TRAFFIC IMPACT STUDY

For

72nd & Vasquez Kum & Go #2300
Commerce City, Colorado

June 2022

Prepared for:

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21-121573

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I. Introduction

Project Overview

This traffic impact study is provided as a planning document and addresses the capacity, geometric, and control requirements associated with the development entitled 72nd & Vasquez Kum & Go.

This proposed commercial development consists of a Kum & Go gas station with convenience store. The development is located near the southeast corner of the intersections of E 72nd Avenue with Eudora Drive in Commerce City, Colorado.

Study Area Boundaries

The study area to be examined in this analysis encompasses the E 72nd Avenue intersections with Vasquez Boulevard, Eudora Drive, and Elm Drive, as well as proposed site accesses.

Figure 1 illustrates location of the site and study intersections.

Site Description

Land for the development is currently occupied by an existing excavation equipment and vehicle supplier/rental business and is surrounded by a mix of industrial and commercial land uses.

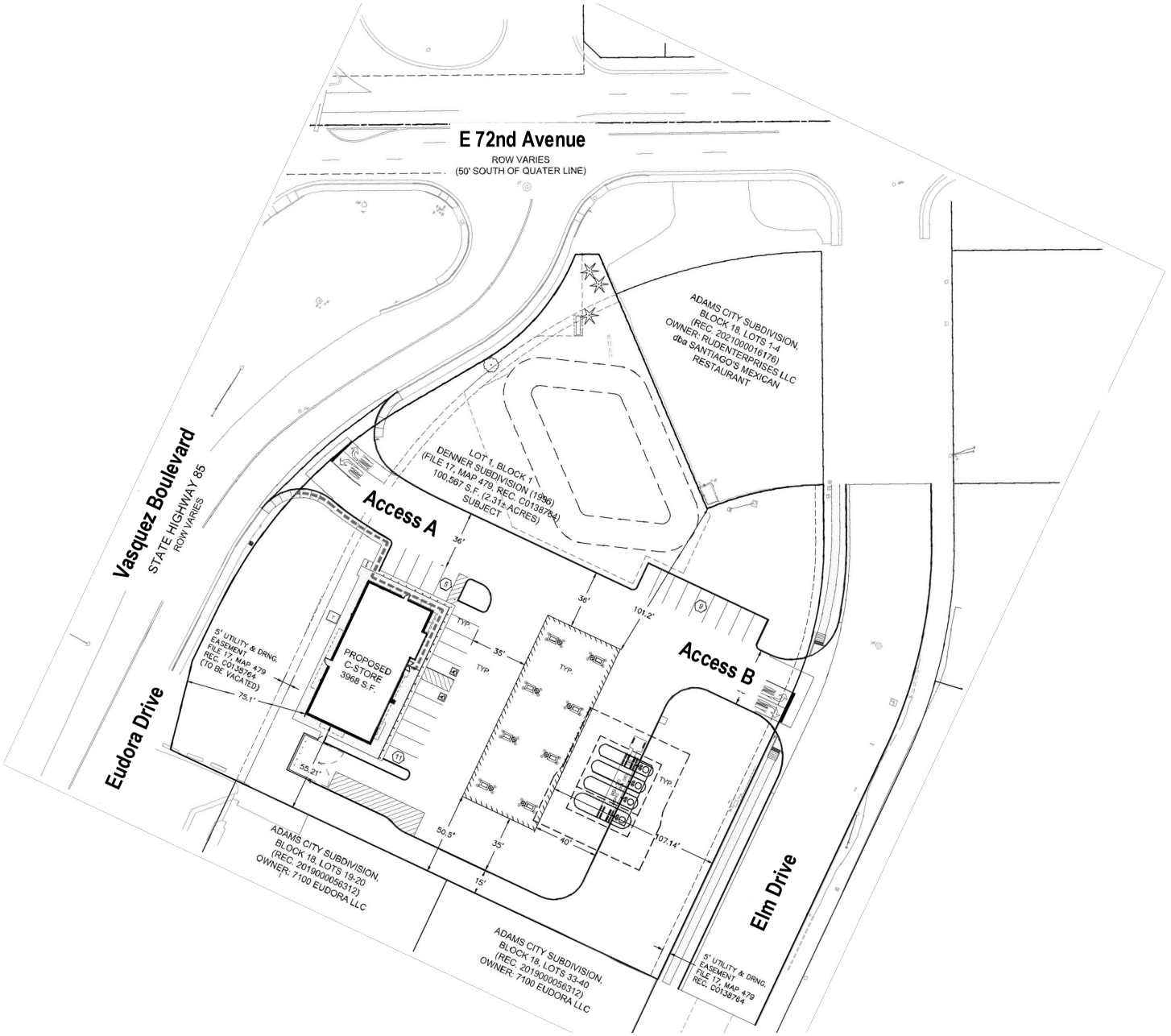
The proposed development is understood to entail the new construction of an approximate 4,000-square foot Kum & Go gas station convenience store with 16 fueling positions.

Proposed access to the development is provided at the following locations: one full-movement access onto Eudora Drive (referred to as Access A), and one full-movement access onto Elm Drive (referred to as Access B).

For purposes of this study, it is anticipated that development construction would be completed by end of Year 2024.

A site plan, as prepared by Entitlement and Engineering Solutions, Inc., is shown on Figure 2. This plan is provided for illustrative purposes only.


North
Not to Scale
E 72nd Avenue
Access A
Development Site
Access B
Vasquez Boulevard (SH 85)
Eudora Drive
Elm Drive


North
Not to Scale
E 72nd Avenue
ROW VARIES
(50' SOUTH OF QUATER LINE)
Vasquez Boulevard
STATE HIGHWAY 85
ROW VARIES
Eudora Drive
Elm Drive
Access A
Access B
PROPOSED C-STORE 3968 S.F.
LOT 1, BLOCK 1
DENNER SUBDIVISION (1986)
(FILE 17, MAP 479, REC. C0138784)
100,567 S.F. (2.31± ACRES)
SUBJECT
ADAMS CITY SUBDIVISION,
BLOCK 18, LOTS 1-4
(REC. 2021000016176)
OWNER: RUDENTERPRISES LLC
dba SANTIAGO'S MEXICAN
RESTAURANT
5' UTILITY & DRNG. EASEMENT
FILE 17, MAP 479
REC. C0138784
(TO BE VACATED)
ADAMS CITY SUBDIVISION,
BLOCK 18, LOTS 19-20
(REC. 2019000056312)
OWNER: 7100 EUDORA LLC
ADAMS CITY SUBDIVISION,
BLOCK 18, LOTS 33-40
(REC. 2019000056312)
OWNER: 7100 EUDORA LLC
5' UTILITY & DRNG. EASEMENT
FILE 17, MAP 479
REC. C0138784
36'
38'
101.2'
35'
TYP.
75.1'
55.21'
50.5'
40'
107.14'
15'

Existing and Committed Surface Transportation Network

Within the study area, E 72nd Avenue is the primary roadway that will accommodate traffic to and from the proposed development. The secondary roadways include Vasquez Boulevard, Eudora Drive, and Elm Drive. A brief description of each roadway is provided below:

> E 72nd Avenue is an east-west minor arterial roadway generally having four through lanes (two lanes in each direction) with a combination of shared and exclusive turn lanes at the intersections within the study area. E 72nd Avenue provides a posted speed limit of 35 MPH. West of Vasquez Boulevard, E 72nd Avenue provides two through lanes (one lane in each direction) and a posted speed limit of 30 MPH.
>
> Vasquez Boulevard is a north-south state roadway having four through lanes (two lanes in each direction) with exclusive turn lanes at the intersection within the study area. The Colorado Department of Transportation (CDOT) categorizes the adjacent segment of Vasquez Boulevard (U.S. Highway 6) as an Expressway, Major Bypass (E-X) and provides a posted speed limit of 45 MPH.
>
> Eudora Drive is a north-south frontage roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. Eudora Drive does not provide a posted speed limit; however, pursuant to City Construction Standards[1], Eudora Drive is assumed to be classified as a local roadway with a speed limit of 30 MPH. Eudora Drive ends at E 72nd Avenue and continues north as Brighton Road.
>
> Elm Drive is an unpaved north-south local roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. Elm Drive does not provide a posted speed limit; however, pursuant to City Construction Standards, Elm Drive is understood to be classified as an industrial local roadway with a speed limit of 30 MPH.

The study intersection of E 72nd Avenue with Vasquez Boulevard is signalized. All other study intersections operate under a stop-controlled condition. A stop-controlled intersection is defined as a roadway intersection where vehicle rights-of-way are controlled by one or more "STOP" signs.

No regional or specific improvements for the above-described roadways are known to be planned or committed at this time. The study area roadways appear to be built to their ultimate cross-sections.

[1] Engineering Construction Standards and Specifications, City of Commerce City, December 2017.

II. Existing Traffic Conditions

Morning (AM) and afternoon (PM) peak hour traffic counts were collected at the intersections of E 72nd Avenue with Vasquez Boulevard, Eudora Drive, and Elm Drive. These counts were collected on Tuesday, February 8, 2022, with AM peak hour counts being collected during the period of 7:00 a.m. to 9:00 a.m. and PM peak hour counts being collected during the period of 4:00 p.m. to 6:00 p.m. Average daily traffic (ADT) volumes were collected by Kum & Go over a 24-hour period on Thursday, January 13, 2022, along E 72nd Avenue and Elm Drive. These counts are shown on Figure 3.

Traffic count data is included for reference in Appendix A.

Existing signal timing parameters for E 72nd Avenue and Vasquez Boulevard were assumed based on the existing signal head configuration and allowable movements. Timings were used throughout this study to the best extent possible in order to remain consistent with typical CDOT signal coordination plans.

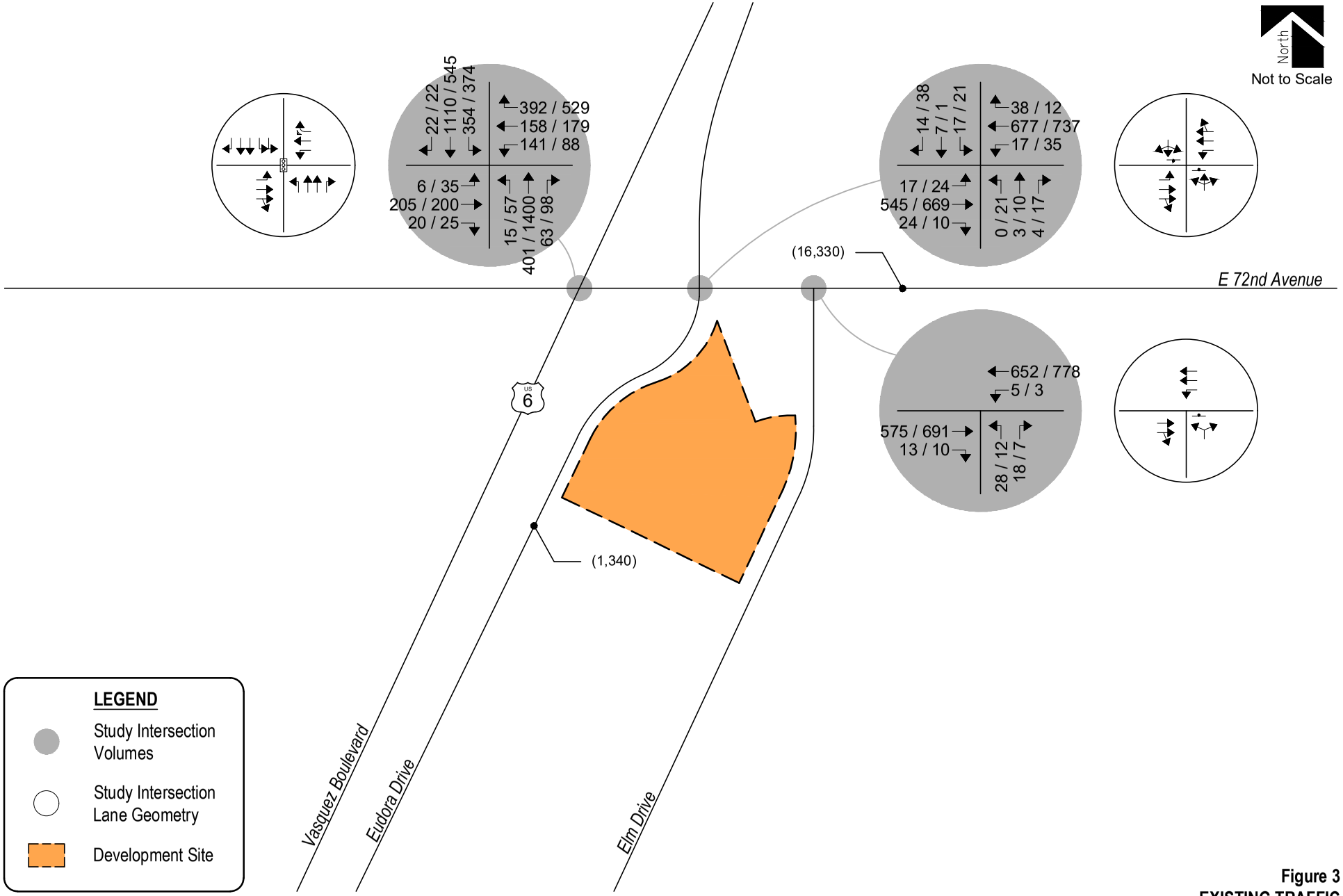


Figure 3
EXISTING TRAFFIC
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

The Signalized and Unsignalized Intersection Analysis techniques, as published in the Highway Capacity Manual (HCM) by the Transportation Research Board and as incorporated into the SYNCHRO computer program, were used to analyze the study intersections for existing traffic conditions. These nationally accepted techniques allow for the determination of intersection level of service (LOS) based on the congestion and delay of each traffic movement.

Level of service is a method of measurement used by transportation professionals to quantify a driver's perception of travel conditions that include travel time, number of stops, and total amount of stopped delay experienced on a roadway network. The HCM categorizes level of service into a range from "A" which indicates little, if any, vehicle delay, to "F" which indicates a level of operation considered unacceptable to most drivers. These levels of service grades with brief descriptions of the operating condition, for unsignalized and signalized intersections, are included for reference in Appendix B and have been used throughout this study.

The level of service analyses results for existing conditions are summarized in Table 1.

Intersection capacity worksheets developed for this study are provided in Appendix C.

Table 1 – Intersection Capacity Analysis Summary – Existing Traffic

INTERSECTION LANE GROUPS	LEVEL OF SERVICE AM PEAK HOUR	 PM PEAK HOUR
E 72nd Avenue / Vasquez Boulevard (US 6) (Signalized)	C (23.6)	D (45.9)
E 72nd Avenue / Eudora Drive (Stop-Controlled)		
Eastbound Left	A	A
Westbound Left	A	A
Northbound Left, Through and Right	C	C
Southbound Left, Through and Right	C	C
E 72nd Avenue / Elm Drive (Stop-Controlled)		
Westbound Left	A	A
Northbound Left and Right	B	B

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Existing Traffic Analysis Results

Under existing conditions, operational analysis shows that the signalized intersection of E 72nd Avenue with Vasquez Boulevard has overall operations at LOS C during the morning peak traffic hour and LOS D during the afternoon peak traffic hour.

The unsignalized intersection of E 72nd Avenue with Eudora Drive has turning movement operations at or better than LOS C during both the morning and afternoon peak traffic hours.

The unsignalized intersection of E 72nd Avenue with Elm Drive has turning movement operations at or better than LOS B during both the morning and afternoon peak traffic hours.

III. Future Traffic Conditions Without Proposed Development

Background traffic is the traffic projected to be on area roadways without consideration of the proposed development. Background traffic includes traffic generated by development of vacant parcels in the area.

To account for projected increases in background traffic for Years 2024 and 2042, a compounded annual growth rate was determined using traffic data provided by CDOT's Online Transportation Information System (OTIS), which anticipates a 20-year growth rate less than one percent. Therefore, in order to provide for a conservative analysis, a growth rate of two percent was applied to existing traffic volumes. This annual growth rate is also consistent with regional growth projections and the level of in-fill development expected within the area.

Pursuant to the non-committed area roadway improvements discussed in Section I, Year 2024 and Year 2042 background traffic conditions assume no roadway improvements to accommodate regional transportation demands. Year 2042 assumes existing signal timing parameters for E 72nd Avenue and Vasquez Boulevard with optimized intersection splits in effort to better long-term intersection performance. This assumption provides for a conservative analysis.

Projected background traffic volumes and intersection geometry for Years 2024 and 2042 are shown on Figure 4 and Figure 5, respectively.

