0	0	0	11	762	0	10	783	63	0	5	0	68	0	912	0	0	912	1763
20:00	0	0	0	0	0	2	174	0	3	179	15	0	1	0	16	0	226	0	0	226	421
20:15	0	0	0	0	0	3	203	0	3	209	10	0	3	0	13	0	166	0	0	166	388
20:30	0	0	0	0	0	1	194	0	3	198	14	0	4	0	18	0	172	0	0	172	388
20:45	0	0	0	0	0	1	134	0	3	138	13	0	2	0	15	0	152	0	0	152	305
Total	0	0	0	0	0	7	705	0	12	724	52	0	10	0	62	0	716	0	0	716	1502
21:00	0	0	0	0	0	3	150	0	1	154	12	0	0	0	12	0	151	0	0	151	317
21:15	0	0	0	0	0	1	142	0	3	146	16	0	0	0	16	0	129	0	0	129	291
21:30	0	0	0	0	0	1	115	0	0	116	10	0	0	0	10	0	133	0	0	133	259
21:45	0	0	0	0	0	1	132	0	0	133	10	0	0	0	10	0	117	0	0	117	260
Total	0	0	0	0	0	6	539	0	4	549	48	0	0	0	48	0	530	0	0	530	1127
22:00	0	0	0	0	0	3	66	0	1	70	9	0	0	0	9	0	100	0	0	100	179
22:15	0	0	0	0	0	1	88	0	0	89	1	0	0	0	1	0	81	0	0	81	171
22:30	0	0	0	0	0	0	93	0	2	95	9	0	0	0	9	0	78	0	0	78	182
22:45	0	0	0	0	0	2	73	0	0	75	7	0	0	0	7	0	87	0	0	87	169
Total	0	0	0	0	0	6	320	0	3	329	26	0	0	0	26	0	346	0	0	346	701
23:00	0	0	0	0	0	0	60	0	0	60	4	0	0	0	4	0	61	0	0	61	125
23:15	0	0	0	0	0	0	48	0	1	49	3	0	1	0	4	0	30	0	0	30	83
23:30	0	0	0	0	0	1	46	0	0	47	3	0	0	0	3	0	45	0	0	45	95
23:45	0	0	0	0	0	0	29	0	0	29	4	0	0	0	4	0	39	0	0	39	72
Total	0	0	0	0	0	1	183	0	1	185	14	0	1	0	15	0	175	0	0	175	375
Grand Total	0	0	0	0	0	248	14789	0	163	15200	770	0	139	0	909	0	15016	0	0	15016	31125
Apprch %	0	0	0	0	0	1.6	97.3	0	1.1		84.7	0	15.3	0		0	100	0	0		
Total %	0	0	0	0	0	0.8	47.5	0	0.5	48.8	2.5	0	0.4	0	2.9	0	48.2	0	0	48.2	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

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	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 16:45																					
16:45	0	0	0	0	0	4	280	0	0	284	12	0	3	0	15	0	395	0	0	395	694
17:00	0	0	0	0	0	5	229	0	3	237	9	0	1	0	10	0	370	0	0	370	617
17:15	0	0	0	0	0	5	254	0	1	260	20	0	4	0	24	0	378	0	0	378	662
17:30	0	0	0	0	0	4	255	0	1	260	26	0	2	0	28	0	376	0	0	376	664
Total Volume	0	0	0	0	0	18	1018	0	5	1041	67	0	10	0	77	0	1519	0	0	1519	2637
% App. Total	0	0	0	0	0	1.7	97.8	0	0.5		87	0	13	0		0	100	0	0		
PHF	.000	.000	.000	.000	.000	.900	.909	.000	.417	.916	.644	.000	.625	.000	.688	.000	.961	.000	.000	.961	.950

Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	00:00					05:30					15:30					16:45				
+0 mins.	0	0	0	0	0	0	325			325	22	0	7	0	29	0	395			395
+15 mins.	0	0	0	0	0	1	259	0	1	261	18	0	5	0	23	0	370	0	0	370
+30 mins.	0	0	0	0	0	1	244	0	4	249	13	0	3	0	16	0	378	0	0	378
+45 mins.	0	0	0	0	0	0	220	0	1	221	13	0	3	0	16	0	376	0	0	376
Total Volume	0	0	0	0	0	2	1048	0	6	1056	68	0	17	0	85	0	1519	0	0	1519
% App. Total	0	0	0	0	0	0.2	99.2	0	0.6		80	0	20	0		0	100	0	0	
PHF	.00	.00	.00	.00	.000	.50	.80	.00	.37	.812	.77	.00	.60	.00	.733	.00	.96	.00	.00	.961
	0	0	0	0		0	6	0	5		3	0	7	0		0	1	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

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Groups Printed- Heavy Vehicles

	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
00:00	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	4
00:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	0	0	2	3
00:30	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	7
00:45	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0	0	3
Total	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	8	0	0	8	17
01:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	7
01:15	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	5	0	1	6	9
01:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	5	0	0	5	7
01:45	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	2	0	0	2	7
Total	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	16	0	1	17	30
02:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	3	0	0	3	4
02:15	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	4	0	0	4	7
02:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	3	5
02:45	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
Total	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	12	0	0	12	22
03:00	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
03:15	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	7	0	0	7	9
03:30	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	9	0	0	9	18
03:45	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	2	0	3	5	11
Total	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	22	0	3	25	44
04:00	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	0	5	0	2	7	12
04:15	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	1	0	2	3	9
04:30	0	0	0	0	0	0	10	0	0	10	2	0	0	0	2	0	1	0	0	1	13
04:45	0	0	0	0	0	0	8	0	0	8	1	0	0	0	1	0	6	0	0	6	15
Total	0	0	0	0	0	0	28	0	0	28	4	0	0	0	4	0	13	0	4	17	49
05:00	0	0	0	0	0	0	13	0	0	13	1	0	0	0	1	0	8	1	1	10	24
05:15	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	8	0	0	8	19
05:30	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	4	0	0	4	19
05:45	0	0	0	0	0	0	13	0	0	13	1	0	0	0	1	0	11	2	0	13	27
Total	0	0	0	0	0	0	52	0	0	52	2	0	0	0	2	0	31	3	1	35	89
06:00	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	11	0	0	11	23
06:15	0	0	0	0	0	0	10	0	1	11	0	0	1	0	1	0	20	0	0	20	32
06:30	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	6	0	0	6	17
06:45	0	0	0	0	0	0	19	0	0	19	1	0	0	0	1	0	15	0	1	16	36
Total	0	0	0	0	0	0	52	0	1	53	1	0	1	0	2	0	52	0	1	53	108
07:00	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	13	0	0	13	22
07:15	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	0	15	0	0	15	40
07:30	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	15	0	0	15	36
07:45	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	12	0	0	12	27
Total	0	0	0	0	0	0	70	0	0	70	0	0	0	0	0	0	55	0	0	55	125
08:00	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	16	0	0	16	34
08:15	0	0	0	0	0	0	23	0	0	23	1	0	0	0	1	0	17	1	0	18	42
08:30	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	17	0	0	17	32
08:45	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	23	0	0	23	42
Total	0	0	0	0	0	0	75	0	0	75	1	0	0	0	1	0	73	1	0	74	150

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

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Groups Printed- Heavy Vehicles

	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
09:00	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	32	0	0	32	50
09:15	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	14	1	0	15	30
09:30	0	0	0	0	0	0	12	0	0	12	2	0	0	0	2	0	22	1	0	23	37
09:45	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	33	0	0	33	47
Total	0	0	0	0	0	0	59	0	0	59	2	0	0	0	2	0	101	2	0	103	164
10:00	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	26	0	0	26	42
10:15	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	19	0	0	19	27
10:30	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	18	0	0	18	33
10:45	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	30	0	0	30	45
Total	0	0	0	0	0	0	54	0	0	54	0	0	0	0	0	0	93	0	0	93	147
11:00	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	19	1	0	20	39
11:15	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	24	0	0	24	31
11:30	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	18	0	0	18	35
11:45	0	0	0	0	0	0	17	0	0	17	1	0	0	0	1	0	10	0	0	10	28
Total	0	0	0	0	0	0	60	0	0	60	1	0	0	0	1	0	71	1	0	72	133
12:00	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	14	0	0	14	35
12:15	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	23	0	0	23	40
12:30	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	21	0	0	21	36
12:45	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	11	1	0	12	26
Total	0	0	0	0	0	0	67	0	0	67	0	0	0	0	0	0	69	1	0	70	137
13:00	0	0	0	0	0	1	18	0	0	19	0	0	0	0	0	0	19	0	0	19	38
13:15	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	13	0	0	13	30
13:30	0	0	0	0	0	1	17	0	1	19	0	0	0	0	0	0	10	0	0	10	29
13:45	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	16	0	0	16	29
Total	0	0	0	0	0	2	65	0	1	68	0	0	0	0	0	0	58	0	0	58	126
14:00	0	0	0	0	0	0	14	0	0	14	1	0	0	0	1	0	15	0	0	15	30
14:15	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	20	0	0	20	36
14:30	0	0	0	0	0	0	14	0	0	14	0	0	1	0	1	0	19	0	0	19	34
14:45	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	20	1	0	21	35
Total	0	0	0	0	0	0	58	0	0	58	1	0	1	0	2	0	74	1	0	75	135
15:00	0	0	0	0	0	0	19	0	0	19	1	0	0	0	1	0	14	0	0	14	34
15:15	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	18	0	0	18	30
15:30	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	19	0	0	19	30
15:45	0	0	0	0	0	0	20	0	0	20	0	0	0	0	0	0	11	0	0	11	31
Total	0	0	0	0	0	0	62	0	0	62	1	0	0	0	1	0	62	0	0	62	125
16:00	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	14	0	0	14	33
16:15	0	0	0	0	0	0	10	0	0	10	0	0	0	0	0	0	14	0	0	14	24
16:30	0	0	0	0	0	1	12	0	0	13	0	0	0	0	0	0	9	0	0	9	22
16:45	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	8	0	0	8	26
Total	0	0	0	0	0	1	59	0	0	60	0	0	0	0	0	0	45	0	0	45	105
17:00	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	9	0	0	9	14
17:15	0	0	0	0	0	0	12	0	0	12	1	0	0	0	1	0	10	0	0	10	23
17:30	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	0	1	0	1	10
17:45	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	0	6	0	0	6	19
Total	0	0	0	0	0	0	39	0	0	39	1	0	0	0	1	0	25	1	0	26	66

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

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Groups Printed- Heavy Vehicles

	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
18:00	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	12	0	0	12	23
18:15	0	0	0	0	0	1	9	0	0	10	0	0	0	0	0	0	9	1	0	10	20
18:30	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	5
18:45	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	15	0	0	15	29
Total	0	0	0	0	0	1	39	0	0	40	0	0	0	0	0	0	36	1	0	37	77
19:00	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	4	0	0	4	9
19:15	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	7	1	0	8	11
19:30	0	0	0	0	0	0	14	0	0	14	0	0	0	0	0	0	4	0	0	4	18
19:45	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
Total	0	0	0	0	0	0	27	0	0	27	0	0	0	0	0	0	20	1	0	21	48
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	4
20:15	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
20:30	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	6	0	0	6	14
20:45	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	7
Total	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	17	0	0	17	35
21:00	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	6	0	0	6	10
21:15	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	6
21:30	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	6
21:45	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
Total	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	15	0	0	15	32
22:00	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	0	6	0	0	6	9
22:15	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	4	0	0	4	10
22:30	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	9
22:45	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	2	0	0	2	6
Total	0	0	0	0	0	0	17	0	0	17	0	0	0	0	0	0	17	0	0	17	34
23:00	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	5
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	5	0	0	5	10
Grand Total	0	0	0	0	0	4	974	0	2	980	14	0	2	0	16	0	990	12	10	1012	2008
Apprch %	0	0	0	0	0	0.4	99.4	0	0.2	99.6	87.5	0	12.5	0	87.5	0	97.8	1.2	1	99.0	
Total %	0	0	0	0	0	0.2	48.5	0	0.1	48.8	0.7	0	0.1	0	0.8	0	49.3	0.6	0.5	50.4	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

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	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:15																					
08:15	0	0	0	0	0	0	23	0	0	23	1	0	0	0	1	0	17	1	0	18	42
08:30	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	17	0	0	17	32
08:45	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	23	0	0	23	42
09:00	0	0	0	0	0	0	18	0	0	18	0	0	0	0	0	0	32	0	0	32	50
Total Volume	0	0	0	0	0	0	75	0	0	75	1	0	0	0	1	0	89	1	0	90	166
% App. Total	0	0	0	0	0	0	100	0	0	100	100	0	0	0	0	0	98.9	1.1	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.815	.000	.000	.815	.250	.000	.000	.000	.250	.000	.695	.250	.000	.703	.830

Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	00:00					07:15					04:00					09:00				
+0 mins.	0	0	0	0	0	0	25			25					0	0	14	1	0	15
+15 mins.	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	22	1	0	23
+30 mins.	0	0	0	0	0	0	15	0	0	15	2	0	0	0	2	0	33	0	0	33
+45 mins.	0	0	0	0	0	0	18	0	0	18	1	0	0	0	1	0	101	2	0	103
Total Volume	0	0	0	0	0	0	79	0	0	79	4	0	0	0	4	0	98.1	1.9	0	0
% App. Total	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	0	98.1	1.9	0	0
PHF	.00	.00	.00	.00	.000	.00	.79	.00	.00	.790	.50	.00	.00	.00	.500	.00	.76	.50	.00	.780
	0	0	0	0		0	0	0	0		0	0	0	0		0	5	0	0	

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

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[illegible]

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[illegible]

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

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Groups Printed- Pedestrians

	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
19:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	3
Apprch %	0	0	0	0		0	100	0	0		0	0	0	0		0	0	100	0		
Total %	0	0	0	0	0	0	66.7	0	0	66.7	0	0	0	0	0	0	0	33.3	0	33.3	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626

512-832-8650

File Name : Site E - Roy Rivers Rd & US 290

Site Code : E

Start Date : 5/23/2019

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	Southbound					US 290 Westbound					Roy Rivers Rd Northbound					US 290 Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	U-TURN	App. Total	Int. Total
Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 13:30																					
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:00	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
14:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.500	.000	.000	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500

Peak Hour Analysis From 00:00 to 23:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

	00:00					13:30					00:00					15:15				
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	1	1
% App. Total	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0
PHF	.00	.00	.00	.00	.000	.00	.50	.00	.00	.500	.00	.00	.00	.00	.000	.00	.00	.25	.00	.250
	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0	

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

Page 1

Site Code: 1
Station ID:
Central Ave
South of Dildy Dr
Latitude: 0' 0.0000 Undefined

Start Time	23-May-19 Thu	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	17			1	16				
12:15		2	16			1	18				
12:30		1	10			0	29				
12:45		0	11	3	54	0	18	2	81	5	135
01:00		0	10			0	23				
01:15		0	17			0	22				
01:30		1	14			0	30				
01:45		0	16	1	57	0	20	0	95	1	152
02:00		0	27			0	28				
02:15		0	17			0	21				
02:30		0	19			0	13				
02:45		0	15	0	78	1	23	1	85	1	163
03:00		0	22			0	26				
03:15		0	26			0	33				
03:30		1	16			0	35				
03:45		1	22	2	86	1	22	1	116	3	202
04:00		0	25			2	24				
04:15		0	24			0	20				
04:30		0	26			1	31				
04:45		1	32	1	107	2	25	5	100	6	207
05:00		0	30			2	24				
05:15		1	33			4	23				
05:30		0	25			4	27				
05:45		1	29	2	117	6	22	16	96	18	213
06:00		2	25			5	23				
06:15		5	19			4	27				
06:30		4	22			5	22				
06:45		11	16	22	82	16	26	30	98	52	180
07:00		8	18			20	23				
07:15		7	14			13	24				
07:30		9	22			17	12				
07:45		8	12	32	66	14	16	64	75	96	141
08:00		12	18			12	17				
08:15		5	16			9	20				
08:30		6	12			20	12				
08:45		8	11	31	57	17	14	58	63	89	120
09:00		8	11			18	12				
09:15		10	6			13	12				
09:30		10	4			10	10				
09:45		7	2	35	23	19	11	60	45	95	68
10:00		6	7			15	8				
10:15		18	3			17	5				
10:30		9	4			23	2				
10:45		5	1	38	15	12	6	67	21	105	36
11:00		10	1			19	4				
11:15		13	2			21	2				
11:30		16	4			16	2				
11:45		16	0	55	7	18	4	74	12	129	19
Total		222	749			378	887			600	1636
Percent		22.9%	77.1%			29.9%	70.1%			26.8%	73.2%
Grand Total		222	749			378	887			600	1636
Percent		22.9%	77.1%			29.9%	70.1%			26.8%	73.2%
ADT		ADT 2,236		AADT 2,236							

GRAM Traffic Counting, Inc.

3751 FM 1105, Bldg. A
Georgetown, Texas 78626
512-832-8650

Page 1

Site Code: 2
Station ID:
Central Ave
South of CR 76
Latitude: 0' 0.0000 Undefined

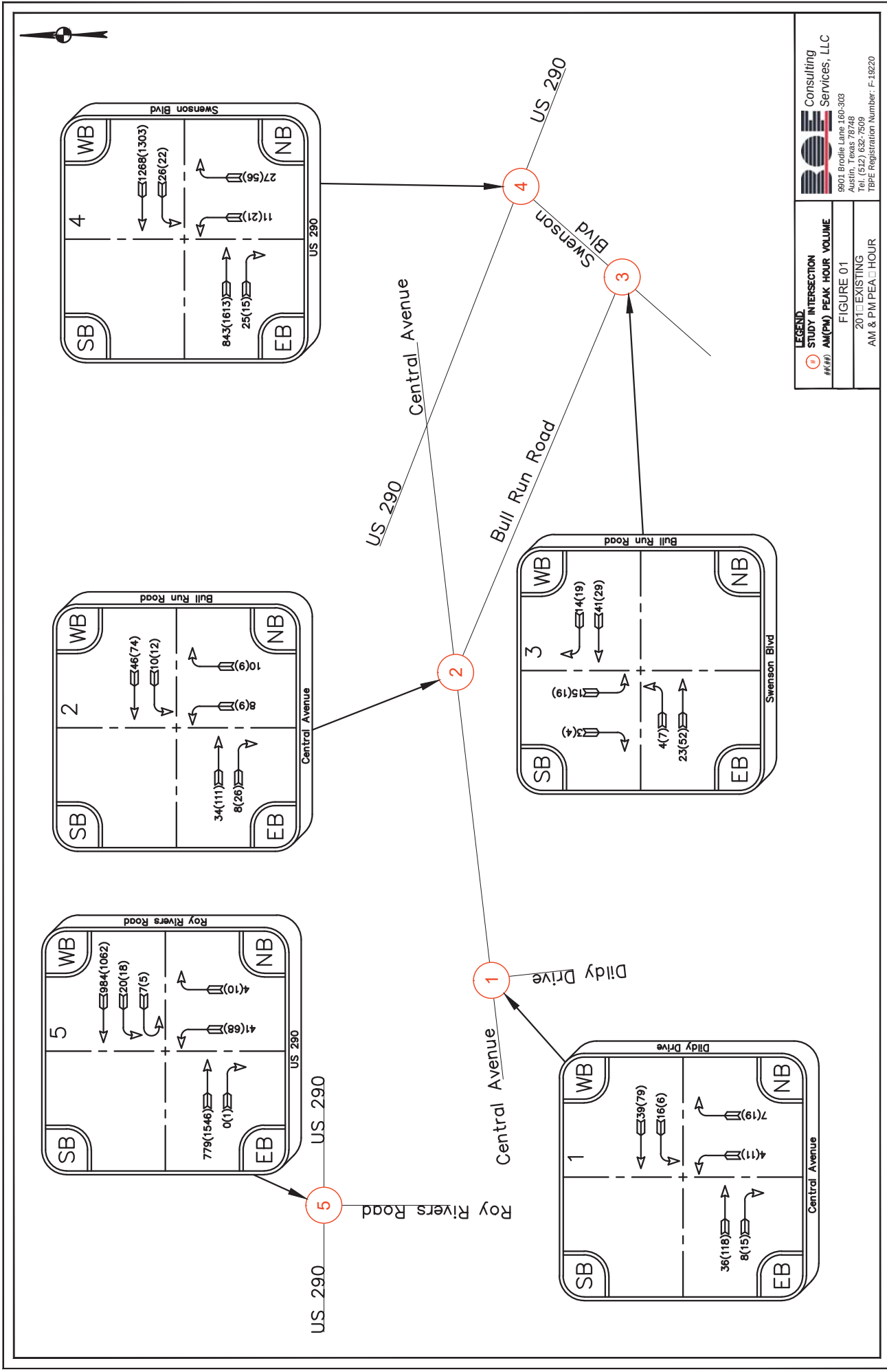
Start Time	23-May-19 Thu	Southbound		Hour Totals		Northbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		1	4			0	6				
12:15		1	10			0	9				
12:30		0	4			0	5				
12:45		0	14	2	32	0	8	0	28	2	60
01:00		0	4			0	5				
01:15		0	8			0	4				
01:30		0	15			0	2				
01:45		1	12	1	39	0	5	0	16	1	55
02:00		0	9			0	4				
02:15		0	11			0	6				
02:30		0	11			0	3				
02:45		0	8	0	39	0	2	0	15	0	54
03:00		0	9			0	7				
03:15		0	13			0	3				
03:30		0	5			0	10				
03:45		0	9	0	36	1	4	1	24	1	60
04:00		1	9			0	1				
04:15		0	12			0	5				
04:30		0	12			0	6				
04:45		0	15	1	48	0	3	0	15	1	63
05:00		2	15			0	7				
05:15		0	12			1	10				
05:30		0	7			1	12				
05:45		0	12	2	46	0	10	2	39	4	85
06:00		0	11			3	1				
06:15		1	11			4	7				
06:30		0	13			3	7				
06:45		2	10	3	45	3	3	13	18	16	63
07:00		0	9			5	8				
07:15		5	9			13	3				
07:30		5	4			5	9				
07:45		5	1	15	23	6	4	29	24	44	47
08:00		11	5			5	3				
08:15		4	7			0	3				
08:30		5	7			5	3				
08:45		5	5	25	24	5	2	15	11	40	35
09:00		4	3			0	2				
09:15		2	6			7	2				
09:30		3	4			1	2				
09:45		4	4	13	17	3	2	11	8	24	25
10:00		1	3			1	1				
10:15		5	3			10	4				
10:30		2	2			6	3				
10:45		6	2	14	10	3	0	20	8	34	18
11:00		7	0			4	2				
11:15		7	3			6	0				
11:30		5	0			4	0				
11:45		10	1	29	4	5	1	19	3	48	7
Total		105	363			110	209			215	572
Percent		22.4%	77.6%			34.5%	65.5%			27.3%	72.7%
Grand Total		105	363			110	209			215	572
Percent		22.4%	77.6%			34.5%	65.5%			27.3%	72.7%

ADT

ADT 787

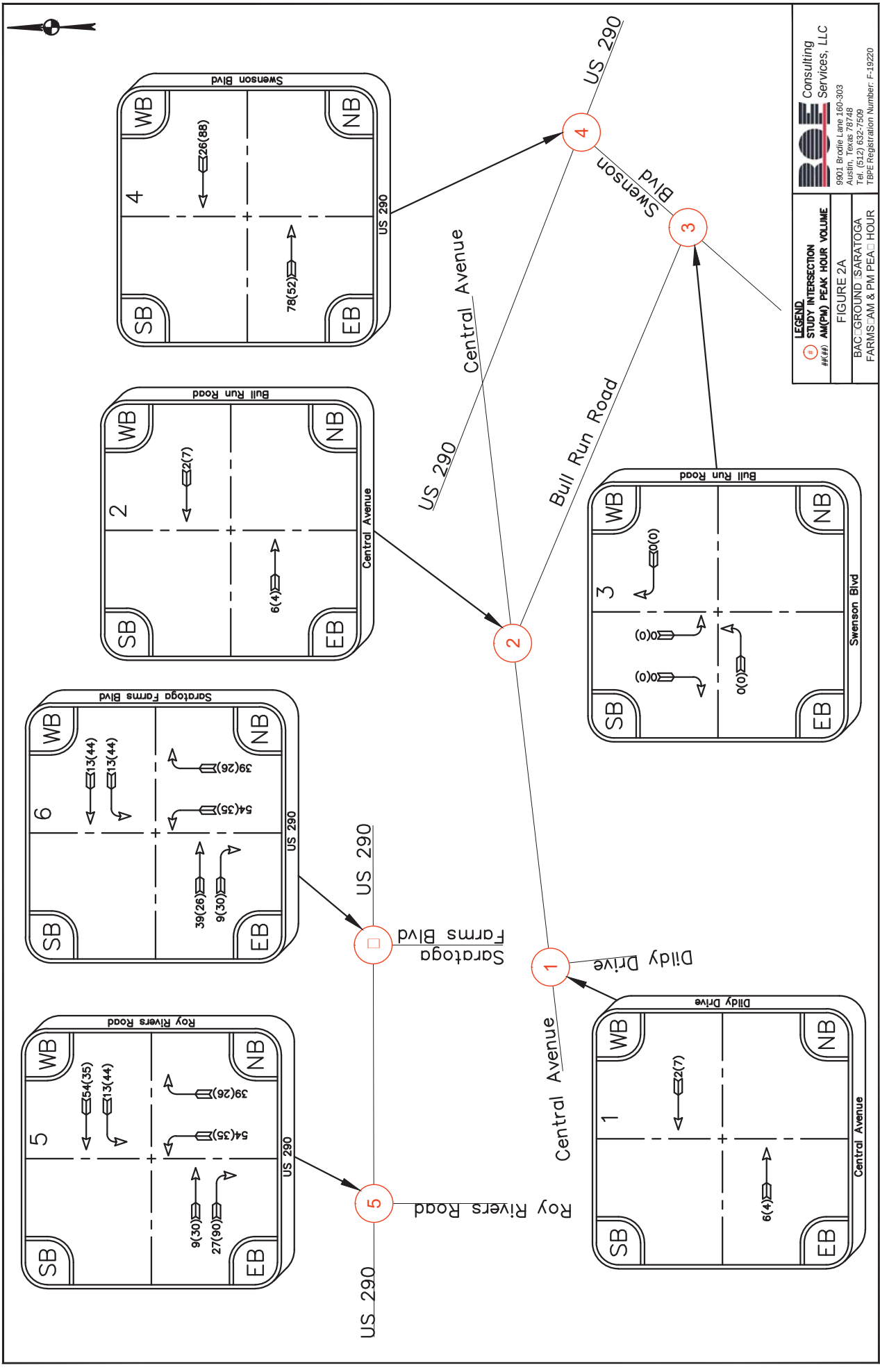
AADT 787

A.5 VOLUME FIGURES

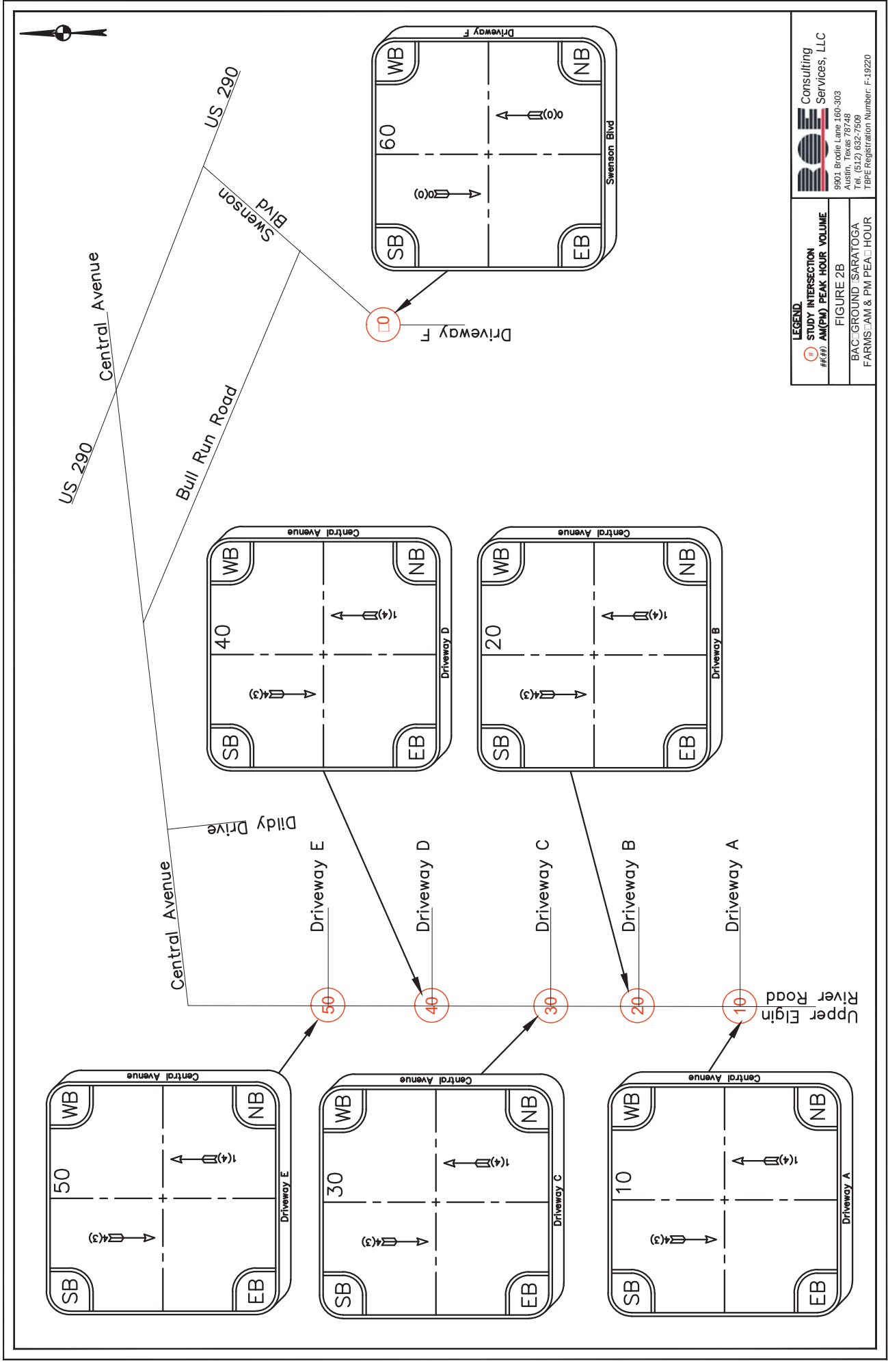


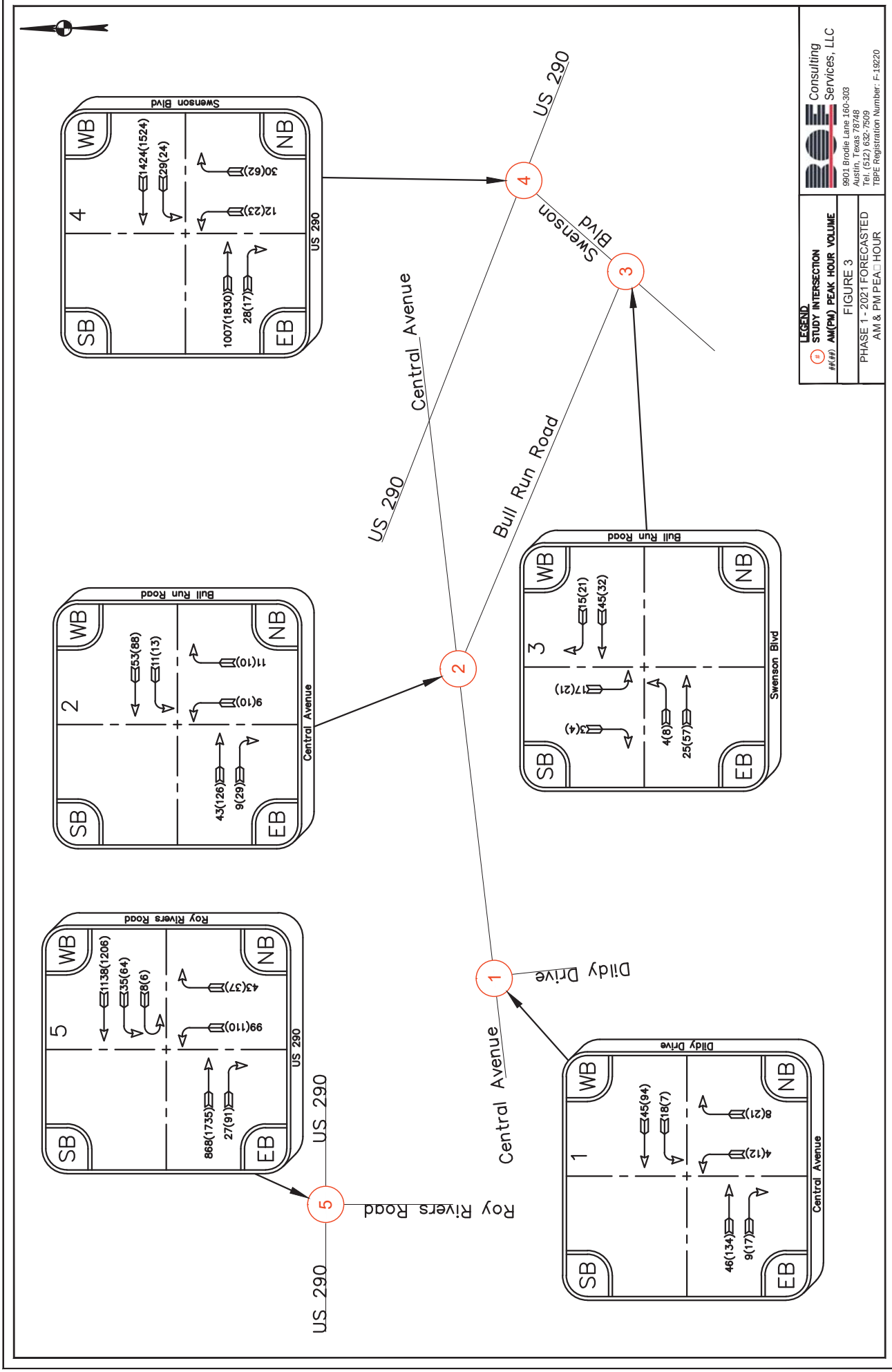
BOE Consulting Services, LLC
 8901 Brodie Lane 160-303
 Austin, Texas 78746
 Tel: 512.336.7500
 TBE Registration Number: F-19220

LEGEND
STUDY INTERSECTION
AM(PM) PEAK HOUR VOLUME
FIGURE 01
201 EXISTING
AM & PM PEAK HOUR



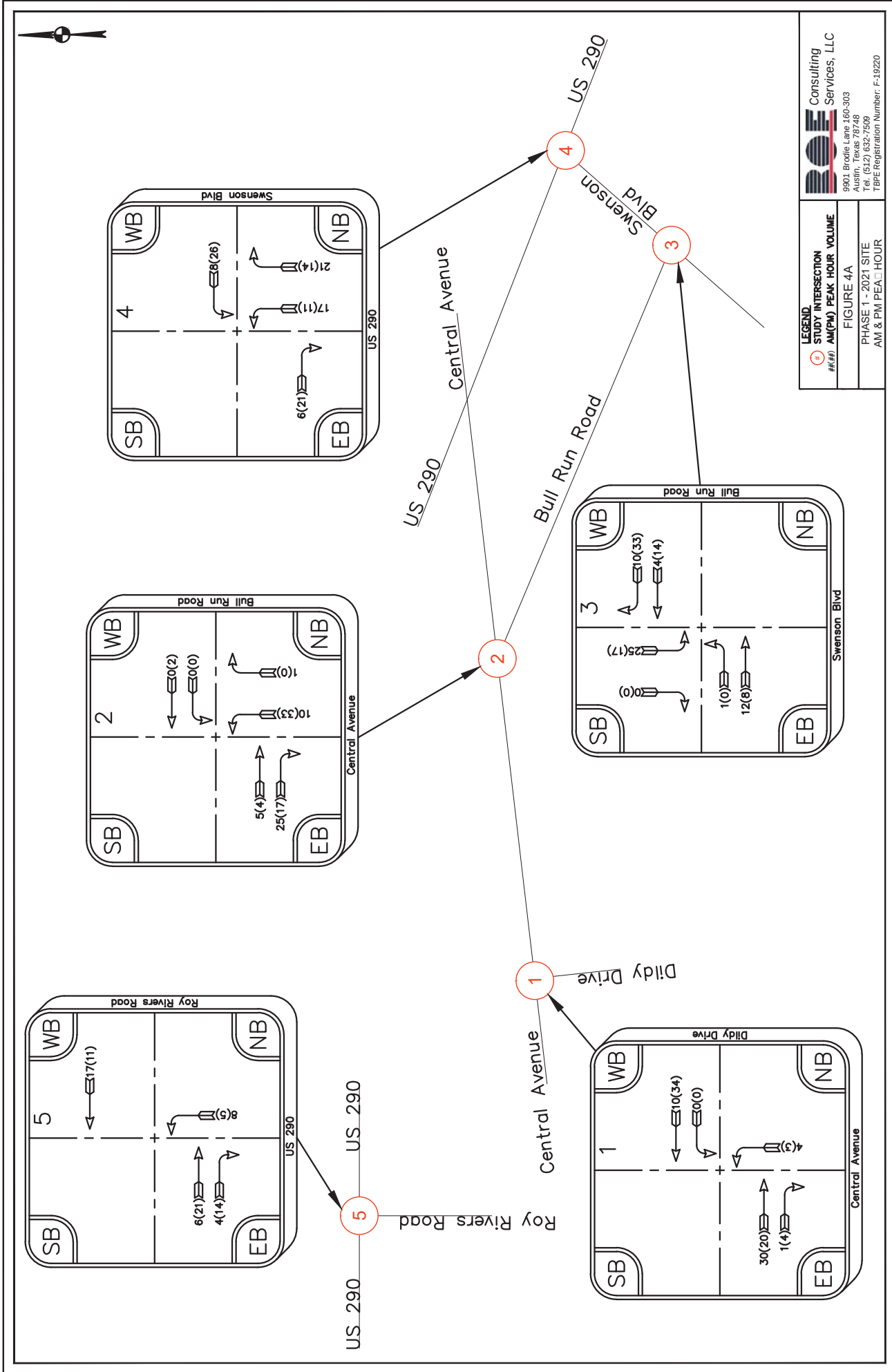
	LEGEND (Red Circle) STUDY INTERSECTION (Red Square) AM(PM) PEAK HOUR VOLUME
	FIGURE 2A BAC-GROUND SARATOGA FARMS-AM & PM PEAK HOUR
BOE Consulting Services, LLC 9901 Brodie Lane 160-303 Austin, Texas 78748 Tel. (512) 632-7509 TBPE Registration Number: F-19220	





