CITY OF ALBUQUERQUE

January 28, 2016

Eric Wrage, P.E.
Bohannan Huston, Inc.
7500 Jefferson St. NE
Courtyard One
Albuquerque, NM 87109

Re: Presbyterian Cooper Center Expansion
9521 San Mateo Blvd. NE
Traffic Impact Study
Engineer's Stamp dated 01-13-16 (B17-D003)

Dear Mr. Wage,

The subject Traffic Impact Study received on January 28, 2016 has been reviewed and approved by the Transportation Development Section. All comments have been adequately addressed.

The final Traffic Impact Study shall be valid for a period of three years. Should significant modifications to the approved development proposal occur, the approved study shall be revised to incorporate the changes.

If you have any questions, please feel free to contact me at (505) 924-3991.

Sincerely,

Racquel M. Michel, P.E.
Traffic Engineer, Planning Dept.
Development Review Services

via: email
C: Applicant, File

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Presbyterian Cooper Center Expansion Building Permit #: _____ City Drainage #: _____

DRB#: 1007488 EPC#: _____ Work Order#: _____

Legal Description: _____

City Address: 9521 San Mateo Boulevard, NE

Engineering Firm: **Bohannan Huston, Inc.** Contact: Eric Wrage

Address: 7500 Jefferson Str., NE, 87109

Phone#: 798-7859 Fax#: 798-7988 E-mail: ewrage@bhinc.com

Owner: **Presbyterian Medical Group** Contact: Jim Jeppson

Address: _____

Phone#: 563-6441 Fax#: _____ E-mail: jjeppson@phs.org

Architect: **Dekker Perich Sabatini** Contact: Chris Gunning

Address: _____

Phone#: 761-9700 Fax#: _____ E-mail: chrisg@dpsdesign.org

Other Contact: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Check all that Apply:

IS THIS A RESUBMITTAL?: _X_ Yes ____ No

DEPARTMENT:

_____ HYDROLOGY/ DRAINAGE
_X_ TRAFFIC/ TRANSPORTATION
_____ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

_____ ENGINEER/ ARCHITECT CERTIFICATION

_____ CONCEPTUAL G & D PLAN
_____ GRADING PLAN
_____ DRAINAGE MASTER PLAN
_____ DRAINAGE REPORT
_____ CLOMR/LOMR

_____ TRAFFIC CIRCULATION LAYOUT (TCL)
_X_ . TRAFFIC IMPACT STUDY (TIS)
_____ EROSION & SEDIMENT CONTROL PLAN (ESC)

_X_ OTHER (SPECIFY) Site Traffic Analysis/Neighborhood Impact Analysis

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

_____ BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY

_____ PRELIMINARY PLAT APPROVAL
_____ SITE PLAN FOR SUB'D APPROVAL
_X_ SITE PLAN FOR BLDG. PERMIT APPROVAL
_____ FINAL PLAT APPROVAL
_____ SIA/ RELEASE OF FINANCIAL GUARANTEE
_____ FOUNDATION PERMIT APPROVAL
_____ GRADING PERMIT APPROVAL
_____ SO-19 APPROVAL
_____ PAVING PERMIT APPROVAL
_____ GRADING/ PAD CERTIFICATION
_____ WORK ORDER APPROVAL
_____ CLOMR/LOMR

_____ PRE-DESIGN MEETING
_____ OTHER (SPECIFY) _____

DATE SUBMITTED: January 13, 2016 By: Eric Wrage, BHI

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ____

PRESBYTERIAN COOPER CENTER EXPANSION

ALBUQUERQUE, NEW MEXICO

TRAFFIC IMPACT ANALYSIS

FINAL SUBMITTAL

JANUARY 13, 2016

Prepared For:

Presbyterian Healthcare Services

Prepared By:

Bohannan Huston

Engineering

Spatial Data

Advanced Technologies

PRESBYTERIAN COOPER CENTER EXPANSION
ALBUQUERQUE, NEW MEXICO
TRAFFIC IMPACT ANALYSIS

FINAL SUBMITTAL

JANUARY 13, 2016

PREPARED BY:

BOHANNAN HUSTON, INC.
7500 JEFFERSON ST NE
COURTYARD ONE
ALBUQUERQUE, NM 87109

PREPARED FOR:
PRESBYTERIAN HEALTHCARE SERVICES

PREPARED BY:

Eric J Wrage 1/13/16

ERIC J. WRAGE, P.E., PTOE JANUARY 13, 2016

PRESBYTERIAN COOPER CENTER EXPANSION
TRAFFIC IMPACT ANALYSIS
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APPENDICES

I. INTRODUCTION AND SUMMARY

Presbyterian Medical Group is proposing to expand their Cooper Center office facility, located on Balloon Fiesta Parkway in Albuquerque, New Mexico.

A. STUDY PURPOSE

The purpose of the traffic study is to determine the impacts of the proposed new office on the existing street network and to recommend any mitigation measures that may be necessary to support the new development.

B. EXECUTIVE SUMMARY

1. SITE LOCATION AND STUDY AREA

The site is located in the southwest quadrant of the intersection of Balloon Fiesta Parkway and San Mateo Boulevard, in Albuquerque, New Mexico. A vicinity map is shown in Figure 1. The site currently has 325,790 square feet of office space, and is fully occupied.

A scoping meeting was held with the City of Albuquerque Transportation Development Section to establish the scope of the traffic study. The Scoping letter from the City is included in APPENDIX A. The intersection evaluations include analysis for the AM and PM peak hours for the following traffic conditions:

- Existing (2015) traffic
- 2018 Completion Year without proposed development (2018 No Build)
- 2018 Completion Year with full buildout of the site

2. DEVELOPMENT DESCRIPTION

The project will construct two additional office buildings. The first building is 91,275 square feet. This first building will be constructed in the near term, by 2018, however it is anticipated to be no more than 50% occupied for several years. The second building is 87,000 square feet. The second building is not expected to be built or occupied for 5-10 years. These improvements result in a total of an additional 178,275 square feet, or an increase of approximately 55%. A conceptual site plan is shown in Figure 2.

Presbyterian is submitting this traffic study of the full expansion of the facility at this time to prepare the site for future development in the event the space is needed faster than anticipated, and to identify the mitigation required to provide acceptable traffic operations for their employees.

3. PRINCIPAL FINDINGS

The traffic analysis shows that under existing, and 2018 no-build conditions, the intersections studied operate at acceptable levels of service, although there is some localized congestion at the San Mateo and Venice Avenue intersection, the main entrance to the site, in the AM peak hour.

In the 2018 build scenario, the intersection of Alameda and San Mateo will operate at LOS E, with movements LOS F. This analysis includes the City project to widen Alameda one lane in each direction in 2018/2019. To improve operations of the intersection to LOS D, a westbound right turn lane and a second eastbound left turn lane is required. This will improve overall operation to LOS D, however the westbound right turn and the southbound left turn will operate at LOS F. It is not desired or practical to widen Alameda to four lanes in each direction to further improve LOS as the results found the poor operation will be localized to the AM period. It was determined that limited resources for additional improvements could be more effectively utilized in other locations that need improvements.

The analysis found the site added 34% more traffic to both the eastbound left and westbound right turn movements during the AM peak hour, the period in which the additional improvements are required to result in LOS D.

The results also found that the intersection of San Mateo and Venice Avenue, the main entrance to the site, would operate at LOS F in the AM and PM peak hours in the build scenario. This is due to the minor street traffic delay caused by the entering traffic in the AM peak hour, and the volume of exiting traffic in the PM peak hour. Traffic exiting the site can utilize the exit onto Balloon Fiesta Parkway, which operates at acceptable levels of service. This traffic can either use San Mateo, or the southbound I-25 frontage road, if delays become excessive. This is also true for westbound Venice traffic. This westbound traffic can travel east a short distance to access the southbound I-25 frontage road.

A peak hour traffic signal warrant analysis was performed for this intersection, however traffic volumes were not sufficient to warrant a traffic signal. Therefore, no improvements will be recommended for this intersection.

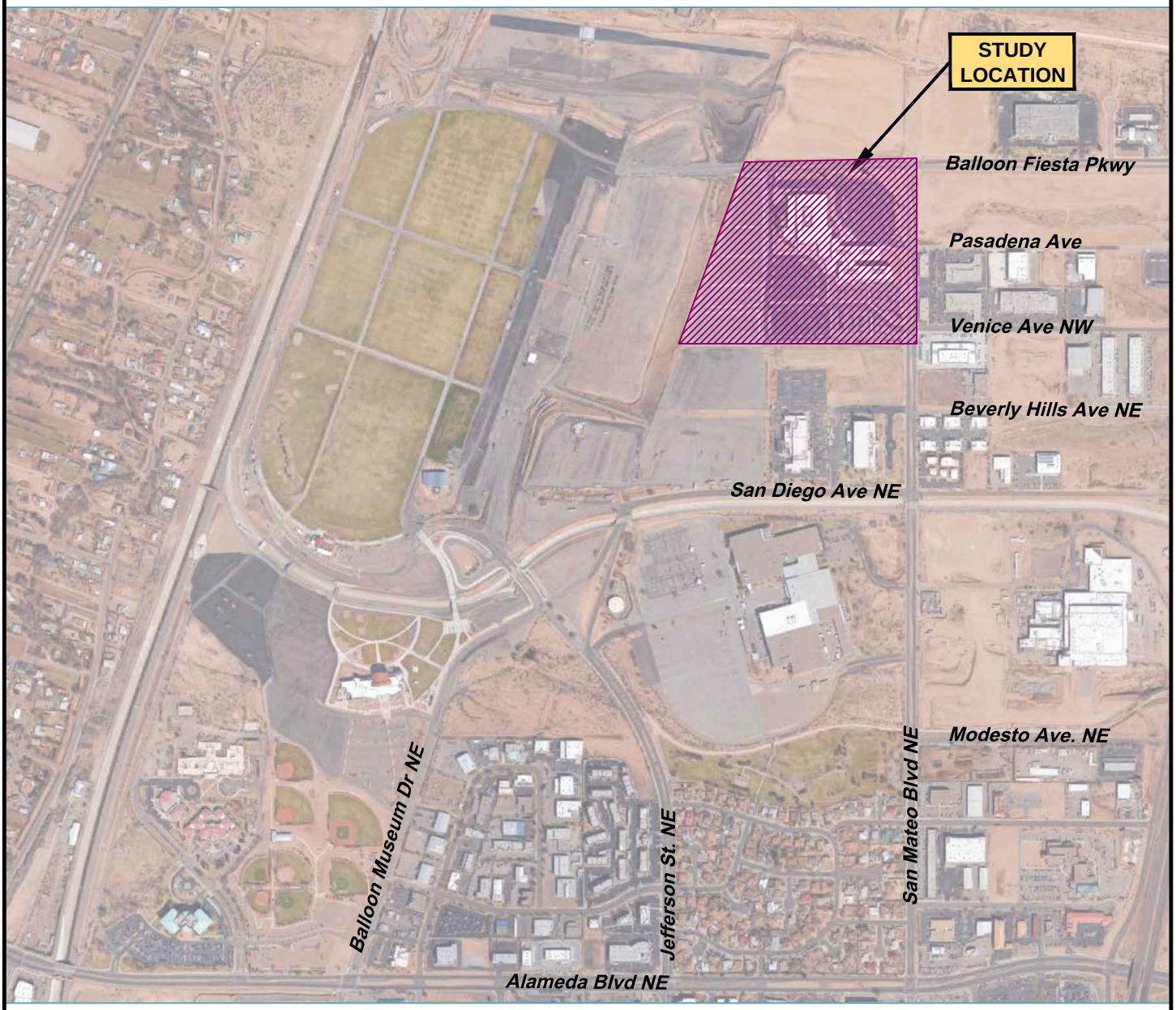
It should also be noted that Presbyterian allows their employees to have flexible work hours, so this congestion may not occur as employees adjust their work start times to avoid the additional delays discussed above.

It is also important to remember that both buildings will not be completely constructed or occupied by 2018. It is expected that only 50% of the first building will be occupied by 2018, and the second building is likely 5-10 years away. Presbyterian is committed to long-term planning for their facilities, while working with the City to mitigate potential deficiencies that may arise.

4. RECOMMENDATIONS

It is recommended that a westbound right turn lane and a second eastbound left turn lane at San Mateo and Alameda be added to the City project to widen Alameda one-lane in each direction from I-25 to 2nd Street. This first phase of this project, widening from I-25 to Jefferson, is currently planned for Federal fiscal year 2018/2019, near when the buildings will be completed and initially occupied. As Presbyterian adds 34% additional traffic to the movements requiring improvement, it is recommended Presbyterian contribute 34% of the cost of these additional lanes to the City via a Procedure C Subdivision Improvements Agreement. Documentation of this improvement and estimate is included in APPENDIX H.

It is not recommended that Presbyterian be required to build the improvements, as it is likely that any improvement constructed now would be removed or partially constructed when the City project widens Alameda.



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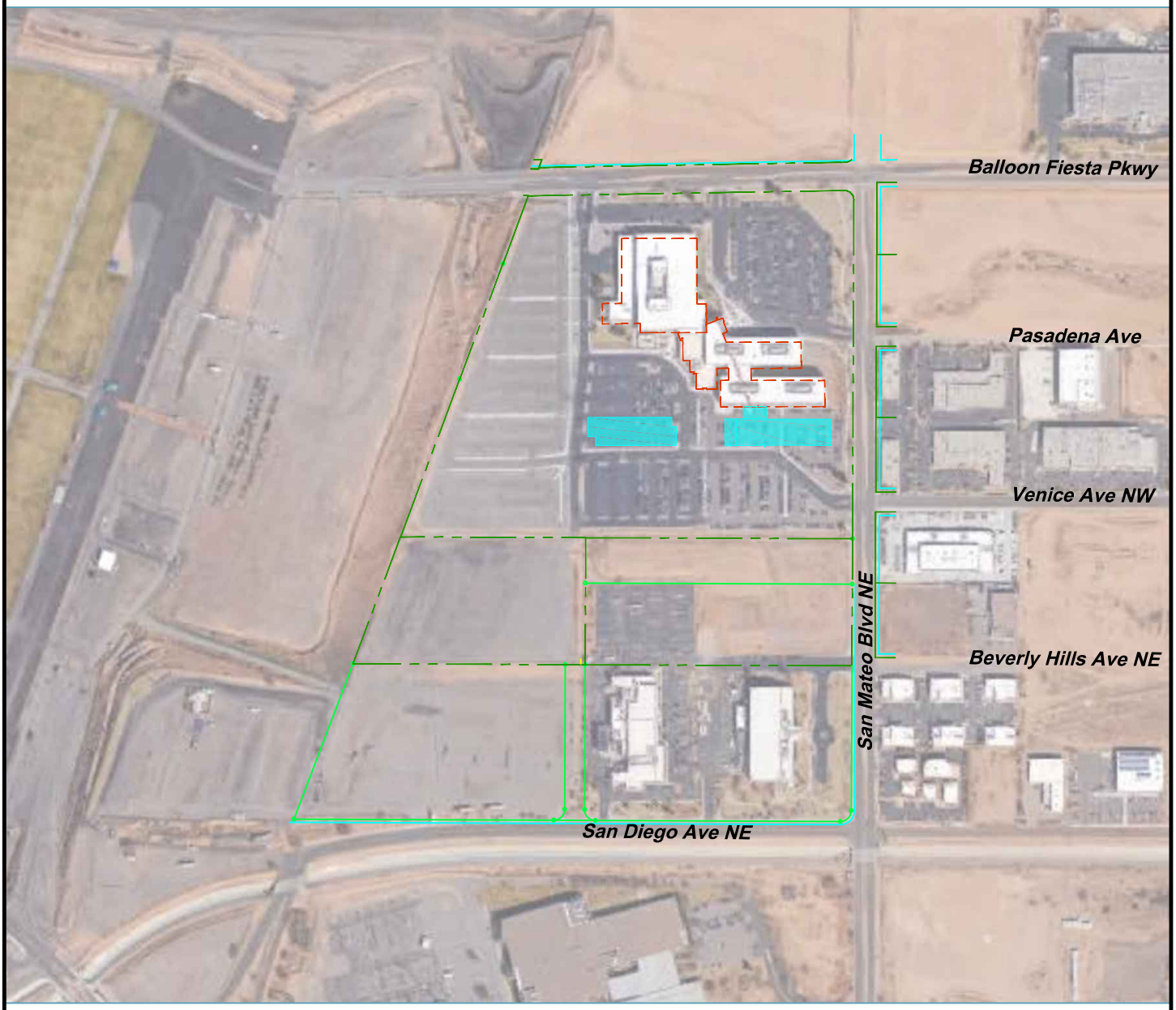
Presbyterian Cooper Center Expansion
Albuquerque, New Mexico
Site Traffic Analysis

FIGURE 1
Vicinity Map



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Presbyterian Cooper Center Expansion
Albuquerque, New Mexico
Site Traffic Analysis

FIGURE 2
SITE PLAN

II. PROPOSED DEVELOPMENT

A. SITE LOCATION

The site is located in the southwest quadrant of the intersection of Balloon Fiesta Parkway and San Mateo Boulevard, in Albuquerque, New Mexico. A vicinity map is shown in Figure 1. The site currently has 325,790 square feet of office space, and is fully occupied.

B. LAND USE AND INTENSITY

The immediate surrounding area includes the Balloon Fiesta Park to the west, and the balance is primarily office and warehouse/home improvement buildings, with a substantial amount of vacant land. South of the site there is also some industrial and residential development, and more urbanized development of hotels/fast-food and car dealerships along Alameda Boulevard.

C. DEVELOPMENT PHASING AND TIMING

The project will construct two additional office buildings. The first building is 91,275 square feet. This first building will be constructed in the near term, by 2018, however it is anticipated to be no more than 50% occupied for several years. The second building is 87,000 square feet. The second building is not expected to be built or occupied for 5-10 years. These improvements result in a total of an additional 178,275 square feet, or an increase of approximately 55%. A conceptual site plan is shown in Figure 2.

III. STUDY AREA CONDITIONS

A. STUDY AREA

Per discussions with the City of Albuquerque Transportation Development Section, the study area will consist of the following intersections:

- Alameda Boulevard and San Mateo Boulevard (full access signalized intersection)
- San Mateo Boulevard and San Diego Avenue (full access unsignalized intersection)
- San Mateo Boulevard and Venice Avenue/South Entrance (full access unsignalized intersection)

- San Mateo Boulevard and Pasadena Avenue/North Entrance (full access unsignalized intersection)
- San Mateo Boulevard and Balloon Fiesta Parkway (full access unsignalized intersection, currently a "T"-intersection)
- Balloon Fiesta Parkway and East Entrance (full access unsignalized intersection, currently a "T"-intersection)
- Balloon Fiesta Parkway and West Entrance (full access unsignalized intersection, currently a "T"-intersection)

As mentioned, the study will evaluate 2015 existing conditions, 2018 no build conditions and 2018 build conditions.

B. SITE ACCESSIBILITY

The site is accessed from driveways on San Mateo Boulevard and also Balloon Fiesta Parkway. See Figure 2. No additional entrances are proposed for the site with the expansion.

C. FUTURE CIP/TIP PROJECTS IN THE VICINITY

The City of Albuquerque currently has a Capital Improvements Program project to widen Alameda Boulevard by one lane in each direction from I-25 to 2nd Street in 2018/2019. This project will result in a total of three (3) through lanes in each direction. The number of turn lanes anticipated to be constructed at the San Mateo intersection with that project is not known at this time. This project is also in the latest NMDOT 2016-2021 Transportation Improvement Program (TIP) as project CNA301470, for Federal fiscal years 2018 and 2019.

The City also has a 2018 CIP project to construct a storm drain in San Mateo from Alameda to the La Cueva Channel south of San Diego Avenue.

D. DATA SOURCES

The data used in this report consist of the traffic counts described above, aerial photography and mapping from Google Earth®, information provided by the Presbyterian Medical Group and their architect, Dekker/Perich/Sabatini.

IV. ANALYSIS OF EXISTING CONDITIONS

A. PHYSICAL CHARACTERISTICS

Alameda Boulevard, also known as NM 528, is currently a four-lane principal arterial that travels from Eubank Boulevard on the east side of Albuquerque, to Coors By-Pass / Rio Rancho Boulevard on the west side of Albuquerque at the Albuquerque/Rio Rancho municipal boundary. The speed limit on Alameda near San Mateo is 45 MPH.

The 2014 MRCOG Traffic Flow Map indicates Alameda carries approximately 30,410 vehicles per day near San Mateo. Reviewing recent MRCOG Traffic Flow Maps indicate traffic levels have been flat to slightly declining the past several years along this stretch of Alameda.

San Mateo Boulevard, north of Alameda, is a four-lane collector, with a 30 MPH speed limit on the south end near Alameda and a 40 MPH speed limit on the north end near the site. The 2014 MRCOG Traffic Flow Map indicates San Mateo carries approximately 3,500 – 4,600 vehicles a day.

San Diego Avenue is a two-lane collector, with a 25 MPH speed limit. The 2014 MRCOG Traffic Flow Map indicates San Diego carries approximately 700 vehicles a day west of San Mateo, although this volume increases to approximately 1,100 vehicles a day near the Honeywell plant entrance. San Diego Avenue also intersects with Jefferson Street near the entrance to Balloon Fiesta Park.

Balloon Fiesta Parkway is a four-lane minor arterial that provides access to Balloon Fiesta Park from the southbound I-25 Frontage Road., with a 25 MPH speed limit. The 2014 MRCOG Traffic Flow Map indicates Balloon Fiesta Parkway carries approximately 2,620 vehicles a day.

Venice Street and Pasadena Street are local streets that also access the I-25 southbound frontage road. The MRCOG Traffic Flow Maps do not provide traffic volume information for these local streets.

B. EXISTING TRAFFIC VOLUMES

Traffic counts for the intersection analyzed in the study area were collected Tuesday, October 20, 2015, and school was in session to ensure typical traffic levels.

Figure 3 is a summary of the existing peak hour traffic volumes, existing laneage, turning movements, and intersection levels of service. Existing traffic counts are included in APPENDIX B. The traffic counts included counts for busses, pedestrians, and bicyclists.

C. EXISTING LEVELS OF SERVICE

The 2010 Highway Capacity Manual (HCM) defines Level of Service (LOS) for signalized and un-signalized intersections as follows:

Table 1 – LOS Definitions			
Level of Service	**Signalized (sec/veh)**	**Definition**	**Un-Signalized (sec/veh)**
A	<10	Most vehicles do not stop.	<10
B	>10 and <20	Some vehicles stop.	>10 and <15
C	>20 and <35	Significant numbers of vehicles stop.	>15 and <25
D	>35 and <55	Many vehicles stop.	>25 and <35
E	>55 and <80	Limit of acceptable delay.	>35 and <50
F	>80	Unacceptable delay.	>50

The City has established LOS D as the generally acceptable level of service in urban areas and is the desirable base condition for analysis in a traffic study.

Existing intersection traffic volumes were analyzed using intersection methodology from the *2010 Highway Capacity Manual* (HCM). Synchro version 8 was used to perform the level of service calculations. Individual intersection output is included in APPENDIX C. .

The results are summarized in Table 2 and Table 3 and shown graphically in Figure 3 below.

Table 2 – 2015 Existing Signalized Intersection Capacity Analysis Results						
Signalized Intersections	**2015 AM Peak**			**2015 PM Peak**		
	Delay (sec.)	**V/C**	**LOS**	**Delay (sec.)**	**V/C**	**LOS**
Alameda and San Mateo	35.4	0.98	D**	31.9	0.80	C
110-second cycle length **-movement LOS E and F						

The existing conditions analysis indicates the signalized intersection of Alameda and San Mateo operates at an acceptable level of service, the eastbound left and the northbound right operate at LOS E, and the southbound left operates at LOS F in the AM peak hour.

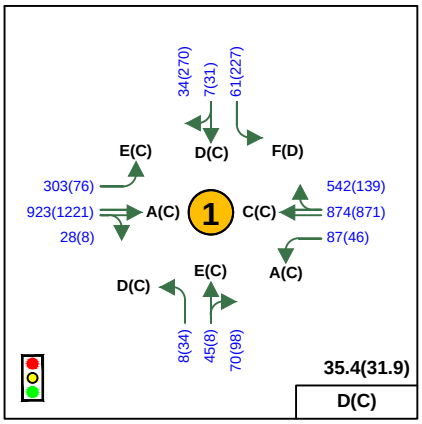
In addition, all of the unsignalized intersections operate at acceptable levels of service except for the San Mateo and Venice/South Entrance to the site.

Although the overall average delay for the intersection is acceptable at 5.2 seconds per vehicle, since one of the movements, the westbound approach, operates at LOS F, the HCM considers the entire intersection to operate at LOS F. This movement has very low volume, just 11 vehicles in the AM peak hour, so this delay is acceptable.

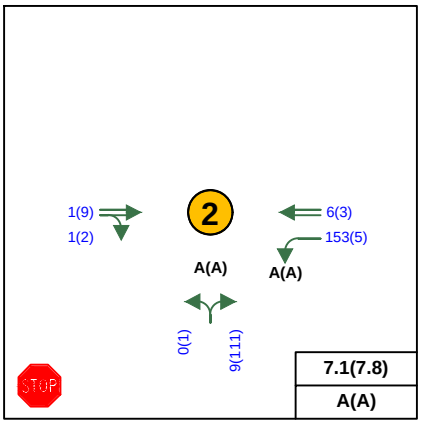
Table 3– 2015 Existing AM and PM Unsignalized Intersection Results

Intersection/Movement	2015 AM Peak				2015 PM Peak			
	Delay	v/c	Queue* (ft.)	LOS	Delay	v/c	Queue* (ft.)	LOS
Balloon Fiesta Parkway and West	7.1			A	7.8			A
NB Approach	8.4	0.01	0	A	9.0	0.15	25	A
WB Left	7.5	0.12	25	A	7.3	0.01	0	A
Balloon Fiesta Parkway and East	1.9			A	3.3			A
NB Approach	8.4	0.02	0	A	9.2	0.11	25	A
WB Left	7.4	0.04	25	A	7.6	0.01	0	A
Balloon Fiesta Parkway and San Mateo	5.2			A	2.3			A
NB Left	13.8	0.15	25	B	11.6	0.02	25	B
NB Right	8.6	0.06	25	A	9.4	0.04	25	A
WB Left	7.7	0.11	25	A	8.0	0.05	25	A
San Mateo and Pasadena	3.5			A	6.8			A
NB Left	7.9	0.13	25	A	7.6	0.01	0	A
EB Approach	13.4	0.05	25	B	10.9	0.30	50	B
WB Approach	15.8	0.04	25	C	11.6	0.08	25	B
SB Left	0.0	0.00	0	A	0.0	0.00	0	A
San Mateo and Venice	5.2			F	13.7			B
NB Left	8.7	0.33	50	A	8.2	0.02	25	A
EB Approach	12.6	0.06	25	B	23.7	0.73	175	C
WB Approach	51.5	0.21	25	F	25.4	0.30	50	D
SB Left	8.2	0.01	0	A	7.3	0.01	0	A
San Mateo and San Diego	2.0			A	1.3			A
NB Left	7.4	0.01	0	A	9.7	0.01	0	A
EB Approach	16.9	0.24	25	C	19.5	0.14	25	C
WB Approach	21.9	0.12	25	C	13.6	0.06	25	B
SB Left	9.8	0.01	0	A	7.4	0.01	0	A

* - HCM 95th percentile queue rounded to next 25-foot increment



San Mateo/Alameda



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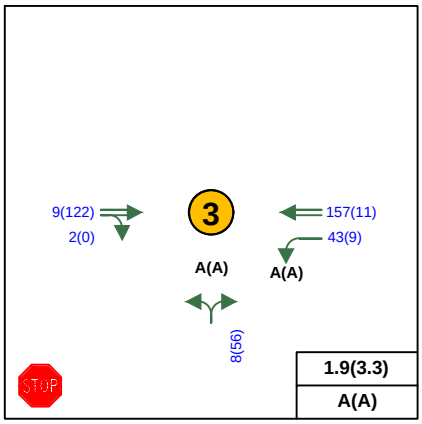

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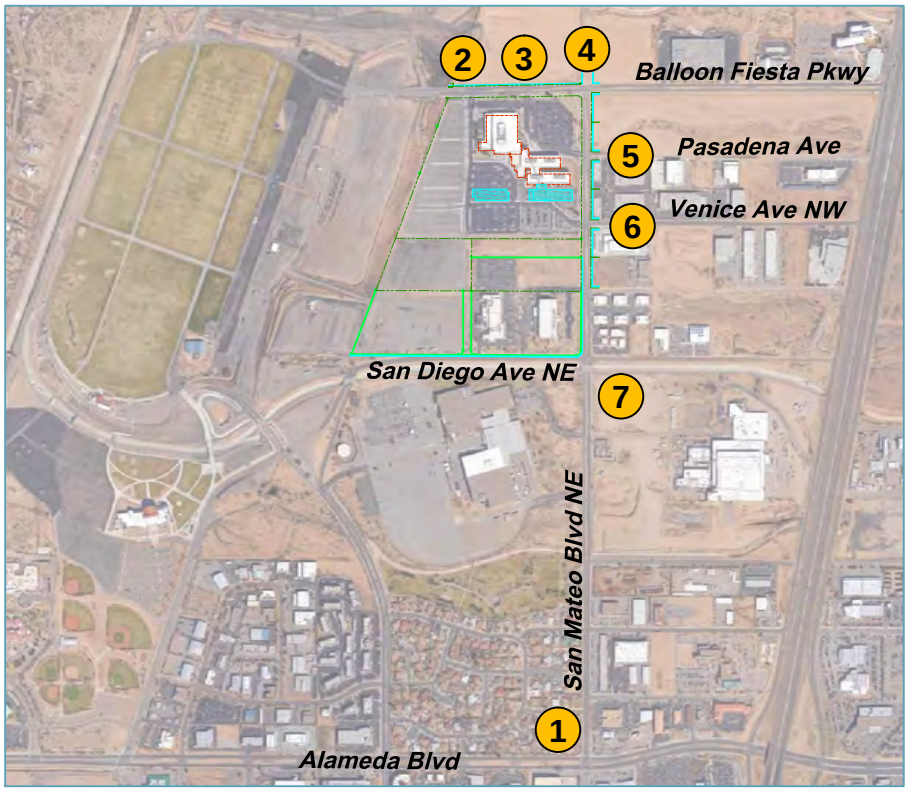
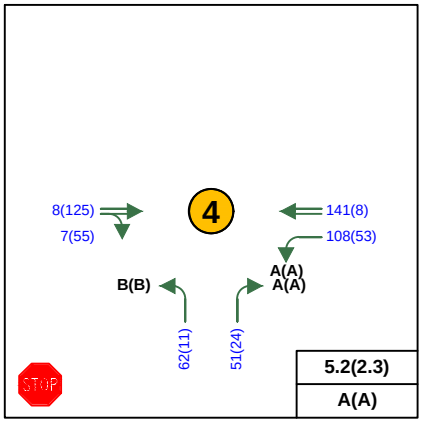




San Mateo/BFP

LEGEND

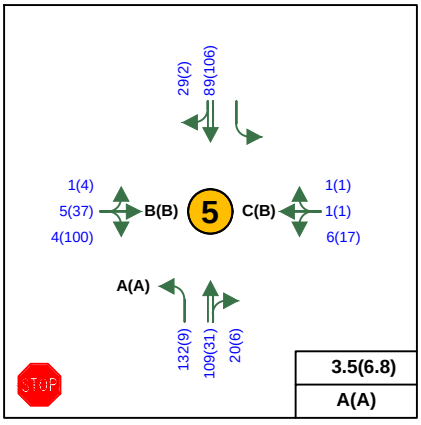
Thru Lanes (# as indicated)

Turning Lanes (# as indicated)

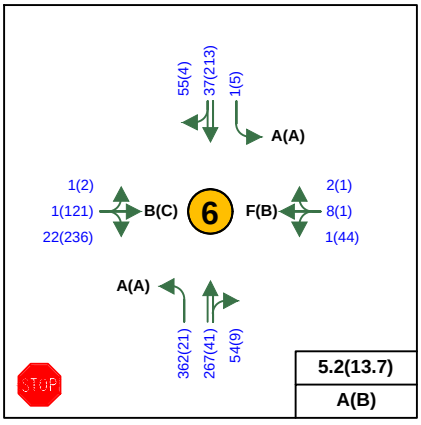
1234(1234) Trip Assignment Percentages

N Entering

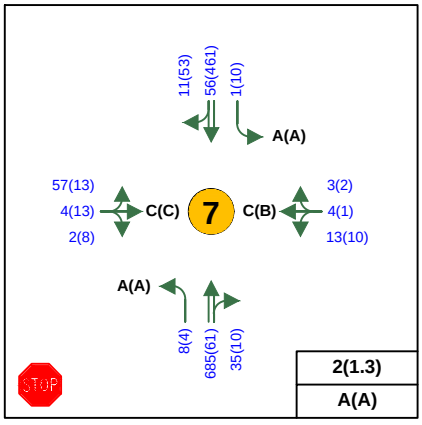
X Exiting



San Mateo/Pasadena



San Mateo/Venice



San Mateo/San Diego

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Presbyterian Cooper Center Expansion
Albuquerque, New Mexico
Site Traffic Analysis

FIGURE 3
2015 AM (PM) PEAK HOUR
TRAFFIC VOLUMES

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V. PROJECTED TRAFFIC

A. SITE TRAFFIC FORECASTING

1. TRIP GENERATION

Generated trips are broken down into three types; 1) primary, 2) pass-by trips, and 3) diverted link. The *Trip Generation* report defines these trips as follows:

- **Primary Trips** - These trips are made for the specific purpose of visiting the generator. The stop at that generator is the primary reason for the trip. For example, a home to shopping to home combination of trips is a primary trip set.
- **Pass-by Trips** - These trips are made as intermediate stops on the way from an origin to a primary trip generation. Pass-by trips are attracted from the traffic passing the site on an adjacent street that contains direct access to the generator site. These trips do not require a diversion from another roadway. For example, stopping at the store on the way home from work is an example of a pass-by trip. No pass-by trips were assigned to this development.
- **Diverted Linked Trips** - These trips are attracted from the traffic volume on the roadway within the vicinity of the generator, but which require a diversion from that roadway to another roadway to gain access to the site. The roadways could include streets or freeways adjacent to the generator, but without access to the generator. For this study, the diverted link trips have been included in with the primary trips.