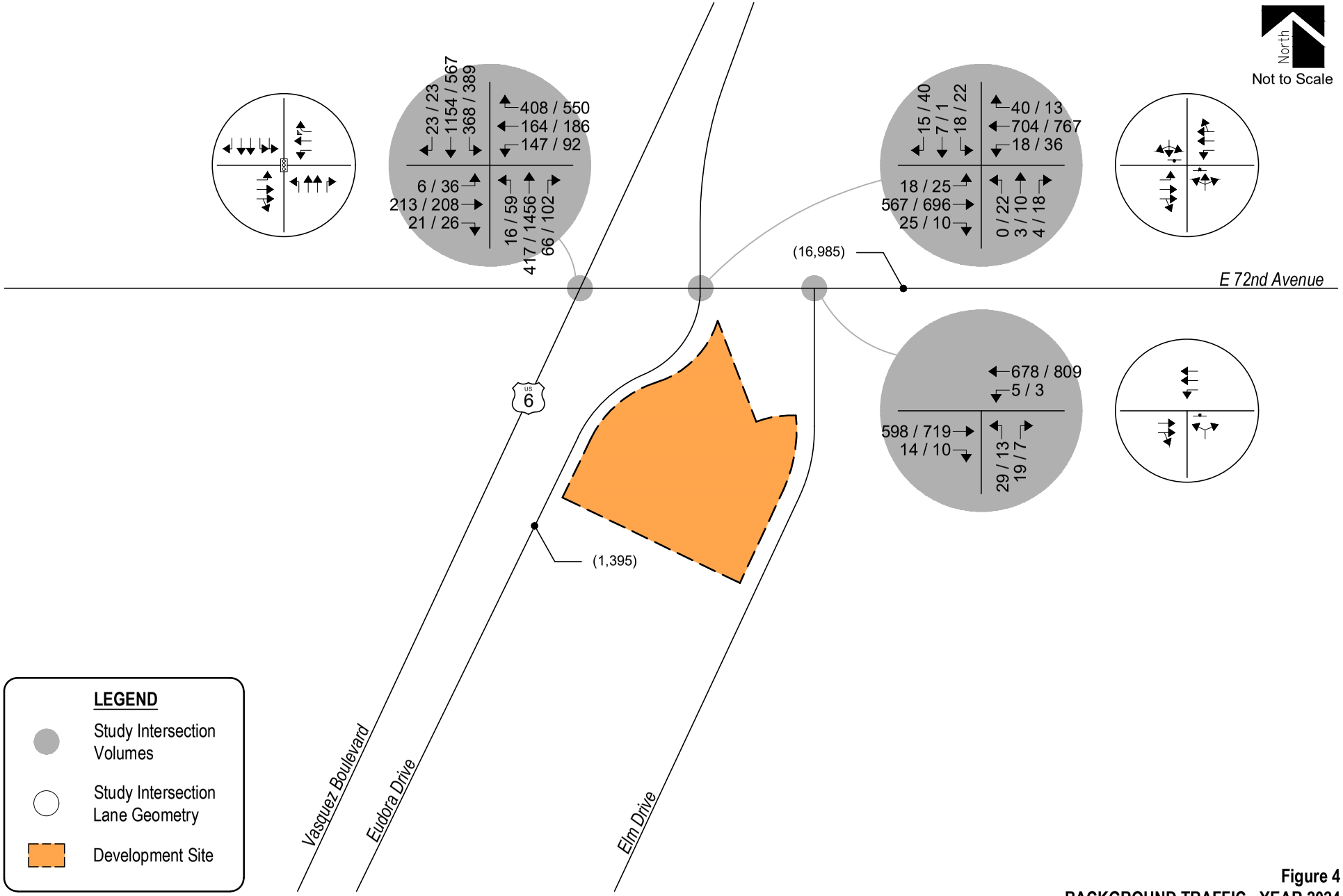


Figure 4
BACKGROUND TRAFFIC - YEAR 2024
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

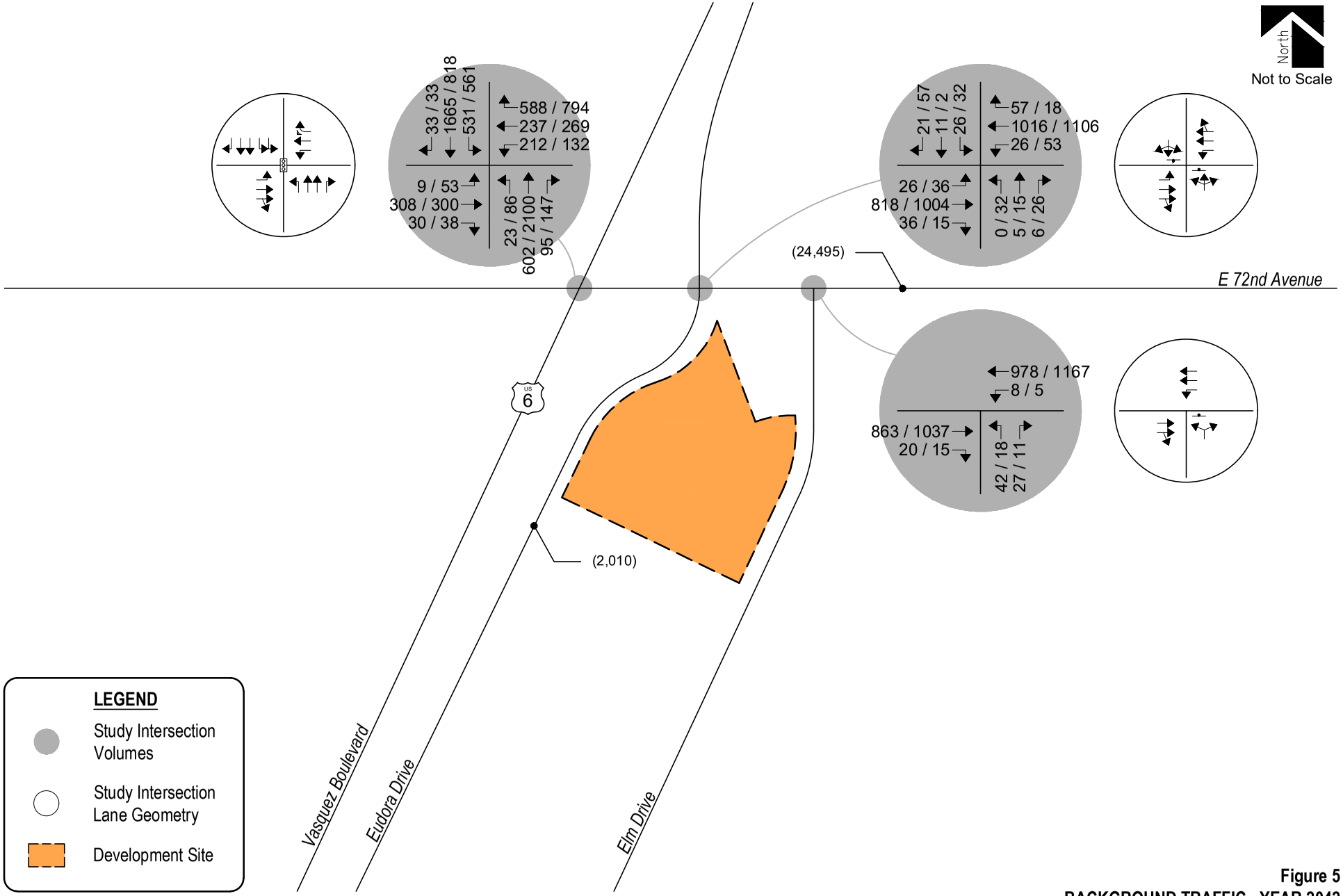


Figure 5
BACKGROUND TRAFFIC - YEAR 2042
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

As with existing traffic conditions, the operations of study intersections were analyzed under background conditions, without the proposed development, using the SYNCHRO computer program.

Background traffic level of service analysis results for Year 2024 are listed in Table 2. Year 2042 operational results are summarized in Table 3.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Table 2 – Intersection Capacity Analysis Summary – Background Traffic – Year 2024

INTERSECTION LANE GROUPS	LEVEL OF SERVICE AM PEAK HOUR	 PM PEAK HOUR
E 72nd Avenue / Vasquez Boulevard (US 6) (Signalized)	C (24.2)	D (51.6)
E 72nd Avenue / Eudora Drive (Stop-Controlled)		
Eastbound Left	A	A
Westbound Left	A	A
Northbound Left, Through and Right	C	D
Southbound Left, Through and Right	C	C
E 72nd Avenue / Elm Drive (Stop-Controlled)		
Westbound Left	A	A
Northbound Left and Right	B	B

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Background Traffic Analysis Results – Year 2024

Year 2024 background traffic analysis indicates that the signalized intersection of E 72nd Avenue with Vasquez Boulevard has overall operations at LOS C during the AM peak traffic hour and LOS D during the PM peak traffic hour.

Unsignalized intersections within the study area operate at or better than LOS C during the AM peak traffic period and LOS D or better during the PM peak traffic period.

Table 3 – Intersection Capacity Analysis Summary – Background Traffic – Year 2042

INTERSECTION LANE GROUPS	LEVEL OF SERVICE AM PEAK HOUR	 PM PEAK HOUR
E 72nd Avenue / Vasquez Boulevard (US 6) (Signalized)	C (34.1)	F (160.0)
E 72nd Avenue / Eudora Drive (Stop-Controlled)		
Eastbound Left	A	B
Westbound Left	A	A
Northbound Left, Through and Right	E	F
Southbound Left, Through and Right	F	F
E 72nd Avenue / Elm Drive (Stop-Controlled)		
Westbound Left	A	A
Northbound Left and Right	C	D

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Background Traffic Analysis Results – Year 2042

By Year 2042 and without the proposed development, the study intersection of E 72nd Avenue with Vasquez Boulevard experiences LOS C operations during the AM peak traffic hour and LOS F operations during the PM peak traffic hour. The LOS F operation anticipated is primarily attributed to the westbound right turning movement, high northbound through volumes, and the southbound left turning movement. Potential mitigation measures are limited due to existing proximity of adjacent intersections and roadway geometry. It is recommended that CDOT and City Staff continue to monitor the study intersection in order to determine when roadway improvements may be achievable.

The study intersection of E 72nd Avenue with Eudora Drive experiences LOS A operations during the AM peak traffic hour and LOS B or better operations during the PM peak traffic hour. Exceptions would include the northbound and southbound turning movements which operate at LOS E and LOS F, respectively, during either peak traffic hour. The LOS E and LOS F operations are attributed to the high through traffic volume along E 72nd Avenue and the stop-controlled nature of the intersection.

The study intersection of E 72nd Avenue with Elm Drive experiences LOS C or better operations during the AM peak traffic hour and LOS D or better during the PM peak traffic hour.

It is to be noted that it is not uncommon for unsignalized movements to or from an arterial roadway, in urban areas, to operate with noticeable delays during peak traffic hours.

IV. Proposed Project Traffic

Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation Manual, 11th Edition, were applied to the existing and proposed land uses in order to estimate average daily traffic (ADT), AM Peak Hour, and PM Peak Hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from a point of origin to a point of destination.

The ITE land use codes 811 (Construction Equipment Rental Shop) and 945 (Convenience Store/Gas Station) were used for estimating trip generation because of their best fit to the existing and proposed land use descriptions.

Trip generation rates used in this study are presented in Table 4.

Table 4 – Trip Generation Rates

			TRIP GENERATION RATES						
ITE			24	AM PEAK HOUR			PM PEAK HOUR		
CODE	LAND USE	UNIT	HOUR	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
811	Construction Equipment Rental	KSF	9.90	*	*	*	0.28	0.71	0.99
945	Convenience Store/Gas Station	VFP	265.12	8.03	8.03	16.06	9.21	9.21	18.42

Key: KSF = Thousand Square Feet Gross Floor Area. VFP = Vehicle Fueling Positions.
* = ITE does not report significant AM peak hour generation due to the nature of the buisness.
Note: All data and calculations above are subject to being rounded to nearest value.

Table 5 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the proposed development upon build-out.

Table 5 – Trip Generation Summary

			TOTAL TRIPS GENERATED						
ITE			24	AM PEAK HOUR			PM PEAK HOUR		
CODE	LAND USE	SIZE	HOUR	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
Site Development - Existing									
811	Construction Equipment Rental	18.0 KSF	178	*	*	*	5	13	18
	Existing Total:		*178*	*	*	*	*5*	*13*	*18*
Site Development - Proposed									
945	Convenience Store/Gas Station	16 VFP	4,242	128	128	257	147	147	295
	Proposed Total:		*4,242*	*128*	*128*	*257*	*147*	*147*	*295*
	Difference Total:		***4,064***	***128***	***128***	***257***	***142***	***135***	***277***

Key: KSF = Thousand Square Feet Gross Floor Area. VFP = Vehicle Fueling Positions.
* = ITE does not report significant AM peak hour generation due to the nature of the buisness.
Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out, Table 5 illustrates that the proposed development has the potential to generate approximately 4,242 daily trips with 257 of those occurring during the morning peak hour and 295 during the afternoon peak hour.

Adjustments to Trip Generation Rates

A development of this type is likely to attract pass-by trips from the adjacent roadway system. ITE defines a pass-by trip as an intermediate stop on the way from an origin to a primary trip destination without a route diversion. Due to this behavior, pass-by trips are not considered as "new" traffic generated by the development since the trips are already present on the roadway network enroute to their primary destination.

Pass-by trips are especially common to gas station land uses given the convenience provided by these businesses on the way to another primary destination such as a place of work or home. As example, published ITE pass-by and diverted link trip data indicates an average trip generation reduction rate of 62 percent during the AM peak traffic hour and 56 percent during the PM peak traffic hour as typical to gas stations.

Upon consideration of the proposed land use, reductions were applied pursuant to ITE average data to the proposed land use in order to account for the high probability of pass-by trip generation. ITE average pass-by trip percentages used are presented in Table 6.

Table 6 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the proposed development upon build-out with reductions applied due to pass-by trips. Average daily (24-Hour) pass-by trip percentages were estimated as the average between the AM and PM peak hour rates indicated by ITE.

Table 6 – Trip Generation Summary with Pass-By Trip Reductions

			TOTAL NEW TRIPS GENERATED						
ITE			24	AM PEAK HOUR			PM PEAK HOUR		
CODE	LAND USE	SIZE	HOUR	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
Site Development - Existing									
	Pass-By Trip Reduction:		*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*
811	Construction Equipment Rental	18.0 KSF	178	*	*	*	5	13	18
Site Development - Proposed									
	Pass-By Trip Reduction:		*59%*	*62%*	*62%*	*62%*	*56%*	*56%*	*56%*
945	Convenience Store/Gas Station	16 VFP	1,739	49	49	98	65	65	130
	Difference Total:		***1,561***	***49***	***49***	***98***	***60***	***52***	***112***

Key: KSF = Thousand Square Feet Gross Floor Area. VFP = Vehicle Fueling Positions.
* = ITE does not report significant AM peak hour generation due to the nature of the buisness.
Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out and with consideration for pass-by trip reductions, Table 6 illustrates that the proposed development has the potential to generate approximately 1,739 new daily trips with 98 of those occurring during the morning peak hour and 130 during the afternoon peak hour.

Trip Distribution

The overall directional distribution of site-generated traffic was determined based on the location of development site within the City, proposed and existing area land uses, allowed turning movements, available roadway network, and in reference to historical traffic count data provided by CDOT's Traffic Count Database System (TCDS).

Overall trip distribution patterns for the development are shown on Figure 6.

Additional pass-by trip distribution is assumed to include vehicle routes heading north-south along Vasquez Boulevard and east-west along E 72nd Avenue. Distribution percentages utilized for pass-by trips are anticipated to be 40 percent from the north and south and 10 percent from the east and west.

Trip Assignment

Traffic assignment is how generated and distributed vehicle trips are expected to be loaded onto the available roadway network.

Applying trip distribution patterns to site-generated traffic provides the overall site-generated trip assignments shown on Figure 6.

It is to be noted that the overall site-generated trip assignments shown on Figure 6 represent the combination of both primary trip generation and pass-by trips. Due to the application of pass-by trips, some negative site-generated trips are shown at the study intersections. These negative trips are the result of redistributing existing through volumes along E 72nd Avenue and Vasquez Boulevard to site-generated ingress volumes.