BOE Consulting Services, LLC
 9901 Brodie Lane 160-303
 Austin, Texas 78746
 Tel: 512.321.7500
 TBE Registration Number: F-19220

LEGEND
 STUDY INTERSECTION
 #/## AM(PM) PEAK HOUR VOLUME
 FIGURE 3
 PHASE 1 - 2021 FORECASTED
 AM & PM PEAK HOUR



BOE Consulting Services, LLC
 9901 Brodie Lane 160-303
 Austin, Texas 78748
 Tel. (512) 632-7509
 TBPE Registration Number: F-19220

LEGEND:

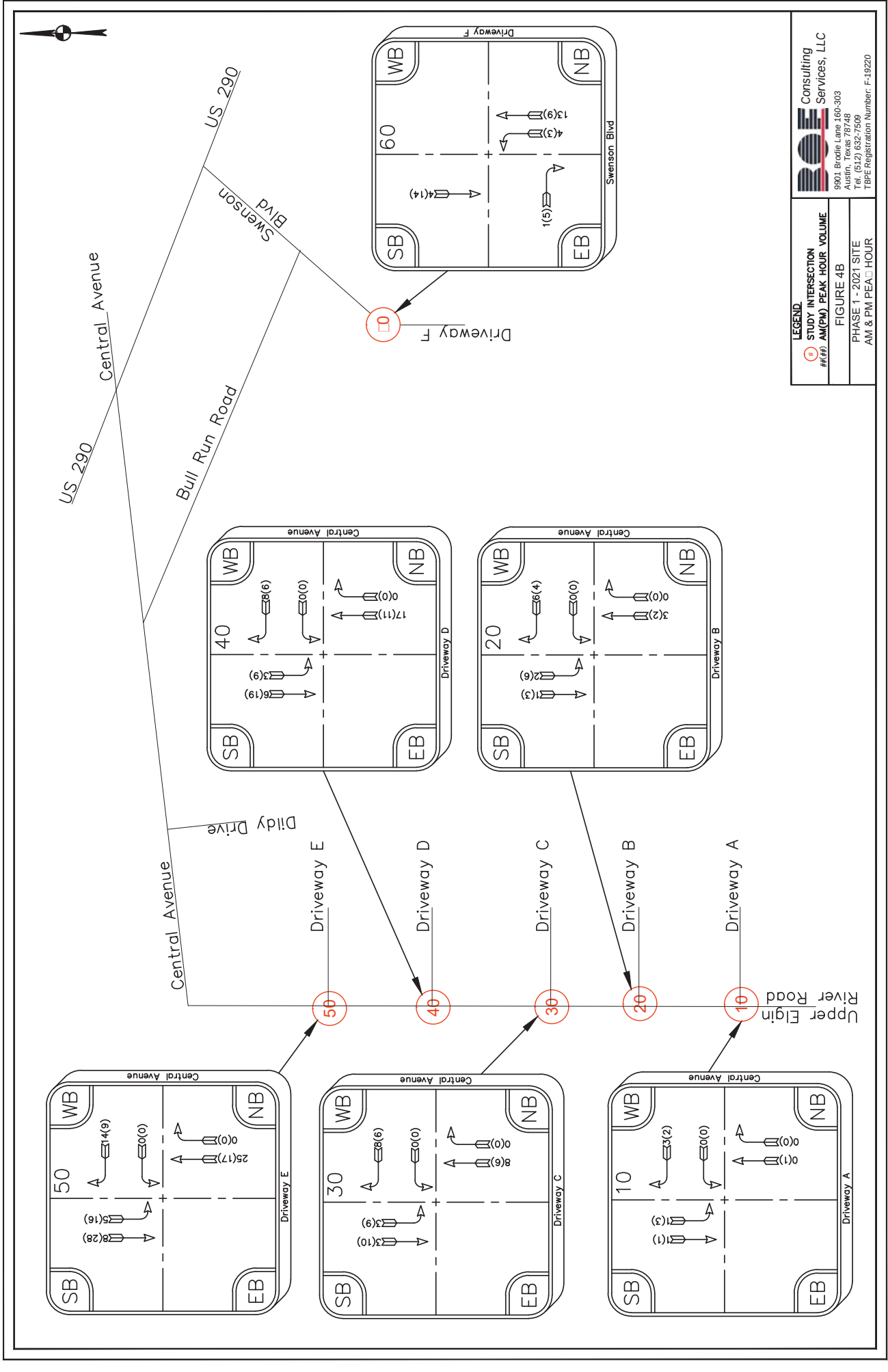
① STUDY INTERSECTION

##(##) AM(PM) PEAK HOUR VOLUME

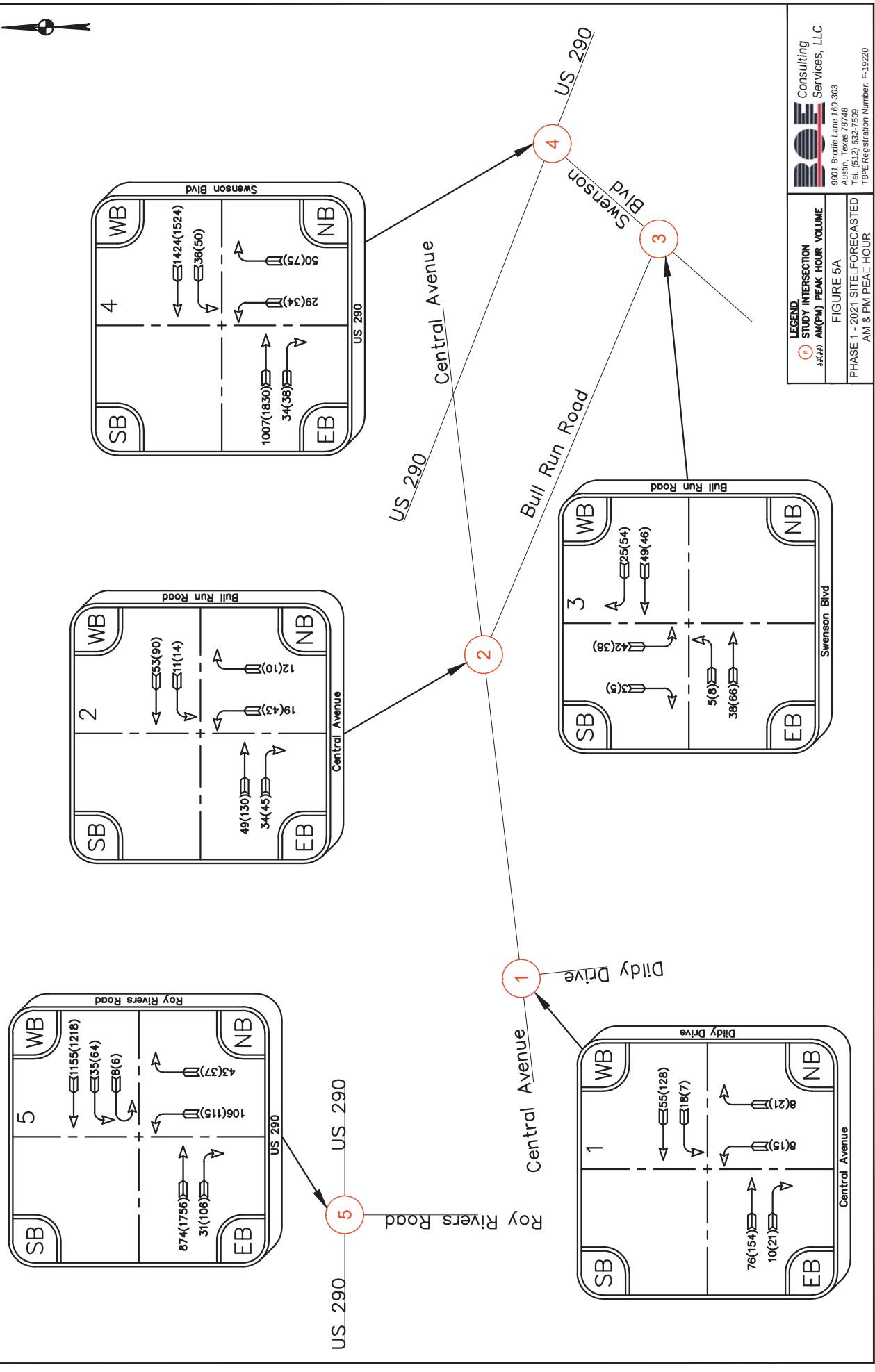
FIGURE 4A

PHASE 1 - 2021 SITE

AM & PM PEA HOUR



LEGEND STUDY INTERSECTION AM(PM) PEAK HOUR VOLUME	BOE Consulting Services, LLC 9901 Brodie Lane 160-303 Austin, Texas 78748 Tel. (512) 632-7509 TBPE Registration Number: F-19220	
	FIGURE 4B	
	PHASE 1 - 2021 SITE AM & PM PEA HOUR	



LEGEND

● STUDY INTERSECTION

##(##) AM(PM) PEAK HOUR VOLUME

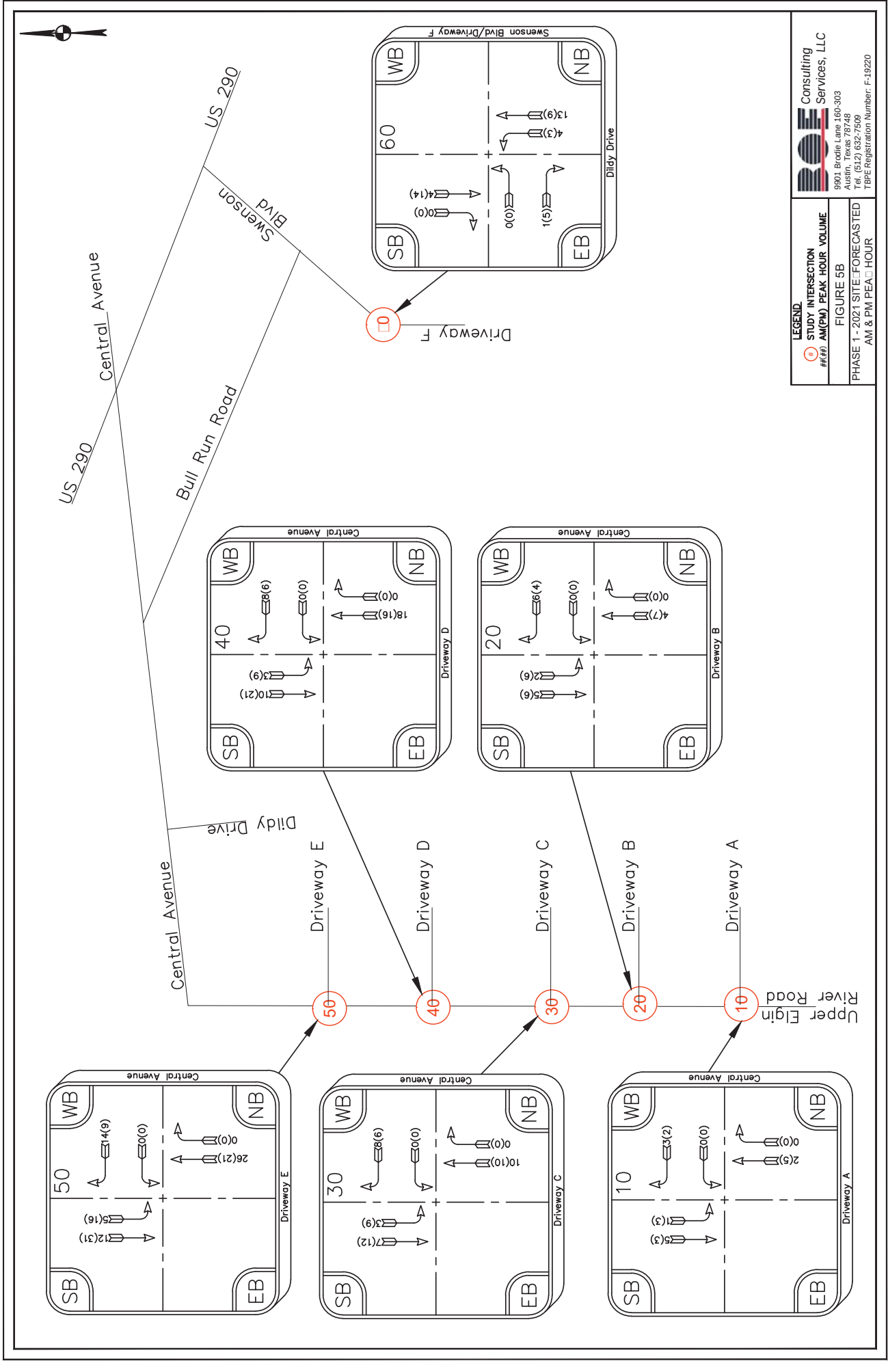
FIGURE 5A

PHASE 1 - 2021 SITE-FORECASTED

AM & PM PEA HOUR

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Austin, Texas 78748
Tel. (512) 632-7509
TBP Registration Number: F-19220



BOE Consulting Services, LLC
9901 Brodie Lane 160-303
Austin, Texas 78748
Tel. (512) 632-7509
TBPB Registration Number: F-19220

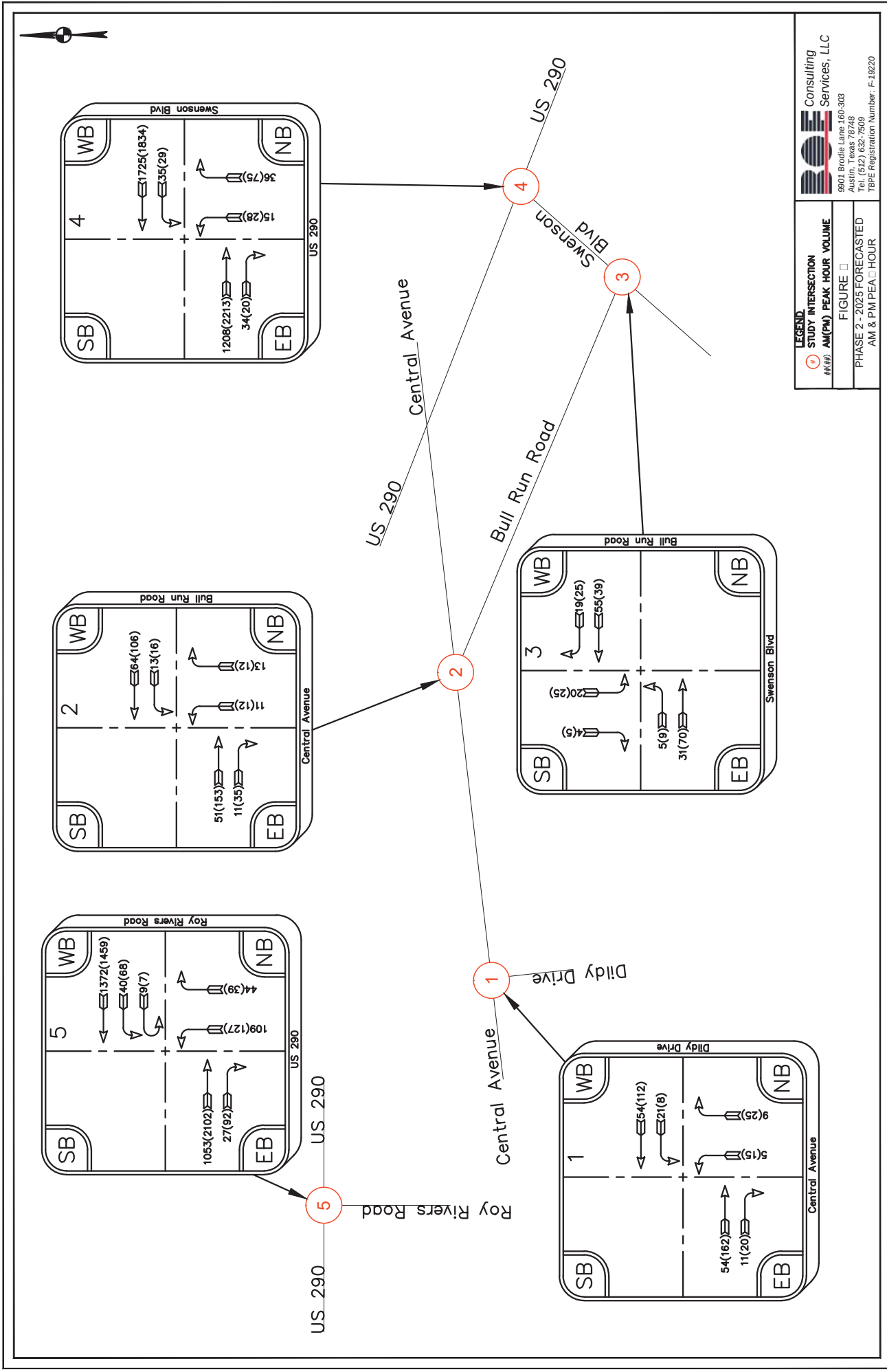
LEGEND

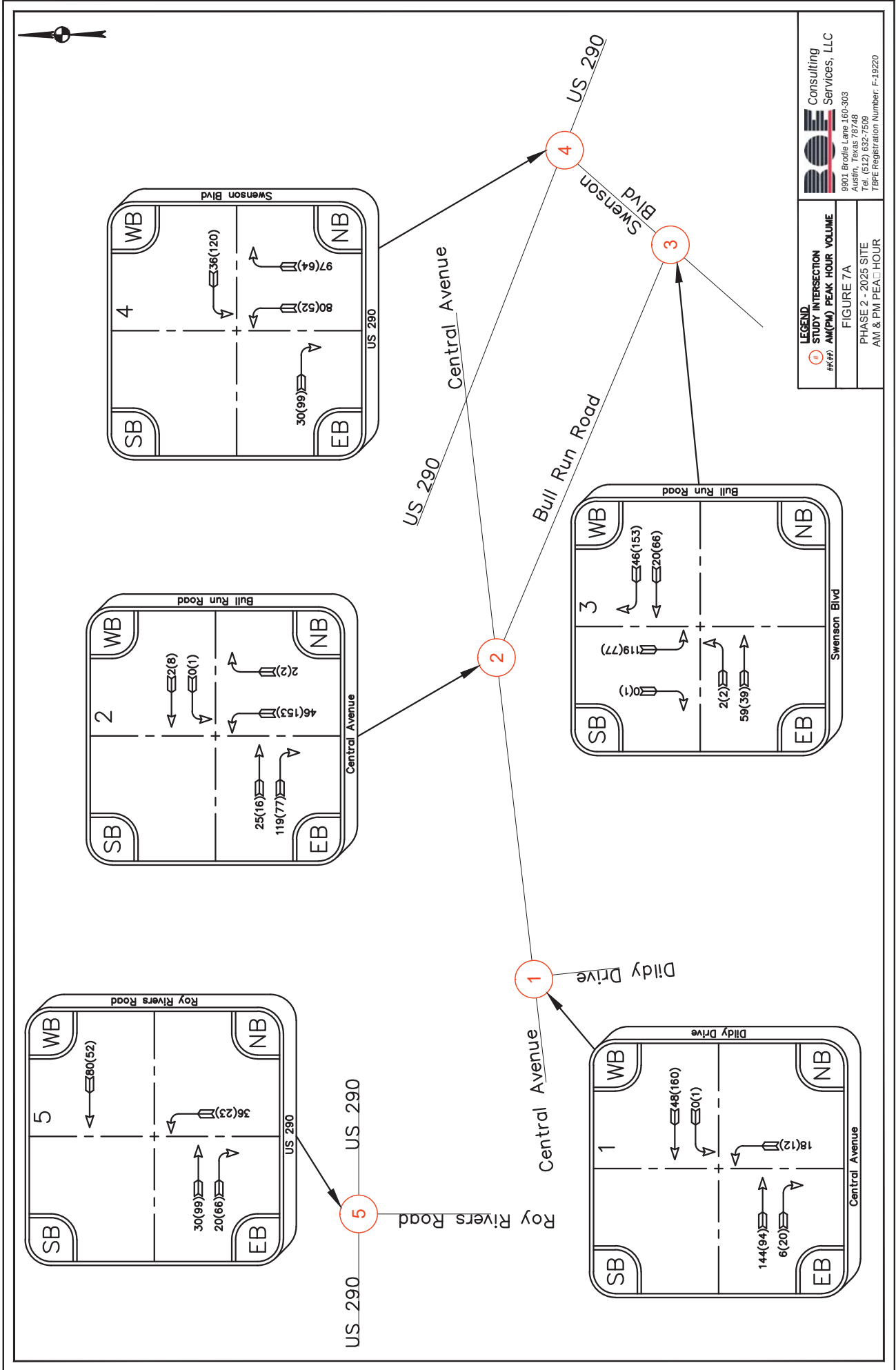
STUDY INTERSECTION

##(##) AM(PM) PEAK HOUR VOLUME

FIGURE 5B

PHASE 1 - 2021 SITE FORECASTED AM & PM PEAK HOUR





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Tel. (512) 632-7509
TBPPE Registration Number: F-19220