All trips to the site were considered primary trips.

As traffic counts were collected at all entrances to the site, and the expansion will consist of the same type of activity, the traffic counts were used to determine the trip generation for the expansion.

Table 4 – Trip Generation						
Land Use	ITE Land Use Code	Size	AM Peak Hour		PM Peak Hour	
			Enter	Exit	Enter	Exit
General Office – Existing	710	325.79	786	51	54	668
General Office - New Buildings	710	178.275	432	27	31	365

2. TRIP DISTRIBUTION AND ASSIGNMENT

Traffic counts were collected at all entrances, as well as the San Mateo and Balloon Fiesta Parkway intersection. Due to the limited roadway network in the resulting from the site's proximity to Interstate 25 on the east, these counts were able to be used to estimate the trip distribution to the site, as all traffic entering from Balloon Fiesta Parkway had to have come from the north, utilizing the I-25 southbound frontage road. It was determined 25% of the site's entering traffic travels south on the I-25 southbound frontage road to reach the site.

The trip distribution percentages are shown in Figure 4, and the volumes assigned at each intersection are shown in Figure 5.

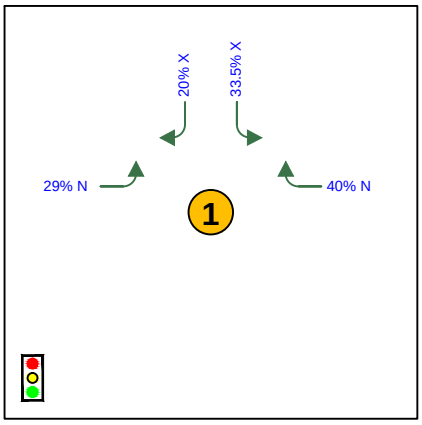
3. 2018 NO-BUILD TRAFFIC PROJECTIONS

Per the Scoping Report, the previous 10-years of MRCOG Traffic Flow Maps were used to develop the background traffic growth rate. The traffic growth on Alameda and San Mateo has been negative to 1% over the past 10 years. Although traffic in the office park near the site has increased in recent years, this growth has been due to the development of additional businesses in the area, and not the result of regional growth. Additional traffic growth from undeveloped parcels near the site would be captured in the traffic studies of future developments as they come forward and would not be the result from growth in other areas of the City. This is particularly true for this office park due to its location where there is no chance of cross-city commuting traffic. All the traffic growth in the office park will be the result of growth in the office park, whereas on Alameda, development throughout the City can impact traffic levels.

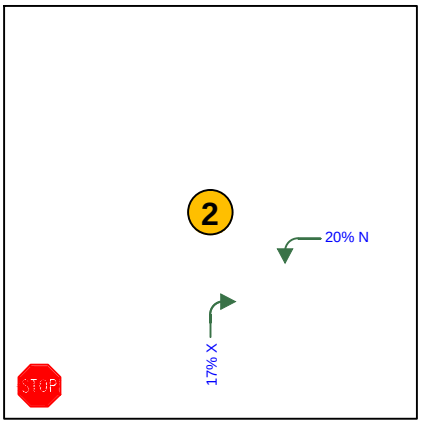
For instance, when the Blue Cross Blue Shield building was constructed, there was a resultant increase in traffic, due to the traffic from the Blue Cross site, that now shows up on the Traffic Flow Maps. However, that traffic was accounted for in the traffic study submitted for the Blue Cross project. It would be penalizing this project if the background traffic growth rate would be required to include the traffic growth resulting from Blue Cross (as the traffic from Blue Cross is now included in the existing traffic counts), and to include the traffic from the proposed site, This would be like adding in another Blue Cross building and the proposed development, when there is no future Blue Cross building proposed with this project, and if one was proposed, would be required to submit their own traffic study.

Even with that said, when all the links are combined, as shown in the last page of the spreadsheet in APPENDIX D, resulted in an annual growth rate of 1.0% that was applied to the existing turning movements. Spreadsheets showing this analysis are included in APPENDIX D. Figure 6 on page 19 shows the 2018 No Build traffic volumes, number of lanes, and level of service.

The No Build analysis assumes that the proposed project is not completed.



San Mateo/Alameda



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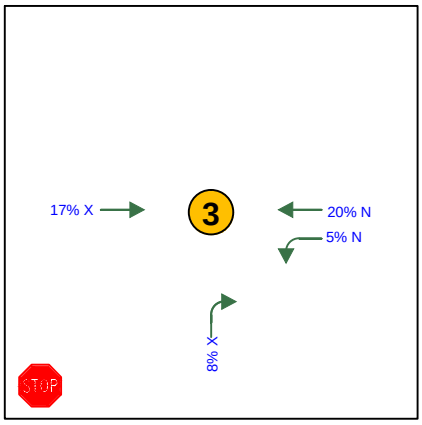

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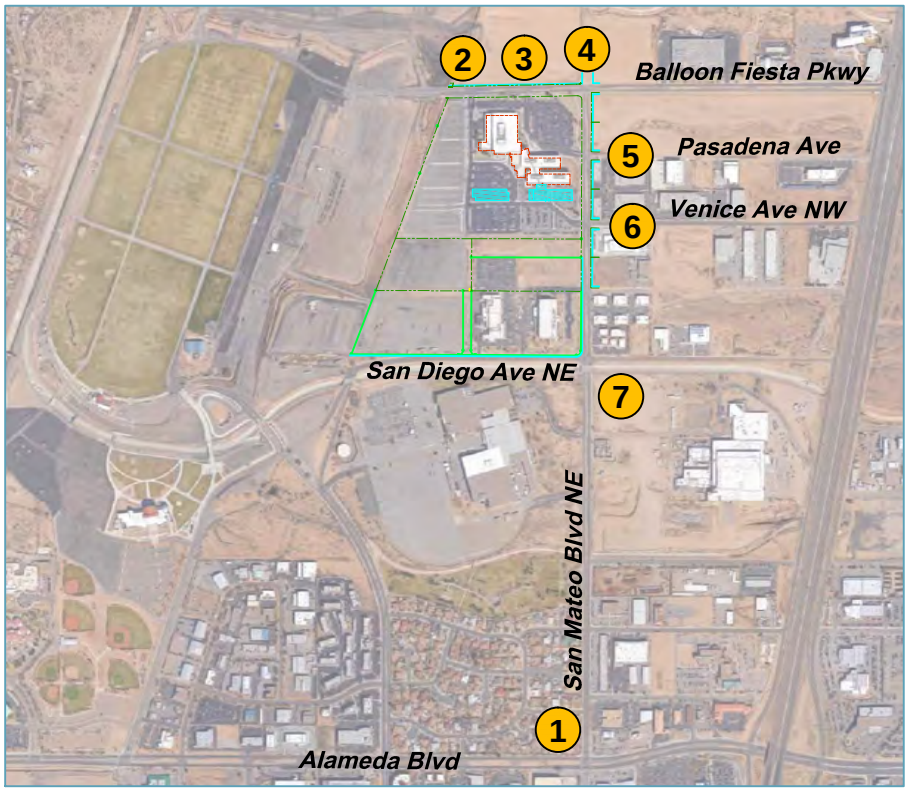
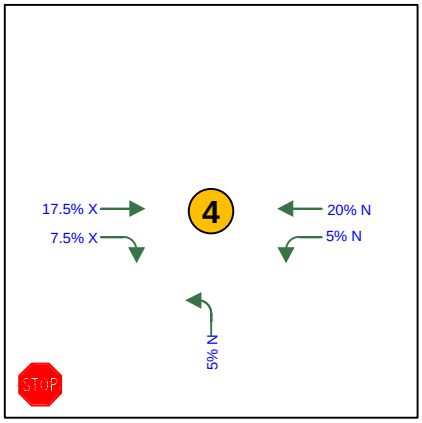
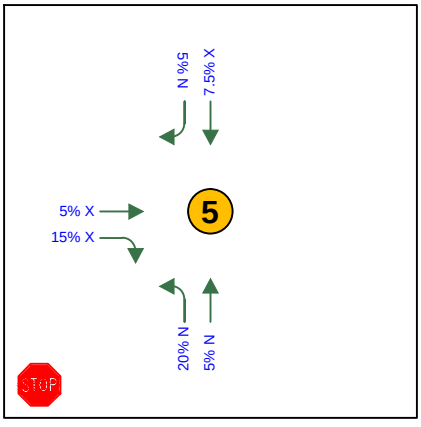




San Mateo/BFP

LEGEND

	Thru Lanes (# as indicated)
	Turning Lanes (# as indicated)
1234	Trip Assignment Percentages
N	Entering
X	Exiting



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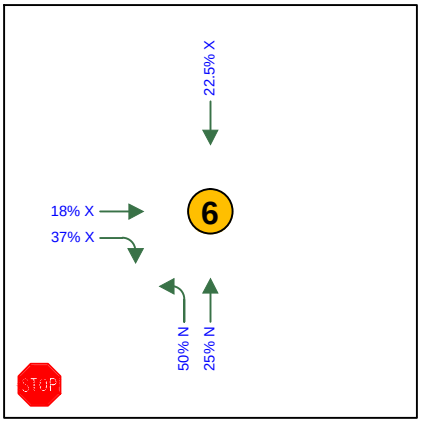

San Mateo/Venice

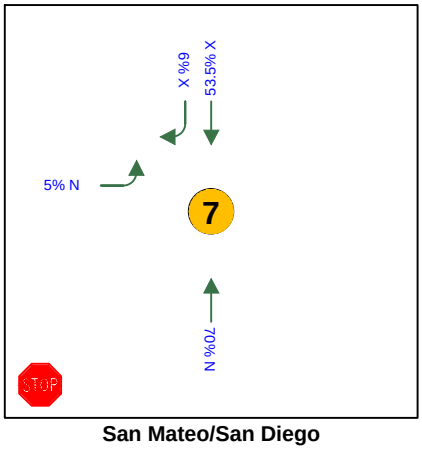

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FIGURE 4
TRIP DISTRIBUTION
VOLUMES AM(PM)

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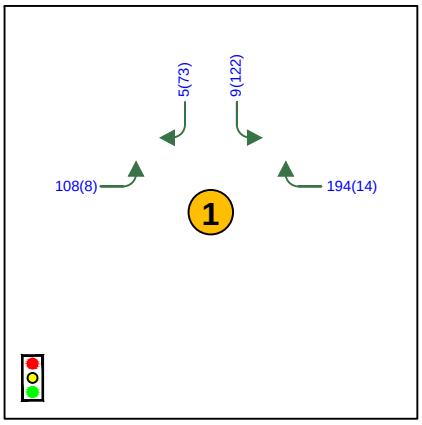
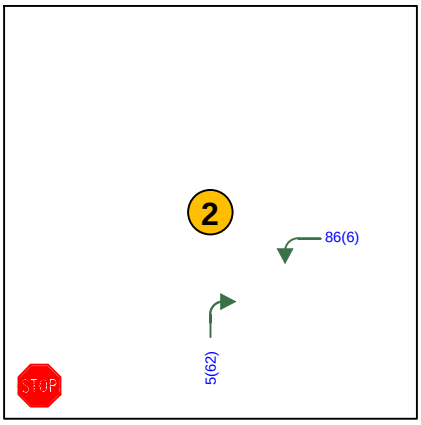


San Mateo/Alameda



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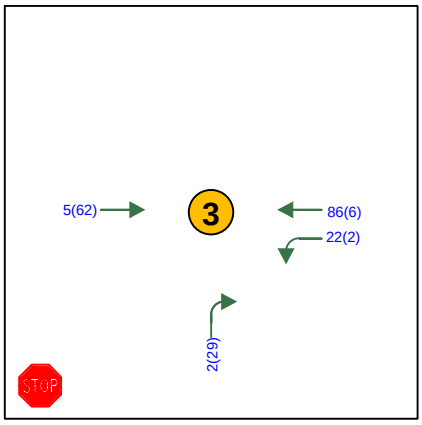

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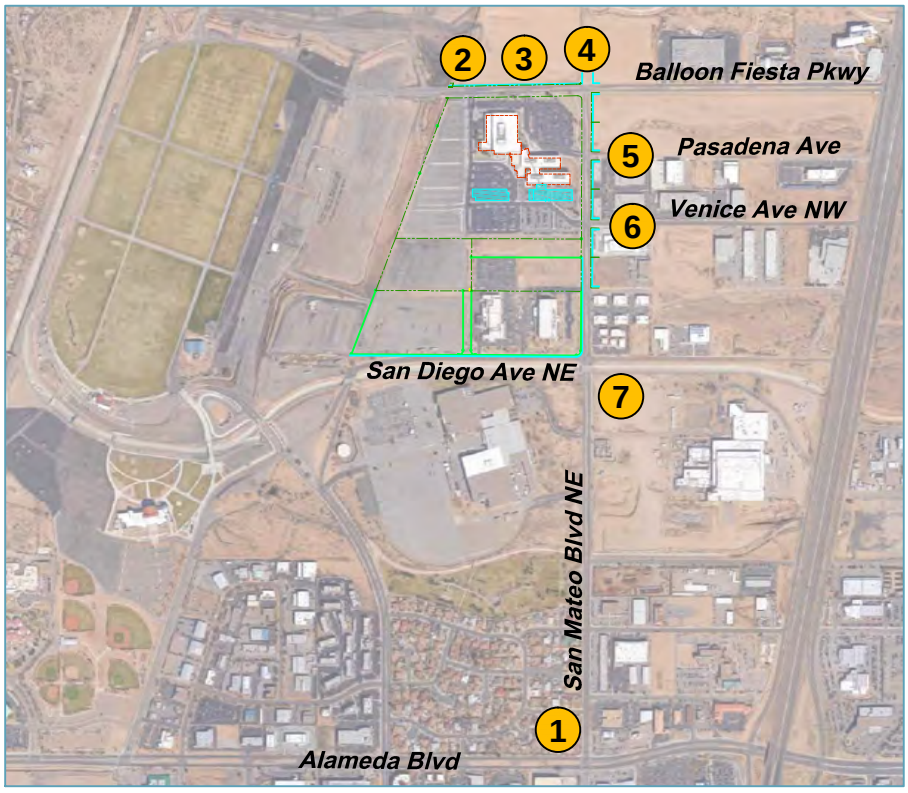
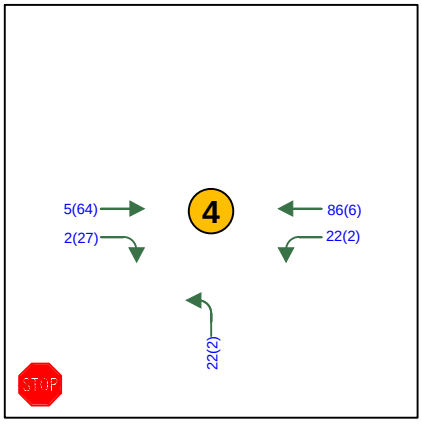
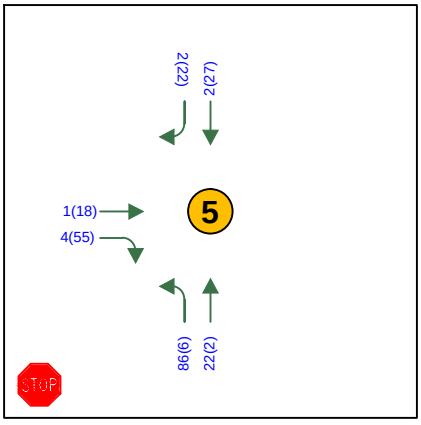




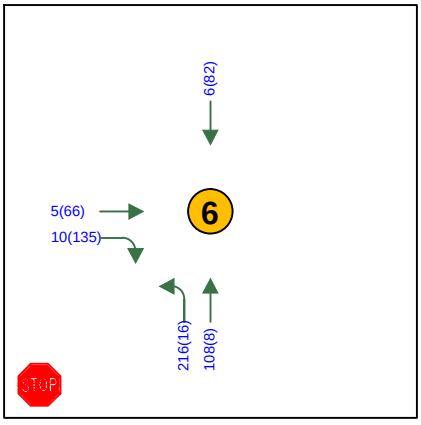
San Mateo/BFP

LEGEND

	Thru Lanes (# as indicated)
	Turning Lanes (# as indicated)
1234(1234)	AM (PM)
N	Entering
X	Exiting



San Mateo/Pasadena



San Mateo/Venice

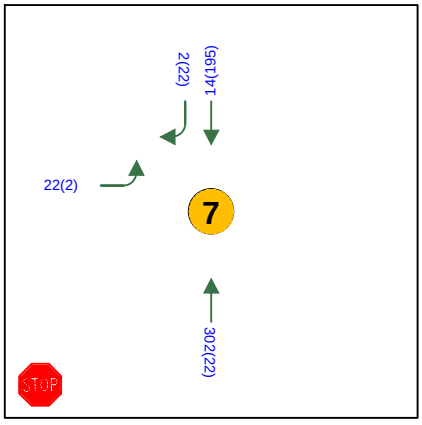


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FIGURE 5
TRIP ASSIGNMENT
VOLUMES AM (PM)

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VI. TRAFFIC AND IMPROVEMENT ANALYSIS

The following section will discuss the results of the future year traffic analysis. The results include the addition of the third through lane in each direction that will be constructed by the City in 2018/2019 as part of the CIP project to widen Alameda one lane in each direction between I-25 and 2nd Street.

A. SITE ACCESS

As discussed, the site will be accessed via driveways on San Mateo and Balloon Fiesta Parkway (see Figure 2). All driveways are proposed to be full access.

B. LEVEL OF SERVICE ANALYSIS

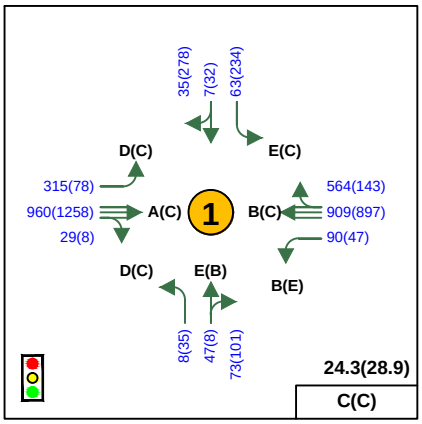
1. 2018 NO-BUILD INTERSECTION CAPACITY ANALYSIS

For the 2018 No Build scenario, the intersections were again analyzed using Synchro version 8. Table 5 and Table 6 shows the 2018 No-Build results. The results are shown graphically in Figure 6. Synchro output is included in APPENDIX F.

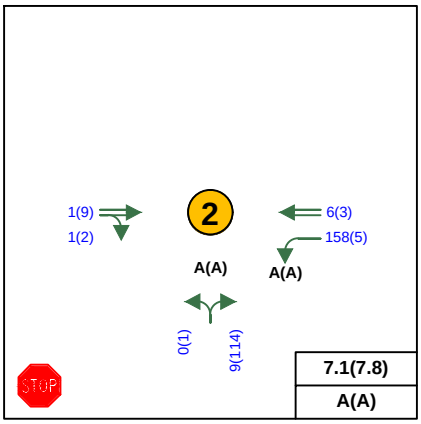
It can be seen from the tables that all but one of the intersections will operate at acceptable levels of service (LOS A or B) with the addition of the background traffic growth. The intersection that does not operate at an acceptable level of service is the main entrance to the site at San Mateo and Venice. This intersection operates at LOS F in the AM peak due to the westbound left exiting Venice traffic. However, this intersection has just 11 vehicles exiting onto San Mateo, of which eight (8) enter the site and one (1) exits left to southbound San Mateo. Both of these movements either came from the Frontage Road or from a business along Venice, and have alternate routes that could avoid any excessive congestion. If they are entering the site, the entering traffic could use Balloon Fiesta Parkway, which has excellent performance at San Mateo. For the vehicle turning left onto southbound San Mateo, the traffic could proceed east and use the I-25 southbound frontage road.

Table 5 – 2018 No Build Signalized Intersection Capacity Analysis Results						
Signalized Intersections	2018 No Build AM Peak			2018 No Build PM Peak		
	Delay (sec.)	V/C	LOS	Delay (sec.)	V/C	LOS
Alameda and San Mateo	24.3	0.91	C*	28.9	0.66	C
110-second cycle length **-movement LOS E						

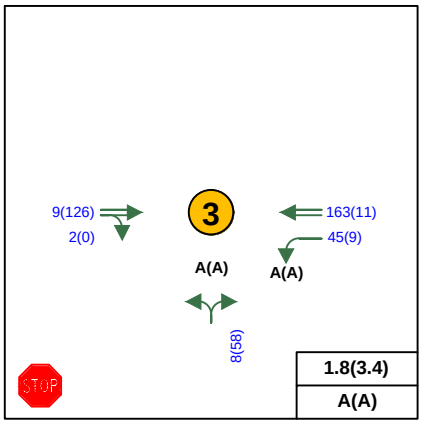
Table 6– 2018 No Build AM and PM Unsignalized Intersection Results								
Intersection/Movement	2018 No Build AM Peak				2018 No Build PM Peak			
	Delay	v/c	Queue* (ft.)	LOS	Delay	v/c	Queue* (ft.)	LOS
Balloon Fiesta Parkway and West	7.1			A	7.8			A
NB Approach	8.4	0.01	0	A	9.0	0.15	25	A
WB Left	7.6	0.13	25	A	7.3	0.01	0	A
Balloon Fiesta Parkway and East	1.8			A	3.4			A
NB Approach	8.4	0.02	0	A	9.3	0.11	25	A
WB Left	7.4	0.04	25	A	7.7	0.01	0	A
Balloon Fiesta Parkway and San Mateo	5.3			A	2.3			A
NB Left	14.1	0.16	25	B	13.0	0.03	25	B
NB Right	8.6	0.06	25	A	9.7	0.04	25	A
WB Left	7.7	0.11	25	A	8.2	0.07	25	A
San Mateo and Pasadena	3.5			A	7.1			A
NB Left	8.0	0.14	25	A	7.6	0.01	0	A
EB Approach	13.7	0.05	25	B	11.3	0.34	50	B
WB Approach	16.3	0.04	25	C	11.9	0.06	25	B
SB Left	0.0	0.00	0	A	0.0	0.00	0	A
San Mateo and Venice	5.3			F	13.8			B
NB Left	8.8	0.35	50	A	8.1	0.02	25	A
EB Approach	12.8	0.07	25	B	22.7	0.72	175	C
WB Approach	58.3	0.23	25	F	26.0	0.33	50	D
SB Left	8.2	0.01	0	A	7.4	0.01	0	A
San Mateo and San Diego	2.1			A	1.3			A
NB Left	7.4	0.01	0	A	9.8	0.01	0	A
EB Approach	17.6	0.25	25	C	20.1	0.14	25	C
WB Approach	23.3	0.13	25	C	13.9	0.06	25	B
SB Left	10.0	0.01	0	A	7.4	0.01	0	A
* - HCM 95th percentile queue rounded to next 25-foot increment								



San Mateo/Alameda



West/BFP



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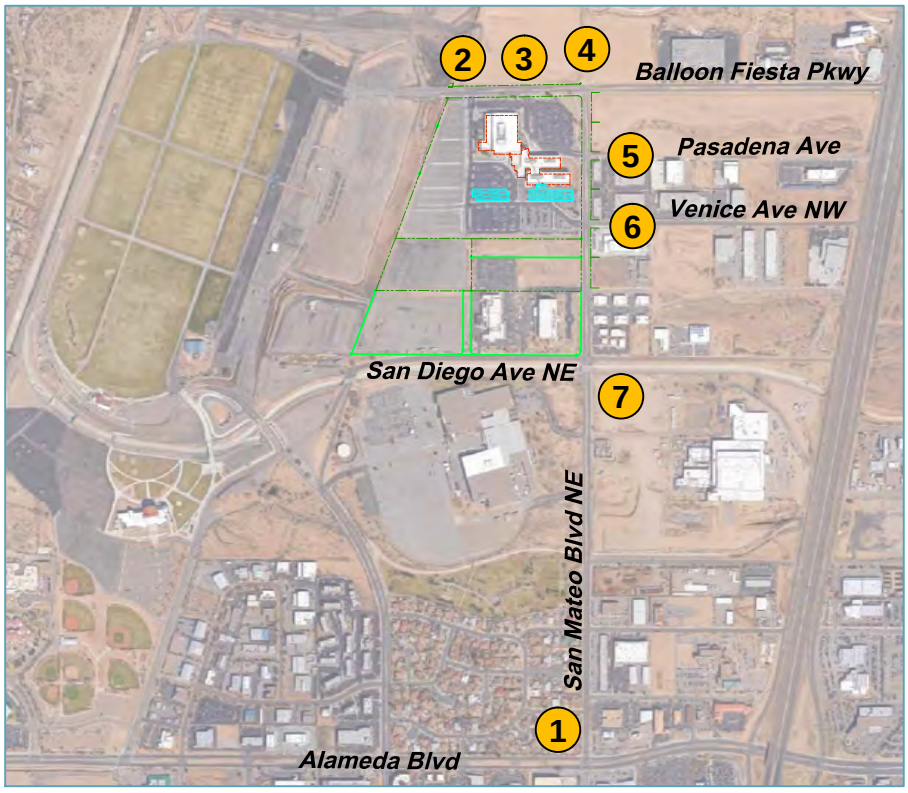
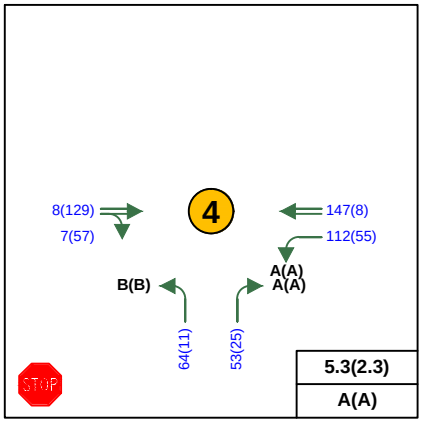




San Mateo/BFP

LEGEND

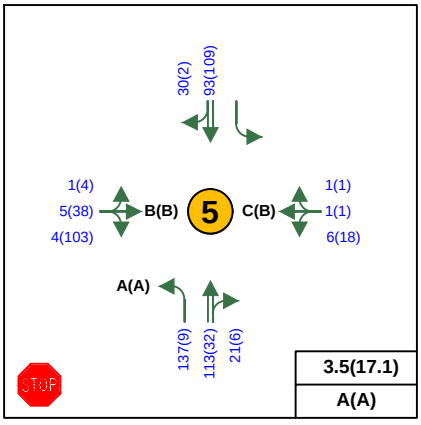
Thru Lanes (# as indicated)

Turning Lanes (# as indicated)

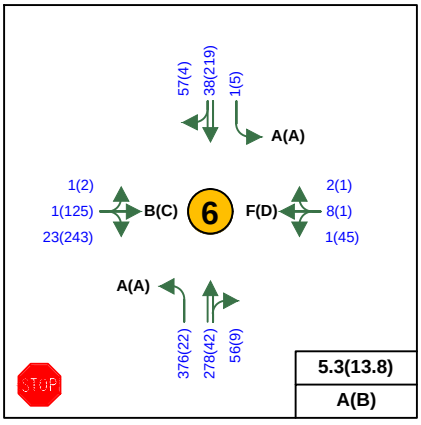
1234(1234) Trip Assignment Percentages

N Entering

X Exiting



San Mateo/Pasadena



San Mateo/Venice

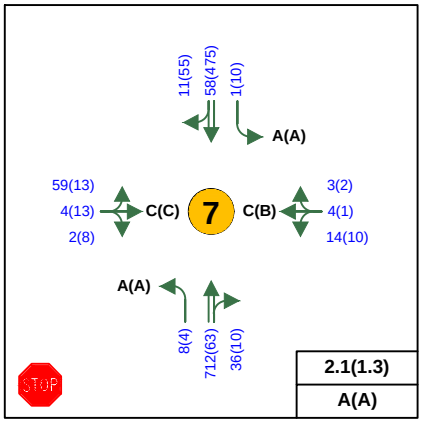


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FIGURE 6
2018 AM (PM) PEAK HOUR
TRAFFIC VOLUMES

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2. 2018 BUILD TRAFFIC VOLUMES

The trips generated by the site (Table 4) were assigned to the intersections using the percentages shown in Figure 4, and volumes assigned at each intersection in 15. These trips were added to the 2018 No-Build traffic projections in Figure 6. Details of the 2018 Build traffic volume computations are included in Appendix E.

Table 7 and Table 8 is a summary of the intersection level of service for the 2018 build traffic, and Figure 7 also shows the volumes, lane geometry, and movement LOS.

Table 7 – 2018 Build Signalized Intersection Capacity Analysis Results

Signalized Intersections	2018 Build AM Peak			2018 Build PM Peak		
	Delay (sec.)	V/C	LOS	Delay (sec.)	V/C	LOS
Alameda and San Mateo	63.3	1.31	E**	36.4	0.81	D
Add WB Right	44.7	1.14	D**			
WB Right Plus 2nd EB Left	39.5	1.08	D**			
2nd EB Left Only	48.2	1.17	D**			
110-second cycle length **-movement LOS E and F						

It can be seen from Table 7 that the intersection of San Mateo and Alameda will have additional delay due to the proposed development. The intersection will go from LOS C with movements LOS E in the No Build (Table 5) to LOS E with movements LOS F in the Build condition, as shown Figure 7. The addition of a westbound right turn lane and a second eastbound left turn lane will improve the overall intersection to LOS D, however movements will still operate at LOS F, those movements being the westbound right and the southbound left. It is not desired or practical to widen Alameda to four lanes in each direction to further improve LOS. Results are not reported for the PM peak hour as it operates acceptably without the additional improvements. This further demonstrates that the poor operation will be localized to the AM period, and that limited resources for additional improvements could be more effectively utilized in other locations with poor operations.

It should also be noted that Presbyterian allows their employees to have flexible work hours, so this congestion may not occur as employees adjust their work start times to avoid the additional delays shown above.

