LMG Mixed-Use Development

Planning Level Traffic Impact Analysis

The Colony, Texas

November 16, 2011

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Under contract with:

Graham Associates, Inc.

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INTRODUCTION

Graham Associates has retained Savant Group, Inc. (SGI) to prepare a planning level traffic impact analysis (PLTIA) to identify the traffic impact of developing the LMG project which is a mixed use development anchored by a furniture store and warehouse, south of SH 121, between Plano Parkway and Spring Creek Parkway in the Colony, Texas.

The proposed development will consist of the anchor furniture store and warehouse, an amusement park, convention center with hotel, office, convention center, amusement park, residential, sporting goods superstore, and a mix of retail land uses. The anticipated land uses and their sizes are summarized in Table 1 below and the preliminary site plan is included in Appendix A.

TABLE 1 – LAND USE SUMMARY

Land Use	Size	Units
Amphitheater	1,000	Seats
Amusement Park	68	Acres
Apartments	600	Dwelling Units
Convention Center	200	Thousand Square Feet
Convention Center Hotel	300	Rooms
Discount Home Furnishing Superstore	627	Thousand Square Feet
Fast-Food Restaurant with Drive-Thru	58	Thousand Square Feet
Furniture Warehouse	1,215	Thousand Square Feet
General Office	855	Thousand Square Feet
High-Turnover (Sit-Down Restaurant)	113.5	Thousand Square Feet
Hotel	280	Rooms
Mid-Rise Apartment	175	Units
Multiplex Movie Theater	52	Thousand Square Feet
Shopping Center	411.5	Thousand Square Feet
Sporting Goods Superstore	300	Thousand Square Feet

The development will be completed in two phases. Phase I will include the furniture store and warehouse and is expected to be completed by 2015. Phase II will include the other land uses on the site. This report assumed Phases I and II are implemented by 2015 in order to determine the ultimate design for the surrounding roadway network.

This report documents the PLTIA for the proposed development. The analysis was designed to meet the requirements of the City of The Colony, as well as conducted in accordance with the guidelines from the Institute of Transportation Engineers. The study will present the expected trip generation from the site, study the existing and future roadway system with and without

the proposed development, and mitigate any deficiencies found in the existing and future roadway system that are caused by future growth that is expected without the development or from the site. If the impacts cannot be mitigated using conventional capacity enhancements, various demand and supply side alternatives will be provided for mitigating traffic impacts of the proposed development. The following steps were executed to complete the analysis:

- Analysis of the existing roadway system;
- Analysis of future roadway system without the site in the years 2015 and 2020;
- Mitigation of any potential deficiencies in the future roadway systems;
- Development of traffic generated from the proposed development;
- Distribution of traffic from the proposed development onto the future roadway system; Analysis of the future roadway system with the site in the years 2015 and 2020;
- Summarize the study results in a PLTIA report.

EXISTING CONDITIONS

The proposed site for the mixed-use development is located south of SH 121 between Plano Parkway and Spring Creek Parkway in the Colony, Texas as shown in Figure 1.

FIGURE 1 – SITE MAP

DATA COLLECTION

Based on the location of the site and the City requirements, it was determined to study the following interchanges/intersections that provide access to the proposed development:

- SH 121 and Plano Parkway Interchange;
- SH 121 and Spring Creek Parkway Interchange;
- SH 121 and Legacy Drive Interchange;
- Tittle Drive and Plano Parkway;
- S. Colony Boulevard at SH 121 southbound frontage road;
- Spring Creek Parkway and Headquarters Drive;
- Plano Parkway and Pizza Inn Driveway;
- Three future street intersections onto SH 121 northbound frontage road;
- Three future street intersections onto Plano Parkway; and,
- Site access onto SH 121 northbound frontage road.

Turning movement counts were collected at the existing intersections on a typical weekday for the PM peak (4-6 PM) and Saturday peak (1-4 PM). The raw data is included in Appendix B.

A site visit was performed to inventory the existing conditions. The engineer conducting the site visit collected intersection data from the study intersection including roadway geometry, traffic control elements, and any other roadway elements that may impact the study network.

Roadway Network

SH 121 (Sam Rayburn Tollway) is currently a six-lane controlled access toll facility with three-lane one-way frontage roads in both directions in the vicinity of the proposed development. The posted speed limit on the mainlanes is currently 70 mph and on the frontage roads is 55 mph in the vicinity of the proposed development. The land uses along SH 121 near the site are a combination of residential and retail.

Plano Parkway is currently a four-lane median divided roadway in the vicinity of the site with a 40 mph posted speed limit between SH 121 and Tittle Drive, and 50 mph, posted speed limit south of Tittle Drive. The City of Colony Major Thoroughfare Plan (2008) classified Plano Parkway as a six-lane divided major arterial with a 15' median and a 55 mph median design speed. The land uses along Plano Parkway in the vicinity of the site are mainly light industrial and vacant tracts.

Spring Creek Parkway is currently a six-lane divided roadway in the vicinity of the site with a 45 mph posted speed limit, south of SH 121. The Collin County Major Thoroughfare Plan classifies Spring Creek Parkway as a six-lane divided principal arterial, south of SH 121. The land uses along Spring Creek Parkway in the vicinity of the site are mainly residential and vacant tracts.

Legacy Drive is currently a six-lane divided roadway east of SH 121 and a four-lane divided roadway west of SH 121. The Collin County Major Thoroughfare Plan classifies Legacy Drive as a six-lane divided principal arterial. The land uses along Legacy drive in the vicinity of the site are shopping centers and vacant tracts.

The interchanges of SH 121 at Plano Parkway/Paige Road, SH 121 at Spring Creek Parkway, and SH 121 at Legacy Drive are currently signalized. The intersection of Plano Parkway and Tittle Drive is also signalized.

Planned Improvements

Plano Parkway – Plano Parkway is planned to be widened to a six-lane divided roadway between SH 121 and Parker Road. The design includes a trail, drainage, streetscape, traffic signal improvements, and roadway improvements within the street right-of-way. This project is funded by the North Central Texas Council of Governments (NCTCOG) and Denton County. Construction is expected to begin in December 2011 and be completed by March 2013.

Spring Creek Parkway – Memorial Drive is planned to be extended to Spring Creek Parkway in the City of Frisco, north of SH 121. This extension will be completed with an underpass at the Burnlington Northern Santa Fe (BNSF) Railroad and a realignment of the intersection of Spring Creek Parkway and Town and Country Boulevard in Frisco, Texas. This project is funded by NCTCOG and Denton County.

ANALYSIS METHODOLOGY

Synchro™ version 7 was used to create a model of the existing roadways and perform capacity analyses of the study intersections. The capacity analysis software in *Synchro*™ is based on the Transportation Research Board's Highway Capacity Manual (HCM), 2000. The HCM is a nationally recognized standard for performing capacity analyses.

Capacity analyses are evaluated based on a level of service that ranges from A (excellent) to F (poor). Levels of service A through D are generally considered acceptable in urban environments and levels of service E and F are considered unacceptable. City of The Colony considers levels of service A through C acceptable and levels of service D through F unacceptable, which will be the benchmark used for this study.

The analysis for signalized intersections and all-way STOP controlled intersections provide a level of service (LOS) for the entire intersection, an average for each approach (i.e. northbound, southbound, etc), and a LOS for each movement (i.e. northbound left turn, northbound thru, etc). The LOS is based on average control delay as detailed in the HCM. This report will use the intersection LOS to meet the requirements set by the City.

Two-way STOP controlled intersections/side street STOP controlled intersections provide a LOS for each side street movement and an overall LOS for each side street approach. The main street is assumed to have a LOS A since it does not stop, and therefore has no delay. The HCM does not detail how to calculate the LOS for the entire intersection; therefore *Synchro*™ created a measurement standard, the Intersection Capacity Utilization (ICU). Often the side street approaches will receive a low LOS even though there are only a few cars waiting to enter the main street. Therefore, this report will consider the anticipated queue length as reported in the capacity analysis.

The level of service thresholds in the *Highway Capacity Manual* for signalized intersections and STOP controlled intersections are shown in Table 2.

TABLE 2 – INTERSECTION LEVEL OF SERVICE THRESHOLDS

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

Capacity analysis of public streets within the site was performed using the ARTPLAN 2009 software developed for the Florida Department of Transportation. This software automates the procedures contained in the HCM 2000 to provide planning level of service estimates for expected volumes on arterial roadways. Table 3 below provides generalized level of service thresholds based on expected arterial volumes in an urbanized area.

TABLE 3 – FDOT GENERALIZED SERVICE VOLUMES

STATE SIGNALIZED ARTERIALS

Class I (>0.00 to 1.99 signalized intersections per mile)

Lanes	Median	B	C	D	E
2	Undivided	930	1,500	1,600	***
4	Divided	2,840	3,440	3,560	***
6	Divided	4,370	5,200	5,360	***
8	Divided	5,900	6,970	7,160	***

Class II (2.00 to 4.50 signalized intersections per mile)

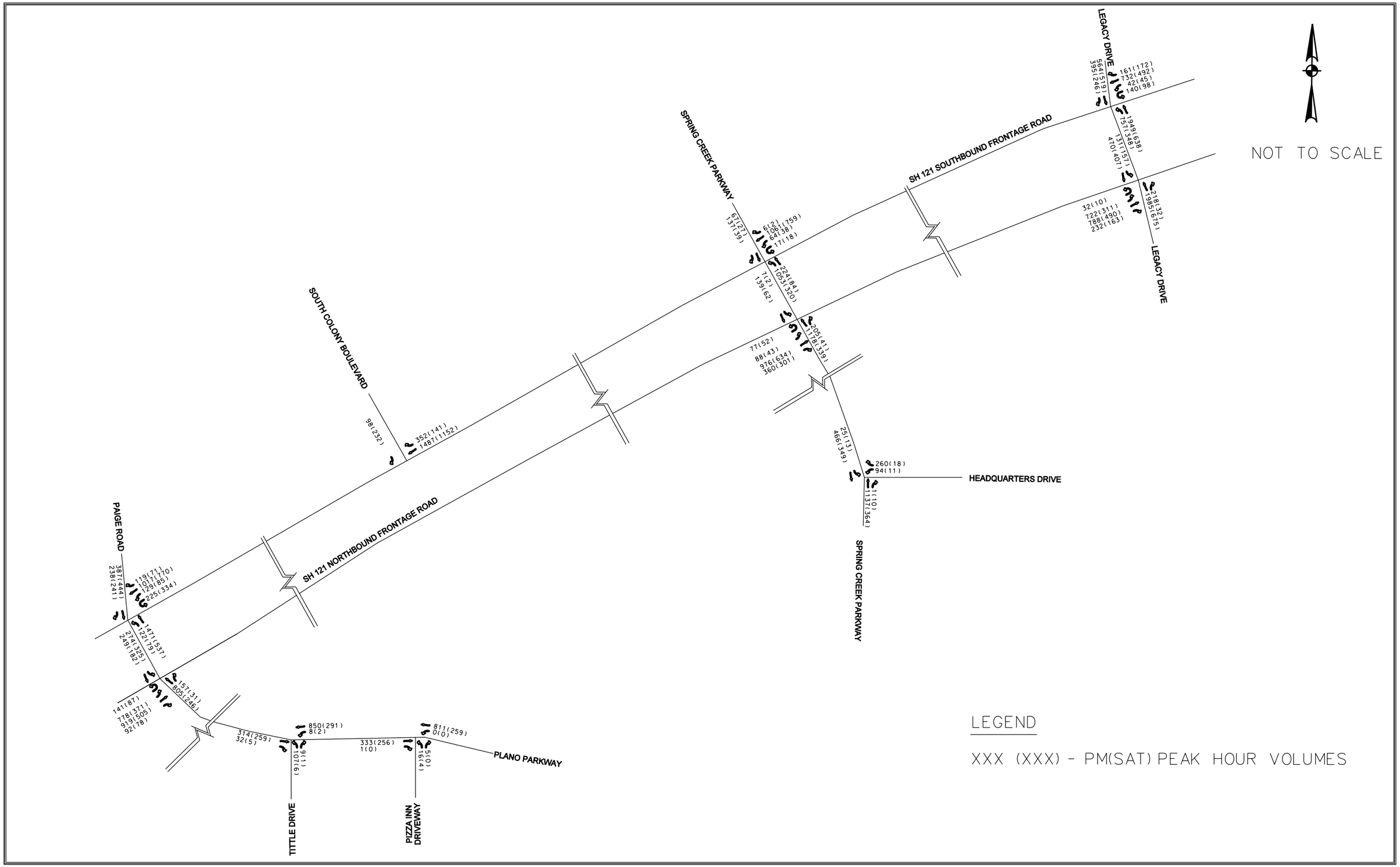
Lanes	Median	B	C	D	E
2	Undivided	**	1,020	1,480	1,570
4	Divided	**	2,420	3,220	3,400
6	Divided	**	3,790	4,880	5,150
8	Divided	**	5,150	6,530	6,880

Class III/IV (more than 4.50 signalized intersections per mile)

Lanes	Median	B	C	D	E
2	Undivided	**	500	1,150	1,440
4	Divided	**	1,220	2,730	3,100
6	Divided	**	1,910	4,240	4,680
8	Divided	**	2,620	5,770	6,280

EXISTING (2011) CONDITIONS CAPACITY ANALYSES

The intersections were evaluated based on the methodology previously described. The results of the analyses are shown in Table 4. Figures 2 and 3 summarize the volumes used in the model for the peak hours and intersection geometry and control, respectively. *Synchro™* reports for each intersection can be found in Appendix C.