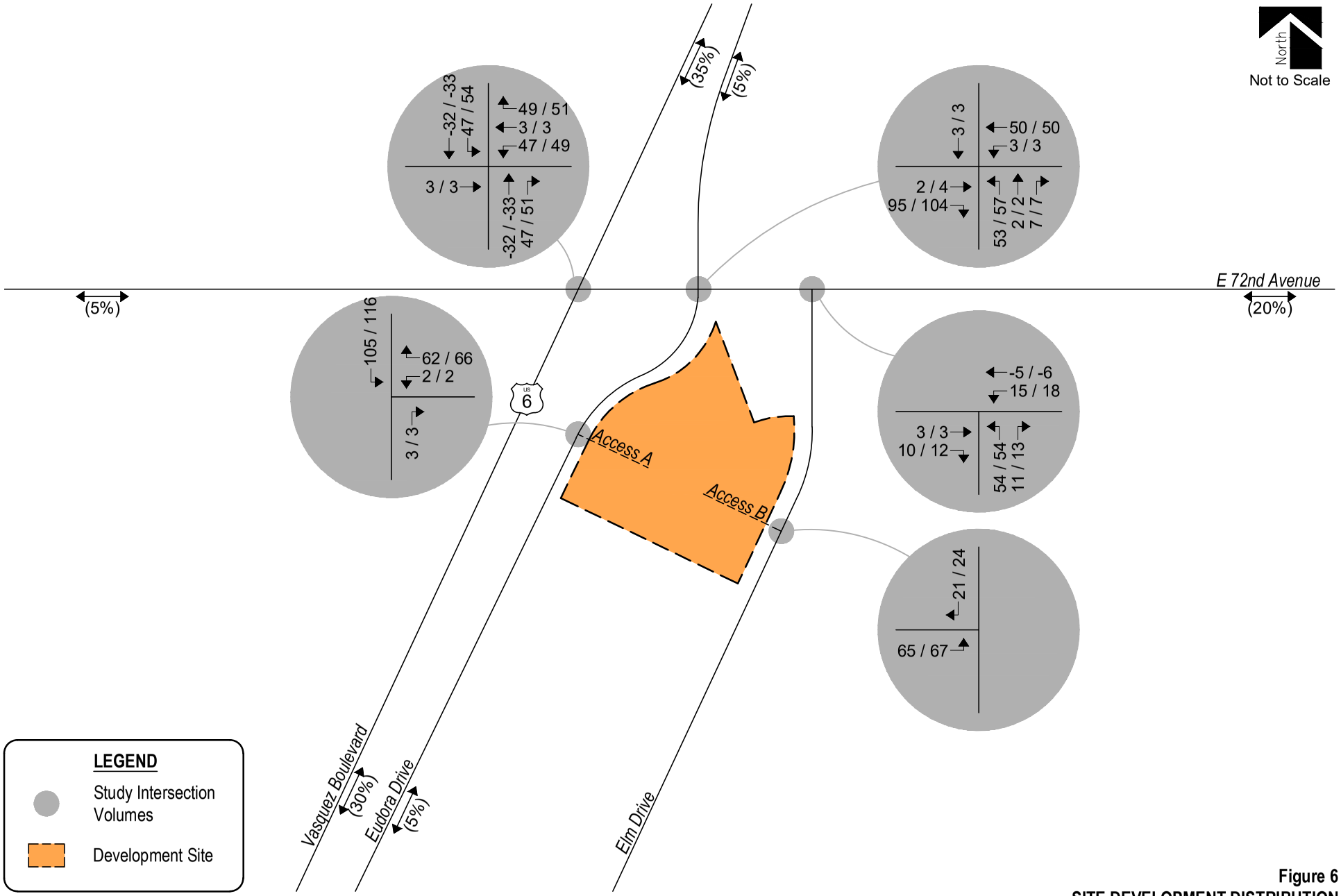


Figure 6
SITE DEVELOPMENT DISTRIBUTION
(%) : Overall
SITE-GENERATED
AM / PM Peak Hour

V. Future Traffic Conditions With Proposed Developments

Site-generated traffic was added to background traffic projections for Years 2024 and 2042 to develop total traffic projections. For analysis purposes, it was assumed that development construction would be completed by end of Year 2024.

Pursuant to area roadway improvement discussions provided in Section III, Year 2024 and Year 2042 total traffic conditions assume no roadway improvements to accommodate regional transportation demands. Roadway improvements associated with site development are expected to be limited to site access and frontage as required by the governing agency.

Projected Year 2024 total traffic volumes and intersection geometry are shown in Figure 7.

Figure 8 shows projected total traffic volumes and intersection geometry for Year 2042.

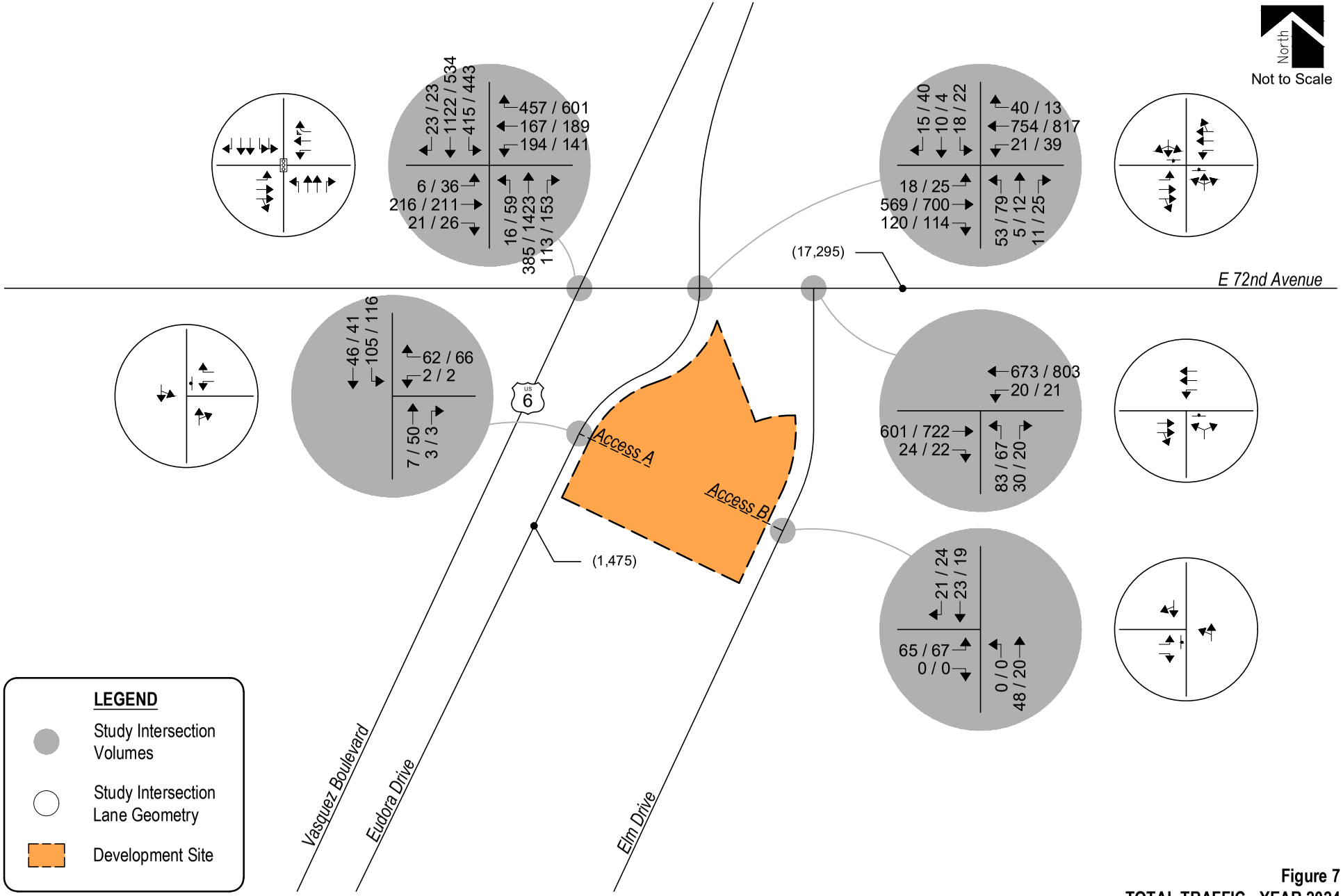


Figure 7
TOTAL TRAFFIC - YEAR 2024
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

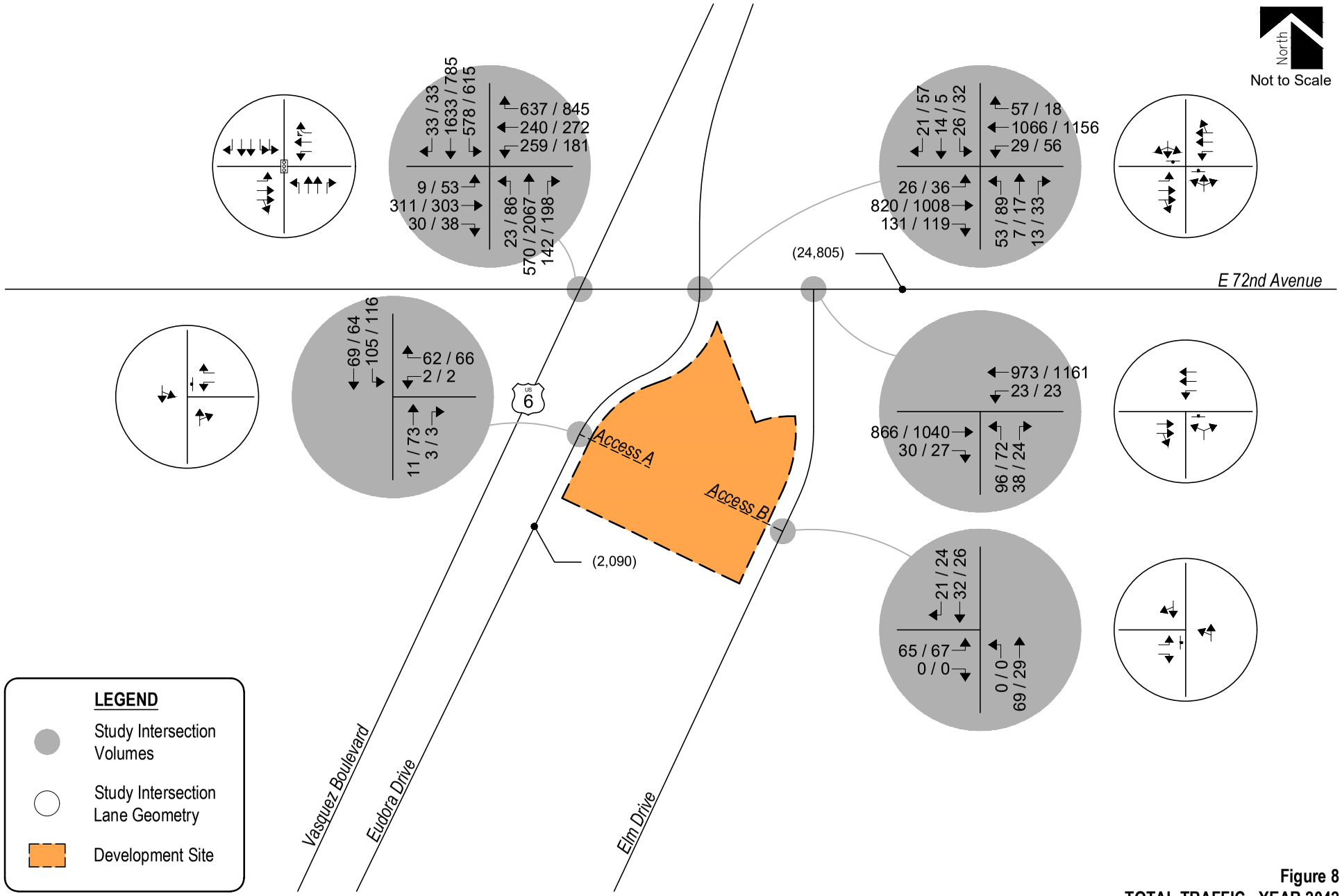


Figure 8
TOTAL TRAFFIC - YEAR 2042
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

VI. Project Impacts

The analyses and procedures described in this study were performed in accordance with the Highway Capacity Manual (HCM) and are based upon the worst-case conditions that occur during a typical weekday upon build-out of site development and analyzed land uses. Therefore, study intersections are likely to operate with traffic conditions better than those described within this study, which represent the peak hours of weekday operations only.

Peak Hour Intersection Levels of Service

As with background traffic, the operations of the study intersections were analyzed under projected total traffic conditions using the SYNCHRO computer program. Total traffic level of service analysis results for Years 2024 and 2042 are summarized in Table 7 and Table 8, respectively.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Table 7 – Intersection Capacity Analysis Summary – Total Traffic – Year 2024

INTERSECTION LANE GROUPS	LEVEL OF SERVICE AM PEAK HOUR	 PM PEAK HOUR
E 72nd Avenue / Vasquez Boulevard (US 6) (Signalized)	C (25.1)	E (58.9)
E 72nd Avenue / Eudora Drive (Stop-Controlled)		
Eastbound Left	A	A
Westbound Left	A	A
Northbound Left, Through and Right	D	F
Southbound Left, Through and Right	D	D
E 72nd Avenue / Elm Drive (Stop-Controlled)		
Westbound Left	A	A
Northbound Left and Right	C	C
Eudora Drive / Access A (Stop-Controlled)		
Westbound Left	B	B
Westbound Right	A	A
Southbound Left and Through	A	A
Elm Drive / Access B (Stop-Controlled)		
Eastbound Left	A	A
Eastbound Right	A	A
Northbound Left and Through	A	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Table 8 – Intersection Capacity Analysis Summary – Total Traffic – Year 2042

INTERSECTION LANE GROUPS	LEVEL OF SERVICE AM PEAK HOUR	 PM PEAK HOUR
E 72nd Avenue / Vasquez Boulevard (US 6) (Signalized)	D (36.4)	F (176.8)
E 72nd Avenue / Eudora Drive (Stop-Controlled)		
Eastbound Left	B	B
Westbound Left	A	A
Northbound Left, Through and Right	F	F
Southbound Left, Through and Right	F	F
E 72nd Avenue / Elm Drive (Stop-Controlled)		
Westbound Left	A	A
Northbound Left and Right	E	B
Eudora Drive / Access A (Stop-Controlled)		
Westbound Left	B	B
Westbound Right	A	A
Southbound Left and Through	A	A
Elm Drive / Access B (Stop-Controlled)		
Eastbound Left	A	A
Eastbound Right	A	A
Northbound Left and Through	A	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Total Traffic Analysis Results Upon Development Build-Out

Table 8 illustrates how, by Year 2042 and upon development build-out, the signalized intersection of E 72nd Avenue with Vasquez Boulevard shows an overall LOS D operation during the morning peak traffic hour and LOS F operation during the afternoon peak traffic hour. Compared to the background traffic analysis, the traffic generated by the proposed development is not expected to significantly change the operations of the study intersection. Potential mitigation measures are limited due to existing proximity of adjacent intersections and roadway geometry. It is recommended that CDOT and City Staff continue to monitor the study intersection in order to determine when roadway improvements may be achievable.

The stop-controlled intersection of E 72nd Avenue with Eudora Drive is projected to have turning movement operations at LOS B or better for both the morning and afternoon peak traffic hours. Exceptions still include the northbound and southbound turning movements which operate at LOS F during both peak traffic hours. The LOS F operations are attributed to the high through traffic volume along E 72nd Avenue and the stop-controlled nature of the intersection.

The stop-controlled intersection of E 72nd Avenue with Elm Drive is projected to have turning movement operations at LOS A for the morning peak traffic hour and LOS B or better for the afternoon peak traffic hour. Exceptions would include the northbound turning movements which operate at LOS E during the AM peak traffic hour. The LOS E operation is attributed to the high through traffic volume along E 72nd Avenue and the stop-controlled nature of the intersection.

The stop-controlled intersection of Eudora Drive with Access A is projected to have turning movement operations at LOS B or better for both the morning and afternoon peak traffic hours.

The stop-controlled intersection of Elm Drive with Access B is projected to have turning movement operations at LOS A for both the morning and afternoon peak traffic hours.

It is to be noted that it is not uncommon for unsignalized movements to or from an arterial roadway, in urban areas, to operate with noticeable delays during peak traffic hours.

These intersection operations are similar to background conditions.

Queue Length Analysis

Queue lengths for study intersections were analyzed using Year 2042 total traffic conditions. The analysis yields estimate of 95th percentile queue lengths, which have only a five percent probability of being exceeded during the analysis time period. Queue lengths were modeled and are included with the Synchro worksheets in Appendix C.

No significant queue at the proposed site accesses were indicated. The greatest on-site queue length anticipated occurs during either peak hour and is approximately one to two vehicles for the eastbound and westbound left and right turn movements at Access A and Access B, respectively.

It is noted that some significant off-site queueing may occur for the northbound turning movements at E 72nd Avenue and Eudora Drive. The greatest queue length projected is approximately eighteen vehicles during the afternoon peak hour. It is however noted that given the potential for delays at the intersection of E 72nd Avenue with Eudora Drive, it is likely that queueing will self-regulate with drivers choosing alternate routes to avoid delay. As such, actual intersection operations and queue lengths are expected to be better than those projected within this analysis.

As previously discussed, potential mitigation measures to resolve long-term projected delays and queueing are considered to be limited due to existing roadway geometries and intersection spacing along E 72nd Avenue. It is therefore recommended that CDOT and City Staff continue to monitor the study area in order to determine when specific improvements may be achievable.

Auxiliary Lane Analysis

Auxiliary lanes for site development accesses are to be based on CDOT's State Highway Access Code (SHAC) and the City's Engineering Construction Standards and Specifications (Standards).