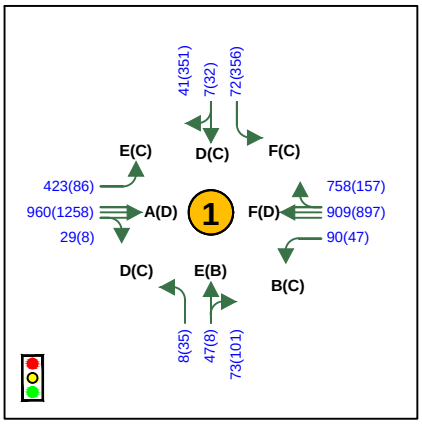
Table 8– 2018 Build AM and PM Unsignalized Intersection Results								
Intersection/Movement	2018 Build AM Peak				2018 Build PM Peak			
	Delay	v/c	Queue* (ft.)	LOS	Delay	v/c	Queue* (ft.)	LOS
Balloon Fiesta Parkway and West	7.5			A	8.5			A
NB Approach	8.4	0.02	25	A	9.4	0.24	25	A
WB Left	7.8	0.20	25	A	7.3	0.01	0	A
Balloon Fiesta Parkway and East	1.8			A	3.5			A
NB Approach	8.4	0.02	25	A	9.9	0.18	25	A
WB Left	7.4	0.06	25	A	7.9	0.01	0	A
Balloon Fiesta Parkway and San Mateo	5.3			A	2.3			A
NB Left	18.2	0.28	50	C	12.1	0.03	25	B
NB Right	8.6	0.06	25	A	9.5	0.04	25	A
WB Left	7.8	0.13	25	A	8.0	0.05	25	A
San Mateo and Pasadena	4.7			A	6.2			A
NB Left	8.3	0.22	25	A	7.7	0.01	0	A
EB Approach	17.3	0.10	25	C	11.3	0.31	50	B
WB Approach	25.3	0.06	25	D	12.0	0.05	25	B
SB Left	0.0	0.00	0	A	0.0	0.00	0	A
San Mateo and Venice	15.1			F	58.1			F
NB Left	10.5	0.55	200	B	8.8	0.04	25	A
EB Approach	118.8	0.68	100	F	112.3	1.15	550	F
WB Approach	470	1.00	75	F	76.2	0.55	75	F
SB Left	8.7	0.01	0	A	7.4	0.01	0	A
San Mateo and Venice – Add EB Right	13.9			F	13.3			F
NB Left	10.5	0.55	100	B	8.8	0.04	25	A
EB Through/Left	433	0.62	50	F	28.4	0.59	100	D
EB Right	8.9	0.05	25	A	15.6	0.56	100	C
WB Approach	470	1.0	75	F	76.2	0.55	75	F
SB Left	8.7	0.01	0	A	7.4	0.01	0	A
San Mateo and San Diego	3.4			A	1.6			A
NB Left	7.5	0.01	0	A	11.5	0.01	0	A
EB Approach	31.4	0.49	75	D	34.4	0.26	25	D
WB Approach	45.0	0.25	25	E	17.8	0.09	25	C
SB Left	12.0	0.01	0	A	7.5	0.01	0	A
* - HCM 95th percentile queue rounded to next 25-foot increment								

As with the existing and No Build scenarios, all of the unsignalized intersections operate at acceptable levels of service in the Build scenario, except the main entrance to the site at Venice Avenue. This intersection continues to operate at LOS F, though now both in the AM and PM peak hours.

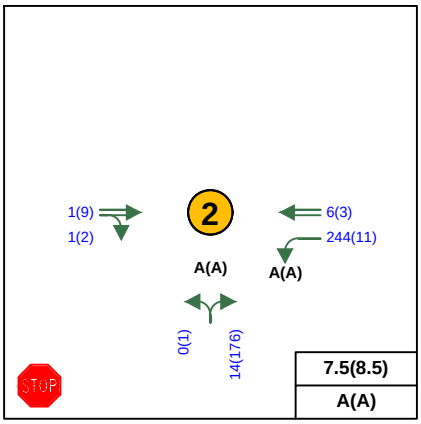
However as mentioned, this poor performance is due primarily to the minor street exiting traffic. An eastbound right turn lane would reduce exiting delay from the site.

The majority of this exiting traffic, either from the site or from Venice Avenue, desire to travel south, as there is no access north to Roy Avenue due to Sandia Pueblo lands. For employees exiting eastbound right or through, if the congestion is considered excessive, they have the exits onto Balloon Fiesta Parkway to utilize to either access San Mateo southbound or the I-25 southbound frontage road. As shown in Table 8, these intersections operate at excellent levels of service. For westbound left turning vehicles exiting Venice Avenue, if delay is excessive, they can also head east to the I-25 southbound frontage road. Consideration should be given to adding an eastbound right turn lane to reduce delay at this intersection.

Due to the poor performance of the intersection, a peak hour traffic signal warrant analysis was performed. This analysis found that a traffic signal is not warranted at this location. The peak hour traffic signal warrant analysis is included in APPENDIX G.



San Mateo/Alameda



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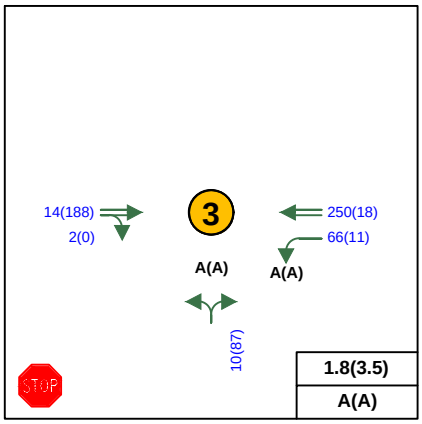

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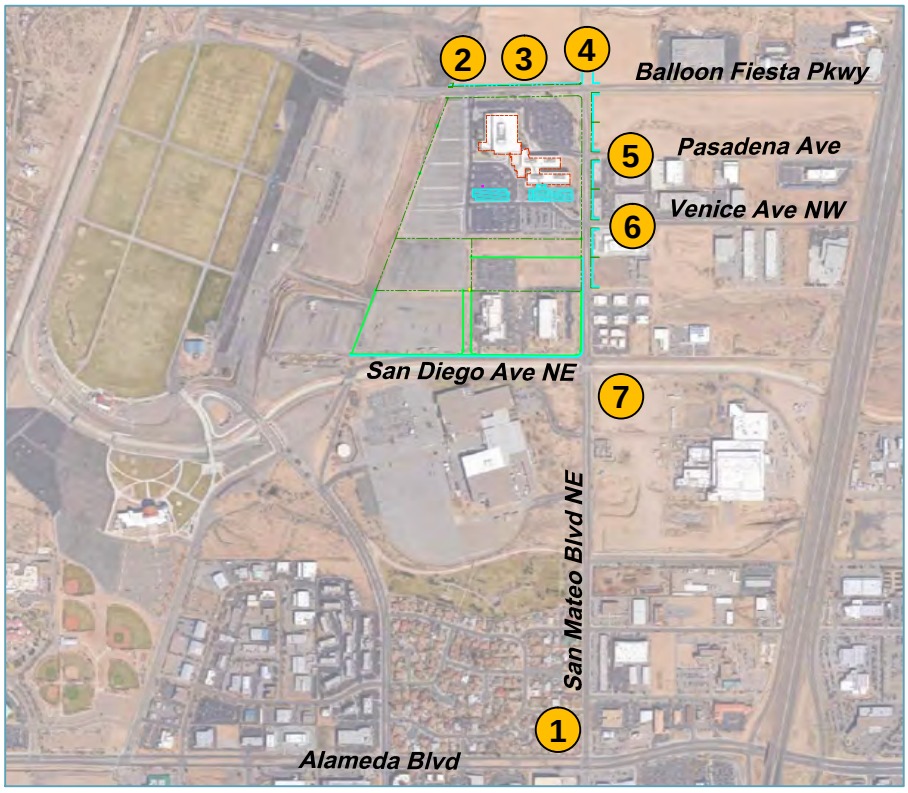
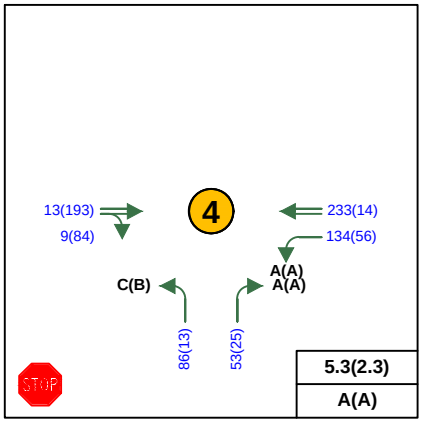
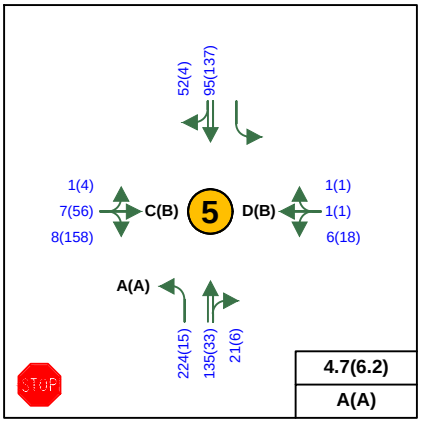




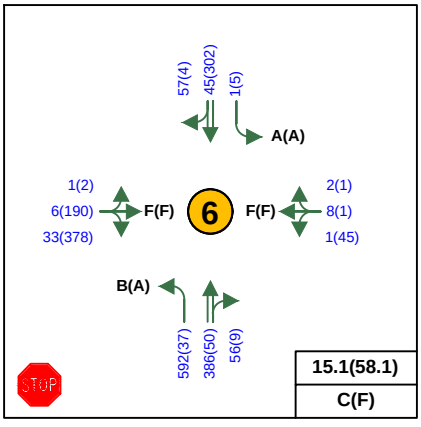
San Mateo/BFP

LEGEND

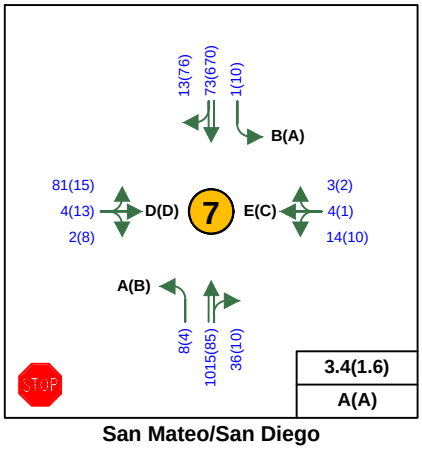
	Thru Lanes (# as indicated)
	Turning Lanes (# as indicated)
1234(1234)	Trip Assignment Percentages
N	Entering
X	Exiting



San Mateo/Pasadena



San Mateo/Venice



San Mateo/San Diego

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VII. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

The traffic analysis shows that under existing, and 2018 no-build conditions, the intersections studied operate at acceptable levels of service, although there is some localized congestion at the San Mateo and Venice Avenue intersection, the main entrance to the site, in the AM peak hour.

In the 2018 build scenario, the intersection of Alameda and San Mateo will operate at LOS E, with movements LOS F. This analysis includes the City project to widen Alameda one lane in each direction in 2018/2019. To improve operations of the intersection to LOS D, a westbound right turn lane and a second eastbound left turn lane is required. This will improve overall operation to LOS D, however the westbound right turn and the southbound left turn will operate at LOS F. It is not desired or practical to widen Alameda to four lanes in each direction to further improve LOS as the results found the poor operation will be localized to the AM period. It was determined that limited resources for additional improvements could be more effectively utilized in other locations that need improvements.

The analysis found the site added 34% more traffic to both the eastbound left and westbound right turn movements during the AM peak hour, the period in which the additional improvements are required to result in LOS D.

The results also found that the intersection of San Mateo and Venice Avenue, the main entrance to the site, would operate at LOS F in the AM and PM peak hours in the build scenario. This is due to the minor street traffic delay caused by the entering traffic in the AM peak hour, and the volume of exiting traffic in the PM peak hour. Traffic exiting the site can utilize the exit onto Balloon Fiesta Parkway, which operates at acceptable levels of service. This traffic can either use San Mateo, or the southbound I-25 frontage road, if delays become excessive. Alternatively, an eastbound right turn lane would also reduce delay. This is also true for westbound Venice traffic. This westbound traffic can travel east a short distance to access the southbound I-25 frontage road.

A peak hour traffic signal warrant analysis was performed for this intersection, however traffic volumes were not sufficient to warrant a traffic signal. Therefore, no improvements will be recommended for this intersection.

It should also be noted that Presbyterian allows their employees to have flexible work hours, so this congestion may not occur as employees adjust their work start times to avoid the additional delays shown above.

It is also important to remember that both buildings will not be completely constructed or occupied by 2018. As mentioned previously, it is expected that only 50% of the first building will be occupied by 2018, and the second building is 5-10 years away. Presbyterian is committed to long-term planning for their facilities, while working with the City to mitigate potential deficiencies that may arise.

B. RECOMMENDATIONS

It is recommended that a westbound right turn lane and a second eastbound left turn lane at San Mateo and Alameda be added to the City project to widen Alameda one-lane in each direction from I-25 to 2nd Street. This first phase of this project, widening from I-25 to Jefferson, is currently planned for Federal fiscal year 2018/2019, near when the buildings will be completed and initially occupied. As Presbyterian adds 34% additional traffic to the movements requiring improvement, it is recommended Presbyterian contribute 34% of the cost of these additional lanes to the City via a Procedure C Subdivision Improvements Agreement. Documentation of this improvement and estimate is included in APPENDIX H.

It is not recommended that Presbyterian be required to build the improvements, as it is likely that any improvement constructed now would be removed or partially constructed when the City project widens Alameda.

APPENDIX A
CITY SCOPING LETTER

CITY OF ALBUQUERQUE

STANDARD LETTER

SCOPE OF TRAFFIC IMPACT STUDY (TIS)

TO: Eric Wrage
Bohannan-Huston, Inc.
7500 Jefferson Street NE
Albuquerque, NM 87109

MEETING DATE: January 29, 2015

ATTENDEES: Jeanne Wolfenbarger, City of Albuquerque
Eric Wrage, Bohannan-Huston, Inc.

PROJECT: Presbyterian Healthcare Services Cooper Center (Balloon Fiesta Parkway and San Mateo Boulevard)

REQUESTED CITY ACTION: ___Zone Change X Site Development Plan

___Subdivision ___Building Permit ___Sector Plan ___Sector Plan Amendment

___Curb Cut Permit ___Conditional Use ___Annexation ___Site Plan Amendment

ASSOCIATED APPLICATION: The existing Presbyterian Healthcare Services at the intersection of Balloon Fiesta Parkway and San Mateo Boulevard will expand to include roughly another 180,000 square feet of space. More offices and food services will be added on to the existing facility.

The Traffic Impact Study should follow the standard report format, which is outlined in the DPM. The following supplemental information is provided for the preparation of this specific study. As each item identified in the scoping letter is completed, check the appropriate (box).

1. Trip Generation - Use Trip Generation Manual, 9th Edition.

2. Appropriate study area:

Signalized Intersection:

- **Alameda Blvd./San Mateo Blvd.**

Unsignalized Intersections:

- **Balloon Fiesta Parkway/San Mateo Blvd.**
- **San Mateo Blvd./San Diego Ave.**
- **San Mateo Blvd./Beverly Hills Ave.**
- **San Mateo Blvd./Venice Ave.**
- **San Mateo Blvd./Pasadena Ave.**

Driveway Intersections at all site drives.

3. Intersection turning movement counts (7-9 a.m. peak hour, 4-6 p.m. peak hour).
Intersections provided: consultant to provide for all intersections listed above.

Intersections that need to be counted by developer: signalized and unsignalized listed above.

4. Existing traffic signal timing.
Intersections provided: signalized intersections listed above.

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Albuquerque
New Mexico 87103
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5. Type of intersection progression and factors to be used.
Type III arrival type (see "2010 Highway Capacity Manual" or equivalent as approved by staff). Unless otherwise justified, peak hour factors and % heavy commercial should be taken directly from the MRCOG turning movement data provided or as calculated from current count data by consultant.

6. Boundaries of area to be used for trip distribution.
City Wide - residential, office or industrial;

7. Basis for trip distribution.
Residential – Use inverse relationship based upon distance and employment. Use employment data from 2035 Socioeconomic Forecasts, MRCOG – See MRCOG website for most current data.

Office/Industrial - Use inverse relationship based upon distance and population. Use population data from 2035 Socioeconomic Forecasts, MRCOG – See MRCOG website for most current data.

Commercial - Use relationship based upon population. Use population data from 2035 Socioeconomic Forecasts, MRCOG – See MRCOG website for most current data.

8. Traffic Assignment. Logical routing on the major street system.

9. Proposed developments which have been approved but not constructed that are to be Included in the analyses: None.

10. Method of intersection capacity analysis - planning or operational (see "2010 Highway Capacity Manual" or equivalent [i.e. HCS, Synchro, Teapac, etc.] as approved by staff). Must use latest version of design software and/or current edition of design manual.
Implementation Year: 2018

11. Traffic conditions for analysis:

    a. Project completion year without proposed development (year 2018);

    b. Project completion year with proposed development (year 2018).

12. Background traffic growth.
Method: use 10-year historical growth based on standard data from the MRCOG Traffic Flow Maps. Minimum growth rate to be used is 1/2%.

13. Planned (programmed) traffic improvements.
List planned CIP improvements in study area and projected project implementation year:

- **Alameda Widening (I-25 to 2nd Street): Includes widening of Alameda Blvd. by one thru lane in each direction of traffic and one bike lane in each direction, Implementation Year: 2018.**

- **San Mateo Storm Drain Project (Storm Drain on San Mateo from Alameda north to La Cueva Channel south of San Diego Avenue), Implementation Year: 2017.**

14. Items to be included in the study:
    a. Intersection analysis.
    b. Signal progression - An analysis is required if the driveway analysis indicates a traffic signal is possibly warranted. Analysis Method:
    c. Arterial LOS analysis;
    d. Recommended street, intersection and signal improvements.
    e. Site design features such as turning lanes, median cuts, queuing requirements and site circulation, including driveway signalization and visibility.
    f. Transportation system impacts.
    g. Other mitigating measures.
    h. Accident analyses ___yes X no.
    i. Weaving analyses ___yes X no.

15. Number of copies of report required 2 (inc. electronic copy)
Executive Summary Required ___yes X no

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The Traffic Impact Study for this development proposal, project name, shall be performed in accordance with the above criteria. If there are any questions regarding the above items, please contact me at 924-3924.

01-28-15

Jeanne Wolfenbarger
Senior Engineer for
Transportation Development Section

Date

cc: TIS Task Force Attendees
file

APPENDIX B
EXISTING TRAFFIC COUNTS

Mike Henderson Consulting, LLC

5301 Camino Sandia NE
Albuquerque, NM 87111
(505) 275-5706

Collected by: MH17
PM period was recounted on Thursday, 10-22-2015 due to incident that closed I-40 on 10-20-2015.

File Name : San Mateo & Alameda
Site Code :
Start Date : 10/20/2015
Page No : 1

Groups Printed- Car - Truck

	Alameda Blvd Eastbound				Alameda Blvd Westbound				San Mateo Blvd Northbound				San Mateo Blvd Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:45	41	220	5	266	29	168	83	280	2	1	7	10	14	0	6	20	576
Total	41	220	5	266	29	168	83	280	2	1	7	10	14	0	6	20	576
07:00	66	278	8	352	19	146	83	248	1	6	5	12	10	2	16	28	640
07:15	58	235	3	296	14	164	92	270	1	6	15	22	8	2	6	16	604
07:30	83	259	10	352	27	190	125	342	0	13	11	24	16	1	9	26	744
07:45	74	203	12	289	26	262	192	480	5	21	25	51	20	3	8	31	851
Total	281	975	33	1289	86	762	492	1340	7	46	56	109	54	8	39	101	2839
08:00	88	226	3	317	20	258	133	411	2	5	19	26	17	1	11	29	783
08:15	58	190	4	252	6	191	89	286	2	3	21	26	10	1	14	25	589
08:30	40	180	3	223	9	211	85	305	1	6	8	15	13	1	12	26	569
08:45	43	187	4	234	8	231	84	323	1	1	11	13	16	0	12	28	598
Total	229	783	14	1026	43	891	391	1325	6	15	59	80	56	3	49	108	2539
09:00	23	195	6	224	7	194	58	259	2	1	14	17	20	0	8	28	528
09:15	25	174	4	203	9	200	50	259	0	4	11	15	18	1	13	32	509
09:30	20	185	3	208	10	223	37	270	0	2	8	10	13	2	13	28	516
*** BREAK ***																	
Total	68	554	13	635	26	617	145	788	2	7	33	42	51	3	34	88	1553
*** BREAK ***																	
15:00	21	256	4	281	15	231	18	264	2	2	19	23	42	2	35	79	647
15:15	17	218	2	237	14	236	29	279	5	3	11	19	36	3	33	72	607
15:30	19	276	2	297	27	225	34	286	6	1	22	29	27	5	58	90	702
15:45	15	262	4	281	15	219	26	260	5	4	13	22	40	0	39	79	642
Total	72	1012	12	1096	71	911	107	1089	18	10	65	93	145	10	165	320	2598
16:00	16	288	5	309	9	214	22	245	2	6	25	33	58	1	62	121	708
16:15	18	295	3	316	17	241	30	288	7	1	12	20	49	8	47	104	728
16:30	11	318	2	331	10	230	35	275	3	3	33	39	62	14	61	137	782
16:45	25	283	2	310	10	201	36	247	7	2	19	28	44	2	51	97	682
Total	70	1184	12	1266	46	886	123	1055	19	12	89	120	213	25	221	459	2900
17:00	22	325	1	348	9	199	38	246	17	2	34	53	72	7	111	190	837
17:15	16	284	1	301	10	199	34	243	3	3	13	19	58	12	56	126	689
17:30	18	221	0	239	3	180	30	213	6	1	8	15	49	5	46	100	567
17:45	19	211	3	233	5	194	30	229	1	2	5	8	32	2	25	59	529
Total	75	1041	5	1121	27	772	132	931	27	8	60	95	211	26	238	475	2622
Grand Total	836	5769	94	6699	328	5007	1473	6808	81	99	369	549	744	75	752	1571	15627
Apprch %	12.5	86.1	1.4		4.8	73.5	21.6		14.8	18	67.2		47.4	4.8	47.9		
Total %	5.3	36.9	0.6	42.9	2.1	32	9.4	43.6	0.5	0.6	2.4	3.5	4.8	0.5	4.8	10.1	
Car	806	5564	84	6454	304	4815	1446	6565	77	95	344	516	721	69	734	1524	15059
% Car	96.4	96.4	89.4	96.3	92.7	96.2	98.2	96.4	95.1	96	93.2	94	96.9	92	97.6	97	96.4
Truck	30	205	10	245	24	192	27	243	4	4	25	33	23	6	18	47	568
% Truck	3.6	3.6	10.6	3.7	7.3	3.8	1.8	3.6	4.9	4	6.8	6	3.1	8	2.4	3	3.6

Mike Henderson Consulting, LLC
5301 Camino Sandia NE
Albuquerque, NM 87111
(505) 275-5706

Collected by: MH17
PM period was recounted on Thursday, 10-22-2015 due to incident that closed I-40 on 10-20-2015.

File Name : San Mateo & Alameda
Site Code :
Start Date : 10/20/2015

	Alameda Blvd Eastbound				Alameda Blvd Westbound				San Mateo Blvd Northbound				San Mateo Blvd Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:45 to 11:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	58	235	3	296	14	164	92	270	1	6	15	22	8	2	6	16	604
07:30	83	259	10	352	27	190	125	342	0	13	11	24	16	1	9	26	744
07:45	74	203	12	289	26	262	192	480	5	21	25	51	20	3	8	31	851
08:00	88	226	3	317	20	258	133	411	2	5	19	26	17	1	11	29	783
Total Volume	303	923	28	1254	87	874	542	1503	8	45	70	123	61	7	34	102	2982
% App. Total	24.2	73.6	2.2		5.8	58.2	36.1		6.5	36.6	56.9		59.8	6.9	33.3		
PHF	.861	.891	.583	.891	.806	.834	.706	.783	.400	.536	.700	.603	.763	.583	.773	.823	.876
Car	298	876	25	1199	83	841	537	1461	7	44	62	113	54	5	33	92	2865
% Car	98.3	94.9	89.3	95.6	95.4	96.2	99.1	97.2	87.5	97.8	88.6	91.9	88.5	71.4	97.1	90.2	96.1
Truck	5	47	3	55	4	33	5	42	1	1	8	10	7	2	1	10	117
% Truck	1.7	5.1	10.7	4.4	4.6	3.8	0.9	2.8	12.5	2.2	11.4	8.1	11.5	28.6	2.9	9.8	3.9
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	18	295	3	316	17	241	30	288	7	1	12	20	49	8	47	104	728
16:30	11	318	2	331	10	230	35	275	3	3	33	39	62	14	61	137	782
16:45	25	283	2	310	10	201	36	247	7	2	19	28	44	2	51	97	682
17:00	22	325	1	348	9	199	38	246	17	2	34	53	72	7	111	190	837
Total Volume	76	1221	8	1305	46	871	139	1056	34	8	98	140	227	31	270	528	3029
% App. Total	5.8	93.6	0.6		4.4	82.5	13.2		24.3	5.7	70		43	5.9	51.1		
PHF	.760	.939	.667	.938	.676	.904	.914	.917	.500	.667	.721	.660	.788	.554	.608	.695	.905
Car	71	1200	7	1278	39	842	138	1019	34	8	96	138	226	29	267	522	2957
% Car	93.4	98.3	87.5	97.9	84.8	96.7	99.3	96.5	100	100	98.0	98.6	99.6	93.5	98.9	98.9	97.6
Truck	5	21	1	27	7	29	1	37	0	0	2	2	1	2	3	6	72
% Truck	6.6	1.7	12.5	2.1	15.2	3.3	0.7	3.5	0	0	2.0	1.4	0.4	6.5	1.1	1.1	2.4

Mike Henderson Consulting, LLC
5301 Camino Sandia NE
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Collected by: MH15

File Name : San Mateo & San Diego
Site Code :
Start Date : 10/20/2015
Page No : 1

Groups Printed- Car - Truck

	San Diego Ave Eastbound				San Diego Ave Westbound				San Mateo Blvd Northbound				San Mateo Blvd Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:45	6	1	0	7	1	1	0	2	0	93	6	99	0	7	1	8	116
Total	6	1	0	7	1	1	0	2	0	93	6	99	0	7	1	8	116
07:00	5	1	0	6	2	1	0	3	2	116	6	124	0	12	0	12	145
07:15	9	0	1	10	0	2	0	2	1	103	3	107	0	7	4	11	130
07:30	12	1	0	13	3	0	1	4	2	171	10	183	1	18	3	22	222
07:45	23	0	0	23	4	2	1	7	2	215	8	225	0	15	4	19	274
Total	49	2	1	52	9	5	2	16	7	605	27	639	1	52	11	64	771
08:00	12	3	0	15	3	1	0	4	3	180	12	195	0	12	3	15	229
08:15	10	0	2	12	3	1	1	5	1	119	5	125	0	11	1	12	154
08:30	6	0	1	7	0	0	0	0	2	86	7	95	0	9	0	9	111
08:45	4	0	1	5	0	1	1	2	2	84	8	94	0	12	1	13	114
Total	32	3	4	39	6	3	2	11	8	469	32	509	0	44	5	49	608
09:00	2	0	0	2	0	2	1	3	3	58	8	69	0	8	2	10	84
09:15	4	0	0	4	1	0	0	1	0	53	6	59	0	11	1	12	76
09:30	2	0	0	2	0	0	0	0	3	38	4	45	0	19	0	19	66
*** BREAK ***																	
Total	8	0	0	8	1	2	1	4	6	149	18	173	0	38	3	41	226
*** BREAK ***																	
15:00	2	0	1	3	1	0	2	3	1	21	2	24	0	45	4	49	79
15:15	2	0	1	3	0	1	1	2	1	31	4	36	1	37	5	43	84
15:30	1	0	0	1	1	0	0	1	1	20	4	25	3	73	5	81	108
15:45	1	2	0	3	1	0	0	1	0	29	0	29	0	47	1	48	81
Total	6	2	2	10	3	1	3	7	3	101	10	114	4	202	15	221	352
16:00	3	2	0	5	0	0	0	0	2	16	5	23	0	114	10	124	152
16:15	0	5	1	6	1	1	0	2	0	16	4	20	3	80	6	89	117
16:30	2	4	1	7	1	0	0	1	0	14	3	17	0	119	16	135	160
16:45	8	1	1	10	1	0	1	2	1	14	0	15	2	73	8	83	110
Total	13	12	3	28	3	1	1	5	3	60	12	75	5	386	40	431	539
17:00	1	3	4	8	6	1	0	7	2	19	4	25	1	184	16	201	241
17:15	2	5	2	9	2	0	1	3	1	14	3	18	7	85	13	105	135
17:30	3	3	2	8	2	1	0	3	1	14	0	15	1	70	7	78	104
17:45	1	0	1	2	1	2	0	3	1	19	2	22	0	49	9	58	85
Total	7	11	9	27	11	4	1	16	5	66	9	80	9	388	45	442	565
Grand Total	121	31	19	171	34	17	10	61	32	1543	114	1689	19	1117	120	1256	3177
Apprch %	70.8	18.1	11.1		55.7	27.9	16.4		1.9	91.4	6.7		1.5	88.9	9.6		
Total %	3.8	1	0.6	5.4	1.1	0.5	0.3	1.9	1	48.6	3.6	53.2	0.6	35.2	3.8	39.5	
Car	104	30	17	151	33	17	8	58	19	1505	107	1631	19	1100	117	1236	3076
% Car	86	96.8	89.5	88.3	97.1	100	80	95.1	59.4	97.5	93.9	96.6	100	98.5	97.5	98.4	96.8
Truck	17	1	2	20	1	0	2	3	13	38	7	58	0	17	3	20	101
% Truck	14	3.2	10.5	11.7	2.9	0	20	4.9	40.6	2.5	6.1	3.4	0	1.5	2.5	1.6	3.2

Mike Henderson Consulting, LLC
5301 Camino Sandia NE
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Collected by: MH15

File Name : San Mateo & San Diego
Site Code :
Start Date : 10/20/2015

	San Diego Ave Eastbound				San Diego Ave Westbound				San Mateo Blvd Northbound				San Mateo Blvd Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:45 to 11:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	12	1	0	13	3	0	1	4	2	171	10	183	1	18	3	22	222
07:45	23	0	0	23	4	2	1	7	2	215	8	225	0	15	4	19	274
08:00	12	3	0	15	3	1	0	4	3	180	12	195	0	12	3	15	229
08:15	10	0	2	12	3	1	1	5	1	119	5	125	0	11	1	12	154
Total Volume	57	4	2	63	13	4	3	20	8	685	35	728	1	56	11	68	879
% App. Total	90.5	6.3	3.2		65	20	15		1.1	94.1	4.8		1.5	82.4	16.2		
PHF	.620	.333	.250	.685	.813	.500	.750	.714	.667	.797	.729	.809	.250	.778	.688	.773	.802
Car	54	4	1	59	13	4	3	20	6	676	33	715	1	54	11	66	860
% Car	94.7	100	50.0	93.7	100	100	100	100	75.0	98.7	94.3	98.2	100	96.4	100	97.1	97.8
Truck	3	0	1	4	0	0	0	0	2	9	2	13	0	2	0	2	19
% Truck	5.3	0	50.0	6.3	0	0	0	0	25.0	1.3	5.7	1.8	0	3.6	0	2.9	2.2
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	2	4	1	7	1	0	0	1	0	14	3	17	0	119	16	135	160
16:45	8	1	1	10	1	0	1	2	1	14	0	15	2	73	8	83	110
17:00	1	3	4	8	6	1	0	7	2	19	4	25	1	184	16	201	241
17:15	2	5	2	9	2	0	1	3	1	14	3	18	7	85	13	105	135
Total Volume	13	13	8	34	10	1	2	13	4	61	10	75	10	461	53	524	646
% App. Total	38.2	38.2	23.5		76.9	7.7	15.4		5.3	81.3	13.3		1.9	88	10.1		
PHF	.406	.650	.500	.850	.417	.250	.500	.464	.500	.803	.625	.750	.357	.626	.828	.652	.670
Car	9	13	8	30	10	1	2	13	2	55	10	67	10	458	52	520	630
% Car	69.2	100	100	88.2	100	100	100	100	50.0	90.2	100	89.3	100	99.3	98.1	99.2	97.5
Truck	4	0	0	4	0	0	0	0	2	6	0	8	0	3	1	4	16
% Truck	30.8	0	0	11.8	0	0	0	0	50.0	9.8	0	10.7	0	0.7	1.9	0.8	2.5

Mike Henderson Consulting, LLC
5301 Camino Sandia NE
Albuquerque, NM 87111
(505) 275-5706