LEGEND

XXX (XXX) - PM(SAT) PEAK HOUR VOLUMES

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FIGURE 2
EXISTING (2011) CONDITIONS
PEAK HOUR VOLUMES

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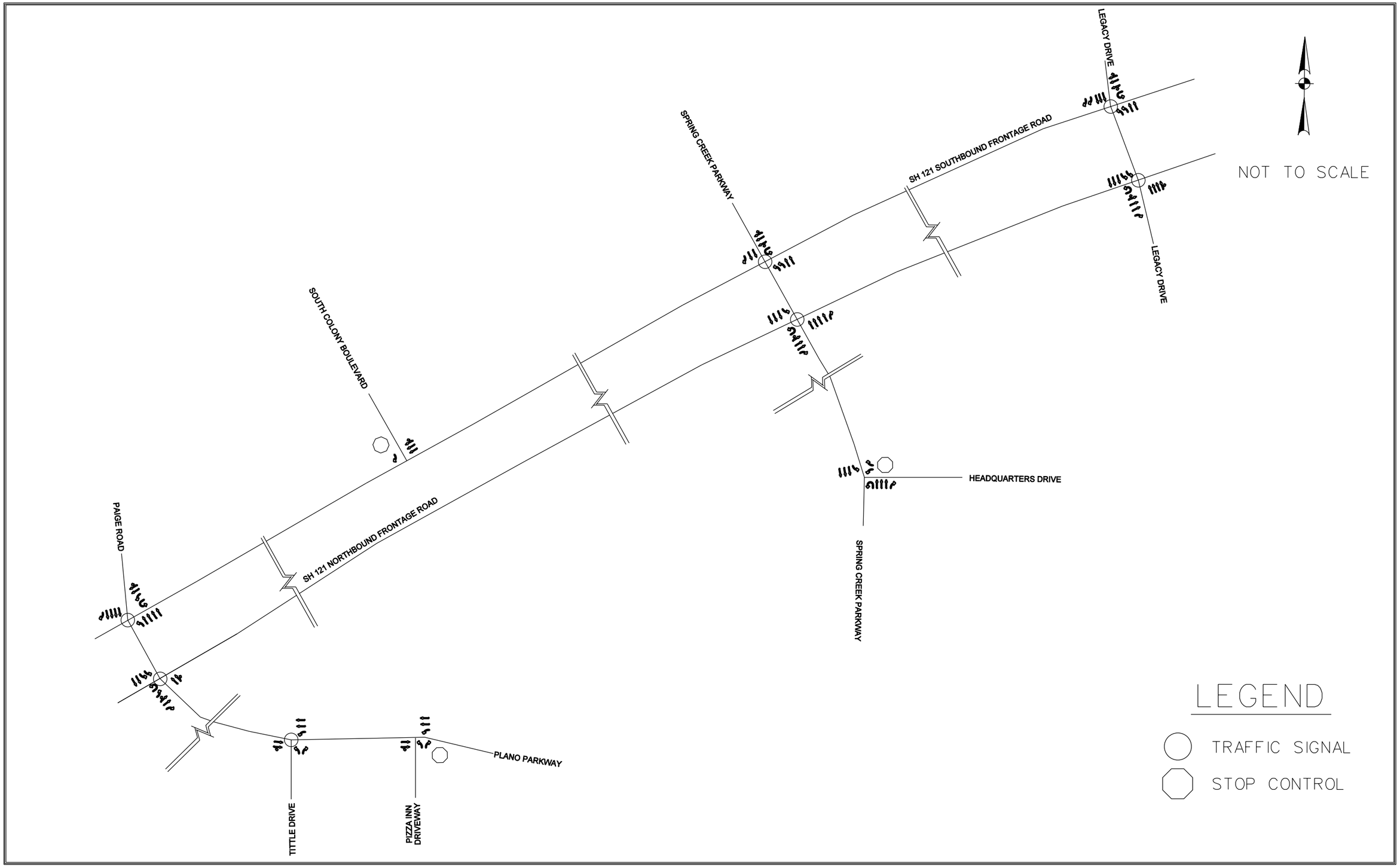

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FIGURE 3
EXISTING (2011) CONDITIONS
GEOMETRY AND CONTROL

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TABLE 4 – EXISTING (2011) CONDITIONS CAPACITY ANALYSES

No.	Intersection	Control Type	LOS	
			PM Peak Hour	Saturday Peak Hour
1	SH 121 SBFR at Paige Road	Signal	C	C
2	SH 121 NBFR at Plano Parkway	Signal	**E**	C
3	SH 121 SBFR at S. Colony Boulevard	Stop sign on Side Street	A	A
4	SH 121 SBFR at Spring Creek Parkway	Signal	**F**	B
5	SH 121 NBFR at Spring Creek Parkway	Signal	**E**	C
6	SH 121 SBFR at Legacy Drive	Signal	C	B
7	SH 121 NBFR at Legacy Drive	Signal	C	B
8	Plano Parkway at Tittle Drive	Signal	A	A
9	Plano Parkway at Pizza Inn Driveway	Stop sign on Side Street	A	A
10	Spring Creek Parkway at Headquarters Drive	Stop sign on Side Street	A	A

As can be seen from Table 4, the intersection of SH 121 NBFR at Plano Parkway, and SH 121 at Spring Creek Parkway operate at an unacceptable level of service in the PM peak period under existing conditions.

EXISTING (2011) CONDITIONS CAPACITY ANALYSES WITH IMPROVEMENTS

Table 5 shows how the roadway improvements will improve the intersection LOS.

TABLE 5 – EXISTING (2011) CONDITIONS CAPACITY ANALYSES WITH IMPROVEMENTS

No.	Intersection	Improvements Recommended	LOS	
			PM Peak Hour	Saturday Peak Hour
1	SH 121 NBFR at Plano Parkway	1. Widen westbound Plano Parkway east of SH 121 to a six-lane divided roadway; 2. Widen the northbound frontage road approach to provide dual left-turn lanes, two through lanes, and a right lane; 3. Optimize traffic signal timing	C	C
2	SH 121 NBFR and Spring Creek Parkway	Optimize signal phasing and timing	C	B
3	SH 121 SBFR and Spring Creek Parkway	Optimize signal phasing and timing	C	B

For SH 121 NBFR and Plano Parkway, improvement number 1 listed above is part of the planned Plano Parkway widening. As seen from Table 5, this improvement will improve the existing traffic operations at this intersection.

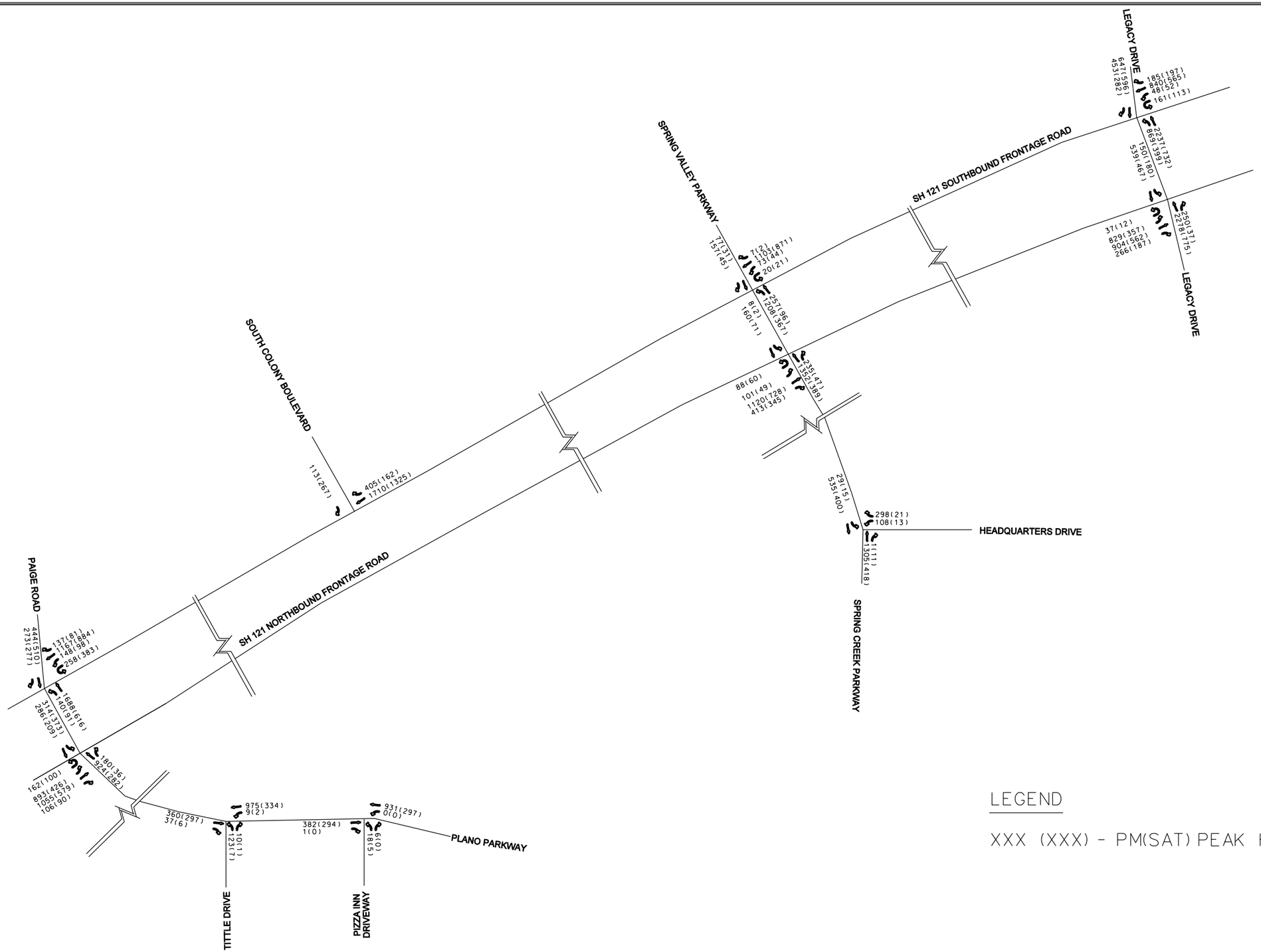
FUTURE BACKGROUND

The future background analysis considers what the intersection level of service will be without the planned development. To determine what the future roadway traffic will be by the year the site is occupied, two elements of growth must be considered. The first element is background growth, which is caused from development in surrounding areas. The second element is background development, which is caused by any known developments that will be occupied between now and the time this development is completed.

The growth rate for this project was determined based on historical traffic counts as well as long-term projections from the City travel demand model on Plano Parkway. The travel demand model forecasts on Plano Parkway south of SH 121 indicated a growth rate of approximately 7% while the historic traffic volumes showed little to no growth on the roadways. In order to show a conservative analysis that takes into account regional growth, other planned developments in the City, and the proposed LMG development, the projected growth rate used was 3.5%.

2015 FUTURE BACKGROUND

The year 2015 background conditions traffic volumes were obtained by using the growth rate on the existing traffic volumes. Figures 4 and 5 summarize the peak hour volumes, and intersection geometry and control, respectively.



LEGEND

XXX (XXX) - PM(SAT) PEAK HOUR VOLUMES

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FIGURE 4
2015 BACKGROUND PEAK HOUR VOLUMES

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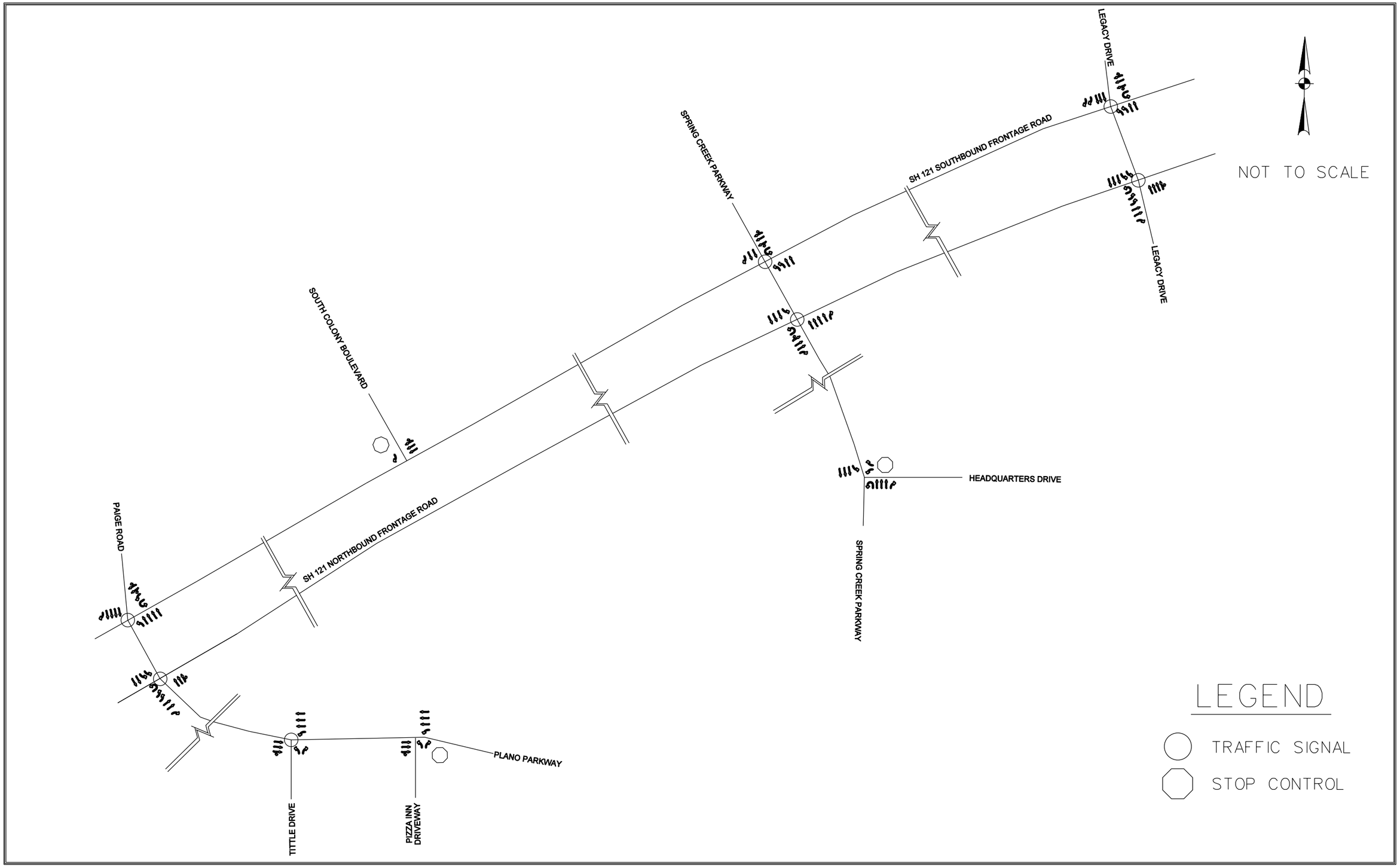