Considering development build-out, an evaluation of auxiliary lane requirements, pursuant to Section 3.13, of the CDOT SHAC, reveals that a left turn deceleration lane at Access A along Eudora Drive is required since the development's projected peak hour left turn ingress volume exceeds CDOT's threshold of 25 vehicles per hour.

Pursuant to CDOT design criteria as defined in Section 4.8 of the CDOT SHAC, the anticipated left-turn deceleration lane is to provide sufficient length for vehicle storage as well as a 96-foot taper assuming a lane width of 12 feet and based on an assumed speed limit of 30 MPH. Given that no significant vehicle queueing is noted, a minimum 50 feet of storage at the end of the left-turn taper length is recommended.

Crash History – E 72nd Avenue & Eudora Drive

Four-year crash history for the E 72nd Avenue intersection with Eudora Drive was provided by City Staff. Crash report data is included for reference in Appendix D.

A detailed summary of reported crashes at the E 72nd Avenue and Eudora Drive intersection shows a total of 12 reported car crashes, the majority of which occurred in eastbound and westbound directions during clear daytime weather. Additionally, data shows a variety of crash types that include broadside, rear-end, and approach turns contributing to either the driver being preoccupied or not having a clear contributing factor.

Crash analysis for the E 72nd Avenue intersection concludes low accident occurrence rates with no identifiable accident pattern.

Based on crash history for the E 72nd Avenue corridor and the low accident rates at the study intersection, the addition of site generated traffic is not expected to adversely affect traffic safety for E 72nd Avenue.

VII. Conclusion

This traffic impact study addressed the capacity, geometric, and control requirements associated with the development entitled 72nd & Vasquez Kum & Go. This proposed commercial development consists of a Kum & Go gas station with convenience store. The development is located near the southeast corner of the intersections of E 72nd Avenue with Eudora Drive in Commerce City, Colorado.

The study area examined in this analysis encompassed the E 72nd Avenue intersections with Vasquez Boulevard, Eudora Drive, and Elm Drive, as well as proposed site accesses.

Analysis was conducted for critical AM Peak Hour and PM Peak Hour traffic operations for existing traffic conditions, Year 2024 and Year 2042 background traffic conditions, and Year 2024 and Year 2042 total traffic conditions.

Under existing conditions, operational analysis shows that the signalized intersection of E 72nd Avenue with Vasquez Boulevard has overall operations at LOS C during the morning peak traffic hour and LOS D during the afternoon peak traffic hour. The unsignalized intersection of E 72nd Avenue with Eudora Drive has turning movement operations at or better than LOS C during both the morning and afternoon peak traffic hours. The unsignalized intersection of E 72nd Avenue with Elm Drive has turning movement operations at or better than LOS B during both the morning and afternoon peak traffic hours.

Year 2024 background traffic analysis indicates that the signalized intersection of E 72nd Avenue with Vasquez Boulevard has overall operations at LOS C during the AM peak traffic hour and LOS D during the PM peak traffic hour. Unsignalized intersections within the study area operate at or better than LOS C during the AM peak traffic period and LOS D or better during the PM peak traffic period.

By Year 2042 and without the proposed development, the study intersection of E 72nd Avenue with Vasquez Boulevard experiences LOS C operations during the AM peak traffic hour and LOS F operations during the PM peak traffic hour. The study intersection of E 72nd Avenue with Eudora Drive experiences LOS A operations during the AM peak traffic hour and LOS B or better operations during the PM peak traffic hour. Exceptions would include the northbound and southbound turning movements which operate at LOS E and LOS F, respectively, during either peak traffic hour. The LOS E and LOS F operations are attributed to the high through traffic volume along E 72nd Avenue and the stop-controlled nature of the intersection. The study intersection of E 72nd Avenue with Elm Drive experiences LOS C or better operations during the AM peak traffic hour and LOS D or better during the PM peak traffic hour. It is to be noted that it is not uncommon for unsignalized movements to or from an arterial roadway, in urban areas, to operate with noticeable delays during peak traffic hours.

Analysis of future traffic conditions indicates that the addition of site-generated traffic is expected to create no negative impact to traffic operations for the existing and surrounding roadway system upon implementation of roadway and intersection control improvements assumed within this analysis. With all conservative assumptions defined in this analysis, the study intersections are projected to operate at future levels of service comparable to Year 2042 background traffic conditions. Proposed site accesses have long-term operations at LOS B or better during peak traffic periods and upon build-out.

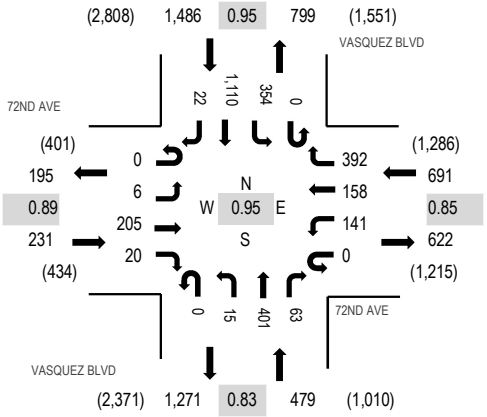
APPENDIX A

Traffic Count Data

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

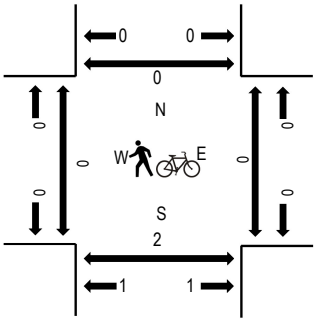
Location: 1 VASQUEZ BLVD & 72ND AVE AM
Date: Tuesday, February 8, 2022
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



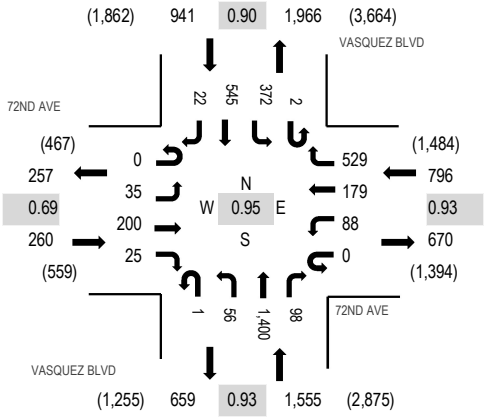
Traffic Counts

Interval Start Time	72ND AVE Eastbound				72ND AVE Westbound				VASQUEZ BLVD Northbound				VASQUEZ BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	2	50	8	0	31	29	83	0	3	111	24	0	82	250	8	681	2,887	0	0	1	0
7:15 AM	0	4	58	3	0	27	37	83	0	3	89	19	0	97	270	4	694	2,872	0	0	0	0
7:30 AM	0	0	46	2	0	42	42	119	0	6	103	5	0	89	302	7	763	2,873	0	0	1	0
7:45 AM	0	0	51	7	0	41	50	107	0	3	98	15	0	86	288	3	749	2,736	0	0	0	0
8:00 AM	0	2	41	8	0	33	28	68	0	3	92	17	0	100	272	2	666	2,651	0	0	0	0
8:15 AM	0	4	41	2	0	35	28	76	0	11	117	32	0	89	253	7	695		0	0	0	1
8:30 AM	0	2	32	8	0	28	35	96	0	7	103	19	0	72	217	7	626		0	0	0	1
8:45 AM	0	4	49	10	0	27	56	85	0	8	103	19	0	82	207	14	664		0	0	0	0
Count Total	0	18	368	48	0	264	305	717	0	44	816	150	0	697	2,059	52	5,538		0	0	2	2
Peak Hour	0	6	205	20	0	141	158	392	0	15	401	63	0	354	1,110	22	2,887		0	0	2	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

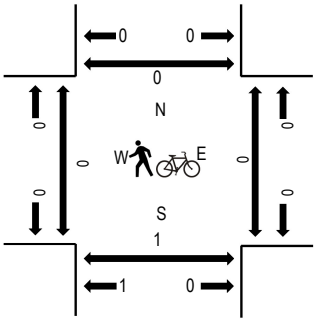
Location: 1 VASQUEZ BLVD & 72ND AVE PM
Date: Tuesday, February 8, 2022
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



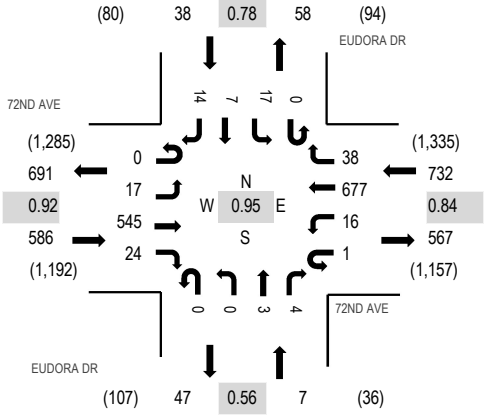
Traffic Counts

Interval Start Time	72ND AVE Eastbound				72ND AVE Westbound				VASQUEZ BLVD Northbound				VASQUEZ BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	8	42	11	0	14	50	133	0	6	304	22	0	92	119	10	811	3,410	0	0	0	0
4:15 PM	0	15	88	10	1	10	40	117	0	14	339	29	2	87	123	10	885	3,532	0	0	0	2
4:30 PM	0	9	42	6	0	30	51	134	0	8	338	27	0	80	127	4	856	3,552	0	0	0	0
4:45 PM	0	6	53	4	0	17	48	132	0	6	352	24	1	86	124	5	858	3,505	0	0	0	0
5:00 PM	0	10	58	13	0	21	40	135	0	23	366	29	1	110	121	6	933	3,370	0	0	0	0
5:15 PM	0	10	47	2	0	20	40	128	1	19	344	18	0	96	173	7	905		0	0	1	0
5:30 PM	0	9	62	7	0	17	36	127	0	6	275	27	0	109	130	4	809		0	0	0	0
5:45 PM	0	4	36	7	0	22	24	97	0	6	266	26	2	103	126	4	723		0	0	0	0
Count Total	0	71	428	60	1	151	329	1,003	1	88	2,584	202	6	763	1,043	50	6,780		0	0	1	2
Peak Hour	0	35	200	25	0	88	179	529	1	56	1,400	98	2	372	545	22	3,552		0	0	1	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

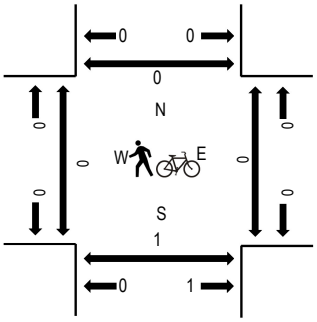
Location: 2 EUDORA DR & 72ND AVE AM
Date: Tuesday, February 8, 2022
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



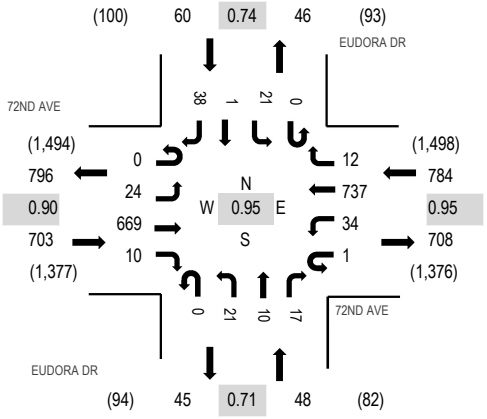
Traffic Counts

Interval Start Time	72ND AVE Eastbound				72ND AVE Westbound				EUDORA DR Northbound				EUDORA DR Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	5	135	6	0	4	145	6	0	0	1	1	0	3	3	2	311	1,363	0	0	1	0
7:15 AM	0	1	158	5	0	4	138	14	0	0	2	1	0	3	2	6	334	1,354	0	0	0	0
7:30 AM	0	5	121	5	0	3	206	8	0	0	0	2	0	5	0	4	359	1,344	0	0	0	0
7:45 AM	0	6	131	8	1	5	188	10	0	0	0	0	0	6	2	2	359	1,309	0	0	0	0
8:00 AM	0	6	152	4	0	3	121	1	0	1	0	4	0	6	1	3	302	1,280	0	0	0	0
8:15 AM	0	1	152	11	0	4	132	4	0	2	0	3	0	5	2	8	324		0	0	0	1
8:30 AM	0	4	114	11	0	11	159	7	0	3	0	3	0	4	2	6	324		0	0	0	0
8:45 AM	0	6	139	6	0	5	152	4	0	5	3	5	0	3	0	2	330		0	0	0	0
Count Total	0	34	1,102	56	1	39	1,241	54	0	11	6	19	0	35	12	33	2,643		0	0	1	1
Peak Hour	0	17	545	24	1	16	677	38	0	0	3	4	0	17	7	14	1,363		0	0	1	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

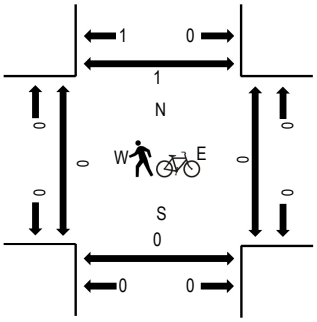
Location: 2 EUDORA DR & 72ND AVE PM
Date: Tuesday, February 8, 2022
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



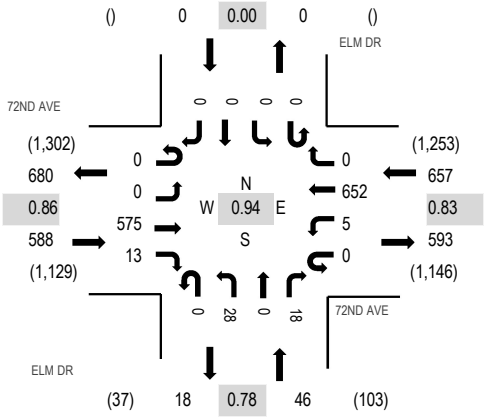
Traffic Counts

Interval Start Time	72ND AVE Eastbound				72ND AVE Westbound				EUDORA DR Northbound				EUDORA DR Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	7	138	9	0	6	193	4	0	1	3	7	0	5	2	2	377	1,554	0	0	0	0
4:15 PM	0	9	191	4	0	9	171	1	0	2	3	9	0	3	0	2	404	1,595	0	0	0	1
4:30 PM	0	4	140	2	0	7	198	4	0	9	2	2	0	7	0	15	390	1,558	0	0	0	0
4:45 PM	0	6	158	2	1	15	181	4	0	2	1	1	0	4	1	7	383	1,563	0	0	0	0
5:00 PM	0	5	180	2	0	3	187	3	0	8	4	5	0	7	0	14	418	1,503	0	0	0	0
5:15 PM	0	8	148	4	0	9	178	0	0	3	2	5	0	6	2	2	367		0	0	1	0
5:30 PM	0	8	187	1	0	6	171	3	0	2	2	3	0	8	0	4	395		0	0	0	0
5:45 PM	0	7	155	2	0	8	135	1	0	2	2	2	0	4	0	5	323		0	0	0	0
Count Total	0	54	1,297	26	1	63	1,414	20	0	29	19	34	0	44	5	51	3,057		0	0	1	1
Peak Hour	0	24	669	10	1	34	737	12	0	21	10	17	0	21	1	38	1,595		0	0	0	1

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

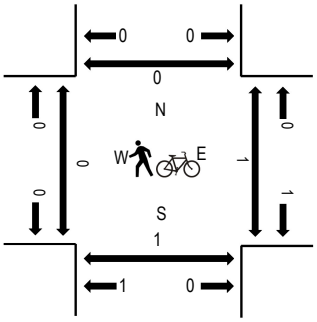
Location: 3 ELM DR & 72ND AVE AM
Date: Tuesday, February 8, 2022
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



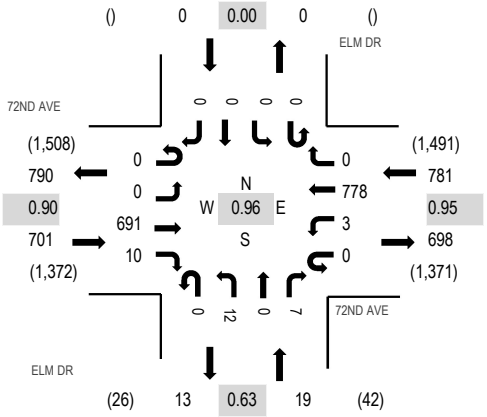
Traffic Counts

Interval Start Time	72ND AVE Eastbound				72ND AVE Westbound				ELM DR Northbound				ELM DR Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	130	2	0	3	140	0	0	7	0	4	0	0	0	0	286	1,288	0	0	0	0
7:15 AM	0	0	167	3	0	0	149	0	0	5	0	7	0	0	0	0	331	1,291	0	1	0	0
7:30 AM	0	0	125	3	0	2	204	0	0	9	0	2	0	0	0	0	345	1,252	0	0	0	0
7:45 AM	0	0	131	2	0	3	180	0	0	6	0	4	0	0	0	0	326	1,216	0	0	1	0
8:00 AM	0	0	152	5	0	0	119	0	0	8	0	5	0	0	0	0	289	1,197	0	0	0	0
8:15 AM	0	0	146	4	0	1	130	0	0	5	0	6	0	0	0	0	292		0	0	0	0
8:30 AM	0	0	116	3	0	2	172	0	0	12	0	4	0	0	0	0	309		0	0	0	0
8:45 AM	0	0	137	3	0	1	147	0	0	9	0	10	0	0	0	0	307		1	0	1	0
Count Total	0	0	1,104	25	0	12	1,241	0	0	61	0	42	0	0	0	0	2,485		1	1	2	0
Peak Hour	0	0	575	13	0	5	652	0	0	28	0	18	0	0	0	0	1,291		0	1	1	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