Collected by: MH7

File Name : San Mateo & Venice
Site Code :
Start Date : 10/20/2015
Page No : 1

Groups Printed- Car - Truck

	South Entrance Eastbound				Venice Ave Westbound				San Mateo Blvd Northbound				San Mateo Blvd Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:45	0	1	1	2	0	2	0	2	48	29	4	81	0	6	7	13	98
Total	0	1	1	2	0	2	0	2	48	29	4	81	0	6	7	13	98
07:00	1	0	2	3	0	1	0	1	57	48	4	109	0	10	11	21	134
07:15	0	2	2	4	0	1	0	1	57	37	8	102	0	11	10	21	128
07:30	0	0	5	5	0	1	2	3	77	73	12	162	1	9	14	24	194
07:45	0	1	7	8	1	4	0	5	120	89	16	225	0	10	22	32	270
Total	1	3	16	20	1	7	2	10	311	247	40	598	1	40	57	98	726
08:00	1	0	7	8	0	1	0	1	96	64	13	173	0	10	11	21	203
08:15	0	0	3	3	0	2	0	2	69	41	13	123	0	8	8	16	144
08:30	0	3	4	7	1	0	0	1	42	27	15	84	0	5	4	9	101
08:45	0	2	2	4	2	1	0	3	30	33	7	70	0	8	2	10	87
Total	1	5	16	22	3	4	0	7	237	165	48	450	0	31	25	56	535
09:00	0	1	2	3	3	0	1	4	22	26	8	56	1	4	6	11	74
09:15	0	2	2	4	2	0	0	2	22	17	10	49	2	4	3	9	64
09:30	1	2	2	5	3	0	0	3	13	12	8	33	0	14	2	16	57
*** BREAK ***																	
Total	1	5	6	12	8	0	1	9	57	55	26	138	3	22	11	36	195
*** BREAK ***																	
15:00	0	22	18	40	4	0	0	4	8	10	5	23	1	23	2	26	93
15:15	0	21	25	46	1	0	1	2	5	16	7	28	3	12	0	15	91
15:30	2	20	41	63	2	0	0	2	4	8	6	18	0	32	0	32	115
15:45	0	13	28	41	8	0	0	8	7	9	7	23	0	12	1	13	85
Total	2	76	112	190	15	0	1	16	24	43	25	92	4	79	3	86	384
16:00	0	23	65	88	9	0	0	9	2	6	7	15	0	44	0	44	156
16:15	0	21	40	61	7	0	0	7	6	3	3	12	1	37	0	38	118
16:30	0	38	60	98	11	0	0	11	9	7	1	17	0	62	1	63	189
16:45	1	22	38	61	11	0	0	11	7	10	4	21	2	30	0	32	125
Total	1	104	203	308	38	0	0	38	24	26	15	65	3	173	1	177	588
17:00	0	36	85	121	17	1	1	19	3	12	3	18	2	86	1	89	247
17:15	1	25	53	79	5	0	0	5	2	12	1	15	1	35	2	38	137
17:30	0	26	38	64	9	1	1	11	1	9	2	12	0	33	0	33	120
17:45	0	20	20	40	7	0	0	7	6	8	2	16	1	22	0	23	86
Total	1	107	196	304	38	2	2	42	12	41	8	61	4	176	3	183	590
Grand Total	7	301	550	858	103	15	6	124	713	606	166	1485	15	527	107	649	3116
Apprch %	0.8	35.1	64.1		83.1	12.1	4.8		48	40.8	11.2		2.3	81.2	16.5		
Total %	0.2	9.7	17.7	27.5	3.3	0.5	0.2	4	22.9	19.4	5.3	47.7	0.5	16.9	3.4	20.8	
Car	7	299	549	855	94	15	5	114	710	574	157	1441	15	516	107	638	3048
% Car	100	99.3	99.8	99.7	91.3	100	83.3	91.9	99.6	94.7	94.6	97	100	97.9	100	98.3	97.8
Truck	0	2	1	3	9	0	1	10	3	32	9	44	0	11	0	11	68
% Truck	0	0.7	0.2	0.3	8.7	0	16.7	8.1	0.4	5.3	5.4	3	0	2.1	0	1.7	2.2

Mike Henderson Consulting, LLC
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Collected by: MH7

File Name : San Mateo & Venice
Site Code :
Start Date : 10/20/2015

	South Entrance Eastbound				Venice Ave Westbound				San Mateo Blvd Northbound				San Mateo Blvd Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:45 to 11:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	0	5	5	0	1	2	3	77	73	12	162	1	9	14	24	194
07:45	0	1	7	8	1	4	0	5	120	89	16	225	0	10	22	32	270
08:00	1	0	7	8	0	1	0	1	96	64	13	173	0	10	11	21	203
08:15	0	0	3	3	0	2	0	2	69	41	13	123	0	8	8	16	144
Total Volume	1	1	22	24	1	8	2	11	362	267	54	683	1	37	55	93	811
% App. Total	4.2	4.2	91.7		9.1	72.7	18.2		53	39.1	7.9		1.1	39.8	59.1		
PHF	.250	.250	.786	.750	.250	.500	.250	.550	.754	.750	.844	.759	.250	.925	.625	.727	.751
Car	1	1	21	23	1	8	2	11	361	259	53	673	1	37	55	93	800
% Car	100	100	95.5	95.8	100	100	100	100	99.7	97.0	98.1	98.5	100	100	100	100	98.6
Truck	0	0	1	1	0	0	0	0	1	8	1	10	0	0	0	0	11
% Truck	0	0	4.5	4.2	0	0	0	0	0.3	3.0	1.9	1.5	0	0	0	0	1.4
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	0	38	60	98	11	0	0	11	9	7	1	17	0	62	1	63	189
16:45	1	22	38	61	11	0	0	11	7	10	4	21	2	30	0	32	125
17:00	0	36	85	121	17	1	1	19	3	12	3	18	2	86	1	89	247
17:15	1	25	53	79	5	0	0	5	2	12	1	15	1	35	2	38	137
Total Volume	2	121	236	359	44	1	1	46	21	41	9	71	5	213	4	222	698
% App. Total	0.6	33.7	65.7		95.7	2.2	2.2		29.6	57.7	12.7		2.3	95.9	1.8		
PHF	.500	.796	.694	.742	.647	.250	.250	.605	.583	.854	.563	.845	.625	.619	.500	.624	.706
Car	2	121	236	359	42	1	1	44	21	37	5	63	5	211	4	220	686
% Car	100	100	100	100	95.5	100	100	95.7	100	90.2	55.6	88.7	100	99.1	100	99.1	98.3
Truck	0	0	0	0	2	0	0	2	0	4	4	8	0	2	0	2	12
% Truck	0	0	0	0	4.5	0	0	4.3	0	9.8	44.4	11.3	0	0.9	0	0.9	1.7

Mike Henderson Consulting, LLC

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Collected by: MH5

File Name : San Mateo & Pasadina
Site Code :
Start Date : 10/20/2015
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Groups Printed- Car - Truck

	North Entrance Eastbound				Pasadina Ave Westbound				San Mateo Blvd Northbound				San Mateo Blvd Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:45	0	0	0	0	1	0	0	1	4	18	6	28	0	12	0	12	41
Total	0	0	0	0	1	0	0	1	4	18	6	28	0	12	0	12	41
07:00	0	0	1	1	1	0	0	1	12	36	1	49	0	19	2	21	72
07:15	0	0	1	1	2	1	0	3	6	27	4	37	0	18	3	21	62
07:30	0	1	0	1	1	0	0	1	35	32	4	71	0	25	6	31	104
07:45	1	3	1	5	2	0	0	2	60	25	5	90	0	27	11	38	135
Total	1	4	3	8	6	1	0	7	113	120	14	247	0	89	22	111	373
08:00	0	1	2	3	1	0	1	2	31	25	7	63	0	19	9	28	96
08:15	0	0	2	2	1	1	0	2	25	13	2	40	0	12	6	18	62
08:30	0	0	2	2	0	0	0	0	15	9	2	26	0	6	7	13	41
08:45	0	1	3	4	4	1	0	5	22	10	0	32	1	3	4	8	49
Total	0	2	9	11	6	2	1	9	93	57	11	161	1	40	26	67	248
09:00	0	1	1	2	1	0	0	1	5	15	2	22	0	9	0	9	34
09:15	0	0	1	1	1	0	0	1	7	8	1	16	0	8	2	10	28
09:30	0	1	5	6	1	1	0	2	3	6	2	11	1	9	1	11	30
*** BREAK ***																	
Total	0	2	7	9	3	1	0	4	15	29	5	49	1	26	3	30	92
*** BREAK ***																	
15:00	1	1	12	14	3	0	0	3	2	8	0	10	0	11	1	12	39
15:15	1	0	10	11	1	0	0	1	9	7	1	17	0	5	2	7	36
15:30	0	2	14	16	1	0	0	1	2	4	3	9	1	16	1	18	44
15:45	0	1	5	6	1	0	0	1	2	7	0	9	0	7	0	7	23
Total	2	4	41	47	6	0	0	6	15	26	4	45	1	39	4	44	142
16:00	0	5	16	21	1	0	0	1	1	5	0	6	0	28	0	28	56
16:15	1	5	16	22	0	0	0	0	1	2	0	3	0	21	0	21	46
16:30	1	10	25	36	1	0	0	1	3	4	0	7	0	37	0	37	81
16:45	2	6	12	20	3	0	0	3	0	9	3	12	0	17	1	18	53
Total	4	26	69	99	5	0	0	5	5	20	3	28	0	103	1	104	236
17:00	0	16	48	64	10	1	1	12	3	8	2	13	0	33	1	34	123
17:15	1	5	15	21	3	0	0	3	3	10	1	14	0	19	0	19	57
17:30	0	11	13	24	1	0	0	1	2	5	3	10	0	18	0	18	53
17:45	0	4	13	17	0	0	0	0	3	2	3	8	0	10	1	11	36
Total	1	36	89	126	14	1	1	16	11	25	9	45	0	80	2	82	269
Grand Total	8	74	218	300	41	5	2	48	256	295	52	603	3	389	58	450	1401
Apprch %	2.7	24.7	72.7		85.4	10.4	4.2		42.5	48.9	8.6		0.7	86.4	12.9		
Total %	0.6	5.3	15.6	21.4	2.9	0.4	0.1	3.4	18.3	21.1	3.7	43	0.2	27.8	4.1	32.1	
Car	8	73	218	299	38	5	1	44	254	269	46	569	3	382	58	443	1355
% Car	100	98.6	100	99.7	92.7	100	50	91.7	99.2	91.2	88.5	94.4	100	98.2	100	98.4	96.7
Truck	0	1	0	1	3	0	1	4	2	26	6	34	0	7	0	7	46
% Truck	0	1.4	0	0.3	7.3	0	50	8.3	0.8	8.8	11.5	5.6	0	1.8	0	1.6	3.3

Mike Henderson Consulting, LLC
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File Name : San Mateo & Pasadina
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Page No : 2

	North Entrance Eastbound				Pasadina Ave Westbound				San Mateo Blvd Northbound				San Mateo Blvd Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:45 to 11:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	0	1	1	2	1	0	3	6	27	4	37	0	18	3	21	62
07:30	0	1	0	1	1	0	0	1	35	32	4	71	0	25	6	31	104
07:45	1	3	1	5	2	0	0	2	60	25	5	90	0	27	11	38	135
08:00	0	1	2	3	1	0	1	2	31	25	7	63	0	19	9	28	96
Total Volume	1	5	4	10	6	1	1	8	132	109	20	261	0	89	29	118	397
% App. Total	10	50	40		75	12.5	12.5		50.6	41.8	7.7		0	75.4	24.6		
PHF	.250	.417	.500	.500	.750	.250	.250	.667	.550	.852	.714	.725	.000	.824	.659	.776	.735
Car	1	5	4	10	5	1	1	7	132	104	18	254	0	89	29	118	389
% Car	100	100	100	100	83.3	100	100	87.5	100	95.4	90.0	97.3	0	100	100	100	98.0
Truck	0	0	0	0	1	0	0	1	0	5	2	7	0	0	0	0	8
% Truck	0	0	0	0	16.7	0	0	12.5	0	4.6	10.0	2.7	0	0	0	0	2.0
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	1	10	25	36	1	0	0	1	3	4	0	7	0	37	0	37	81
16:45	2	6	12	20	3	0	0	3	0	9	3	12	0	17	1	18	53
17:00	0	16	48	64	10	1	1	12	3	8	2	13	0	33	1	34	123
17:15	1	5	15	21	3	0	0	3	3	10	1	14	0	19	0	19	57
Total Volume	4	37	100	141	17	1	1	19	9	31	6	46	0	106	2	108	314
% App. Total	2.8	26.2	70.9		89.5	5.3	5.3		19.6	67.4	13		0	98.1	1.9		
PHF	.500	.578	.521	.551	.425	.250	.250	.396	.750	.775	.500	.821	.000	.716	.500	.730	.638
Car	4	37	100	141	17	1	0	18	9	27	6	42	0	105	2	107	308
% Car	100	100	100	100	100	100	0	94.7	100	87.1	100	91.3	0	99.1	100	99.1	98.1
Truck	0	0	0	0	0	0	1	1	0	4	0	4	0	1	0	1	6
% Truck	0	0	0	0	0	0	100	5.3	0	12.9	0	8.7	0	0.9	0	0.9	1.9

Mike Henderson Consulting, LLC
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Collected by: MH10

File Name : Balloon Fiesta Pkwy & San Mateo
Site Code :
Start Date : 10/20/2015
Page No : 1

Groups Printed- Car - Truck

	Balloon Fiesta Pkway Eastbound				Balloon Fiesta Pkway Westbound				San Mateo Blvd Northbound				Vacant Lot Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:45	0	1	0	1	12	7	0	19	8	0	9	17	0	0	0	0	37
Total	0	1	0	1	12	7	0	19	8	0	9	17	0	0	0	0	37
07:00	0	3	7	10	13	18	0	31	15	0	22	37	0	0	0	0	78
07:15	0	1	2	3	21	18	0	39	15	0	12	27	0	0	0	0	69
07:30	0	0	3	3	25	37	0	62	22	0	12	34	0	0	0	0	99
07:45	0	6	1	7	35	56	0	91	16	0	10	26	0	0	0	0	124
Total	0	10	13	23	94	129	0	223	68	0	56	124	0	0	0	0	370
08:00	0	1	1	2	27	30	0	57	9	0	17	26	0	0	0	0	85
08:15	0	4	1	5	17	25	0	42	8	0	5	13	0	0	0	0	60
08:30	0	2	0	2	13	11	0	24	6	0	3	9	0	0	0	0	35
08:45	0	2	1	3	7	9	0	16	8	0	3	11	0	0	0	0	30
Total	0	9	3	12	64	75	0	139	31	0	28	59	0	0	0	0	210
09:00	0	5	0	5	9	8	0	17	4	0	11	15	0	0	0	0	37
09:15	0	4	2	6	6	4	0	10	1	0	7	8	0	1	0	1	25
09:30	0	3	1	4	9	4	0	13	2	0	4	6	0	0	0	0	23
*** BREAK ***																	
Total	0	12	3	15	24	16	0	40	7	0	22	29	0	1	0	1	85
*** BREAK ***																	
15:00	0	9	4	13	7	2	0	9	2	0	7	9	0	0	0	0	31
15:15	0	6	3	9	4	2	0	6	0	0	8	8	0	0	0	0	23
15:30	0	15	7	22	10	3	0	13	2	0	2	4	0	0	0	0	39
15:45	0	5	2	7	4	0	0	4	2	0	5	7	0	0	0	0	18
Total	0	35	16	51	25	7	0	32	6	0	22	28	0	0	0	0	111
16:00	0	22	14	36	14	4	0	18	2	0	3	5	0	0	0	0	59
16:15	0	13	5	18	16	1	0	17	2	0	1	3	0	0	0	0	38
16:30	0	44	26	70	12	1	1	14	0	0	5	5	1	0	0	1	90
16:45	0	21	4	25	14	2	0	16	2	0	9	11	0	0	0	0	52
Total	0	100	49	149	56	8	1	65	6	0	18	24	1	0	0	1	239
17:00	0	41	21	62	13	2	0	15	5	1	3	9	0	0	0	0	86
17:15	0	19	4	23	14	3	0	17	4	0	7	11	0	0	1	1	52
17:30	0	18	6	24	12	4	0	16	2	0	3	5	0	0	0	0	45
17:45	0	7	4	11	6	3	0	9	0	0	2	2	0	0	0	0	22
Total	0	85	35	120	45	12	0	57	11	1	15	27	0	0	1	1	205
Grand Total	0	252	119	371	320	254	1	575	137	1	170	308	1	1	1	3	1257
Apprch %	0	67.9	32.1		55.7	44.2	0.2		44.5	0.3	55.2		33.3	33.3	33.3		
Total %	0	20	9.5	29.5	25.5	20.2	0.1	45.7	10.9	0.1	13.5	24.5	0.1	0.1	0.1	0.2	
Car	0	246	118	364	316	249	1	566	129	1	152	282	1	1	1	3	1215
% Car	0	97.6	99.2	98.1	98.8	98	100	98.4	94.2	100	89.4	91.6	100	100	100	100	96.7
Truck	0	6	1	7	4	5	0	9	8	0	18	26	0	0	0	0	42
% Truck	0	2.4	0.8	1.9	1.2	2	0	1.6	5.8	0	10.6	8.4	0	0	0	0	3.3

Mike Henderson Consulting, LLC
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File Name : Balloon Fiesta Pkwy & San Mateo
Site Code :
Start Date : 10/20/2015

	Balloon Fiesta Pkway Eastbound				Balloon Fiesta Pkway Westbound				San Mateo Blvd Northbound				Vacant Lot Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:45 to 11:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	1	2	3	21	18	0	39	15	0	12	27	0	0	0	0	69
07:30	0	0	3	3	25	37	0	62	22	0	12	34	0	0	0	0	99
07:45	0	6	1	7	35	56	0	91	16	0	10	26	0	0	0	0	124
08:00	0	1	1	2	27	30	0	57	9	0	17	26	0	0	0	0	85
Total Volume	0	8	7	15	108	141	0	249	62	0	51	113	0	0	0	0	377
% App. Total	0	53.3	46.7		43.4	56.6	0		54.9	0	45.1		0	0	0		
PHF	.000	.333	.583	.536	.771	.629	.000	.684	.705	.000	.750	.831	.000	.000	.000	.000	.760
Car	0	8	7	15	108	141	0	249	59	0	49	108	0	0	0	0	372
% Car	0	100	100	100	100	100	0	100	95.2	0	96.1	95.6	0	0	0	0	98.7
Truck	0	0	0	0	0	0	0	0	3	0	2	5	0	0	0	0	5
% Truck	0	0	0	0	0	0	0	0	4.8	0	3.9	4.4	0	0	0	0	1.3
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	0	44	26	70	12	1	1	14	0	0	5	5	1	0	0	1	90
16:45	0	21	4	25	14	2	0	16	2	0	9	11	0	0	0	0	52
17:00	0	41	21	62	13	2	0	15	5	1	3	9	0	0	0	0	86
17:15	0	19	4	23	14	3	0	17	4	0	7	11	0	0	1	1	52
Total Volume	0	125	55	180	53	8	1	62	11	1	24	36	1	0	1	2	280
% App. Total	0	69.4	30.6		85.5	12.9	1.6		30.6	2.8	66.7		50	0	50		
PHF	.000	.710	.529	.643	.946	.667	.250	.912	.550	.250	.667	.818	.250	.000	.250	.500	.778
Car	0	125	55	180	52	8	1	61	10	1	20	31	1	0	1	2	274
% Car	0	100	100	100	98.1	100	100	98.4	90.9	100	83.3	86.1	100	0	100	100	97.9
Truck	0	0	0	0	1	0	0	1	1	0	4	5	0	0	0	0	6
% Truck	0	0	0	0	1.9	0	0	1.6	9.1	0	16.7	13.9	0	0	0	0	2.1

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File Name : Balloon Fiesta Pkwy & Middle Entrance
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Groups Printed- Car - Truck

	Balloon Fiesta Pkway Eastbound				Balloon Fiesta Pkway Westbound				Middle Entrance Northbound				Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:45	0	2	0	2	6	9	0	15	0	0	0	0	0	0	0	0	17
Total	0	2	0	2	6	9	0	15	0	0	0	0	0	0	0	0	17
07:00	0	5	0	5	15	17	0	32	0	0	3	3	0	0	0	0	40
07:15	0	1	0	1	9	24	0	33	0	0	2	2	0	0	0	0	36
07:30	0	1	0	1	8	49	0	57	0	0	2	2	0	0	0	0	60
07:45	0	3	0	3	22	50	0	72	0	0	4	4	0	0	0	0	79
Total	0	10	0	10	54	140	0	194	0	0	11	11	0	0	0	0	215
08:00	0	2	2	4	9	29	0	38	0	0	0	0	0	0	0	0	42
08:15	0	3	0	3	4	29	0	33	0	0	2	2	0	0	0	0	38
08:30	0	1	0	1	3	14	0	17	0	0	1	1	0	0	0	0	19
08:45	0	3	0	3	4	13	0	17	1	0	0	1	0	0	0	0	21
Total	0	9	2	11	20	85	0	105	1	0	3	4	0	0	0	0	120
09:00	0	5	0	5	1	11	0	12	0	0	0	0	0	0	0	0	17
09:15	0	5	0	5	3	1	0	4	0	0	1	1	0	0	0	0	10
09:30	0	4	0	4	2	3	0	5	0	0	0	0	0	0	0	0	9
*** BREAK ***																	
Total	0	14	0	14	6	15	0	21	0	0	1	1	0	0	0	0	36
*** BREAK ***																	
15:00	0	12	0	12	1	2	0	3	0	0	1	1	0	0	0	0	16
15:15	0	8	0	8	1	1	0	2	0	0	1	1	0	0	0	0	11
15:30	0	13	0	13	2	3	0	5	0	0	9	9	0	0	0	0	27
15:45	0	5	0	5	0	1	0	1	0	0	2	2	0	0	0	0	8
Total	0	38	0	38	4	7	0	11	0	0	13	13	0	0	0	0	62
16:00	0	24	0	24	2	3	0	5	0	0	10	10	0	0	0	0	39
16:15	0	18	0	18	2	2	0	4	0	0	1	1	0	0	0	0	23
16:30	0	42	0	42	0	1	0	1	0	0	25	25	0	0	0	0	68
16:45	0	19	0	19	2	2	0	4	0	0	6	6	0	0	0	0	29
Total	0	103	0	103	6	8	0	14	0	0	42	42	0	0	0	0	159
17:00	0	44	0	44	2	5	0	7	0	0	19	19	0	0	0	0	70
17:15	0	17	0	17	5	3	0	8	0	0	6	6	0	0	0	0	31
17:30	0	20	0	20	4	1	0	5	0	0	4	4	0	0	0	0	29
17:45	0	9	0	9	3	0	0	3	0	0	2	2	0	0	0	0	14
Total	0	90	0	90	14	9	0	23	0	0	31	31	0	0	0	0	144
Grand Total	0	266	2	268	110	273	0	383	1	0	101	102	0	0	0	0	753
Apprch %	0	99.3	0.7		28.7	71.3	0		1	0	99		0	0	0		
Total %	0	35.3	0.3	35.6	14.6	36.3	0	50.9	0.1	0	13.4	13.5	0	0	0	0	
Car	0	259	2	261	109	262	0	371	1	0	101	102	0	0	0	0	734
% Car	0	97.4	100	97.4	99.1	96	0	96.9	100	0	100	100	0	0	0	0	97.5
Truck	0	7	0	7	1	11	0	12	0	0	0	0	0	0	0	0	19
% Truck	0	2.6	0	2.6	0.9	4	0	3.1	0	0	0	0	0	0	0	0	2.5

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	Balloon Fiesta Pkway Eastbound				Balloon Fiesta Pkway Westbound				Middle Entrance Northbound				Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:45 to 11:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	1	0	1	8	49	0	57	0	0	2	2	0	0	0	0	60
07:45	0	3	0	3	22	50	0	72	0	0	4	4	0	0	0	0	79
08:00	0	2	2	4	9	29	0	38	0	0	0	0	0	0	0	0	42
08:15	0	3	0	3	4	29	0	33	0	0	2	2	0	0	0	0	38
Total Volume	0	9	2	11	43	157	0	200	0	0	8	8	0	0	0	0	219
% App. Total	0	81.8	18.2		21.5	78.5	0		0	0	100		0	0	0		
PHF	.000	.750	.250	.688	.489	.785	.000	.694	.000	.000	.500	.500	.000	.000	.000	.000	.693
Car	0	9	2	11	43	154	0	197	0	0	8	8	0	0	0	0	216
% Car	0	100	100	100	100	98.1	0	98.5	0	0	100	100	0	0	0	0	98.6
Truck	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
% Truck	0	0	0	0	0	1.9	0	1.5	0	0	0	0	0	0	0	0	1.4
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:30																	
16:30	0	42	0	42	0	1	0	1	0	0	25	25	0	0	0	0	68
16:45	0	19	0	19	2	2	0	4	0	0	6	6	0	0	0	0	29
17:00	0	44	0	44	2	5	0	7	0	0	19	19	0	0	0	0	70
17:15	0	17	0	17	5	3	0	8	0	0	6	6	0	0	0	0	31
Total Volume	0	122	0	122	9	11	0	20	0	0	56	56	0	0	0	0	198
% App. Total	0	100	0		45	55	0		0	0	100		0	0	0		
PHF	.000	.693	.000	.693	.450	.550	.000	.625	.000	.000	.560	.560	.000	.000	.000	.000	.707
Car	0	122	0	122	9	10	0	19	0	0	56	56	0	0	0	0	197
% Car	0	100	0	100	100	90.9	0	95.0	0	0	100	100	0	0	0	0	99.5
Truck	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% Truck	0	0	0	0	0	9.1	0	5.0	0	0	0	0	0	0	0	0	0.5

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Groups Printed- Car - Truck

	Balloon Fiesta Pkway Eastbound				Balloon Fiesta Pkway Westbound				West Entrance Northbound				Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
06:45	0	0	0	0	9	0	0	9	0	0	2	2	0	0	0	0	11
Total	0	0	0	0	9	0	0	9	0	0	2	2	0	0	0	0	11
07:00	0	1	0	1	15	1	0	16	0	0	3	3	0	0	0	0	20
07:15	0	0	0	0	21	2	0	23	0	0	1	1	0	0	0	0	24
07:30	0	1	1	2	47	4	0	51	0	0	0	0	0	0	0	0	53
07:45	0	0	0	0	46	2	0	48	0	0	3	3	0	0	0	0	51
Total	0	2	1	3	129	9	0	138	0	0	7	7	0	0	0	0	148
08:00	0	0	0	0	32	0	0	32	0	0	3	3	0	0	0	0	35
08:15	0	0	0	0	28	0	0	28	0	0	3	3	0	0	0	0	31
08:30	0	0	0	0	14	1	0	15	0	0	1	1	0	0	0	0	16
08:45	0	2	0	2	13	1	0	14	0	0	1	1	0	0	0	0	17
Total	0	2	0	2	87	2	0	89	0	0	8	8	0	0	0	0	99
09:00	0	0	0	0	8	3	0	11	0	0	5	5	0	0	0	0	16
09:15	0	0	0	0	1	0	0	1	0	0	5	5	0	0	0	0	6
09:30	0	1	0	1	2	1	0	3	0	0	3	3	0	0	0	0	7
*** BREAK ***																	
Total	0	1	0	1	11	4	0	15	0	0	13	13	0	0	0	0	29
*** BREAK ***																	
15:00	0	3	2	5	0	2	0	2	0	0	9	9	0	0	0	0	16
15:15	0	1	0	1	0	1	0	1	0	0	7	7	0	0	0	0	9
15:30	0	0	0	0	2	1	0	3	0	0	13	13	0	0	0	0	16
15:45	0	0	1	1	1	0	0	1	1	0	5	6	0	0	0	0	8
Total	0	4	3	7	3	4	0	7	1	0	34	35	0	0	0	0	49
16:00	0	3	0	3	1	2	0	3	1	0	21	22	0	0	0	0	28
16:15	0	4	1	5	1	1	0	2	0	0	14	14	0	0	0	0	21
16:30	0	1	0	1	1	0	0	1	1	0	39	40	0	0	0	0	42
16:45	0	0	1	1	2	0	0	2	0	0	20	20	0	0	0	0	23
Total	0	8	2	10	5	3	0	8	2	0	94	96	0	0	0	0	114
17:00	0	4	0	4	1	2	0	3	0	0	38	38	0	0	0	0	45
17:15	0	3	0	3	1	2	0	3	0	0	14	14	0	0	0	0	20
17:30	0	1	1	2	0	1	0	1	1	0	19	20	0	0	0	0	23
17:45	0	1	0	1	0	0	0	0	0	0	8	8	0	0	0	0	9
Total	0	9	1	10	2	5	0	7	1	0	79	80	0	0	0	0	97
Grand Total	0	26	7	33	246	27	0	273	4	0	237	241	0	0	0	0	547
Apprch %	0	78.8	21.2		90.1	9.9	0		1.7	0	98.3		0	0	0		
Total %	0	4.8	1.3	6	45	4.9	0	49.9	0.7	0	43.3	44.1	0	0	0	0	
Car	0	23	7	30	242	20	0	262	4	0	234	238	0	0	0	0	530
% Car	0	88.5	100	90.9	98.4	74.1	0	96	100	0	98.7	98.8	0	0	0	0	96.9
Truck	0	3	0	3	4	7	0	11	0	0	3	3	0	0	0	0	17
% Truck	0	11.5	0	9.1	1.6	25.9	0	4	0	0	1.3	1.2	0	0	0	0	3.1

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	Balloon Fiesta Pkway Eastbound				Balloon Fiesta Pkway Westbound				West Entrance Northbound				Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:45 to 11:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30																	
07:30	0	1	1	2	47	4	0	51	0	0	0	0	0	0	0	0	53
07:45	0	0	0	0	46	2	0	48	0	0	3	3	0	0	0	0	51
08:00	0	0	0	0	32	0	0	32	0	0	3	3	0	0	0	0	35
08:15	0	0	0	0	28	0	0	28	0	0	3	3	0	0	0	0	31
Total Volume	0	1	1	2	153	6	0	159	0	0	9	9	0	0	0	0	170
% App. Total	0	50	50		96.2	3.8	0		0	0	100		0	0	0		
PHF	.000	.250	.250	.250	.814	.375	.000	.779	.000	.000	.750	.750	.000	.000	.000	.000	.802
Car	0	1	1	2	153	3	0	156	0	0	9	9	0	0	0	0	167
% Car	0	100	100	100	100	50.0	0	98.1	0	0	100	100	0	0	0	0	98.2
Truck	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
% Truck	0	0	0	0	0	50.0	0	1.9	0	0	0	0	0	0	0	0	1.8
Peak Hour Analysis From 12:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	0	4	1	5	1	1	0	2	0	0	14	14	0	0	0	0	21
16:30	0	1	0	1	1	0	0	1	1	0	39	40	0	0	0	0	42
16:45	0	0	1	1	2	0	0	2	0	0	20	20	0	0	0	0	23
17:00	0	4	0	4	1	2	0	3	0	0	38	38	0	0	0	0	45
Total Volume	0	9	2	11	5	3	0	8	1	0	111	112	0	0	0	0	131
% App. Total	0	81.8	18.2		62.5	37.5	0		0.9	0	99.1		0	0	0		
PHF	.000	.563	.500	.550	.625	.375	.000	.667	.250	.000	.712	.700	.000	.000	.000	.000	.728
Car	0	8	2	10	5	3	0	8	1	0	111	112	0	0	0	0	130
% Car	0	88.9	100	90.9	100	100	0	100	100	0	100	100	0	0	0	0	99.2
Truck	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
% Truck	0	11.1	0	9.1	0	0	0	0	0	0	0	0	0	0	0	0	0.8