LEGEND

① STUDY INTERSECTION

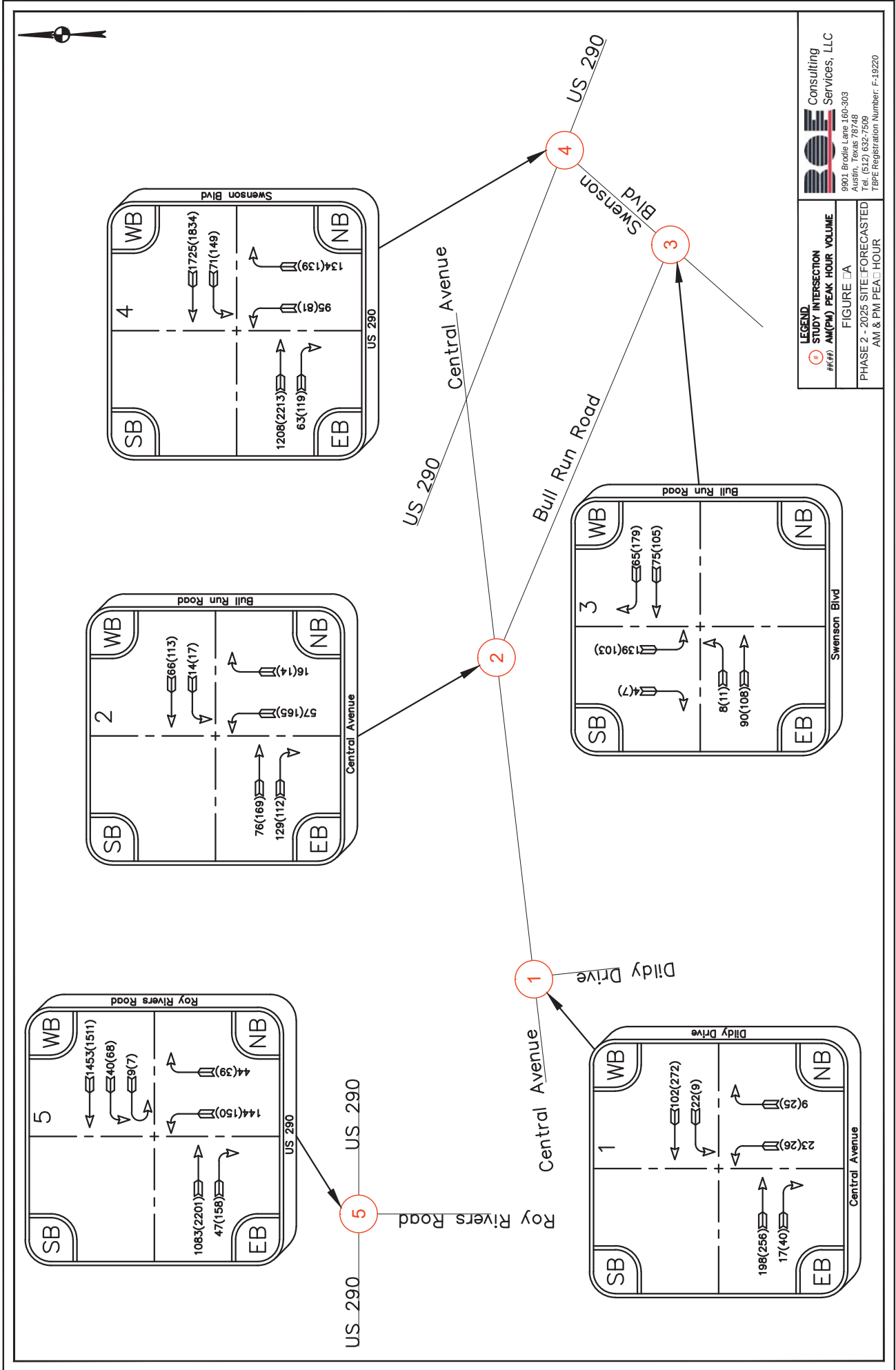
##(##) AM(PM) PEAK HOUR VOLUME

FIGURE 7A

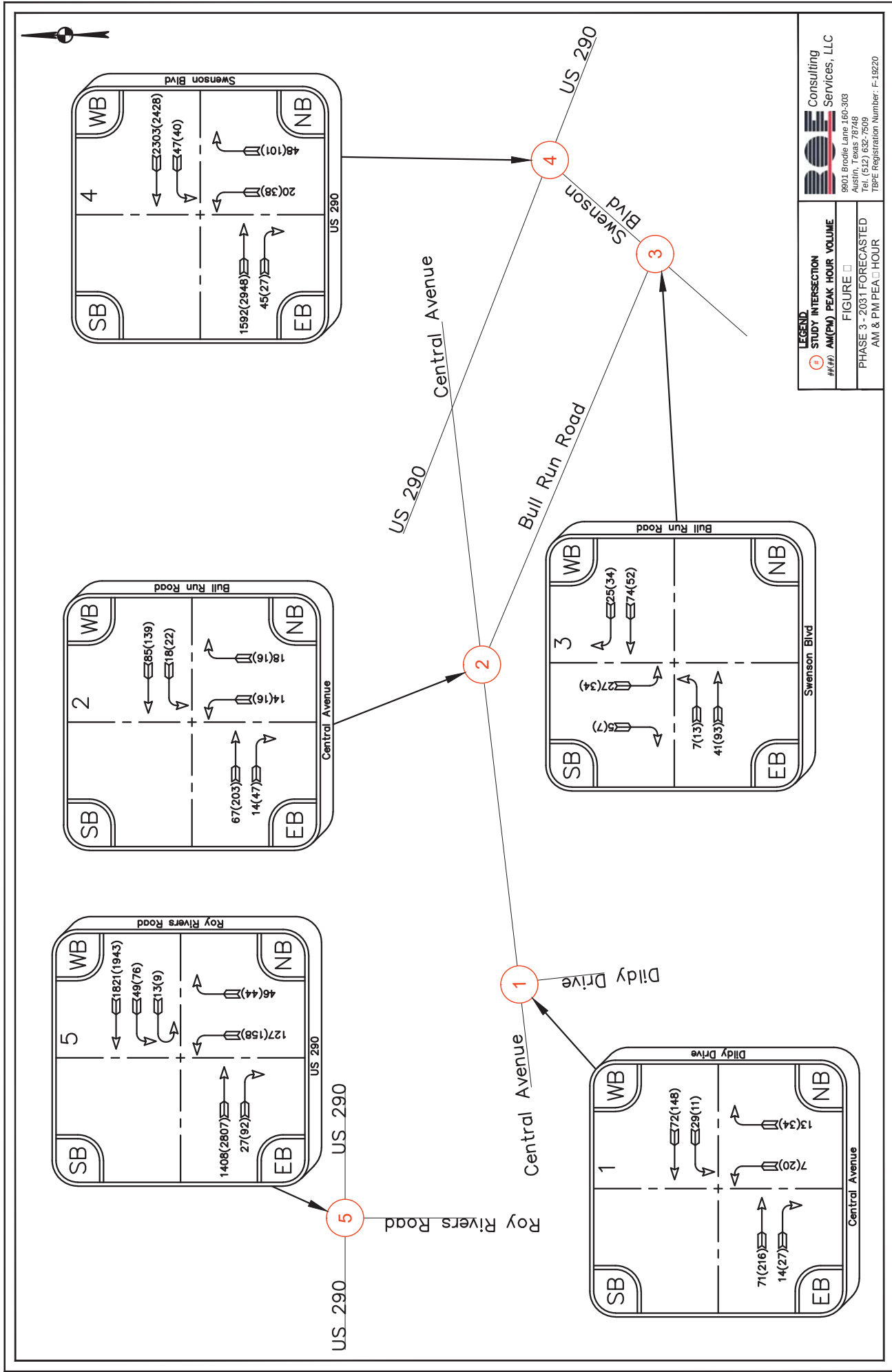
PHASE 2 - 2025 SITE

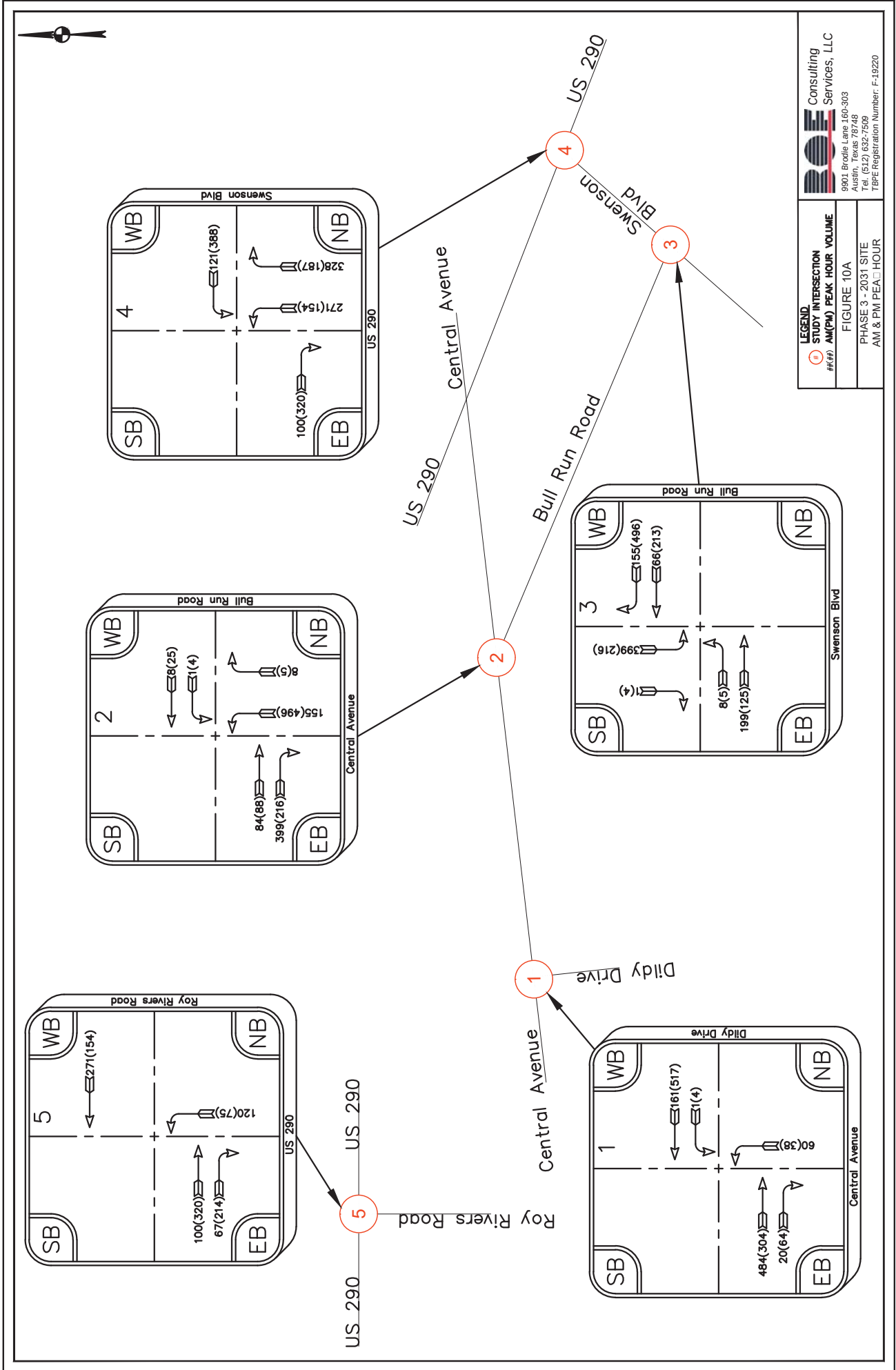
AM & PM PEA HOUR

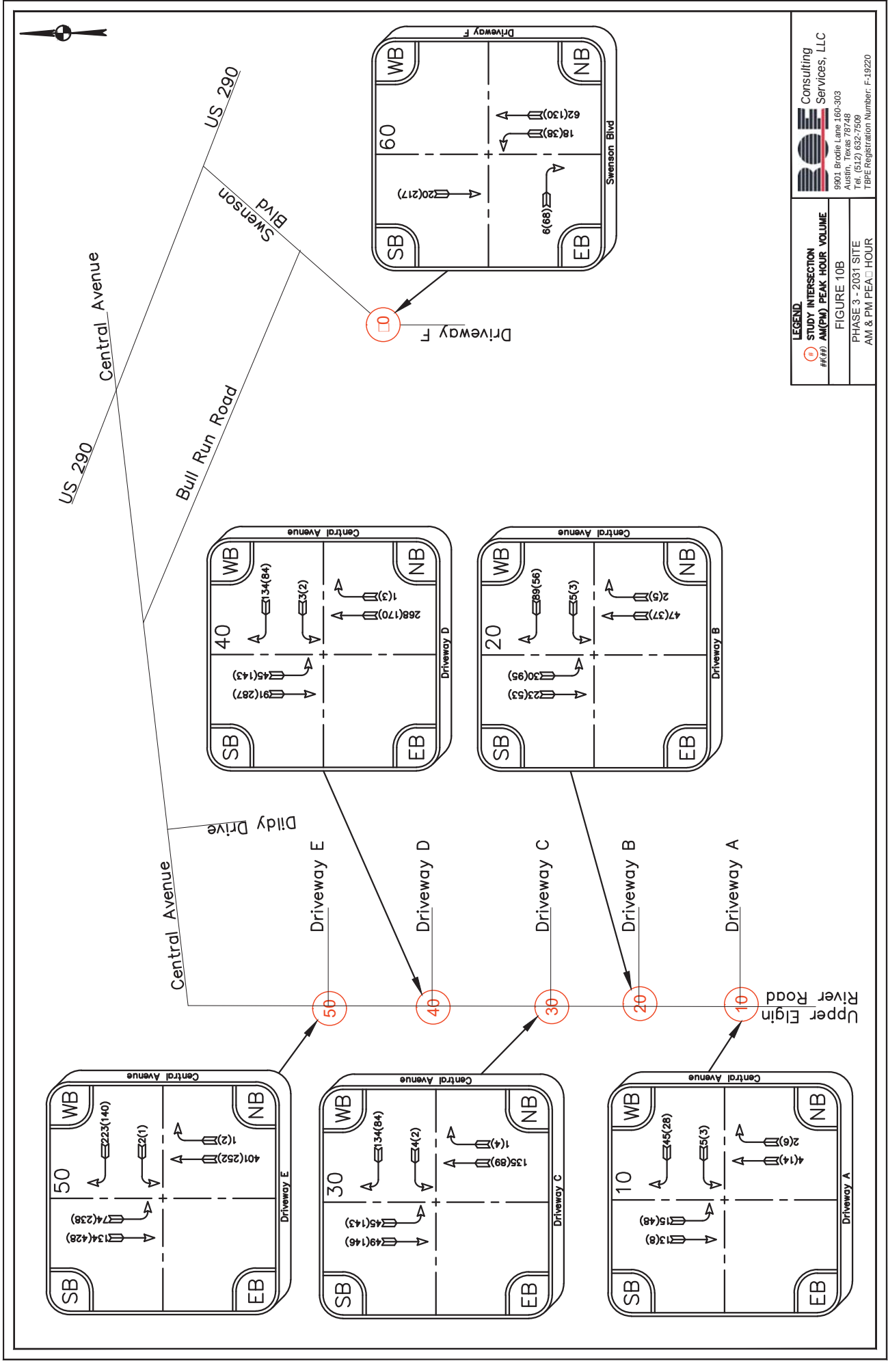






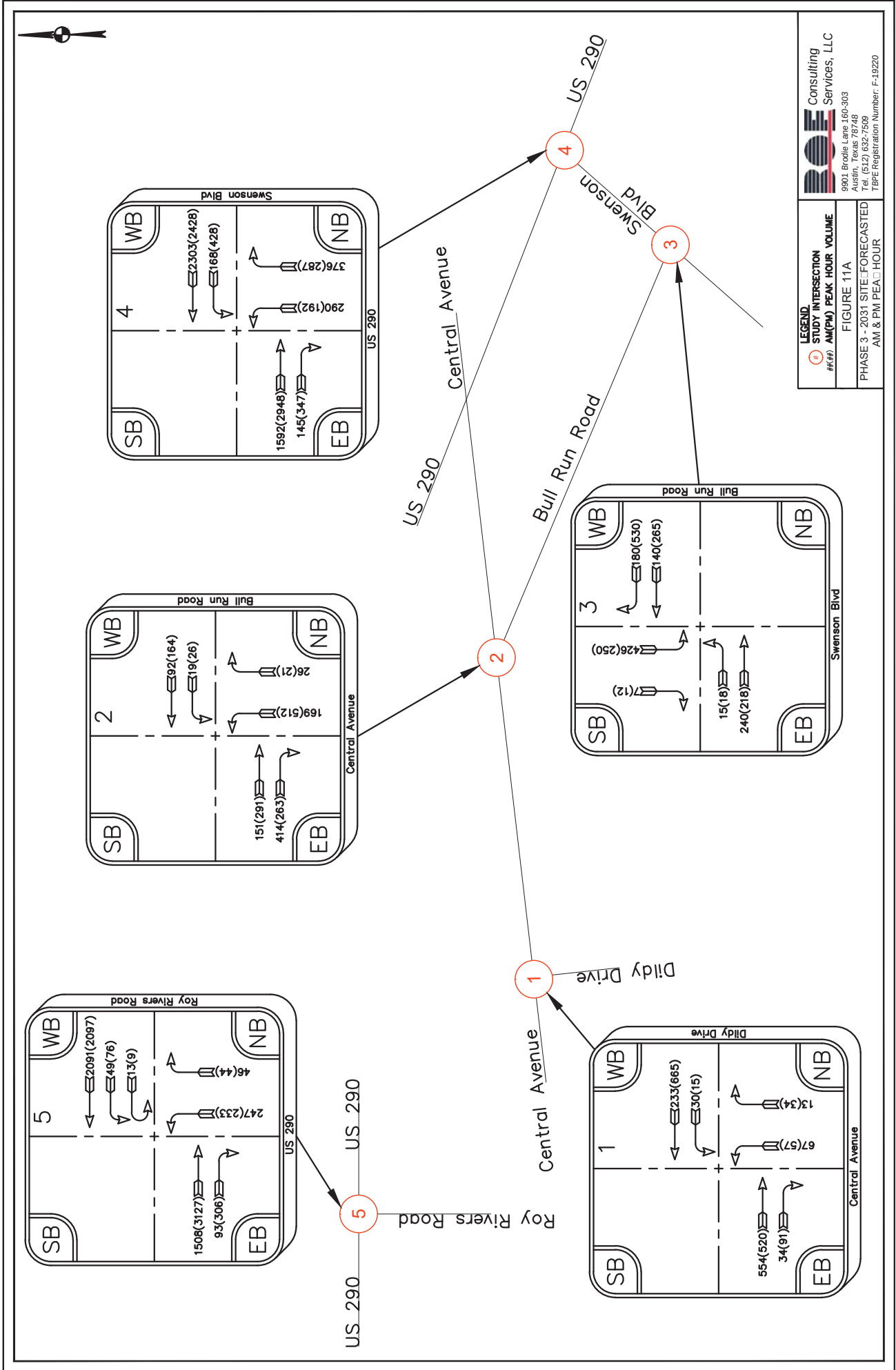


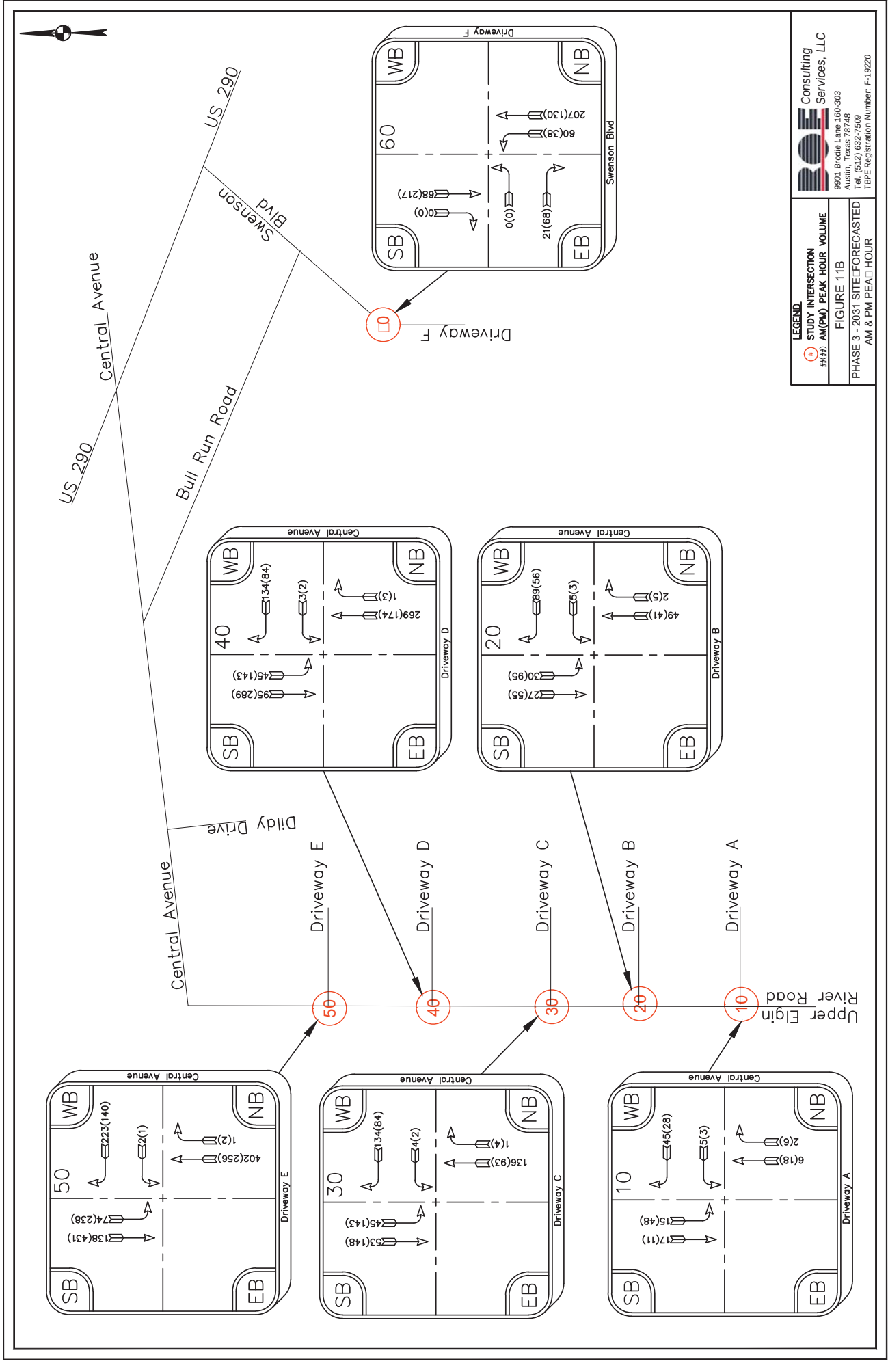




	LEGEND STUDY INTERSECTION ##(##) AM(PM) PEAK HOUR VOLUME
	FIGURE 10B PHASE 3 - 2031 SITE
	AM & PM PEA HOUR TBPE Registration Number: F-19220

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 Austin, Texas 78748
 Tel. (512) 632-7509
 TBPE Registration Number: F-19220





BOE Consulting Services, LLC
9901 Brodie Lane 160-303
Austin, Texas 78748
Tel. (512) 632-7509
TBPPE Registration Number: F-19220

LEGEND

STUDY INTERSECTION

AM(PM) PEAK HOUR VOLUME

FIGURE 11B

PHASE 3 - 2031 SITE-FORECASTED

AM & PM PEAK HOUR

A.6 TRIP GENERATION SUMMARY

TRIP GENERATION SUMMARY
(TRINITY RANCH)

ITE Code	Land Use	Rate	24-Hour Two-Way Volume	AM Peak Hour			PM Peak Hour		
		Per DU	EQ	Enter	Exit	Total	Enter	Exit	Total
210	Single-Family Housing	Per DU	EQ			EQ			EQ

AM Peak		PM Peak	
Enter	Exit	Enter	Exit
25%	75%	63%	37%

Eq for ITE 210	
Weekday Trips	$\ln(T) = 0.92\ln(X) + 2.71$
AM Peak Hour Trips	$T = 0.71(X) + 4.80$
PM Peak Hour Trips	$\ln(T) = 0.96\ln(X) + 0.20$

ITE Code	Land Use	Size	Daily Volume	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Proposed - Phase 1 (2021)									
210	Single-Family Housing	100 d.u.	1,040	19	57	76	64	38	102
Proposed - Phase 1 & Phase 2 (2025)									
210	Single-Family Housing	500 d.u.	4,571	90	270	360	300	176	476
Proposed - Phase 1, Phase 2, & Phase 3 (2031)									
210	Single-Family Housing	1,700 d.u.	14,091	303	909	1,212	971	571	1,542
Total Proposed - Phases 1, 2, & 3 (2031)			14,091	303	909	1,212	971	571	1,542



TRIP GENERATION SUMMARY-BACKGROUND PROJECT
(SARATOGA FARMS)

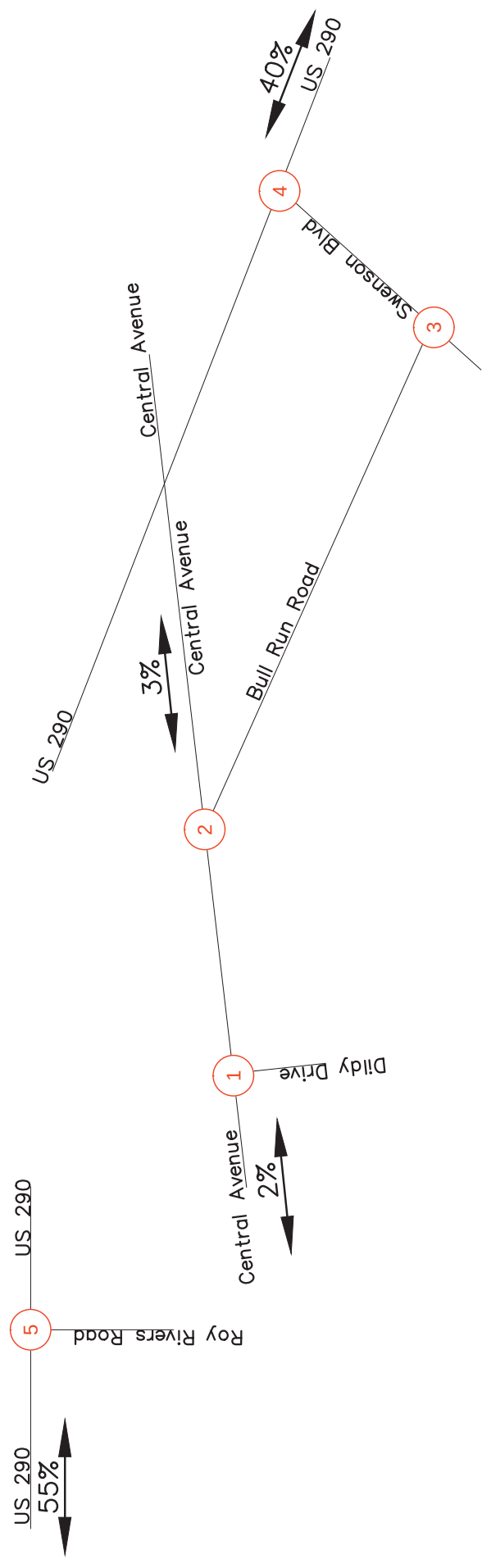
ITE Code	Land Use	Rate	24-Hour		AM PeakHour		PM PeakHour	
			Two-Way Volume	EQ	Enter	Exit	Enter	Exit
210	Single-Family Detached	Per DU		EQ				EQ

AM Peak		PM Peak	
Enter	Exit	Enter	Exit
25%	75%	63%	37%

Eq for ITE 210	
Weekday Trips	$\ln(T) = 0.92 \ln(X) + 2.71$
AM Peak Hour Trips	$T = 0.71(X) + 4.80$
PM Peak Hour Trips	$\ln(T) = 0.96 \ln(X) + 0.20$

ITE Code	Land Use	Size	24-Hour Two-Way Volume	AM PeakHour		PM PeakHour			
				Enter	Exit	Enter	Exit		
Proposed (ITE Rates)									
210	Single-Family Detached Housing	360	d.u.	3,379	65	195	260	219	129
Total Proposed				3,379	65	195	260	219	129
									347
									347

A.7 TRAFFIC DISTRIBUTION MAP



	LEGEND
	STUDY INTERSECTION
	DISTRIBUTION PERCENT
EXHIBIT 07	
TRAFFIC DISTRIBUTION MAP	

9901 Brodie Lane 160-303
Austin, Texas 78748
Tel. (512) 632-7509
TBPE Registration Number: F-19220

A.8 SYNCHRO OUTPUTS (NO IMPROVEMENTS)

Intersection

Int Delay, s/veh 2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	36	8	16	39	4	7
Future Vol, veh/h	36	8	16	39	4	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	60	60	75	60	60
Heavy Vehicles, %	3	0	0	0	0	14
Mvmt Flow	40	13	27	52	7	12

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	53
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1566
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1566
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	828	989	-	-	1566	-
HCM Lane V/C Ratio	0.008	0.012	-	-	0.017	-
HCM Control Delay (s)	9.4	8.7	-	-	7.3	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-

Intersection						
Int Delay, s/veh	2.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	34	8	10	46	8	10
Future Vol, veh/h	34	8	10	46	8	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	95	60	82	60	62
Heavy Vehicles, %	3	12	0	0	0	50
Mvmt Flow	40	8	17	56	13	16
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	48	0	134	44
Stage 1	-	-	-	-	44	-
Stage 2	-	-	-	-	90	-
Critical Hdwy	-	-	4.1	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.75
Pot Cap-1 Maneuver	-	-	1572	-	864	905
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	939	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1572	-	854	905
Mov Cap-2 Maneuver	-	-	-	-	854	-
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	929	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.7		9.2	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	881	-	-	1572	-	
HCM Lane V/C Ratio	0.033	-	-	0.011	-	
HCM Control Delay (s)	9.2	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile O(veh)	0.1	-	-	0	-	

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	23	41	14	15	3
Future Vol, veh/h	4	23	41	14	15	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	60	79	70	62	60
Heavy Vehicles, %	25	26	5	7	0	0
Mvmt Flow	7	38	52	20	24	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	72	0	0 114 62
Stage 1	-	-	- - 62 -
Stage 2	-	-	- - 52 -
Critical Hdwy	4.35	-	- - 6.4 6.2
Critical Hdwy Stg 1	-	-	- - 5.4 -
Critical Hdwy Stg 2	-	-	- - 5.4 -
Follow-up Hdwy	2.425	-	- - 3.5 3.3
Pot Cap-1 Maneuver	1394	-	- - 887 1009
Stage 1	-	-	- - 966 -
Stage 2	-	-	- - 976 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1394	-	- - 883 1009
Mov Cap-2 Maneuver	-	-	- - 883 -
Stage 1	-	-	- - 961 -
Stage 2	-	-	- - 976 -

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1394	-	-	-	902
HCM Lane V/C Ratio	0.005	-	-	-	0.032
HCM Control Delay (s)	7.6	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱	↱
Traffic Vol, veh/h	843	25	26	1268	11	27
Future Vol, veh/h	843	25	26	1268	11	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	62	65	94	69	61
Heavy Vehicles, %	10	8	0	7	36	11
Mvmt Flow	887	40	40	1349	16	44
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	927	0	1662	464
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	755	-
Critical Hdwy	-	-	4.1	-	7.52	7.12
Critical Hdwy Stg 1	-	-	-	-	6.52	-
Critical Hdwy Stg 2	-	-	-	-	6.52	-
Follow-up Hdwy	-	-	2.2	-	3.86	3.41
Pot Cap-1 Maneuver	-	-	746	-	62	521
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	347	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	746	-	59	521
Mov Cap-2 Maneuver	-	-	-	-	165	-
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	328	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		17	
HCM LOS					C	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	165	521	-	-	746	-
HCM Lane V/C Ratio	0.097	0.085	-	-	0.054	-
HCM Control Delay (s)	29.1	12.6	-	-	10.1	-
HCM Lane LOS	D	B	-	-	B	-
HCM 95th %tile Q(veh)	0.3	0.3	-	-	0.2	-

Intersection								
Int Delay, s/veh	2.6							
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↰	↰↰	↰		↰	↰↰	↰	↰
Traffic Vol, veh/h	0	779	0	7	20	984	41	4
Future Vol, veh/h	0	779	0	7	20	984	41	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	95	95	60	60	84	64	60
Heavy Vehicles, %	0	7	0	0	0	8	0	0
Mvmt Flow	0	820	0	12	33	1171	64	7
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	1171	0	0	820	820	0	1496	410
Stage 1	-	-	-	-	-	-	820	-
Stage 2	-	-	-	-	-	-	676	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	262	-	-	440	818	-	116	596
Stage 1	-	-	-	-	-	-	398	-
Stage 2	-	-	-	-	-	-	472	-
Platoon blocked, %		-	-			-		
Mov Cap-1 Maneuver	262	-	-	667	667	-	108	596
Mov Cap-2 Maneuver	-	-	-	-	-	-	108	-
Stage 1	-	-	-	-	-	-	398	-
Stage 2	-	-	-	-	-	-	440	-
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.4		71.9			
HCM LOS	F							
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT	
Capacity (veh/h)	108	596	262	-	-	667	-	
HCM Lane V/C Ratio	0.593	0.011	-	-	-	0.067	-	
HCM Control Delay (s)	78.2	11.1	0	-	-	10.8	-	
HCM Lane LOS	F	B	A	-	-	B	-	
HCM 95th %tile O(veh)	2.9	0	0	-	-	0.2	-	

Intersection

Int Delay, s/veh 1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	118	15	6	79	11	19
Future Vol, veh/h	118	15	6	79	11	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	62	60	90	69	60
Heavy Vehicles, %	0	0	33	1	9	0
Mvmt Flow	133	24	10	88	16	32

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	157
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.43
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.497
Pot Cap-1 Maneuver	-	-	1254
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1254
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	715	908	-	-	1254	-
HCM Lane V/C Ratio	0.022	0.035	-	-	0.008	-
HCM Control Delay (s)	10.2	9.1	-	-	7.9	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	111	26	12	74	9	9
Future Vol, veh/h	111	26	12	74	9	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	81	75	84	60	75
Heavy Vehicles, %	0	0	0	0	11	0
Mvmt Flow	128	32	16	88	15	12
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	160	0	264	144
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	120	-
Critical Hdwy	-	-	4.1	-	6.51	6.2
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.2	-	3.599	3.3
Pot Cap-1 Maneuver	-	-	1432	-	706	909
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	883	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1432	-	698	909
Mov Cap-2 Maneuver	-	-	-	-	698	-
Stage 1	-	-	-	-	862	-
Stage 2	-	-	-	-	872	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.2		9.8	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	778	-	-	1432	-	
HCM Lane V/C Ratio	0.035	-	-	0.011	-	
HCM Control Delay (s)	9.8	-	-	7.5	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile O(veh)	0.1	-	-	0	-	

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	52	29	19	19	4
Future Vol, veh/h	7	52	29	19	19	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	93	72	95	68	60
Heavy Vehicles, %	0	2	10	0	5	25
Mvmt Flow	12	56	40	20	28	7
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	60	0	-	0	130	50
Stage 1	-	-	-	-	50	-
Stage 2	-	-	-	-	80	-
Critical Hdwy	4.1	-	-	-	6.45	6.45
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.2	-	-	-	3.545	3.525
Pot Cap-1 Maneuver	1556	-	-	-	857	957
Stage 1	-	-	-	-	965	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1556	-	-	-	850	957
Mov Cap-2 Maneuver	-	-	-	-	850	-
Stage 1	-	-	-	-	957	-
Stage 2	-	-	-	-	936	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.3	0		9.3		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1556	-	-	-	-	869
HCM Lane V/C Ratio	0.007	-	-	-	-	0.04
HCM Control Delay (s)	7.3	0	-	-	-	9.3
HCM Lane LOS	A	A	-	-	-	A
HCM 95th %tile O(veh)	0	-	-	-	-	0.1

Intersection						
Int Delay, s/veh	1.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Vol, veh/h	1613	15	22	1303	21	56
Future Vol, veh/h	1613	15	22	1303	21	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	75	92	96	75	78
Heavy Vehicles, %	3	0	9	5	0	2
Mvmt Flow	1698	20	24	1357	28	72
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1718	0	2435	859
Stage 1	-	-	-	-	1708	-
Stage 2	-	-	-	-	727	-
Critical Hdwy	-	-	4.28	-	6.8	6.94
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.29	-	3.5	3.32
Pot Cap-1 Maneuver	-	-	335	-	~ 27	300
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	445	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	335	-	~ 25	300
Mov Cap-2 Maneuver	-	-	-	-	101	-
Stage 1	-	-	-	-	135	-
Stage 2	-	-	-	-	413	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.3		30		
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	101	300	-	-	335	-
HCM Lane V/C Ratio	0.277	0.239	-	-	0.071	-
HCM Control Delay (s)	53.8	20.7	-	-	16.6	-
HCM Lane LOS	F	C	-	-	C	-
HCM 95th %tile Q(veh)	1	0.9	-	-	0.2	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection								
Int Delay, s/veh	49.6							
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↱	↱↱	↱		↱	↱↱	↱	↱
Traffic Vol, veh/h	0	1546	1	5	18	1062	68	10
Future Vol, veh/h	0	1546	1	5	18	1062	68	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	96	60	60	90	89	65	62
Heavy Vehicles, %	0	2	0	0	0	4	2	0
Mvmt Flow	0	1610	2	8	20	1193	105	16
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	1193	0	0	1610	1612	0	2263	805
Stage 1	-	-	-	-	-	-	1610	-
Stage 2	-	-	-	-	-	-	653	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.52	3.3
Pot Cap-1 Maneuver	254	-	-	137	410	-	~ 34	330
Stage 1	-	-	-	-	-	-	149	-
Stage 2	-	-	-	-	-	-	480	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	254	-	-	254	254	-	~ 30	330
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 30	-
Stage 1	-	-	-	-	-	-	149	-
Stage 2	-	-	-	-	-	-	427	-
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.5		\$ 1209			
HCM LOS					F			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT	
Capacity (veh/h)	30	330	254	-	-	254	-	
HCM Lane V/C Ratio	3.487	0.049	-	-	-	0.112	-	
HCM Control Delay (s)	\$ 1392.8	16.5	0	-	-	20.9	-	
HCM Lane LOS	F	C	A	-	-	C	-	
HCM 95th %tile Q(veh)	12.5	0.2	0	-	-	0.4	-	
Notes								
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon								

Intersection						
Int Delay, s/veh	2.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	46	9	18	45	4	8
Future Vol, veh/h	46	9	18	45	4	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	60	60	75	60	60
Heavy Vehicles, %	3	0	0	0	0	14
Mvmt Flow	51	15	30	60	7	13
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	66	0	179	59
Stage 1	-	-	-	-	59	-
Stage 2	-	-	-	-	120	-
Critical Hdwy	-	-	4.1	-	6.4	6.34
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.426
Pot Cap-1 Maneuver	-	-	1549	-	815	974
Stage 1	-	-	-	-	969	-
Stage 2	-	-	-	-	910	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1549	-	799	974
Mov Cap-2 Maneuver	-	-	-	-	799	-
Stage 1	-	-	-	-	969	-
Stage 2	-	-	-	-	892	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	2.5		9		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	799	974	-	-	1549	-
HCM Lane V/C Ratio	0.008	0.014	-	-	0.019	-
HCM Control Delay (s)	9.5	8.7	-	-	7.4	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile O(veh)	0	0	-	-	0.1	-

Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	43	9	11	53	9	11
Future Vol, veh/h	43	9	11	53	9	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	95	60	82	60	62
Heavy Vehicles, %	3	12	0	0	0	50
Mvmt Flow	51	9	18	65	15	18
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	60	0	157	56
Stage 1	-	-	-	-	56	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.1	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.75
Pot Cap-1 Maneuver	-	-	1556	-	839	890
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1556	-	829	890
Mov Cap-2 Maneuver	-	-	-	-	829	-
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	917	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.6		9.3	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	861	-	-	1556	-	
HCM Lane V/C Ratio	0.038	-	-	0.012	-	
HCM Control Delay (s)	9.3	-	-	7.3	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile O(veh)	0.1	-	-	0	-	

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	25	45	15	17	3
Future Vol, veh/h	4	25	45	15	17	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	60	79	70	62	60
Heavy Vehicles, %	25	26	5	7	0	0
Mvmt Flow	7	42	57	21	27	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	78	0	0 124 68
Stage 1	-	-	- 68 -
Stage 2	-	-	- 56 -
Critical Hdwy	4.35	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.425	-	- 3.5 3.3
Pot Cap-1 Maneuver	1387	-	- 876 1001
Stage 1	-	-	- 960 -
Stage 2	-	-	- 972 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1387	-	- 872 1001
Mov Cap-2 Maneuver	-	-	- 872 -
Stage 1	-	-	- 955 -
Stage 2	-	-	- 972 -

Approach	EB	WB	SB
HCM Control Delay, s	1	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1387	-	-	-	890
HCM Lane V/C Ratio	0.005	-	-	-	0.036
HCM Control Delay (s)	7.6	0	-	-	9.2
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑↱		↱	↑↑	↱	↱
Traffic Vol, veh/h	1007	28	29	1424	12	30
Future Vol, veh/h	1007	28	29	1424	12	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	62	65	94	69	61
Heavy Vehicles, %	10	8	0	7	36	11
Mvmt Flow	1060	45	45	1515	17	49
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1105	0	1931	553
Stage 1	-	-	-	-	1083	-
Stage 2	-	-	-	-	848	-
Critical Hdwy	-	-	4.1	-	7.52	7.12
Critical Hdwy Stg 1	-	-	-	-	6.52	-
Critical Hdwy Stg 2	-	-	-	-	6.52	-
Follow-up Hdwy	-	-	2.2	-	3.86	3.41
Pot Cap-1 Maneuver	-	-	639	-	39	454
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	306	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	639	-	36	454
Mov Cap-2 Maneuver	-	-	-	-	130	-
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	285	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.3		19.9		
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	130	454	-	-	639	-
HCM Lane V/C Ratio	0.134	0.108	-	-	0.07	-
HCM Control Delay (s)	36.9	13.9	-	-	11.1	-
HCM Lane LOS	E	B	-	-	B	-
HCM 95th %tile O(veh)	0.4	0.4	-	-	0.2	-

Intersection								
Int Delay, s/veh	40.5							
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↱	↱↱	↱		↱	↱↱	↱	↱
Traffic Vol, veh/h	0	868	27	8	35	1138	99	43
Future Vol, veh/h	0	868	27	8	35	1138	99	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	95	95	60	60	84	64	60
Heavy Vehicles, %	0	7	0	0	0	8	0	0
Mvmt Flow	0	914	28	13	58	1355	155	72
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	1355	0	0	914	942	0	1734	457
Stage 1	-	-	-	-	-	-	914	-
Stage 2	-	-	-	-	-	-	820	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	200	-	-	383	736	-	~ 80	556
Stage 1	-	-	-	-	-	-	356	-
Stage 2	-	-	-	-	-	-	398	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	200	-	-	612	612	-	~ 71	556
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 71	-
Stage 1	-	-	-	-	-	-	356	-
Stage 2	-	-	-	-	-	-	351	-
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.6		\$ 460			
HCM LOS					F			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT	
Capacity (veh/h)	71	556	200	-	-	612	-	
HCM Lane V/C Ratio	2.179	0.129	-	-	-	0.117	-	
HCM Control Delay (s)	\$ 667.4	12.4	0	-	-	11.7	-	
HCM Lane LOS	F	B	A	-	-	B	-	
HCM 95th %tile Q(veh)	14.5	0.4	0	-	-	0.4	-	
Notes								
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon								

Intersection

Int Delay, s/veh 1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	134	17	7	94	12	21
Future Vol, veh/h	134	17	7	94	12	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	62	60	90	69	60
Heavy Vehicles, %	0	0	33	1	9	0
Mvmt Flow	151	27	12	104	17	35

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	178
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.43
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.497
Pot Cap-1 Maneuver	-	-	1231
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1231
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	676	885	-	-	1231	-
HCM Lane V/C Ratio	0.026	0.04	-	-	0.009	-
HCM Control Delay (s)	10.5	9.2	-	-	8	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	126	29	13	88	10	10
Future Vol, veh/h	126	29	13	88	10	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	81	75	84	60	75
Heavy Vehicles, %	0	0	0	0	11	0
Mvmt Flow	145	36	17	105	17	13
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	181	0	302	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	139	-
Critical Hdwy	-	-	4.1	-	6.51	6.2
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.2	-	3.599	3.3
Pot Cap-1 Maneuver	-	-	1407	-	671	887
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	866	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1407	-	662	887
Mov Cap-2 Maneuver	-	-	-	-	662	-
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	855	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.1		10	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	746	-	-	1407	-	
HCM Lane V/C Ratio	0.04	-	-	0.012	-	
HCM Control Delay (s)	10	-	-	7.6	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile O(veh)	0.1	-	-	0	-	

Intersection

Int Delay, s/veh 2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	57	32	21	21	4
Future Vol, veh/h	8	57	32	21	21	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	93	72	95	68	60
Heavy Vehicles, %	0	2	10	0	5	25
Mvmt Flow	13	61	44	22	31	7

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	66	0	0 142 55
Stage 1	-	-	- 55 -
Stage 2	-	-	- 87 -
Critical Hdwy	4.1	-	- 6.45 6.45
Critical Hdwy Stg 1	-	-	- 5.45 -
Critical Hdwy Stg 2	-	-	- 5.45 -
Follow-up Hdwy	2.2	-	- 3.545 3.525
Pot Cap-1 Maneuver	1549	-	- 844 951
Stage 1	-	-	- 960 -
Stage 2	-	-	- 929 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1549	-	- 836 951
Mov Cap-2 Maneuver	-	-	- 836 -
Stage 1	-	-	- 951 -
Stage 2	-	-	- 929 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1549	-	-	-	854
HCM Lane V/C Ratio	0.009	-	-	-	0.044
HCM Control Delay (s)	7.3	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↰	↑↑	↰	↰
Traffic Vol, veh/h	1830	17	24	1524	23	62
Future Vol, veh/h	1830	17	24	1524	23	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	75	92	96	75	78
Heavy Vehicles, %	3	0	9	5	0	2
Mvmt Flow	1926	23	26	1588	31	79
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1949	0	2784	975
Stage 1	-	-	-	-	1938	-
Stage 2	-	-	-	-	846	-
Critical Hdwy	-	-	4.28	-	6.8	6.94
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.29	-	3.5	3.32
Pot Cap-1 Maneuver	-	-	270	-	~ 16	251
Stage 1	-	-	-	-	101	-
Stage 2	-	-	-	-	386	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	270	-	~ 14	251
Mov Cap-2 Maneuver	-	-	-	-	76	-
Stage 1	-	-	-	-	101	-
Stage 2	-	-	-	-	349	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.3		41.3		
HCM LOS	E					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	76	251	-	-	270	-
HCM Lane V/C Ratio	0.404	0.317	-	-	0.097	-
HCM Control Delay (s)	81.3	25.9	-	-	19.8	-
HCM Lane LOS	F	D	-	-	C	-
HCM 95th %tile Q(veh)	1.6	1.3	-	-	0.3	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection								
Int Delay, s/veh	304.9							
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↱	↱↱	↱		↱	↱↱	↱	↱
Traffic Vol, veh/h	0	1735	91	6	64	1206	110	37
Future Vol, veh/h	0	1735	91	6	64	1206	110	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	96	60	60	90	89	65	62
Heavy Vehicles, %	0	2	0	0	0	4	2	0
Mvmt Flow	0	1807	152	10	71	1355	169	60
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	1355	0	0	1807	1959	0	2647	904
Stage 1	-	-	-	-	-	-	1807	-
Stage 2	-	-	-	-	-	-	840	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.52	3.3
Pot Cap-1 Maneuver	200	-	-	102	301	-	~ 19	284
Stage 1	-	-	-	-	-	-	~ 116	-
Stage 2	-	-	-	-	-	-	384	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	200	-	-	233	233	-	~ 12	284
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 12	-
Stage 1	-	-	-	-	-	-	~ 116	-
Stage 2	-	-	-	-	-	-	250	-
Approach	EB		WB		NB			
HCM Control Delay, s	0		1.6		\$ 4816.9			
HCM LOS					F			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT	
Capacity (veh/h)	12	284	200	-	-	233	-	
HCM Lane V/C Ratio	14.103	0.21	-	-	-	0.348	-	
HCM Control Delay (s)	\$ 6508.1	21	0	-	-	28.5	-	
HCM Lane LOS	F	C	A	-	-	D	-	
HCM 95th %tile Q(veh)	22.5	0.8	0	-	-	1.5	-	
Notes								
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon								

Intersection

Int Delay, s/veh 2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	76	10	18	55	8	8
Future Vol, veh/h	76	10	18	55	8	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	60	60	75	60	60
Heavy Vehicles, %	3	0	0	0	0	14
Mvmt Flow	84	17	30	73	13	13

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	101
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1504
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1504
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	751	932	-	-	1504	-
HCM Lane V/C Ratio	0.018	0.014	-	-	0.02	-
HCM Control Delay (s)	9.9	8.9	-	-	7.4	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-

Intersection						
Int Delay, s/veh	2.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	49	34	11	53	19	12
Future Vol, veh/h	49	34	11	53	19	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	95	60	82	60	62
Heavy Vehicles, %	3	12	0	0	0	50
Mvmt Flow	58	36	18	65	32	19
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	94	0	177	76
Stage 1	-	-	-	-	76	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.1	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.75
Pot Cap-1 Maneuver	-	-	1513	-	817	867
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1513	-	807	867
Mov Cap-2 Maneuver	-	-	-	-	807	-
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	917	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1.6		9.6		
HCM LOS	A					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	829	-	-	1513	-	
HCM Lane V/C Ratio	0.062	-	-	0.012	-	
HCM Control Delay (s)	9.6	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0	-	

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	38	49	25	42	3
Future Vol, veh/h	5	38	49	25	42	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	60	79	70	62	60
Heavy Vehicles, %	25	26	5	7	0	0
Mvmt Flow	8	63	62	36	68	5

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	98	0	0 159 80
Stage 1	-	-	- 80 -
Stage 2	-	-	- 79 -
Critical Hdwy	4.35	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.425	-	- 3.5 3.3
Pot Cap-1 Maneuver	1363	-	- 837 986
Stage 1	-	-	- 948 -
Stage 2	-	-	- 949 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1363	-	- 832 986
Mov Cap-2 Maneuver	-	-	- 832 -
Stage 1	-	-	- 942 -
Stage 2	-	-	- 949 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1363	-	-	-	841
HCM Lane V/C Ratio	0.006	-	-	-	0.086
HCM Control Delay (s)	7.7	0	-	-	9.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection						
Int Delay, s/veh	1.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖	↖
Traffic Vol, veh/h	1007	34	36	1424	29	50
Future Vol, veh/h	1007	34	36	1424	29	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	62	65	94	69	61
Heavy Vehicles, %	10	8	0	7	36	11
Mvmt Flow	1060	55	55	1515	42	82
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1115	0	1956	558
Stage 1	-	-	-	-	1088	-
Stage 2	-	-	-	-	868	-
Critical Hdwy	-	-	4.1	-	7.52	7.12
Critical Hdwy Stg 1	-	-	-	-	6.52	-
Critical Hdwy Stg 2	-	-	-	-	6.52	-
Follow-up Hdwy	-	-	2.2	-	3.86	3.41
Pot Cap-1 Maneuver	-	-	634	-	~ 37	451
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	298	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	634	-	~ 34	451
Mov Cap-2 Maneuver	-	-	-	-	126	-
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	272	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.4		25.7		
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	126	451	-	-	634	-
HCM Lane V/C Ratio	0.334	0.182	-	-	0.087	-
HCM Control Delay (s)	47.2	14.7	-	-	11.2	-
HCM Lane LOS	E	B	-	-	B	-
HCM 95th %tile Q(veh)	1.3	0.7	-	-	0.3	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection								
Int Delay, s/veh	47.8							
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↱	↱↱	↱		↱	↱↱	↱	↱
Traffic Vol, veh/h	0	874	31	8	35	1155	106	43
Future Vol, veh/h	0	874	31	8	35	1155	106	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	95	95	60	60	84	64	60
Heavy Vehicles, %	0	7	0	0	0	8	0	0
Mvmt Flow	0	920	33	13	58	1375	166	72
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	1375	0	0	920	953	0	1750	460
Stage 1	-	-	-	-	-	-	920	-
Stage 2	-	-	-	-	-	-	830	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	194	-	-	380	729	-	~ 79	554
Stage 1	-	-	-	-	-	-	353	-
Stage 2	-	-	-	-	-	-	394	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	194	-	-	607	607	-	~ 70	554
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 70	-
Stage 1	-	-	-	-	-	-	353	-
Stage 2	-	-	-	-	-	-	347	-
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.6		\$ 527.3			
HCM LOS					F			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT	
Capacity (veh/h)	70	554	194	-	-	607	-	
HCM Lane V/C Ratio	2.366	0.129	-	-	-	0.118	-	
HCM Control Delay (s)	\$ 750.1	12.5	0	-	-	11.7	-	
HCM Lane LOS	F	B	A	-	-	B	-	
HCM 95th %tile Q(veh)	15.9	0.4	0	-	-	0.4	-	
Notes								
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon								

10: Upper Elgin River Road & Driveway A HCM 2010 TWSC

Trinity Ranch TIA
Ph1-2021 Site+Forecasted AM

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	2	0	1	5
Future Vol, veh/h	0	3	2	0	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	2	0	1	5
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	9	2	0	0	2	0
Stage 1	2	-	-	-	-	-
Stage 2	7	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1011	1082	-	-	1620	-
Stage 1	1021	-	-	-	-	-
Stage 2	1016	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1010	1082	-	-	1620	-
Mov Cap-2 Maneuver	1010	-	-	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	1015	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.3	0	1.2			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	1082	1620	-	
HCM Lane V/C Ratio	-	-	0.003	0.001	-	
HCM Control Delay (s)	-	-	0	8.3	7.2	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-	