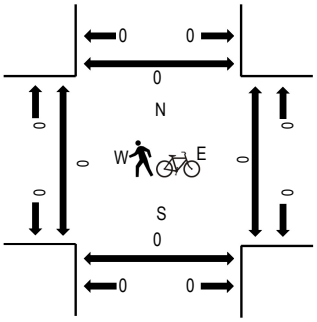
Location: 3 ELM DR & 72ND AVE PM
Date: Tuesday, February 8, 2022
Peak Hour: 04:15 PM - 05:15 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	72ND AVE Eastbound				72ND AVE Westbound				ELM DR Northbound				ELM DR Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	1	0	152	2	0	4	193	0	0	0	0	2	0	0	0	0	354	1,463	0	0	0	0
4:15 PM	0	0	195	2	0	2	179	0	0	4	0	1	0	0	0	0	383	1,501	0	0	0	0
4:30 PM	0	0	146	1	0	0	208	0	0	3	0	1	0	0	0	0	359	1,474	0	0	0	0
4:45 PM	0	0	161	2	0	0	198	0	0	3	0	3	0	0	0	0	367	1,500	0	0	0	0
5:00 PM	0	0	189	5	0	1	193	0	0	2	0	2	0	0	0	0	392	1,442	0	0	0	0
5:15 PM	0	0	157	1	0	1	187	0	0	6	0	4	0	0	0	0	356		0	0	0	0
5:30 PM	0	0	197	2	0	1	180	0	0	3	0	2	0	0	0	0	385		0	0	0	0
5:45 PM	0	0	157	2	0	0	144	0	0	4	0	2	0	0	0	0	309		0	0	0	0
Count Total	1	0	1,354	17	0	9	1,482	0	0	25	0	17	0	0	0	0	2,905		0	0	0	0
Peak Hour	0	0	691	10	0	3	778	0	0	12	0	7	0	0	0	0	1,501		0	0	0	0

24-Hour Count 72nd Ave. E/O Brighton Rd.

	EB	WB	Total
Counted	7188	7408	14596
Covid Adjusment			100%
Adjusted Count			14596

Total	14596
Seasonal Adj.	0.8939
Adjusted ADT	**16,330**

24-Hour Count Elm St. S/O 72nd Ave.

	NB	SB	Total
Counted	552	201	753
Covid Adjusment			100%
Adjusted Count			753

Total	0
Seasonal Adj.	0.8939
Adjusted ADT	**0**

Traffic is generally back to pre-covid values while accounting for growth. The traffic is assumed to be 100% of pre-covid volumes. The counts were taken 1/13/2022. A seasonal growth factor is still applied to give an understanding of average annual daily traffic.

	2018 Monthly ADT	ADT/AVG
Jan	14066	0.8939
Feb	14467	0.9194
Mar	14836	0.9429
Apr	15714	0.9987
May	15915	1.0115
Jun	16227	1.0313
Jul	16134	1.0254
Aug	16897	1.0739
Sep	16868	1.0720
Oct	16944	1.0769
Nov	15557	0.9887
Dec	15192	0.9655
Avg	15734.75	

ON SH 44, 104TH AVE W/O BRIGHTON RD, COMMERCE CITY (Station Id: 000609)

Daily | Monthly Summaries | Annual

Export to Excel

Yr	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2021	13,038	13,417	14,805	15,294	15,961	16,255	16,285	16,681				
2020	15,205	14,960	12,795	9,990	12,535	14,239	14,399	14,733	14,280	14,348	12,974	12,722
2019	14,066	14,467	14,836	15,714	15,915	16,227	16,134	16,897	16,868	16,944	15,557	15,192
2018	13,544	14,087	14,980	15,263	15,812	15,568	15,459	15,940	15,480	15,939	14,665	14,434
2017	12,323	13,240	14,014	14,377	14,814	14,986	14,766	15,183	14,949	14,885	14,053	13,813
2016	12,629	13,120	13,374	14,023	14,467	14,481	14,187	14,492	14,413	14,454	13,214	12,974
2015	11,785	11,813	13,002	13,699	13,296	14,336	13,368	13,639	13,468	13,917	12,595	12,690
2014	12,377	12,765	13,287	13,446	13,784	13,906	13,825	13,004	14,237		11,616	11,617
2013	12,220	12,605	12,833	13,194	14,204	13,770	13,904	14,475	14,131	14,250	13,215	13,070
2012	10,629	11,014	11,199	10,754	11,220	11,334	12,603	12,961	12,320	13,462	12,631	12,533
2011	11,708	12,098	13,209	13,656	13,440	13,395	12,963	12,821	11,796			10,825

APPENDIX B

Level of Service Definitions

The following information can be found in the Highway Capacity Manual, Transportation Research Board, 2016: Chapter 19 – Signalized Intersections and Chapter 20 – Two-Way Stop Controlled Intersections.

Automobile Level of Service (LOS) for Signalized Intersections

Levels of service are defined to represent reasonable ranges in control delay.

LOS A

Describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B

Describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C

Describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D

Describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E

Describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F

Describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Level of Service (LOS) for Unsignalized TWSC Intersections

Level of Service (v/c ≤ 1.0)	Average Control Delay (s/veh)
A	0 - 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

APPENDIX C

Capacity Worksheets

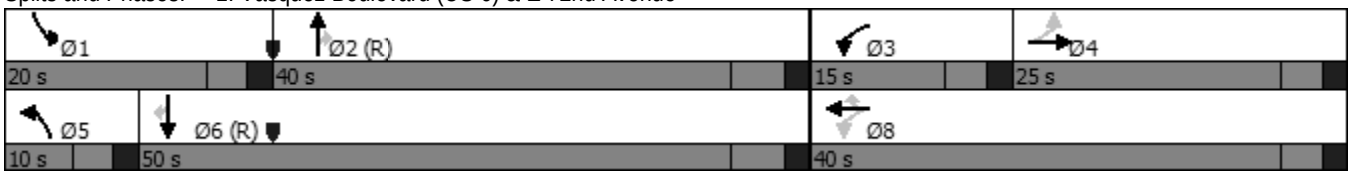
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	205	20	141	158	392	15	401	63	354	1110	22
Future Volume (vph)	6	205	20	141	158	392	15	401	63	354	1110	22
Satd. Flow (prot)	1770	3493	0	1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.649			0.362			0.950			0.950		
Satd. Flow (perm)	1209	3493	0	674	1863	1583	1770	3539	1583	3433	3539	1583
Satd. Flow (RTOR)		9				405			185			131
Lane Group Flow (vph)	7	245	0	153	172	426	16	436	68	385	1207	24
Turn Type	Perm	NA		pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0		10.0	24.0	24.0	10.0	24.0	24.0	10.0	24.0	24.0
Total Split (s)	25.0	25.0		15.0	40.0	40.0	10.0	40.0	40.0	20.0	50.0	50.0
Total Split (%)	25.0%	25.0%		15.0%	40.0%	40.0%	10.0%	40.0%	40.0%	20.0%	50.0%	50.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.1	12.1		26.7	26.7	26.7	6.5	41.1	41.1	16.2	57.3	57.3
Actuated g/C Ratio	0.12	0.12		0.27	0.27	0.27	0.06	0.41	0.41	0.16	0.57	0.57
v/c Ratio	0.05	0.57		0.54	0.35	0.59	0.14	0.30	0.09	0.69	0.60	0.02
Control Delay	38.0	45.0		36.1	31.1	7.4	46.3	21.7	0.2	46.1	17.2	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	45.0		36.1	31.1	7.4	46.3	21.7	0.2	46.1	17.2	0.0
LOS	D	D		D	C	A	D	C	A	D	B	A
Approach Delay		44.8			18.6			19.7			23.8	
Approach LOS		D			B			B			C	
Queue Length 50th (ft)	4	75		78	88	10	10	97	0	120	215	0
Queue Length 95th (ft)	17	112		128	140	85	31	151	0	163	407	0
Internal Link Dist (ft)		310			145			638			555	
Turn Bay Length (ft)	70			85			370		385	310		170
Base Capacity (vph)	241	705		289	652	817	114	1453	759	578	2028	963
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.35		0.53	0.26	0.52	0.14	0.30	0.09	0.67	0.60	0.02

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.69

Intersection Signal Delay: 23.6	Intersection LOS: C
Intersection Capacity Utilization 66.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Vasquez Boulevard (US 6) & E 72nd Avenue



Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	545	24	17	677	38	0	3	4	17	7	14
Future Vol, veh/h	17	545	24	17	677	38	0	3	4	17	7	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	592	26	18	736	41	0	3	4	18	8	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	777	0	0	618	0	0	1049	1454	309	1127	1447	389
Stage 1	-	-	-	-	-	-	641	641	-	793	793	-
Stage 2	-	-	-	-	-	-	408	813	-	334	654	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	835	-	-	*1279	-	-	341	180	*855	*290	182	610
Stage 1	-	-	-	-	-	-	794	699	-	*348	398	-
Stage 2	-	-	-	-	-	-	591	390	-	*806	687	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	835	-	-	*1279	-	-	313	174	*855	*276	176	610
Mov Cap-2 Maneuver	-	-	-	-	-	-	313	174	-	*276	176	-
Stage 1	-	-	-	-	-	-	777	683	-	*340	392	-
Stage 2	-	-	-	-	-	-	557	385	-	*781	672	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	16.6	18.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	319	835	-	-	* 1279	-	-	306
HCM Lane V/C Ratio	0.024	0.022	-	-	0.014	-	-	0.135
HCM Control Delay (s)	16.6	9.4	-	-	7.9	-	-	18.6
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.5

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	575	13	5	652	28	18
Future Vol, veh/h	575	13	5	652	28	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	-	-	250	-	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	625	14	5	709	30	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	639	0	997	320
Stage 1	-	-	-	-	632	-
Stage 2	-	-	-	-	365	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1270	-	416	*855
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	673	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1270	-	414	*855
Mov Cap-2 Maneuver	-	-	-	-	414	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	670	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	12.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	519	-	-	1270	-
HCM Lane V/C Ratio	0.096	-	-	0.004	-
HCM Control Delay (s)	12.7	-	-	7.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	200	25	88	179	529	57	1400	98	374	545	22
Future Volume (vph)	35	200	25	88	179	529	57	1400	98	374	545	22
Satd. Flow (prot)	1770	3479	0	1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.635			0.454			0.950			0.950		
Satd. Flow (perm)	1183	3479	0	846	1863	1583	1770	3539	1583	3433	3539	1583
Satd. Flow (RTOR)		10				179			109			109
Lane Group Flow (vph)	38	244	0	96	195	575	62	1522	107	407	592	24
Turn Type	Perm	NA		pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0		10.0	24.0	24.0	10.0	24.0	24.0	10.0	24.0	24.0
Total Split (s)	30.0	30.0		10.0	40.0	40.0	15.0	60.0	60.0	20.0	65.0	65.0
Total Split (%)	25.0%	25.0%		8.3%	33.3%	33.3%	12.5%	50.0%	50.0%	16.7%	54.2%	54.2%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	24.9	24.9		34.9	34.9	34.9	8.7	54.0	54.0	15.1	62.6	62.6
Actuated g/C Ratio	0.21	0.21		0.29	0.29	0.29	0.07	0.45	0.45	0.13	0.52	0.52
v/c Ratio	0.16	0.33		0.34	0.36	0.98	0.48	0.96	0.14	0.94	0.32	0.03
Control Delay	40.9	40.2		35.8	36.0	62.2	65.9	46.6	3.9	83.1	17.9	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.9	40.2		35.8	36.0	62.2	65.9	46.6	3.9	83.1	17.9	0.0
LOS	D	D		D	D	E	E	D	A	F	B	A
Approach Delay		40.3			53.4			44.6			43.4	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	24	81		56	120	329	47	586	0	163	142	0
Queue Length 95th (ft)	57	121		101	188	#571	93	#755	31	#261	185	0
Internal Link Dist (ft)		310			145			638			555	
Turn Bay Length (ft)	70			85			370		385	310		170
Base Capacity (vph)	246	732		284	543	588	147	1592	772	432	1846	877
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.33		0.34	0.36	0.98	0.42	0.96	0.14	0.94	0.32	0.03

Intersection Summary

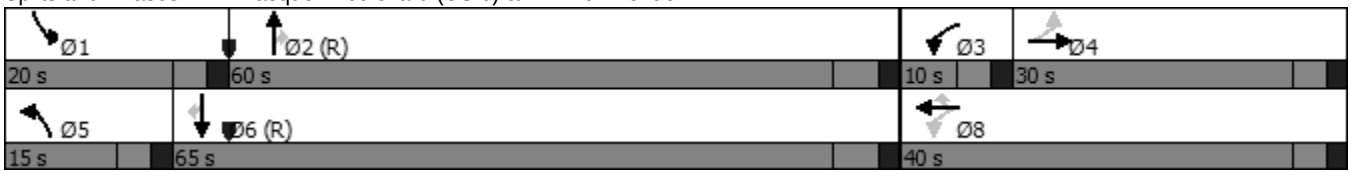
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 45.9	Intersection LOS: D
Intersection Capacity Utilization 89.0%	ICU Level of Service E
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Vasquez Boulevard (US 6) & E 72nd Avenue



Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	669	10	35	737	12	21	10	17	21	1	38
Future Vol, veh/h	24	669	10	35	737	12	21	10	17	21	1	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	727	11	38	801	13	23	11	18	23	1	41

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	814	0	0	738	0	0	1262	1675	369	1305	1674	407
Stage 1	-	-	-	-	-	-	785	785	-	884	884	-
Stage 2	-	-	-	-	-	-	477	890	-	421	790	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	809	-	-	*1219	-	-	249	131	*815	*227	131	593
Stage 1	-	-	-	-	-	-	714	637	-	*307	362	-
Stage 2	-	-	-	-	-	-	538	359	-	*768	634	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	809	-	-	*1219	-	-	219	123	*815	*197	123	593
Mov Cap-2 Maneuver	-	-	-	-	-	-	219	123	-	*197	123	-
Stage 1	-	-	-	-	-	-	691	617	-	*297	351	-
Stage 2	-	-	-	-	-	-	483	348	-	*714	613	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.4	23.9	18.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	242	809	-	-	* 1219	-	-	336
HCM Lane V/C Ratio	0.216	0.032	-	-	0.031	-	-	0.194
HCM Control Delay (s)	23.9	9.6	-	-	8	-	-	18.3
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.1	-	-	0.7

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

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	691	10	3	778	12	7
Future Vol, veh/h	691	10	3	778	12	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	-	-	250	-	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	751	11	3	846	13	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	762	0	1186	381
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	429	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	*1180	-	*359	*789
Stage 1	-	-	-	-	*744	-
Stage 2	-	-	-	-	*624	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*1180	-	*358	*789
Mov Cap-2 Maneuver	-	-	-	-	*358	-
Stage 1	-	-	-	-	*744	-
Stage 2	-	-	-	-	*622	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	448	-	-	* 1180	-
HCM Lane V/C Ratio	0.046	-	-	0.003	-
HCM Control Delay (s)	13.4	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	213	21	147	164	408	16	417	66	368	1154	23
Future Volume (vph)	6	213	21	147	164	408	16	417	66	368	1154	23
Satd. Flow (prot)	1770	3490	0	1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.645			0.353			0.950			0.950		
Satd. Flow (perm)	1201	3490	0	658	1863	1583	1770	3539	1583	3433	3539	1583
Satd. Flow (RTOR)		9				395			185			131
Lane Group Flow (vph)	7	255	0	160	178	443	17	453	72	400	1254	25
Turn Type	Perm	NA		pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0		10.0	24.0	24.0	10.0	24.0	24.0	10.0	24.0	24.0
Total Split (s)	25.0	25.0		15.0	40.0	40.0	10.0	40.0	40.0	20.0	50.0	50.0
Total Split (%)	25.0%	25.0%		15.0%	40.0%	40.0%	10.0%	40.0%	40.0%	20.0%	50.0%	50.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.4	12.4		27.0	27.0	27.0	6.6	40.4	40.4	16.6	56.9	56.9
Actuated g/C Ratio	0.12	0.12		0.27	0.27	0.27	0.07	0.40	0.40	0.17	0.57	0.57
v/c Ratio	0.05	0.58		0.56	0.35	0.62	0.15	0.32	0.10	0.70	0.62	0.03
Control Delay	37.7	45.0		36.7	30.9	8.8	46.4	22.3	0.3	46.3	18.0	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.7	45.0		36.7	30.9	8.8	46.4	22.3	0.3	46.3	18.0	0.0
LOS	D	D		D	C	A	D	C	A	D	B	A
Approach Delay		44.8			19.5			20.1			24.5	
Approach LOS		D			B			C			C	
Queue Length 50th (ft)	4	78		81	91	23	10	103	0	124	230	0
Queue Length 95th (ft)	17	115		132	144	107	32	157	0	170	436	0
Internal Link Dist (ft)		310			145			638			555	
Turn Bay Length (ft)	70			85			370		385	310		170
Base Capacity (vph)	240	705		288	652	810	116	1429	749	584	2014	957
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.36		0.56	0.27	0.55	0.15	0.32	0.10	0.68	0.62	0.03