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FIGURE 5
2015 BACKGROUND
GEOMETRY AND CONTROL

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CAPACITY ANALYSES

The intersections were evaluated based on the methodology previously described. Improvements previously identified in the existing conditions analyses were also assumed to be completed. In addition to these improvements, the widening of Plano Parkway to a six-lane roadway was also assumed to be completed by 2015. The results of the analyses are shown in the Table 6. *Synchro*™ reports for each intersection can be found in Appendix D.

TABLE 6 – 2015 FUTURE BACKGROUND CAPACITY ANALYSES

No.	Intersection	Control Type	LOS	
			PM Peak Hour	Saturday Peak Hour
1	SH 121 SBFR at Paige Road	Signal	D	C
2	SH 121 NBFR at Plano Parkway	Signal	D	C
3	SH 121 SBFR at S. Colony Boulevard	Stop sign on Side Street	A	A
4	SH 121 SBFR at Spring Creek Parkway	Signal	C	B
5	SH 121 NBFR at Spring Creek Parkway	Signal	C	B
6	SH 121 SBFR at Legacy Drive	Signal	D	B
7	SH 121 NBFR at Legacy Drive	Signal	D	B
8	Plano Pkwy at Tittle Drive	Signal	A	A
9	Plano Pkwy at Pizza Inn Driveway	Stop sign on Side Street	A	A
10	Spring Creek Parkway at Headquarters Drive	Stop sign on Side Street	A	A

As can be seen from Table 6, the intersections of SH 121 SBFR at Paige Road, SH 121 at Plano Parkway, SH 121 SBFR at Legacy Drive, and SH 121 NBFR at Legacy Drive, are projected to operate at unacceptable LOS during the 2015 background conditions (without project traffic).

2015 BACKGROUND CAPACITY ANALYSES WITH IMPROVEMENTS

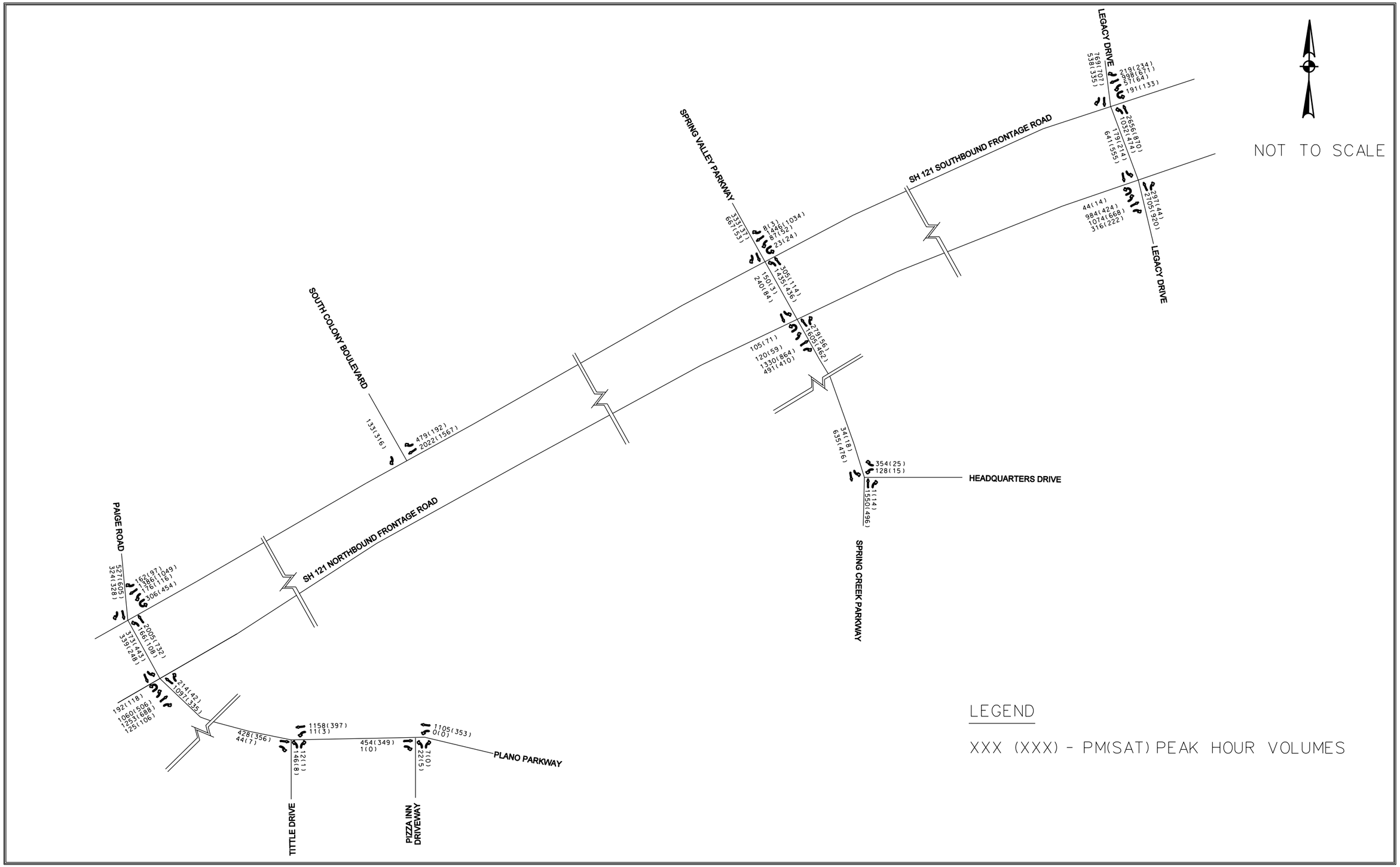
Table 7 shows how the roadway improvements will improve the intersection LOS at these intersections.

TABLE 7 – 2015 BACKGROUND CAPACITY ANALYSES WITH IMPROVEMENTS

No.	Intersection	Improvements Recommended	LOS	
			PM Peak Hour	Saturday Peak Hour
1	SH 121 SBFR at Paige Road	Widen the southbound frontage road to provide a left-turn lane, a left/through shared lane, a through lane, and a through/right shared lane.	C	C
2	SH 121 NBFR at Plano Parkway	Widen the westbound Plano Parkway approach to provide an additional right-turn lane.	C	C
3	SH 121 SBFR at Legacy Drive	1. Widen the west leg of Legacy Drive to provide a six-lane divided section; 2. Restripe the westbound Legacy Drive approach to provide dual left-turn lanes and three through lanes.	C	B
4	SH 121 NBFR at Legacy Drive	1. Widen the westbound Legacy Drive approach to provide an additional right-turn lane, 2. Widen the northbound frontage road approach to provide dual left-turn lanes, two through lanes, and a right-turn lane.	C	B

2020 FUTURE BACKGROUND EXTENDED CONDITIONS

The year 2020 background conditions traffic volumes were obtained by using the growth rate on the existing traffic volumes. Figures 6 and 7 summarize the peak hour volumes, and intersection geometry and control, respectively.



LEGEND

XXX (XXX) - PM(SAT) PEAK HOUR VOLUMES

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FIGURE 6
2020 FUTURE BACKGROUND
PEAK HOUR VOLUMES

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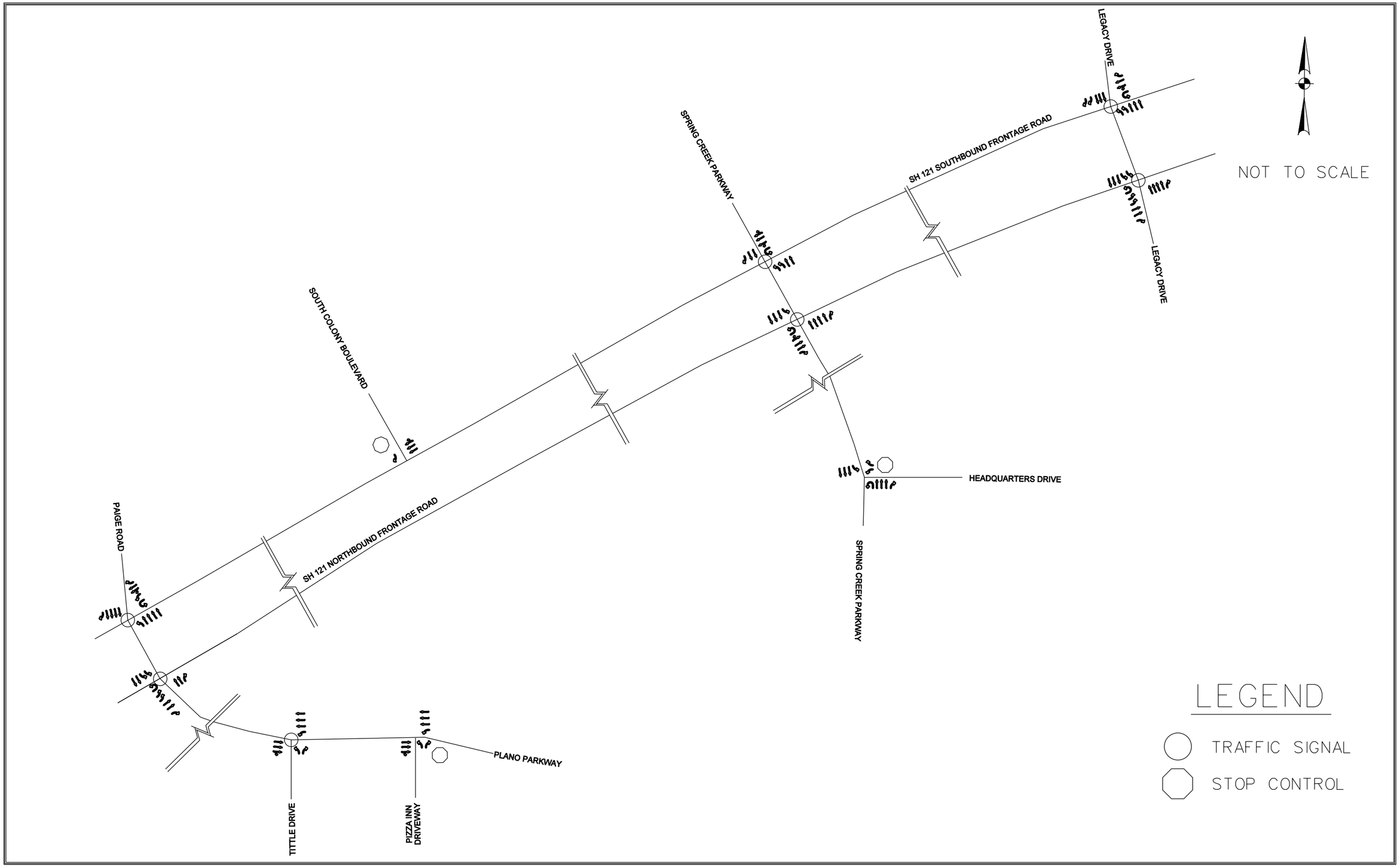

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FIGURE 7
2020 BACKGROUND
GEOMETRY AND CONTROL

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CAPACITY ANALYSES

The intersections were evaluated based on the methodology previously described. Improvements previously identified in the existing conditions analyses and Phase I background conditions were also assumed to be completed. The results of the analyses are shown in the Table 8. *Synchro™* reports for each intersection can be found in Appendix E.