20: Upper Elgin River Road & Driveway B
HCM 2010 TWSC

Trinity Ranch TIA
Ph1-2021 Site+Forecasted AM

Intersection						
Int Delay, s/veh	3.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	6	4	0	2	5
Future Vol, veh/h	0	6	4	0	2	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	4	0	2	5
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	13	4	0	0	4	0
Stage 1	4	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1006	1080	-	-	1618	-
Stage 1	1019	-	-	-	-	-
Stage 2	1014	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1005	1080	-	-	1618	-
Mov Cap-2 Maneuver	1005	-	-	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.4	0	2.1			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	1080	1618	-	
HCM Lane V/C Ratio	-	-	0.006	0.001	-	
HCM Control Delay (s)	-	-	0	8.4	7.2	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	3.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	8	10	0	3	7
Future Vol, veh/h	0	8	10	0	3	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	9	11	0	3	8
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	25	11	0	0	11	0
Stage 1	11	-	-	-	-	-
Stage 2	14	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	991	1070	-	-	1608	-
Stage 1	1012	-	-	-	-	-
Stage 2	1009	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	989	1070	-	-	1608	-
Mov Cap-2 Maneuver	989	-	-	-	-	-
Stage 1	1012	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.4	0	2.2			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	1070	1608	-	
HCM Lane V/C Ratio	-	-	0.008	0.002	-	
HCM Control Delay (s)	-	-	0	8.4	7.2	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	2.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	8	18	0	3	10
Future Vol, veh/h	0	8	18	0	3	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	9	20	0	3	11
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	37	20	0	0	20	0
Stage 1	20	-	-	-	-	-
Stage 2	17	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	975	1058	-	-	1596	-
Stage 1	1003	-	-	-	-	-
Stage 2	1006	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	973	1058	-	-	1596	-
Mov Cap-2 Maneuver	973	-	-	-	-	-
Stage 1	1003	-	-	-	-	-
Stage 2	1004	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.4	0	1.7			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	1058	1596	-	
HCM Lane V/C Ratio	-	-	0.008	0.002	-	
HCM Control Delay (s)	-	-	0	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	2.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	14	26	0	5	12
Future Vol, veh/h	0	14	26	0	5	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	15	28	0	5	13
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	51	28	0	0	28	0
Stage 1	28	-	-	-	-	-
Stage 2	23	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	958	1047	-	-	1585	-
Stage 1	995	-	-	-	-	-
Stage 2	1000	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	955	1047	-	-	1585	-
Mov Cap-2 Maneuver	955	-	-	-	-	-
Stage 1	995	-	-	-	-	-
Stage 2	997	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.5	0	2.1			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	1047	1585	-	
HCM Lane V/C Ratio	-	-	0.015	0.003	-	
HCM Control Delay (s)	-	-	0	8.5	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	4	13	4	0
Future Vol, veh/h	0	1	4	13	4	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	4	14	4	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	26	4	4	0	-	0
Stage 1	4	-	-	-	-	-
Stage 2	22	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	989	1080	1618	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	1001	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	987	1080	1618	-	-	-
Mov Cap-2 Maneuver	987	-	-	-	-	-
Stage 1	1017	-	-	-	-	-
Stage 2	1001	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.3	1.7		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1618	-	-	1080	-	-
HCM Lane V/C Ratio	0.003	-	-	0.001	-	-
HCM Control Delay (s)	7.2	-	0	8.3	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	154	21	7	128	15	21
Future Vol, veh/h	154	21	7	128	15	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	62	60	90	69	60
Heavy Vehicles, %	0	0	33	1	9	0
Mvmt Flow	173	34	12	142	22	35

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	207
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.43
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.497
Pot Cap-1 Maneuver	-	-	1200
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1200
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	621	857	-	-	1200	-
HCM Lane V/C Ratio	0.035	0.041	-	-	0.01	-
HCM Control Delay (s)	11	9.4	-	-	8	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	2.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	130	45	14	90	43	10
Future Vol, veh/h	130	45	14	90	43	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	81	75	84	60	75
Heavy Vehicles, %	0	0	0	0	11	0
Mvmt Flow	149	56	19	107	72	13
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	205	0	322	177
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	145	-
Critical Hdwy	-	-	4.1	-	6.51	6.2
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.2	-	3.599	3.3
Pot Cap-1 Maneuver	-	-	1378	-	654	871
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	861	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1378	-	644	871
Mov Cap-2 Maneuver	-	-	-	-	644	-
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	848	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	1.1		11.1		
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	671	-	-	1378	-	
HCM Lane V/C Ratio	0.127	-	-	0.014	-	
HCM Control Delay (s)	11.1	-	-	7.6	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.4	-	-	0	-	

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	66	46	54	38	5
Future Vol, veh/h	8	66	46	54	38	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	93	72	95	68	60
Heavy Vehicles, %	0	2	10	0	5	25
Mvmt Flow	13	71	64	57	56	8

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	121	0	0 190 93
Stage 1	-	-	- 93 -
Stage 2	-	-	- 97 -
Critical Hdwy	4.1	-	- 6.45 6.45
Critical Hdwy Stg 1	-	-	- 5.45 -
Critical Hdwy Stg 2	-	-	- 5.45 -
Follow-up Hdwy	2.2	-	- 3.545 3.525
Pot Cap-1 Maneuver	1479	-	- 792 904
Stage 1	-	-	- 923 -
Stage 2	-	-	- 919 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1479	-	- 785 904
Mov Cap-2 Maneuver	-	-	- 785 -
Stage 1	-	-	- 915 -
Stage 2	-	-	- 919 -

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1479	-	-	-	799
HCM Lane V/C Ratio	0.009	-	-	-	0.08
HCM Control Delay (s)	7.5	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖	↖
Traffic Vol, veh/h	1830	38	50	1524	34	75
Future Vol, veh/h	1830	38	50	1524	34	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	75	92	96	75	78
Heavy Vehicles, %	3	0	9	5	0	2
Mvmt Flow	1926	51	54	1588	45	96
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1977	0	2854	989
Stage 1	-	-	-	-	1952	-
Stage 2	-	-	-	-	902	-
Critical Hdwy	-	-	4.28	-	6.8	6.94
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.29	-	3.5	3.32
Pot Cap-1 Maneuver	-	-	263	-	~ 14	246
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	361	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	263	-	~ 11	246
Mov Cap-2 Maneuver	-	-	-	-	71	-
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	287	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.7		57.9		
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	71	246	-	-	263	-
HCM Lane V/C Ratio	0.638	0.391	-	-	0.207	-
HCM Control Delay (s)	119.9	28.7	-	-	22.2	-
HCM Lane LOS	F	D	-	-	C	-
HCM 95th %tile Q(veh)	2.8	1.8	-	-	0.8	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection								
Int Delay, s/veh	358.1							
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↱	↱↱	↱		↱	↱↱	↱	↱
Traffic Vol, veh/h	0	1756	106	6	64	1218	115	37
Future Vol, veh/h	0	1756	106	6	64	1218	115	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	96	60	60	90	89	65	62
Heavy Vehicles, %	0	2	0	0	0	4	2	0
Mvmt Flow	0	1829	177	10	71	1369	177	60

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	1369	0	0	1829	2006	0	2676	915
Stage 1	-	-	-	-	-	-	1829	-
Stage 2	-	-	-	-	-	-	847	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.52	3.3
Pot Cap-1 Maneuver	196	-	-	98	289	-	~ 18	279
Stage 1	-	-	-	-	-	-	~ 113	-
Stage 2	-	-	-	-	-	-	381	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	196	-	-	223	223	-	~ 11	279
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 11	-
Stage 1	-	-	-	-	-	-	~ 113	-
Stage 2	-	-	-	-	-	-	243	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	\$ 5578.3
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	11	279	196	-	-	223	-
HCM Lane V/C Ratio	16.084	0.214	-	-	-	0.364	-
HCM Control Delay (s)	\$ 7452.7	21.4	0	-	-	30.1	-
HCM Lane LOS	F	C	A	-	-	D	-
HCM 95th %tile Q(veh)	23.6	0.8	0	-	-	1.6	-

Notes			
~: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

10: Upper Elgin River Road & Driveway A
HCM 2010 TWSC

Trinity Ranch TIA
Ph1-2021 Site+Forecasted PM

Intersection						
Int Delay, s/veh	2.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	5	0	3	3
Future Vol, veh/h	0	2	5	0	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	5	0	3	3
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	14	5	0	0	5	0
Stage 1	5	-	-	-	-	-
Stage 2	9	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	1005	1078	-	-	1616	-
Stage 1	1018	-	-	-	-	-
Stage 2	1014	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1003	1078	-	-	1616	-
Mov Cap-2 Maneuver	1003	-	-	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.3	0	3.6			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	1078	1616	-	
HCM Lane V/C Ratio	-	-	0.002	0.002	-	
HCM Control Delay (s)	-	-	0	8.3	7.2	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	3.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	4	7	0	6	6
Future Vol, veh/h	0	4	7	0	6	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	4	8	0	7	7
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	29	8	0	0	8	0
Stage 1	8	-	-	-	-	-
Stage 2	21	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	986	1074	-	-	1612	-
Stage 1	1015	-	-	-	-	-
Stage 2	1002	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	982	1074	-	-	1612	-
Mov Cap-2 Maneuver	982	-	-	-	-	-
Stage 1	1015	-	-	-	-	-
Stage 2	998	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.4	0		3.6		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	-	1074	1612	-
HCM Lane V/C Ratio	-	-	-	0.004	0.004	-
HCM Control Delay (s)	-	-	0	8.4	7.2	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	-	0	0	-

Intersection						
Int Delay, s/veh	3.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	6	10	0	9	12
Future Vol, veh/h	0	6	10	0	9	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	11	0	10	13
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	44	11	0	0	11	0
Stage 1	11	-	-	-	-	-
Stage 2	33	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	967	1070	-	-	1608	-
Stage 1	1012	-	-	-	-	-
Stage 2	989	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	961	1070	-	-	1608	-
Mov Cap-2 Maneuver	961	-	-	-	-	-
Stage 1	1012	-	-	-	-	-
Stage 2	983	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.4	0	3.1			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	1070	1608	-	
HCM Lane V/C Ratio	-	-	0.006	0.006	-	
HCM Control Delay (s)	-	-	0	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	6	16	0	9	21
Future Vol, veh/h	0	6	16	0	9	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	17	0	10	23
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	60	17	0	0	17	0
Stage 1	17	-	-	-	-	-
Stage 2	43	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	947	1062	-	-	1600	-
Stage 1	1006	-	-	-	-	-
Stage 2	979	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	941	1062	-	-	1600	-
Mov Cap-2 Maneuver	941	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	973	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.4	0	2.2			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	1062	1600	-	
HCM Lane V/C Ratio	-	-	0.006	0.006	-	
HCM Control Delay (s)	-	-	0	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	2.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	9	21	0	16	31
Future Vol, veh/h	0	9	21	0	16	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	10	23	0	17	34
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	91	23	0	0	23	0
Stage 1	23	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	909	1054	-	-	1592	-
Stage 1	1000	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	899	1054	-	-	1592	-
Mov Cap-2 Maneuver	899	-	-	-	-	-
Stage 1	1000	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.4	0	2.5			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	1054	1592	-	
HCM Lane V/C Ratio	-	-	0.009	0.011	-	
HCM Control Delay (s)	-	-	0	8.4	7.3	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-	

Intersection						
Int Delay, s/veh	2.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	3	9	14	0
Future Vol, veh/h	0	5	3	9	14	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	3	10	15	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	31	15	15	0	-	0
Stage 1	15	-	-	-	-	-
Stage 2	16	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	983	1065	1603	-	-	-
Stage 1	1008	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	981	1065	1603	-	-	-
Mov Cap-2 Maneuver	981	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.4	1.8		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1603	-	-	1065	-	-
HCM Lane V/C Ratio	0.002	-	-	0.005	-	-
HCM Control Delay (s)	7.2	-	0	8.4	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Intersection

Int Delay, s/veh 2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	54	11	21	54	5	9
Future Vol, veh/h	54	11	21	54	5	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	60	60	75	60	60
Heavy Vehicles, %	3	0	0	0	0	14
Mvmt Flow	60	18	35	72	8	15

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	78
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1533
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1533
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	763	961	-	-	1533	-
HCM Lane V/C Ratio	0.011	0.016	-	-	0.023	-
HCM Control Delay (s)	9.8	8.8	-	-	7.4	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	0	-	-	0.1	-

Intersection						
Int Delay, s/veh	2.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	51	11	13	64	11	13
Future Vol, veh/h	51	11	13	64	11	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	95	60	82	60	62
Heavy Vehicles, %	3	12	0	0	0	50
Mvmt Flow	60	12	22	78	18	21
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	72	0	188	66
Stage 1	-	-	-	-	66	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	-	-	4.1	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.75
Pot Cap-1 Maneuver	-	-	1541	-	806	879
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	908	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1541	-	794	879
Mov Cap-2 Maneuver	-	-	-	-	794	-
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	894	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.6		9.5	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	837	-	-	1541	-	
HCM Lane V/C Ratio	0.047	-	-	0.014	-	
HCM Control Delay (s)	9.5	-	-	7.4	0	
HCM Lane LOS	A	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	31	55	19	20	4
Future Vol, veh/h	5	31	55	19	20	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	60	79	70	62	60
Heavy Vehicles, %	25	26	5	7	0	0
Mvmt Flow	8	52	70	27	32	7

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	97	0	0 152 84
Stage 1	-	-	- 84 -
Stage 2	-	-	- 68 -
Critical Hdwy	4.35	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.425	-	- 3.5 3.3
Pot Cap-1 Maneuver	1364	-	- 844 981
Stage 1	-	-	- 944 -
Stage 2	-	-	- 960 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1364	-	- 839 981
Mov Cap-2 Maneuver	-	-	- 839 -
Stage 1	-	-	- 938 -
Stage 2	-	-	- 960 -

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	9.4
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1364	-	-	-	860
HCM Lane V/C Ratio	0.006	-	-	-	0.045
HCM Control Delay (s)	7.7	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection						
Int Delay, s/veh	0.9					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↘
Traffic Vol, veh/h	1208	34	35	1725	15	36
Future Vol, veh/h	1208	34	35	1725	15	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	62	65	94	69	61
Heavy Vehicles, %	10	8	0	7	36	11
Mvmt Flow	1272	55	54	1835	22	59
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1327	0	2326	664
Stage 1	-	-	-	-	1300	-
Stage 2	-	-	-	-	1026	-
Critical Hdwy	-	-	4.1	-	7.52	7.12
Critical Hdwy Stg 1	-	-	-	-	6.52	-
Critical Hdwy Stg 2	-	-	-	-	6.52	-
Follow-up Hdwy	-	-	2.2	-	3.86	3.41
Pot Cap-1 Maneuver	-	-	527	-	~ 20	383
Stage 1	-	-	-	-	164	-
Stage 2	-	-	-	-	240	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	527	-	~ 18	383
Mov Cap-2 Maneuver	-	-	-	-	93	-
Stage 1	-	-	-	-	164	-
Stage 2	-	-	-	-	216	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.4		26.6		
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	93	383	-	-	527	-
HCM Lane V/C Ratio	0.234	0.154	-	-	0.102	-
HCM Control Delay (s)	55.1	16.1	-	-	12.6	-
HCM Lane LOS	F	C	-	-	B	-
HCM 95th %tile Q(veh)	0.8	0.5	-	-	0.3	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection								
Int Delay, s/veh	98.7							
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↱	↱↱	↱		↱	↱↱	↱	↱
Traffic Vol, veh/h	0	1053	27	9	40	1372	109	44
Future Vol, veh/h	0	1053	27	9	40	1372	109	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	95	95	60	60	84	64	60
Heavy Vehicles, %	0	7	0	0	0	8	0	0
Mvmt Flow	0	1108	28	15	67	1633	170	73
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	1633	0	0	1108	1136	0	2089	554
Stage 1	-	-	-	-	-	-	1108	-
Stage 2	-	-	-	-	-	-	981	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	132	-	-	288	622	-	~ 46	481
Stage 1	-	-	-	-	-	-	282	-
Stage 2	-	-	-	-	-	-	329	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	132	-	-	497	497	-	~ 38	481
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 38	-
Stage 1	-	-	-	-	-	-	282	-
Stage 2	-	-	-	-	-	-	275	-
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.7		\$ 1248.6			
HCM LOS					F			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT	
Capacity (veh/h)	38	481	132	-	-	497	-	
HCM Lane V/C Ratio	4.482	0.152	-	-	-	0.164	-	
HCM Control Delay (s)	\$ 1780.3	13.8	0	-	-	13.7	-	
HCM Lane LOS	F	B	A	-	-	B	-	
HCM 95th %tile Q(veh)	19.8	0.5	0	-	-	0.6	-	
Notes								
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon								

Intersection						
Int Delay, s/veh	1.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	162	20	8	112	15	25
Future Vol, veh/h	162	20	8	112	15	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	62	60	90	69	60
Heavy Vehicles, %	0	0	33	1	9	0
Mvmt Flow	182	32	13	124	22	42
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	214	0	348	198
Stage 1	-	-	-	-	198	-
Stage 2	-	-	-	-	150	-
Critical Hdwy	-	-	4.43	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	-	-	2.497	-	3.581	3.3
Pot Cap-1 Maneuver	-	-	1192	-	635	848
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	861	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1192	-	627	848
Mov Cap-2 Maneuver	-	-	-	-	627	-
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	851	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.8		10	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	627	848	-	-	1192	-
HCM Lane V/C Ratio	0.035	0.049	-	-	0.011	-
HCM Control Delay (s)	10.9	9.5	-	-	8.1	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile O(veh)	0.1	0.2	-	-	0	-

Intersection						
Int Delay, s/veh	1.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	153	35	16	106	12	12
Future Vol, veh/h	153	35	16	106	12	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	81	75	84	60	75
Heavy Vehicles, %	0	0	0	0	11	0
Mvmt Flow	176	43	21	126	20	16
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	219	0	366	198
Stage 1	-	-	-	-	198	-
Stage 2	-	-	-	-	168	-
Critical Hdwy	-	-	4.1	-	6.51	6.2
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.2	-	3.599	3.3
Pot Cap-1 Maneuver	-	-	1362	-	616	848
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	840	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1362	-	606	848
Mov Cap-2 Maneuver	-	-	-	-	606	-
Stage 1	-	-	-	-	814	-
Stage 2	-	-	-	-	826	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.1		10.5	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	694	-	-	1362	-	
HCM Lane V/C Ratio	0.052	-	-	0.016	-	
HCM Control Delay (s)	10.5	-	-	7.7	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile O(veh)	0.2	-	-	0	-	

Intersection						
Int Delay, s/veh	2.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	70	39	25	25	5
Future Vol, veh/h	9	70	39	25	25	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	93	72	95	68	60
Heavy Vehicles, %	0	2	10	0	5	25
Mvmt Flow	15	75	54	26	37	8
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	80	0	-	0	172	67
Stage 1	-	-	-	-	67	-
Stage 2	-	-	-	-	105	-
Critical Hdwy	4.1	-	-	-	6.45	6.45
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.2	-	-	-	3.545	3.525
Pot Cap-1 Maneuver	1531	-	-	-	811	936
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	912	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1531	-	-	-	803	936
Mov Cap-2 Maneuver	-	-	-	-	803	-
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	912	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.2	0		9.6		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1531	-	-	-	825	
HCM Lane V/C Ratio	0.01	-	-	-	0.055	
HCM Control Delay (s)	7.4	0	-	-	9.6	
HCM Lane LOS	A	A	-	-	A	
HCM 95th %tile Q(veh)	0	-	-	-	0.2	

Intersection						
Int Delay, s/veh	3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↘
Traffic Vol, veh/h	2213	20	29	1834	28	75
Future Vol, veh/h	2213	20	29	1834	28	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	75	92	96	75	78
Heavy Vehicles, %	3	0	9	5	0	2
Mvmt Flow	2329	27	32	1910	37	96
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	2356	0	3362	1178
Stage 1	-	-	-	-	2343	-
Stage 2	-	-	-	-	1019	-
Critical Hdwy	-	-	4.28	-	6.8	6.94
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.29	-	3.5	3.32
Pot Cap-1 Maneuver	-	-	184	-	~ 6	184
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	314	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	184	-	~ 5	184
Mov Cap-2 Maneuver	-	-	-	-	46	-
Stage 1	-	-	-	-	60	-
Stage 2	-	-	-	-	259	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.5		92		
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	46	184	-	-	184	-
HCM Lane V/C Ratio	0.812	0.523	-	-	0.171	-
HCM Control Delay (s)	215.2	44.2	-	-	28.6	-
HCM Lane LOS	F	E	-	-	D	-
HCM 95th %tile Q(veh)	3.2	2.6	-	-	0.6	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection								
Int Delay, s/veh	1411.8							
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↱	↱↱	↱		↱	↱↱	↱	↱
Traffic Vol, veh/h	0	2102	92	7	68	1459	127	39
Future Vol, veh/h	0	2102	92	7	68	1459	127	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	96	60	60	90	89	65	62
Heavy Vehicles, %	0	2	0	0	0	4	2	0
Mvmt Flow	0	2190	153	12	76	1639	195	63
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	1639	0	0	2190	2343	0	3186	1095
Stage 1	-	-	-	-	-	-	2190	-
Stage 2	-	-	-	-	-	-	996	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.52	3.3
Pot Cap-1 Maneuver	131	-	-	57	214	-	~ 8	212
Stage 1	-	-	-	-	-	-	~ 71	-
Stage 2	-	-	-	-	-	-	318	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	131	-	-	145	145	-	~ 3	212
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 3	-
Stage 1	-	-	-	-	-	-	~ 71	-
Stage 2	-	-	-	-	-	-	~ 127	-
Approach	EB		WB		NB			
HCM Control Delay, s	0		3.1		\$ 23634.3			
HCM LOS					F			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT	
Capacity (veh/h)	3	212	131	-	-	145	-	
HCM Lane V/C Ratio	65.128	0.297	-	-	-	0.602	-	
HCM Control Delay (s)	\$ 31233.9	29	0	-	-	61.6	-	
HCM Lane LOS	F	D	A	-	-	F	-	
HCM 95th %tile Q(veh)	26.8	1.2	0	-	-	3.2	-	
Notes								
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon								

Intersection

Int Delay, s/veh 1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	198	17	22	102	23	9
Future Vol, veh/h	198	17	22	102	23	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	60	60	75	60	60
Heavy Vehicles, %	3	0	0	0	0	14
Mvmt Flow	220	28	37	136	38	15

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	248
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1330
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1330
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	558	776	-	-	1330	-
HCM Lane V/C Ratio	0.069	0.019	-	-	0.028	-
HCM Control Delay (s)	11.9	9.7	-	-	7.8	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-

Intersection						
Int Delay, s/veh	3.4					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	76	129	14	66	57	16
Future Vol, veh/h	76	129	14	66	57	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	95	60	82	60	62
Heavy Vehicles, %	3	12	0	0	0	50
Mvmt Flow	89	136	23	80	95	26
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	225	0	283	157
Stage 1	-	-	-	-	157	-
Stage 2	-	-	-	-	126	-
Critical Hdwy	-	-	4.1	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.75
Pot Cap-1 Maneuver	-	-	1356	-	711	777
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	905	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1356	-	698	777
Mov Cap-2 Maneuver	-	-	-	-	698	-
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	889	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.7		11.1	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	713	-	-	1356	-	
HCM Lane V/C Ratio	0.169	-	-	0.017	-	
HCM Control Delay (s)	11.1	-	-	7.7	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.6	-	-	0.1	-	

Intersection						
Int Delay, s/veh	5.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	90	75	65	139	4
Future Vol, veh/h	8	90	75	65	139	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	60	79	70	62	60
Heavy Vehicles, %	25	26	5	7	0	0
Mvmt Flow	13	150	95	93	224	7
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	188	0	-	0	318	142
Stage 1	-	-	-	-	142	-
Stage 2	-	-	-	-	176	-
Critical Hdwy	4.35	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.425	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1259	-	-	-	679	911
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1259	-	-	-	672	911
Mov Cap-2 Maneuver	-	-	-	-	672	-
Stage 1	-	-	-	-	880	-
Stage 2	-	-	-	-	859	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.6	0		13		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1259	-	-	-	677	
HCM Lane V/C Ratio	0.011	-	-	-	0.341	
HCM Control Delay (s)	7.9	0	-	-	13	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	1.5	

Intersection						
Int Delay, s/veh	19.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Vol, veh/h	1208	63	71	1725	95	134
Future Vol, veh/h	1208	63	71	1725	95	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	62	65	94	69	61
Heavy Vehicles, %	10	8	0	7	36	11
Mvmt Flow	1272	102	109	1835	138	220
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1374	0	2459	687
Stage 1	-	-	-	-	1323	-
Stage 2	-	-	-	-	1136	-
Critical Hdwy	-	-	4.1	-	7.52	7.12
Critical Hdwy Stg 1	-	-	-	-	6.52	-
Critical Hdwy Stg 2	-	-	-	-	6.52	-
Follow-up Hdwy	-	-	2.2	-	3.86	3.41
Pot Cap-1 Maneuver	-	-	506	-	~ 16	369
Stage 1	-	-	-	-	159	-
Stage 2	-	-	-	-	206	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	506	-	~ 13	369
Mov Cap-2 Maneuver	-	-	-	-	~ 79	-
Stage 1	-	-	-	-	159	-
Stage 2	-	-	-	-	162	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.8		198.4		
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	79	369	-	-	506	-
HCM Lane V/C Ratio	1.743	0.595	-	-	0.216	-
HCM Control Delay (s)	\$ 470	28.1	-	-	14.1	-
HCM Lane LOS	F	D	-	-	B	-
HCM 95th %tile Q(veh)	11.7	3.7	-	-	0.8	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection								
Int Delay, s/veh	188.7							
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↱	↱↱	↱		↱	↱↱	↱	↱
Traffic Vol, veh/h	0	1083	47	9	40	1453	144	44
Future Vol, veh/h	0	1083	47	9	40	1453	144	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	95	95	60	60	84	64	60
Heavy Vehicles, %	0	7	0	0	0	8	0	0
Mvmt Flow	0	1140	49	15	67	1730	225	73
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	1730	0	0	1140	1189	0	2169	570
Stage 1	-	-	-	-	-	-	1140	-
Stage 2	-	-	-	-	-	-	1029	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	114	-	-	275	594	-	~ 41	470
Stage 1	-	-	-	-	-	-	271	-
Stage 2	-	-	-	-	-	-	310	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	114	-	-	474	474	-	~ 34	470
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 34	-
Stage 1	-	-	-	-	-	-	271	-
Stage 2	-	-	-	-	-	-	256	-
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.6		\$ 2083.4			
HCM LOS					F			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT	
Capacity (veh/h)	34	470	114	-	-	474	-	
HCM Lane V/C Ratio	6.618	0.156	-	-	-	0.172	-	
HCM Control Delay (s)	\$ 2757.9	14.1	0	-	-	14.2	-	
HCM Lane LOS	F	B	A	-	-	B	-	
HCM 95th %tile Q(veh)	27	0.5	0	-	-	0.6	-	
Notes								
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon								

10: Upper Elgin River Road & Driveway A
HCM 2010 TWSC

Trinity Ranch TIA
Ph2-2025 Site+Forecasted AM

Intersection						
Int Delay, s/veh	5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	13	3	1	4	8
Future Vol, veh/h	2	13	3	1	4	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	14	3	1	4	9
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	21	4	0	0	4	0
Stage 1	4	-	-	-	-	-
Stage 2	17	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	996	1080	-	-	1618	-
Stage 1	1019	-	-	-	-	-
Stage 2	1006	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	994	1080	-	-	1618	-
Mov Cap-2 Maneuver	994	-	-	-	-	-
Stage 1	1019	-	-	-	-	-
Stage 2	1004	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.4	0		2.4		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	994 1080	1618	-	
HCM Lane V/C Ratio	-	-	0.002 0.013	0.003	-	
HCM Control Delay (s)	-	-	8.6 8.4	7.2	0	
HCM Lane LOS	-	-	A A	A	A	
HCM 95th %tile Q(veh)	-	-	0 0	0	-	

Intersection						
Int Delay, s/veh	4.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	26	15	0	9	11
Future Vol, veh/h	1	26	15	0	9	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	28	16	0	10	12
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	48	16	0	0	16	0
Stage 1	16	-	-	-	-	-
Stage 2	32	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	962	1063	-	-	1602	-
Stage 1	1007	-	-	-	-	-
Stage 2	991	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	956	1063	-	-	1602	-
Mov Cap-2 Maneuver	956	-	-	-	-	-
Stage 1	1007	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.5	0		3.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	956 1063	1602	-	
HCM Lane V/C Ratio	-	-	0.001 0.027	0.006	-	
HCM Control Delay (s)	-	-	8.8 8.5	7.3	0	
HCM Lane LOS	-	-	A A	A	A	
HCM 95th %tile Q(veh)	-	-	0 0.1	0	-	

Intersection						
Int Delay, s/veh	4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	40	41	0	13	18
Future Vol, veh/h	1	40	41	0	13	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	43	45	0	14	20
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	93	45	0	0	45	0
Stage 1	45	-	-	-	-	-
Stage 2	48	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	907	1025	-	-	1563	-
Stage 1	977	-	-	-	-	-
Stage 2	974	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	899	1025	-	-	1563	-
Mov Cap-2 Maneuver	899	-	-	-	-	-
Stage 1	977	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.7	0	3.1			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 899 1025 1563	-	-		
HCM Lane V/C Ratio	-	- 0.001 0.042 0.009	-	-		
HCM Control Delay (s)	-	- 9 8.7 7.3	-	0		
HCM Lane LOS	-	- A A A	-	A		
HCM 95th %tile Q(veh)	-	- 0 0.1 0	-	-		

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	40	81	0	13	31
Future Vol, veh/h	1	40	81	0	13	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	43	88	0	14	34
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	150	88	0	0	88	0
Stage 1	88	-	-	-	-	-
Stage 2	62	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	842	970	-	-	1508	-
Stage 1	935	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	834	970	-	-	1508	-
Mov Cap-2 Maneuver	834	-	-	-	-	-
Stage 1	935	-	-	-	-	-
Stage 2	952	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.9	0	2.2			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 834 970 1508	-	-		
HCM Lane V/C Ratio	-	- 0.001 0.045 0.009	-	-		
HCM Control Delay (s)	-	- 9.3 8.9 7.4	-	0		
HCM Lane LOS	-	- A A A	-	A		
HCM 95th %tile Q(veh)	-	- 0 0.1 0	-	-		

Intersection						
Int Delay, s/veh	3.1					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	66	120	0	22	44
Future Vol, veh/h	1	66	120	0	22	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	72	130	0	24	48
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	226	130	0	0	130	0
Stage 1	130	-	-	-	-	-
Stage 2	96	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	762	920	-	-	1455	-
Stage 1	896	-	-	-	-	-
Stage 2	928	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	749	920	-	-	1455	-
Mov Cap-2 Maneuver	749	-	-	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	912	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.2	0		2.5		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	749	920	1455	-
HCM Lane V/C Ratio	-	-	0.001	0.078	0.016	-
HCM Control Delay (s)	-	-	9.8	9.2	7.5	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.3	0.1	-

Intersection						
Int Delay, s/veh	1.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	6	18	62	20	0
Future Vol, veh/h	0	6	18	62	20	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	7	20	67	22	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	129	22	22	0	-	0
Stage 1	22	-	-	-	-	-
Stage 2	107	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	865	1055	1593	-	-	-
Stage 1	1001	-	-	-	-	-
Stage 2	917	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	854	1055	1593	-	-	-
Mov Cap-2 Maneuver	854	-	-	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	917	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.4	1.6		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1593	-	-	1055	-	-
HCM Lane V/C Ratio	0.012	-	-	0.006	-	-
HCM Control Delay (s)	7.3	-	0	8.4	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0	-	-

Intersection

Int Delay, s/veh 1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	256	40	9	272	26	25
Future Vol, veh/h	256	40	9	272	26	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	62	60	90	69	60
Heavy Vehicles, %	0	0	33	1	9	0
Mvmt Flow	288	65	15	302	38	42

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	353
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.43
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.497
Pot Cap-1 Maneuver	-	-	1053
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1053
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	12.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	414	724	-	-	1053	-
HCM Lane V/C Ratio	0.091	0.058	-	-	0.014	-
HCM Control Delay (s)	14.6	10.3	-	-	8.5	0
HCM Lane LOS	B	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	0.2	-	-	0	-

Intersection						
Int Delay, s/veh	7.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	169	112	17	113	165	14
Future Vol, veh/h	169	112	17	113	165	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	81	75	84	60	75
Heavy Vehicles, %	0	0	0	0	11	0
Mvmt Flow	194	138	23	135	275	19
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	332	0	444	263
Stage 1	-	-	-	-	263	-
Stage 2	-	-	-	-	181	-
Critical Hdwy	-	-	4.1	-	6.51	6.2
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.2	-	3.599	3.3
Pot Cap-1 Maneuver	-	-	1239	-	555	781
Stage 1	-	-	-	-	761	-
Stage 2	-	-	-	-	829	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1239	-	544	781
Mov Cap-2 Maneuver	-	-	-	-	544	-
Stage 1	-	-	-	-	761	-
Stage 2	-	-	-	-	812	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.1		18.5	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	555	-	-	1239	-	
HCM Lane V/C Ratio	0.529	-	-	0.018	-	
HCM Control Delay (s)	18.5	-	-	8	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile O(veh)	3.1	-	-	0.1	-	

Intersection						
Int Delay, s/veh	3.6					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	108	105	179	103	7
Future Vol, veh/h	11	108	105	179	103	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	93	72	95	68	60
Heavy Vehicles, %	0	2	10	0	5	25
Mvmt Flow	18	116	146	188	151	12
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	334	0	-	0	392	240
Stage 1	-	-	-	-	240	-
Stage 2	-	-	-	-	152	-
Critical Hdwy	4.1	-	-	-	6.45	6.45
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.2	-	-	-	3.545	3.525
Pot Cap-1 Maneuver	1237	-	-	-	606	745
Stage 1	-	-	-	-	793	-
Stage 2	-	-	-	-	869	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1237	-	-	-	596	745
Mov Cap-2 Maneuver	-	-	-	-	596	-
Stage 1	-	-	-	-	780	-
Stage 2	-	-	-	-	869	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.1	0		13.1		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1237	-	-	-	605	
HCM Lane V/C Ratio	0.015	-	-	-	0.27	
HCM Control Delay (s)	8	0	-	-	13.1	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	1.1	

Intersection						
Int Delay, s/veh	1238.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↰	↑↑	↰	↰
Traffic Vol, veh/h	2213	119	149	1834	81	139
Future Vol, veh/h	2213	119	149	1834	81	139
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	75	92	96	75	78
Heavy Vehicles, %	3	0	9	5	0	2
Mvmt Flow	2329	159	162	1910	108	178
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	2488	0	3688	1244
Stage 1	-	-	-	-	2409	-
Stage 2	-	-	-	-	1279	-
Critical Hdwy	-	-	4.28	-	6.8	6.94
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.29	-	3.5	3.32
Pot Cap-1 Maneuver	-	-	163	-	~ 4	~ 166
Stage 1	-	-	-	-	~ 55	-
Stage 2	-	-	-	-	229	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	163	-	0	~ 166
Mov Cap-2 Maneuver	-	-	-	-	~ 1	-
Stage 1	-	-	-	-	~ 55	-
Stage 2	-	-	-	-	~ 1	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	9.8		\$ 20902.2		
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	1	166	-	-	163	-
HCM Lane V/C Ratio	108	1.074	-	-	0.994	-
HCM Control Delay (s)	\$ 55149.4	146.9	-	-	125	-
HCM Lane LOS	F	F	-	-	F	-
HCM 95th %tile Q(veh)	15.9	9	-	-	7.7	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection

Int Delay, s/veh 2742.4

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↱	↱↱	↱		↱	↱↱	↱	↱
Traffic Vol, veh/h	0	2201	158	7	68	1511	150	39
Future Vol, veh/h	0	2201	158	7	68	1511	150	39
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	96	60	60	90	89	65	62
Heavy Vehicles, %	0	2	0	0	0	4	2	0
Mvmt Flow	0	2293	263	12	76	1698	231	63

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	1698	0	0	2293	2556	0	3318	1147
Stage 1	-	-	-	-	-	-	2293	-
Stage 2	-	-	-	-	-	-	1025	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.52	3.3
Pot Cap-1 Maneuver	120	-	-	49	176	-	~ 6	196
Stage 1	-	-	-	-	-	-	~ 62	-
Stage 2	-	-	-	-	-	-	307	-
Platoon blocked, %		-	-			-		
Mov Cap-1 Maneuver	120	-	-	120	120	-	~ 2	196
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 2	-
Stage 1	-	-	-	-	-	-	~ 62	-
Stage 2	-	-	-	-	-	-	~ 84	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.4	\$ 43252.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	2	196	120	-	-	120	-
HCM Lane V/C Ratio	115.385	0.321	-	-	-	0.727	-
HCM Control Delay (s)	\$ 55033.9	31.8	0	-	-	90.5	-
HCM Lane LOS	F	D	A	-	-	F	-
HCM 95th %tile Q(veh)	31.4	1.3	0	-	-	4	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