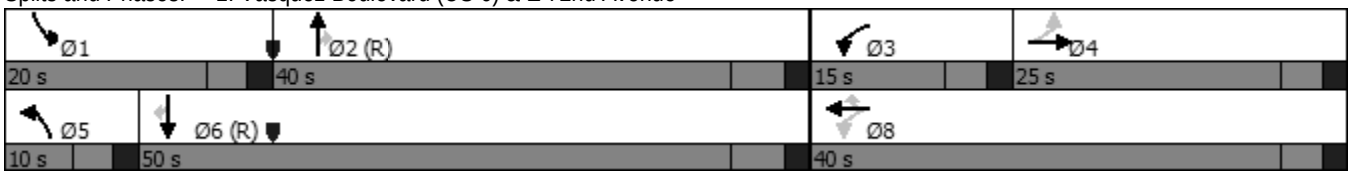
Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 24.2	Intersection LOS: C
Intersection Capacity Utilization 68.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Vasquez Boulevard (US 6) & E 72nd Avenue



Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	567	25	18	704	40	0	3	4	18	7	15
Future Vol, veh/h	18	567	25	18	704	40	0	3	4	18	7	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	616	27	20	765	43	0	3	4	20	8	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	808	0	0	643	0	0	1097	1518	322	1177	1510	404
Stage 1	-	-	-	-	-	-	670	670	-	827	827	-
Stage 2	-	-	-	-	-	-	427	848	-	350	683	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	813	-	-	1264	-	-	309	161	*855	*261	163	596
Stage 1	-	-	-	-	-	-	756	674	-	*332	384	-
Stage 2	-	-	-	-	-	-	576	376	-	*806	663	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	813	-	-	1264	-	-	280	154	*855	*248	157	596
Mov Cap-2 Maneuver	-	-	-	-	-	-	280	154	-	*248	157	-
Stage 1	-	-	-	-	-	-	738	657	-	*324	378	-
Stage 2	-	-	-	-	-	-	540	370	-	*778	647	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	17.7	20.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	290	813	-	-	1264	-	-	281
HCM Lane V/C Ratio	0.026	0.024	-	-	0.015	-	-	0.155
HCM Control Delay (s)	17.7	9.5	-	-	7.9	-	-	20.1
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.5

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	598	14	5	678	29	19
Future Vol, veh/h	598	14	5	678	29	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	-	-	250	-	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	650	15	5	737	32	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	665	0	1037	333
Stage 1	-	-	-	-	658	-
Stage 2	-	-	-	-	379	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1235	-	387	*855
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	662	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1235	-	385	*855
Mov Cap-2 Maneuver	-	-	-	-	385	-
Stage 1	-	-	-	-	777	-
Stage 2	-	-	-	-	659	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	13.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	492	-	-	1235	-
HCM Lane V/C Ratio	0.106	-	-	0.004	-
HCM Control Delay (s)	13.2	-	-	7.9	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	208	26	92	186	550	59	1456	102	389	567	23
Future Volume (vph)	36	208	26	92	186	550	59	1456	102	389	567	23
Satd. Flow (prot)	1770	3479	0	1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.631			0.443			0.950			0.950		
Satd. Flow (perm)	1175	3479	0	825	1863	1583	1770	3539	1583	3433	3539	1583
Satd. Flow (RTOR)		10				178			111			109
Lane Group Flow (vph)	39	254	0	100	202	598	64	1583	111	423	616	25
Turn Type	Perm	NA		pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0		10.0	24.0	24.0	10.0	24.0	24.0	10.0	24.0	24.0
Total Split (s)	30.0	30.0		10.0	40.0	40.0	15.0	60.0	60.0	20.0	65.0	65.0
Total Split (%)	25.0%	25.0%		8.3%	33.3%	33.3%	12.5%	50.0%	50.0%	16.7%	54.2%	54.2%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	25.0	25.0		35.0	35.0	35.0	8.8	54.0	54.0	15.0	62.4	62.4
Actuated g/C Ratio	0.21	0.21		0.29	0.29	0.29	0.07	0.45	0.45	0.12	0.52	0.52
v/c Ratio	0.16	0.35		0.36	0.37	1.02	0.50	0.99	0.14	0.99	0.33	0.03
Control Delay	41.1	40.4		36.3	36.2	72.0	66.4	54.4	3.9	92.7	18.1	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	40.4		36.3	36.2	72.0	66.4	54.4	3.9	92.7	18.1	0.0
LOS	D	D		D	D	E	E	D	A	F	B	A
Approach Delay		40.5			60.0			51.7			47.3	
Approach LOS		D			E			D			D	
Queue Length 50th (ft)	25	85		58	124	~385	48	628	0	171	148	0
Queue Length 95th (ft)	57	125		104	194	#612	95	#806	32	#276	193	0
Internal Link Dist (ft)		310			145			638			555	
Turn Bay Length (ft)	70			85			370		385	310		170
Base Capacity (vph)	244	732		280	543	587	147	1592	773	429	1841	875
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.35		0.36	0.37	1.02	0.44	0.99	0.14	0.99	0.33	0.03

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated

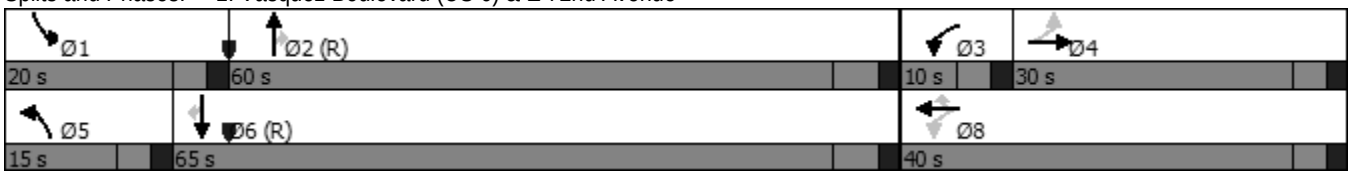
Maximum v/c Ratio: 1.02

Intersection Signal Delay: 51.6	Intersection LOS: D
Intersection Capacity Utilization 91.8%	ICU Level of Service F
Analysis Period (min) 15	

~ 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.

Splits and Phases: 1: Vasquez Boulevard (US 6) & E 72nd Avenue



Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	696	10	36	767	13	22	10	18	22	1	40
Future Vol, veh/h	25	696	10	36	767	13	22	10	18	22	1	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	757	11	39	834	14	24	11	20	24	1	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	848	0	0	768	0	0	1313	1743	384	1357	1741	424
Stage 1	-	-	-	-	-	-	817	817	-	919	919	-
Stage 2	-	-	-	-	-	-	496	926	-	438	822	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	785	-	-	*1180	-	-	244	121	*789	*221	121	579
Stage 1	-	-	-	-	-	-	742	651	-	*292	348	-
Stage 2	-	-	-	-	-	-	524	346	-	*744	646	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	785	-	-	*1180	-	-	213	113	*789	*189	113	579
Mov Cap-2 Maneuver	-	-	-	-	-	-	213	113	-	*189	113	-
Stage 1	-	-	-	-	-	-	716	628	-	*282	337	-
Stage 2	-	-	-	-	-	-	467	335	-	*688	624	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.4	25.1	19.1
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	233	785	-	-	* 1180	-	-	324
HCM Lane V/C Ratio	0.233	0.035	-	-	0.033	-	-	0.211
HCM Control Delay (s)	25.1	9.8	-	-	8.2	-	-	19.1
HCM Lane LOS	D	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.9	0.1	-	-	0.1	-	-	0.8

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

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	719	10	3	809	13	7
Future Vol, veh/h	719	10	3	809	13	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	-	-	250	-	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	782	11	3	879	14	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	793	0	1234	397
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	446	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	*1180	-	*326	*789
Stage 1	-	-	-	-	*744	-
Stage 2	-	-	-	-	*612	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*1180	-	*325	*789
Mov Cap-2 Maneuver	-	-	-	-	*325	-
Stage 1	-	-	-	-	*744	-
Stage 2	-	-	-	-	*610	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	409	-	-	* 1180	-
HCM Lane V/C Ratio	0.053	-	-	0.003	-
HCM Control Delay (s)	14.3	-	-	8.1	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	308	30	212	237	588	23	602	95	531	1665	33
Future Volume (vph)	9	308	30	212	237	588	23	602	95	531	1665	33
Satd. Flow (prot)	1770	3493	0	1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.600			0.271			0.950			0.950		
Satd. Flow (perm)	1118	3493	0	505	1863	1583	1770	3539	1583	3433	3539	1583
Satd. Flow (RTOR)		9				459			185			131
Lane Group Flow (vph)	10	368	0	230	258	639	25	654	103	577	1810	36
Turn Type	Perm	NA		pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0		10.0	24.0	24.0	10.0	24.0	24.0	10.0	24.0	24.0
Total Split (s)	24.0	24.0		11.0	35.0	35.0	10.0	36.0	36.0	29.0	55.0	55.0
Total Split (%)	24.0%	24.0%		11.0%	35.0%	35.0%	10.0%	36.0%	36.0%	29.0%	55.0%	55.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	15.7	15.7		26.7	26.7	26.7	5.6	36.0	36.0	21.2	58.3	58.3
Actuated g/C Ratio	0.16	0.16		0.27	0.27	0.27	0.06	0.36	0.36	0.21	0.58	0.58
v/c Ratio	0.06	0.66		1.09	0.52	0.84	0.25	0.51	0.15	0.79	0.88	0.04
Control Delay	34.7	44.3		122.2	34.7	20.7	52.0	28.1	0.5	45.7	26.2	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	44.3		122.2	34.7	20.7	52.0	28.1	0.5	45.7	26.2	0.1
LOS	C	D		F	C	C	D	C	A	D	C	A
Approach Delay		44.0			44.6			25.3			30.5	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	6	114		~139	141	110	15	171	0	178	426	0
Queue Length 95th (ft)	20	157		#279	209	#271	43	247	0	233	#800	0
Internal Link Dist (ft)		310			145			638			555	
Turn Bay Length (ft)	70			85			370		385	310		170
Base Capacity (vph)	212	670		211	558	796	99	1274	688	823	2061	977
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.55		1.09	0.46	0.80	0.25	0.51	0.15	0.70	0.88	0.04

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

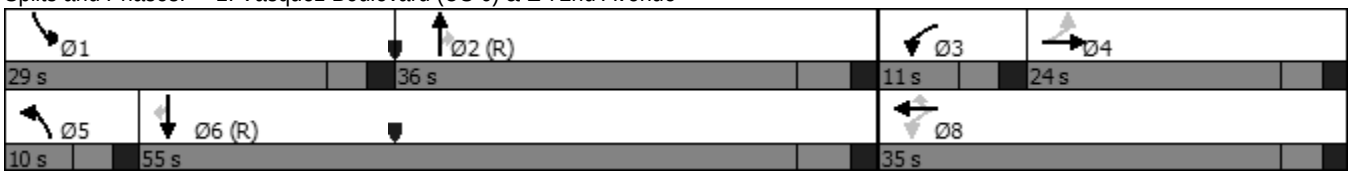
Maximum v/c Ratio: 1.09

Intersection Signal Delay: 34.1	Intersection LOS: C
Intersection Capacity Utilization 88.9%	ICU Level of Service E
Analysis Period (min) 15	

~ 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.

Splits and Phases: 1: Vasquez Boulevard (US 6) & E 72nd Avenue



Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	818	36	26	1016	57	0	5	6	26	11	21
Future Vol, veh/h	26	818	36	26	1016	57	0	5	6	26	11	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	889	39	28	1104	62	0	5	7	28	12	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1166	0	0	928	0	0	1579	2187	464	1694	2175	583
Stage 1	-	-	-	-	-	-	965	965	-	1191	1191	-
Stage 2	-	-	-	-	-	-	614	1222	-	503	984	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	595	-	-	1090	-	-	144	52	*761	*109	53	456
Stage 1	-	-	-	-	-	-	625	567	-	*199	259	-
Stage 2	-	-	-	-	-	-	446	250	-	*718	553	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	595	-	-	1090	-	-	106	48	*761	*93	50	456
Mov Cap-2 Maneuver	-	-	-	-	-	-	106	48	-	*93	50	-
Stage 1	-	-	-	-	-	-	596	541	-	*190	252	-
Stage 2	-	-	-	-	-	-	393	244	-	*671	527	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	46.8	79.7
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	98	595	-	-	1090	-	-	106
HCM Lane V/C Ratio	0.122	0.047	-	-	0.026	-	-	0.595
HCM Control Delay (s)	46.8	11.4	-	-	8.4	-	-	79.7
HCM Lane LOS	E	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-	-	2.9

Notes

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	863	20	8	978	42	27
Future Vol, veh/h	863	20	8	978	42	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	-	-	250	-	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	938	22	9	1063	46	29

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	960	0	1499	480
Stage 1	-	-	-	-	949	-
Stage 2	-	-	-	-	550	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	*1092	-	*226	*730
Stage 1	-	-	-	-	*689	-
Stage 2	-	-	-	-	*542	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*1092	-	*224	*730
Mov Cap-2 Maneuver	-	-	-	-	*224	-
Stage 1	-	-	-	-	*689	-
Stage 2	-	-	-	-	*538	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	20.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	307	-	-	* 1092	-
HCM Lane V/C Ratio	0.244	-	-	0.008	-
HCM Control Delay (s)	20.5	-	-	8.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0	-

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	300	38	132	269	794	86	2100	147	561	818	33
Future Volume (vph)	53	300	38	132	269	794	86	2100	147	561	818	33
Satd. Flow (prot)	1770	3479	0	1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.581			0.270			0.950			0.950		
Satd. Flow (perm)	1082	3479	0	503	1863	1583	1770	3539	1583	3433	3539	1583
Satd. Flow (RTOR)		10				209			121			109
Lane Group Flow (vph)	58	367	0	143	292	863	93	2283	160	610	889	36
Turn Type	Perm	NA		pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0		10.0	24.0	24.0	10.0	24.0	24.0	10.0	24.0	24.0
Total Split (s)	24.0	24.0		16.0	40.0	40.0	18.0	61.0	61.0	19.0	62.0	62.0
Total Split (%)	20.0%	20.0%		13.3%	33.3%	33.3%	15.0%	50.8%	50.8%	15.8%	51.7%	51.7%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	19.5	19.5		35.0	35.0	35.0	10.9	55.0	55.0	14.0	58.1	58.1
Actuated g/C Ratio	0.16	0.16		0.29	0.29	0.29	0.09	0.46	0.46	0.12	0.48	0.48
v/c Ratio	0.33	0.64		0.56	0.54	1.42	0.58	1.41	0.20	1.52	0.52	0.04
Control Delay	50.9	51.6		41.8	40.1	223.6	66.5	215.9	6.3	285.0	23.0	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.9	51.6		41.8	40.1	223.6	66.5	215.9	6.3	285.0	23.0	0.1
LOS	D	D		D	D	F	E	F	A	F	C	A
Approach Delay		51.5			162.3			197.2			126.6	
Approach LOS		D			F			F			F	
Queue Length 50th (ft)	40	138		85	190	~783	70	~1248	16	~340	245	0
Queue Length 95th (ft)	84	191		142	281	#1032	125	#1384	56	#456	313	0
Internal Link Dist (ft)		310			145			638			555	
Turn Bay Length (ft)	70			85			370		385	310		170
Base Capacity (vph)	176	574		262	543	609	191	1622	791	400	1713	822
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.64		0.55	0.54	1.42	0.49	1.41	0.20	1.52	0.52	0.04

Intersection Summary

Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated

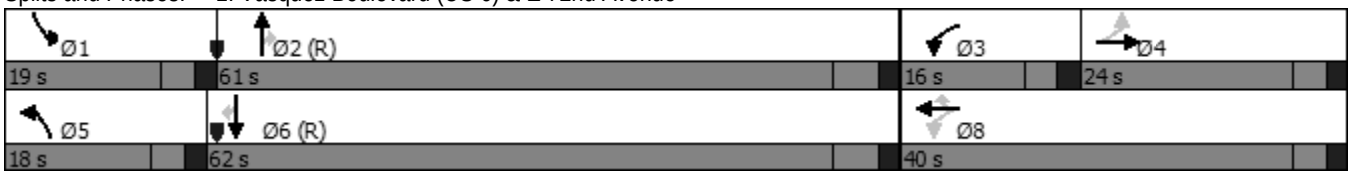
Maximum v/c Ratio: 1.52

Intersection Signal Delay: 160.0	Intersection LOS: F
Intersection Capacity Utilization 124.7%	ICU Level of Service H
Analysis Period (min) 15	

~ 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.