TABLE 8 – 2020 BACKGROUND CAPACITY ANALYSES

No.	Intersection	Control Type	LOS	
			PM Peak Hour	Saturday Peak Hour
1	SH 121 SBFR at Paige Road	Signal	**D**	C
2	SH 121 NBFR at Plano Parkway	Signal	**D**	C
3	SH 121 SBFR at S. Colony Boulevard	Stop sign on Side Street	C	B
4	SH 121 SBFR at Spring Creek Parkway	Signal	**F**	B
5	SH 121 NBFR at Spring Creek Parkway	Signal	**D**	B
6	SH 121 SBFR at Legacy Drive	Signal	C	B
7	SH 121 NBFR at Legacy Drive	Signal	**D**	C
8	Plano Pkwy at Tittle Drive	Signal	A	A
9	Plano Pkwy at Pizza Inn Driveway	Stop sign on Side Street	A	A
10	Spring Creek Parkway at Headquarters Drive	Stop sign on Side Street	B	A

As can be seen from Table 8, the intersections of SH 121 SBFR at Paige Road, SH 121 NBFR at Plano Parkway, SH 121 SBFR at Spring Creek Parkway, SH 121 NBFR at Spring Creek Parkway, and SH 121 NBFR at Legacy Drive are projected to operate at unacceptable LOS during the 2020 background conditions (without project traffic).

2020 FUTURE BACKGROUND CAPACITY ANALYSES WITH IMPROVEMENTS

Table 9 shows how the roadway improvements will mitigate the expected decencies for SH 121 SBFR at Paige Road and SH 121 NBFR at Plano Parkway.

The intersection of SH 121 SBFR at Spring Creek Parkway operates at LOS E mainly because of the heavy left-turn from westbound Spring Creek to southbound SH 121. This approach already has dual left-turn lanes and adding left-turn capacity is not expected to significantly improve operations at this intersection.

Unconventional Interchange designs such as Single Point Urban Interchange (SPUI), and Diverging Diamond Interchange (DDI) were considered but are not recommended at this intersection for the following reasons:

1. SPUI works well when the arterial street left-turns are heavy and balanced. Since at this intersection there is one heavy left-turn movement, SPUI is not recommended at this intersection.
2. DDI interchange design will require the through traffic on the frontage road to get onto the SH 121 mainlanes and bypass the signal. This will require them to pay tolls which may create an unfavorable reaction from the traveling public.

The intersection of SH 121 NBFR at Legacy Drive operates at LOS D mainly because of the heavy westbound through volumes. This approach already has four through lanes and a right-turn lane. Additional improvements are therefore not recommended at these intersections.

TABLE 9 – 2020 FUTURE BACKGROUND CAPACITY ANALYSES WITH IMPROVEMENTS

No.	Intersection	Improvements Recommended	LOS	
			PM Peak Hour	Saturday Peak Hour
1	SH 121 SBFR at Paige Road	Re-stripe westbound approach to provide dual left turn lanes and three through lanes; Widen the southbound approach to provide dual left-turn lanes, two three through lanes, and a right-turn lane; Optimize traffic signal timing.	C	C
2	SH 121 NBFR at Plano Parkway	Widen northbound frontage road approach to provide three left-turn lanes, two through lanes and a right-turn lane; change the eastbound left-turn phasing to permissive+protected[1]	C	C

1. *This recommendation should be evaluated for safety considerations based on crash history at this location.*

The improvements listed in Table 9 above are intended to show the extent of capacity enhancements required to bring the intersection to acceptable levels of service. Some of the improvements such as triple left-turns are not usually practical and create potential safety concerns.

Consideration should be given to adding additional access points such as an interchange at S. Colony Boulevard to relieve congestion at the interchange of Plano Parkway and SH 121.

The intersection of SH 121 NBFR at Legacy Drive operates at LOS D mainly because of the heavy westbound through volumes. This approach already has four through lanes and a right-turn lane. Additional improvements are therefore not recommended at these intersections.

PROJECT TRAFFIC

TRIP GENERATION

For this analysis, the trip generation rates provided in the Institute of Transportation Engineers' (ITE's) *Trip Generation Manual (*8th edition) are used to develop projected PM peak and Saturday peak traffic volumes. The projected trip generation for each of the land uses is summarized in Table 10 below. Some of the land uses have limited data and trips were generated based on information provided by the proposed tenant and research performed for the land uses. The sites that required additional data included the furniture store, amusement park, and convention center. Adjustments were also made to the trip generation to take into account the novelty of some of the proposed land uses.

The mixed-use nature of the development will result in some trip interactions between various land uses. This will reduce the overall external trips generated by the proposed development. Trip reductions were therefore applied to the unadjusted trips to obtain adjusted trips for the proposed development. The internal capture adjustment was based on the methodology provided in National Cooperative Highway Research Program (NCHRP) report 684. The adjusted trips are shown in Table 11.

TABLE 10 – UNADJUSTED SITE TRIP GENERATION

Land Use	Volume			
	PM Peak		Saturday Peak	
	In	Out	In	Out
Amphitheater[1]	10	10	0	0
Amusement Park	164	105	744	538
Apartments	226	122	172	93
Convention Center/Hotel[2]	94	83	118	93
Discount Home Furnishing Superstore and Warehouse[3]	2,200	2,200	2,200	2,200
Fast-Food Restaurant with Drive-Thru	1,269	1,113	2,037	1,937
General Office	203	991	139	118
High-Turnover (Sit-Down Restaurant)	501	347	568	501
Hotel	88	77	114	88
Mid-Rise Apartment	42	31	44	38
Multiplex Movie Theater	535	387	423	391
Shopping Center	1,755	1,824	2,564	2,366
Sporting Goods Superstore	437	493	1,064	943
Total	**7,524**	**7,783**	**10,187**	**9,306**

1. *ITE Trip Generation does not provide data for Saturday peak period, however, most trips for this land use are assumed to be internal trips.*
2. *Convention Center trip generation is based on Hotel only. Additional information is being collected to more accurately develop trip generation estimates.*
3. *Trip generation rates are based on information provided for stores in other parts of the Country and projected traffic information.*

TABLE 11 –ADJUSTED SITE TRIP GENERATION

Land Use	Volume			
	PM Peak		Saturday Peak	
	In	Out	In	Out
Amphitheater	6	7	0	0
Amusement Park	111	66	505	341
Apartments	98	105	77	80
Convention Center/Hotel	22	23	27	27
Discount Home Furnishing Superstore and Warehouse	1,827	1,782	1,811	1,799
Fast-Food Restaurant with Drive-Thru	783	459	1,272	769
General Office	84	966	56	115
High-Turnover (Sit-Down Restaurant)	328	114	361	185
Hotel	21	21	27	24
Mid-Rise Apartment	15	28	14	34
Multiplex Movie Theater	355	255	272	266
Shopping Center	1,450	1,483	2,131	1,917
Sporting Goods Superstore	358	405	886	760
Total	**5,458**	**5,714**	**7,439**	**6,317**

As seen in Table 10, the unadjusted site traffic generated is 15,307 trips in the weekday PM peak hour, and 19,493 Saturday mid-day peak hour. The adjusted trips are 11,172 trips in the weekday PM Peak hour and 13,756 trips on the Saturday mid-day peak hour.

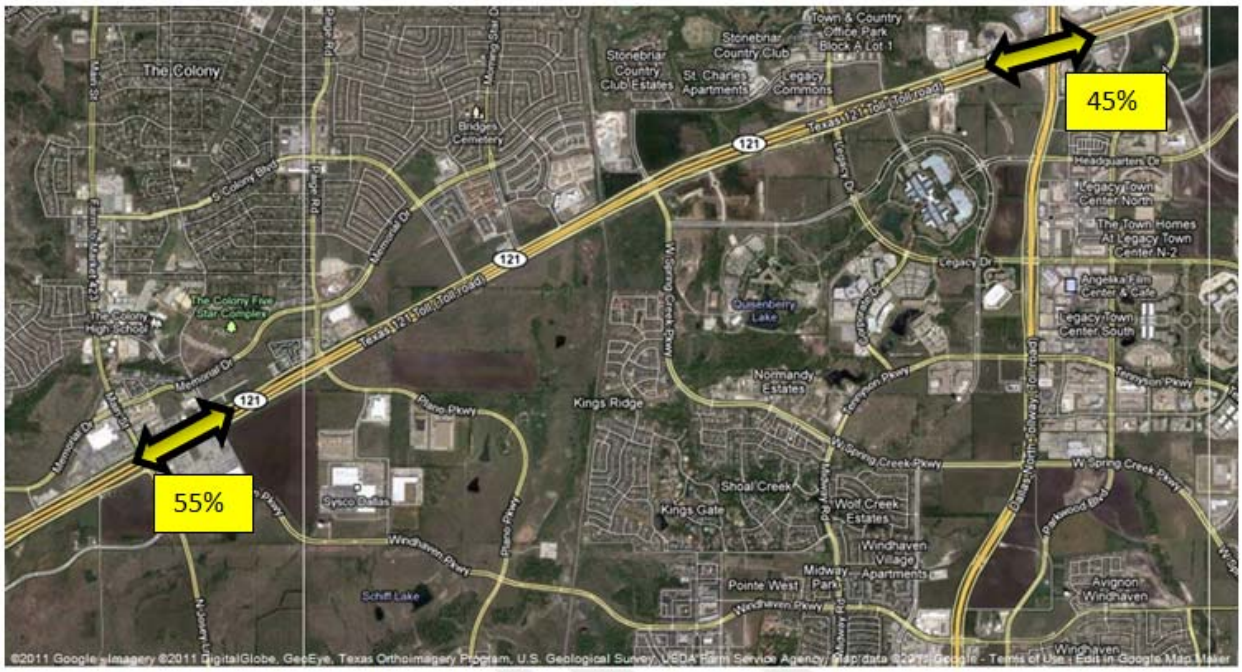
Trip Distribution and Assignment

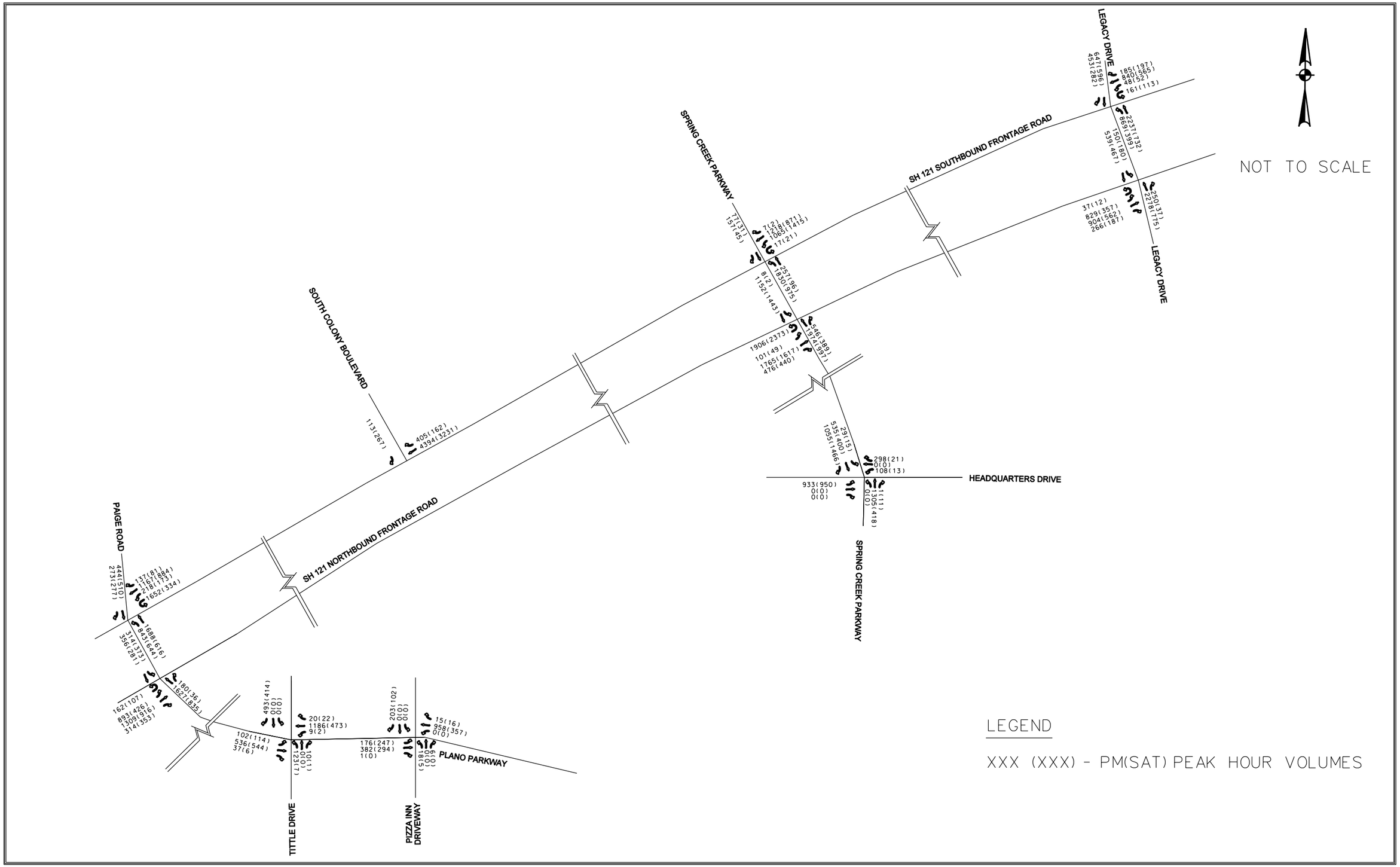
Once the total trips generated from the site were determined, the trips were assigned to the surrounding roads. The trip distribution for the site was determined based on the distribution of population in a 200 mile radius around the proposed development. This distribution is shown in Figure 8.