10: Upper Elgin River Road & Driveway A
HCM 2010 TWSC

Trinity Ranch TIA
Ph2-2025 Site+Forecasted PM

Intersection						
Int Delay, s/veh	4.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	9	9	2	15	5
Future Vol, veh/h	1	9	9	2	15	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	10	10	2	16	5
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	48	11	0	0	12	0
Stage 1	11	-	-	-	-	-
Stage 2	37	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	962	1070	-	-	1607	-
Stage 1	1012	-	-	-	-	-
Stage 2	985	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	952	1070	-	-	1607	-
Mov Cap-2 Maneuver	952	-	-	-	-	-
Stage 1	1012	-	-	-	-	-
Stage 2	975	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.4	0		5.4		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	952 1070	1607	-	
HCM Lane V/C Ratio	-	-	0.001 0.009	0.01	-	
HCM Control Delay (s)	-	-	8.8 8.4	7.3	0	
HCM Lane LOS	-	-	A A	A	A	
HCM 95th %tile Q(veh)	-	-	0 0	0	-	

Intersection						
Int Delay, s/veh	4.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	17	16	2	29	19
Future Vol, veh/h	1	17	16	2	29	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	18	17	2	32	21
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	103	18	0	0	19	0
Stage 1	18	-	-	-	-	-
Stage 2	85	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	895	1061	-	-	1597	-
Stage 1	1005	-	-	-	-	-
Stage 2	938	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	877	1061	-	-	1597	-
Mov Cap-2 Maneuver	877	-	-	-	-	-
Stage 1	1005	-	-	-	-	-
Stage 2	919	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.5	0		4.4		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	877 1061	1597	-	
HCM Lane V/C Ratio	-	-	0.001 0.017	0.02	-	
HCM Control Delay (s)	-	-	9.1 8.5	7.3	0	
HCM Lane LOS	-	-	A A	A	A	
HCM 95th %tile Q(veh)	-	-	0 0.1	0.1	-	

Intersection						
Int Delay, s/veh	3.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	26	32	1	44	48
Future Vol, veh/h	1	26	32	1	44	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	28	35	1	48	52
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	184	36	0	0	36	0
Stage 1	36	-	-	-	-	-
Stage 2	148	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	805	1037	-	-	1575	-
Stage 1	986	-	-	-	-	-
Stage 2	880	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	780	1037	-	-	1575	-
Mov Cap-2 Maneuver	780	-	-	-	-	-
Stage 1	986	-	-	-	-	-
Stage 2	853	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.6	0	3.5			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 780 1037 1575	-	-		
HCM Lane V/C Ratio	-	- 0.001 0.027 0.03	-	-		
HCM Control Delay (s)	-	- 9.6 8.6 7.4	-	0		
HCM Lane LOS	-	- A A A	-	A		
HCM 95th %tile Q(veh)	-	- 0 0.1 0.1	-	-		

Intersection						
Int Delay, s/veh	2.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	26	57	1	44	91
Future Vol, veh/h	1	26	57	1	44	91
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	28	62	1	48	99
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	258	63	0	0	63	0
Stage 1	63	-	-	-	-	-
Stage 2	195	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	731	1002	-	-	1540	-
Stage 1	960	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	707	1002	-	-	1540	-
Mov Cap-2 Maneuver	707	-	-	-	-	-
Stage 1	960	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.8	0	2.4			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 707 1002 1540	-	-		
HCM Lane V/C Ratio	-	- 0.002 0.028 0.031	-	-		
HCM Control Delay (s)	-	- 10.1 8.7 7.4	0			
HCM Lane LOS	-	- B A A	A			
HCM 95th %tile Q(veh)	-	- 0 0.1 0.1	-			

Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	43	82	1	74	135
Future Vol, veh/h	0	43	82	1	74	135
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	47	89	1	80	147
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	397	90	0	0	90	0
Stage 1	90	-	-	-	-	-
Stage 2	307	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	608	968	-	-	1505	-
Stage 1	934	-	-	-	-	-
Stage 2	746	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	573	968	-	-	1505	-
Mov Cap-2 Maneuver	573	-	-	-	-	-
Stage 1	934	-	-	-	-	-
Stage 2	703	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.9	0	2.7			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	-	968	1505	-	
HCM Lane V/C Ratio	-	-	0.048	0.053	-	
HCM Control Delay (s)	-	-	0	8.9	7.5	0
HCM Lane LOS	-	-	A	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.2	-	

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	21	12	40	67	0
Future Vol, veh/h	0	21	12	40	67	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	13	43	73	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	142	73	73	0	-	0
Stage 1	73	-	-	-	-	-
Stage 2	69	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	851	989	1527	-	-	-
Stage 1	950	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	843	989	1527	-	-	-
Mov Cap-2 Maneuver	843	-	-	-	-	-
Stage 1	941	-	-	-	-	-
Stage 2	954	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.7	1.7		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1527	-	-	989	-	-
HCM Lane V/C Ratio	0.009	-	-	0.023	-	-
HCM Control Delay (s)	7.4	-	0	8.7	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-	-

Intersection

Int Delay, s/veh 2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	71	14	29	72	7	13
Future Vol, veh/h	71	14	29	72	7	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	60	60	75	60	60
Heavy Vehicles, %	3	0	0	0	0	14
Mvmt Flow	79	23	48	96	12	22

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	102
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1503
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1503
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.5	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	687	935	-	-	1503	-
HCM Lane V/C Ratio	0.017	0.023	-	-	0.032	-
HCM Control Delay (s)	10.3	8.9	-	-	7.5	0
HCM Lane LOS	B	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-

Intersection

Int Delay, s/veh 2.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	14	18	85	14	18
Future Vol, veh/h	67	14	18	85	14	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	95	60	82	60	62
Heavy Vehicles, %	3	12	0	0	0	50
Mvmt Flow	79	15	30	104	23	29

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	94
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	1513
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1513
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	792	-	-	1513	-
HCM Lane V/C Ratio	0.066	-	-	0.02	-
HCM Control Delay (s)	9.9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	7	41	74	25	27	5
Future Vol, veh/h	7	41	74	25	27	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	60	79	70	62	60
Heavy Vehicles, %	25	26	5	7	0	0
Mvmt Flow	12	68	94	36	44	8

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	130	0	0 204 112
Stage 1	-	-	- 112 -
Stage 2	-	-	- 92 -
Critical Hdwy	4.35	-	- 6.4 6.2
Critical Hdwy Stg 1	-	-	- 5.4 -
Critical Hdwy Stg 2	-	-	- 5.4 -
Follow-up Hdwy	2.425	-	- 3.5 3.3
Pot Cap-1 Maneuver	1325	-	- 789 947
Stage 1	-	-	- 918 -
Stage 2	-	-	- 937 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1325	-	- 782 947
Mov Cap-2 Maneuver	-	-	- 782 -
Stage 1	-	-	- 910 -
Stage 2	-	-	- 937 -

Approach	EB	WB	SB
HCM Control Delay, s	1.1	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1325	-	-	-	805
HCM Lane V/C Ratio	0.009	-	-	-	0.064
HCM Control Delay (s)	7.7	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection						
Int Delay, s/veh	1.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖	↖
Traffic Vol, veh/h	1592	45	47	2303	20	48
Future Vol, veh/h	1592	45	47	2303	20	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	62	65	94	69	61
Heavy Vehicles, %	10	8	0	7	36	11
Mvmt Flow	1676	73	72	2450	29	79
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1749	0	3082	875
Stage 1	-	-	-	-	1713	-
Stage 2	-	-	-	-	1369	-
Critical Hdwy	-	-	4.1	-	7.52	7.12
Critical Hdwy Stg 1	-	-	-	-	6.52	-
Critical Hdwy Stg 2	-	-	-	-	6.52	-
Follow-up Hdwy	-	-	2.2	-	3.86	3.41
Pot Cap-1 Maneuver	-	-	363	-	~ 5	275
Stage 1	-	-	-	-	92	-
Stage 2	-	-	-	-	149	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	363	-	~ 4	275
Mov Cap-2 Maneuver	-	-	-	-	49	-
Stage 1	-	-	-	-	92	-
Stage 2	-	-	-	-	119	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	0.5		58.5		
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	49	275	-	-	363	-
HCM Lane V/C Ratio	0.592	0.286	-	-	0.199	-
HCM Control Delay (s)	153.9	23.3	-	-	17.4	-
HCM Lane LOS	F	C	-	-	C	-
HCM 95th %tile Q(veh)	2.3	1.1	-	-	0.7	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection								
Int Delay, s/veh	408.5							
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↱	↱↱	↱		↱	↱↱	↱	↱
Traffic Vol, veh/h	0	1408	27	13	49	1821	127	46
Future Vol, veh/h	0	1408	27	13	49	1821	127	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	95	95	60	60	84	64	60
Heavy Vehicles, %	0	7	0	0	0	8	0	0
Mvmt Flow	0	1482	28	22	82	2168	198	77
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	2168	0	0	1482	1510	0	2774	741
Stage 1	-	-	-	-	-	-	1482	-
Stage 2	-	-	-	-	-	-	1292	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	59	-	-	165	449	-	~ 16	363
Stage 1	-	-	-	-	-	-	~ 178	-
Stage 2	-	-	-	-	-	-	225	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	59	-	-	311	311	-	~ 11	363
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 11	-
Stage 1	-	-	-	-	-	-	~ 178	-
Stage 2	-	-	-	-	-	-	~ 151	-
Approach	EB		WB		NB			
HCM Control Delay, s	0		1		\$ 6015.1			
HCM LOS					F			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT	
Capacity (veh/h)	11	363	59	-	-	311	-	
HCM Lane V/C Ratio	18.04	0.211	-	-	-	0.332	-	
HCM Control Delay (s)	\$ 8332.3	17.6	0	-	-	22.2	-	
HCM Lane LOS	F	C	A	-	-	C	-	
HCM 95th %tile Q(veh)	26.3	0.8	0	-	-	1.4	-	
Notes								
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon								

Intersection

Int Delay, s/veh 1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	216	27	11	148	20	34
Future Vol, veh/h	216	27	11	148	20	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	62	60	90	69	60
Heavy Vehicles, %	0	0	33	1	9	0
Mvmt Flow	243	44	18	164	29	57

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	287
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.43
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.497
Pot Cap-1 Maneuver	-	-	1117
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1117
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	533	779	-	-	1117	-
HCM Lane V/C Ratio	0.054	0.073	-	-	0.016	-
HCM Control Delay (s)	12.1	10	-	-	8.3	0
HCM Lane LOS	B	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.1	-

Intersection						
Int Delay, s/veh	1.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	203	47	22	139	16	16
Future Vol, veh/h	203	47	22	139	16	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	81	75	84	60	75
Heavy Vehicles, %	0	0	0	0	11	0
Mvmt Flow	233	58	29	165	27	21
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	291	0	485	262
Stage 1	-	-	-	-	262	-
Stage 2	-	-	-	-	223	-
Critical Hdwy	-	-	4.1	-	6.51	6.2
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.2	-	3.599	3.3
Pot Cap-1 Maneuver	-	-	1282	-	525	782
Stage 1	-	-	-	-	761	-
Stage 2	-	-	-	-	793	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1282	-	512	782
Mov Cap-2 Maneuver	-	-	-	-	512	-
Stage 1	-	-	-	-	761	-
Stage 2	-	-	-	-	773	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.2		11.5	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	605	-	-	1282	-	
HCM Lane V/C Ratio	0.079	-	-	0.023	-	
HCM Control Delay (s)	11.5	-	-	7.9	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-	

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	93	52	34	34	7
Future Vol, veh/h	13	93	52	34	34	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	93	72	95	68	60
Heavy Vehicles, %	0	2	10	0	5	25
Mvmt Flow	22	100	72	36	50	12
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	108	0	-	0	234	90
Stage 1	-	-	-	-	90	-
Stage 2	-	-	-	-	144	-
Critical Hdwy	4.1	-	-	-	6.45	6.45
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.2	-	-	-	3.545	3.525
Pot Cap-1 Maneuver	1495	-	-	-	748	908
Stage 1	-	-	-	-	926	-
Stage 2	-	-	-	-	876	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1495	-	-	-	736	908
Mov Cap-2 Maneuver	-	-	-	-	736	-
Stage 1	-	-	-	-	911	-
Stage 2	-	-	-	-	876	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.3	0		10.1		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1495	-	-	-	763	
HCM Lane V/C Ratio	0.014	-	-	-	0.081	
HCM Control Delay (s)	7.4	0	-	-	10.1	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0	-	-	-	0.3	

Intersection						
Int Delay, s/veh	19.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Vol, veh/h	2948	27	40	2428	38	101
Future Vol, veh/h	2948	27	40	2428	38	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	75	92	96	75	78
Heavy Vehicles, %	3	0	9	5	0	2
Mvmt Flow	3103	36	43	2529	51	129
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	3139	0	4472	1570
Stage 1	-	-	-	-	3121	-
Stage 2	-	-	-	-	1351	-
Critical Hdwy	-	-	4.28	-	6.8	6.94
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.29	-	3.5	3.32
Pot Cap-1 Maneuver	-	-	87	-	~ 1	~ 100
Stage 1	-	-	-	-	~ 21	-
Stage 2	-	-	-	-	210	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	87	-	~ 1	~ 100
Mov Cap-2 Maneuver	-	-	-	-	~ 16	-
Stage 1	-	-	-	-	~ 21	-
Stage 2	-	-	-	-	106	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.4		\$ 603.6	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	16	100	-	-	87	-
HCM Lane V/C Ratio	3.167	1.295	-	-	0.5	-
HCM Control Delay (s)	\$ 1464.7	266.7	-	-	82.1	-
HCM Lane LOS	F	F	-	-	F	-
HCM 95th %tile Q(veh)	7	9.1	-	-	2.1	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection								
Int Delay, s/veh	11.5							
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↱	↱↱	↱		↱	↱↱	↱	↱
Traffic Vol, veh/h	0	2807	92	9	76	1943	158	44
Future Vol, veh/h	0	2807	92	9	76	1943	158	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	96	60	60	90	89	65	62
Heavy Vehicles, %	0	2	0	0	0	4	2	0
Mvmt Flow	0	2924	153	15	84	2183	243	71
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	2183	0	0	2924	3077	0	4214	1462
Stage 1	-	-	-	-	-	-	2924	-
Stage 2	-	-	-	-	-	-	1290	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.52	3.3
Pot Cap-1 Maneuver	58	-	-	19	109	-	~ 1	120
Stage 1	-	-	-	-	-	-	~ 27	-
Stage 2	-	-	-	-	-	-	~ 222	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	58	-	-	49	~ 49	-	0	120
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	-
Stage 1	-	-	-	-	-	-	~ 27	-
Stage 2	-	-	-	-	-	-	0	-
Approach	EB		WB		NB			
HCM Control Delay, s	0		28.5					
HCM LOS					-			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	120	58	-	-	~ 49	-	
HCM Lane V/C Ratio	-	0.591	-	-	-	2.029	-	
HCM Control Delay (s)	-	71.3	0	-	-	\$ 655.2	-	
HCM Lane LOS	-	F	A	-	-	F	-	
HCM 95th %tile Q(veh)	-	2.9	0	-	-	10	-	
Notes								
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon								

Intersection

Int Delay, s/veh 3.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	554	34	30	233	67	13
Future Vol, veh/h	554	34	30	233	67	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	60	60	75	60	60
Heavy Vehicles, %	3	0	0	0	0	14
Mvmt Flow	616	57	50	311	112	22

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	673
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.2
Pot Cap-1 Maneuver	-	-	927
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	927
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	30
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	236	452	-	-	927	-
HCM Lane V/C Ratio	0.473	0.048	-	-	0.054	-
HCM Control Delay (s)	33.2	13.4	-	-	9.1	0
HCM Lane LOS	D	B	-	-	A	A
HCM 95th %tile Q(veh)	2.3	0.2	-	-	0.2	-

Intersection						
Int Delay, s/veh	8.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	151	414	19	92	169	26
Future Vol, veh/h	151	414	19	92	169	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	95	60	82	60	62
Heavy Vehicles, %	3	12	0	0	0	50
Mvmt Flow	178	436	32	112	282	42
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	614	0	572	396
Stage 1	-	-	-	-	396	-
Stage 2	-	-	-	-	176	-
Critical Hdwy	-	-	4.1	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.75
Pot Cap-1 Maneuver	-	-	975	-	485	561
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	975	-	468	561
Mov Cap-2 Maneuver	-	-	-	-	468	-
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	829	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.9		26.9	
HCM LOS	D					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	478	-	-	975	-	
HCM Lane V/C Ratio	0.677	-	-	0.032	-	
HCM Control Delay (s)	26.9	-	-	8.8	0	
HCM Lane LOS	D	-	-	A	A	
HCM 95th %tile O(veh)	5	-	-	0.1	-	

3: Swenson Blvd & Bull Run Road HCM 2010 TWSC

Trinity Ranch TIA
Ph3-2031 Site+Forecasted AM

Intersection						
Int Delay, s/veh	194.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	240	140	180	426	7
Future Vol, veh/h	15	240	140	180	426	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	60	79	70	62	60
Heavy Vehicles, %	25	26	5	7	0	0
Mvmt Flow	25	400	177	257	687	12
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	434	0	-	0	756	306
Stage 1	-	-	-	-	306	-
Stage 2	-	-	-	-	450	-
Critical Hdwy	4.35	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.425	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1013	-	-	-	~ 379	739
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	~ 647	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1013	-	-	-	~ 367	739
Mov Cap-2 Maneuver	-	-	-	-	~ 367	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	~ 647	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.5	0		\$ 434.3		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1013	-	-	-	370	
HCM Lane V/C Ratio	0.025	-	-	-	1.889	
HCM Control Delay (s)	8.6	0	-	-	\$ 434.3	
HCM Lane LOS	A	A	-	-	F	
HCM 95th %tile Q(veh)	0.1	-	-	-	46.7	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Intersection						
Int Delay, s/veh	1265.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Vol, veh/h	1592	145	168	2303	290	376
Future Vol, veh/h	1592	145	168	2303	290	376
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	62	65	94	69	61
Heavy Vehicles, %	10	8	0	7	36	11
Mvmt Flow	1676	234	258	2450	420	616
Major/Minor	Major1	Major2		Minor1		
Conflicting Flow All	0	0	1910	0	3534	955
Stage 1	-	-	-	-	1793	-
Stage 2	-	-	-	-	1741	-
Critical Hdwy	-	-	4.1	-	7.52	7.12
Critical Hdwy Stg 1	-	-	-	-	6.52	-
Critical Hdwy Stg 2	-	-	-	-	6.52	-
Follow-up Hdwy	-	-	2.2	-	3.86	3.41
Pot Cap-1 Maneuver	-	-	315	-	~ 2	~ 243
Stage 1	-	-	-	-	~ 82	-
Stage 2	-	-	-	-	~ 88	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	315	-	0	~ 243
Mov Cap-2 Maneuver	-	-	-	-	~ 12	-
Stage 1	-	-	-	-	~ 82	-
Stage 2	-	-	-	-	~ 16	-
Approach	EB	WB		NB		
HCM Control Delay, s	0	5		\$ 6890.7		
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	12	243	-	-	315	-
HCM Lane V/C Ratio	35.024	2.537	-	-	0.821	-
HCM Control Delay (s)	\$ 15918.7	\$ 734.9	-	-	52.5	-
HCM Lane LOS	F	F	-	-	F	-
HCM 95th %tile Q(veh)	54	51.2	-	-	6.9	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection

Int Delay, s/veh 2418.7

Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↱	↱↱	↱		↱	↱↱	↱	↱
Traffic Vol, veh/h	0	1508	93	13	49	2091	247	46
Future Vol, veh/h	0	1508	93	13	49	2091	247	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	95	95	60	60	84	64	60
Heavy Vehicles, %	0	7	0	0	0	8	0	0
Mvmt Flow	0	1587	98	22	82	2489	386	77

Major/Minor	Major1			Major2			Minor1	
Conflicting Flow All	2489	0	0	1587	1685	0	3040	794
Stage 1	-	-	-	-	-	-	1587	-
Stage 2	-	-	-	-	-	-	1453	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.8	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	36	-	-	141	385	-	~ 10	335
Stage 1	-	-	-	-	-	-	~ 157	-
Stage 2	-	-	-	-	-	-	~ 185	-
Platoon blocked, %		-	-			-		
Mov Cap-1 Maneuver	36	-	-	265	265	-	~ 6	335
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 6	-
Stage 1	-	-	-	-	-	-	~ 157	-
Stage 2	-	-	-	-	-	-	~ 113	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	\$ 24778.7
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT
Capacity (veh/h)	6	335	36	-	-	265	-
HCM Lane V/C Ratio	64.323	0.229	-	-	-	0.39	-
HCM Control Delay (s)	\$ 29697.3	18.9	0	-	-	27	-
HCM Lane LOS	F	C	A	-	-	D	-
HCM 95th %tile Q(veh)	50.4	0.9	0	-	-	1.8	-

Notes

~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

10: Upper Elgin River Road & Driveway A
HCM 2010 TWSC

Trinity Ranch TIA
Ph3-2031 Site+Forecasted AM

Intersection						
Int Delay, s/veh	5.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	45	6	2	15	17
Future Vol, veh/h	5	45	6	2	15	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	49	7	2	16	18
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	58	8	0	0	9	0
Stage 1	8	-	-	-	-	-
Stage 2	50	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	949	1074	-	-	1611	-
Stage 1	1015	-	-	-	-	-
Stage 2	972	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	940	1074	-	-	1611	-
Mov Cap-2 Maneuver	940	-	-	-	-	-
Stage 1	1015	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.5	0		3.4		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	940 1074	1611	-	
HCM Lane V/C Ratio	-	-	0.006 0.046	0.01	-	
HCM Control Delay (s)	-	-	8.9 8.5	7.3	0	
HCM Lane LOS	-	-	A A	A	A	
HCM 95th %tile Q(veh)	-	-	0 0.1	0	-	

Intersection						
Int Delay, s/veh	5.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	5	89	49	2	30	27
Future Vol, veh/h	5	89	49	2	30	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	97	53	2	33	29
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	149	54	0	0	55	0
Stage 1	54	-	-	-	-	-
Stage 2	95	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	843	1013	-	-	1550	-
Stage 1	969	-	-	-	-	-
Stage 2	929	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	824	1013	-	-	1550	-
Mov Cap-2 Maneuver	824	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	909	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	8.9	0	3.9			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 824 1013 1550	-	-		
HCM Lane V/C Ratio	-	- 0.007 0.095 0.021	-	-		
HCM Control Delay (s)	-	- 9.4 8.9 7.4	-	0		
HCM Lane LOS	-	- A A A	-	A		
HCM 95th %tile Q(veh)	-	- 0 0.3 0.1	-	-		

Intersection						
Int Delay, s/veh	4.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	134	136	1	45	53
Future Vol, veh/h	4	134	136	1	45	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	146	148	1	49	58
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	305	149	0	0	149	0
Stage 1	149	-	-	-	-	-
Stage 2	156	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	687	898	-	-	1432	-
Stage 1	879	-	-	-	-	-
Stage 2	872	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	663	898	-	-	1432	-
Mov Cap-2 Maneuver	663	-	-	-	-	-
Stage 1	879	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.8	0	3.5			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 663 898	1432	-		
HCM Lane V/C Ratio	-	- 0.007 0.162	0.034	-		
HCM Control Delay (s)	-	- 10.5 9.8	7.6	0		
HCM Lane LOS	-	- B A	A	A		
HCM 95th %tile Q(veh)	-	- 0 0.6	0.1	-		

Intersection						
Int Delay, s/veh	3.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	134	269	1	45	95
Future Vol, veh/h	3	134	269	1	45	95
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	146	292	1	49	103
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	494	293	0	0	293	0
Stage 1	293	-	-	-	-	-
Stage 2	201	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	535	746	-	-	1269	-
Stage 1	757	-	-	-	-	-
Stage 2	833	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	513	746	-	-	1269	-
Mov Cap-2 Maneuver	513	-	-	-	-	-
Stage 1	757	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11	0	2.6			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 513 746 1269	-	-		
HCM Lane V/C Ratio	-	- 0.006 0.195 0.039	-	-		
HCM Control Delay (s)	-	- 12.1 11 8	-	0		
HCM Lane LOS	-	- B B A A	-	-		
HCM 95th %tile Q(veh)	-	- 0 0.7 0.1	-	-		

Intersection						
Int Delay, s/veh	4.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	223	402	1	74	138
Future Vol, veh/h	2	223	402	1	74	138
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	242	437	1	80	150
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	748	438	0	0	438	0
Stage 1	438	-	-	-	-	-
Stage 2	310	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	380	619	-	-	1122	-
Stage 1	651	-	-	-	-	-
Stage 2	744	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	350	619	-	-	1122	-
Mov Cap-2 Maneuver	350	-	-	-	-	-
Stage 1	651	-	-	-	-	-
Stage 2	686	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	14.5	0	3			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 350 619 1122	-	-		
HCM Lane V/C Ratio	-	- 0.006 0.392 0.072	-	-		
HCM Control Delay (s)	-	- 15.4 14.5 8.5	0			
HCM Lane LOS	-	- C B A	A			
HCM 95th %tile Q(veh)	-	- 0 1.9 0.2	-			

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	21	60	207	68	0
Future Vol, veh/h	0	21	60	207	68	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	65	225	74	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	429	74	74	0	-	0
Stage 1	74	-	-	-	-	-
Stage 2	355	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	583	988	1526	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	710	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	558	988	1526	-	-	-
Mov Cap-2 Maneuver	558	-	-	-	-	-
Stage 1	908	-	-	-	-	-
Stage 2	710	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	8.7	1.7		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1526	-	-	988	-	-
HCM Lane V/C Ratio	0.043	-	-	0.023	-	-
HCM Control Delay (s)	7.5	-	0	8.7	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-	-

Intersection

Int Delay, s/veh 4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	520	91	15	665	57	34
Future Vol, veh/h	520	91	15	665	57	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	62	60	90	69	60
Heavy Vehicles, %	0	0	33	1	9	0
Mvmt Flow	584	147	25	739	83	57

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	731
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.43
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.497
Pot Cap-1 Maneuver	-	-	748
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	748
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	46.9
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	132	468	-	-	748	-
HCM Lane V/C Ratio	0.626	0.121	-	-	0.033	-
HCM Control Delay (s)	69.6	13.7	-	-	10	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile Q(veh)	3.3	0.4	-	-	0.1	-

Intersection						
Int Delay, s/veh	357.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	291	263	26	164	512	21
Future Vol, veh/h	291	263	26	164	512	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	81	75	84	60	75
Heavy Vehicles, %	0	0	0	0	11	0
Mvmt Flow	334	325	35	195	853	28
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	659	0	762	497
Stage 1	-	-	-	-	497	-
Stage 2	-	-	-	-	265	-
Critical Hdwy	-	-	4.1	-	6.51	6.2
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.2	-	3.599	3.3
Pot Cap-1 Maneuver	-	-	939	-	~ 360	577
Stage 1	-	-	-	-	~ 593	-
Stage 2	-	-	-	-	~ 759	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	939	-	~ 345	577
Mov Cap-2 Maneuver	-	-	-	-	~ 345	-
Stage 1	-	-	-	-	~ 593	-
Stage 2	-	-	-	-	~ 727	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.4		\$ 718.4	
HCM LOS					F	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	349	-	-	939	-	
HCM Lane V/C Ratio	2.525	-	-	0.037	-	
HCM Control Delay (s)	\$ 718.4	-	-	9	0	
HCM Lane LOS	F	-	-	A	A	
HCM 95th %tile Q(veh)	71.2	-	-	0.1	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

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Intersection						
Int Delay, s/veh	55.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	218	265	530	250	12
Future Vol, veh/h	18	218	265	530	250	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	93	72	95	68	60
Heavy Vehicles, %	0	2	10	0	5	25
Mvmt Flow	30	234	368	558	368	20
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	926	0	-	0	941	647
Stage 1	-	-	-	-	647	-
Stage 2	-	-	-	-	294	-
Critical Hdwy	4.1	-	-	-	6.45	6.45
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.2	-	-	-	3.545	3.525
Pot Cap-1 Maneuver	746	-	-	-	~ 289	433
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	749	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	746	-	-	-	~ 276	433
Mov Cap-2 Maneuver	-	-	-	-	~ 276	-
Stage 1	-	-	-	-	492	-
Stage 2	-	-	-	-	749	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.1	0		226.7		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	746	-	-	-	281	
HCM Lane V/C Ratio	0.04	-	-	-	1.38	
HCM Control Delay (s)	10	0	-	-	226.7	
HCM Lane LOS	B	A	-	-	F	
HCM 95th %tile Q(veh)	0.1	-	-	-	20.4	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Intersection						
Int Delay, s/veh	217.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↑	↑↑	↑	↑
Traffic Vol, veh/h	2948	347	428	2428	192	287
Future Vol, veh/h	2948	347	428	2428	192	287
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	75	92	96	75	78
Heavy Vehicles, %	3	0	9	5	0	2
Mvmt Flow	3103	463	465	2529	256	368
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	3566	0	5530	1783
Stage 1	-	-	-	-	3335	-
Stage 2	-	-	-	-	2195	-
Critical Hdwy	-	-	4.28	-	6.8	6.94
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.29	-	3.5	3.32
Pot Cap-1 Maneuver	-	-	~ 57	-	0	~ 71
Stage 1	-	-	-	-	~ 16	-
Stage 2	-	-	-	-	~ 72	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	~ 57	-	0	~ 71
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	~ 16	-
Stage 2	-	-	-	-	0	-
Approach	EB	WB	NB			
HCM Control Delay, s	0	\$ 522.2				
HCM LOS						
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	71	-	-	~ 57	-
HCM Lane V/C Ratio	-	5.182	-	-	8.162	-
HCM Control Delay (s)		\$ 1998.6	-		\$ 3361.4	-
HCM Lane LOS	-	F	-	-	F	-
HCM 95th %tile Q(veh)	-	40.5	-	-	54.2	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Intersection								
Int Delay, s/veh	24.8							
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations	↱	↱↱	↱		↱	↱↱	↱	↱
Traffic Vol, veh/h	0	3127	306	9	76	2097	233	44
Future Vol, veh/h	0	3127	306	9	76	2097	233	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	None
Storage Length	215	-	500	-	250	-	0	0
Veh in Median Storage, #	-	0	-	-	-	0	0	-
Grade, %	-	0	-	-	-	0	0	-
Peak Hour Factor	95	96	60	60	90	89	65	62
Heavy Vehicles, %	0	2	0	0	0	4	2	0
Mvmt Flow	0	3257	510	15	84	2356	358	71
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	2356	0	0	3257	3767	0	4633	1629
Stage 1	-	-	-	-	-	-	3257	-
Stage 2	-	-	-	-	-	-	1376	-
Critical Hdwy	6.4	-	-	6.4	4.1	-	6.84	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.84	-
Follow-up Hdwy	2.5	-	-	2.5	2.2	-	3.52	3.3
Pot Cap-1 Maneuver	44	-	-	~ 11	~ 57	-	~ 1	93
Stage 1	-	-	-	-	-	-	~ 17	-
Stage 2	-	-	-	-	-	-	~ 200	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	44	-	-	25	~ 25	-	0	93
Mov Cap-2 Maneuver	-	-	-	-	-	-	0	-
Stage 1	-	-	-	-	-	-	~ 17	-
Stage 2	-	-	-	-	-	-	0	-
Approach	EB		WB		NB			
HCM Control Delay, s	0		67.3					
HCM LOS					-			
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBU	EBT	EBR	WBL	WBT	
Capacity (veh/h)	-	93	44	-	-	~ 25	-	
HCM Lane V/C Ratio	-	0.763	-	-	-	3.978	-	
HCM Control Delay (s)	-	117.4	0	-	-	\$ 1661.5	-	
HCM Lane LOS	-	F	A	-	-	F	-	
HCM 95th %tile Q(veh)	-	4	0	-	-	12.3	-	
Notes								
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon								

10: Upper Elgin River Road & Driveway A
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Intersection

Int Delay, s/veh 5.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	28	18	6	48	11
Future Vol, veh/h	3	28	18	6	48	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	30	20	7	52	12

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	140	24	0
Stage 1	24	-	-
Stage 2	116	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	853	1052	-
Stage 1	999	-	-
Stage 2	909	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	825	1052	-
Mov Cap-2 Maneuver	825	-	-
Stage 1	999	-	-
Stage 2	879	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.6	0	6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	-	825	1052
HCM Lane V/C Ratio	-	-	0.004	0.029
HCM Control Delay (s)	-	-	9.4	8.5
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1

Intersection						
Int Delay, s/veh	4.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	3	56	41	5	95	55
Future Vol, veh/h	3	56	41	5	95	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	61	45	5	103	60
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	314	48	0	0	50	0
Stage 1	48	-	-	-	-	-
Stage 2	266	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	679	1021	-	-	1557	-
Stage 1	974	-	-	-	-	-
Stage 2	779	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	633	1021	-	-	1557	-
Mov Cap-2 Maneuver	633	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	726	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	8.8	0		4.7		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)	-	-	633	1021	1557	-
HCM Lane V/C Ratio	-	-	0.005	0.06	0.066	-
HCM Control Delay (s)	-	-	10.7	8.7	7.5	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.2	0.2	-

Intersection						
Int Delay, s/veh	4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	84	93	4	143	148
Future Vol, veh/h	2	84	93	4	143	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	91	101	4	155	161
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	574	103	0	0	105	0
Stage 1	103	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	480	952	-	-	1486	-
Stage 1	921	-	-	-	-	-
Stage 2	628	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	425	952	-	-	1486	-
Mov Cap-2 Maneuver	425	-	-	-	-	-
Stage 1	921	-	-	-	-	-
Stage 2	556	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	9.3	0		3.8		
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2		SBL	SBT	
Capacity (veh/h)	-	-	425 952	1486	-	
HCM Lane V/C Ratio	-	-	0.005 0.096	0.105	-	
HCM Control Delay (s)	-	-	13.5 9.2	7.7	0	
HCM Lane LOS	-	-	B A	A	A	
HCM 95th %tile Q(veh)	-	-	0 0.3	0.3	-	

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Intersection						
Int Delay, s/veh	2.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	84	174	3	143	289
Future Vol, veh/h	2	84	174	3	143	289
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	91	189	3	155	314
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	815	191	0	0	192	0
Stage 1	191	-	-	-	-	-
Stage 2	624	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	347	851	-	-	1381	-
Stage 1	841	-	-	-	-	-
Stage 2	534	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	300	851	-	-	1381	-
Mov Cap-2 Maneuver	300	-	-	-	-	-
Stage 1	841	-	-	-	-	-
Stage 2	461	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	9.9	0	2.6			
HCM LOS	A					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 300 851 1381	-	-		
HCM Lane V/C Ratio	-	- 0.007 0.107 0.113	-	-		
HCM Control Delay (s)	-	- 17.1 9.7 7.9	0			
HCM Lane LOS	-	- C A A	A			
HCM 95th %tile Q(veh)	-	- 0 0.4 0.4	-			

Intersection						
Int Delay, s/veh	3.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	140	256	2	238	431
Future Vol, veh/h	1	140	256	2	238	431
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	152	278	2	259	468
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1265	279	0	0	280	0
Stage 1	279	-	-	-	-	-
Stage 2	986	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	187	760	-	-	1283	-
Stage 1	768	-	-	-	-	-
Stage 2	361	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	136	760	-	-	1283	-
Mov Cap-2 Maneuver	136	-	-	-	-	-
Stage 1	768	-	-	-	-	-
Stage 2	262	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	11	0	3			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 136 760 1283	-	-		
HCM Lane V/C Ratio	-	- 0.008 0.2 0.202	-	-		
HCM Control Delay (s)	-	- 31.7 10.9 8.5	0			
HCM Lane LOS	-	- D B A A				
HCM 95th %tile Q(veh)	-	- 0 0.7 0.8	-			

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	68	38	130	217	0
Future Vol, veh/h	0	68	38	130	217	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	0	-	-	100
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	74	41	141	236	0
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	459	236	236	0	-	0
Stage 1	236	-	-	-	-	-
Stage 2	223	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	560	803	1331	-	-	-
Stage 1	803	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	543	803	1331	-	-	-
Mov Cap-2 Maneuver	543	-	-	-	-	-
Stage 1	778	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	9.9	1.8		0		
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1331	-	-	803	-	-
HCM Lane V/C Ratio	0.031	-	-	0.092	-	-
HCM Control Delay (s)	7.8	-	0	9.9	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	-	-

A.9 INTERSECTION PERFORMANCE TABLES (NO IMPROVEMENTS)