APPENDIX C
2015 EXISTING INTERSECTION CAPACITY ANALYSIS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	303	923	28	87	874	542	8	45	70	61	7	34
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1845	1845	1900	1743	1743	1900	1727	1727	1900
Adj Flow Rate, veh/h	340	1037	31	112	1121	695	13	75	117	74	9	41
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.89	0.89	0.89	0.78	0.78	0.78	0.60	0.60	0.60	0.82	0.82	0.82
Percent Heavy Veh, %	5	5	5	3	3	3	9	9	9	10	10	10
Cap, veh/h	367	2394	72	439	1231	708	212	89	140	95	40	180
Arrive On Green	0.17	0.70	0.70	0.04	0.57	0.57	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1723	3409	102	1757	2145	1234	1263	615	959	1100	272	1237
Grp Volume(v), veh/h	340	523	545	112	900	916	13	0	192	74	0	50
Grp Sat Flow(s),veh/h/ln	1723	1719	1792	1757	1752	1627	1263	0	1574	1100	0	1509
Q Serve(g_s), s	16.7	14.3	14.3	2.9	49.4	60.4	1.0	0.0	13.1	2.9	0.0	3.2
Cycle Q Clear(g_c), s	16.7	14.3	14.3	2.9	49.4	60.4	4.2	0.0	13.1	16.0	0.0	3.2
Prop In Lane	1.00		0.06	1.00		0.76	1.00		0.61	1.00		0.82
Lane Grp Cap(c), veh/h	367	1207	1258	439	1006	934	212	0	229	95	0	219
V/C Ratio(X)	0.93	0.43	0.43	0.25	0.89	0.98	0.06	0.00	0.84	0.78	0.00	0.23
Avail Cap(c_a), veh/h	385	1207	1258	459	1006	934	212	0	229	95	0	219
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.4	7.0	7.0	8.6	20.5	22.9	43.4	0.0	45.7	54.4	0.0	41.5
Incr Delay (d2), s/veh	27.5	1.1	1.1	0.3	12.1	25.3	0.6	0.0	29.2	46.0	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.8	11.4	11.8	2.5	35.7	43.0	0.7	0.0	12.0	6.2	0.0	2.7
LnGrp Delay(d),s/veh	64.9	8.1	8.1	8.9	32.6	48.1	44.0	0.0	74.9	100.4	0.0	43.9
LnGrp LOS	E	A	A	A	C	D	D		E	F		D
Approach Vol, veh/h		1408			1928			205			124	
Approach Delay, s/veh		21.8			38.6			72.9			77.6	
Approach LOS		C			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.7	81.3		20.0	22.9	67.1		20.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	76.0		16.0	20.0	62.0		16.0
Max Q Clear Time (g_c+I1), s	4.9	16.3		18.0	18.7	62.4		15.1
Green Ext Time (p_c), s	0.0	42.2		0.0	0.2	0.0		0.2

Intersection Summary	
HCM 2010 Ctrl Delay	35.4
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	76	1221	8	46	871	139	34	8	98	227	31	270
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1827	1827	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	82	1313	9	51	957	153	52	12	148	329	45	391
Adj No. of Lanes	1	2	0	1	2	0	1	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.66	0.66	0.66	0.69	0.69	0.69
Percent Heavy Veh, %	3	3	3	4	4	4	2	2	2	2	2	2
Cap, veh/h	232	1649	11	176	1353	216	233	48	592	473	66	577
Arrive On Green	0.04	0.46	0.46	0.03	0.45	0.45	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	1757	3568	24	1740	2999	479	949	120	1481	1221	166	1442
Grp Volume(v), veh/h	82	645	677	51	554	556	52	0	160	329	0	436
Grp Sat Flow(s),veh/h/ln	1757	1752	1840	1740	1736	1742	949	0	1601	1221	0	1608
Q Serve(g_s), s	2.7	34.4	34.4	1.7	28.3	28.3	5.3	0.0	7.3	27.0	0.0	24.5
Cycle Q Clear(g_c), s	2.7	34.4	34.4	1.7	28.3	28.3	29.8	0.0	7.3	34.4	0.0	24.5
Prop In Lane	1.00		0.01	1.00		0.28	1.00		0.93	1.00		0.90
Lane Grp Cap(c), veh/h	232	810	851	176	783	786	233	0	641	473	0	643
V/C Ratio(X)	0.35	0.80	0.80	0.29	0.71	0.71	0.22	0.00	0.25	0.70	0.00	0.68
Avail Cap(c_a), veh/h	274	810	851	189	783	786	233	0	641	473	0	643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.3	25.2	25.2	21.1	24.3	24.3	39.4	0.0	22.0	33.5	0.0	27.2
Incr Delay (d2), s/veh	0.9	8.0	7.6	0.9	5.3	5.3	2.2	0.0	0.9	8.2	0.0	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	25.5	26.5	1.6	21.0	21.1	2.7	0.0	6.1	15.5	0.0	17.6
LnGrp Delay(d),s/veh	20.2	33.1	32.8	22.0	29.7	29.7	41.6	0.0	22.9	41.7	0.0	32.8
LnGrp LOS	C	C	C	C	C	C	D		C	D		C
Approach Vol, veh/h		1404			1161			212			765	
Approach Delay, s/veh		32.2			29.3			27.5			36.6	
Approach LOS		C			C			C			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.2	54.8		48.0	8.4	53.6		48.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	4.0	50.0		44.0	7.0	47.0		44.0
Max Q Clear Time (g_c+I1), s	3.7	36.4		36.4	4.7	30.3		31.8
Green Ext Time (p_c), s	0.0	11.0		3.2	0.0	13.0		4.3

Intersection Summary	
HCM 2010 Ctrl Delay	31.9
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	7.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1	1	153	6	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	77	77	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	4	199	8	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	8	0	407	4
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	401	-
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	-	-	1611	-	572	1078
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	645	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1611	-	501	1078
Mov Cap-2 Maneuver	-	-	-	-	501	-
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	565	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.3	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1078	-	-	1611	-
HCM Lane V/C Ratio	0.011	-	-	0.123	-
HCM Control Delay (s)	8.4	-	-	7.5	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	-

Intersection	
Int Delay, s/veh	1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	9	2	43	157	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	68	68	69	69	50	50
Heavy Vehicles, %	2	2	5	5	2	2
Mvmt Flow	13	3	62	228	0	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	16	0	253	8
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	238	-
Critical Hdwy	-	-	4.2	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.25	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1578	-	714	1072
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1578	-	686	1072
Mov Cap-2 Maneuver	-	-	-	-	686	-
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	748	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1072	-	-	1578	-
HCM Lane V/C Ratio	0.015	-	-	0.039	-
HCM Control Delay (s)	8.4	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	8	7	108	141	62	51
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	53	53	68	68	83	83
Heavy Vehicles, %	2	2	14	14	2	2
Mvmt Flow	15	13	159	207	75	61

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	28	0	443	14
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	421	-
Critical Hdwy	-	-	4.38	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.34	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1501	-	543	1062
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	630	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1501	-	485	1062
Mov Cap-2 Maneuver	-	-	-	-	485	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	563	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	485	1062	-	-	1501	-
HCM Lane V/C Ratio	0.154	0.058	-	-	0.106	-
HCM Control Delay (s)	13.8	8.6	-	-	7.7	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	0.2	-	-	0.4	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	5	4	6	1	1	132	109	20	0	89	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	66	66	66	72	72	72	77	77	77
Heavy Vehicles, %	2	2	2	13	13	13	3	3	3	2	2	2
Mvmt Flow	2	10	8	9	2	2	183	151	28	0	116	38

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	577	680	77	595	685	90	153	0	0	179	0	0
Stage 1	134	134	-	532	532	-	-	-	-	-	-	-
Stage 2	443	546	-	63	153	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.76	6.76	7.16	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.76	5.76	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.76	5.76	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.63	4.13	3.43	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	400	372	968	366	348	916	1418	-	-	1394	-	-
Stage 1	855	785	-	472	497	-	-	-	-	-	-	-
Stage 2	564	516	-	909	744	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	358	324	968	320	303	916	1418	-	-	1394	-	-
Mov Cap-2 Maneuver	358	324	-	320	303	-	-	-	-	-	-	-
Stage 1	745	785	-	411	433	-	-	-	-	-	-	-
Stage 2	489	449	-	890	744	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.4	15.8	4	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1418	-	-	447	346	1394	-	-
HCM Lane V/C Ratio	0.129	-	-	0.045	0.035	-	-	-
HCM Control Delay (s)	7.9	-	-	13.4	15.8	0	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	1	22	1	8	2	362	267	54	1	37	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	55	55	55	75	75	75	72	72	72
Heavy Vehicles, %	5	5	5	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	29	2	15	4	483	356	72	1	51	76

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1243	1485	64	1386	1488	214	128	0	0	428	0	0
Stage 1	92	92	-	1357	1357	-	-	-	-	-	-	-
Stage 2	1151	1393	-	29	131	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	128	120	977	102	123	791	1456	-	-	1128	-	-
Stage 1	896	811	-	157	215	-	-	-	-	-	-	-
Stage 2	206	202	-	984	787	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	82	80	977	73	82	791	1456	-	-	1128	-	-
Mov Cap-2 Maneuver	82	80	-	73	82	-	-	-	-	-	-	-
Stage 1	599	810	-	105	144	-	-	-	-	-	-	-
Stage 2	123	135	-	952	786	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.6	51.5	4.6	0.1
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1456	-	-	508	97	1128	-	-
HCM Lane V/C Ratio	0.332	-	-	0.063	0.206	0.001	-	-
HCM Control Delay (s)	8.7	-	-	12.6	51.5	8.2	-	-
HCM Lane LOS	A	-	-	B	F	A	-	-
HCM 95th %tile Q(veh)	1.5	-	-	0.2	0.7	0	-	-

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	57	4	2	13	4	3	8	685	35	1	56	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	71	71	71	80	80	80	77	77	77
Heavy Vehicles, %	7	7	7	2	2	2	2	2	2	3	3	3
Mvmt Flow	84	6	3	18	6	4	10	856	44	1	73	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	533	1002	44	940	988	450	87	0	0	900	0	0
Stage 1	82	82	-	898	898	-	-	-	-	-	-	-
Stage 2	451	920	-	42	90	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.64	7.04	7.54	6.54	6.94	4.14	-	-	4.16	-	-
Critical Hdwy Stg 1	6.64	5.64	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.64	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4.07	3.37	3.52	4.02	3.32	2.22	-	-	2.23	-	-
Pot Cap-1 Maneuver	419	233	1001	218	246	556	1507	-	-	744	-	-
Stage 1	903	814	-	301	356	-	-	-	-	-	-	-
Stage 2	544	337	-	967	820	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	406	231	1001	212	244	556	1507	-	-	744	-	-
Mov Cap-2 Maneuver	406	231	-	212	244	-	-	-	-	-	-	-
Stage 1	897	813	-	299	354	-	-	-	-	-	-	-
Stage 2	528	335	-	956	819	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.9	21.9	0.1	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1507	-	-	394	241	744	-	-
HCM Lane V/C Ratio	0.007	-	-	0.235	0.117	0.002	-	-
HCM Control Delay (s)	7.4	-	-	16.9	21.9	9.8	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.9	0.4	0	-	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	9	2	5	3	1	111
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	55	66	66	70	70
Heavy Vehicles, %	10	10	2	2	2	2
Mvmt Flow	16	4	8	5	1	159

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	20	0	35	10
Stage 1	-	-	-	-	18	-
Stage 2	-	-	-	-	17	-
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	-	-	1595	-	973	1069
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1595	-	968	1069
Mov Cap-2 Maneuver	-	-	-	-	968	-
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	998	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1068	-	-	1595	-
HCM Lane V/C Ratio	0.15	-	-	0.005	-
HCM Control Delay (s)	9	-	-	7.3	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	122	0	9	11	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	62	62	56	56
Heavy Vehicles, %	2	2	5	5	2	2
Mvmt Flow	177	0	15	18	0	100

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	177	0	215	88
Stage 1	-	-	-	-	177	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	4.2	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.25	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1375	-	754	953
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1375	-	746	953
Mov Cap-2 Maneuver	-	-	-	-	746	-
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	969	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	953	-	-	1375	-
HCM Lane V/C Ratio	0.105	-	-	0.011	-
HCM Control Delay (s)	9.2	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	125	55	53	8	11	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	-	-	150	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	64	64	91	91	81	81
Heavy Vehicles, %	2	2	2	2	14	14
Mvmt Flow	195	86	58	9	14	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	281	0	359	141
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	121	-
Critical Hdwy	-	-	4.14	-	7.08	7.18
Critical Hdwy Stg 1	-	-	-	-	6.08	-
Critical Hdwy Stg 2	-	-	-	-	6.08	-
Follow-up Hdwy	-	-	2.22	-	3.64	3.44
Pot Cap-1 Maneuver	-	-	1278	-	582	844
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	857	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1278	-	556	844
Mov Cap-2 Maneuver	-	-	-	-	556	-
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	818	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.9	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	556	844	-	-	1278	-
HCM Lane V/C Ratio	0.024	0.035	-	-	0.046	-
HCM Control Delay (s)	11.6	9.4	-	-	8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	4	37	100	17	1	1	9	31	6	0	106	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	55	55	55	39	39	39	82	82	82	73	73	73
Heavy Vehicles, %	2	2	2	6	6	6	9	9	9	2	2	2
Mvmt Flow	7	67	182	44	3	3	11	38	7	0	145	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	189	214	74	169	211	23	148	0	0	45	0	0
Stage 1	147	147	-	63	63	-	-	-	-	-	-	-
Stage 2	42	67	-	106	148	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.62	6.62	7.02	4.28	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.62	5.62	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.62	5.62	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.56	4.06	3.36	2.29	-	-	2.22	-	-
Pot Cap-1 Maneuver	754	682	973	768	676	1035	1381	-	-	1561	-	-
Stage 1	841	774	-	929	833	-	-	-	-	-	-	-
Stage 2	967	838	-	877	764	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	745	677	973	574	671	1035	1381	-	-	1561	-	-
Mov Cap-2 Maneuver	745	677	-	574	671	-	-	-	-	-	-	-
Stage 1	834	774	-	922	826	-	-	-	-	-	-	-
Stage 2	954	831	-	651	764	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.9	11.6	1.5	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1381	-	-	866	592	1561	-	-
HCM Lane V/C Ratio	0.008	-	-	0.296	0.082	-	-	-
HCM Control Delay (s)	7.6	-	-	10.9	11.6	0	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.2	0.3	0	-	-

Intersection	
Int Delay, s/veh	13.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	121	236	44	1	1	21	41	9	5	213	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	74	74	74	60	60	60	84	84	84	62	62	62
Heavy Vehicles, %	2	2	2	5	5	5	12	12	12	2	2	2
Mvmt Flow	3	164	319	73	2	2	25	49	11	8	344	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	438	473	175	374	470	30	350	0	0	60	0	0
Stage 1	363	363	-	104	104	-	-	-	-	-	-	-
Stage 2	75	110	-	270	366	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.6	6.6	7	4.34	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.6	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.6	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.55	4.05	3.35	2.32	-	-	2.22	-	-
Pot Cap-1 Maneuver	502	488	838	551	484	1028	1137	-	-	1542	-	-
Stage 1	628	623	-	882	801	-	-	-	-	-	-	-
Stage 2	926	803	-	704	614	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	490	475	838	245	471	1028	1137	-	-	1542	-	-
Mov Cap-2 Maneuver	490	475	-	245	471	-	-	-	-	-	-	-
Stage 1	614	620	-	863	783	-	-	-	-	-	-	-
Stage 2	902	785	-	319	611	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.7	25.4	2.4	0.2
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1137	-	-	664	252	1542	-	-
HCM Lane V/C Ratio	0.022	-	-	0.731	0.304	0.005	-	-
HCM Control Delay (s)	8.2	-	-	23.7	25.4	7.3	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	6.3	1.2	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	13	13	8	10	1	2	4	61	10	10	461	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	46	46	46	75	75	75	65	65	65
Heavy Vehicles, %	12	12	12	2	2	2	11	11	11	2	2	2
Mvmt Flow	15	15	9	22	2	4	5	81	13	15	709	82

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	833	886	395	492	921	47	791	0	0	95	0	0
Stage 1	781	781	-	99	99	-	-	-	-	-	-	-
Stage 2	52	105	-	393	822	-	-	-	-	-	-	-
Critical Hdwy	7.74	6.74	7.14	7.54	6.54	6.94	4.32	-	-	4.14	-	-
Critical Hdwy Stg 1	6.74	5.74	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.74	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.62	4.12	3.42	3.52	4.02	3.32	2.31	-	-	2.22	-	-
Pot Cap-1 Maneuver	245	265	577	460	269	1012	769	-	-	1497	-	-
Stage 1	333	380	-	896	812	-	-	-	-	-	-	-
Stage 2	926	784	-	603	386	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	239	261	577	427	265	1012	769	-	-	1497	-	-
Mov Cap-2 Maneuver	239	261	-	427	265	-	-	-	-	-	-	-
Stage 1	331	376	-	890	807	-	-	-	-	-	-	-
Stage 2	914	779	-	563	382	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.5	13.6	0.5	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	769	-	-	288	446	1497	-	-
HCM Lane V/C Ratio	0.007	-	-	0.139	0.063	0.01	-	-
HCM Control Delay (s)	9.7	-	-	19.5	13.6	7.4	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.2	0	-	-

TEAPAC[Ver 8.62.01] - MUTCD Warrant Analysis

Conditions Used for Warrant Analysis	2009 MUTCD
Intersection # 1	
Major Street Direction	NorthSouth
Number of Lanes in North-South direction	2
Number of Lanes in East-West direction	1
Approach speed on major street is greater than 40 mph	No
Isolated community has population less than 10,000	No
Signal will not seriously disrupt progressive traffic flow	No
Trials of other remedies have failed to improve conditions	Yes
Number of accidents correctable by a signal	0
Peak hour stop sign delay for worst minor approach (veh-hours)	1
Number of accidents correctable by a multi-way stop	0
Peak hour average delay for all minor approaches (sec/veh)	0

TEAPAC[Ver 8.62.01] - Warrant Analysis for Traffic Signal

Warrant 1A Analysis - 8-Hour Minimum Vehicular Volume

Start Time	1630	1530	1730	1430	745	845	645	0	Req.
Minor Volume	359	253	104	86	26	16	14	0	150
Major Volume	293	195	84	92	683	254	533	0	600
Warrant Met?	No	No	No	No	No	No	No	No	8

Number of 1-hour periods meeting the warrant	0
Signal will not seriously disrupt progressive traffic flow	No

>> WARRANT 1A IS NOT MET <<

Warrant 1B Analysis - 8-Hour Interruption of Continuous Traffic

Start Time	1630	1530	1730	1430	745	845	645	0	Req.
Minor Volume	359	253	104	86	26	16	14	0	75
Major Volume	293	195	84	92	683	254	533	0	900
Warrant Met?	No	No	No	No	No	No	No	No	8

Number of 1-hour periods meeting the warrant	0
Signal will not seriously disrupt progressive traffic flow	No

>> WARRANT 1B IS NOT MET <<

TEAPAC[Ver 8.62.01] - Warrant Analysis for Traffic Signal

Warrant 1A Analysis (80%) - 8-Hour Minimum Vehicular Volume

Start Time	1630	1530	1730	1430	745	845	645	0	Req.
Minor Volume	359	253	104	86	26	16	14	0	120
Major Volume	293	195	84	92	683	254	533	0	480
Warrant Met?	No	No	No	No	No	No	No	No	8

Number of 1-hour periods meeting the warrant 0

Warrant 1B Analysis (80%) - 8-Hour Interruption of Continuous Traf

Start Time	1630	1530	1730	1430	745	845	645	0	Req.
Minor Volume	359	253	104	86	26	16	14	0	60
Major Volume	293	195	84	92	683	254	533	0	720
Warrant Met?	No	No	No	No	No	No	No	No	8

Number of 1-hour periods meeting the warrant 0

Warrant 1C Analysis - 8-Hour Combination of Warrants

80% of Warrants 1A and 1B are met No
Signal will not seriously disrupt progressive traffic flow No
Trials of other remedies have failed to reduce delays Yes

>> WARRANT 1C IS NOT MET <<

Warrant 2 Analysis - 4-Hour Vehicular Volume

Start Time	1630	1530	1730	1430	745	845	645	0	Req.
Minor Volume	359	253	104	86	26	16	14	0	———
Minor Reqrmt	444	493	548	544	253	463	324	590	<--
Warrant Met?	No	No	No	No	No	No	No	No	4

Number of 1-hour periods meeting the warrant 0
Signal will not seriously disrupt progressive traffic flow No

>> WARRANT 2 IS NOT MET <<

TEAPAC[Ver 8.62.01] - Warrant Analysis for Traffic Signal

Warrant 3A Analysis - Peak Hour Delay

Start Time	1630	1530	1730	1430	745	845	645	0	Req.
Minor Volume	359	253	104	86	26	16	14	0	100
Total Volume	698	474	206	184	718	282	554	0	800
Warrant Met?	No	No	No	No	No	No	No	No	1

Number of 1-hour periods meeting the warrant	0
Signal will not seriously disrupt progressive traffic flow	No
Delay for worst minor approach (must be at least 4 veh-hours)	1

>> WARRANT 3A IS NOT MET <<

Warrant 3B Analysis - Peak Hour Volume

Start Time	1630	1530	1730	1430	745	845	645	0	Req.
Minor Volume	359	253	104	86	26	16	14	0	———
Minor Reqrmt	619	668	723	719	424	638	499	765	<--
Warrant Met?	No	No	No	No	No	No	No	No	1

Number of 1-hour periods meeting the warrant	0
Signal will not seriously disrupt progressive traffic flow	No

>> WARRANT 3B IS NOT MET <<

Warrant 7 Analysis - Crash Experience

80% of Warrant 1A or 1B is met	No
Signal will not seriously disrupt progressive traffic flow	No
Trials of other remedies have failed to reduce accidents	Yes
Number of correctable accidents (must be 5 or more per year)	0

>> WARRANT 7 IS NOT MET <<

Summary of MUTCD Traffic Signal Warrant Analysis

Warrant 1A 8-Hour Minimum Vehicular Volume	NOT MET
Warrant 1B 8-Hour Interruption of Continuous Traffic	NOT MET
Warrant 1C 8-Hour Combination of Warrants	NOT MET
Warrant 2 4-Hour Vehicular Volume	NOT MET
Warrant 3A Peak Hour Delay	NOT MET
Warrant 3B Peak Hour Volume	NOT MET
Warrant 7 Crash Experience	NOT MET

>> Traffic Signal Warrant is NOT MET <<

TEAPAC[Ver 8.62.01] - Warrant Analysis for Multi-way Stop

Warrant A Analysis - Interim Measure for Signal

If signal warrants are met, a temporary multi-way stop is allowed

>> WARRANT A IS NOT MET <<

Warrant B Analysis - Crash Experience

Number of correctable accidents (must be 5 or more per year) 0

>> WARRANT B IS NOT MET <<

Warrant C Analysis - 8-Hour Minimum Vehicular Volume

Start Time	1630	1530	1730	1430	715	830	615	930	Req.
Minor Volume	405	279	122	92	35	28	8	8	200
Major Volume	293	195	84	92	760	298	224	49	300
Warrant Met?	No	No	No	No	No	No	No	No	8

Average minor volume for 8 highest minor hours	122
Average major volume for 8 highest minor hours	249
Delay for all minor approaches (must be at least 30 sec/veh)	0

>> WARRANT C IS NOT MET <<

Warrant D Analysis - 8-Hour Combination of Warrants

Start Time	1600	1700	1500	715	830	615	930	815	Req.
Minor Volume	346	346	206	35	28	8	8	5	160
Major Volume	242	244	178	760	298	224	49	139	240
Warrant Met?	Yes	Yes	No	No	No	No	No	No	8

Average minor volume for 8 highest minor hours	123
Average major volume for 8 highest minor hours	267
Number of correctable accidents (must be 4 or more per year)	0
Delay for all minor approaches (must be at least 24 sec/veh)	0

>> WARRANT D IS NOT MET <<

Summary of MUTCD Multi-way Stop Warrant Analysis

Warrant A Interim Measure for Signal	NOT MET
Warrant B Crash Experience	NOT MET
Warrant C 8-Hour Minimum Vehicular Volume	NOT MET
Warrant D 8-Hour Combination of Warrants	NOT MET

>> Multi-way Stop Warrant is NOT MET <<

APPENDIX D
BACKGROUND TRAFFIC GROWTH

Presbyterian Cooper Center Expansiion
Growth Rate Determination

	AWDT ALL
Year	AWDT
2005	45,900
2006	49,800
2007	52,900
2008	42,800
2009	43,100
2010	42,100
2011	38,600
2012	40,900
2013	42,000
2014	42,220

Linear Growth Rate = {[42,200-45,900)/4]/42,200}x100= -2.18%

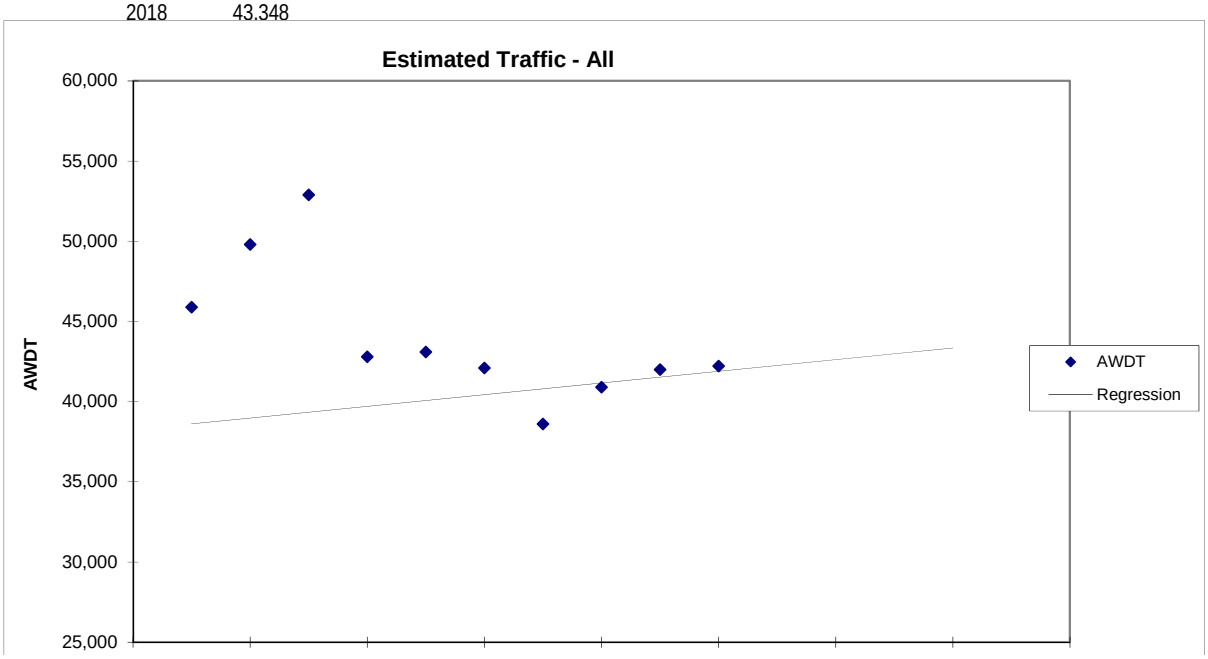
Regression Output	
R Square	0.14
Standard Error	1.63E+03
Observations	5
Intercept	-691,204
Std Err of Intercept	1,039,574
Coefficient	364
Std Err of Coefficient	5.17E+02

Projected AWDT	
2005	38,616
2006	38,980
2007	39,344
2008	39,708
2009	40,072
2010	40,436
2011	40,800
2012	41,164
2013	41,528
2014	41,892
2015	42,256
2016	42,620
2017	42,984
2018	43,348

Regression Equation
AWDT = 364 x Year - 691.204

USE
Coefficient Growth Rate 0.86%
Round to 1%

Estimated Annual Growth Rate
[(43,348-42,220)/42,220) x 100% = 2.67%
2.67%/5 = 0.53%



Presbyterian Cooper Center Expansiion
Growth Rate Determination

AWDT on Alameda
(West of I-25)

Year	AWDT
2005	33,500
2006	36,900
2007	38,500
2008	31,400
2009	31,800
2010	31,000
2011	30,800
2012	32,900
2013	31,200
2014	30,410

Linear Growth Rate = {[(30,410-33,500)/4]/30,410}x100= -2.54%

Regression Output	
R Square	0.02
Standard Error	1.10E+03
Observations	5
Intercept	188,198
Std Err of Intercept	7.E+05
Coefficient	-78
Std Err of Coefficient	348

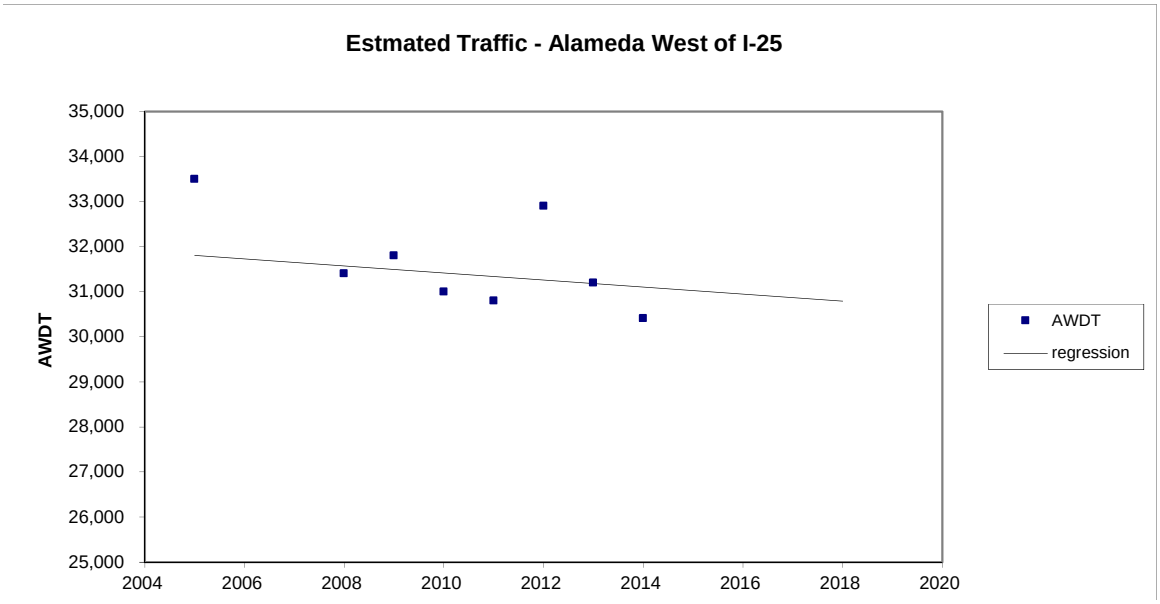
Regression Equation
AWDT = -78 x Year + 188,198

Coefficient Growth Rate -0.26%

Projected AWDT

2005	31,808
2006	31,730
2007	31,652
2008	31,574
2009	31,496
2010	31,418
2011	31,340
2012	31,262
2013	31,184
2014	31,106
2015	31,028
2016	30,950
2017	30,872
2018	30,794

Estimated Annual Growth Rate
[(30,794-30,410)/30,410) x 100% = 1.26%
1.26%/5 = 0.25%



Presbyterian Cooper Center Expansiion
Growth Rate Determination

AWDT on San Mateo
(North of Alameda)

Year	AWDT
2005	6,100
2006	6,400
2007	6,700
2008	5,300
2009	5,300
2010	5,100
2011	3,300
2012	3,300
2013	4,700
2014	4,600

Linear Growth Rate = {[(4,600-6,100)/4]/4,600}x100= -8.15%

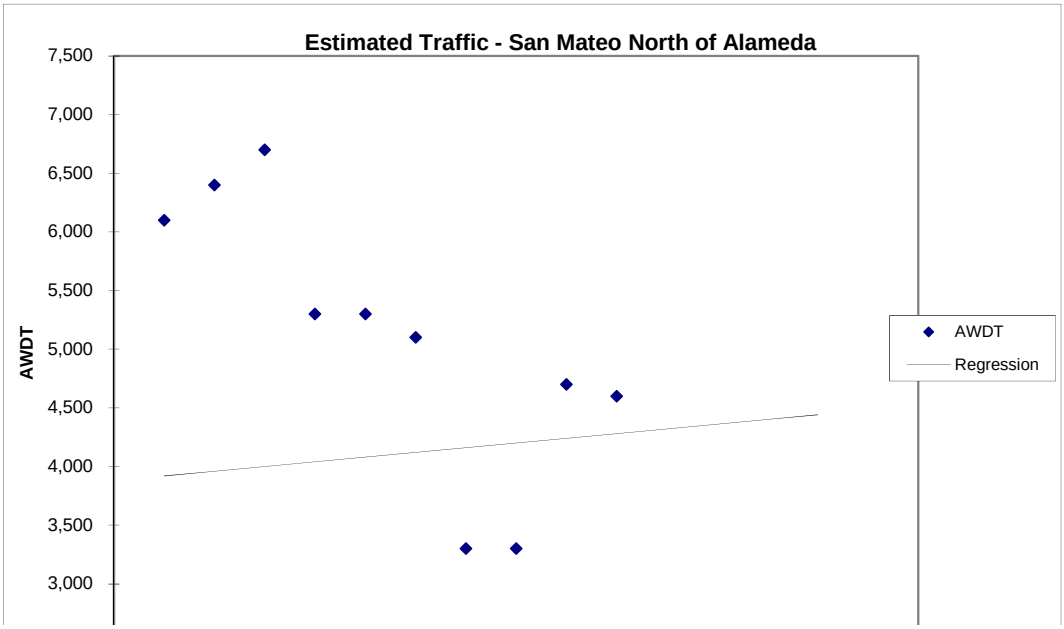
Regression Output	
R Square	0.006
Standard Error	9.70E+02
Observations	5
Intercept	-76,280
Std Err of Intercept	6.17E+05
Coefficient	40
Std Err of Coefficient	307