2015 Future with Project Traffic

The year 2015 future conditions with project traffic volumes were obtained by adding the project trips to background trips. Figures 9 and 10 summarize the peak hour volumes, and intersection geometry and control, respectively.

Figure 8 – Trip Distribution





LEGEND

XXX (XXX) - PM(SAT) PEAK HOUR VOLUMES

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FIGURE 9
2015 FUTURE WITH PROJECT
PEAK HOUR VOLUMES

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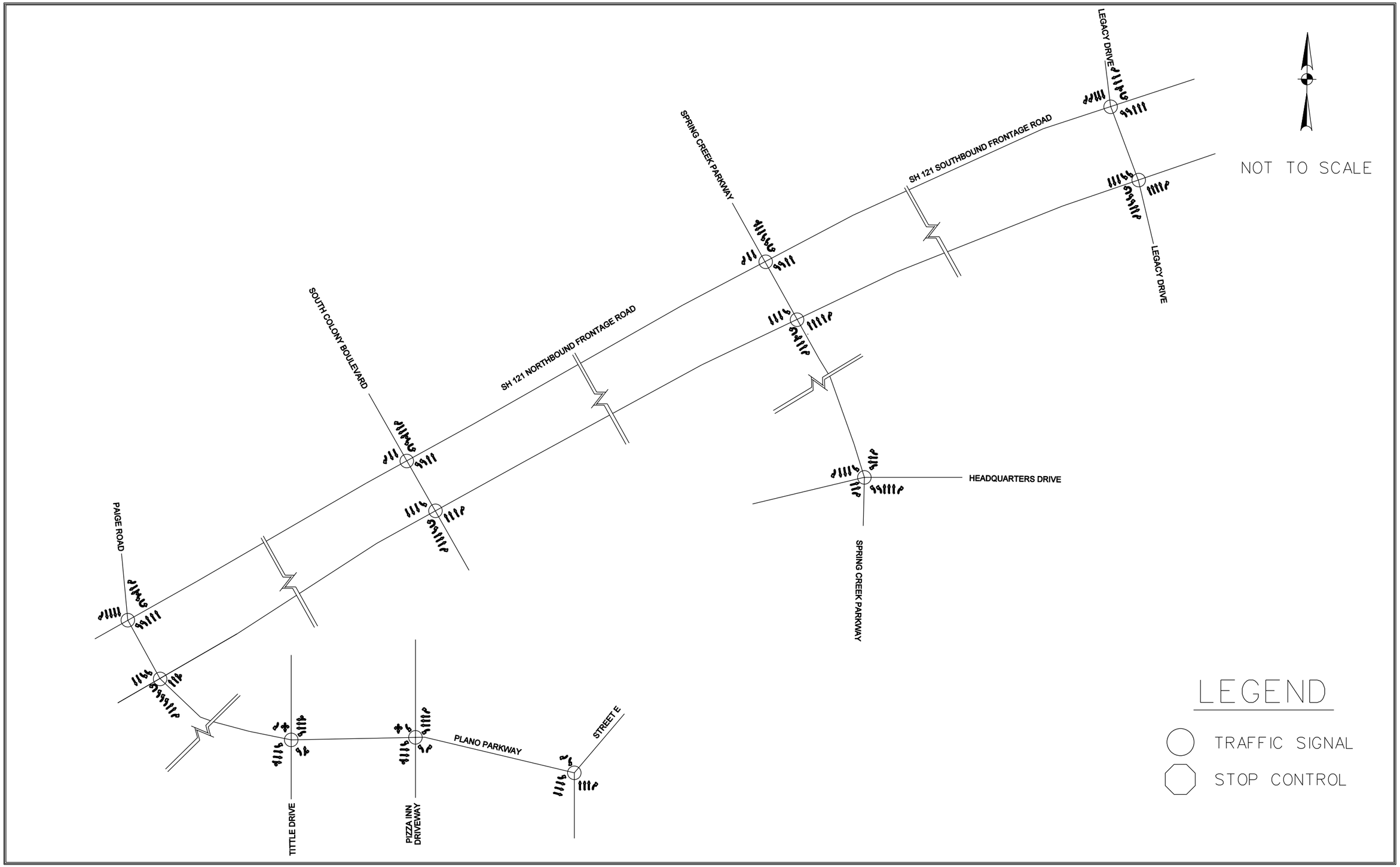

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FIGURE 10
2015 FUTURE WITH PROJECT
GEOMETRY AND CONTROL

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CAPACITY ANALYSES

The intersections were evaluated based on the methodology previously described. Improvements previously identified in the background conditions were assumed to be completed. The results of the analyses are shown in Table 12. *Synchro*™ reports for each intersection can be found in Appendix F.

TABLE 12 – 2015 FUTURE WITH PROJECT CAPACITY ANALYSES

No.	Intersection	Control Type	LOS	
			PM Peak Hour	Saturday Peak Hour
1	SH 121 SBFR at Paige Road	Signal	**D**	C
2	SH 121 NBFR at Plano Parkway	Signal	**F**	C
3	SH 121 SBFR at S. Colony Boulevard	Stop sign on Side Street	**G**	**E**
4	SH 121 SBFR at Spring Creek Parkway	Signal	**F**	**F**
5	SH 121 NBFR at Spring Creek Parkway	Signal	**E**	**D**
6	SH 121 SBFR at Legacy Drive	Signal	B	B
7	SH 121 NBFR at Legacy Drive	Signal	C	B
8	Plano Pkwy at Tittle Drive	Signal	B	B
9	Plano Pkwy at Pizza Inn Driveway	Stop sign on Side Street	A	A
10	Spring Creek Parkway at Headquarters Drive	Stop sign on Side Street	**D**	**F**

2015 FUTURE WITH PROJECT TRAFFIC - MITIGATED

As can be seen from Table 12, the interchanges of SH 121 at Plano Parkway/Paige Road and SH 121 at Spring Creek Parkway, as well as the intersections of SH 121 SBFR at South Colony Boulevard and Spring Creek Parkway at Headquarters Drive are all expected to operate at an unacceptable level of service during at least one peak period. The addition of the site traffic at the two interchanges mentioned above, which serve as the main access points to the site result in a significant increase in traffic at these interchanges. The U-turn volumes at the SH 121 southbound frontage road at Paige Road and at SH 121 northbound frontage road and Spring Creek Parkway both exceed 2,200 vehicles per hour. This results in excessively long queuing of approximately half mile on the frontage roads at these interchanges. In addition the heavy left-turn volumes also result in significant delay for all approaches at these interchanges. Conventional capacity enhancements such as lane additions, signal timing, and signal phasing changes are not expected to improve operations at these interchanges to acceptable levels. The following mitigation measures are therefore recommended:

1. Managing demand to the site attraction using Intelligent Transportation Systems (ITS) and other information strategies. The ITS systems can include Dynamic Message Signs on SH 121 to direct regional customers to alternate routes such as the Dallas North Tollway. Information can also be provided to customers by means of website, cellphones, etc. For the purpose of this planning level study, it was assumed that approximately 30% of customers can be rerouted to access the site from entry points other than SH 121.
2. The heavy westbound to southbound left-turn at Spring Creek and the SH 121 northbound frontage road can be mitigated by placing dynamic message signs along Spring Creek Parkway to inform drivers of the excessive delay for this movement and encouraging drivers to reroute by making a right turn onto the frontage road and making a u-turn at Legacy Drive to access southbound SH 121. Additionally site traffic can be prohibited from making a northbound left-turn movement at Spring Creek Parkway and Headquarters Drive and be rerouted to go straight onto Headquarters and make a left onto a local roadway to access the frontage road. For this analysis, it was assumed that approximately 25% of background traffic will divert to Legacy Drive and exiting site traffic will be prohibited from make a left-turn movement at Spring Creek Parkway.
3. In addition to the demand level mitigation measures identified above, an additional access point is recommended along SH 121 between Spring Creek Parkway and Plano Parkway. The spacing between the intersections and the exiting ramp configuration make S. Colony Boulevard a potential candidate for construction of an interchange along SH 121. Construction of an interchange was therefore assumed as a mitigation measure to relieve the Plano Parkway and Spring Creek Interchanges along SH 121.

The site traffic was reassigned to the assumed street network as described in numbers 1 and 2 above. Figures 11 and 12 show the 2015 mitigated conditions peak hour volumes, and intersection geometry and control, respectively.