AM PEAK

SUMMARY OF INTERSECTION PERFORMANCE TABLES - NO IMPROVEMENTS

PM PEAK

Node #	Intersection/Movement	PM Peak										2031 Forecasted										2031 Site+Forecasted															
		2019 Existing					2021 Forecasted					2021 Site+Forecasted					2025 Forecasted					2025 Site+Forecasted					2031 Forecasted					2031 Site+Forecasted					
		LOS	Delay	V/C	95 th % Queue (ft)		LOS	Delay	V/C	95 th % Queue (ft)		LOS	Delay	V/C	95 th % Queue (ft)		LOS	Delay	V/C	95 th % Queue (ft)		LOS	Delay	V/C	95 th % Queue (ft)		LOS	Delay	V/C	95 th % Queue (ft)		LOS	Delay	V/C	95 th % Queue (ft)		
1	Central Avenue & Diddy Drive	A	18	0.035	-		A	17	0.040	-		A	16	0.041	-		A	18	0.049	-		A	15	0.091	-		A	19	0.073	-		A	41	0.626	-		
	WBL/T	A	7.9	0.008	0		A	8.0	0.009	0		A	8.0	0.010	0		A	8.1	0.011	0		A	8.5	0.014	0		A	8.3	0.016	2		A	10.0	0.033	2		
	NBL	B	10.2	0.022	2		B	10.5	0.026	2		B	11.0	0.035	2		B	10.9	0.035	2		B	14.6	0.091	6		B	12.1	0.054	4		F	69.6	0.626	66		
	NBR	A	9.1	0.035	2		A	9.2	0.040	2		A	9.4	0.041	2		A	9.5	0.049	4		B	10.3	0.058	4		A	10.0	0.073	4		B	13.7	0.121	8		
	Central Avenue & Bull Run Road	A	13	0.035	-		A	13	0.040	-		A	2.6	0.127	-		A	1.3	0.052	-		A	7.2	0.059	-		A	1.5	0.079	-		F	357.8	2.525	-		
2	WBL/T	A	7.5	0.011	0		A	7.6	0.012	0		A	7.6	0.014	0		A	7.7	0.016	0		A	8.0	0.018	2		A	7.9	0.023	2		A	9.0	0.037	2		
	NBL/R	A	9.8	0.035	2		B	10.0	0.040	2		B	11.1	0.127	8		B	10.5	0.052	4		C	18.5	0.529	62		B	11.5	0.079	6		F	718.4	2.525	1424		
	Swenson Blvd & Bull Run Road	A	2.5	0.040	-		A	2.5	0.044	-		A	2.7	0.080	-		A	2.5	0.055	-		A	3.6	0.270	-		A	2.7	0.081	-		F	55.9	1.380	-		
	EBL/T	A	7.3	0.007	0		A	7.3	0.009	0		A	7.5	0.009	0		A	7.4	0.010	0		A	8.0	0.015	0		A	7.4	0.014	0		B	10.0	0.040	2		
	Swenson Blvd & US 290	A	9.3	0.040	2		A	9.4	0.044	2		A	9.9	0.080	6		A	9.6	0.055	4		B	13.1	0.270	22		B	10.1	0.081	6		F	226.7	1.380	408		
4	Swenson Blvd & US 290	A	11.1	0.277	4		A	1.4	0.040	-		A	2.5	0.638	-		A	3.0	0.812	-		F	1238.5	108.0	-		C	19.1	3.167	-		F	336.1	8.162	1084		
	WBL	C	16.6	0.071	4		C	19.8	0.097	6		C	22.2	0.207	16		D	28.6	0.171	12		F	92.1	0.994	15.4		F	82.1	0.500	42		F	217.7	8.162	1084		
	NBL	F	53.8	0.277	20		F	81.3	0.404	32		F	119.9	0.638	56		F	215.2	0.812	64		F	55149.4	108.0	318		F	1464.7	3.167	140		F	1464.7	3.167	140		
	NBR	C	20.7	0.239	18		D	25.9	0.317	26		D	28.7	0.391	36		E	44.2	0.523	52		F	146.9	1.074	180		F	266.7	1.295	182		F	1998.6	5.182	810		
	Roy Rivers Road & US 290	E	49.6	3.487	-		F	304.9	14.103	-		F	358.1	16.084	-		F	1411.8	65.128	-		F	2742.4	115.385	-		B	11.5	2.029	-		C	24.8	3.978	-		
5	WBL/U	C	20.9	0.112	8		D	28.5	0.348	30		D	30.1	0.364	32		F	61.6	0.602	64		F	90.5	0.727	80		F	655.2	2.029	200		F	1661.5	3.978	246		
	NBL	F	1392.8	3.487	250		F	6508.1	14.103	450		F	7452.7	16.084	472		F	31233.9	65.128	536		F	55033.9	115.385	628		F	ERR	-	-		F	ERR	-	-		
	NBR	C	16.5	0.049	4		C	21.0	0.210	16		C	21.4	0.214	16		D	29.0	0.297	24		D	31.8	0.321	26		F	71.3	0.591	58		F	117.4	0.763	80		
	Upper Elgin River Road & Driveway A	-	-	-	-		-	-	-	-		A	2.9	0.002	-		-	-	-	-		A	4.7	0.010	-		-	-	-	-	-	A	5.4	0.033	-		
	WBL	-	-	-	-		-	-	-	-		A	0.0	-	-		-	-	-	-		A	8.8	0.001	0		-	-	-	-	-	A	9.4	0.004	0		
10	WBR	-	-	-	-		-	-	-	-		A	8.3	0.002	0		-	-	-	-		A	8.4	0.009	0		-	-	-	-	-	A	8.5	0.029	2		
	SBL/T	-	-	-	-		-	-	-	-		A	7.2	0.002	0		-	-	-	-		A	7.3	0.010	0		-	-	-	-	-	A	7.3	0.033	2		
	Upper Elgin River Road & Driveway B	-	-	-	-		-	-	-	-		A	3.3	0.004	-		-	-	-	-		A	4.3	0.020	-		-	-	-	-	-	A	4.8	0.066	-		
	WBL	-	-	-	-		-	-	-	-		A	0.0	-	-		-	-	-	-		A	9.1	0.001	0		-	-	-	-	-	B	10.7	0.005	0		
	WBR	-	-	-	-		-	-	-	-		A	8.4	0.004	0		-	-	-	-		A	8.5	0.017	2		-	-	-	-	-	A	8.7	0.060	4		
20	SBL/T	-	-	-	-		-	-	-	-		A	7.2	0.004	0		-	-	-	-		A	7.3	0.020	2		-	-	-	-	-	A	7.5	0.066	4		
	Upper Elgin River Road & Driveway C	-	-	-	-		-	-	-	-		A	3.1	0.006	-		-	-	-	-		A	3.6	0.030	-		-	-	-	-	-	A	4.0	0.105	-		
	WBL	-	-	-	-		-	-	-	-		A	0.0	-	-		-	-	-	-		A	9.6	0.001	0		-	-	-	-	-	B	13.5	0.005	0		
	WBR	-	-	-	-		-	-	-	-		A	8.4	0.006	0		-	-	-	-		A	8.6	0.027	2		-	-	-	-	-	A	9.2	0.096	6		
	SBL/T	-	-	-	-		-	-	-	-		A	7.3	0.006	0		-	-	-	-		A	7.4	0.030	2		-	-	-	-	-	A	7.7	0.105	6		
40	Upper Elgin River Road & Driveway D	-	-	-	-		-	-	-	-		A	2.2	0.006	-		-	-	-	-		A	2.6	0.031	-		-	-	-	-	-	A	2.8	0.113	-		
	WBL	-	-	-	-		-	-	-	-		A	0.0	-	-		-	-	-	-		B	10.1	0.002	0		-	-	-	-	-	C	17.1	0.007	0		
	WBR	-	-	-	-		-	-	-	-		A	8.4	0.006	0		-	-	-	-		A	8.7	0.028	2		-	-	-	-	-	A	9.7	0.107	8		
	SBL/T	-	-	-	-		-	-	-	-		A	7.3	0.006	0		-	-	-	-		A	7.4	0.031	2		-	-	-	-	-	A	7.9	0.113	8		
	Upper Elgin River Road & Driveway E	-	-	-	-		-	-	-	-		A	2.5	0.011	-		-	-	-	-		A	2.8	0.053	-		-	-	-	-	-	D	31.7	0.008	0		
50	WBL	-	-	-	-		-	-	-	-		A	0.0	-	-		-	-	-	-		A	0.0	-	-		-	-	-	-	-	-	-	-	-	-	
	WBR	-	-	-	-		-	-	-	-		A	8.4	0.009	0		-	-	-	-		A	8.9	0.048	4		-	-	-	-	-	B	10.9	0.200	14		
	SBL/T	-	-	-	-		-	-	-	-		A	7.3	0.011	0		-	-	-	-		A	7.5	0.053	4		-	-	-	-	-	A	8.5	0.202	16		
	Swenson Blvd/Driveway F & Diddy Drive	-	-	-	-		-	-	-	-		A	2.1	0.005	-		-	-	-	-		A	1.9	0.023	-		-	-	-	-	-	A	2.2	0.092	-		
	EBL	-	-	-	-		-	-	-	-		A	0.0	-	-		-	-	-	-		A	0.0	-	-		-	-	-	-	-	A	0.0	-	-		
60	EBR	-	-	-	-		-	-	-	-		A	8.4	0.005	0		-	-	-	-		A	8.7	0.023	2		-	-	-	-	-	A	9.9	0.092	6		
	NBL	-	-	-	-		-	-	-	-		A	7.2	0.002	0		-	-	-	-		A	7.4	0.009	0		-	-	-	-	-	A	7.8	0.031	2		

A.10 SIGNAL WARRANT WORKSHEETS

A.10.1 SIGNAL WARRANT ANALYSIS-US 290 & SWENSON BLVD

TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND SWENSON BLVD
2019 EXISTING

Summary of 24 Hour Counts - Existing Conditions

Time	US 290			Swenson Blvd	
	EB	WB	Total	NB	
12:00AM	115	105	220	1	
1:00AM	100	77	177	0	
2:00AM	54	61	115	1	
3:00AM	77	90	167	2	
4:00AM	134	251	385	1	
5:00AM	223	992	1,215	5	
6:00AM	499	1192	1,691	17	
7:00AM	837	1262	2,099	32	
8:00AM	827	1069	1,896	38	
9:00AM	784	903	1,687	34	
10:00AM	858	911	1,769	44	
11:00AM	880	1026	1,906	63	
12:00PM	989	964	1,953	54	
1:00PM	1028	1038	2,066	47	
2:00PM	1161	1068	2,229	49	
3:00PM	1460	1147	2,607	42	
4:00PM	1592	1296	2,888	68	
5:00PM	1591	1290	2,881	63	
6:00PM	1452	954	2,406	42	
7:00PM	1029	884	1,913	36	
8:00PM	844	775	1,619	19	
9:00PM	621	251	385	1	
10:00PM	451	77	177	0	
11:00PM	161	199	360	0	
Total	17,767	18,642	36,409	673	

Summary of 24 Hour Counts Sorted for Minor Approach

Time	US 290			Swenson Blvd	
	Begins	EB	WB	Total	NB
4:00PM		1592	1296	2,888	68
11:00AM		880	1026	1,906	63
5:00PM		1591	1290	2,881	63
12:00PM		989	964	1,953	54
2:00PM		1161	1068	2,229	49
1:00PM		1028	1038	2,066	47
10:00AM		858	911	1,769	44
3:00PM		1460	1147	2,607	42
6:00PM		1452	954	2,406	42
8:00AM		827	1069	1,896	38
7:00PM		1029	884	1,913	36
9:00AM		784	903	1,687	34
7:00AM		837	1262	2,099	32
8:00PM		844	775	1,619	19
6:00AM		499	1192	1,691	17
9:00PM		621	660	1,281	8
10:00PM		451	428	879	7
5:00AM		223	992	1,215	5
3:00AM		77	90	167	2
12:00AM		115	105	220	1
2:00AM		54	61	115	1
4:00AM		134	251	385	1
1:00AM		100	77	177	0
11:00PM		161	199	360	0
Total		17,767	18,642	36,409	673

Order
1st
2nd
3rd
4th
5th
6th
7th
8th

Peak Hour
4:00PM
11:00AM
5:00PM
12:00PM
2:00PM
1:00PM
10:00AM
3:00PM

TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND SWENSON BLVD
2019 EXISTING

Intersection: US 290 & Swenson Blvd

District: Austin District

County: Bastrop

City: Elgin

Population: 10,775

Analysis Date: 8/20/2020

Analysis Condition: Existing Condition

	Bus Route#	Name	Control	Approach Sec.	Posted Speed
Major Road		US 290	none	2 Lanes	50 mph
Minor Road		Swenson Blvd	stop	1 Lane	30 mph

Eight High Hours: Lowest Volume of 8 hour study is the 8th highest hour

Beginning Time	Major Street		Minor Street	
	Both Approaches		High Volume Approach	
	Vehicles	Pedestrians	Vehicles	Pedestrians
1 4:00PM	2888	_____	68	_____
2 11:00AM	1906	_____	63	_____
3 5:00PM	2881	_____	63	_____
4 12:00PM	1953	_____	54	_____
5 2:00PM	2229	_____	49	_____
6 1:00PM	2066	_____	47	_____
7 10:00AM	1769	_____	44	_____
8 3:00PM	2607	_____	42	_____
9 6:00PM	2406		42	
10 8:00AM	1896		38	
11 7:00PM	1913		36	

Warrant 1: Eight-Hour Vehicle Volume

Condition A - Minimum Vehicular Volume

☐ YES ☒ NO

Number of Lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)				
		Required				Existing	Required			
Major Street	Minor Street	100%	80%	70%	56%	435%	100%	80%	70%	56%
1	1	500	400	350	280	2607	150	120	105	84
2 or more	1	600	480	420	336		150	120	105	84
2 or more	2 or more	600	480	420	336		200	160	140	112
1	2 or more	500	400	350	280		200	160	140	112
										42

Warrant 1: Eight-Hour Vehicle Volume

Condition B - Minimum Vehicular Volume

☐ YES ☒ NO

Number of Lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)				
		Required				Existing	Required			
Major	Minor	100%	80%	70%	56%	290%	100%	80%	70%	56%
1	1	750	600	525	420	2607	75	60	53	42
2 or more	1	900	720	630	504		75	60	53	42
2 or more	2 or more	900	720	630	504		100	80	70	56
1	2 or more	750	600	525	420		100	80	70	56
										42

Warrant 2: Four-Hour Vehicular Volume -

☐ YES ☒ NO (Attached supplement sheets)

TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND SWENSON BLVD
2019 EXISTING

Warrant 3: Peak-Hour

☐ YES ☒ NO (Attached supplement sheet)

Warrant 4: Pedestrian Volume

☐ YES ☒ NO For each of any 4 hours of an average day, the plotted points representing the vehicle per hour on the major street (total of both approaches) and the corresponding pedestrian per hour crossing the major street (total of all crossings) all fall above the curve Figure 4C-5; or

☐ YES ☒ NO For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-7.

Warrant 5: School Crossing

☐ YES ☒ NO Is there a school crossing in the area?

☐ YES ☒ NO Are there fewer adequate gaps in the traffic stream during the schools zone cautionary period than minutes in that period?

☐ YES ☒ NO Are there a minimum of 20 students during the highest crossing hour?

Warrant 6: Coordinated Signal System

☐ YES ☒ NO On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

☐ YES ☒ NO On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 7: Crash Experience

☐ YES ☒ NO Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and

☐ YES ☒ NO Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and

☐ YES ☒ NO For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Warrant 8: Roadway Network -

☐ YES ☒ NO The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or

☐ YES ☒ NO The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday).

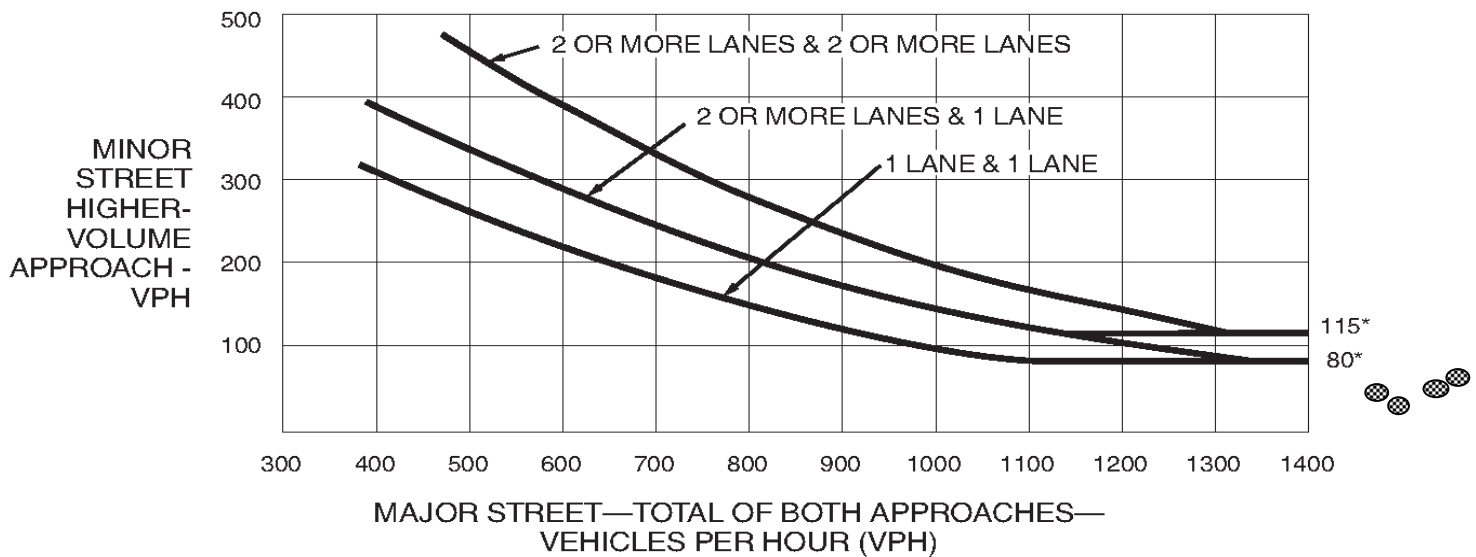
Warrant 9: Intersection Near a Grade Crossing

☐ YES ☒ NO A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and

☐ YES ☒ NO During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1A.13.

TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND SWENSON BLVD
2019 EXISTING

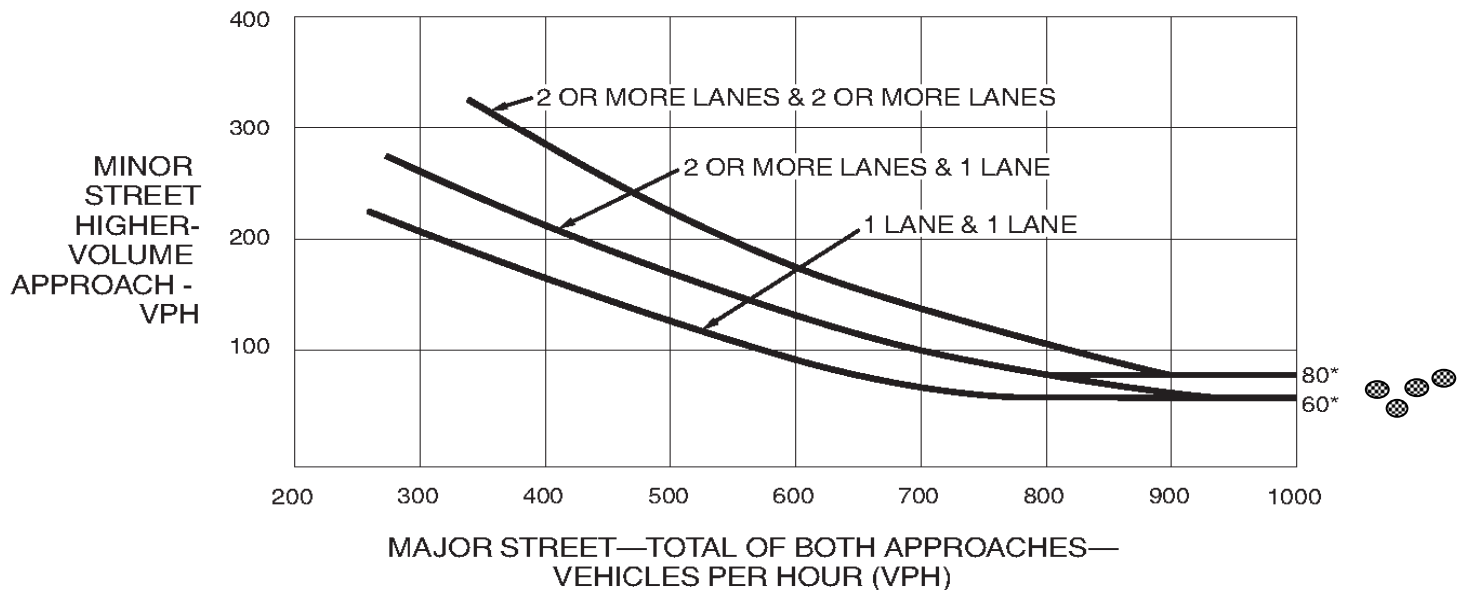
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

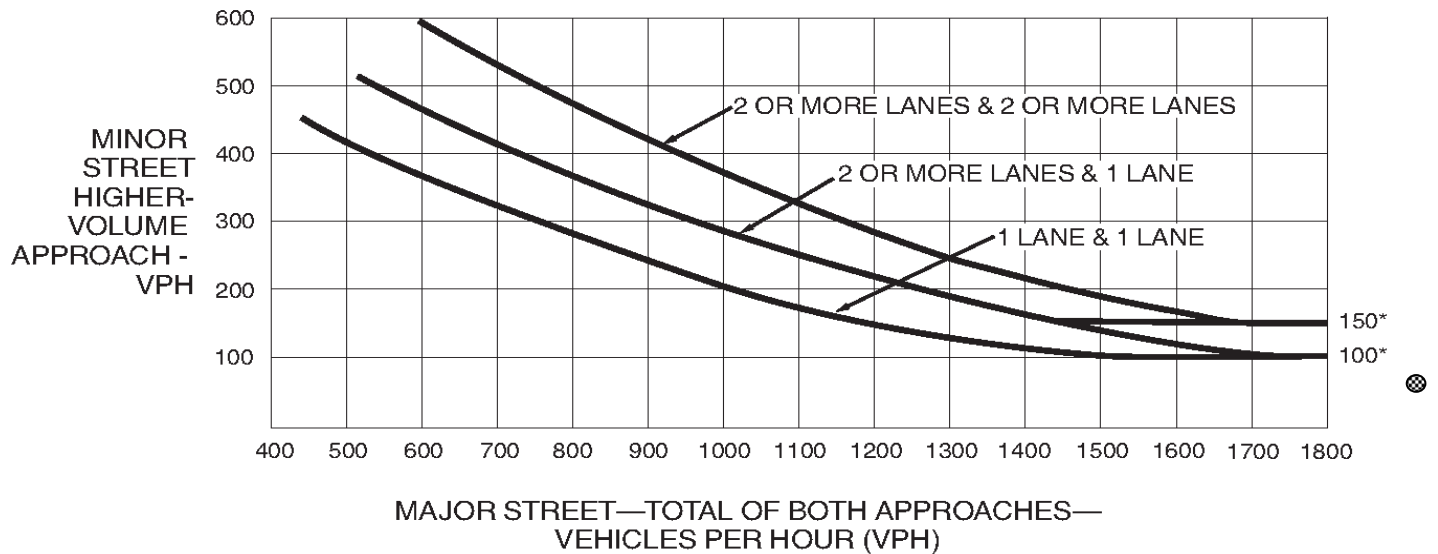
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

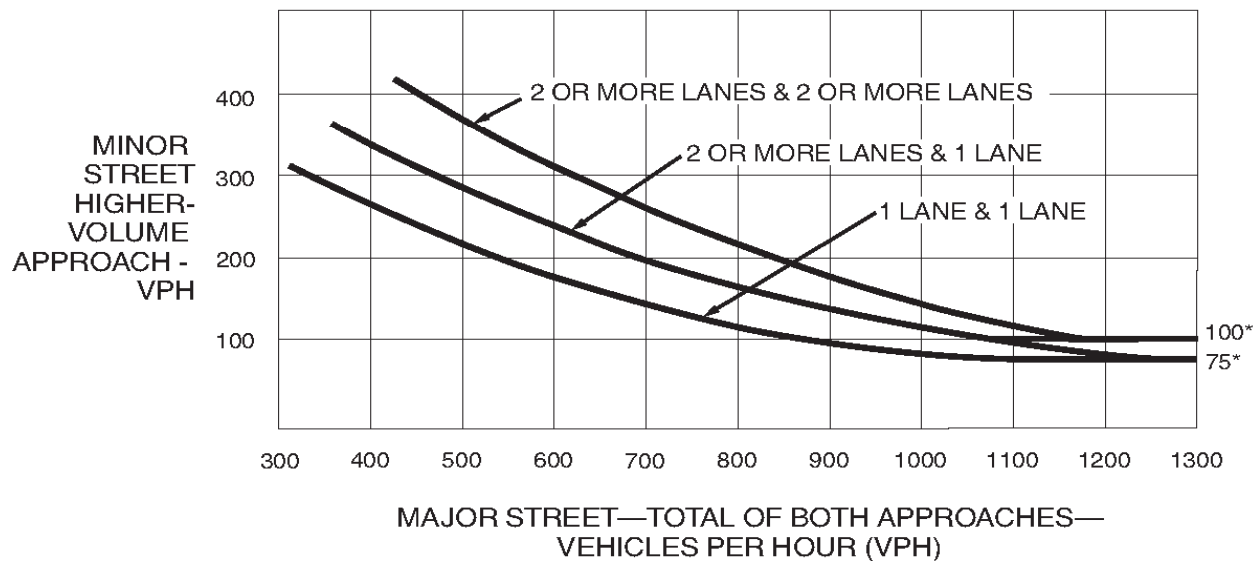
TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND SWENSON BLVD
2019 EXISTING

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

SIGNAL WARRANT ANALYSIS - TRINITY RANCH
EXISTING AND PROPOSED VOLUME AT US 290 AND SWENSON BLVD

TABLE 1 - 2019 EXISTING VOLUMES					
Time	US 290			Swenson Blvd	
	EB	WB	Total	NB	
12:00AM	115	105	220	1	
1:00AM	100	77	177	0	
2:00AM	54	61	115	1	
3:00AM	77	90	167	2	
4:00AM	134	251	385	1	
5:00AM	223	992	1,215	5	
6:00AM	499	1192	1,691	17	
7:00AM	837	1262	2,099	32	
8:00AM	827	1069	1,896	38	
9:00AM	784	903	1,687	34	
10:00AM	858	911	1,769	44	
11:00AM	880	1026	1,906	63	
12:00PM	989	964	1,953	54	
1:00PM	1028	1038	2,066	47	
2:00PM	1161	1068	2,229	49	
3:00PM	1460	1147	2,607	42	
4:00PM	1592	1296	2,888	68	
5:00PM	1591	1290	2,881	63	
6:00PM	1452	954	2,406	42	
7:00PM	1029	884	1,913	36	
8:00PM	844	775	1,619	19	
9:00PM	621	660	1,281	8	
10:00PM	451	428	879	7	
11:00PM	161	199	360	0	
Total	17,767	18,642	36,409	673	

TABLE 2 - 2021 FORECASTED VOLUMES					
Time	US 290			Swenson Blvd	
	EB	WB	Total	NB	
12:00AM	127	116	243	1	
1:00AM	110	85	195	0	
2:00AM	60	67	127	1	
3:00AM	85	99	184	2	
4:00AM	148	277	424	1	
5:00AM	246	1094	1,340	6	
6:00AM	550	1314	1,864	19	
7:00AM	923	1391	2,314	35	
8:00AM	912	1179	2,090	42	
9:00AM	864	996	1,860	37	
10:00AM	946	1004	1,950	49	
11:00AM	970	1131	2,101	69	
12:00PM	1090	1063	2,153	60	
1:00PM	1133	1144	2,278	52	
2:00PM	1280	1177	2,457	54	
3:00PM	1610	1265	2,874	46	
4:00PM	1755	1429	3,184	75	
5:00PM	1754	1422	3,176	69	
6:00PM	1601	1052	2,653	46	
7:00PM	1134	975	2,109	40	
8:00PM	931	854	1,785	21	
9:00PM	685	728	1,412	9	
10:00PM	497	472	969	8	
11:00PM	178	219	397	0	
Total	19,588	20,553	40,141	742	

TABLE 3 - 2021 SITE CALCULATED VOLUMES					
Time	US 290			Swenson Blvd	
	EB	WB	Total	NB	
12:00AM	0	0	0	0	
1:00AM	0	0	0	0	
2:00AM	0	0	0	0	
3:00AM	0	0	0	0	
4:00AM	0	0	0	0	
5:00AM	0	0	0	0	
6:00AM	0	0	0	0	
7:00AM	6	8	14	38	
8:00AM	7	11	18	22	
9:00AM	7	9	16	20	
10:00AM	7	9	16	25	
11:00AM	7	10	18	36	
12:00PM	8	10	18	31	
1:00PM	9	10	19	27	
2:00PM	10	11	20	28	
3:00PM	12	12	24	24	
4:00PM	13	13	26	39	
5:00PM	21	26	47	25	
6:00PM	12	10	22	24	
7:00PM	9	9	17	21	
8:00PM	7	8	15	11	
9:00PM	5	7	12	5	
10:00PM	0	0	0	0	
11:00PM	0	0	0	0	
Total	140	162	301	376	

TABLE 4 - 2021 SITE+FORECASTED VOLUMES					
Time	US 290			Swenson Blvd	
	EB	WB	Total	NB	
12:00AM	127	116	243	1	
1:00AM	110	85	195	0	
2:00AM	60	67	127	1	
3:00AM	85	99	184	2	
4:00AM	148	277	424	1	
5:00AM	246	1094	1,340	6	
6:00AM	550	1314	1,864	19	
7:00AM	929	1399	2,328	73	
8:00AM	919	1189	2,108	64	
9:00AM	871	1005	1,876	57	
10:00AM	953	1014	1,967	74	
11:00AM	978	1141	2,119	106	
12:00PM	1099	1072	2,171	91	
1:00PM	1142	1155	2,297	79	
2:00PM	1290	1188	2,478	82	
3:00PM	1622	1276	2,898	70	
4:00PM	1768	1442	3,210	114	
5:00PM	1775	1448	3,223	94	
6:00PM	1613	1061	2,674	70	
7:00PM	1143	983	2,127	60	
8:00PM	938	862	1,800	32	
9:00PM	690	734	1,424	13	
10:00PM	497	472	969	8	
11:00PM	178	219	397	0	
Total	19,728	20,714	40,442	1,118	

TABLE 5 - 2021 SITE+FORECASTED VOLUMES SORTED BY MAX MINOR APPROACH					
Time	US 290			Swenson Blvd	
	EB	WB	Total	NB	
4:00PM	1768	1442	3,210	114	
11:00AM	978	1141	2,119	106	
5:00PM	1775	1448	3,223	94	
12:00PM	1099	1072	2,171	91	
2:00PM	1290	1188	2,478	82	
1:00PM	1142	1155	2,297	79	
10:00AM	953	1014	1,967	74	
7:00AM	929	1399	2,328	73	
3:00PM	1622	1276	2,898	70	
6:00PM	1613	1061	2,674	70	
8:00AM	919	1189	2,108	64	
7:00PM	1143	983	2,127	60	
9:00AM	871	1005	1,876	57	
8:00PM	938	862	1,800	32	
6:00AM	550	1314	1,864	19	
9:00PM	690	734	1,424	13	
10:00PM	497	472	969	8	
5:00AM	246	1094	1,340	6	
3:00AM	85	99	184	2	
12:00AM	127	116	243	1	
2:00AM	60	67	127	1	
4:00AM	148	277	424	1	
1:00AM	110	85	195	0	
11:00PM	178	219	397	0	
Total	19,728	20,714	40,442	1,118	

Order	Peak
1st	4:00PM
2nd	11:00AM
3rd	5:00PM
4th	12:00PM
5th	2:00PM
6th	1:00PM
7th	10:00AM
8th	7:00AM

TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND SWENSON BLVD
PHASE 1 - 2021 SITE+FORECASTED

Intersection: US 290 & Swenson Blvd

District: Austin District

County: Bastrop

City: Elgin

Population: 10,775

Analysis Date: 8/20/2020

Analysis Condition: Phase 1-2021 Site+Forecasted

	Bus Route#	Name	Control	Approach Sec.	Posted Speed
Major Road		US 290	none	2 Lanes	50 mph
Minor Road		Swenson Blvd	stop	1 Lane	30 mph

Eight High Hours: Lowest Volume of 8 hour study is the 8th highest hour

	Beginning Time	Major Street Both Approaches		Minor Street High Volume Approach	
		Vehicles	Pedestrians	Vehicles	Pedestrians
1	4:00PM	3210	_____	114	_____
2	11:00AM	2119	_____	106	_____
3	5:00PM	3223	_____	94	_____
4	12:00PM	2171	_____	91	_____
5	2:00PM	2478	_____	82	_____
6	1:00PM	2297	_____	79	_____
7	10:00AM	1967	_____	74	_____
8	7:00AM	2328	_____	73	_____
9	3:00PM	2898		70	
10	6:00PM	2674		70	
11	8:00AM	2108		64	

Warrant 1: Eight-Hour Vehicle Volume

Condition A - Minimum Vehicular Volume

☐ YES ☒ NO

Number of Lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)					Vehicles per hour on higher-volume minor-street approach (one direction only)				
		Required				Existing	Required				Existing
Major Street	Minor Street	100%	80%	70%	56%	388%	100%	80%	70%	56%	37%
1	1	500	400	350	280	2328	150	120	105	84	73
2 or more	1	600	480	420	336		150	120	105	84	
2 or more	2 or more	600	480	420	336		200	160	140	112	
1	2 or more	500	400	350	280		200	160	140	112	

Warrant 1: Eight-Hour Vehicle Volume

Condition B - Minimum Vehicular Volume

☒ YES ☐ NO (70% Factor)

Number of Lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)					Vehicles per hour on higher-volume minor-street approach (one direction only)				
		Required				Existing	Required				Existing
Major	Minor	100%	80%	70%	56%	259%	100%	80%	70%	56%	73%
1	1	750	600	525	420	2328	75	60	53	42	73
2 or more	1	900	720	630	504		75	60	53	42	
2 or more	2 or more	900	720	630	504		100	80	70	56	
1	2 or more	750	600	525	420		100	80	70	56	

Warrant 2: Four-Hour Vehicular Volume -

☒ YES ☐ NO (Attached supplement sheets)

TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND SWENSON BLVD
PHASE 1 - 2021 SITE+FORECASTED

Warrant 3: Peak-Hour

☒ YES ☐ NO (Attached supplement sheet)

Warrant 4: Pedestrian Volume

☐ YES ☒ NO For each of any 4 hours of an average day, the plotted points representing the vehicle per hour on the major street (total of both approaches) and the corresponding pedestrian per hour crossing the major street (total of all crossings) all fall above the curve Figure 4C-5; or

☐ YES ☒ NO For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-7.

Warrant 5: School Crossing

☐ YES ☒ NO Is there a school crossing in the area?

☐ YES ☒ NO Are there fewer adequate gaps in the traffic stream during the schools zone cautionary period than minutes in that period?

☐ YES ☒ NO Are there a minimum of 20 students during the highest crossing hour?

Warrant 6: Coordinated Signal System

☐ YES ☒ NO On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.

☐ YES ☒ NO On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.

Warrant 7: Crash Experience

☐ YES ☒ NO Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and

☐ YES ☒ NO Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and

☐ YES ☒ NO For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Warrant 8: Roadway Network -

☐ YES ☒ NO The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or

☐ YES ☒ NO The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday).

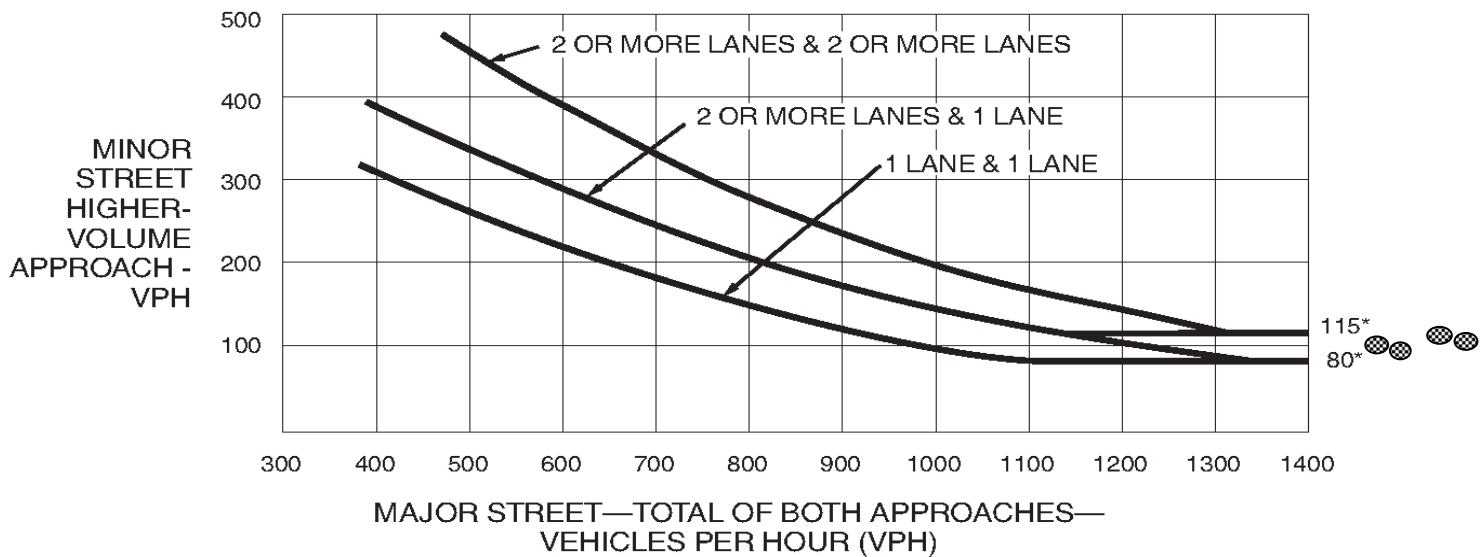
Warrant 9: Intersection Near a Grade Crossing

☐ YES ☒ NO A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and

☐ YES ☒ NO During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1A.13.

TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND SWENSON BLVD
PHASE 1-2021 SITE+FORECASTED

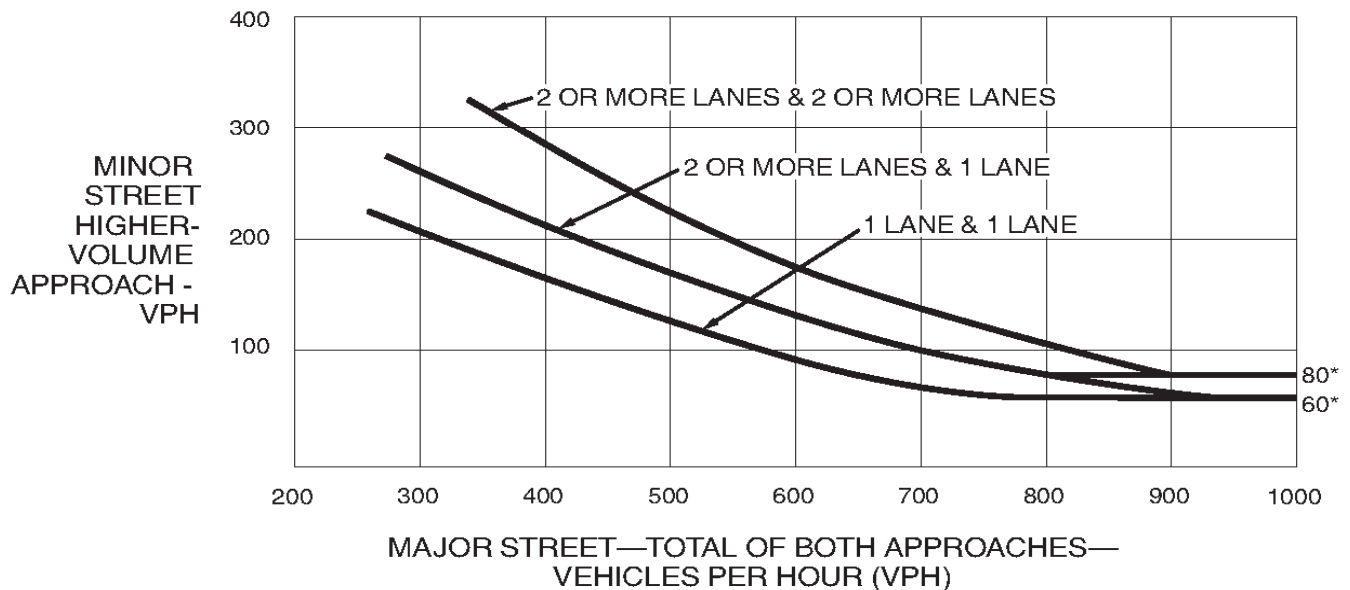
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

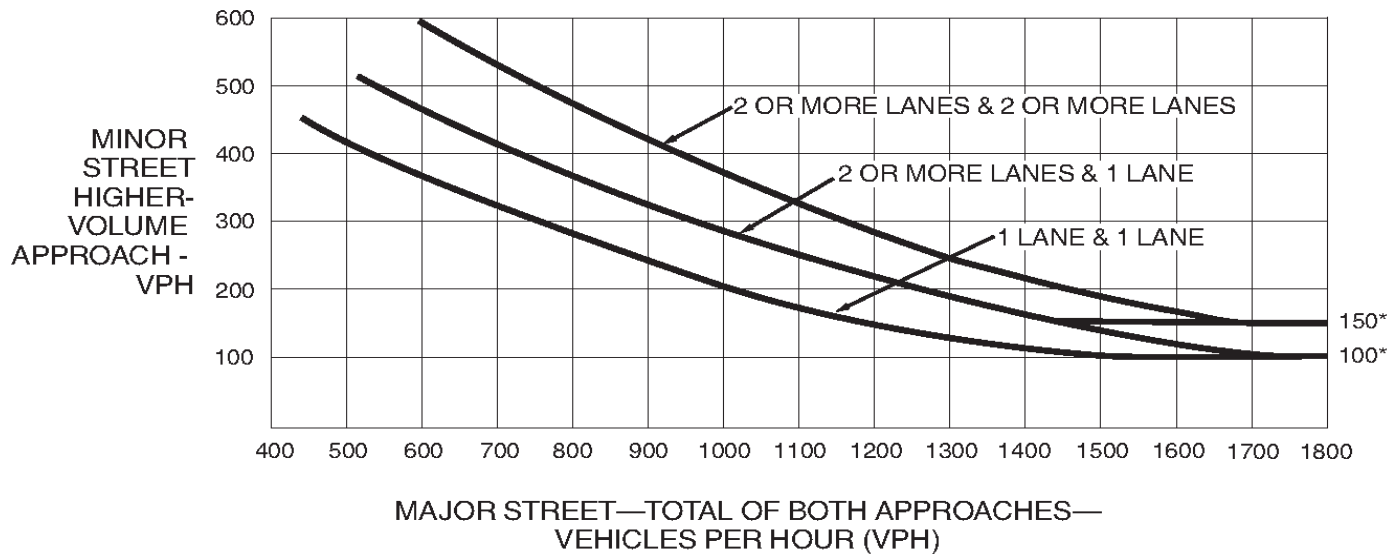
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

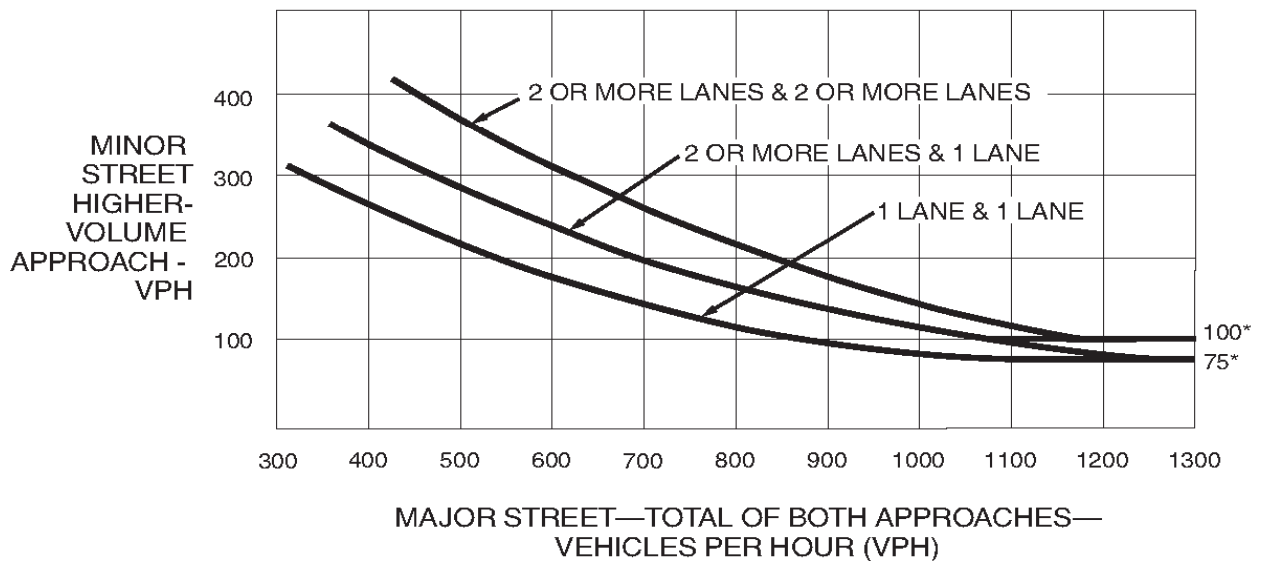
TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND SWENSON BLVD
PHASE 1-2021 SITE+FORECASTED

Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

A. 10.2 SIGNAL WARRANT ANALYSIS-US 290 & ROY RIVERS ROAD

TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND ROY RIVERS ROAD
2019 EXISTING

Summary of 24 Hour Counts - Existing Conditions

Time	US 290			Roy Rivers Road	
	EB	WB	Total	NB	
12:00AM	108	89	197	2	
1:00AM	96	66	162	3	
2:00AM	57	66	123	3	
3:00AM	84	87	171	4	
4:00AM	111	257	368	9	
5:00AM	224	981	1,205	20	
6:00AM	478	959	1,437	34	
7:00AM	782	944	1,726	35	
8:00AM	713	941	1,654	45	
9:00AM	703	814	1,517	27	
10:00AM	779	847	1,626	41	
11:00AM	792	854	1,646	52	
12:00PM	892	888	1,780	63	
1:00PM	934	853	1,787	49	
2:00PM	1080	954	2,034	55	
3:00PM	1353	1026	2,379	73	
4:00PM	1510	1097	2,607	63	
5:00PM	1426	1006	2,432	75	
6:00PM	1152	797	1,949	53	
7:00PM	933	810	1,743	68	
8:00PM	733	742	1,475	62	
9:00PM	545	566	1,111	48	
10:00PM	363	346	709	26	
11:00PM	180	190	370	15	
Total	16,028	16,180	32,208	925	

Summary of 24 Hour Counts Sorted for Minor Approach

Time	US 290			Roy Rivers Road	
	Begins	EB	WB	Total	NB
5:00PM		1426	1006	2,432	75
3:00PM		1353	1026	2,379	73
7:00PM		933	810	1,743	68
12:00PM		892	888	1,780	63
4:00PM		1510	1097	2,607	63
8:00PM		733	742	1,475	62
2:00PM		1080	954	2,034	55
6:00PM		1152	797	1,949	53
11:00AM		792	854	1,646	52
1:00PM		934	853	1,787	49
9:00PM		545	566	1,111	48
8:00AM		713	941	1,654	45
10:00AM		779	847	1,626	41
7:00AM		782	944	1,726	35
6:00AM		478	959	1,437	34
9:00AM		703	814	1,517	27
10:00PM		363	346	709	26
5:00AM		224	981	1,205	20
11:00PM		180	190	370	15
4:00AM		111	257	368	9
3:00AM		84	87	171	4
1:00AM		96	66	162	3
2:00AM		57	66	123	3
12:00AM		108	89	197	2
Total		16,028	16,180	32,208	925

Order	Peak Hour
1st	5:00PM
2nd	3:00PM
3rd	7:00PM
4th	12:00PM
5th	4:00PM
6th	8:00PM
7th	2:00PM
8th	6:00PM

TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND ROY RIVERS ROAD
2019 EXISTING

Intersection: US 290 & Roy Rivers Road

District: Austin District

County: Bastrop

City: Elgin

Population: 10,775

Analysis Date: 8/20/2020

Analysis Condition: Existing Condition

	Bus Route#	Name	Control	Approach Sec.	Posted Speed
Major Road		US 290	none	2 Lanes	50 mph
Minor Road		Roy Rivers Road	stop	1 Lane	35 mph

Eight High Hours: Lowest Volume of 8 hour study is the 8th highest hour

Beginning Time	Major Street		Minor Street	
	Both Approaches		High Volume Approach	
	Vehicles	Pedestrians	Vehicles	Pedestrians
1 5:00PM	2432	_____	75	_____
2 3:00PM	2379	_____	73	_____
3 7:00PM	1743	_____	68	_____
4 12:00PM	1780	_____	63	_____
5 4:00PM	2607	_____	63	_____
6 8:00PM	1475	_____	62	_____
7 2:00PM	2034	_____	55	_____
8 6:00PM	1949	_____	53	_____
9 11:00AM	1646		52	
10 1:00PM	1787		49	
11 9:00PM	1111		48	

Warrant 1: Eight-Hour Vehicle Volume

Condition A - Minimum Vehicular Volume

☐ YES ☒ NO

Number of Lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)				
		Required				Existing	Required			
Major Street	Minor Street	100%	80%	70%	56%	325%	100%	80%	70%	56%
1	1	500	400	350	280	1949	150	120	105	84
2 or more	1	600	480	420	336		150	120	105	84
2 or more	2 or more	600	480	420	336		200	160	140	112
1	2 or more	500	400	350	280		200	160	140	112
										53

Warrant 1: Eight-Hour Vehicle Volume

Condition B - Minimum Vehicular Volume

☒ YES ☐ NO (70% Factor)

Number of Lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)					Vehicles per hour on higher-volume minor-street approach (one direction only)				
		Required				Existing	Required				Existing
Major	Minor	100%	80%	70%	56%	217%	100%	80%	70%	56%	53%
1	1	750	600	525	420	1949	75	60	53	42	53
2 or more	1	900	720	630	504		75	60	53	42	
2 or more	2 or more	900	720	630	504		100	80	70	56	
1	2 or more	750	600	525	420		100	80	70	56	

Warrant 2: Four-Hour Vehicular Volume -

☒ YES ☐ NO (70% Factor), (Attached supplement sheets)

TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND ROY RIVERS ROAD
2019 EXISTING

Warrant 3: Peak-Hour

☒ YES ☐ NO (70% Factor), (Attached supplement sheets)

Warrant 4: Pedestrian Volume

- ☐ YES ☒ NO For each of any 4 hours of an average day, the plotted points representing the vehicle per hour on the major street (total of both approaches) and the corresponding pedestrian per hour crossing the major street (total of all crossings) all fall above the curve Figure 4C-5; or
- ☐ YES ☒ NO For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings) falls above the curve in Figure 4C-7.
-

Warrant 5: School Crossing

- ☐ YES ☒ NO Is there a school crossing in the area?
- ☐ YES ☒ NO Are there fewer adequate gaps in the traffic stream during the schools zone cautionary period than minutes in that period?
- ☐ YES ☒ NO Are there a minimum of 20 students during the highest crossing hour?
-

Warrant 6: Coordinated Signal System

- ☐ YES ☒ NO On a one-way street or a street that has traffic predominantly in one direction, the adjacent traffic control signals are so far apart that they do not provide the necessary degree of vehicular platooning.
- ☐ YES ☒ NO On a two-way street, adjacent traffic control signals do not provide the necessary degree of platooning and the proposed and adjacent traffic control signals will collectively provide a progressive operation.
-

Warrant 7: Crash Experience

- ☐ YES ☒ NO Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce the crash frequency; and
- ☐ YES ☒ NO Five or more reported crashes, of types susceptible to correction by a traffic control signal, have occurred within a 12-month period, each crash involving personal injury or property damage apparently exceeding the applicable requirements for a reportable crash; and
- ☐ YES ☒ NO For each of any 8 hours of an average day, the vehicles per hour (vph) given in both of the 80 percent columns of Condition A in Table 4C-1 (see Section 4C.02), or the vph in both of the 80 percent columns of Condition B in Table 4C-1 exists on the major-street and the higher-volume minor-street approach, respectively, to the intersection, or the volume of pedestrian traffic is not less than 80 percent of the requirements specified in the Pedestrian Volume warrant. These major-street and minor-street volumes shall be for the same 8 hours. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.
-

Warrant 8: Roadway Network -

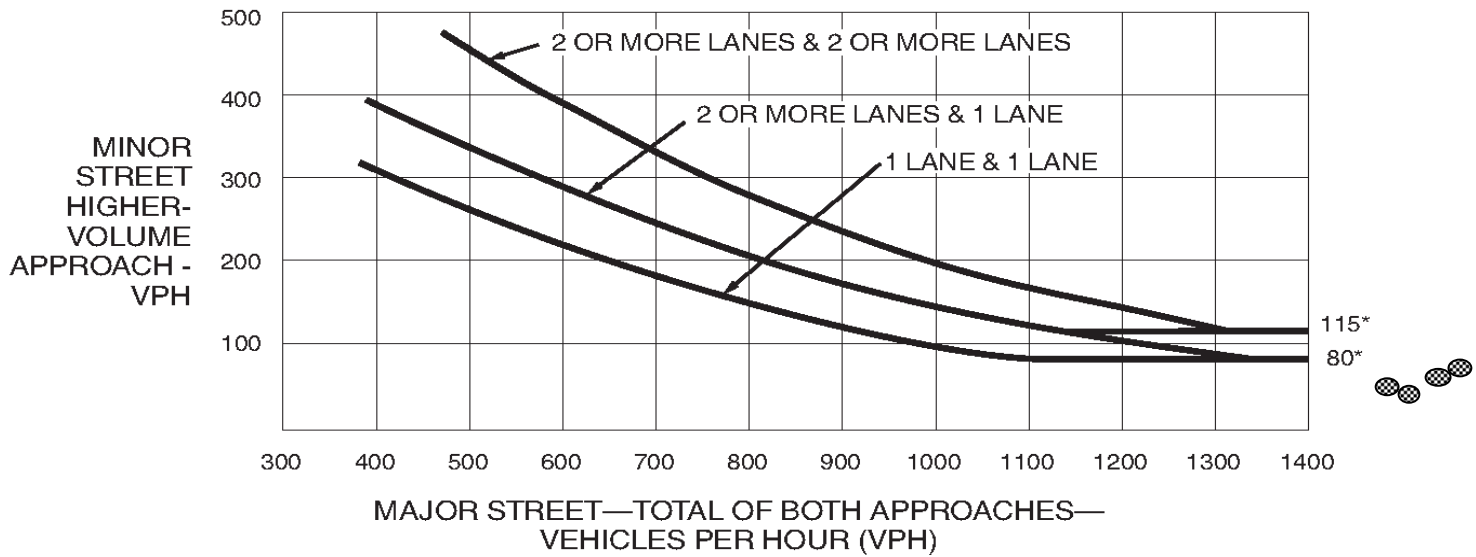
- ☐ YES ☒ NO The intersection has a total existing, or immediately projected, entering volume of at least 1,000 vehicles per hour during the peak hour of a typical weekday and has 5-year projected traffic volumes, based on an engineering study, that meet one or more of Warrants 1, 2, and 3 during an average weekday; or
- ☐ YES ☒ NO The intersection has a total existing or immediately projected entering volume of at least 1,000 vehicles per hour for each of any 5 hours of a non-normal business day (Saturday or Sunday).
-

Warrant 9: Intersection Near a Grade Crossing

- ☐ YES ☒ NO A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and
- ☐ YES ☒ NO During the highest traffic volume hour during which rail traffic uses the crossing, the plotted point representing the vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the minor-street approach that crosses the track (one direction only, approaching the intersection) falls above the applicable curve in Figure 4C-9 or 4C-10 for the existing combination of approach lanes over the track and the distance D, which is the clear storage distance as defined in Section 1A.13.
-

TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND ROY RIVERS ROAD
2019 EXISTING

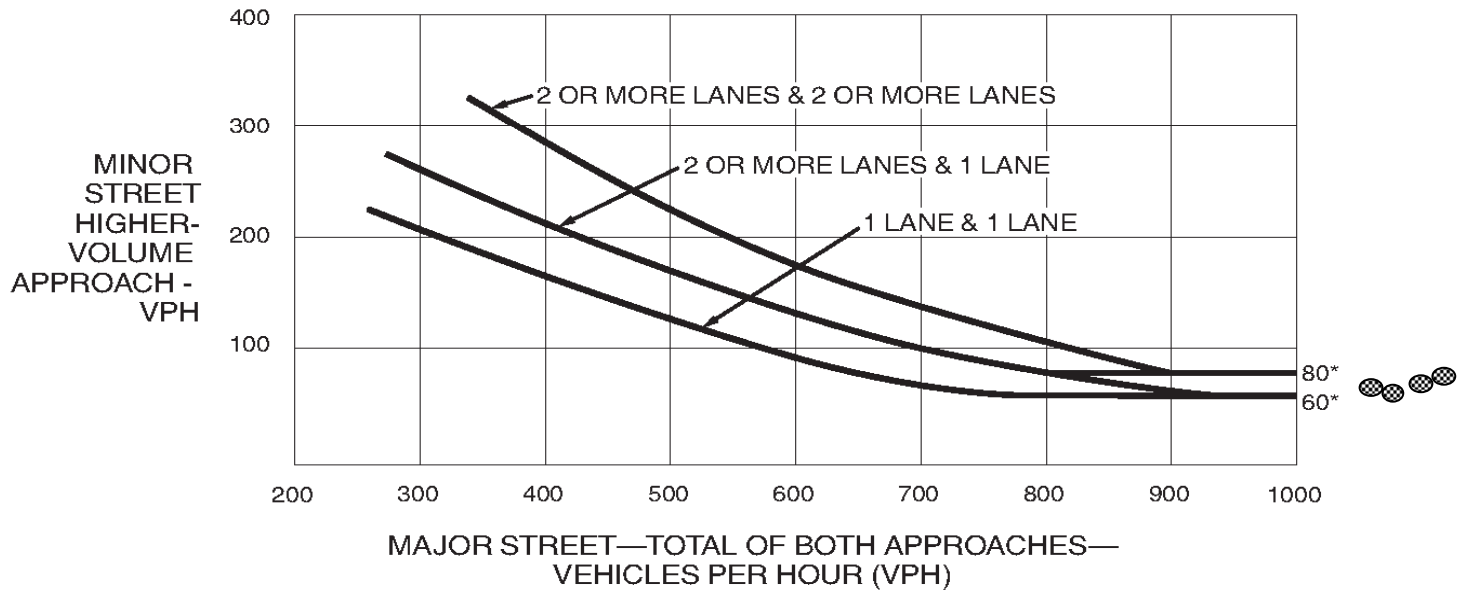
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-2. Warrant 2, Four-Hour Vehicular Volume (70% Factor)

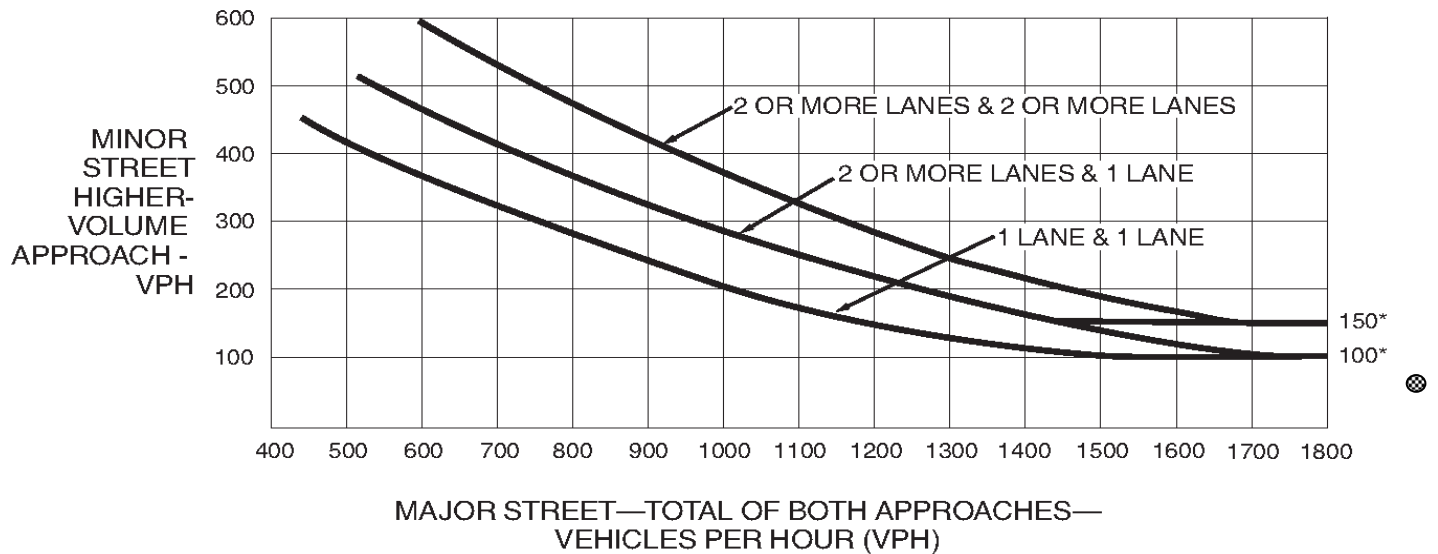
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 80 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 60 vph applies as the lower threshold volume for a minor-street approach with one lane.

TRINITY RANCH SIGNAL WARRANT ANALYSIS
US 290 AND ROY RIVERS ROAD
2019 EXISTING

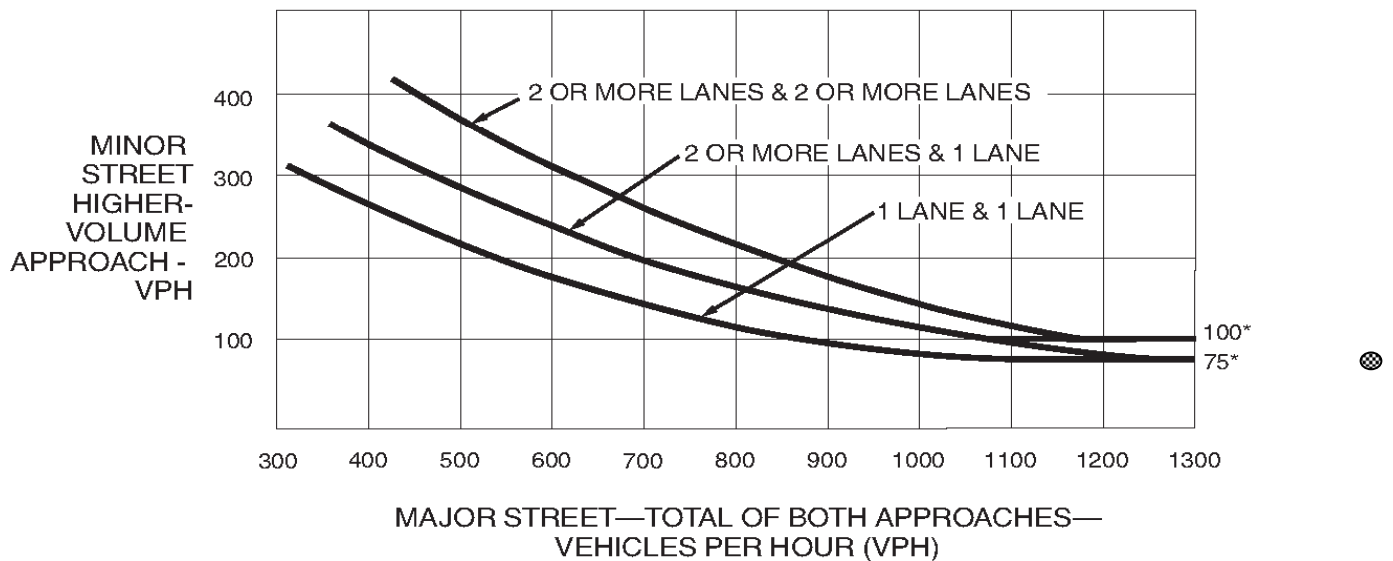
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

A.11 INTERSECTION PERFORMANCE TABLES (WITH IMPROVEMENTS)

AM PEAK

***Traffic Signal is proposed as Improvement**

PM PEAK

**Traffic Signal is proposed as Improvement*

A.12 SYNCHRO OUTPUTS (WITH IMPROVEMENTS)

4: Swenson Blvd & US 290 HCM 2010 Signalized Intersection Summary

Trinity Ranch TIA
Imps-Ph1-2021 Site+Forecasted AM with Improvements

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	1007	34	36	1424	29	50		
Future Volume (veh/h)	1007	34	36	1424	29	50		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1729	1900	1900	1776	1397	1712		
Adj Flow Rate, veh/h	1060	55	55	1515	42	82		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	0.95	0.62	0.65	0.94	0.69	0.61		
Percent Heavy Veh, %	10	8	0	7	36	11		
Cap, veh/h	1810	94	337	2287	251	275		
Arrive On Green	0.57	0.57	0.04	0.68	0.19	0.19		
Sat Flow, veh/h	3264	165	1810	3463	1331	1455		
Grp Volume(v), veh/h	548	567	55	1515	42	82		
Grp Sat Flow(s),veh/h/ln	1642	1700	1810	1687	1331	1455		
Q Serve(g_s), s	19.4	19.4	1.0	23.6	2.4	4.4		
Cycle Q Clear(g_c), s	19.4	19.4	1.0	23.6	2.4	4.4		
Prop In Lane		0.10	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	936	968	337	2287	251	275		
V/C Ratio(X)	0.59	0.59	0.16	0.66	0.17	0.30		
Avail Cap(c_a), veh/h	936	968	402	2287	251	275		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.5	12.5	9.1	8.5	30.6	31.4		
Incr Delay (d2), s/veh	2.7	2.6	0.2	1.5	1.4	2.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	9.4	9.7	0.5	11.2	1.0	2.0		
LnGrp Delay(d),s/veh	15.2	15.1	9.3	10.0	32.0	34.1		
LnGrp LOS	B	B	A	B	C	C		
Approach Vol, veh/h	1115			1570	124			
Approach Delay, s/veh	15.1			10.0	33.4			
Approach LOS	B			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.7	57.3				67.0		23.0
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	7.0	48.0				61.0		17.0
Max Q Clear Time (g_c+I1), s	3.0	21.4				25.6		6.4
Green Ext Time (p_c), s	0.0	7.2				13.8		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			13.1					
HCM 2010 LOS			B					

Queues

Imps-Ph1-2021 Site+Forecasted AM with Improvements

					
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1115	55	1515	42	82
v/c Ratio	0.60	0.17	0.66	0.17	0.24
Control Delay	15.2	6.1	10.3	32.7	9.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	15.2	6.1	10.3	32.7	9.4
Queue Length 50th (ft)	217	9	231	20	0
Queue Length 95th (ft)	288	14	298	37	12
Internal Link Dist (ft)	1106		498	54	
Turn Bay Length (ft)		75			
Base Capacity (vph)	1851	329	2286	250	341
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.60	0.17	0.66	0.17	0.24
Intersection Summary					

5: Roy Rivers Road & US 290 HCM Signalized Intersection Capacity Analysis

Trinity Ranch TIA
Imps-Ph1-2021 Site+Forecasted AM with Improvements

								
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	0	874	31	8	35	1155	106	43
Future Volume (vph)	0	874	31	8	35	1155	106	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor		0.95	1.00		1.00	0.95	1.00	1.00
Frt		1.00	0.85		1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)		3374	1615		1805	3343	1805	1615
Flt Permitted		1.00	1.00		0.22	1.00	0.95	1.00
Satd. Flow (perm)		3374	1615		411	3343	1805	1615
Peak-hour factor, PHF	0.95	0.95	0.95	0.60	0.60	0.84	0.64	0.60
Adj. Flow (vph)	0	920	33	13	58	1375	166	72
RTOR Reduction (vph)	0	0	16	0	0	0	0	56
Lane Group Flow (vph)	0	920	17	0	71	1375	166	16
Heavy Vehicles (%)	0%	7%	0%	0%	0%	8%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	pm+pt	NA	Prot	Perm
Protected Phases		2		1	1	6	3	
Permitted Phases	2		2	6	6			3
Actuated Green, G (s)		46.6	46.6		58.0	58.0	20.0	20.0
Effective Green, g (s)		46.6	46.6		58.0	58.0	20.0	20.0
Actuated g/C Ratio		0.52	0.52		0.64	0.64	0.22	0.22
Clearance Time (s)		6.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1746	836		348	2154	401	358
v/s Ratio Prot		0.27			0.01	c0.41	c0.09	
v/s Ratio Perm			0.01		0.12			0.01
v/c Ratio		0.53	0.02		0.20	0.64	0.41	0.04
Uniform Delay, d1		14.4	10.6		7.5	9.7	30.0	27.5
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		1.1	0.0		0.3	1.5	3.1	0.2
Delay (s)		15.5	10.6		7.8	11.1	33.1	27.7
Level of Service		B	B		A	B	C	C
Approach Delay (s)		15.4				11.0	31.5	
Approach LOS		B				B	C	
Intersection Summary								
HCM 2000 Control Delay		14.4		HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio		0.63						
Actuated Cycle Length (s)		90.0		Sum of lost time (s)		18.0		
Intersection Capacity Utilization		51.6%		ICU Level of Service		A		
Analysis Period (min)		15						
c Critical Lane Group								

5: Roy Rivers Road & US 290 Queues

Trinity Ranch TIA
Imps-Ph1-2021 Site+Forecasted AM with Improvements

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	920	33	71	1375	166	72
v/c Ratio	0.51	0.04	0.20	0.64	0.41	0.17
Control Delay	15.6	4.3	7.2	11.4	33.7	8.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.6	4.3	7.2	11.4	33.7	8.5
Queue Length 50th (ft)	179	0	13	222	81	0
Queue Length 95th (ft)	236	14	18	252	96	11
Internal Link Dist (ft)	920			1200	255	
Turn Bay Length (ft)		500	250			
Base Capacity (vph)	1792	873	372	2154	401	414
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.04	0.19	0.64	0.41	0.17
Intersection Summary						

4: Swenson Blvd & US 290
HCM 2010 Signalized Intersection Summary

Trinity Ranch TIA
Imps-Ph1-2021 Site+Forecasted PM with Improvements

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	1830	38	50	1524	34	75		
Future Volume (veh/h)	1830	38	50	1524	34	75		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1846	1900	1743	1810	1900	1863		
Adj Flow Rate, veh/h	1926	51	54	1588	45	96		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	0.95	0.75	0.92	0.96	0.75	0.78		
Percent Heavy Veh, %	3	0	9	5	0	2		
Cap, veh/h	2184	58	181	2521	241	211		
Arrive On Green	0.63	0.63	0.04	0.73	0.13	0.13		
Sat Flow, veh/h	3584	92	1660	3529	1810	1583		
Grp Volume(v), veh/h	963	1014	54	1588	45	96		
Grp Sat Flow(s),veh/h/ln	1754	1830	1660	1719	1810	1583		
Q Serve(g_s), s	41.1	41.9	0.9	20.6	2.0	5.0		
Cycle Q Clear(g_c), s	41.1	41.9	0.9	20.6	2.0	5.0		
Prop In Lane		0.05	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1097	1145	181	2521	241	211		
V/C Ratio(X)	0.88	0.89	0.30	0.63	0.19	0.45		
Avail Cap(c_a), veh/h	1097	1145	205	2521	241	211		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	14.0	14.2	19.0	5.9	34.7	36.0		
Incr Delay (d2), s/veh	10.0	10.2	0.9	1.2	1.7	6.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	22.6	24.1	0.9	9.9	1.1	2.6		
LnGrp Delay(d),s/veh	24.0	24.3	19.9	7.2	36.4	42.9		
LnGrp LOS	C	C	B	A	D	D		
Approach Vol, veh/h	1977			1642	141			
Approach Delay, s/veh	24.2			7.6	40.8			
Approach LOS	C			A	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.7	62.3				72.0		18.0
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	5.0	55.0				66.0		12.0
Max Q Clear Time (g_c+I1), s	2.9	43.9				22.6		7.0
Green Ext Time (p_c), s	0.0	8.7				15.9		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			17.5					
HCM 2010 LOS			B					

Queues

Imps-Ph1-2021 Site+Forecasted PM with Improvements

					
Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1977	54	1588	45	96
v/c Ratio	0.89	0.32	0.63	0.19	0.33
Control Delay	21.3	8.5	7.3	36.9	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.3	8.5	7.3	36.9	11.2
Queue Length 50th (ft)	482	7	194	23	0
Queue Length 95th (ft)	#709	18	249	45	30
Internal Link Dist (ft)	1076		475	54	
Turn Bay Length (ft)		75			
Base Capacity (vph)	2221	168	2521	240	294
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.89	0.32	0.63	0.19	0.33

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

5: Roy Rivers Road & US 290 HCM Signalized Intersection Capacity Analysis

Trinity Ranch TIA
Imps-Ph1-2021 Site+Forecasted PM with Improvements

								
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	0	1756	106	6	64	1218	115	37
Future Volume (vph)	0	1756	106	6	64	1218	115	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor		0.95	1.00		1.00	0.95	1.00	1.00
Frt		1.00	0.85		1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1615		1805	3471	1770	1615
Flt Permitted		1.00	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)		3539	1615		129	3471	1770	1615
Peak-hour factor, PHF	0.95	0.96	0.60	0.60	0.90	0.89	0.65	0.62
Adj. Flow (vph)	0	1829	177	10	71	1369	177	60
RTOR Reduction (vph)	0	0	73	0	0	0	0	50
Lane Group Flow (vph)	0	1829	104	0	81	1369	177	10
Heavy Vehicles (%)	0%	2%	0%	0%	0%	4%	2%	0%
Turn Type	Perm	NA	Perm	pm+pt	pm+pt	NA	Prot	Perm
Protected Phases		2		1	1	6	3	
Permitted Phases	2		2	6	6			3
Actuated Green, G (s)		53.0	53.0		63.0	63.0	15.0	15.0
Effective Green, g (s)		53.0	53.0		63.0	63.0	15.0	15.0
Actuated g/C Ratio		0.59	0.59		0.70	0.70	0.17	0.17
Clearance Time (s)		6.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		2084	951		164	2429	295	269
v/s Ratio Prot		c0.52			0.02	c0.39	c0.10	
v/s Ratio Perm			0.06		0.32			0.01
v/c Ratio		0.88	0.11		0.49	0.56	0.60	0.04
Uniform Delay, d1		15.7	8.1		16.4	6.7	34.7	31.4
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		5.6	0.2		2.3	1.0	8.7	0.3
Delay (s)		21.4	8.4		18.8	7.6	43.5	31.7
Level of Service		C	A		B	A	D	C
Approach Delay (s)		20.2				8.3	40.5	
Approach LOS		C				A	D	
Intersection Summary								
HCM 2000 Control Delay			16.8		HCM 2000 Level of Service		B	
HCM 2000 Volume to Capacity ratio			0.83					
Actuated Cycle Length (s)			90.0		Sum of lost time (s)		18.0	
Intersection Capacity Utilization			74.1%		ICU Level of Service		D	
Analysis Period (min)			15					
c Critical Lane Group								

5: Roy Rivers Road & US 290
Queues

Trinity Ranch TIA
Imps-Ph1-2021 Site+Forecasted PM with Improvements

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1829	177	81	1369	177	60
v/c Ratio	0.86	0.17	0.44	0.56	0.60	0.19
Control Delay	21.0	1.8	14.2	7.8	44.2	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.0	1.8	14.2	7.8	44.2	10.8
Queue Length 50th (ft)	443	0	12	173	94	0
Queue Length 95th (ft)	#570	3	38	218	111	13
Internal Link Dist (ft)	920			1200	255	
Turn Bay Length (ft)		500	250			
Base Capacity (vph)	2131	1042	183	2429	295	319
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.86	0.17	0.44	0.56	0.60	0.19