Splits and Phases: 1: Vasquez Boulevard (US 6) & E 72nd Avenue



Intersection	
Int Delay, s/veh	25

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	1004	15	53	1106	18	32	15	26	32	2	57
Future Vol, veh/h	36	1004	15	53	1106	18	32	15	26	32	2	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	1091	16	58	1202	20	35	16	28	35	2	62

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1222	0	0	1107	0	0	1895	2515	554	1960	2513	611
Stage 1	-	-	-	-	-	-	1177	1177	-	1328	1328	-
Stage 2	-	-	-	-	-	-	718	1338	-	632	1185	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	566	-	-	*985	-	-	88	27	*659	*74	27	437
Stage 1	-	-	-	-	-	-	620	543	-	*164	223	-
Stage 2	-	-	-	-	-	-	386	220	-	*621	536	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	566	-	-	*985	-	-	64	23	*659	*~ 28	23	437
Mov Cap-2 Maneuver	-	-	-	-	-	-	64	23	-	*~ 28	23	-
Stage 1	-	-	-	-	-	-	577	506	-	*153	210	-
Stage 2	-	-	-	-	-	-	309	207	-	*536	499	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.4	$ 329.5	$ 383.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	61	566	-	-	* 985	-	-	67
HCM Lane V/C Ratio	1.301	0.069	-	-	0.058	-	-	1.476
HCM Control Delay (s)	$ 329.5	11.8	-	-	8.9	-	-	$ 383.1
HCM Lane LOS	F	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	6.7	0.2	-	-	0.2	-	-	8.4

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

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1037	15	5	1167	18	11
Future Vol, veh/h	1037	15	5	1167	18	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	-	-	250	-	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	1127	16	5	1268	20	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1143	0	1779	572
Stage 1	-	-	-	-	1135	-
Stage 2	-	-	-	-	644	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	*985	-	*148	*659
Stage 1	-	-	-	-	*622	-
Stage 2	-	-	-	-	*485	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*985	-	*147	*659
Mov Cap-2 Maneuver	-	-	-	-	*147	-
Stage 1	-	-	-	-	*622	-
Stage 2	-	-	-	-	*483	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	25.4
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	208	-	-	* 985	-
HCM Lane V/C Ratio	0.152	-	-	0.006	-
HCM Control Delay (s)	25.4	-	-	8.7	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	216	21	194	167	457	16	385	113	415	1122	23
Future Volume (vph)	6	216	21	194	167	457	16	385	113	415	1122	23
Satd. Flow (prot)	1770	3493	0	1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.643			0.349			0.950			0.950		
Satd. Flow (perm)	1198	3493	0	650	1863	1583	1770	3539	1583	3433	3539	1583
Satd. Flow (RTOR)		9				417			185			131
Lane Group Flow (vph)	7	258	0	211	182	497	17	418	123	451	1220	25
Turn Type	Perm	NA		pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0		10.0	24.0	24.0	10.0	24.0	24.0	10.0	24.0	24.0
Total Split (s)	25.0	25.0		15.0	40.0	40.0	10.0	40.0	40.0	20.0	50.0	50.0
Total Split (%)	25.0%	25.0%		15.0%	40.0%	40.0%	10.0%	40.0%	40.0%	20.0%	50.0%	50.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	12.4	12.4		27.4	27.4	27.4	6.6	38.4	38.4	18.1	56.5	56.5
Actuated g/C Ratio	0.12	0.12		0.27	0.27	0.27	0.07	0.38	0.38	0.18	0.56	0.56
v/c Ratio	0.05	0.59		0.73	0.36	0.68	0.15	0.31	0.17	0.73	0.61	0.03
Control Delay	37.5	45.0		45.4	30.9	10.8	46.4	23.2	1.3	45.7	17.9	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.5	45.0		45.4	30.9	10.8	46.4	23.2	1.3	45.7	17.9	0.0
LOS	D	D		D	C	B	D	C	A	D	B	A
Approach Delay		44.8			23.1			19.1			25.0	
Approach LOS		D			C			B			C	
Queue Length 50th (ft)	4	80		111	93	39	10	97	0	139	221	0
Queue Length 95th (ft)	17	116		#176	147	139	32	145	10	193	418	0
Internal Link Dist (ft)		310			145			638			555	
Turn Bay Length (ft)	70			85			370		385	310		170
Base Capacity (vph)	239	705		290	652	825	116	1360	722	625	2000	951
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.37		0.73	0.28	0.60	0.15	0.31	0.17	0.72	0.61	0.03

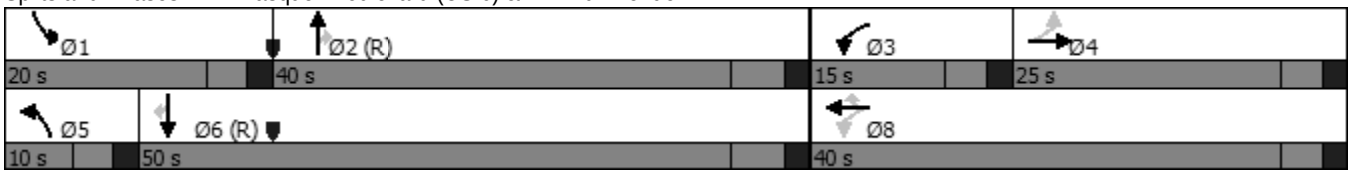
Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 25.1	Intersection LOS: C
Intersection Capacity Utilization 70.1%	ICU Level of Service C
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Vasquez Boulevard (US 6) & E 72nd Avenue



Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	569	120	21	754	40	53	5	11	18	10	15
Future Vol, veh/h	18	569	120	21	754	40	53	5	11	18	10	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	618	130	23	820	43	58	5	12	20	11	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	863	0	0	748	0	0	1185	1632	374	1240	1676	432
Stage 1	-	-	-	-	-	-	723	723	-	888	888	-
Stage 2	-	-	-	-	-	-	462	909	-	352	788	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	775	-	-	1130	-	-	257	132	*855	*229	122	572
Stage 1	-	-	-	-	-	-	692	630	-	*305	360	-
Stage 2	-	-	-	-	-	-	549	352	-	*806	581	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	775	-	-	1130	-	-	224	126	*855	*211	117	572
Mov Cap-2 Maneuver	-	-	-	-	-	-	224	126	-	*211	117	-
Stage 1	-	-	-	-	-	-	674	614	-	*297	353	-
Stage 2	-	-	-	-	-	-	506	345	-	*768	566	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.2	26.8	26
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	239	775	-	-	1130	-	-	218
HCM Lane V/C Ratio	0.314	0.025	-	-	0.02	-	-	0.214
HCM Control Delay (s)	26.8	9.8	-	-	8.3	-	-	26
HCM Lane LOS	D	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1.3	0.1	-	-	0.1	-	-	0.8

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

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	601	24	20	673	83	30
Future Vol, veh/h	601	24	20	673	83	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	-	-	250	-	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	653	26	22	732	90	33

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	679	0	1076	340
Stage 1	-	-	-	-	666	-
Stage 2	-	-	-	-	410	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1217	-	360	*855
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	638	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1217	-	354	*855
Mov Cap-2 Maneuver	-	-	-	-	354	-
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	627	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	17.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	419	-	-	1217	-
HCM Lane V/C Ratio	0.293	-	-	0.018	-
HCM Control Delay (s)	17.1	-	-	8	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.2	-	-	0.1	-

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

Intersection	
Int Delay, s/veh	6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	62	7	3	105	46
Future Vol, veh/h	2	62	7	3	105	46
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	67	8	3	114	50

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	288	10	0	0	11	0
Stage 1	10	-	-	-	-	-
Stage 2	278	-	-	-	-	-
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	702	1071	-	-	1608	-
Stage 1	1013	-	-	-	-	-
Stage 2	769	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	651	1071	-	-	1608	-
Mov Cap-2 Maneuver	651	-	-	-	-	-
Stage 1	1013	-	-	-	-	-
Stage 2	713	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	5.2
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	651	1071	1608	-
HCM Lane V/C Ratio	-	-	0.003	0.063	0.071	-
HCM Control Delay (s)	-	-	10.5	8.6	7.4	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.2	0.2	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	0	0	48	23	21
Future Vol, veh/h	65	0	0	48	23	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	71	0	0	52	25	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	89	37	48	0	-	0
Stage 1	37	-	-	-	-	-
Stage 2	52	-	-	-	-	-
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	912	1035	1559	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	970	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	912	1035	1559	-	-	-
Mov Cap-2 Maneuver	912	-	-	-	-	-
Stage 1	985	-	-	-	-	-
Stage 2	970	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1559	-	912	-	-	-
HCM Lane V/C Ratio	-	-	0.077	-	-	-
HCM Control Delay (s)	0	-	9.3	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	211	26	141	189	601	59	1423	153	443	534	23
Future Volume (vph)	36	211	26	141	189	601	59	1423	153	443	534	23
Satd. Flow (prot)	1770	3483	0	1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.629			0.440			0.950			0.950		
Satd. Flow (perm)	1172	3483	0	820	1863	1583	1770	3539	1583	3433	3539	1583
Satd. Flow (RTOR)		10				179			166			109
Lane Group Flow (vph)	39	257	0	153	205	653	64	1547	166	482	580	25
Turn Type	Perm	NA		pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0		10.0	24.0	24.0	10.0	24.0	24.0	10.0	24.0	24.0
Total Split (s)	30.0	30.0		10.0	40.0	40.0	15.0	60.0	60.0	20.0	65.0	65.0
Total Split (%)	25.0%	25.0%		8.3%	33.3%	33.3%	12.5%	50.0%	50.0%	16.7%	54.2%	54.2%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	25.0	25.0		35.0	35.0	35.0	8.8	54.0	54.0	15.0	62.4	62.4
Actuated g/C Ratio	0.21	0.21		0.29	0.29	0.29	0.07	0.45	0.45	0.12	0.52	0.52
v/c Ratio	0.16	0.35		0.55	0.38	1.11	0.50	0.97	0.21	1.12	0.32	0.03
Control Delay	41.1	40.5		42.5	36.3	100.7	66.4	49.4	3.5	129.1	17.9	0.0
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.1	40.5		42.5	36.3	100.7	66.4	49.4	3.5	129.1	17.9	0.0
LOS	D	D		D	D	F	E	D	A	F	B	A
Approach Delay		40.6			78.9			45.7			66.8	
Approach LOS		D			E			D			E	
Queue Length 50th (ft)	25	86		92	127	~474	48	603	0	~222	138	0
Queue Length 95th (ft)	57	126		151	197	#707	95	#775	39	#330	180	0
Internal Link Dist (ft)		310			145			638			555	
Turn Bay Length (ft)	70			85			370		385	310		170
Base Capacity (vph)	244	733		278	543	588	147	1592	803	429	1841	875
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.35		0.55	0.38	1.11	0.44	0.97	0.21	1.12	0.32	0.03

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated

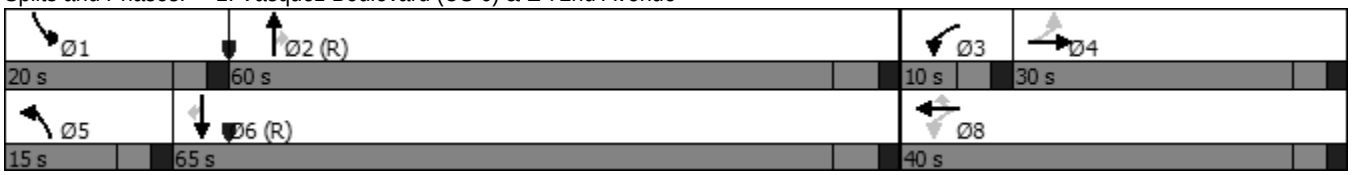
Maximum v/c Ratio: 1.12

Intersection Signal Delay: 58.9	Intersection LOS: E
Intersection Capacity Utilization 94.0%	ICU Level of Service F
Analysis Period (min) 15	

~ 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.

Splits and Phases: 1: Vasquez Boulevard (US 6) & E 72nd Avenue



Intersection	
Int Delay, s/veh	5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	700	114	39	817	13	79	12	25	22	4	40
Future Vol, veh/h	25	700	114	39	817	13	79	12	25	22	4	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	761	124	42	888	14	86	13	27	24	4	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	902	0	0	885	0	0	1407	1863	443	1420	1918	451
Stage 1	-	-	-	-	-	-	877	877	-	979	979	-
Stage 2	-	-	-	-	-	-	530	986	-	441	939	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	749	-	-	1089	-	-	197	96	*789	*191	87	556
Stage 1	-	-	-	-	-	-	665	600	-	*268	326	-
Stage 2	-	-	-	-	-	-	500	324	-	*744	551	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	749	-	-	1089	-	-	164	89	*789	*155	80	556
Mov Cap-2 Maneuver	-	-	-	-	-	-	164	89	-	*155	80	-
Stage 1	-	-	-	-	-	-	641	578	-	*258	313	-
Stage 2	-	-	-	-	-	-	437	311	-	*677	531	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.4	62.5	25.1
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	179	749	-	-	1089	-	-	250
HCM Lane V/C Ratio	0.704	0.036	-	-	0.039	-	-	0.287
HCM Control Delay (s)	62.5	10	-	-	8.4	-	-	25.1
HCM Lane LOS	F	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	4.3	0.1	-	-	0.1	-	-	1.1

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

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	722	22	21	803	67	20
Future Vol, veh/h	722	22	21	803	67	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	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	785	24	23	873	73	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	809	0	1280	405
Stage 1	-	-	-	-	797	-
Stage 2	-	-	-	-	483	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	*1180	-	*298	*789
Stage 1	-	-	-	-	*744	-
Stage 2	-	-	-	-	*586	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*1180	-	*292	*789
Mov Cap-2 Maneuver	-	-	-	-	*292	-
Stage 1	-	-	-	-	*744	-
Stage 2	-	-	-	-	*575	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	19.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	341	-	-	* 1180	-
HCM Lane V/C Ratio	0.277	-	-	0.019	-
HCM Control Delay (s)	19.6	-	-	8.1	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	1.1	-	-	0.1	-

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

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	66	50	3	116	41
Future Vol, veh/h	2	66	50	3	116	41
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	72	54	3	126	45

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	353	56	0	0	57	0
Stage 1	56	-	-	-	-	-
Stage 2	297	-	-	-	-	-
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	645	1011	-	-	1547	-
Stage 1	967	-	-	-	-	-
Stage 2	754	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	591	1011	-	-	1547	-
Mov Cap-2 Maneuver	591	-	-	-	-	-
Stage 1	967	-	-	-	-	-
Stage 2	691	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	5.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	591	1011	1547	-
HCM Lane V/C Ratio	-	-	0.004	0.071	0.082	-
HCM Control Delay (s)	-	-	11.1	8.8	7.5	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.2	0.3	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	67	0	0	20	19	24
Future Vol, veh/h	67	0	0	20	19	24
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	73	0	0	22	21	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	56	34	47	0	-	0
Stage 1	34	-	-	-	-	-
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	952	1039	1560	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	1001	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	952	1039	1560	-	-	-
Mov Cap-2 Maneuver	952	-	-	-	-	-
Stage 1	988	-	-	-	-	-
Stage 2	1001	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1560	-	952	-	-	-
HCM Lane V/C Ratio	-	-	0.076	-	-	-
HCM Control Delay (s)	0	-	9.1	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	311	30	259	240	637	23	570	142	578	1633	33
Future Volume (vph)	9	311	30	259	240	637	23	570	142	578	1633	33
Satd. Flow (prot)	1770	3493	0	1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.598			0.269			0.950			0.950		
Satd. Flow (perm)	1114	3493	0	501	1863	1583	1770	3539	1583	3433	3539	1583
Satd. Flow (RTOR)		9				512			185			131
Lane Group Flow (vph)	10	371	0	282	261	692	25	620	154	628	1775	36
Turn Type	Perm	NA		pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0		10.0	24.0	24.0	10.0	24.0	24.0	10.0	24.0	24.0
Total Split (s)	24.0	24.0		13.0	37.0	37.0	10.0	32.0	32.0	31.0	53.0	53.0
Total Split (%)	24.0%	24.0%		13.0%	37.0%	37.0%	10.0%	32.0%	32.0%	31.0%	53.0%	53.0%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	15.8	15.8		28.8	28.8	28.8	5.6	32.3	32.3	22.9	56.2	56.2
Actuated g/C Ratio	0.16	0.16		0.29	0.29	0.29	0.06	0.32	0.32	0.23	0.56	0.56
v/c Ratio	0.06	0.66		1.15	0.49	0.84	0.25	0.54	0.24	0.80	0.89	0.04
Control Delay	34.7	44.4		135.7	32.4	19.2	52.0	31.3	3.6	44.6	28.5	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	44.4		135.7	32.4	19.2	52.0	31.3	3.6	44.6	28.5	0.1
LOS	C	D		F	C	B	D	C	A	D	C	A
Approach Delay		44.1			48.6			26.6			32.2	
Approach LOS		D			D			C			C	
Queue Length 50th (ft)	6	115		~181	138	108	15	170	0	194	437	0
Queue Length 95th (ft)	20	158		#341	204	#282	43	248	31	248	#800	0
Internal Link Dist (ft)		310			145			638			555	
Turn Bay Length (ft)	70			85			370		385	310		170
Base Capacity (vph)	211	670		245	596	854	99	1144	636	892	1989	947
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.55		1.15	0.44	0.81	0.25	0.54	0.24	0.70	0.89	0.04

Intersection Summary

Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

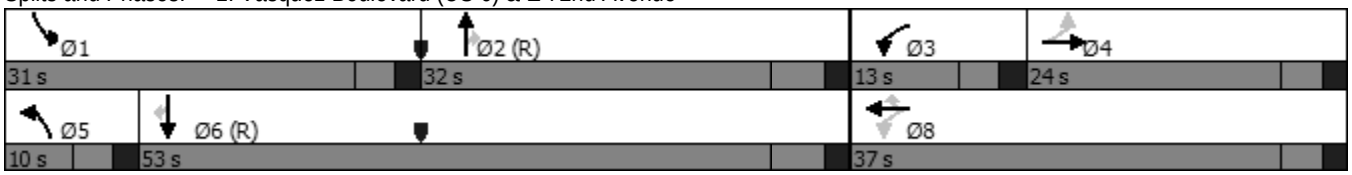
Maximum v/c Ratio: 1.15

Intersection Signal Delay: 36.4	Intersection LOS: D
Intersection Capacity Utilization 90.7%	ICU Level of Service E
Analysis Period (min) 15	

~ 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.