Regression Equation
AWDT = 40 x Year - 76,280

Coefficient Growth Rate 0.87%

Estimated Annual Growth Rate
((4,440-4,600))/4,600) x 100% = -3.48%
-3.48%/5 = -0.70%

Projected AWDT	
2005	3,920
2006	3,960
2007	4,000
2008	4,040
2009	4,080
2010	4,120
2011	4,160
2012	4,200
2013	4,240
2014	4,280
2015	4,320
2016	4,360
2017	4,400
2018	4,440



Presbyterian Cooper Center Expansiion
Growth Rate Determination

AWDT on San Mateo
(North of San Diego)

Year	AWDT
2005	5,000
2006	5,200
2007	5,400
2008	3,700
2009	3,600
2010	3,500
2011	2,100
2012	2,100
2013	3,500
2014	3,430

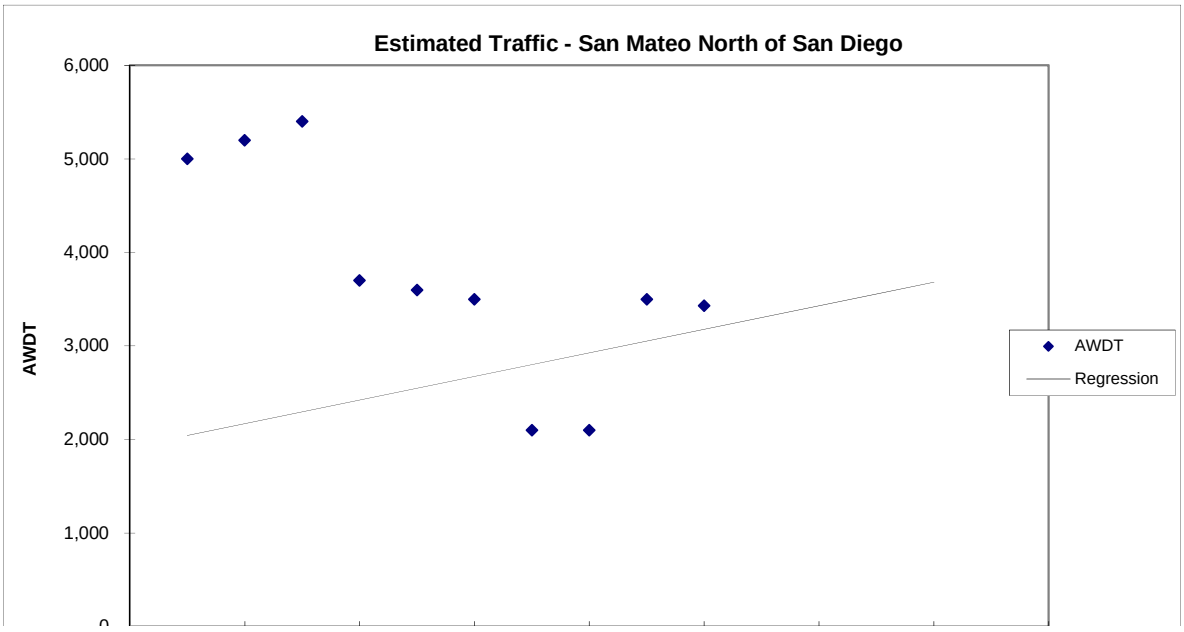
Linear Growth Rate = {[(3,430-5,000)/4]/3,430}x100= -11.44%

Regression Output	
R Square	0.07
Standard Error	8.40E+02
Observations	5
Intercept	-250,586
Std Err of Intercept	534,698
Coefficient	126
Std Err of Coefficient	2.66E+02

Regression Equation
AWDT = 126 x Year - 250,586 Coefficient Growth Rate 3.67%

Estimated Annual Growth Rate
[(3,682 -3,430)/3,430) x 100% = 7.35%
7.35%/5 = 1.47%

Projected AWDT	
2005	2,044
2006	2,170
2007	2,296
2008	2,422
2009	2,548
2010	2,674
2011	2,800
2012	2,926
2013	3,052
2014	3,178
2015	3,304
2016	3,430
2017	3,556
2018	3,682



Presbyterian Cooper Center Expansiion
Growth Rate Determination

AWDT on Balloon Fiesta Parkway
(West of I-25)

Year	AWDT
2005	700
2006	700
2007	1,600
2008	1,600
2009	1,500
2010	1,600
2011	1,500
2012	1,500
2013	1,500
2014	2,620

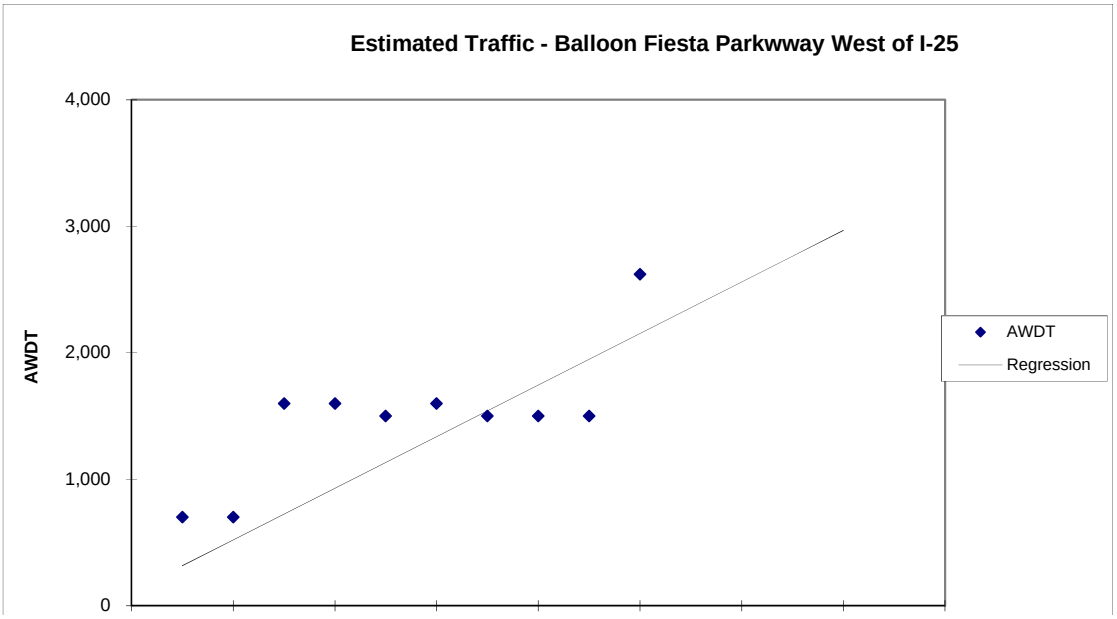
Linear Growth Rate = {[(2,620-700)/4]/2,620}x100= 18.32%

Regression Output	
R Square	0.430
Standard Error	4.28E+02
Observations	5
Intercept	-408,704
Std Err of Intercept	272,565
Coefficient	204
Std Err of Coefficient	1.35E+02

Regression Equation
AWDT = 204 x Year - 408,704 Coefficient Growth Rate 7.79%

Projected AWDT	
2005	316
2006	520
2007	724
2008	928
2009	1,132
2010	1,336
2011	1,540
2012	1,744
2013	1,948
2014	2,152
2015	2,356
2016	2,560
2017	2,764
2018	2,968

Estimated Annual Growth Rate
[(2,968-2,620)/2,620) x 100% = 13.28%
13.28%/5 = 2.66%



Presbyterian Cooper Center Expansiion
Growth Rate Determination

AWDT on San Diego
(West of San Mateo)

Year	AWDT
2005	400
2006	400
2007	400
2008	400
2009	500
2010	500
2011	500
2012	700
2013	700
2014	670

Linear Growth Rate = {[(670-400)/4]/670}x100= 10.07%

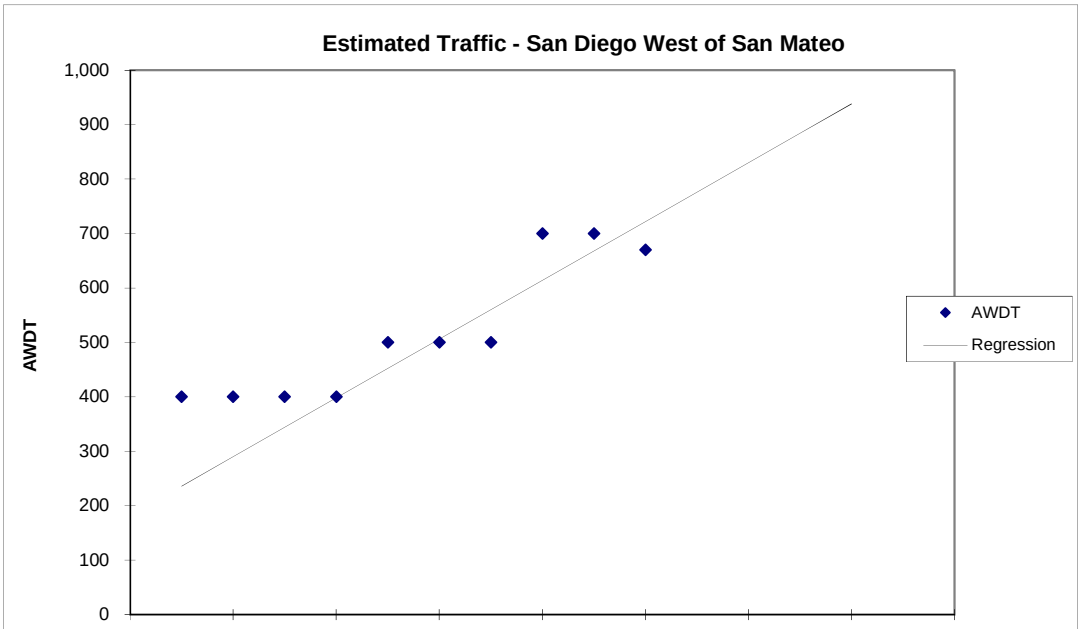
Regression Output	
R Square	0.664
Standard Error	70
Observations	5
Intercept	-108,034
Std Err of Intercept	44,628
Coefficient	54
Std Err of Coefficient	22

Regression Equation
AWDT = 54 x Year - 108,034

Coefficient Growth Rate 8.06%

Estimated Annual Growth Rate
[(938-670)/670) x 100% = 40.00%
40.0%/5 = 8.00%

Projected AWDT	
2005	236
2006	290
2007	344
2008	398
2009	452
2010	506
2011	560
2012	614
2013	668
2014	722
2015	776
2016	830
2017	884
2018	938



Presbyterian Cooper Center Expansiion
Growth Rate Determination

AWDT on San Diego
(East of San Mateo)

Year	AWDT
2005	200
2006	200
2007	300
2008	400
2009	400
2010	400
2011	400
2012	400
2013	400
2014	490

Linear Growth Rate = {[(490-200)/4]/490}x100= 14.80%

Regression Output	
R Square	0.50
Standard Error	3.29E+01
Observations	5
Intercept	-35,798
Std Err of Intercept	20,909
Coefficient	18
Std Err of Coefficient	1.04E+01

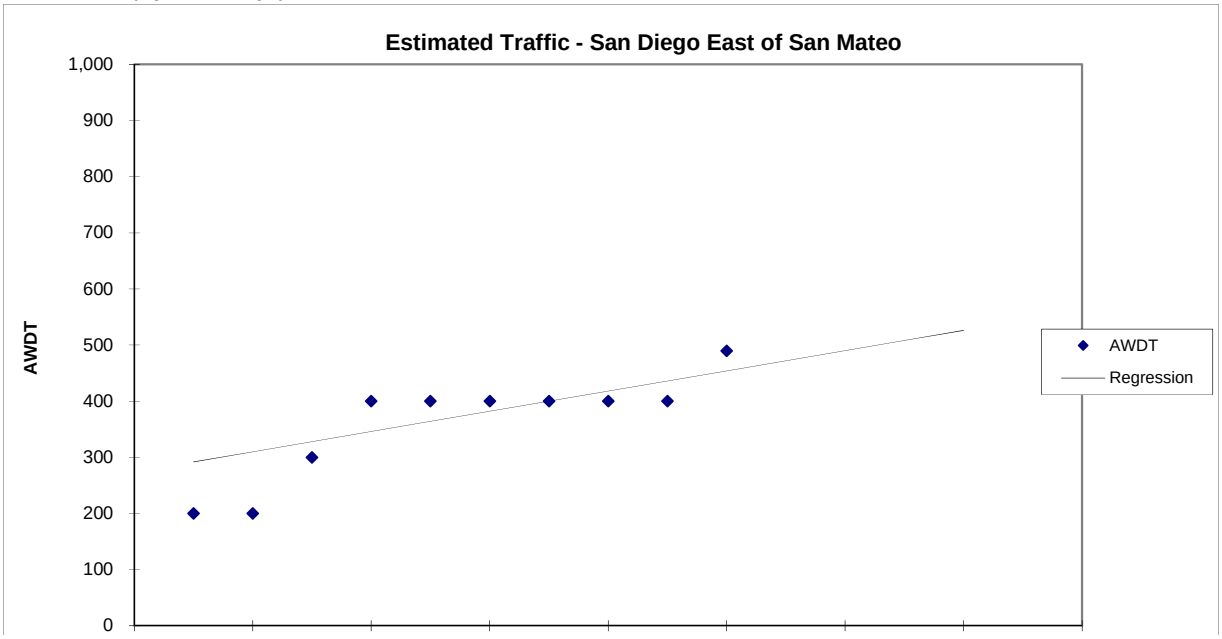
Regression Equation
AWDT = 18 x Year - 35,798

Coefficient Growth Rate 3.67%

Estimated Annual Growth Rate
[(526-490)/490) x 100% = 7.35%
3.67%/5 = 1.47%

Projected AWDT

2005	292
2006	310
2007	328
2008	346
2009	364
2010	382
2011	400
2012	418
2013	436
2014	454
2015	472
2016	490
2017	508
2018	526



Appendix E
Forecast Turning Movements

PRESBYTERIAN COOPER CENTER EXPANSION
EXISTING & PROJECTED TURNING MOVEMENTS

INTERSECTION: Balloon Fiesta Parkway and West Entrance

AM Peak Hour

	Southbound West			Westbound Balloon Fiesta Parkway			Northbound West			Eastbound Balloon Fiesta Parkway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	0	0	0	153	6	0	0	0	9	0	1	1
Background Growth (2015-2018)	0	0	0	5	0	0	0	0	0	0	0	0
2018 No Build	0	0	0	158	6	0	0	0	9	0	1	1
Entering				86								
Exiting									5			
2018 Build	0	0	0	244	6	0	0	0	14	0	1	1
PHF	*0.92*			*0.77*			*0.75*			*0.25*		
HV %		*2*			*2*			*2*			*2*	

PM Peak Hour

	Southbound West			Westbound Balloon Fiesta Parkway			Northbound West			Eastbound Balloon Fiesta Parkway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	0	0	0	5	3	0	1	0	111	0	9	2
Background Growth (2015-2018)	0	0	0	0	0	0	0	0	3	0	0	0
2018 No Build	0	0	0	5	3	0	1	0	114	0	9	2
Entering				6								
Exiting									62			
2018 Build	0	0	0	11	3	0	1	0	176	0	9	2
PHF	*0.92*			*0.66*			*0.70*			*0.55*		
HV %		*2*			*2*			*2*			*10*	

growth rates	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
Trip Distribution % Enter				20.0%									Site
Trip Distribution % Exit	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	17.0%	0.0%	0.0%	0.0%	

PRESBYTERIAN COOPER CENTER EXPANSION
EXISTING & PROJECTED TURNING MOVEMENTS

INTERSECTION: Balloon Fiesta Parkway and Middle Entrance

AM Peak Hour

	Southbound Middle			Westbound Balloon Fieta Parkway			Northbound Middle			Eastbound Balloon Fieta Parkway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	0	0	0	43	157	0	0	0	8	0	9	2
Background Growth (2015-2018)	0	0	0	2	6	0	0	0	0	0	0	0
2018 No Build	0	0	0	45	163	0	0	0	8	0	9	2
Entering				22	86							
Exiting									2		5	
2018 Build	0	0	0	66	250	0	0	0	10	0	14	2
PHF	*0.92*			*0.69*			*0.50*			*0.68*		
HV %		*2*			*5*			*2*			*2*	

PM Peak Hour

	Southbound Middle			Westbound Balloon Fieta Parkway			Northbound Middle			Eastbound Balloon Fieta Parkway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	0	0	0	9	11	0	0	0	56	0	122	0
Background Growth (2015-2018)	0	0	0	0	0	0	0	0	2	0	4	0
2018 No Build	0	0	0	9	11	0	0	0	58	0	126	0
Entering				2	6							
Exiting									29		62	
2018 Build	0	0	0	11	18	0	0	0	87	0	188	0
PHF	*0.92*			*0.62*			*0.56*			*0.69*		
HV %		*2*			*5*			*2*			*2*	

growth rates	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
Trip Distribution % Enter				5.0%	20.0%								Site
Trip Distribution % Exit	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.0%	0.0%	17.0%	0.0%	

PRESBYTERIAN COOPER CENTER EXPANSION
EXISTING & PROJECTED TURNING MOVEMENTS

INTERSECTION: Balloon Fiesta Parkway and San Mateo

AM Peak Hour

	Southbound San Mateo			Westbound Balloon Fiesta Parkway			Northbound San Mateo			Eastbound Balloon Fiesta Parkway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	0	0	0	108	141	0	62	0	51	0	8	7
Background Growth (2015-2018)	0	0	0	4	6	0	2	0	2	0	0	0
2018 No Build	0	0	0	112	147	0	64	0	53	0	8	7
Entering				22	86		22					
Exiting											5	2
2018 Build	0	0	0	134	233	0	86	0	53	0	13	9
PHF	*0.92*			*0.68*			*0.83*			*0.53*		
HV %		*2*			*14*			*2*			*2*	

PM Peak Hour

	Southbound San Mateo			Westbound Balloon Fiesta Parkway			Northbound San Mateo			Eastbound Balloon Fiesta Parkway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	0	0	0	53	8	0	11	0	24	0	125	55
Background Growth (2015-2018)	0	0	0	2	0	0	0	0	1	0	4	2
2018 No Build	0	0	0	55	8	0	11	0	25	0	129	57
Entering				2	6		2					
Exiting											64	27
2018 Build	0	0	0	56	14	0	13	0	25	0	193	84
PHF	*0.92*			*0.91*			*0.81*			*0.64*		
HV %		*2*			*2*			*14*			*2*	

growth rates	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
Trip Distribution % Enter				5.0%	20.0%		5.0%						Site
Trip Distribution % Exit	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	17.5%	7.5%	

PRESBYTERIAN COOPER CENTER EXPANSION
EXISTING & PROJECTED TURNING MOVEMENTS

INTERSECTION: San Mateo and Pasadena

AM Peak Hour

	Southbound San Mateo			Westbound Pasadena			Northbound San Mateo			Eastbound Pasadena		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	0	89	29	6	1	1	132	109	20	1	5	4
Background Growth (2015-2018)	0	4	1	0	0	0	5	4	1	0	0	0
2018 No Build	0	93	30	6	1	1	137	113	21	1	5	4
Entering							86	22				
Exiting		2									1	4
2018 Build	0	95	30	6	1	1	224	135	21	1	7	8
												5
												9
PHF	*0.77*			*0.66*			*0.72*			*0.50*		
HV %		*2*			*13*			*3*			*2*	

PM Peak Hour

	Southbound San Mateo			Westbound Pasadena			Northbound San Mateo			Eastbound Pasadena		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	0	106	2	17	1	1	9	31	6	4	37	100
Background Growth (2015-2018)	0	3	0	1	0	0	0	1	0	0	1	3
2018 No Build	0	109	2	18	1	1	9	32	6	4	38	103
Entering							6	2				
Exiting		27									18	55
2018 Build	0	137	2	18	1	1	15	33	6	4	56	158
PHF	*0.73*			*0.39*			*0.82*			*0.55*		
HV %		*2*			*6*			*9*			*2*	

growth rates	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
Trip Distribution % Enter							20.0%	5.0%					Site
Trip Distribution % Exit	0.0%	7.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.0%	15.0%	

PRESBYTERIAN COOPER CENTER EXPANSION
EXISTING & PROJECTED TURNING MOVEMENTS

INTERSECTION: San Mateo and Venice

AM Peak Hour

	Southbound San Mateo			Westbound Venice			Northbound San Mateo			Eastbound Venice		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	1	37	55	1	8	2	362	267	54	1	1	22
Background Growth (2015-2018)	0	1	2	0	0	0	14	11	2	0	0	1
2018 No Build	1	38	57	1	8	2	376	278	56	1	1	23
Entering							216	108				
Exiting		6									5	10
2018 Build	1	45	57	1	8	2	592	386	56	1	6	33
PHF	*0.72*			*0.55*			*0.75*			*0.75*		
HV %		*2*			*2*			*2*			*5*	

PM Peak Hour

	Southbound San Mateo			Westbound Venice			Northbound San Mateo			Eastbound Venice		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	5	213	4	44	1	1	21	41	9	2	121	236
Background Growth (2015-2018)	0	6	0	1	0	0	1	1	0	0	4	7
2018 No Build	5	219	4	45	1	1	22	42	9	2	125	243
Entering							16	8				
Exiting		82									66	135
2018 Build	5	302	4	45	1	1	37	50	9	2	190	378
PHF	*0.62*			*0.60*			*0.84*			*0.74*		
HV %		*2*			*5*			*12*			*2*	

growth rates	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
Trip Distribution % Enter							50.0%	25.0%					Site
Trip Distribution % Exit	0.0%	22.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	18.0%	37.0%	

PRESBYTERIAN COOPER CENTER EXPANSION
EXISTING & PROJECTED TURNING MOVEMENTS

INTERSECTION: San Mateo and San Diego

AM Peak Hour

	Southbound San Mateo			Westbound SanDiego			Northbound San Mateo			Eastbound SanDiego		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	1	56	11	13	4	3	8	685	35	57	4	2
Background Growth (2015-2018)	0	2	0	1	0	0	0	27	1	2	0	0
2018 No Build	1	58	11	14	4	3	8	712	36	59	4	2
Entering								302		22		
Exiting		14	2									
2018 Build	1	73	13	14	4	3	8	1,015	36	81	4	2
PHF	*0.77*			*0.71*			*0.80*			*0.68*		
HV %		*3*			*2*			*2*			*7*	

PM Peak Hour

	Southbound San Mateo			Westbound SanDiego			Northbound San Mateo			Eastbound SanDiego		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	10	461	53	10	1	2	4	61	10	13	13	8
Background Growth (2015-2018)	0	14	2	0	0	0	0	2	0	0	0	0
2018 No Build	10	475	55	10	1	2	4	63	10	13	13	8
Entering								22		2		
Exiting		195	22									
2018 Build	10	670	76	10	1	2	4	85	10	15	13	8
PHF	*0.65*			*0.46*			*0.75*			*0.85*		
HV %		*2*			*2*			*11*			*12*	

growth rates	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
Trip Distribution % Enter								70.0%		5.0%			Site
Trip Distribution % Exit	0.0%	53.5%	6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

PRESBYTERIAN COOPER CENTER EXPANSION
EXISTING & PROJECTED TURNING MOVEMENTS

INTERSECTION: San Mateo and Alameda

AM Peak Hour

	Southbound San Mateo			Westbound Alameda			Northbound San Mateo			Eastbound Alameda		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	61	7	34	87	874	542	8	45	70	303	923	28
Background Growth (2015-2018)	2	0	1	3	35	22	0	2	3	12	37	1
2018 No Build	63	7	35	90	909	564	8	47	73	315	960	29
Entering						194				108		
Exiting	9		5									
2018 Build	72	7	41	90	909	758	8	47	73	423	960	29
PHF	*0.82*			*0.78*			*0.60*			*0.89*		
HV %		*10*			*3*			*9*			*5*	

PM Peak Hour

	Southbound San Mateo			Westbound Alameda			Northbound San Mateo			Eastbound Alameda		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Existing Volumes (2015)	227	31	270	46	871	139	34	8	98	76	1,221	8
Background Growth (2015-2018)	7	1	8	1	26	4	1	0	3	2	37	0
2018 No Build	234	32	278	47	897	143	35	8	101	78	1,258	8
Entering						14				8		
Exiting	122		73									
2018 Build	356	32	351	47	897	157	35	8	101	86	1,258	8
PHF	*0.69*			*0.91*			*0.66*			*0.93*		
HV %		*2*			*4*			*2*			*3*	

growth rates	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	1.0%	
Trip Distribution % Enter						45.0%				25.0%			Site
Trip Distribution % Exit	33.5%	0.0%	20.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	

APPENDIX F
2018 NO BUILD INTERSECTION CAPACITY ANALYSIS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	315	960	29	90	909	564	8	47	73	63	7	35
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1845	1845	1900	1743	1743	1900	1727	1727	1900
Adj Flow Rate, veh/h	354	1079	33	115	1165	723	13	78	122	77	9	43
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.89	0.89	0.89	0.78	0.78	0.78	0.60	0.60	0.60	0.82	0.82	0.82
Percent Heavy Veh, %	5	5	5	3	3	3	9	9	9	10	10	10
Cap, veh/h	389	3265	100	417	1818	849	258	112	175	134	47	227
Arrive On Green	0.17	0.66	0.66	0.05	0.54	0.54	0.18	0.18	0.18	0.18	0.18	0.18
Sat Flow, veh/h	1723	4926	151	1757	3357	1568	1260	614	960	1092	261	1246
Grp Volume(v), veh/h	354	721	391	115	1165	723	13	0	200	77	0	52
Grp Sat Flow(s),veh/h/ln	1723	1647	1783	1757	1679	1568	1260	0	1574	1092	0	1507
Q Serve(g_s), s	15.6	10.4	10.4	3.2	26.8	43.1	1.0	0.0	13.1	6.9	0.0	3.2
Cycle Q Clear(g_c), s	15.6	10.4	10.4	3.2	26.8	43.1	4.2	0.0	13.1	20.0	0.0	3.2
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.61	1.00		0.83
Lane Grp Cap(c), veh/h	389	2183	1182	417	1818	849	258	0	286	134	0	274
V/C Ratio(X)	0.91	0.33	0.33	0.28	0.64	0.85	0.05	0.00	0.70	0.57	0.00	0.19
Avail Cap(c_a), veh/h	539	2183	1182	464	1818	849	258	0	286	134	0	274
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	33.1	8.0	8.0	10.0	17.7	21.4	39.9	0.0	42.2	51.9	0.0	38.1
Incr Delay (d2), s/veh	15.7	0.4	0.8	0.4	1.7	10.5	0.4	0.0	13.3	16.7	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	17.8	8.4	9.1	2.8	18.6	28.5	0.7	0.0	11.0	5.3	0.0	2.6
LnGrp Delay(d),s/veh	48.8	8.4	8.8	10.4	19.4	31.9	40.3	0.0	55.5	68.7	0.0	39.7
LnGrp LOS	D	A	A	B	B	C	D		E	E		D
Approach Vol, veh/h		1466			2003			213			129	
Approach Delay, s/veh		18.3			23.4			54.6			57.0	
Approach LOS		B			C			D			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.1	76.9		24.0	22.4	63.6		24.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	8.0	70.0		20.0	28.0	50.0		20.0
Max Q Clear Time (g_c+I1), s	5.2	12.4		22.0	17.6	45.1		15.1
Green Ext Time (p_c), s	0.1	41.5		0.0	0.8	4.6		0.8

Intersection Summary	
HCM 2010 Ctrl Delay	24.3
HCM 2010 LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	78	1258	8	47	897	143	35	8	101	234	32	278
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1827	1827	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	84	1353	9	52	986	157	53	12	153	339	46	403
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.66	0.66	0.66	0.69	0.69	0.69
Percent Heavy Veh, %	3	3	3	4	4	4	2	2	2	2	2	2
Cap, veh/h	240	2056	14	188	1665	264	305	54	688	554	76	669
Arrive On Green	0.04	0.40	0.40	0.03	0.38	0.38	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	1757	5162	34	1740	4341	690	937	116	1484	1216	165	1443
Grp Volume(v), veh/h	84	880	482	52	755	388	53	0	165	339	0	449
Grp Sat Flow(s),veh/h/ln	1757	1679	1839	1740	1663	1705	937	0	1601	1216	0	1608
Q Serve(g_s), s	3.2	23.5	23.5	2.0	19.9	20.0	4.9	0.0	6.8	25.4	0.0	22.9
Cycle Q Clear(g_c), s	3.2	23.5	23.5	2.0	19.9	20.0	27.8	0.0	6.8	32.2	0.0	22.9
Prop In Lane	1.00		0.02	1.00		0.40	1.00		0.93	1.00		0.90
Lane Grp Cap(c), veh/h	240	1337	732	188	1275	654	305	0	742	554	0	746
V/C Ratio(X)	0.35	0.66	0.66	0.28	0.59	0.59	0.17	0.00	0.22	0.61	0.00	0.60
Avail Cap(c_a), veh/h	307	1337	732	232	1275	654	305	0	742	554	0	746
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	27.0	27.0	22.1	27.0	27.1	32.3	0.0	17.6	27.3	0.0	22.0
Incr Delay (d2), s/veh	0.9	2.5	4.6	0.8	2.0	3.9	1.2	0.0	0.7	5.0	0.0	3.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	16.9	18.7	1.8	14.5	15.3	2.5	0.0	5.6	14.2	0.0	16.2
LnGrp Delay(d),s/veh	22.0	29.5	31.6	22.9	29.1	31.0	33.5	0.0	18.3	32.2	0.0	25.5
LnGrp LOS	C	C	C	C	C	C	C		B	C		C
Approach Vol, veh/h		1446			1195			218			788	
Approach Delay, s/veh		29.8			29.4			22.0			28.4	
Approach LOS		C			C			C			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.2	47.8		55.0	8.8	46.2		55.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	41.0		51.0	9.0	38.0		51.0
Max Q Clear Time (g_c+I1), s	4.0	25.5		34.2	5.2	22.0		29.8
Green Ext Time (p_c), s	0.0	12.5		5.2	0.0	12.8		5.6

Intersection Summary	
HCM 2010 Ctrl Delay	28.9
HCM 2010 LOS	C

Intersection	
Int Delay, s/veh	7.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1	1	158	6	0	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	77	77	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	4	205	8	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	8	0	420	4
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	414	-
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	-	-	1611	-	561	1078
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	635	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1611	-	490	1078
Mov Cap-2 Maneuver	-	-	-	-	490	-
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	554	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.3	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1078	-	-	1611	-
HCM Lane V/C Ratio	0.011	-	-	0.127	-
HCM Control Delay (s)	8.4	-	-	7.6	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0.4	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	9	2	45	163	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	68	68	69	69	50	50
Heavy Vehicles, %	2	2	5	5	2	2
Mvmt Flow	13	3	65	236	0	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	16	0	264	8
Stage 1	-	-	-	-	15	-
Stage 2	-	-	-	-	249	-
Critical Hdwy	-	-	4.2	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.25	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1578	-	703	1072
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	769	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1578	-	674	1072
Mov Cap-2 Maneuver	-	-	-	-	674	-
Stage 1	-	-	-	-	1005	-
Stage 2	-	-	-	-	737	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1072	-	-	1578	-
HCM Lane V/C Ratio	0.015	-	-	0.041	-
HCM Control Delay (s)	8.4	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	-

Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	8	7	112	147	64	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	53	53	68	68	83	83
Heavy Vehicles, %	2	2	14	14	2	2
Mvmt Flow	15	13	165	216	77	64