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

4: Swenson Blvd & US 290 HCM 2010 Signalized Intersection Summary

Trinity Ranch TIA
Imps-Ph2-2025 Site+Forecasted AM with Improvements

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑		
Traffic Volume (veh/h)	1208	63	71	1725	95	134		
Future Volume (veh/h)	1208	63	71	1725	95	134		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1727	1759	1900	1776	1397	1712		
Adj Flow Rate, veh/h	1272	102	109	1835	138	220		
Adj No. of Lanes	2	1	1	2	1	1		
Peak Hour Factor	0.95	0.62	0.65	0.94	0.69	0.61		
Percent Heavy Veh, %	10	8	0	7	36	11		
Cap, veh/h	1915	872	273	2300	278	304		
Arrive On Green	0.58	0.58	0.04	0.68	0.21	0.21		
Sat Flow, veh/h	3368	1495	1810	3463	1331	1455		
Grp Volume(v), veh/h	1272	102	109	1835	138	220		
Grp Sat Flow(s),veh/h/ln	1641	1495	1810	1687	1331	1455		
Q Serve(g_s), s	29.0	3.4	2.5	41.7	10.1	15.5		
Cycle Q Clear(g_c), s	29.0	3.4	2.5	41.7	10.1	15.5		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1915	872	273	2300	278	304		
V/C Ratio(X)	0.66	0.12	0.40	0.80	0.50	0.72		
Avail Cap(c_a), veh/h	1915	872	309	2300	278	304		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.6	10.2	13.4	12.2	38.4	40.5		
Incr Delay (d2), s/veh	1.8	0.3	0.9	3.0	6.2	13.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	13.6	1.4	1.3	20.1	4.2	7.4		
LnGrp Delay(d),s/veh	17.4	10.5	14.3	15.2	44.6	54.4		
LnGrp LOS	B	B	B	B	D	D		
Approach Vol, veh/h	1374			1944	358			
Approach Delay, s/veh	16.9			15.1	50.6			
Approach LOS	B			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.8	70.2				81.0		29.0
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	7.0	62.0				75.0		23.0
Max Q Clear Time (g_c+I1), s	4.5	31.0				43.7		17.5
Green Ext Time (p_c), s	0.0	10.7				17.3		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			19.3					
HCM 2010 LOS			B					

Queues

Imps-Ph2-2025 Site+Forecasted AM with Improvements

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1272	102	109	1835	138	220
v/c Ratio	0.69	0.11	0.42	0.80	0.50	0.51
Control Delay	19.4	2.5	10.8	15.6	45.6	16.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.4	2.5	10.8	15.6	45.6	16.7
Queue Length 50th (ft)	318	0	23	426	87	36
Queue Length 95th (ft)	397	6	29	530	111	36
Internal Link Dist (ft)	1106			498	54	
Turn Bay Length (ft)		425	75			
Base Capacity (vph)	1854	889	265	2300	277	429
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.69	0.11	0.41	0.80	0.50	0.51
Intersection Summary						

5: Roy Rivers Road & US 290 HCM Signalized Intersection Capacity Analysis

Trinity Ranch TIA
Imps-Ph2-2025 Site+Forecasted AM with Improvements

								
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	0	1083	47	9	40	1453	144	44
Future Volume (vph)	0	1083	47	9	40	1453	144	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor		0.95	1.00		1.00	0.95	1.00	1.00
Frt		1.00	0.85		1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)		3374	1615		1805	3343	1805	1615
Flt Permitted		1.00	1.00		0.17	1.00	0.95	1.00
Satd. Flow (perm)		3374	1615		323	3343	1805	1615
Peak-hour factor, PHF	0.95	0.95	0.95	0.60	0.60	0.84	0.64	0.60
Adj. Flow (vph)	0	1140	49	15	67	1730	225	73
RTOR Reduction (vph)	0	0	20	0	0	0	0	58
Lane Group Flow (vph)	0	1140	29	0	82	1730	225	15
Heavy Vehicles (%)	0%	7%	0%	0%	0%	8%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	pm+pt	NA	Prot	Perm
Protected Phases		2		1	1	6	3	
Permitted Phases	2		2	6	6			3
Actuated Green, G (s)		65.0	65.0		75.0	75.0	23.0	23.0
Effective Green, g (s)		65.0	65.0		75.0	75.0	23.0	23.0
Actuated g/C Ratio		0.59	0.59		0.68	0.68	0.21	0.21
Clearance Time (s)		6.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		1993	954		274	2279	377	337
v/s Ratio Prot		0.34			0.01	c0.52	c0.12	
v/s Ratio Perm			0.02		0.19			0.01
v/c Ratio		0.57	0.03		0.30	0.76	0.60	0.05
Uniform Delay, d1		13.9	9.4		8.6	11.5	39.3	34.7
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		1.2	0.1		0.6	2.4	6.8	0.3
Delay (s)		15.1	9.4		9.2	14.0	46.1	35.0
Level of Service		B	A		A	B	D	C
Approach Delay (s)		14.9				13.8	43.4	
Approach LOS		B				B	D	
Intersection Summary								
HCM 2000 Control Delay		16.8		HCM 2000 Level of Service		B		
HCM 2000 Volume to Capacity ratio		0.77						
Actuated Cycle Length (s)		110.0		Sum of lost time (s)		18.0		
Intersection Capacity Utilization		58.7%		ICU Level of Service		B		
Analysis Period (min)		15						
c Critical Lane Group								

5: Roy Rivers Road & US 290 Queues

Trinity Ranch TIA
Imps-Ph2-2025 Site+Forecasted AM with Improvements

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1140	49	82	1730	225	73
v/c Ratio	0.56	0.05	0.29	0.76	0.60	0.18
Control Delay	15.0	3.0	8.4	14.4	46.8	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.0	3.0	8.4	14.4	46.8	9.7
Queue Length 50th (ft)	252	0	17	381	145	0
Queue Length 95th (ft)	313	16	21	404	151	11
Internal Link Dist (ft)	920			1200	255	
Turn Bay Length (ft)		500	250			
Base Capacity (vph)	2030	991	287	2279	377	395
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.56	0.05	0.29	0.76	0.60	0.18
Intersection Summary						

4: Swenson Blvd & US 290 HCM 2010 Signalized Intersection Summary

Trinity Ranch TIA
Imps-Ph2-2025 Site+Forecasted PM with Improvements

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑		
Traffic Volume (veh/h)	2213	119	149	1834	81	139		
Future Volume (veh/h)	2213	119	149	1834	81	139		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1900	1743	1810	1900	1863		
Adj Flow Rate, veh/h	2329	159	162	1910	108	178		
Adj No. of Lanes	2	1	1	2	1	1		
Peak Hour Factor	0.95	0.75	0.92	0.96	0.75	0.78		
Percent Heavy Veh, %	3	0	9	5	0	2		
Cap, veh/h	2422	1116	181	2782	148	130		
Arrive On Green	0.69	0.69	0.06	0.81	0.08	0.08		
Sat Flow, veh/h	3597	1615	1660	3529	1810	1583		
Grp Volume(v), veh/h	2329	159	162	1910	108	178		
Grp Sat Flow(s),veh/h/ln	1752	1615	1660	1719	1810	1583		
Q Serve(g_s), s	67.3	3.7	5.6	26.2	6.4	9.0		
Cycle Q Clear(g_c), s	67.3	3.7	5.6	26.2	6.4	9.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2422	1116	181	2782	148	130		
V/C Ratio(X)	0.96	0.14	0.90	0.69	0.73	1.37		
Avail Cap(c_a), veh/h	2422	1116	181	2782	148	130		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	15.7	5.8	37.7	4.5	49.3	50.5		
Incr Delay (d2), s/veh	11.3	0.3	39.1	1.4	26.9	209.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	35.8	1.7	6.8	12.5	4.3	11.5		
LnGrp Delay(d),s/veh	27.0	6.1	76.7	5.9	76.2	259.9		
LnGrp LOS	C	A	E	A	E	F		
Approach Vol, veh/h	2488			2072	286			
Approach Delay, s/veh	25.6			11.5	190.5			
Approach LOS	C			B	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	13.0	82.0				95.0		15.0
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	7.0	76.0				89.0		9.0
Max Q Clear Time (g_c+I1), s	7.6	69.3				28.2		11.0
Green Ext Time (p_c), s	0.0	6.1				25.0		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			29.3					
HCM 2010 LOS			C					

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2329	159	162	1910	108	178
v/c Ratio	0.96	0.14	0.96	0.69	0.73	0.80
Control Delay	27.8	1.2	88.5	6.1	77.9	48.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.8	1.2	88.5	6.1	77.9	48.1
Queue Length 50th (ft)	711	0	67	236	76	53
Queue Length 95th (ft)	#1003	10	#204	292	#120	#114
Internal Link Dist (ft)	1076			475	54	
Turn Bay Length (ft)		425	75			
Base Capacity (vph)	2421	1164	168	2781	147	223
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.96	0.14	0.96	0.69	0.73	0.80

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

5: Roy Rivers Road & US 290 HCM Signalized Intersection Capacity Analysis

Trinity Ranch TIA
Imps-Ph2-2025 Site+Forecasted PM with Improvements

								
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	0	2201	158	7	68	1511	150	39
Future Volume (vph)	0	2201	158	7	68	1511	150	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor		0.95	1.00		1.00	0.95	1.00	1.00
Frt		1.00	0.85		1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1615		1805	3471	1770	1615
Flt Permitted		1.00	1.00		0.05	1.00	0.95	1.00
Satd. Flow (perm)		3539	1615		104	3471	1770	1615
Peak-hour factor, PHF	0.95	0.96	0.60	0.60	0.90	0.89	0.65	0.62
Adj. Flow (vph)	0	2293	263	12	76	1698	231	63
RTOR Reduction (vph)	0	0	103	0	0	0	0	51
Lane Group Flow (vph)	0	2293	160	0	88	1698	231	12
Heavy Vehicles (%)	0%	2%	0%	0%	0%	4%	2%	0%
Turn Type	Perm	NA	Perm	pm+pt	pm+pt	NA	Prot	Perm
Protected Phases		2		1	1	6	3	
Permitted Phases	2		2	6	6			3
Actuated Green, G (s)		67.0	67.0		77.0	77.0	21.0	21.0
Effective Green, g (s)		67.0	67.0		77.0	77.0	21.0	21.0
Actuated g/C Ratio		0.61	0.61		0.70	0.70	0.19	0.19
Clearance Time (s)		6.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		2155	983		134	2429	337	308
v/s Ratio Prot		c0.65			0.02	c0.49	c0.13	
v/s Ratio Perm			0.10		0.43			0.01
v/c Ratio		1.06	0.16		0.66	0.70	0.69	0.04
Uniform Delay, d1		21.5	9.3		27.9	9.7	41.4	36.3
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		39.1	0.4		11.0	1.7	10.8	0.2
Delay (s)		60.6	9.7		38.9	11.4	52.2	36.5
Level of Service		E	A		D	B	D	D
Approach Delay (s)		55.3				12.7	48.9	
Approach LOS		E				B	D	
Intersection Summary								
HCM 2000 Control Delay			38.5			HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio			0.99					
Actuated Cycle Length (s)			110.0			Sum of lost time (s)		18.0
Intersection Capacity Utilization			80.6%			ICU Level of Service		D
Analysis Period (min)			15					
c Critical Lane Group								

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	2293	263	88	1698	231	63
v/c Ratio	1.05	0.24	0.59	0.70	0.69	0.18
Control Delay	54.8	1.7	28.1	11.7	53.0	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.8	1.7	28.1	11.7	53.0	10.7
Queue Length 50th (ft)	~954	0	17	328	153	0
Queue Length 95th (ft)	#1091	0	#70	394	162	13
Internal Link Dist (ft)	920			1200	255	
Turn Bay Length (ft)		500	250			
Base Capacity (vph)	2194	1101	150	2429	337	359
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.05	0.24	0.59	0.70	0.69	0.18
Intersection Summary						
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.						
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.						

Intersection						
Int Delay, s/veh	3.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↕	↘	↗
Traffic Vol, veh/h	554	34	30	233	67	13
Future Vol, veh/h	554	34	30	233	67	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	60	60	75	60	60
Heavy Vehicles, %	3	0	0	0	0	14
Mvmt Flow	616	57	50	311	112	22
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	673	0	1027	616
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	411	-
Critical Hdwy	-	-	4.1	-	6.4	6.34
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.426
Pot Cap-1 Maneuver	-	-	927	-	262	469
Stage 1	-	-	-	-	543	-
Stage 2	-	-	-	-	674	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	927	-	245	469
Mov Cap-2 Maneuver	-	-	-	-	245	-
Stage 1	-	-	-	-	543	-
Stage 2	-	-	-	-	630	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.3		28.4	
HCM LOS					D	
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	245	469	-	-	927	-
HCM Lane V/C Ratio	0.456	0.046	-	-	0.054	-
HCM Control Delay (s)	31.4	13	-	-	9.1	0
HCM Lane LOS	D	B	-	-	A	A
HCM 95th %tile Q(veh)	2.2	0.1	-	-	0.2	-

2: Bull Run Road & Central Avenue
HCM 2010 TWSC

Trinity Ranch TIA
Imps-Ph3-2031 Site+Forecasted AM with Improvements

Intersection						
Int Delay, s/veh	5.1					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗		↖	↘	
Traffic Vol, veh/h	151	414	19	92	169	26
Future Vol, veh/h	151	414	19	92	169	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	85	95	60	82	60	62
Heavy Vehicles, %	3	12	0	0	0	50
Mvmt Flow	178	436	32	112	282	42
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	614	0	354	178
Stage 1	-	-	-	-	178	-
Stage 2	-	-	-	-	176	-
Critical Hdwy	-	-	4.1	-	6.4	6.7
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.75
Pot Cap-1 Maneuver	-	-	975	-	648	755
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	975	-	625	755
Mov Cap-2 Maneuver	-	-	-	-	625	-
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	829	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.9		16.3	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	639	-	-	975	-	
HCM Lane V/C Ratio	0.506	-	-	0.032	-	
HCM Control Delay (s)	16.3	-	-	8.8	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile O(veh)	2.9	-	-	0.1	-	

3: Swenson Blvd & Bull Run Road HCM 2010 TWSC

Trinity Ranch TIA
Imps-Ph3-2031 Site+Forecasted AM with Improvements

Intersection						
Int Delay, s/veh	133.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕	↕	↕	
Traffic Vol, veh/h	15	240	140	180	426	7
Future Vol, veh/h	15	240	140	180	426	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	60	79	70	62	60
Heavy Vehicles, %	25	26	5	7	0	0
Mvmt Flow	25	400	177	257	687	12
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	434	0	-	0	627	177
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	450	-
Critical Hdwy	4.35	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.425	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1013	-	-	-	~ 451	871
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	~ 647	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1013	-	-	-	~ 437	871
Mov Cap-2 Maneuver	-	-	-	-	~ 437	-
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	~ 647	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.5	0		296.7		
HCM LOS				F		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1013	-	-	-	441	
HCM Lane V/C Ratio	0.025	-	-	-	1.584	
HCM Control Delay (s)	8.6	0	-	-	296.7	
HCM Lane LOS	A	A	-	-	F	
HCM 95th %tile Q(veh)	0.1	-	-	-	38.9	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

4: Swenson Blvd & US 290 HCM 2010 Signalized Intersection Summary

Trinity Ranch TIA
Imps-Ph3-2031 Site+Forecasted AM with Improvements

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑		
Traffic Volume (veh/h)	1592	145	168	2303	290	376		
Future Volume (veh/h)	1592	145	168	2303	290	376		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1727	1759	1900	1776	1397	1712		
Adj Flow Rate, veh/h	1676	234	258	2450	420	616		
Adj No. of Lanes	2	1	1	2	1	1		
Peak Hour Factor	0.95	0.62	0.65	0.94	0.69	0.61		
Percent Heavy Veh, %	10	8	0	7	36	11		
Cap, veh/h	1641	748	241	2182	364	398		
Arrive On Green	0.50	0.50	0.11	0.65	0.27	0.27		
Sat Flow, veh/h	3368	1495	1810	3463	1331	1455		
Grp Volume(v), veh/h	1676	234	258	2450	420	616		
Grp Sat Flow(s),veh/h/ln	1641	1495	1810	1687	1331	1455		
Q Serve(g_s), s	75.0	13.9	16.0	97.0	41.0	41.0		
Cycle Q Clear(g_c), s	75.0	13.9	16.0	97.0	41.0	41.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1641	748	241	2182	364	398		
V/C Ratio(X)	1.02	0.31	1.07	1.12	1.15	1.55		
Avail Cap(c_a), veh/h	1641	748	241	2182	364	398		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	37.5	22.2	54.1	26.5	54.5	54.5		
Incr Delay (d2), s/veh	27.8	1.1	77.9	62.0	96.4	259.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	40.3	5.9	15.2	63.6	24.8	45.1		
LnGrp Delay(d),s/veh	65.3	23.3	132.0	88.5	150.9	313.7		
LnGrp LOS	F	C	F	F	F	F		
Approach Vol, veh/h	1910			2708	1036			
Approach Delay, s/veh	60.1			92.7	247.7			
Approach LOS	E			F	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	22.0	81.0				103.0		47.0
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	16.0	75.0				97.0		41.0
Max Q Clear Time (g_c+I1), s	18.0	77.0				99.0		43.0
Green Ext Time (p_c), s	0.0	0.0				0.0		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			110.1					
HCM 2010 LOS			F					

Queues

Imps-Ph3-2031 Site+Forecasted AM with Improvements

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1676	234	258	2450	420	616
v/c Ratio	1.02	0.27	1.07	1.12	1.16	1.13
Control Delay	64.7	3.3	119.4	89.0	145.8	114.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	3.3	119.4	89.0	145.8	114.0
Queue Length 50th (ft)	~913	2	~225	~1451	~484	~548
Queue Length 95th (ft)	#1051	0	#213	#1572	#452	310
Internal Link Dist (ft)	1106			498	54	
Turn Bay Length (ft)		425	75			
Base Capacity (vph)	1641	862	242	2181	362	543
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.27	1.07	1.12	1.16	1.13

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

5: Roy Rivers Road & US 290 HCM Signalized Intersection Capacity Analysis

Trinity Ranch TIA
Imps-Ph3-2031 Site+Forecasted AM with Improvements

								
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	0	1508	93	13	49	2091	247	46
Future Volume (vph)	0	1508	93	13	49	2091	247	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor		0.95	1.00		1.00	0.95	1.00	1.00
Frt		1.00	0.85		1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)		3374	1615		1805	3343	1805	1615
Flt Permitted		1.00	1.00		0.08	1.00	0.95	1.00
Satd. Flow (perm)		3374	1615		152	3343	1805	1615
Peak-hour factor, PHF	0.95	0.95	0.95	0.60	0.60	0.84	0.64	0.60
Adj. Flow (vph)	0	1587	98	22	82	2489	386	77
RTOR Reduction (vph)	0	0	37	0	0	0	0	52
Lane Group Flow (vph)	0	1587	61	0	104	2489	386	25
Heavy Vehicles (%)	0%	7%	0%	0%	0%	8%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	pm+pt	NA	Prot	Perm
Protected Phases		2		1	1	6	3	
Permitted Phases	2	2	2	6	6			3
Actuated Green, G (s)		93.1	93.1		107.0	107.0	31.0	31.0
Effective Green, g (s)		93.1	93.1		107.0	107.0	31.0	31.0
Actuated g/C Ratio		0.62	0.62		0.71	0.71	0.21	0.21
Clearance Time (s)		6.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		2094	1002		195	2384	373	333
v/s Ratio Prot		0.47			0.03	c0.74	c0.21	
v/s Ratio Perm			0.04		0.35			0.02
v/c Ratio		0.76	0.06		0.53	1.04	1.03	0.07
Uniform Delay, d1		20.4	11.2		18.9	21.5	59.5	47.9
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		2.6	0.1		2.8	31.2	55.9	0.4
Delay (s)		23.0	11.3		21.7	52.7	115.4	48.4
Level of Service		C	B		C	D	F	D
Approach Delay (s)		22.3				51.4	104.2	
Approach LOS		C				D	F	
Intersection Summary								
HCM 2000 Control Delay			46.3			HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio			1.09					
Actuated Cycle Length (s)			150.0			Sum of lost time (s)		18.0
Intersection Capacity Utilization			81.5%			ICU Level of Service		D
Analysis Period (min)			15					
c Critical Lane Group								

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	1587	98	104	2489	386	77
v/c Ratio	0.76	0.09	0.53	1.04	1.03	0.20
Control Delay	23.6	2.2	18.6	53.3	112.6	15.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	2.2	18.6	53.3	112.6	15.2
Queue Length 50th (ft)	560	0	28	~1384	~405	9
Queue Length 95th (ft)	664	23	31	#1319	339	18
Internal Link Dist (ft)	920			1200	255	
Turn Bay Length (ft)		500	250			
Base Capacity (vph)	2093	1039	207	2384	373	386
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.09	0.50	1.04	1.03	0.20
Intersection Summary						
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.						
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.						

Intersection						
Int Delay, s/veh	3.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑		↑	↑	↑
Traffic Vol, veh/h	520	91	15	665	57	34
Future Vol, veh/h	520	91	15	665	57	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	-	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	62	60	90	69	60
Heavy Vehicles, %	0	0	33	1	9	0
Mvmt Flow	584	147	25	739	83	57
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	731	0	1373	584
Stage 1	-	-	-	-	584	-
Stage 2	-	-	-	-	789	-
Critical Hdwy	-	-	4.43	-	6.49	6.2
Critical Hdwy Stg 1	-	-	-	-	5.49	-
Critical Hdwy Stg 2	-	-	-	-	5.49	-
Follow-up Hdwy	-	-	2.497	-	3.581	3.3
Pot Cap-1 Maneuver	-	-	748	-	155	515
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	436	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	748	-	146	515
Mov Cap-2 Maneuver	-	-	-	-	146	-
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	411	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		39.5	
HCM LOS	E					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	146	515	-	-	748	-
HCM Lane V/C Ratio	0.566	0.11	-	-	0.033	-
HCM Control Delay (s)	57.8	12.9	-	-	10	0
HCM Lane LOS	F	B	-	-	A	A
HCM 95th %tile O(veh)	2.9	0.4	-	-	0.1	-

2: Bull Run Road & Central Avenue HCM 2010 TWSC

Elgin Trinity TIA
Imps-Ph3-2031 Site+Forecasted PM with Improvements

Intersection						
Int Delay, s/veh	243.5					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	291	263	26	164	512	21
Future Vol, veh/h	291	263	26	164	512	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	81	75	84	60	75
Heavy Vehicles, %	0	0	0	0	11	0
Mvmt Flow	334	325	35	195	853	28
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	659	0	599	334
Stage 1	-	-	-	-	334	-
Stage 2	-	-	-	-	265	-
Critical Hdwy	-	-	4.1	-	6.51	6.2
Critical Hdwy Stg 1	-	-	-	-	5.51	-
Critical Hdwy Stg 2	-	-	-	-	5.51	-
Follow-up Hdwy	-	-	2.2	-	3.599	3.3
Pot Cap-1 Maneuver	-	-	939	-	~ 450	712
Stage 1	-	-	-	-	~ 706	-
Stage 2	-	-	-	-	~ 759	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	939	-	~ 431	712
Mov Cap-2 Maneuver	-	-	-	-	~ 431	-
Stage 1	-	-	-	-	~ 706	-
Stage 2	-	-	-	-	~ 727	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.4		\$ 488.7	
HCM LOS	F					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	436	-	-	939	-	
HCM Lane V/C Ratio	2.021	-	-	0.037	-	
HCM Control Delay (s)	\$ 488.7	-	-	9	0	
HCM Lane LOS	F	-	-	A	A	
HCM 95th %tile Q(veh)	61.1	-	-	0.1	-	
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

3: Swenson Blvd & Bull Run Road HCM 2010 TWSC

Elgin Trinity TIA
Imps-Ph3-2031 Site+Forecasted PM with Improvements

Intersection						
Int Delay, s/veh	15.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	18	218	265	530	250	12
Future Vol, veh/h	18	218	265	530	250	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	60	93	72	95	68	60
Heavy Vehicles, %	0	2	10	0	5	25
Mvmt Flow	30	234	368	558	368	20
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	926	0	-	0	662	368
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	294	-
Critical Hdwy	4.1	-	-	-	6.45	6.45
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.2	-	-	-	3.545	3.525
Pot Cap-1 Maneuver	746	-	-	-	422	629
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	749	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	746	-	-	-	403	629
Mov Cap-2 Maneuver	-	-	-	-	403	-
Stage 1	-	-	-	-	662	-
Stage 2	-	-	-	-	749	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.1	0		63.3		
HCM LOS	F					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	746	-	-	-	411	
HCM Lane V/C Ratio	0.04	-	-	-	0.943	
HCM Control Delay (s)	10	0	-	-	63.3	
HCM Lane LOS	B	A	-	-	F	
HCM 95th %tile Q(veh)	0.1	-	-	-	10.7	

4: Swenson Blvd & US 290 HCM 2010 Signalized Intersection Summary

Elgin Trinity TIA
Imps-Ph3-2031 Site+Forecasted PM with Improvements

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑	↑	↑	↑↑	↑	↑		
Traffic Volume (veh/h)	2948	347	428	2428	192	287		
Future Volume (veh/h)	2948	347	428	2428	192	287		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1845	1900	1743	1810	1900	1863		
Adj Flow Rate, veh/h	3103	463	465	2529	256	368		
Adj No. of Lanes	2	1	1	2	1	1		
Peak Hour Factor	0.95	0.75	0.92	0.96	0.75	0.78		
Percent Heavy Veh, %	3	0	9	5	0	2		
Cap, veh/h	2150	991	314	2796	193	169		
Arrive On Green	0.61	0.61	0.16	0.81	0.11	0.11		
Sat Flow, veh/h	3597	1615	1660	3529	1810	1583		
Grp Volume(v), veh/h	3103	463	465	2529	256	368		
Grp Sat Flow(s),veh/h/ln	1752	1615	1660	1719	1810	1583		
Q Serve(g_s), s	92.0	23.3	24.0	77.9	16.0	16.0		
Cycle Q Clear(g_c), s	92.0	23.3	24.0	77.9	16.0	16.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	2150	991	314	2796	193	169		
V/C Ratio(X)	1.44	0.47	1.48	0.90	1.33	2.18		
Avail Cap(c_a), veh/h	2150	991	314	2796	193	169		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	29.0	15.7	56.3	9.9	67.0	67.0		
Incr Delay (d2), s/veh	202.3	1.6	233.6	5.4	178.1	549.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	104.6	10.7	33.3	38.3	17.5	32.8		
LnGrp Delay(d),s/veh	231.3	17.3	289.9	15.3	245.1	616.5		
LnGrp LOS	F	B	F	B	F	F		
Approach Vol, veh/h	3566			2994	624			
Approach Delay, s/veh	203.5			57.9	464.2			
Approach LOS	F			E	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	30.0	98.0				128.0		22.0
Change Period (Y+Rc), s	6.0	6.0				6.0		6.0
Max Green Setting (Gmax), s	24.0	92.0				122.0		16.0
Max Q Clear Time (g_c+I1), s	26.0	94.0				79.9		18.0
Green Ext Time (p_c), s	0.0	0.0				32.4		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			165.5					
HCM 2010 LOS			F					

Queues

Imps-Ph3-2031 Site+Forecasted PM with Improvements

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	3103	463	465	2529	256	368
v/c Ratio	1.44	0.42	1.50	0.90	1.33	0.99
Control Delay	229.1	5.4	274.6	16.1	229.7	70.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	229.1	5.4	274.6	16.1	229.7	70.5
Queue Length 50th (ft)	~2165	58	~583	771	~324	152
Queue Length 95th (ft)	#2265	64	#810	917	#391	#242
Internal Link Dist (ft)	1076			475	54	
Turn Bay Length (ft)		425	75			
Base Capacity (vph)	2149	1113	311	2796	192	370
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.44	0.42	1.50	0.90	1.33	0.99
Intersection Summary						
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.						
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.						

5: Roy Rivers Road & US 290 HCM Signalized Intersection Capacity Analysis

Elgin Trinity TIA
Imps-Ph3-2031 Site+Forecasted PM with Improvements

								
Movement	EBU	EBT	EBR	WBU	WBL	WBT	NBL	NBR
Lane Configurations								
Traffic Volume (vph)	0	3127	306	9	76	2097	233	44
Future Volume (vph)	0	3127	306	9	76	2097	233	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor		0.95	1.00		1.00	0.95	1.00	1.00
Frt		1.00	0.85		1.00	1.00	1.00	0.85
Flt Protected		1.00	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)		3539	1615		1805	3471	1770	1615
Flt Permitted		1.00	1.00		0.04	1.00	0.95	1.00
Satd. Flow (perm)		3539	1615		69	3471	1770	1615
Peak-hour factor, PHF	0.95	0.96	0.60	0.60	0.90	0.89	0.65	0.62
Adj. Flow (vph)	0	3257	510	15	84	2356	358	71
RTOR Reduction (vph)	0	0	150	0	0	0	0	32
Lane Group Flow (vph)	0	3257	360	0	99	2356	358	39
Heavy Vehicles (%)	0%	2%	0%	0%	0%	4%	2%	0%
Turn Type	Perm	NA	Perm	pm+pt	pm+pt	NA	Prot	Perm
Protected Phases		2		1	1	6	3	
Permitted Phases	2		2	6	6			3
Actuated Green, G (s)		104.0	104.0		115.0	115.0	23.0	23.0
Effective Green, g (s)		104.0	104.0		115.0	115.0	23.0	23.0
Actuated g/C Ratio		0.69	0.69		0.77	0.77	0.15	0.15
Clearance Time (s)		6.0	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)		2453	1119		110	2661	271	247
v/s Ratio Prot		c0.92			0.03	c0.68	c0.20	
v/s Ratio Perm			0.22		0.65			0.02
v/c Ratio		1.33	0.32		0.90	0.89	1.32	0.16
Uniform Delay, d1		23.0	9.1		52.0	12.7	63.5	55.1
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2		150.4	0.8		55.4	4.8	168.0	1.4
Delay (s)		173.4	9.8		107.5	17.5	231.5	56.4
Level of Service		F	A		F	B	F	E
Approach Delay (s)		151.3				21.1	202.5	
Approach LOS		F				C	F	
Intersection Summary								
HCM 2000 Control Delay		106.5		HCM 2000 Level of Service		F		
HCM 2000 Volume to Capacity ratio		1.33						
Actuated Cycle Length (s)		150.0		Sum of lost time (s)		18.0		
Intersection Capacity Utilization		109.3%		ICU Level of Service		H		
Analysis Period (min)		15						
c Critical Lane Group								

5: Roy Rivers Road & US 290
Queues

Trinity Ranch TIA
Imps-Ph3-2031 Site+Forecasted PM with Improvements

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	3257	510	99	2356	358	71
v/c Ratio	1.33	0.40	0.90	0.89	1.32	0.25
Control Delay	174.6	1.8	90.3	18.2	215.2	31.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	174.6	1.8	90.3	18.2	215.2	31.4
Queue Length 50th (ft)	~2167	6	46	777	~451	28
Queue Length 95th (ft)	#2261	0	#164	877	#398	42
Internal Link Dist (ft)	920			1200	255	
Turn Bay Length (ft)		500	250			
Base Capacity (vph)	2453	1269	110	2661	271	279
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	1.33	0.40	0.90	0.89	1.32	0.25
Intersection Summary						
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.						
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.						

A.13 SUMMARY OF IMPROVEMENTS

**SUMMARY OF RECOMMENDED MITIGATIONS
(TRINITY RANCH)**

NODE #	INTERSECTIONS	PHASE 1 - 2021 SITE+FORECASTED IMPROVEMENTS		PHASE 2 - 2025 SITE+FORECASTED IMPROVEMENTS		PHASE 3 - 2031 SITE+FORECASTED IMPROVEMENTS		PRO-RATA CALCULATION NOTES	
		PRO-RATA	IMPROVEMENTS	PRO-RATA	IMPROVEMENTS	PRO-RATA	IMPROVEMENTS	PRO-RATA	NOTES
1	CR 127 (Central Avenue) & Dildy Drive	-	-	-	-	-	Stripe NB Dildy Drive to provide separate turn lanes at the intersection	75%	NB Approach Prorata
2	CR 127 (Central Avenue) & Bull Run Road	-	-	-	-	-	Provide right-turn deceleration lane (100'/50') along EB CR 127	70%	EBRT Prorata
3	Swenson Blvd & Bull Run Road	-	-	-	-	-	Provide right-turn deceleration lane (100'/50') along EB CR 127	96%	EBRT Prorata
4	Swenson Blvd & US 290	-	-	Provide right-turn deceleration lane (425'/100') along EB US 290	-	-	Stripe WB Swenson Blvd to provide separate turn lanes at the intersection	89%	WB Approach Prorata
5	Roy Rivers Road & US 290	2%	Traffic Signal	2%	-	-	-	-	EBRT Prorata
40	Upper Elgin River Road & Driveway D	-	-	-	-	-	Provide left-turn deceleration lane (100'/50') along WB Upper Elging River Road at Driveway D	100%	Overall Prorata
50	Upper Elgin River Road & Driveway E	-	-	-	-	-	Provide left-turn deceleration lane (100'/50') along WB Upper Elging River Road at Driveway E	100%	Overall Prorata
60	Swenson Blvd/Driveway F & Dildy Drive	100%	Stripe EB Dildy Drive to provide separate turn lanes (1 Left, 1 Right, & 1 Receiving) at the intersection Stripe SB Swenson Blvd to provide separate turn lanes (1 Thru, 1 Right, & 1 Receiving) at the intersection Widen and Stripe NB approach to accomodate separate turn lanes (1 Left, 1 Thru, & 1 Receiving) at the intersection.	100%	-	-	-	-	-
-	CR 127, Driveway A to Bull Run Road	-	-	-	-	-	Roadway requires 3-lane Cross-section based on Road-Sizing Analysis	71%	Based on ADT volumes for the Trinity Ranch Site trips over Total Future Daily Trips

**MAXIMUM PRO-RATA PERCENTAGES
(TRINITY RANCH)**

Node #	Intersections	Overall/Approach/Movement			2021 Pro-Rata			Overall/Approach/Movement			2025 Pro-Rata			Overall/Approach/Movement			2031 Pro-Rata			Pro-Rata Max				
		Overall	Thru	Right	Site	S+F	Movement	Approach	Overall	Thru	Right	Site	S+F	Movement	Approach	Overall	Thru	Right	Site	S+F	Movement	Approach		
1	Central Avenue & Dildy Drive	EB	61	346	18%	-	-	-	EB	Thru	94	257	590	44%	-	-	EB	Thru	88	927	1382	67%	-	78%
			20	154	13%	14%				Right	20	40	50%	39%		Right		304	520	58%	87%			
		WB	4	21	19%	25%			WB	Left	1	9	11%	7%			WB	Left	64	91	70%	70%		
			0	7	0%	8%				Thru	160	272	59%	57%		Thru		517	665	78%	27%			
		NB	34	128	27%				NB	Left	12	26	46%	24%			NB	Left	38	57	67%	90%		
			3	15	20%					Right	0	25	0%					Right	0	34	0%	75%		
			0	21	0%					Overall	257	590	44%				Overall	834	1277	65%		-		
2	Central Avenue & Bull Run Road	EB	56	332	17%	-	-	-	EB	Thru	16	169	169	9%			EB	Thru	88	88	291	30%		56%
			4	130	3%	12%				Right	77	112	69%	33%		Right		216	263	82%	96%			
		WB	17	45	38%	2%			WB	Left	1	17	6%	7%			WB	Left	4	26	15%	15%		
			0	14	0%	62%				Thru	8	113	7%	87%		Thru		25	164	15%	15%			
		NB	33	43	77%				NB	Left	153	165	93%				NB	Left	496	512	97%	97%		
			0	10	0%					Right	2	14	14%					Right	5	21	24%	31%		
			72	217	33%	-				Overall	338	513	66%				Overall	1059	1293	82%		-		
3	Swenson Blvd & Bull Run Road	EB	72	217	33%	-	-	-	EB	Left	2	11	18%	34%			EB	Left	5	18	28%	53%	81%	
			0	8	0%	11%				Thru	39	108	36%	77%		Thru		125	218	57%	83%			
		WB	8	66	12%	47%			WB	Thru	66	105	1	77%			WB	Thru	213	265	1	80%	89%	
			14	46	0	40%				Right	153	179	1	71%		Right		496	530	1	94%			
		NB	33	54	1				NB	Left	77	103	75%				NB	Left	216	250	86%	84%		
			17	38	45%					Right	1	7	0					Right	4	12	0	33%		
			0	5	0					Overall	335	4,535	7%				Overall	1,049	6,630	16%		-		
4	Swenson Blvd & US 290	EB	72	3,551	2%	-	-	-	EB	Thru	0	2,213	0%	4%			EB	Thru	0	2,948	0%	0%	10%	
			0	1,830	0%	1%				Right	99	119	83%			Right		320	347	92%	92%			
		WB	21	38	55%	2%			WB	Left	120	149	1	6%			WB	Left	388	428	1	91%	14%	
			26	50	1	2%				Thru	0	1,834	0			Thru		0	2,428	0	0%			
		NB	0	1,524	0				NB	Left	52	81	64%	53%			NB	Left	154	192	80%	93%	90%	
			11	34	32%					Right	64	139	0					Right	187	287	1	87%		
			14	75	0					Overall	240	4,134	6%				Overall	763	5,892	13%		-		
5	Roy Rivers Road & US 290	EB	51	3,302	2%	-	-	-	EB	Thru	99	2,201	4%	7%			EB	Thru	320	3,127	10%	10%	16%	
			21	1,756	1%	2%				Right	66	158	42%			Right		214	306	70%	72%			
		WB	14	106	13%	1%			WB	Left	0	75	0	3%			WB	Left	0	85	0	0%	13%	
			0	70	0	3%				Thru	52	1,511	0	12%		Thru		154	2,097	0	13%			
		NB	11	1,218	0				NB	Left	23	150	15%				NB	Left	75	233	32%	49%	41%	
			5	115	4%					Right	0	39	0					Right	0	44	0	0%		

ROAD SIZING ANALYSIS
CR 127 BETWEEN DRIVEWAY A AND BULL RUN ROAD
CRITERIA, ANALYSIS VOLUME, AND PRO-RATA
(TRINITY RANCH)

Road-Sizing Criteria

Number of Lanes	Typical AADT
2	~10,000
3	~20,000
4 (Undivided)	~30,000
4 (Divided)	~40,000
6 (Divided)	Over 40,000 +

Road-Sizing Analysis Volumes

Analysis Condition	ADT Volumes
Existing	2,456
Forecasted	4,565
Site	10,983
Site+ Forecasted	15,548

Road-Sizing Analysis Volumes

Site Volume	Site + Forecasted Volume	Pro-rata
10,983	15,548	71%