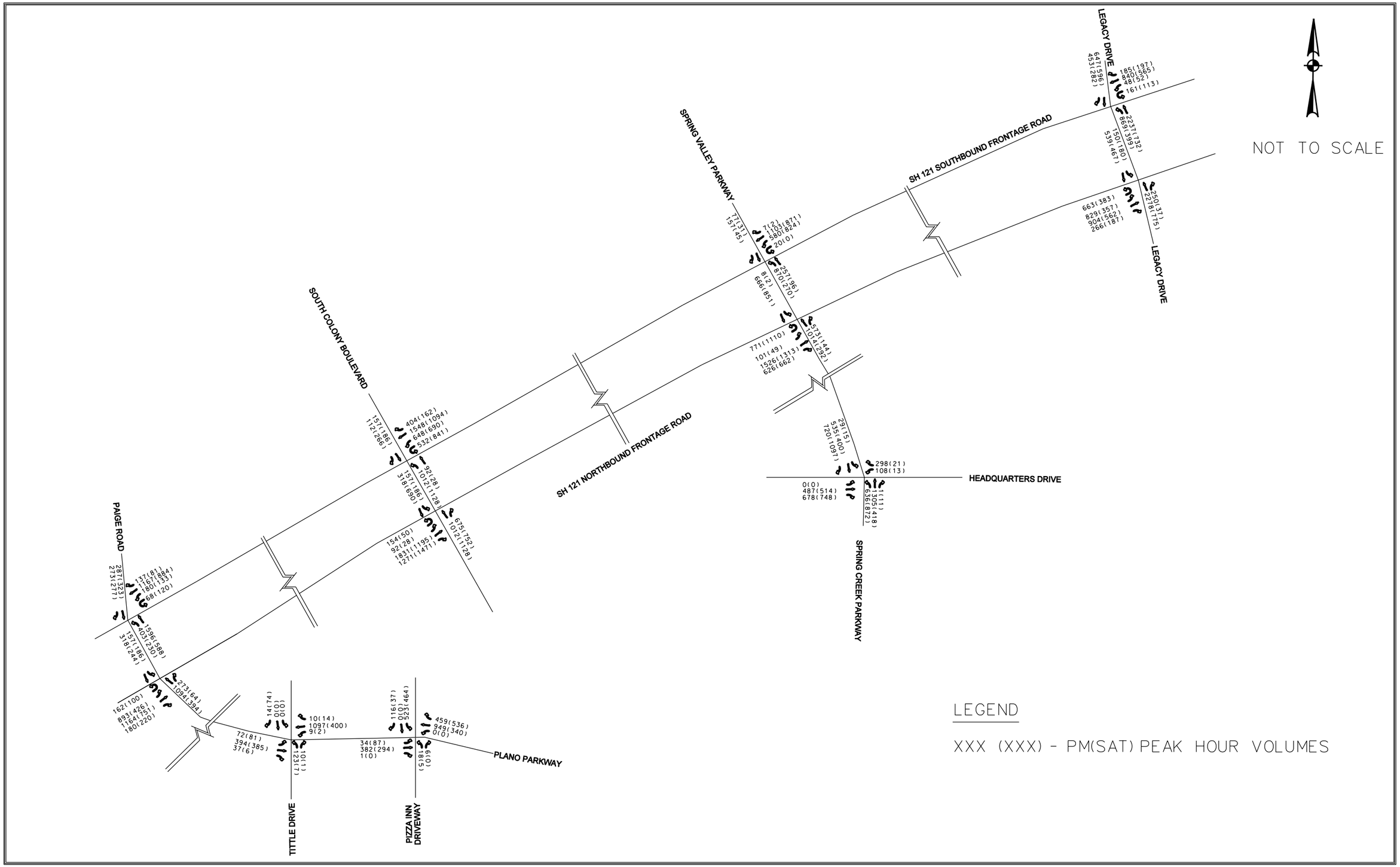

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FIGURE 11
2015 FUTURE WITH PROJECT
MITIGATED PEAK HOUR VOLUMES

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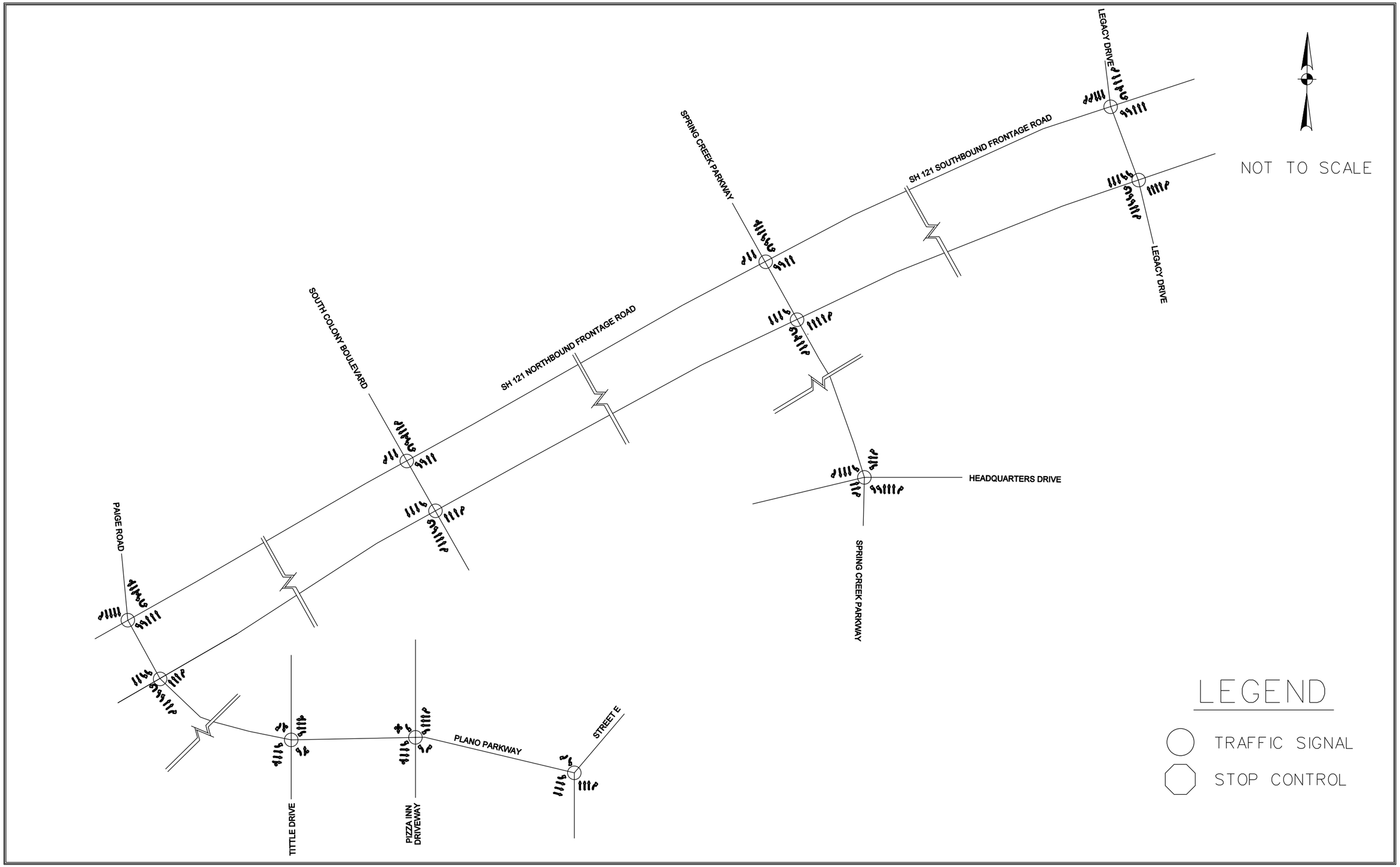

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FIGURE 12
2015 FUTURE WITH PROJECT MITIGATED GEOMETRY AND CONTROL

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CAPACITY ANALYSES

The intersections were reevaluated based on the assumption that an interchange will be added at Colony Boulevard and that 30% of the traffic will take alternate routes. Other improvements in addition to the ones described above are summarized in Table 12. The results of the analyses are shown in Table 13. *Synchro*™ reports for each intersection can be found in Appendix F.

TABLE 12 – 2015 WITH PROJECT TRAFFIC MITIGATED CONDITIONS ADDITIONAL IMPROVEMENTS

No.	Intersection	Additional Improvements Recommended*
1	SH 121 SBFR at Paige Road	No additional improvements recommended
2	SH 121 NBFR at Plano Parkway	No additional improvements recommended
3	SH 121 NBFR at S. Colony Boulevard	Construct a signalized interchange (See Figure 12)
4	SH 121 SBFR at S. Colony Boulevard	Construct a signalized interchange (See Figure 12)
5	SH 121 SBFR at Spring Creek Parkway	1. Widen the southbound frontage road approach to provide dual left-turn lanes, two through lanes, and a through/right shared lane. 2. Provide an acceleration lane along the SH 121 southbound frontage road to make the eastbound right-turn a free movement.
6	SH 121 NBFR at Spring Creek Parkway	1. Widen Spring Creek Parkway in the eastbound direction between SH 121 NBFR and Headquarters Drive to provide four-lane lanes. This additional lane will provide a free-flowing northbound right turn at the SH 121 NBFR. 2. Widen the SH 121 NBFR to provide an additional lane between Spring Creek Parkway and Legacy Drive. This additional lane will provide a free-flowing right-turn at the SH 121 NBFR and Spring Creek Parkway in the westbound direction.
7	SH 121 SBFR at Legacy Drive	No additional improvements recommended
8	SH 121 NBFR at Legacy Drive	No additional improvements recommended
9	Plano Pkwy at Tittle Drive	No additional improvements recommended
10	Plano Pkwy at Pizza Inn Driveway	1. Installation of a traffic signal is recommended when warrants are met in the field. 2. Construction of an eastbound left-turn lane along Plano Parkway.
11	Plano Pkwy at Street E	1. Installation of a traffic signal is recommended when warrants are met in the field. 2. Construction of an eastbound left-turn lane along Plano Parkway.
12	Spring Creek Parkway at Headquarters Drive	1. Installation of a traffic signal is recommended when warrants are met in the field. 2. Widening the westbound Spring Creek Parkway approach to provide dual left-turn lanes, three through lanes, and a right-turn lane. 3. Restriping the southbound Headquarters Drive approach to provide a left-turn lane, two through lanes, and a right-turn lane.

** This table assumes that improvements previously identified in Tables 5 and 7 are constructed*

TABLE 13 – 2015 WITH PROJECT TRAFFIC MITIGATED CONDITIONS CAPACITY ANALYSES

No.	Intersection	Control Type	LOS	
			PM Peak Hour	Saturday Peak Hour
1	SH 121 SBFR at Paige Road	Signal	**D**	C
2	SH 121 NBFR at Plano Parkway	Signal	C	B
3	SH 121 SBFR at S. Colony Boulevard	Signal	C	**D**
4	SH 121 NBFR at S. Colony Boulevard	Signal	C	**D**
5	SH 121 SBFR at Spring Creek Parkway	Signal	B	B
6	SH 121 NBFR at Spring Creek Parkway	Signal	B	B
7	SH 121 SBFR at Legacy Drive	Signal	B	B
8	SH 121 NBFR at Legacy Drive	Signal	C	B
9	Plano Pkwy at Tittle Drive	Signal	C	A
10	Plano Pkwy at Pizza Inn Driveway	Signal	B	B
11	Plano Pkwy at Street E	Signal	B	C
12	Spring Creek Parkway at Headquarters Drive	Signal	B	C

As can be seen from Table 13, most of the intersections are expected to operate at LOS C or better assuming the improvements discussed earlier are completed. The intersection of SH 121 SBFR and Paige Road is expected to operate at LOS D in the PM peak period. The level of service at this intersection can be improved by changing the phasing for the westbound left-turn to a protected+permissive. However, this phasing was changed to a protected only phasing as a result of a crash problem at this intersection. Protected+permissive phasing is therefore not recommended at this intersection. The Interchange of S. Colony Boulevard operates at LOS D mainly due to the heavy westbound left-turn at SH 121 SBFR. Intelligent Transportation System (ITS) strategies can be used to reroute some of the traffic to Plano Parkway if the delays at this interchange become excessive.

2020 FUTURE WITH PROJECT TRAFFIC

The year 2020 future conditions with project traffic volumes were obtained by adding the project trips to 2020 future background trips. Figures 12 and 13 summarize the geometry and traffic control, and peak hour volumes, respectively.

CAPACITY ANALYSES

The intersections were evaluated based on the methodology previously described. Improvements previously identified in the 2020 background conditions were assumed to be completed. The results of the analyses are shown in Table 14. *Synchro*™ reports for each intersection can be found in Appendix G.

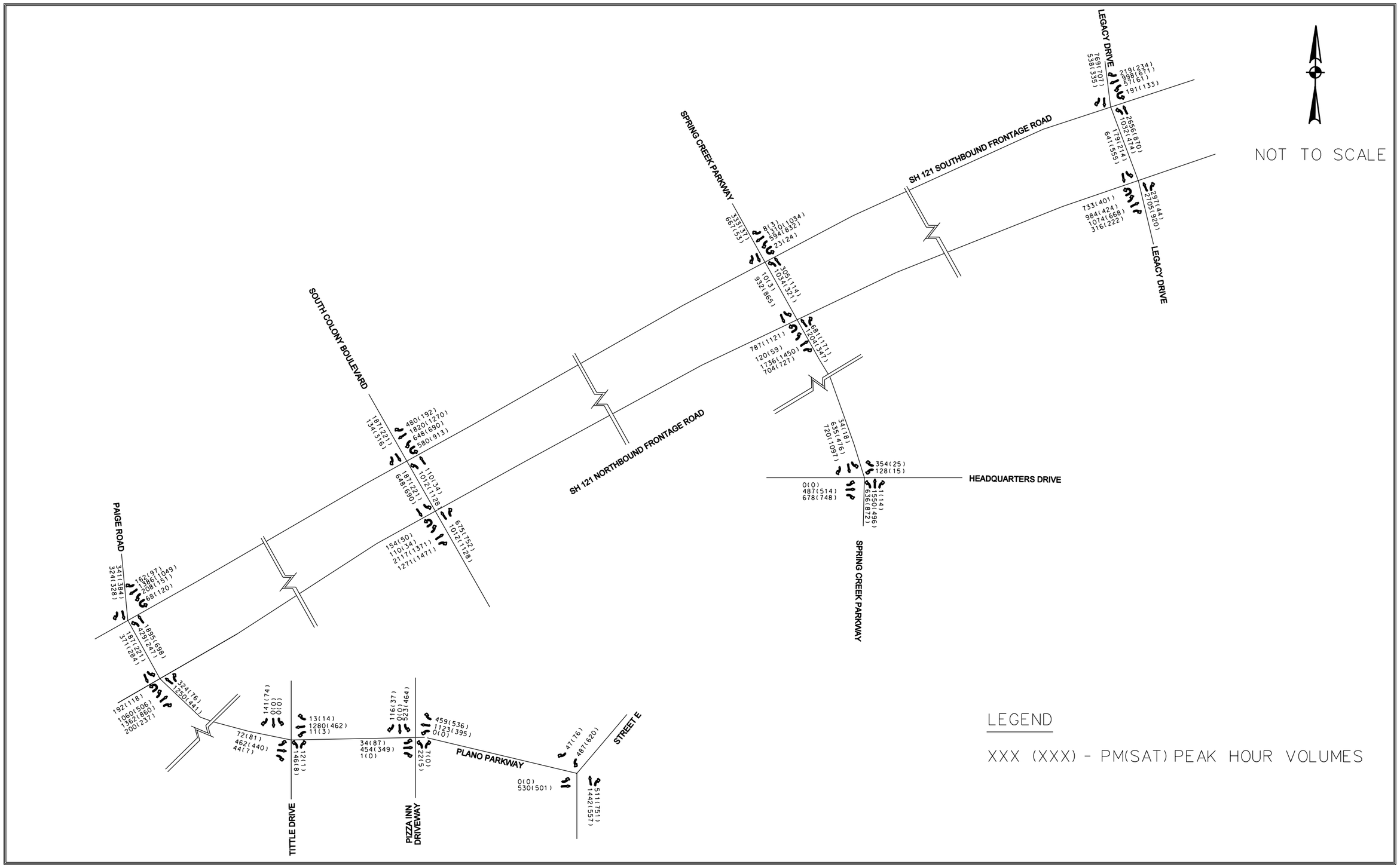

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FIGURE 13
2020 FUTURE WITH PROJECT
TRAFFIC PEAK HOUR VOLUMES

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TABLE 14 – 2020 WITH PROJECT TRAFFIC MITIGATED CONDITIONS CAPACITY ANALYSES

No.	Intersection	Control Type	LOS	
			PM Peak Hour	Saturday Peak Hour
1	SH 121 SBFR at Paige Road	Signal	**D**	C
2	SH 121 NBFR at Plano Parkway	Signal	C	C
3	SH 121 SBFR at S. Colony Boulevard	Signal	C	D
4	SH 121 NBFR at S. Colony Boulevard	Signal	C	D
5	SH 121 SBFR at Spring Creek Parkway	Signal	C	B
6	SH 121 NBFR at Spring Creek Parkway	Signal	C	B
7	SH 121 SBFR at Legacy Drive	Signal	C	B
8	SH 121 NBFR at Legacy Drive	Signal	**D**	B
9	Plano Pkwy at Tittle Drive	Signal	C	A
10	Plano Pkwy at Pizza Inn Driveway	Signal	C	B
11	Plano Pkwy at Street E	Signal	B	C
12	Spring Creek Parkway at Headquarters Drive	Signal	C	B

As can be seen from Table 14, most of the intersections are expected to operate at LOS C or better assuming the improvements discussed earlier are completed. The discussion for SH 121 and Plano Parkway Interchange and SH 121 and S. Colony Boulevard under Table 13 is also applicable for 2020 with project traffic conditions.

The intersection of SH 121 NBFR at Legacy Drive operates at LOS D mainly because of the heavy westbound through volumes. This approach already has four through lanes and a right-turn lane. Additional improvements are therefore not recommended at this intersection. It should also be noted that the interchange of SH 121 and Legacy Drive is studied mainly because of the addition of site traffic for the northbound to southbound U-turn movement. This movement will be completed using the separate U-turn lane and will not affect the traffic signals at the interchange.