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	28	0	460	14
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	438	-
Critical Hdwy	-	-	4.38	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.34	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1501	-	530	1062
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	618	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1501	-	472	1062
Mov Cap-2 Maneuver	-	-	-	-	472	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	550	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.3	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	472	1062	-	-	1501	-
HCM Lane V/C Ratio	0.163	0.06	-	-	0.11	-
HCM Control Delay (s)	14.1	8.6	-	-	7.7	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.6	0.2	-	-	0.4	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	5	4	6	1	1	137	113	21	0	93	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	66	66	66	72	72	72	77	77	77
Heavy Vehicles, %	2	2	2	13	13	13	3	3	3	2	2	2
Mvmt Flow	2	10	8	9	2	2	190	157	29	0	121	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	600	707	80	617	712	93	160	0	0	186	0	0
Stage 1	140	140	-	552	552	-	-	-	-	-	-	-
Stage 2	460	567	-	65	160	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.76	6.76	7.16	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.76	5.76	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.76	5.76	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.63	4.13	3.43	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	385	359	964	352	335	912	1409	-	-	1386	-	-
Stage 1	849	780	-	459	486	-	-	-	-	-	-	-
Stage 2	551	505	-	907	739	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	343	311	964	305	290	912	1409	-	-	1386	-	-
Mov Cap-2 Maneuver	343	311	-	305	290	-	-	-	-	-	-	-
Stage 1	735	780	-	397	420	-	-	-	-	-	-	-
Stage 2	474	437	-	888	739	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.7	16.3	4	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1409	-	-	432	330	1386	-	-
HCM Lane V/C Ratio	0.135	-	-	0.046	0.037	-	-	-
HCM Control Delay (s)	8	-	-	13.7	16.3	0	-	-
HCM Lane LOS	A	-	-	B	C	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.1	0.1	0	-	-

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	1	23	1	8	2	376	278	56	1	38	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	55	55	55	75	75	75	72	72	72
Heavy Vehicles, %	5	5	5	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	1	31	2	15	4	501	371	75	1	53	79

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1290	1543	66	1441	1546	223	132	0	0	445	0	0
Stage 1	95	95	-	1411	1411	-	-	-	-	-	-	-
Stage 2	1195	1448	-	30	135	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	118	111	975	93	113	780	1451	-	-	1112	-	-
Stage 1	893	808	-	145	203	-	-	-	-	-	-	-
Stage 2	193	189	-	983	784	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	74	73	975	65	74	780	1451	-	-	1112	-	-
Mov Cap-2 Maneuver	74	73	-	65	74	-	-	-	-	-	-	-
Stage 1	585	807	-	95	133	-	-	-	-	-	-	-
Stage 2	112	124	-	950	783	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	58.3	4.7	0.1
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1451	-	-	492	87	1112	-	-
HCM Lane V/C Ratio	0.346	-	-	0.068	0.23	0.001	-	-
HCM Control Delay (s)	8.8	-	-	12.8	58.3	8.2	-	-
HCM Lane LOS	A	-	-	B	F	A	-	-
HCM 95th %tile Q(veh)	1.6	-	-	0.2	0.8	0	-	-

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	59	4	2	14	4	3	8	712	36	1	58	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	71	71	71	80	80	80	77	77	77
Heavy Vehicles, %	7	7	7	2	2	2	2	2	2	3	3	3
Mvmt Flow	87	6	3	20	6	4	10	890	45	1	75	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	553	1040	45	976	1025	468	90	0	0	935	0	0
Stage 1	85	85	-	933	933	-	-	-	-	-	-	-
Stage 2	468	955	-	43	92	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.64	7.04	7.54	6.54	6.94	4.14	-	-	4.16	-	-
Critical Hdwy Stg 1	6.64	5.64	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.64	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4.07	3.37	3.52	4.02	3.32	2.22	-	-	2.23	-	-
Pot Cap-1 Maneuver	405	221	999	206	234	542	1503	-	-	722	-	-
Stage 1	899	812	-	286	343	-	-	-	-	-	-	-
Stage 2	532	324	-	966	818	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	392	219	999	200	232	542	1503	-	-	722	-	-
Mov Cap-2 Maneuver	392	219	-	200	232	-	-	-	-	-	-	-
Stage 1	893	811	-	284	341	-	-	-	-	-	-	-
Stage 2	516	322	-	955	817	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.6	23.3	0.1	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1503	-	-	381	226	722	-	-
HCM Lane V/C Ratio	0.007	-	-	0.251	0.131	0.002	-	-
HCM Control Delay (s)	7.4	-	-	17.6	23.3	10	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1	0.4	0	-	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	9	2	5	3	1	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	55	66	66	70	70
Heavy Vehicles, %	10	10	2	2	2	2
Mvmt Flow	16	4	8	5	1	163

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	20	0	35	10
Stage 1	-	-	-	-	18	-
Stage 2	-	-	-	-	17	-
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	-	-	1595	-	973	1069
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	1003	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1595	-	968	1069
Mov Cap-2 Maneuver	-	-	-	-	968	-
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	998	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.5	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1068	-	-	1595	-
HCM Lane V/C Ratio	0.154	-	-	0.005	-
HCM Control Delay (s)	9	-	-	7.3	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	126	0	9	11	0	58
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	62	62	56	56
Heavy Vehicles, %	2	2	5	5	2	2
Mvmt Flow	183	0	15	18	0	104

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	183	0	221	91
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	38	-
Critical Hdwy	-	-	4.2	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.25	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1368	-	747	949
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1368	-	739	949
Mov Cap-2 Maneuver	-	-	-	-	739	-
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	969	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	9.3
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	949	-	-	1368	-
HCM Lane V/C Ratio	0.109	-	-	0.011	-
HCM Control Delay (s)	9.3	-	-	7.7	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	129	57	55	8	11	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	53	53	68	68	83	83
Heavy Vehicles, %	2	2	2	2	14	14
Mvmt Flow	243	108	81	12	13	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	351	0	465	175
Stage 1	-	-	-	-	297	-
Stage 2	-	-	-	-	168	-
Critical Hdwy	-	-	4.14	-	7.08	7.18
Critical Hdwy Stg 1	-	-	-	-	6.08	-
Critical Hdwy Stg 2	-	-	-	-	6.08	-
Follow-up Hdwy	-	-	2.22	-	3.64	3.44
Pot Cap-1 Maneuver	-	-	1204	-	497	802
Stage 1	-	-	-	-	693	-
Stage 2	-	-	-	-	810	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1204	-	464	802
Mov Cap-2 Maneuver	-	-	-	-	464	-
Stage 1	-	-	-	-	693	-
Stage 2	-	-	-	-	756	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.2	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	464	802	-	-	1204	-
HCM Lane V/C Ratio	0.029	0.038	-	-	0.067	-
HCM Control Delay (s)	13	9.7	-	-	8.2	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.2	-

Intersection	
Int Delay, s/veh	7.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	4	38	103	18	1	1	9	32	6	0	109	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	66	66	66	72	72	72	77	77	77
Heavy Vehicles, %	2	2	2	6	6	6	9	9	9	2	2	2
Mvmt Flow	8	76	206	27	2	2	12	44	8	0	142	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	191	221	72	183	218	26	144	0	0	53	0	0
Stage 1	143	143	-	74	74	-	-	-	-	-	-	-
Stage 2	48	78	-	109	144	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.62	6.62	7.02	4.28	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.62	5.62	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.62	5.62	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.56	4.06	3.36	2.29	-	-	2.22	-	-
Pot Cap-1 Maneuver	752	676	975	750	670	1031	1386	-	-	1551	-	-
Stage 1	845	778	-	915	823	-	-	-	-	-	-	-
Stage 2	959	829	-	873	767	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	744	670	975	536	664	1031	1386	-	-	1551	-	-
Mov Cap-2 Maneuver	744	670	-	536	664	-	-	-	-	-	-	-
Stage 1	837	778	-	906	815	-	-	-	-	-	-	-
Stage 2	947	821	-	621	767	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	11.9	1.5	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1386	-	-	864	555	1551	-	-
HCM Lane V/C Ratio	0.009	-	-	0.336	0.055	-	-	-
HCM Control Delay (s)	7.6	-	-	11.3	11.9	0	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.5	0.2	0	-	-

Intersection	
Int Delay, s/veh	13.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	125	243	45	1	1	22	42	9	5	219	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	55	55	55	75	75	75	72	72	72
Heavy Vehicles, %	2	2	2	5	5	5	12	12	12	2	2	2
Mvmt Flow	3	167	324	82	2	2	29	56	12	7	304	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	409	448	155	370	445	34	310	0	0	68	0	0
Stage 1	321	321	-	121	121	-	-	-	-	-	-	-
Stage 2	88	127	-	249	324	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.6	6.6	7	4.34	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.6	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.6	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.55	4.05	3.35	2.32	-	-	2.22	-	-
Pot Cap-1 Maneuver	527	504	863	554	500	1022	1178	-	-	1531	-	-
Stage 1	665	650	-	862	788	-	-	-	-	-	-	-
Stage 2	910	790	-	725	641	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	513	489	863	249	485	1022	1178	-	-	1531	-	-
Mov Cap-2 Maneuver	513	489	-	249	485	-	-	-	-	-	-	-
Stage 1	649	647	-	841	769	-	-	-	-	-	-	-
Stage 2	884	771	-	335	638	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.7	26	2.5	0.2
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1178	-	-	684	256	1531	-	-
HCM Lane V/C Ratio	0.025	-	-	0.721	0.334	0.005	-	-
HCM Control Delay (s)	8.1	-	-	22.7	26	7.4	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	6.2	1.4	0	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	13	13	8	10	1	2	4	63	10	10	475	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	46	46	46	75	75	75	65	65	65
Heavy Vehicles, %	12	12	12	2	2	2	11	11	11	2	2	2
Mvmt Flow	15	15	9	22	2	4	5	84	13	15	731	85

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	858	912	408	505	947	49	815	0	0	97	0	0
Stage 1	804	804	-	101	101	-	-	-	-	-	-	-
Stage 2	54	108	-	404	846	-	-	-	-	-	-	-
Critical Hdwy	7.74	6.74	7.14	7.54	6.54	6.94	4.32	-	-	4.14	-	-
Critical Hdwy Stg 1	6.74	5.74	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.74	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.62	4.12	3.42	3.52	4.02	3.32	2.31	-	-	2.22	-	-
Pot Cap-1 Maneuver	235	255	565	450	260	1009	753	-	-	1494	-	-
Stage 1	322	371	-	894	811	-	-	-	-	-	-	-
Stage 2	923	782	-	594	377	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	230	251	565	417	256	1009	753	-	-	1494	-	-
Mov Cap-2 Maneuver	230	251	-	417	256	-	-	-	-	-	-	-
Stage 1	320	367	-	888	806	-	-	-	-	-	-	-
Stage 2	910	777	-	554	373	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.1	13.9	0.5	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	753	-	-	278	435	1494	-	-
HCM Lane V/C Ratio	0.007	-	-	0.144	0.065	0.01	-	-
HCM Control Delay (s)	9.8	-	-	20.1	13.9	7.4	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.2	0	-	-

APPENDIX G
2018 BUILD INTERSECTION CAPACITY ANALYSIS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	423	960	29	90	909	758	8	47	73	72	7	41
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1845	1845	1900	1743	1743	1900	1727	1727	1900
Adj Flow Rate, veh/h	475	1079	33	115	1165	972	13	78	122	88	9	50
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.89	0.89	0.89	0.78	0.78	0.78	0.60	0.60	0.60	0.82	0.82	0.82
Percent Heavy Veh, %	5	5	5	3	3	3	9	9	9	10	10	10
Cap, veh/h	501	3335	102	391	1593	744	228	100	157	111	38	208
Arrive On Green	0.25	0.68	0.68	0.05	0.47	0.47	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	1723	4926	151	1757	3357	1568	1252	614	960	1092	229	1273
Grp Volume(v), veh/h	475	721	391	115	1165	972	13	0	200	88	0	59
Grp Sat Flow(s),veh/h/ln	1723	1647	1783	1757	1679	1568	1252	0	1574	1092	0	1503
Q Serve(g_s), s	25.5	10.0	10.0	3.7	30.7	52.2	1.0	0.0	13.4	4.6	0.0	3.8
Cycle Q Clear(g_c), s	25.5	10.0	10.0	3.7	30.7	52.2	4.8	0.0	13.4	18.0	0.0	3.8
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.61	1.00		0.85
Lane Grp Cap(c), veh/h	501	2230	1207	391	1593	744	228	0	258	111	0	246
V/C Ratio(X)	0.95	0.32	0.32	0.29	0.73	1.31	0.06	0.00	0.78	0.79	0.00	0.24
Avail Cap(c_a), veh/h	520	2230	1207	414	1593	744	228	0	258	111	0	246
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	34.6	7.3	7.3	13.3	23.2	28.9	42.1	0.0	44.1	53.8	0.0	40.0
Incr Delay (d2), s/veh	26.6	0.4	0.7	0.4	3.0	147.4	0.5	0.0	20.2	42.4	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	24.7	8.2	8.8	3.2	21.0	95.4	0.7	0.0	11.7	7.2	0.0	3.1
LnGrp Delay(d),s/veh	61.2	7.7	8.1	13.7	26.2	176.3	42.6	0.0	64.3	96.2	0.0	42.3
LnGrp LOS	E	A	A	B	C	F	D		E	F		D
Approach Vol, veh/h		1587			2252			213			147	
Approach Delay, s/veh		23.8			90.4			63.0			74.6	
Approach LOS		C			F			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	78.5		22.0	31.8	56.2		22.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	7.0	73.0		18.0	29.0	51.0		18.0
Max Q Clear Time (g_c+I1), s	5.7	12.0		20.0	27.5	54.2		15.4
Green Ext Time (p_c), s	0.0	48.6		0.0	0.3	0.0		0.5

Intersection Summary	
HCM 2010 Ctrl Delay	63.3
HCM 2010 LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	423	960	29	90	909	758	8	47	73	72	7	41
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1845	1845	1845	1743	1743	1900	1727	1727	1900
Adj Flow Rate, veh/h	475	1079	33	115	1165	972	13	78	122	88	9	50
Adj No. of Lanes	1	3	0	1	3	1	1	1	0	1	1	0
Peak Hour Factor	0.89	0.89	0.89	0.78	0.78	0.78	0.60	0.60	0.60	0.82	0.82	0.82
Percent Heavy Veh, %	5	5	5	3	3	3	9	9	9	10	10	10
Cap, veh/h	469	3402	104	418	2747	855	216	95	148	100	35	197
Arrive On Green	0.19	0.69	0.69	0.05	0.55	0.55	0.15	0.15	0.15	0.15	0.15	0.15
Sat Flow, veh/h	1723	4926	151	1757	5036	1568	1252	614	960	1092	229	1273
Grp Volume(v), veh/h	475	721	391	115	1165	972	13	0	200	88	0	59
Grp Sat Flow(s),veh/h/ln	1723	1647	1783	1757	1679	1568	1252	0	1574	1092	0	1503
Q Serve(g_s), s	21.0	9.5	9.5	3.2	15.0	60.0	1.0	0.0	13.5	3.5	0.0	3.8
Cycle Q Clear(g_c), s	21.0	9.5	9.5	3.2	15.0	60.0	4.8	0.0	13.5	17.0	0.0	3.8
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.61	1.00		0.85
Lane Grp Cap(c), veh/h	469	2275	1232	418	2747	855	216	0	243	100	0	232
V/C Ratio(X)	1.01	0.32	0.32	0.27	0.42	1.14	0.06	0.00	0.82	0.88	0.00	0.25
Avail Cap(c_a), veh/h	469	2275	1232	434	2747	855	216	0	243	100	0	232
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	6.7	6.7	9.8	14.8	25.0	43.0	0.0	45.0	54.3	0.0	40.9
Incr Delay (d2), s/veh	44.9	0.4	0.7	0.4	0.5	75.7	0.5	0.0	25.9	62.1	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	36.1	7.9	8.5	2.8	11.4	78.5	0.7	0.0	12.2	7.8	0.0	3.1
LnGrp Delay(d),s/veh	74.7	7.1	7.4	10.2	15.3	100.7	43.6	0.0	70.9	116.4	0.0	43.5
LnGrp LOS	F	A	A	B	B	F	D		E	F		D
Approach Vol, veh/h		1587			2252			213			147	
Approach Delay, s/veh		27.4			51.9			69.2			87.2	
Approach LOS		C			D			E			F	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	80.0		21.0	25.0	64.0		21.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.0	75.0		17.0	21.0	60.0		17.0
Max Q Clear Time (g_c+I1), s	5.2	11.5		19.0	23.0	62.0		15.5
Green Ext Time (p_c), s	0.0	43.2		0.0	0.0	0.0		0.3

Intersection Summary	
HCM 2010 Ctrl Delay	44.7
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	423	960	29	90	909	758	8	47	73	72	7	41
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1845	1845	1845	1743	1743	1900	1727	1727	1900
Adj Flow Rate, veh/h	475	1079	33	115	1165	972	13	78	122	88	9	50
Adj No. of Lanes	2	3	0	1	3	1	1	1	0	1	1	0
Peak Hour Factor	0.89	0.89	0.89	0.78	0.78	0.78	0.60	0.60	0.60	0.82	0.82	0.82
Percent Heavy Veh, %	5	5	5	3	3	3	9	9	9	10	10	10
Cap, veh/h	517	3183	97	142	2884	898	228	100	157	111	38	208
Arrive On Green	0.15	0.65	0.65	0.08	0.57	0.57	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	3343	4926	151	1757	5036	1568	1252	614	960	1092	229	1273
Grp Volume(v), veh/h	475	721	391	115	1165	972	13	0	200	88	0	59
Grp Sat Flow(s),veh/h/ln	1672	1647	1783	1757	1679	1568	1252	0	1574	1092	0	1503
Q Serve(g_s), s	15.4	10.9	10.9	7.1	14.1	63.0	1.0	0.0	13.4	4.6	0.0	3.8
Cycle Q Clear(g_c), s	15.4	10.9	10.9	7.1	14.1	63.0	4.8	0.0	13.4	18.0	0.0	3.8
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.61	1.00		0.85
Lane Grp Cap(c), veh/h	517	2128	1152	142	2884	898	228	0	258	111	0	246
V/C Ratio(X)	0.92	0.34	0.34	0.81	0.40	1.08	0.06	0.00	0.78	0.79	0.00	0.24
Avail Cap(c_a), veh/h	517	2128	1152	224	2884	898	228	0	258	111	0	246
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.8	8.8	8.8	49.7	13.1	23.5	42.1	0.0	44.1	53.8	0.0	40.0
Incr Delay (d2), s/veh	21.7	0.4	0.8	11.3	0.4	54.9	0.5	0.0	20.2	42.4	0.0	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	13.5	8.7	9.4	7.0	10.8	73.1	0.7	0.0	11.7	7.2	0.0	3.1
LnGrp Delay(d),s/veh	67.5	9.2	9.6	61.0	13.5	78.4	42.6	0.0	64.3	96.2	0.0	42.3
LnGrp LOS	E	A	A	E	B	F	D		E	F		D
Approach Vol, veh/h		1587			2252			213			147	
Approach Delay, s/veh		26.8			43.9			63.0			74.6	
Approach LOS		C			D			E			E	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.9	75.1		22.0	21.0	67.0		22.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	14.0	66.0		18.0	17.0	63.0		18.0
Max Q Clear Time (g_c+I1), s	9.1	12.9		20.0	17.4	65.0		15.4
Green Ext Time (p_c), s	0.1	38.2		0.0	0.0	0.0		0.5

Intersection Summary		
HCM 2010 Ctrl Delay		39.5
HCM 2010 LOS		D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	423	960	29	90	909	758	8	47	73	72	7	41
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1810	1810	1900	1845	1845	1900	1743	1743	1900	1727	1727	1900
Adj Flow Rate, veh/h	475	1079	33	115	1165	972	13	78	122	88	9	50
Adj No. of Lanes	2	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.89	0.89	0.89	0.78	0.78	0.78	0.60	0.60	0.60	0.82	0.82	0.82
Percent Heavy Veh, %	5	5	5	3	3	3	9	9	9	10	10	10
Cap, veh/h	545	3004	92	142	1773	828	275	123	192	157	46	255
Arrive On Green	0.16	0.61	0.61	0.08	0.53	0.53	0.20	0.20	0.20	0.20	0.20	0.20
Sat Flow, veh/h	3343	4926	151	1757	3357	1568	1252	614	960	1092	229	1273
Grp Volume(v), veh/h	475	721	391	115	1165	972	13	0	200	88	0	59
Grp Sat Flow(s),veh/h/ln	1672	1647	1783	1757	1679	1568	1252	0	1574	1092	0	1503
Q Serve(g_s), s	15.2	12.0	12.0	7.1	27.6	58.1	1.0	0.0	12.8	8.8	0.0	3.6
Cycle Q Clear(g_c), s	15.2	12.0	12.0	7.1	27.6	58.1	4.6	0.0	12.8	21.6	0.0	3.6
Prop In Lane	1.00		0.08	1.00		1.00	1.00		0.61	1.00		0.85
Lane Grp Cap(c), veh/h	545	2009	1087	142	1773	828	275	0	315	157	0	301
V/C Ratio(X)	0.87	0.36	0.36	0.81	0.66	1.17	0.05	0.00	0.64	0.56	0.00	0.20
Avail Cap(c_a), veh/h	638	2009	1087	224	1773	828	275	0	315	157	0	301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	44.9	10.7	10.7	49.7	18.8	26.0	38.5	0.0	40.3	50.2	0.0	36.6
Incr Delay (d2), s/veh	11.3	0.5	0.9	11.3	1.9	90.9	0.3	0.0	9.4	13.8	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.5	9.4	10.2	7.0	19.2	82.8	0.6	0.0	10.5	5.9	0.0	2.9
LnGrp Delay(d),s/veh	56.2	11.2	11.6	61.0	20.7	116.9	38.9	0.0	49.8	64.0	0.0	38.1
LnGrp LOS	E	B	B	E	C	F	D		D	E		D
Approach Vol, veh/h		1587			2252			213			147	
Approach Delay, s/veh		24.8			64.3			49.1			53.6	
Approach LOS		C			E			D			D	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	12.9	71.1		26.0	21.9	62.1		26.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	14.0	62.0		22.0	21.0	55.0		22.0
Max Q Clear Time (g_c+I1), s	9.1	14.0		23.6	17.2	60.1		14.8
Green Ext Time (p_c), s	0.1	39.9		0.0	0.7	0.0		1.1

Intersection Summary	
HCM 2010 Ctrl Delay	48.2
HCM 2010 LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	86	1258	8	47	897	157	35	8	101	356	32	351
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1845	1845	1900	1827	1827	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	92	1353	9	52	986	173	53	12	153	516	46	509
Adj No. of Lanes	1	3	0	1	3	0	1	1	0	1	1	0
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.66	0.66	0.66	0.69	0.69	0.69
Percent Heavy Veh, %	3	3	3	4	4	4	2	2	2	2	2	2
Cap, veh/h	199	1671	11	152	1299	227	313	62	796	653	71	789
Arrive On Green	0.05	0.32	0.32	0.03	0.30	0.30	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	1757	5162	34	1740	4272	748	850	116	1484	1216	133	1470
Grp Volume(v), veh/h	92	880	482	52	767	392	53	0	165	516	0	555
Grp Sat Flow(s),veh/h/ln	1757	1679	1839	1740	1663	1695	850	0	1601	1216	0	1603
Q Serve(g_s), s	3.9	26.4	26.4	2.3	23.0	23.0	5.2	0.0	5.9	41.9	0.0	27.0
Cycle Q Clear(g_c), s	3.9	26.4	26.4	2.3	23.0	23.0	32.2	0.0	5.9	47.8	0.0	27.0
Prop In Lane	1.00		0.02	1.00		0.44	1.00		0.93	1.00		0.92
Lane Grp Cap(c), veh/h	199	1087	595	152	1011	515	313	0	859	653	0	860
V/C Ratio(X)	0.46	0.81	0.81	0.34	0.76	0.76	0.17	0.00	0.19	0.79	0.00	0.65
Avail Cap(c_a), veh/h	206	1087	595	161	1011	515	313	0	859	653	0	860
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.1	34.1	34.1	28.2	34.6	34.7	29.5	0.0	13.2	25.5	0.0	18.1
Incr Delay (d2), s/veh	1.7	6.5	11.4	1.3	5.3	10.2	1.2	0.0	0.5	9.5	0.0	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.6	19.2	21.7	2.0	16.8	18.0	2.4	0.0	4.8	22.3	0.0	18.6
LnGrp Delay(d),s/veh	28.8	40.6	45.4	29.5	40.0	44.8	30.7	0.0	13.7	35.0	0.0	21.8
LnGrp LOS	C	D	D	C	D	D	C		B	C		C
Approach Vol, veh/h		1454			1211			218			1071	
Approach Delay, s/veh		41.5			41.1			17.8			28.2	
Approach LOS		D			D			B			C	

Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	7.4	39.6		63.0	9.6	37.4		63.0
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	4.0	35.0		59.0	6.0	33.0		59.0
Max Q Clear Time (g_c+I1), s	4.3	28.4		49.8	5.9	25.0		34.2
Green Ext Time (p_c), s	0.0	5.8		4.8	0.0	7.0		8.0

Intersection Summary	
HCM 2010 Ctrl Delay	36.4
HCM 2010 LOS	D

Intersection	
Int Delay, s/veh	7.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	1	1	244	6	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	25	25	77	77	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	4	317	8	0	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	8	0	644	4
Stage 1	-	-	-	-	6	-
Stage 2	-	-	-	-	638	-
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	-	-	1611	-	405	1078
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	488	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1611	-	325	1078
Mov Cap-2 Maneuver	-	-	-	-	325	-
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	392	-

Approach	EB	WB	NB
HCM Control Delay, s	0	7.6	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1078	-	-	1611	-
HCM Lane V/C Ratio	0.017	-	-	0.197	-
HCM Control Delay (s)	8.4	-	-	7.8	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	14	2	66	250	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	68	68	69	69	50	50
Heavy Vehicles, %	2	2	5	5	2	2
Mvmt Flow	21	3	96	362	0	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	24	0	394	12
Stage 1	-	-	-	-	22	-
Stage 2	-	-	-	-	372	-
Critical Hdwy	-	-	4.2	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.25	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1568	-	583	1065
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	667	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1568	-	547	1065
Mov Cap-2 Maneuver	-	-	-	-	547	-
Stage 1	-	-	-	-	998	-
Stage 2	-	-	-	-	626	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	8.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1065	-	-	1568	-
HCM Lane V/C Ratio	0.019	-	-	0.061	-
HCM Control Delay (s)	8.4	-	-	7.4	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	-

Intersection	
Int Delay, s/veh	5.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	13	9	134	233	86	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	53	53	68	68	83	83
Heavy Vehicles, %	2	2	14	14	2	2
Mvmt Flow	25	17	197	343	104	64

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	42	0	598	21
Stage 1	-	-	-	-	33	-
Stage 2	-	-	-	-	565	-
Critical Hdwy	-	-	4.38	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.34	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1482	-	434	1051
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	532	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1482	-	376	1051
Mov Cap-2 Maneuver	-	-	-	-	376	-
Stage 1	-	-	-	-	985	-
Stage 2	-	-	-	-	461	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.8	14.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	376	1051	-	-	1482	-
HCM Lane V/C Ratio	0.276	0.061	-	-	0.133	-
HCM Control Delay (s)	18.2	8.6	-	-	7.8	-
HCM Lane LOS	C	A	-	-	A	-
HCM 95th %tile Q(veh)	1.1	0.2	-	-	0.5	-

Intersection	
Int Delay, s/veh	4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	7	8	6	1	1	224	135	21	0	95	30
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	50	50	66	66	66	72	72	72	77	77	77
Heavy Vehicles, %	2	2	2	13	13	13	3	3	3	2	2	2
Mvmt Flow	2	14	16	9	2	2	311	188	29	0	123	39

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	860	982	81	893	986	108	162	0	0	217	0	0
Stage 1	143	143	-	824	824	-	-	-	-	-	-	-
Stage 2	717	839	-	69	162	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.76	6.76	7.16	4.16	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.76	5.76	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.76	5.76	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.63	4.13	3.43	2.23	-	-	2.22	-	-
Pot Cap-1 Maneuver	250	248	963	219	229	891	1407	-	-	1350	-	-
Stage 1	845	778	-	311	361	-	-	-	-	-	-	-
Stage 2	387	379	-	902	737	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	206	193	963	169	178	891	1407	-	-	1350	-	-
Mov Cap-2 Maneuver	206	193	-	169	178	-	-	-	-	-	-	-
Stage 1	658	778	-	242	281	-	-	-	-	-	-	-
Stage 2	299	295	-	871	737	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.3	25.3	4.9	0
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1407	-	-	324	189	1350	-	-
HCM Lane V/C Ratio	0.221	-	-	0.099	0.064	-	-	-
HCM Control Delay (s)	8.3	-	-	17.3	25.3	0	-	-
HCM Lane LOS	A	-	-	C	D	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	0.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	15.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	6	33	1	8	2	592	386	56	1	45	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	55	55	55	75	75	75	72	72	72
Heavy Vehicles, %	5	5	5	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	8	44	2	15	4	789	515	75	1	62	79

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1948	2273	71	2169	2275	295	142	0	0	589	0	0
Stage 1	105	105	-	2131	2131	-	-	-	-	-	-	-
Stage 2	1843	2168	-	38	144	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	37	38	967	26	40	701	1438	-	-	982	-	-
Stage 1	881	800	-	51	88	-	-	-	-	-	-	-
Stage 2	75	81	-	972	777	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	8	17	967	9	18	701	1438	-	-	982	-	-
Mov Cap-2 Maneuver	8	17	-	9	18	-	-	-	-	-	-	-
Stage 1	398	799	-	23	40	-	-	-	-	-	-	-
Stage 2	21	37	-	918	776	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	118.8	$ 469.6	6	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1438	-	-	78	20	982	-	-
HCM Lane V/C Ratio	0.549	-	-	0.684	1	0.001	-	-
HCM Control Delay (s)	10.5	-	-	118.8	$ 469.6	8.7	-	-
HCM Lane LOS	B	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	3.5	-	-	3.2	2.7	0	-	-

Notes

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

Intersection	
Int Delay, s/veh	13.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	6	33	1	8	2	592	386	56	1	45	57
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	55	55	55	75	75	75	72	72	72
Heavy Vehicles, %	5	5	5	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	8	44	2	15	4	789	515	75	1	62	79

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1948	2273	71	2169	2275	295	142	0	0	589	0	0
Stage 1	105	105	-	2131	2131	-	-	-	-	-	-	-
Stage 2	1843	2168	-	38	144	-	-	-	-	-	-	-
Critical Hdwy	7.6	6.6	7	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.6	5.6	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.55	4.05	3.35	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	37	38	967	26	40	701	1438	-	-	982	-	-
Stage 1	881	800	-	51	88	-	-	-	-	-	-	-
Stage 2	75	81	-	972	777	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	8	17	967	9	18	701	1438	-	-	982	-	-
Mov Cap-2 Maneuver	8	17	-	9	18	-	-	-	-	-	-	-
Stage 1	398	799	-	23	40	-	-	-	-	-	-	-
Stage 2	21	37	-	918	776	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	83.1	$ 469.6	6	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1438	-	-	15	967	20	982	-	-
HCM Lane V/C Ratio	0.549	-	-	0.622	0.046	1	0.001	-	-
HCM Control Delay (s)	10.5	-	-	$ 432.8	8.9	$ 469.6	8.7	-	-
HCM Lane LOS	B	-	-	F	A	F	A	-	-
HCM 95th %tile Q(veh)	3.5	-	-	1.6	0.1	2.7	0	-	-

Notes

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

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	81	4	2	14	4	3	8	1015	36	1	73	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	68	68	68	71	71	71	80	80	80	77	77	77
Heavy Vehicles, %	7	7	7	2	2	2	2	2	2	3	3	3
Mvmt Flow	119	6	3	20	6	4	10	1269	45	1	95	17

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	763	1440	56	1364	1425	657	112	0	0	1314	0	0
Stage 1	106	106	-	1311	1311	-	-	-	-	-	-	-
Stage 2	657	1334	-	53	114	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.64	7.04	7.54	6.54	6.94	4.14	-	-	4.16	-	-
Critical Hdwy Stg 1	6.64	5.64	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.64	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4.07	3.37	3.52	4.02	3.32	2.22	-	-	2.23	-	-
Pot Cap-1 Maneuver	285	126	983	106	134	407	1475	-	-	517	-	-
Stage 1	874	795	-	168	227	-	-	-	-	-	-	-
Stage 2	408	212	-	953	800	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	271	125	983	101	133	407	1475	-	-	517	-	-
Mov Cap-2 Maneuver	271	125	-	101	133	-	-	-	-	-	-	-
Stage 1	868	793	-	167	225	-	-	-	-	-	-	-
Stage 2	391	211	-	941	798	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31.4	45	0.1	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1475	-	-	261	119	517	-	-
HCM Lane V/C Ratio	0.007	-	-	0.49	0.249	0.003	-	-
HCM Control Delay (s)	7.5	-	-	31.4	45	12	-	-
HCM Lane LOS	A	-	-	D	E	B	-	-
HCM 95th %tile Q(veh)	0	-	-	2.5	0.9	0	-	-