Splits and Phases: 1: Vasquez Boulevard (US 6) & E 72nd Avenue



Intersection	
Int Delay, s/veh	12

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	820	131	29	1066	57	53	7	13	26	14	21
Future Vol, veh/h	26	820	131	29	1066	57	53	7	13	26	14	21
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	891	142	32	1159	62	58	8	14	28	15	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1221	0	0	1033	0	0	1669	2303	517	1760	2343	611
Stage 1	-	-	-	-	-	-	1018	1018	-	1254	1254	-
Stage 2	-	-	-	-	-	-	651	1285	-	506	1089	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	567	-	-	961	-	-	116	41	*761	*93	38	437
Stage 1	-	-	-	-	-	-	565	527	-	*182	242	-
Stage 2	-	-	-	-	-	-	424	233	-	*718	476	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	567	-	-	961	-	-	68	38	*761	*72	35	437
Mov Cap-2 Maneuver	-	-	-	-	-	-	68	38	-	*72	35	-
Stage 1	-	-	-	-	-	-	538	501	-	*173	234	-
Stage 2	-	-	-	-	-	-	363	225	-	*659	453	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	224	167.5
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	74	567	-	-	961	-	-	75
HCM Lane V/C Ratio	1.072	0.05	-	-	0.033	-	-	0.884
HCM Control Delay (s)	224	11.7	-	-	8.9	-	-	167.5
HCM Lane LOS	F	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	5.8	0.2	-	-	0.1	-	-	4.5

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

Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	866	30	23	973	96	38
Future Vol, veh/h	866	30	23	973	96	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	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	941	33	25	1058	104	41

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	974	0	1537	487
Stage 1	-	-	-	-	958	-
Stage 2	-	-	-	-	579	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	*1092	-	*208	*730
Stage 1	-	-	-	-	*689	-
Stage 2	-	-	-	-	*524	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*1092	-	*204	*730
Mov Cap-2 Maneuver	-	-	-	-	*204	-
Stage 1	-	-	-	-	*689	-
Stage 2	-	-	-	-	*512	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	36.1
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	256	-	-	* 1092	-
HCM Lane V/C Ratio	0.569	-	-	0.023	-
HCM Control Delay (s)	36.1	-	-	8.4	-
HCM Lane LOS	E	-	-	A	-
HCM 95th %tile Q(veh)	3.2	-	-	0.1	-

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

Intersection	
Int Delay, s/veh	5.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	62	11	3	105	69
Future Vol, veh/h	2	62	11	3	105	69
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	67	12	3	114	75

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	317	14	0	0	15	0
Stage 1	14	-	-	-	-	-
Stage 2	303	-	-	-	-	-
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	676	1066	-	-	1603	-
Stage 1	1009	-	-	-	-	-
Stage 2	749	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	626	1066	-	-	1603	-
Mov Cap-2 Maneuver	626	-	-	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	694	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.7	0	4.5
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	626	1066	1603	-
HCM Lane V/C Ratio	-	-	0.003	0.063	0.071	-
HCM Control Delay (s)	-	-	10.8	8.6	7.4	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.2	0.2	-

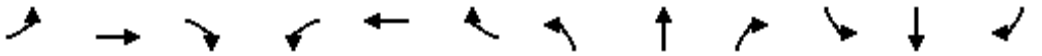
Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	0	0	69	32	21
Future Vol, veh/h	65	0	0	69	32	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	71	0	0	75	35	23

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	122	47	58	0	-	0
Stage 1	47	-	-	-	-	-
Stage 2	75	-	-	-	-	-
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	873	1022	1546	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	948	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	873	1022	1546	-	-	-
Mov Cap-2 Maneuver	873	-	-	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	948	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1546	-	873	-	-	-
HCM Lane V/C Ratio	-	-	0.081	-	-	-
HCM Control Delay (s)	0	-	9.5	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	303	38	181	272	845	86	2067	198	615	785	33
Future Volume (vph)	53	303	38	181	272	845	86	2067	198	615	785	33
Satd. Flow (prot)	1770	3479	0	1770	1863	1583	1770	3539	1583	3433	3539	1583
Flt Permitted	0.579			0.302			0.950			0.950		
Satd. Flow (perm)	1079	3479	0	563	1863	1583	1770	3539	1583	3433	3539	1583
Satd. Flow (RTOR)		10				243			151			109
Lane Group Flow (vph)	58	370	0	197	296	918	93	2247	215	668	853	36
Turn Type	Perm	NA		pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8			2			6
Detector Phase	4	4		3	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	24.0	24.0		10.0	24.0	24.0	10.0	24.0	24.0	10.0	24.0	24.0
Total Split (s)	27.0	27.0		17.0	44.0	44.0	19.0	55.0	55.0	21.0	57.0	57.0
Total Split (%)	22.5%	22.5%		14.2%	36.7%	36.7%	15.8%	45.8%	45.8%	17.5%	47.5%	47.5%
Yellow Time (s)	3.0	3.0		3.0	3.0	3.0	3.0	4.0	4.0	3.0	4.0	4.0
All-Red Time (s)	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	6.0	6.0	5.0	6.0	6.0
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	22.4	22.4		39.0	39.0	39.0	11.2	49.0	49.0	16.0	53.8	53.8
Actuated g/C Ratio	0.19	0.19		0.32	0.32	0.32	0.09	0.41	0.41	0.13	0.45	0.45
v/c Ratio	0.29	0.56		0.66	0.49	1.35	0.56	1.56	0.29	1.46	0.54	0.05
Control Delay	46.8	47.1		42.6	35.9	194.6	64.8	281.6	8.7	256.9	26.0	0.1
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.8	47.1		42.6	35.9	194.6	64.8	281.6	8.7	256.9	26.0	0.1
LOS	D	D		D	D	F	E	F	A	F	C	A
Approach Delay		47.1			140.1			250.8			124.5	
Approach LOS		D			F			F			F	
Queue Length 50th (ft)	39	135		116	184	~803	70	~1293	30	~364	248	0
Queue Length 95th (ft)	81	186		181	270	#1055	124	#1428	83	#483	323	0
Internal Link Dist (ft)		310			145			638			555	
Turn Bay Length (ft)	70			85			370		385	310		170
Base Capacity (vph)	200	656		303	605	678	206	1445	735	457	1586	769
Starvation Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.56		0.65	0.49	1.35	0.45	1.56	0.29	1.46	0.54	0.05

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated

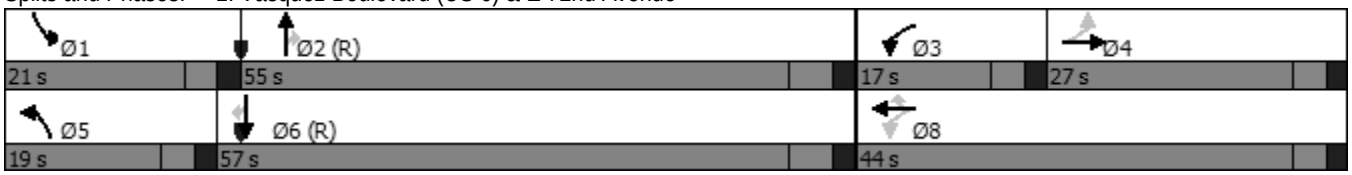
Maximum v/c Ratio: 1.56

Intersection Signal Delay: 176.8	Intersection LOS: F
Intersection Capacity Utilization 127.0%	ICU Level of Service H
Analysis Period (min) 15	

~ 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.

Splits and Phases: 1: Vasquez Boulevard (US 6) & E 72nd Avenue



Intersection	
Int Delay, s/veh	77.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	1008	119	56	1156	18	89	17	33	32	5	57
Future Vol, veh/h	36	1008	119	56	1156	18	89	17	33	32	5	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	45	-	-	60	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	1096	129	61	1257	20	97	18	36	35	5	62

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1277	0	0	1225	0	0	1992	2638	613	2024	2692	639
Stage 1	-	-	-	-	-	-	1239	1239	-	1389	1389	-
Stage 2	-	-	-	-	-	-	753	1399	-	635	1303	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	540	-	-	921	-	-	~ 67	20	*659	*61	18	419
Stage 1	-	-	-	-	-	-	541	491	-	*150	208	-
Stage 2	-	-	-	-	-	-	368	206	-	*621	442	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	540	-	-	921	-	-	~ 37	~ 17	*659	-	15	419
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 37	~ 17	-	-	15	-
Stage 1	-	-	-	-	-	-	502	456	-	*139	194	-
Stage 2	-	-	-	-	-	-	285	192	-	*523	410	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.4	$ 1457	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	40	540	-	-	921	-	-	-
HCM Lane V/C Ratio	3.777	0.072	-	-	0.066	-	-	-
HCM Control Delay (s)	$ 1457	12.2	-	-	9.2	-	-	-
HCM Lane LOS	F	B	-	-	A	-	-	-
HCM 95th %tile Q(veh)	17.2	0.2	-	-	0.2	-	-	-

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

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1040	27	23	161	72	24
Future Vol, veh/h	1040	27	23	161	72	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	250	-	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	1130	29	25	175	78	26

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1159	0	1283	580
Stage 1	-	-	-	-	1145	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	*985	-	*484	*659
Stage 1	-	-	-	-	*622	-
Stage 2	-	-	-	-	*874	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*985	-	*472	*659
Mov Cap-2 Maneuver	-	-	-	-	*472	-
Stage 1	-	-	-	-	*622	-
Stage 2	-	-	-	-	*852	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	13.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	508	-	-	* 985	-
HCM Lane V/C Ratio	0.205	-	-	0.025	-
HCM Control Delay (s)	13.9	-	-	8.8	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.8	-	-	0.1	-

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

Intersection	
Int Delay, s/veh	4.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	66	73	3	116	64
Future Vol, veh/h	2	66	73	3	116	64
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	72	79	3	126	70

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	403	81	0	0	82	0
Stage 1	81	-	-	-	-	-
Stage 2	322	-	-	-	-	-
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	603	979	-	-	1515	-
Stage 1	942	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	551	979	-	-	1515	-
Mov Cap-2 Maneuver	551	-	-	-	-	-
Stage 1	942	-	-	-	-	-
Stage 2	671	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	4.9
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	551	979	1515	-
HCM Lane V/C Ratio	-	-	0.004	0.073	0.083	-
HCM Control Delay (s)	-	-	11.6	9	7.6	0
HCM Lane LOS	-	-	B	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0.2	0.3	-

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	67	0	0	29	26	24
Future Vol, veh/h	67	0	0	29	26	24
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	73	0	0	32	28	26

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	73	41	54	0	-	0
Stage 1	41	-	-	-	-	-
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	931	1030	1551	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	991	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	931	1030	1551	-	-	-
Mov Cap-2 Maneuver	931	-	-	-	-	-
Stage 1	981	-	-	-	-	-
Stage 2	991	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1551	-	931	-	-	-
HCM Lane V/C Ratio	-	-	0.078	-	-	-
HCM Control Delay (s)	0	-	9.2	0	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-	-

APPENDIX D

Crash History

ACCI_ID	ADDTIME	ADDUSER	AGENCY	CITY	FROMHWAY	REPORTDATE	STREET	Date of Accident	Accident Type	Road Condition
13CN18008112	10/10/2018 17:58	SCASTILLO	CCPD	COMMERCE_CITY	BRIGHTON RD	10/10/2018 0:00	E 72ND AVE / BRIGHTON RD	10/10/2018 8:03	BROADSIDE	DRY
13CN18005100	7/2/2018 19:15	BKEADLE	CCPD	COMMERCE_CITY	BRIGHTON RD	7/2/2018 0:00	E 72ND AVE / BRIGHTON RD	7/2/2018 16:15	BROADSIDE	DRY
13CN18003056	4/23/2018 9:41	JFLORES	CCPD	COMMERCE_CITY	BRIGHTON RD	4/23/2018 0:00	E 72ND AVE / BRIGHTON RD	4/23/2018 7:06	REAR END	DRY
13CN18001740	3/6/2018 15:59	MFRITCH	CCPD	COMMERCE_CITY	HIGHWAY 85	3/6/2018 0:00	BRIGHTON RD	3/5/2018 16:46	BROADSIDE	DRY

AccidentDateTime	AccidentReportDate	AgencyName	CaseNumber	CrashFirstHarmfulEvent	CrashLightingCondition	CrashLocation	CrashMostHarmfulEvent	CrashRoadCondition	CrashRoadContour	CrashRoadDescription	CrashRoadSurfaceType	CrashWeatherCondition
11/12/2021 8:58	11/12/2021 8:58	Commerce City PD	13CN21009972	Other Non-Fixed Object	Daylight	On Roadway	Other Non-Fixed Object	Dry	Straight	Driveway Access Related		Clear
12/21/2020 15:28	12/21/2020 15:28	Commerce City PD	13CN20010298	FRONT TO REAR	DAYLIGHT	ON ROADWAY	FRONT TO REAR	DRY	STRAIGHT - LEVEL	NON-INTERSECTION	BLACKTOP	NONE
11/20/2020 6:50	11/20/2020 6:50	Commerce City PD	13CN20009541	FRONT TO FRONT	DAYLIGHT	ON ROADWAY	FRONT TO FRONT	DRY	STRAIGHT - LEVEL	NON-INTERSECTION	BLACKTOP	NONE
2/26/2020 8:22	2/26/2020 8:22	Commerce City PD	13CN20001788	FRONT TO REAR	DAYLIGHT	ON ROADWAY	FRONT TO REAR	DRY	STRAIGHT - LEVEL	NON-INTERSECTION	BLACKTOP	NONE
10/26/2019 13:57	10/26/2019 13:57	Commerce City PD	13CN19009726	FRONT TO SIDE	DAYLIGHT	ON ROADWAY	FRONT TO SIDE	DRY	STRAIGHT - LEVEL	AT INTERSECTION	BLACKTOP	NONE
4/24/2019 8:33	4/24/2019 8:33	Commerce City PD	13CN19003412	FRONT TO FRONT	DAYLIGHT	ON ROADWAY	FRONT TO FRONT	DRY	STRAIGHT - LEVEL	NON-INTERSECTION	BLACKTOP	NONE
4/3/2019 14:22	4/3/2019 16:50	Commerce City PD	13CN19002784	FRONT TO REAR	DAYLIGHT	ON ROADWAY	FRONT TO REAR	DRY	STRAIGHT - LEVEL	AT INTERSECTION	BLACKTOP	NONE
12/13/2018 15:56	12/13/2018 15:56	Commerce City PD	13CN18010511	FRONT TO SIDE	DAYLIGHT	ON ROADWAY	FRONT TO SIDE	DRY	STRAIGHT - LEVEL	AT INTERSECTION	BLACKTOP	NONE