PLANNING LEVEL ROADWAY CAPACITY ANALYSIS

As mentioned earlier, Florida DOT planning level service volumes shown in Table 3 was used to perform a planning level LOS analyses for Plano Parkway and Spring Creek Parkway, east of SH 121. Both Plano Parkway and Spring Creek Parkway are assumed to be class II facilities. The results of the analysis are summarized in Table 15.

TABLE 15 – PLANNING LEVEL ROADWAY CAPACITY ANALYSIS – BOUNDARY STREETS

	Existing		2015 Background		2020 Background		2015 with Project		2020 with Project	
Roadway	**PM Peak Volume**	**LOS**	**PM Peak Volume**	**LOS**	**PM Peak Volume**	**LOS**	**PM Peak Volume**	**LOS**	**PM Peak Volume**	**LOS**
Plano Parkway	1303	C	1495	C	1776	C	1864	C	2145	C
Spring Creek Parkway	1882	C	2160	C	2565	C	2879	C	3285	C

In addition to the planning level roadway capacity analysis for the boundary streets, a similar analysis was conducted to evaluate the cross-sections for the north-south connector roadway and the east-west connector roadway. These roadways are shown in Figure 14. The cross-section recommendations are based on a planning LOS of C as provided for in Table 3 above. The peak hour projected traffic volumes on the roadways as a result of the addition of site traffic are estimated based on the trip distribution indicated above. The east-west connector and the north-south connector will be public roadways and such it is anticipated that these roadways will also carry background traffic not directly accessing the site. The background traffic is estimated using the City of The Colony travel demand model. Headquarters Drive is assumed to be extended to the west from Spring Creek Parkway to Plano Parkway according to the City of The Colony thoroughfare plan. It is estimated that approximately seventy percent of projected traffic on this roadway will not be directly accessing the proposed LMG development since the model would not have considered a development of this magnitude. This traffic was therefore added to the LMG development site traffic to obtain traffic volumes for cross-section recommendation. **It should be noted that the traffic volumes estimated are based on information available for the proposed land uses and without detailed travel demand modeling. These traffic projections are therefore planning level estimates.** The traffic volume projections are shown in Table 16 below. Assuming a class II facility, the LOS C service volume thresholds are 2,420 and 3,790 vehicles per hour for a 4-lane and 6-lane facility, respectively.

FIGURE 14 – SITE CONNECTOR ROADWAYS

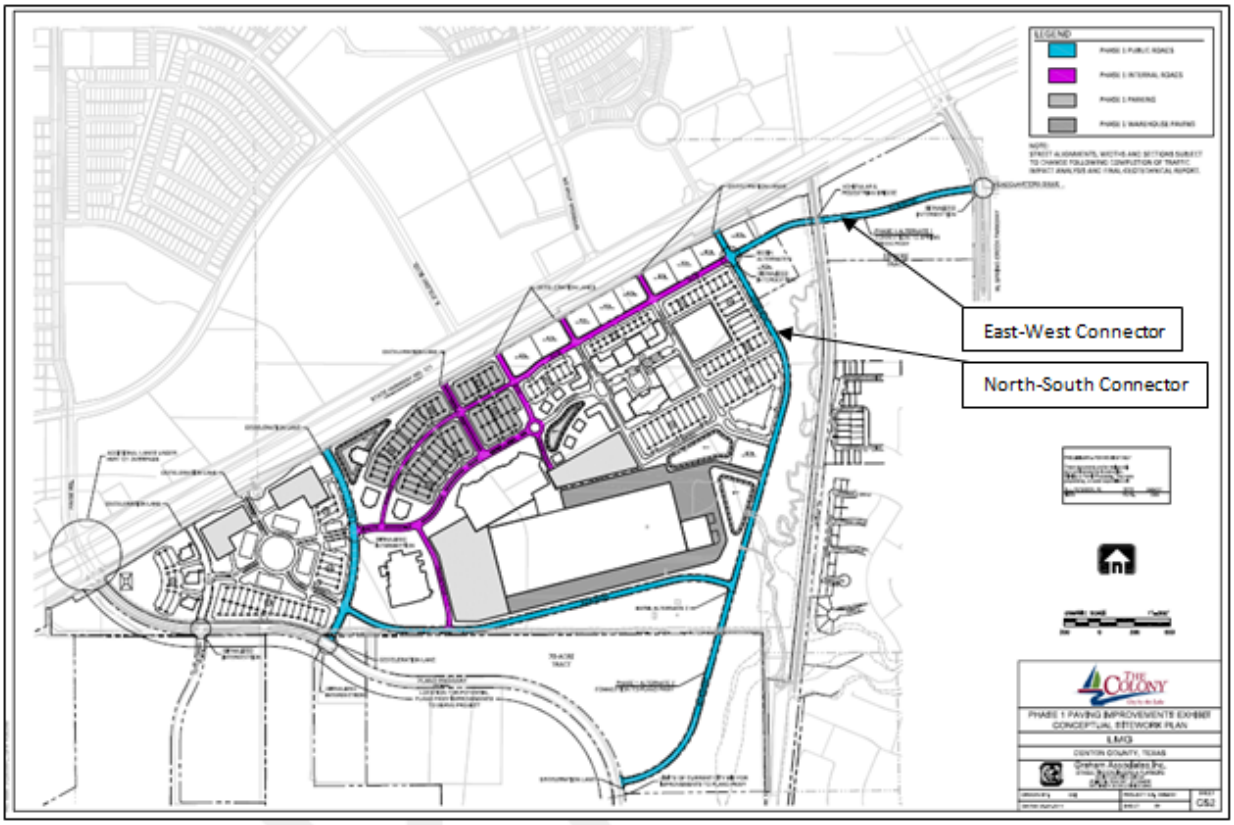


TABLE 16 – PLANNING LEVEL ROADWAY CAPACITY ANALYSIS

	Peak Hour Traffic			Recommended
Roadway	**Site**	**Background**	**Total**	**Cross-section**
East-west Connector	2,507	1,059	3,566	6-lane divided
North-south Connector	1,962	1,059	3,021	6-lane divided

SH 121 MAINLANES AND FRONTAGE ROAD WEAVING ANALYSIS

In addition to the intersection capacity analysis described above, a preliminary microsimulation analysis was performed using CORSIM to evaluate traffic operations along the SH 121 frontage roads as well the entrance and exit ramps. Highway Capacity Manual (2000) provides LOS for entrance and exit ramps based on the density on the downstream or upstream freeway segment. The LOS thresholds for the merge and diverge areas are summarized in Table 17 below.

TABLE 17 – LOS CRITERIA FOR MERGE AND DIVERGE AREAS

LOS	Density (pc/mi/ln)
A	≤ 10
B	> 10-20
C	> 20-28
D	> 28-35
E	> 35
F	Demands exceeds Capacity

The frontage roads were evaluated as a Class I Urban Street based on the posted speed limit. The HCM (2000) LOS criteria and thresholds for Urban Street segments are summarized in Table 18.

TABLE 18 – CLASS I URBAN STREET LOS

LOS	Average Travel Speed (mi/h)
A	> 42
B	> 34-42
C	> 27-34
D	> 21-27
E	> 16-21
F	≤ 16

For performing the weaving analysis a base conditions CORSIM model was developed that included the improvements previously identified at the study intersections. The base conditions model also assumed that for each site driveway along SH 121 NBFR an acceleration-deceleration lane was constructed. This base conditions model was used to evaluate the intersection improvements identified earlier and to identify additional improvements to reduce weaving along the frontage roads and improve access to the site. The base conditions LOS for the frontage road segments and for the merge and diverge segments is summarized in Tables 19 and 20, respectively.

TABLE 19 – 2020 PM PEAK BASE CONDITIONS SH 121 FRONTAGE ROAD LOS

Direction	Location	Speed (mi/h)	LOS
NB	Between Spring Creek Exit Ramp and Colony Entrance Ramp*	41.7	B
		27.2	**D**
	Between Legacy Exit Ramp and Spring Creek Entrance Ramp	37.9	B
SB	Between Spring Creek Exit Ramp and Legacy Entrance Ramp	39.0	B
	Between Plano Pkwy/Colony Exit Ramp and Spring Creek Entrance Ramp	23.9	**D**

** Frontage Road separated into two segments on account of the site driveway.*

TABLE 20 – 2020 PM PEAK BASE CONDITIONS SH 121 MAIN LANES MERGE AND DIVERGE SEGMENTS

Direction	Location	Speed (mi/h)	LOS
NB	Between Josey On Ramp and Colony Off Ramp	28.2	D
	Between Colony Off Ramp and Spring Creek Off Ramp	31.6	D
	Between Spring Creek Off Ramp and Colony On Ramp	26.2	C
	Between Colony On Ramp and Legacy Off Ramp	24.3	C
	Between Legacy Off Ramp and Spring Creek On Ramp	27.4	C
SB	Between Spring Creek Off Ramp and Legacy On Ramp	19.2	B
	Between Legacy On Ramp and Plano Pkwy/Colony Off Ramp	20.3	C
	Between Plano Pkwy/Colony Off Ramp and Spring Creek On Ramp	20.7	C
	Between Spring Creek On Ramp and Colony On Ramp	27.4	C
	Between Colony On Ramp and Josey Off Ramp	27.4	C

As shown in Table 19, the southbound frontage road segment between the Spring Creek Parkway exit ramp and the S. Colony Boulevard entrance ramp operates at a LOS D. In the northbound direction, the frontage road segment between Plano Parkway/S. Colony Boulevard exit ramp and Spring Creek Parkway entrance ramp also operates at LOS D. This is mainly due to the weaving between the traffic exiting SH 121 to enter the site and the exiting site traffic accessing the SH 121 mainlanes. In addition to the weaving analysis, the model animation was examined to identify other potential bottlenecks and traffic operation issues. Improvements listed below were identified to improve the weaving conditions and overall traffic operations on SH 121 frontage roads.

1. The Spring Creek Parkway entrance ramp in the southbound direction is recommended to be relocated approximately 200’ to the south to provide greater weaving distance on the frontage road;
2. The Spring Creek Parkway exit ramp in the northbound direction is recommended to be relocated approximately 200’ to the south to provide greater weaving distance on the frontage road;
3. The proposed access along SH 121 northbound frontage road should be limited to a maximum of three access points between Plano Parkway and the proposed S. Colony Boulevard Interchange and a maximum of one between the S. Colony Boulevard Interchange and Spring Creek Parkway to alleviate reduce weaving along the northbound frontage road;
4. Construction of an additional lane along the SH 121 NBFR between Spring Creek Parkway and Legacy Drive, and;
5. Construction of an acceleration lane along SH 121 SBFR at Legacy Drive to allow the northbound to southbound U-turn movement to operate as a free-flow movement. CORSIM model runs did not indicate any potential weaving issues created by this improvement.

Assuming these improvements are constructed, the LOS for the frontage road segments and merge and diverge road segments are shown in Tables 21 and 22, respectively.

TABLE 21 – 2020 PM PEAK WITH IMPROVEMENTS SH 121 FRONTAGE ROAD LOS

Direction	Location	Speed (mi/h)	LOS
NB	Between Spring Creek Exit Ramp and Colony Entrance Ramp	37.1	B
	Between Legacy Exit Ramp and Spring Creek Entrance Ramp	37.0	B
SB	Between Spring Creek Exit Ramp and Legacy Entrance Ramp	39.2	B
	Between Plano Pkwy/Colony Exit Ramp and Spring Creek Entrance Ramp	34.7	B

TABLE 22 – 2020 PM PEAK WITH IMPROVEMENTS SH 121 MAIN LANES MERGE AND DIVERGE SEGMENTS

Direction	Location	Speed (mi/h)	LOS
NB	Between Josey On Ramp and Colony Off Ramp	27.5	C
	Between Colony Off Ramp and Spring Creek Off Ramp	32.3	D
	Between Spring Creek Off Ramp and Colony On Ramp	26.9	C
	Between Colony On Ramp and Legacy Off Ramp	25.0	C
	Between Legacy Off Ramp and Spring Creek On Ramp	28.5	D
SB	Between Spring Creek Off Ramp and Legacy On Ramp	18.9	B
	Between Legacy On Ramp and Plano Pkwy/Colony Off Ramp	21.6	C
	Between Plano Pkwy/Colony Off Ramp and Spring Creek On Ramp	20.5	C
	Between Spring Creek On Ramp and Colony On Ramp	26.6	C
	Between Colony On Ramp and Josey Off Ramp	27.0	C

As seen in Table 22, the freeway between the S. Colony Boulevard exit ramp and Spring Creek Parkway exit ramp, and the segment between Legacy Drive exit ramp and Spring Creek Parkway entrance ramp are expected to operate at LOS D. This is mainly because of the high entering and exiting volumes at this ramp that slows down the traffic and creates a higher density. The segment density is close to LOS C threshold and therefore additional mainlane or ramp improvements are not recommended as part of this study. Additional analysis can be performed to identify further improvements of LOS D is unacceptable.