Intersection	
Int Delay, s/veh	8.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	9	2	11	3	1	176
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	55	55	66	66	70	70
Heavy Vehicles, %	10	10	2	2	2	2
Mvmt Flow	16	4	17	5	1	251

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	20	0	54	10
Stage 1	-	-	-	-	18	-
Stage 2	-	-	-	-	36	-
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	-	-	1595	-	948	1069
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	982	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1595	-	938	1069
Mov Cap-2 Maneuver	-	-	-	-	938	-
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	972	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.7	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1068	-	-	1595	-
HCM Lane V/C Ratio	0.237	-	-	0.01	-
HCM Control Delay (s)	9.4	-	-	7.3	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.9	-	-	0	-

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	188	0	11	18	0	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	69	69	62	62	56	56
Heavy Vehicles, %	2	2	5	5	2	2
Mvmt Flow	272	0	18	29	0	155

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	272	0	322	136
Stage 1	-	-	-	-	272	-
Stage 2	-	-	-	-	50	-
Critical Hdwy	-	-	4.2	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.25	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1267	-	647	888
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	966	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1267	-	638	888
Mov Cap-2 Maneuver	-	-	-	-	638	-
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	952	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	888	-	-	1267	-
HCM Lane V/C Ratio	0.175	-	-	0.014	-
HCM Control Delay (s)	9.9	-	-	7.9	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	193	84	56	14	13	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	81	81
Heavy Vehicles, %	2	2	2	2	14	14
Mvmt Flow	214	93	62	16	16	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	308	0	393	154
Stage 1	-	-	-	-	261	-
Stage 2	-	-	-	-	132	-
Critical Hdwy	-	-	4.14	-	7.08	7.18
Critical Hdwy Stg 1	-	-	-	-	6.08	-
Critical Hdwy Stg 2	-	-	-	-	6.08	-
Follow-up Hdwy	-	-	2.22	-	3.64	3.44
Pot Cap-1 Maneuver	-	-	1249	-	553	828
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	845	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1249	-	526	828
Mov Cap-2 Maneuver	-	-	-	-	526	-
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	803	-

Approach	EB	WB	NB
HCM Control Delay, s	0	6.4	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	526	828	-	-	1249	-
HCM Lane V/C Ratio	0.031	0.037	-	-	0.05	-
HCM Control Delay (s)	12.1	9.5	-	-	8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.2	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	4	56	158	18	1	1	15	33	6	0	137	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	75	75	75	82	82	82	73	73	73
Heavy Vehicles, %	2	2	2	6	6	6	9	9	9	2	2	2
Mvmt Flow	5	66	186	24	1	1	18	40	7	0	188	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	246	273	95	207	270	24	190	0	0	48	0	0
Stage 1	189	189	-	80	80	-	-	-	-	-	-	-
Stage 2	57	84	-	127	190	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.62	6.62	7.02	4.28	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.62	5.62	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.62	5.62	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.56	4.06	3.36	2.29	-	-	2.22	-	-
Pot Cap-1 Maneuver	687	633	943	722	626	1034	1332	-	-	1557	-	-
Stage 1	795	743	-	908	818	-	-	-	-	-	-	-
Stage 2	948	824	-	852	732	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	678	624	943	527	618	1034	1332	-	-	1557	-	-
Mov Cap-2 Maneuver	678	624	-	527	618	-	-	-	-	-	-	-
Stage 1	784	743	-	896	807	-	-	-	-	-	-	-
Stage 2	932	813	-	623	732	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	12	2.2	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1332	-	-	828	544	1557	-	-
HCM Lane V/C Ratio	0.014	-	-	0.31	0.049	-	-	-
HCM Control Delay (s)	7.7	-	-	11.3	12	0	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	58.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	190	378	45	1	1	37	50	9	5	302	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	83	83	83	84	84	84	62	62	62
Heavy Vehicles, %	2	2	2	5	5	5	12	12	12	2	2	2
Mvmt Flow	2	211	420	54	1	1	44	60	11	8	487	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	624	664	247	518	663	35	494	0	0	70	0	0
Stage 1	506	506	-	153	153	-	-	-	-	-	-	-
Stage 2	118	158	-	365	510	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.6	6.6	7	4.34	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.6	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.6	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.55	4.05	3.35	2.32	-	-	2.22	-	-
Pot Cap-1 Maneuver	370	380	753	434	374	1020	999	-	-	1529	-	-
Stage 1	517	538	-	825	763	-	-	-	-	-	-	-
Stage 2	874	766	-	618	528	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	355	361	753	99	356	1020	999	-	-	1529	-	-
Mov Cap-2 Maneuver	355	361	-	99	356	-	-	-	-	-	-	-
Stage 1	494	535	-	789	729	-	-	-	-	-	-	-
Stage 2	833	732	-	165	525	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	112.3	76.2	3.4	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	999	-	-	551	103	1529	-	-
HCM Lane V/C Ratio	0.044	-	-	1.149	0.55	0.005	-	-
HCM Control Delay (s)	8.8	-	-	112.3	76.2	7.4	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	21.4	2.5	0	-	-

Intersection	
Int Delay, s/veh	13.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	190	378	45	1	1	37	50	9	5	302	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	0	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	83	83	83	84	84	84	62	62	62
Heavy Vehicles, %	2	2	2	5	5	5	12	12	12	2	2	2
Mvmt Flow	2	211	420	54	1	1	44	60	11	8	487	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	624	664	247	518	663	35	494	0	0	70	0	0
Stage 1	506	506	-	153	153	-	-	-	-	-	-	-
Stage 2	118	158	-	365	510	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.6	6.6	7	4.34	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.6	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.6	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.55	4.05	3.35	2.32	-	-	2.22	-	-
Pot Cap-1 Maneuver	370	380	753	434	374	1020	999	-	-	1529	-	-
Stage 1	517	538	-	825	763	-	-	-	-	-	-	-
Stage 2	874	766	-	618	528	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	355	361	753	99	356	1020	999	-	-	1529	-	-
Mov Cap-2 Maneuver	355	361	-	99	356	-	-	-	-	-	-	-
Stage 1	494	535	-	789	729	-	-	-	-	-	-	-
Stage 2	833	732	-	165	525	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.9	76.2	3.4	0.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	999	-	-	361	753	103	1529	-	-
HCM Lane V/C Ratio	0.044	-	-	0.591	0.558	0.55	0.005	-	-
HCM Control Delay (s)	8.8	-	-	28.4	15.6	76.2	7.4	-	-
HCM Lane LOS	A	-	-	D	C	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.6	3.5	2.5	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	15	13	8	10	1	2	4	85	10	10	670	76
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	200	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	46	46	46	75	75	75	65	65	65
Heavy Vehicles, %	12	12	12	2	2	2	11	11	11	2	2	2
Mvmt Flow	18	15	9	22	2	4	5	113	13	15	1031	117

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1188	1257	574	685	1309	63	1148	0	0	127	0	0
Stage 1	1120	1120	-	131	131	-	-	-	-	-	-	-
Stage 2	68	137	-	554	1178	-	-	-	-	-	-	-
Critical Hdwy	7.74	6.74	7.14	7.54	6.54	6.94	4.32	-	-	4.14	-	-
Critical Hdwy Stg 1	6.74	5.74	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.74	5.74	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.62	4.12	3.42	3.52	4.02	3.32	2.31	-	-	2.22	-	-
Pot Cap-1 Maneuver	132	157	437	334	158	988	555	-	-	1457	-	-
Stage 1	204	260	-	859	787	-	-	-	-	-	-	-
Stage 2	906	759	-	484	263	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	128	154	437	298	155	988	555	-	-	1457	-	-
Mov Cap-2 Maneuver	128	154	-	298	155	-	-	-	-	-	-	-
Stage 1	202	257	-	851	780	-	-	-	-	-	-	-
Stage 2	891	752	-	441	260	-	-	-	-	-	-	-

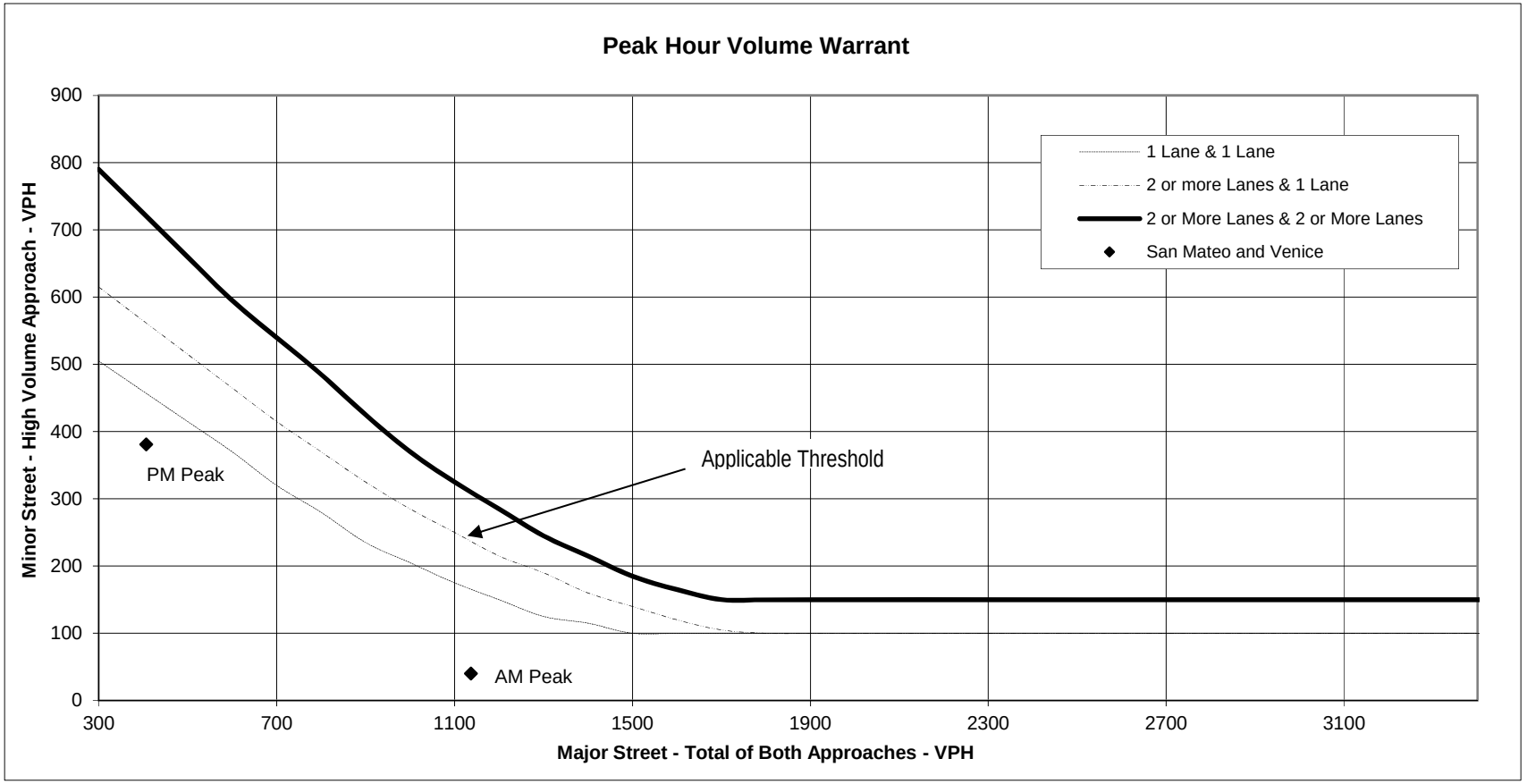
Approach	EB	WB	NB	SB
HCM Control Delay, s	34.4	17.8	0.5	0.1
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	555	-	-	164	309	1457	-	-
HCM Lane V/C Ratio	0.01	-	-	0.258	0.091	0.011	-	-
HCM Control Delay (s)	11.5	-	-	34.4	17.8	7.5	-	-
HCM Lane LOS	B	-	-	D	C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	1	0.3	0	-	-

PEAK HOUR VOLUME SIGNAL WARRANT ANALYSIS

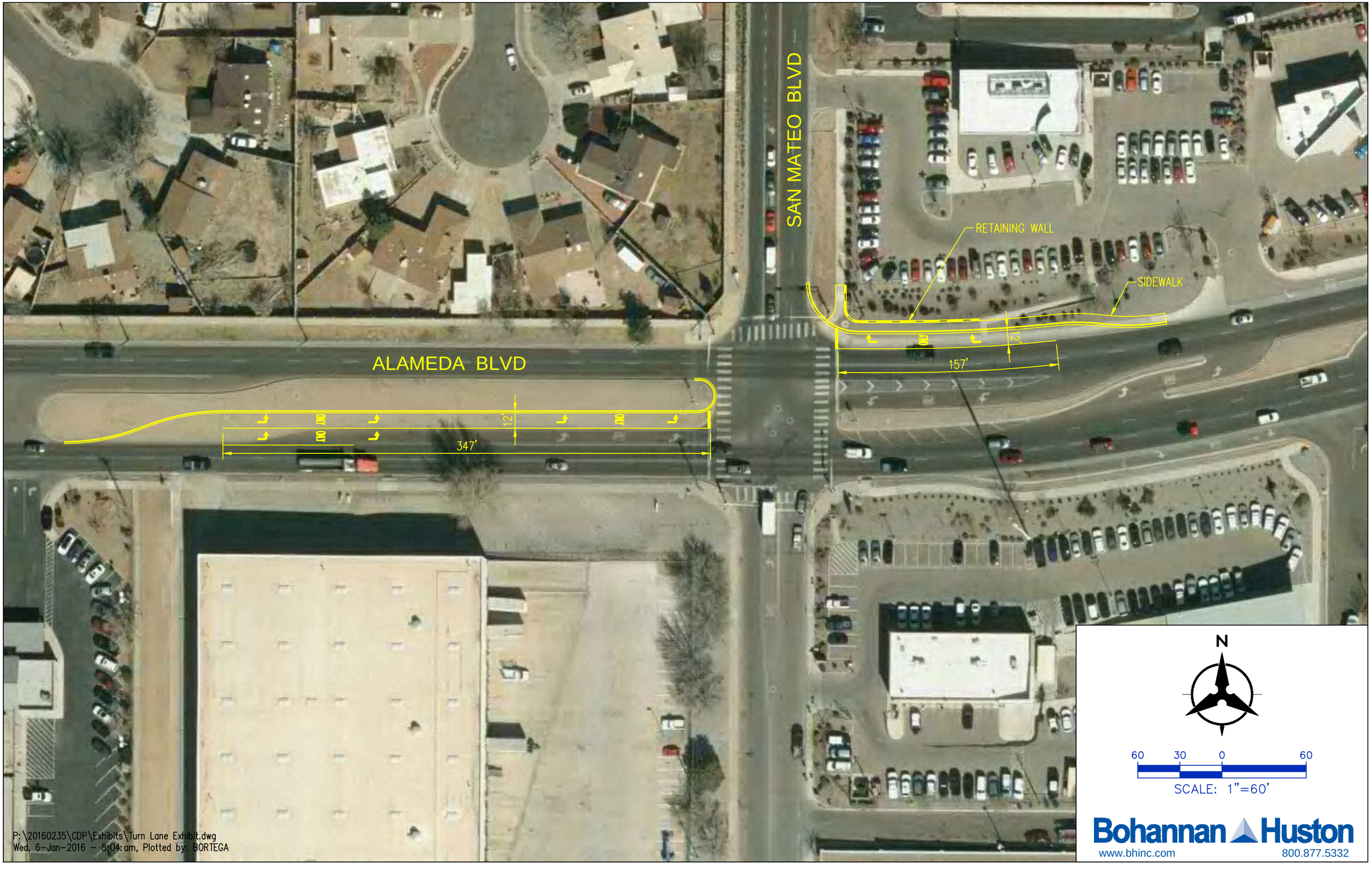
Scenario: 2018 Build 2
Intersection: San Mateo and Venice
Type: 2 or more Lane/1 Lane
Major Street (Orientation): San Mateo (N/S)
Minor Street (Orientation): Venice (E/W)

	Minor Street Approach Volume			Major Street Approach Volume			Satisfies
Time	EB	WB	High Vol Approach	NB	SB	NB + SB	Warrant 11?
AM Peak	40	11	40	1,034	103	1,137	YES
PM Peak	381	47	381	96	311	407	NO



Note: 150 VPH applies as the lower threshold for minor street approach with 2 or more lanes & 100 VPH as the threshold for a minor street approach with one lane

APPENDIX H
IMPROVEMENT SKETCH AND ESTIMATE


SAN MATEO BLVD
ALAMEDA BLVD
RETAINING WALL
SIDEWALK
12'
157'
12'
347'
N
60 30 0 60
SCALE: 1"=60'
Bohannan Huston
www.bhinc.com
800.877.5332
P:\20160235\CDP\Exhibits\Turn Lane Exhibit.dwg
Wed, 6-Jan-2016 - 8:04:am, Plotted by: BORTEGA

Engineers Opinion of Probable Cost Estimate for
Presbyterian Cooper Center Public Infrastructure
December 13, 2015

Item No.	Short Description	Estimated Unit Price	Unit	Estimated Quantity	Estimated Amount
	1. Left Turn Lane				
301.020	SUBGRADE PREP, 12"	$ 2.20	SY	520	$1,144.00
302.010	ABS, 6"	$ 7.62	SY	520	$3,963.96
329.010	PM SC, 5/8"	$ 4.04	SY	500	$2,018.50
336.023	ASP CONC, Superpave, 2-1/2", M	$ 12.10	SY	1000	$12,100.00
336.010	PRIME CT	$ 0.46	SY	500	$231.00
336.120	TK CT	$ 0.41	SY	500	$203.50
340.060	CONC BARRIER C&G 1'-6"	$ 21.44	LF	420	$9,004.38
343.030	AC PVMT, >4", SAW, R&D	$ 10.46	SY	50	$523.05
343.080	CURB & GUT, PCC, R&D	$ 7.06	LF	400	$2,824.80
422.016	TR SG MA, 30 T2 TR	$ 6,603.89	EA	1	$6,603.89
425.100	EL PB ADJ	$ 494.45	EA	1	$494.45
427.002	3 SEC TSA	$ 808.41	EA	1	$808.41
427.031	3 SECT BP	$ 102.94	EA	1	$102.94
440.001	REF PNT MRK	$ 0.56	LF	600	$336.60
443.101	REM PAV STRP	$ 0.96	LF	400	$382.80
920.400	MH F & C, ADJ W/RINGS	$ 367.46	EA	1	$367.46
	SUBTOTAL 1				**$41,109.74**
	2. Right Turn Lane				
301.020	SUBGRADE PREP, 12"	$ 2.20	SY	410	$902.00
302.010	ABS, 6"	$ 7.62	SY	410	$3,125.43
329.010	PM SC, 5/8"	$ 4.04	SY	385	$1,554.25
336.023	ASP CONC, Superpave, 2-1/2", M	$ 12.10	SY	770	$9,317.00
336.010	PRIME CT	$ 0.46	SY	385	$177.87
336.120	TK CT	$ 0.41	SY	385	$156.70
340.010	SDWK, 4", PCC	$ 44.10	SY	180	$7,937.82
340.025	WLCHR ACC RAMP, 4" PCC	$ 1,344.78	EA	1	$1,344.78
340.050	CONC BARRIER C&G 2'-0"	$ 22.34	LF	300	$6,702.30
343.030	AC PVMT, >4", SAW, R&D	$ 10.46	SY	50	$523.05
343.080	CURB & GUT, PCC, R&D	$ 7.06	LF	316	$2,231.59
343.085	SDWK, 4" PCC, R & D	$ 10.27	SY	180	$1,849.32
422.110	TR SG MA REM & SALV	$ 1,195.44	EA	1	$1,195.44
423.002	TR SG MA FD	$ 1,361.04	EA	1	$1,361.04
425.100	EL PB ADJ	$ 494.45	EA	2	$988.90
440.001	REF PNT MRK	$ 0.56	LF	480	$269.28
441.005	REF PLAS MRK 24"	$ 3.04	LF	100	$303.60
443.101	REM PAV STRP	$ 0.96	LF	240	$229.68
540.020	CMU RET WALL, CONC FILL	$ 23.94	SF	1265	$30,279.04
915.070	CTH BSN, REM	$ 1,213.82	EA	1	$1,213.82
915.030	CTH BSN, C, SG	$ 4,241.34	EA	1	$4,241.34
XXX.XXX	SIGN	$ 220.00	EA	4	$880.00
	SUBTOTAL 1				**$76,784.24**

Engineers Opinion of Probable Cost Estimate for
Presbyterian Cooper Center Public Infrastructure
December 13, 2015

	3. MISCELLANEOUS				
XXX.XXX	MOB	2.00%	LS	1	$2,358
XXX.XXX	TRAFFIC CONTOL	$10,000.00	LS	1	$10,000
	SUBTOTAL 3				**$12,357.88**

GRAND TOTAL **$130,252**

ASSUMPTIONS:

1. Unit prices are from the City of Albuquerque Unit Price Guide and Bid Data collected by BHI. Consideration has been given for the large quantities involved in this estimate as well as the rural location of the project.
2. This estimate of construction cost is only an opinion. BHI cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this opinion. Final construction cost will vary based on the construction climate in which bids are received.
3. Asphalt pavement section is:
   - 12" Subgrade Prep
   - 6" Aggregate Base Course
   - 5" of asphalt in 2-2.5" lifts
   - 5/8" OGFC
4. We assume that sufficient right-of-way exists along the north side of Alameda east of the intersection to allow for the right turn lane without acquisition of additional right-of-way. A survey will be needed to confirm this assumption.
5. This estimate has been prepared without the benefit of detailed studies, construction plans, jurisdictional reviews, etc.
6. Based on a visual observation of the terrain on the north side of Alameda, a 3-4’ retaining wall is expected to be required at the back of the re-located sidewalk. This cost has been included.
7. The proposed modifications will most likely impact the volume of the existing drainage pond located immediately adjacent to the Alameda right-of-way. We assume that the proposed city storm drain system improvements in Alameda will allow for such pond volume modifications. No additional costs related to replacement of the pond volume have been included.

Bohannan Huston

Courtyard I
7500 Jefferson St. NE
Albuquerque, NM
87109-4335

www.bhinc.com

voice: 505.823.1000
facsimile: 505.798.7988
toll free: 800.877.5332

December 15, 2015

Racquel Michel, PE
Planning Department
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: Presbyterian Rev. Hugh Cooper Administrative Center, DRB Case No. 1007488

Dear Racquel:

Presbyterian Healthcare Services is planning to construct two additional buildings at the Rev. Hugh Cooper Administrative Center located at the southwest corner of San Mateo Boulevard and Balloon Fiesta Parkway. The total new building area is 178,275 square feet. Based on the size of the proposed improvements it was determined that a Traffic Impact Analysis is required to support the proposed development.

On December 4, 2015 an application for Site Plan for Building Permit was submitted. This submittal included a Traffic Impact Analysis and Infrastructure List. The Infrastructure List included a single line item for a financial contribution amount of $44,285 toward the Alameda Blvd and San Mateo Blvd intersection improvements. A copy of the infrastructure list is attached for reference. The purpose of this letter is to explain the method that was used to arrive at the equitable cost to Presbyterian Health Care Services for the intersection improvements.

The Traffic Impact Analysis, dated December 4, 2015 evaluated several intersections including Alameda Boulevard and San Mateo Boulevard. The analysis shows that at full build out of the project, the intersection of Alameda and San Mateo will operate at a level of service (LOS) of E and certain turning movements will be a LOS of F. The report recommends that a westbound right turn lane and second eastbound left turn lane be added. The traffic analysis demonstrates that the project will be responsible for 34% of the traffic for these turning movements in the build year.

The City is planning a project to widen Alameda Boulevard between I-25 and 2nd Street. The first phase of the project, widening from I-25 to Jefferson, is currently planned for Federal fiscal year 2018/2019. This is the approximate time frame for full build out of the new buildings. Since the City is planning a road improvement project that will impact the Alameda / San Mateo intersection we recommend that the City incorporate the turn lane improvements into the City project and that Presbyterian fund a portion of the intersection improvements based on their proportion of traffic . As noted above this proportional share would be 34% of the turn lane improvements. We have prepared a preliminary cost estimate for these improvements which is attached. The total estimated cost is $130,252 of which Presbyterian's share will be $44,285 (34%). The costs above do not include soft costs and fees such as contingency, tax, engineering fee and testing fee. If you have any questions or require further information, please feel free to contact me.

Sincerely,

Glenn Broughton, P.E.
Senior Project Manager
Community Development and Planning

GSB/jcm
Enclosures

Current DRC
Project No. _____

Date Submitted: 12/3/2015
Date Site Plan Approved: _____
Date Preliminary Plat Approved: _____
Date Preliminary Plat Expires: _____

DRB Project No. 1007488

DRAFT

Figure 12

INFRASTRUCTURE LIST

DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LIST

PRESBYTERIAN REV. HUGH COOPER ADMINISTRATIVE CENTER

Following is a summary of PUBLIC/PRIVATE Infrastructure required to be constructed or financially guaranteed for the above development. This Listing is not necessarily a complete listing. During the SIA process and/or in the review of the construction drawings, if the DRC Chair determines that appurtenant items and/or unforeseen items have not been included in the infrastructure listing, the DRC Chair may include those items in the listing and related financial guarantee. Likewise, if the DRC Chair determines that appurtenant or non-essential items can be deleted from the listing, those items may be deleted as well as the related portions of the financial guarantees. All such revisions require approval by the DRC Chair, the User Department and agent/owner. If such approvals are obtained, these revisions to the listing will be incorporated administratively. In addition, any unforeseen items which arise during construction which which are necessary to complete the project and which normally are the Subdivider's responsibility will be required as a condition of project acceptance and close out by the City.

SIA Sequence #	COA DRC Project #	Size	Type of Improvement	Location	From	To	Private Inspector	City Inspector	City Cnst Engineer
			PUBLIC ROADWAY IMPROVEMENTS						
			INTERSECTION IMPROVEMENTS: $44,285 FINANCIAL CONTRIBUTION - VIA A SIA PROCEDURE C	ALAMEDA BLVD NE	SAN MATEO BLVD NE		/	/	/
							/	/	/
							/	/	/
							/	/	/
							/	/	/

AGENT/OWNER

GLENN BROUGHTON, P.E. 12/3/2015
PREPARED BY: PRINT NAME DATE

BOHANNAN HUSTON, INC.
FIRM

SIGNATURE

MAXIMUM TIME ALLOWED TO CONSTRUCT IMPROVEMENTS WITHOUT A DRB EXTENSION

DEVELOPMENT REVIEW BOARD MEMBER APPROVALS

DRB CHAIR	DATE	PARKS & GENERAL SERVICES	DATE
TRANSPORTATION DEVELOPMENT	DATE	AMAFCA	DATE
ABCWUA	DATE	CITY ENGINEER	DATE
			DATE

DESIGN REVIEW COMMITTEE REVISIONS

REVISION	DATE	DRC CHAIR	USER DEPARTMENT	AGENT/OWNER

Engineers Opinion of Probable Cost Estimate for
Presbyterian Cooper Center Public Infrastructure
December 13, 2015

Item No.	Short Description	Estimated Unit Price	Unit	Estimated Quantity	Estimated Amount
	1. Left Turn Lane				
301.020	SUBGRADE PREP, 12"	$ 2.20	SY	520	$1,144.00
302.010	ABS, 6"	$ 7.62	SY	520	$3,963.96
329.010	PM SC, 5/8"	$ 4.04	SY	500	$2,018.50
336.023	ASP CONC, Superpave, 2-1/2", M	$ 12.10	SY	1000	$12,100.00
336.010	PRIME CT	$ 0.46	SY	500	$231.00
336.120	TK CT	$ 0.41	SY	500	$203.50
340.060	CONC BARRIER C&G 1'-6"	$ 21.44	LF	420	$9,004.38
343.030	AC PVMT, >4", SAW, R&D	$ 10.46	SY	50	$523.05
343.080	CURB & GUT, PCC, R&D	$ 7.06	LF	400	$2,824.80
422.016	TR SG MA, 30 T2 TR	$ 6,603.89	EA	1	$6,603.89
425.100	EL PB ADJ	$ 494.45	EA	1	$494.45
427.002	3 SEC TSA	$ 808.41	EA	1	$808.41
427.031	3 SECT BP	$ 102.94	EA	1	$102.94
440.001	REF PNT MRK	$ 0.56	LF	600	$336.60
443.101	REM PAV STRP	$ 0.96	LF	400	$382.80
920.400	MH F & C, ADJ W/RINGS	$ 367.46	EA	1	$367.46
	SUBTOTAL 1				**$41,109.74**
	2. Right Turn Lane				
301.020	SUBGRADE PREP, 12"	$ 2.20	SY	410	$902.00
302.010	ABS, 6"	$ 7.62	SY	410	$3,125.43
329.010	PM SC, 5/8"	$ 4.04	SY	385	$1,554.25
336.023	ASP CONC, Superpave, 2-1/2", M	$ 12.10	SY	770	$9,317.00
336.010	PRIME CT	$ 0.46	SY	385	$177.87
336.120	TK CT	$ 0.41	SY	385	$156.70
340.010	SDWK, 4", PCC	$ 44.10	SY	180	$7,937.82
340.025	WLCHR ACC RAMP, 4" PCC	$ 1,344.78	EA	1	$1,344.78
340.050	CONC BARRIER C&G 2'-0"	$ 22.34	LF	300	$6,702.30
343.030	AC PVMT, >4", SAW, R&D	$ 10.46	SY	50	$523.05
343.080	CURB & GUT, PCC, R&D	$ 7.06	LF	316	$2,231.59
343.085	SDWK, 4" PCC, R & D	$ 10.27	SY	180	$1,849.32
422.110	TR SG MA REM & SALV	$ 1,195.44	EA	1	$1,195.44
423.002	TR SG MA FD	$ 1,361.04	EA	1	$1,361.04
425.100	EL PB ADJ	$ 494.45	EA	2	$988.90
440.001	REF PNT MRK	$ 0.56	LF	480	$269.28
441.005	REF PLAS MRK 24"	$ 3.04	LF	100	$303.60
443.101	REM PAV STRP	$ 0.96	LF	240	$229.68
540.020	CMU RET WALL, CONC FILL	$ 23.94	SF	1265	$30,279.04
915.070	CTH BSN, REM	$ 1,213.82	EA	1	$1,213.82
915.030	CTH BSN, C, SG	$ 4,241.34	EA	1	$4,241.34
XXX.XXX	SIGN	$ 220.00	EA	4	$880.00
	SUBTOTAL 1				**$76,784.24**

Engineers Opinion of Probable Cost Estimate for
Presbyterian Cooper Center Public Infrastructure
December 13, 2015

	3. MISCELLANEOUS				
XXX.XXX	MOB	2.00%	LS	1	$2,358
XXX.XXX	TRAFFIC CONTOL	$10,000.00	LS	1	$10,000
	SUBTOTAL 3				**$12,357.88**

GRAND TOTAL **$130,252**

ASSUMPTIONS:

1. Unit prices are from the City of Albuquerque Unit Price Guide and Bid Data collected by BHI. Consideration has been given for the large quantities involved in this estimate as well as the rural location of the project.
2. This estimate of construction cost is only an opinion. BHI cannot and does not guarantee that proposals, bids, or actual construction costs will not vary from this opinion. Final construction cost will vary based on the construction climate in which bids are received.
3. Asphalt pavement section is:
   - 12" Subgrade Prep
   - 6" Aggregate Base Course
   - 5" of asphalt in 2-2.5" lifts
   - 5/8" OGFC
4. We assume that sufficient right-of-way exists along the north side of Alameda east of the intersection to allow for the right turn lane without acquisition of additional right-of-way. A survey will be needed to confirm this assumption.
5. This estimate has been prepared without the benefit of detailed studies, construction plans, jurisdictional reviews, etc.
6. Based on a visual observation of the terrain on the north side of Alameda, a 3-4’ retaining wall is expected to be required at the back of the re-located sidewalk. This cost has been included.
7. The proposed modifications will most likely impact the volume of the existing drainage pond located immediately adjacent to the Alameda right-of-way. We assume that the proposed city storm drain system improvements in Alameda will allow for such pond volume modifications. No additional costs related to replacement of the pond volume have been included.