CONCLUSIONS AND RECOMMENDATIONS

Graham Associates has retained Savant Group, Inc. (SGI) to prepare a planning level traffic impact analysis (PLTIA) to identify the traffic impact of developing the LMG project. The project is a mixed use development anchored by a furniture store and warehouse, south of SH 121, between Plano Parkway and Spring Creek Parkway in the Colony, Texas. Based on the analysis conducted for this PLTIA, the interchanges of SH 121 at Plano Parkway/Paige Road and SH 121 at Spring Creek Parkway will have a significant addition of traffic as a result of the development and conventional capacity enhancements such as turn lane additions and signal timing/phasing optimization will not improve traffic to acceptable levels. Additional demand and supply side mitigation measures are recommended to provide access to the site and mitigate the impact of the site traffic on area roadways. These mitigation measures include:

1. Managing demand to the site attraction using Intelligent Transportation Systems (ITS) and other information strategies. The ITS systems can include Dynamic Message Signs on SH 121 to direct regional customers to alternate routes such as the Dallas North Tollway. Information can also be provided to customers by means of website, cellphones, etc. For the purpose of this planning level study, it was assumed that approximately 30% of customers can be rerouted to access the site from entry points other than SH 121.
2. The heavy westbound to southbound left-turn at Spring Creek and the SH 121 northbound frontage road can be mitigated by placing dynamic message signs along Spring Creek Parkway to inform drivers of the excessive delay for this movement and encouraging drivers to reroute by making a right turn onto the frontage road and making a u-turn at Legacy Drive to access southbound SH 121. Additionally site traffic can be prohibited from making a northbound left-turn movement at Spring Creek Parkway and Headquarters Drive and be rerouted to go straight onto Headquarters and make a left onto a local roadway to access the frontage road. For this analysis, it was assumed that approximately 25% of background traffic will divert to Legacy Drive and exiting site traffic will be prohibited from make a left-turn movement at Spring Creek Parkway.
3. In addition to the demand level mitigation measures identified above, an additional access point is recommended along SH 121 between Spring Creek Parkway and Plano Parkway. The spacing between the intersections and the exiting ramp configuration make S. Colony Boulevard a potential candidate for construction of an interchange along SH 121. Construction of an interchange was therefore assumed as a mitigation measure to relieve the Plano Parkway and Spring Creek Interchanges along SH 121.

In addition to these measures, the following intersection specific recommendations are provided:

SH 121 SBFR and Paige Road

- Widen the southbound frontage road to provide a left-turn lane, a left/through shared lane, a through lane, and a through/right shared lane.
- Re-stripe westbound approach to provide dual left turn lanes and three through lanes.

SH 121 NBFR and Plano Parkway

- Widen westbound Plano Parkway east of SH 121 to a six-lane divided roadway. This improvement is is a planned improvement by the City of The Colony and is expected to be completed by March 2013;
- Widen the northbound frontage road approach to provide dual left-turn lanes, two through lanes, and a right lane;
- Widen the westbound Plano Parkway approach to provide three through lanes and a right-turn lane

SH 121 SBFR and S. Colony Boulevard

- Construct a new signalized interchange.

SH 121 NBFR and S. Colony Boulevard

- Construct a new signalized interchange.

SH 121 SBFR and Spring Creek Parkway

- Widen the southbound frontage road approach to provide dual left-turn lanes, two through lanes, and a through/right shared lane.
- Provide an acceleration lane along the SH 121 southbound frontage road to make the eastbound right-turn a free movement.

SH 121 NBFR and Spring Creek Parkway

- Widen Spring Creek Parkway in the eastbound direction between SH 121 NBFR and Headquarters Drive to provide a four-lane section. This additional lane will provide a free-flowing right turn from SH 121 NBFR to Spring Creek Parkway.
- Widen the SH 121 NBFR to provide an additional lane between Spring Creek Parkway and Legacy Drive. This additional lane will provide a free-flowing right-turn for westbound Spring Creek Parkway onto SH 121 NBFR.

SH 121 SBFR and Legacy Drive

- Widen the west leg of Legacy Drive to provide a six-lane cross-section;
- Restripe the westbound Legacy Drive approach to provide dual left-turn lanes and three through lanes.

SH 121 NBFR and Legacy Drive

- Widen the westbound Legacy Drive approach to provide and additional right-turn lane,
- Widen the northbound frontage road approach to provide dual left-turn lanes, two through lanes, and a right-turn lane.

Plano Parkway and Tittle Drive

- Widening of Plano Parkway to a six-lane divided facility assumed. No additional improvements recommended.

Plano Parkway and Pizza Inn Driveway

- Installation of a traffic signal is recommended when warrants are met in the field.
- Construction of an eastbound left-turn lane along Plano Parkway.

Plano Parkway and Street E

- Installation of a traffic signal is recommended when warrants are met in the field.
- Construction of an eastbound left-turn lane along Plano Parkway.

Spring Creek Parkway and Headquarters Drive

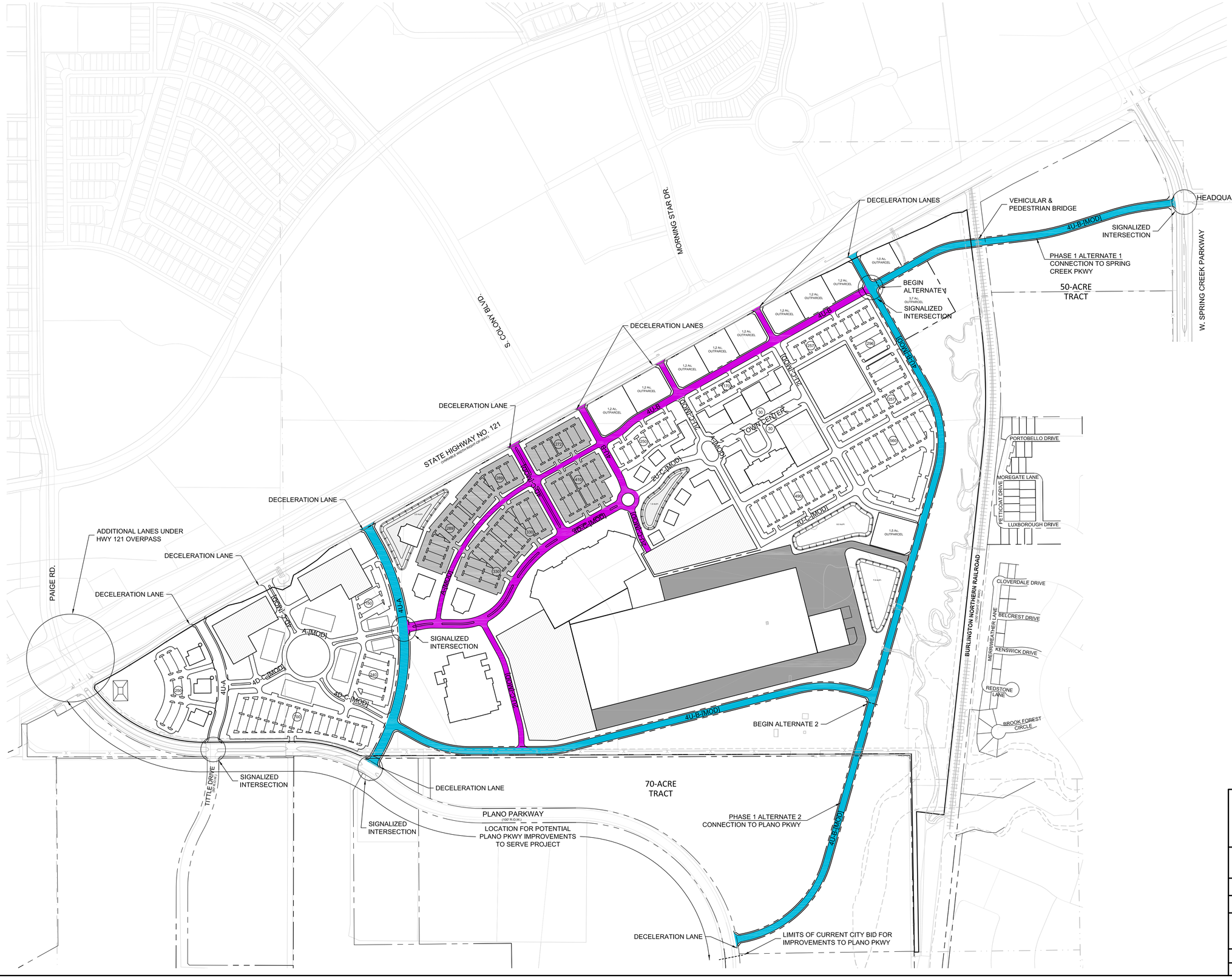
- Installation of a traffic signal is recommended when warrants are met in the field.
- Widening the westbound Spring Creek Parkway approach to provide dual left-turn lanes, three through lanes, and a right-turn lane.
- Restriping the southbound Headquarters Drive approach to provide a left-turn lane, two through lanes, and a right-turn lane.

In addition to the intersections improvements identified above, additional improvements are recommended along the SH 121 frontage roads to address weaving and improve overall site access:

1. The Spring Creek Parkway entrance ramp in the southbound direction is recommended to be relocated approximately 200’ to the south to provide greater weaving distance on the frontage road;

2. The Spring Creek Parkway exit ramp in the northbound direction is recommended to be relocated approximately 200' to the south to provide greater weaving distance on the frontage road;
3. The proposed access along SH 121 northbound frontage road should be limited to a maximum of three access points between Plano Parkway and the proposed S. Colony Boulevard Interchange and a maximum of one between the S. Colony Boulevard Interchange and Spring Creek Parkway to alleviate reduce weaving along the northbound frontage road;
4. Construction of an additional lane along the SH 121 NBFR between Spring Creek Parkway and Legacy Drive, and;
5. Construction of an acceleration lane along SH 121 SBFR at Legacy Drive to allow the northbound to southbound U-turn movement to operate as a free-flow movement. CORSIM model runs did not indicate any potential weaving issues created by this improvement.

APPENDIX A: SITE PLAN



LEGEND

- PHASE 1 PUBLIC ROADS
- PHASE 1 INTERNAL ROADS
- PHASE 1 PARKING
- PHASE 1 WAREHOUSE PAVING

NOTE:
STREET ALIGNMENTS, WIDTHS AND SECTIONS SUBJECT TO CHANGE FOLLOWING COMPLETION OF TRAFFIC IMPACT ANALYSIS AND FINAL GEOTECHNICAL REPORT.

PRELIMINARY - FOR REVIEW ONLY

These documents are for review only and not Intended for Construction, Bidding or Permit Purposes. They were prepared by, or under supervision of:

M. L. PETERSON , PE	92728	08-26-2011
Name	PE No.	Date

GRAPHIC SCALE 1"=300'

300 0 300 600

THE COLONY City by the Lake

PHASE 1 PAVING IMPROVEMENTS EXHIBIT CONCEPTUAL SITEWORK PLAN

LMG

DENTON COUNTY, TEXAS

Graham Associates,Inc.
CONSULTING ENGINEERS & PLANNERS
600 SIX FLAGS DRIVE, SUITE 500
ARLINGTON, TEXAS 76011 (817) 640-8535
TBPE FIRM: F-1191/TBPLS FIRM: 101538-00

DRAWN BY: GAI	PROJECT NO. 2588-1001	SHEET
DATE: 09.09.2011	SHEET OF	CS2

FILE NAME: J:\COLONY\...\SITE PLAN.DWG

APPENDIX B: TRAFFIC COUNTS

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : PLANO PKWY-PAIGE RD @ SH 121 SBFR
Site Code : 00000061
Start Date : 10/11/2011
Page No : 1

Groups Printed- Cars - Trucks

	SH 121 SBFR Southbound					PLANO PKWY-PAIGE Westbound					Northbound					PLANO PKWY-PAIGE Eastbound					
Start Time	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:00	28	197	17	42	284	32	234	0	0	266	0	0	0	0	0	0	84	60	0	144	694
16:15	19	233	13	54	319	34	231	0	0	265	0	0	0	0	0	0	79	64	0	143	727
16:30	22	218	34	60	334	32	256	0	0	288	0	0	0	0	0	0	85	58	0	143	765
16:45	30	238	29	49	346	35	281	0	0	316	0	0	0	0	0	0	107	55	0	162	824
Total	99	886	93	205	1283	133	1002	0	0	1135	0	0	0	0	0	0	355	237	0	592	3010
17:00	27	226	26	59	338	30	325	0	0	355	0	0	0	0	0	0	94	53	0	147	840
17:15	40	267	25	51	383	38	365	0	0	403	0	0	0	0	0	0	91	72	0	163	949
17:30	28	240	33	59	360	29	408	0	0	437	0	0	0	0	0	0	103	47	0	150	947
17:45	34	284	35	56	409	25	373	0	0	398	0	0	0	0	0	3	96	66	0	165	972
Total	129	1017	119	225	1490	122	1471	0	0	1593	0	0	0	0	0	3	384	238	0	625	3708
Grand Total	228	1903	212	430	2773	255	2473	0	0	2728	0	0	0	0	0	3	739	475	0	1217	6718
Apprch %	8.2	68.6	7.6	15.5		9.3	90.7	0	0		0	0	0	0		0.2	60.7	39	0		
Total %	3.4	28.3	3.2	6.4	41.3	3.8	36.8	0	0	40.6	0	0	0	0	0	0	11	7.1	0	18.1	
Cars	226	1895	211	430	2762	253	2471	0	0	2724	0	0	0	0	0	3	735	474	0	1212	6698
% Cars	99.1	99.6	99.5	100	99.6	99.2	99.9	0	0	99.9	0	0	0	0	0	100	99.5	99.8	0	99.6	99.7
Trucks	2	8	1	0	11	2	2	0	0	4	0	0	0	0	0	0	4	1	0	5	20
% Trucks	0.9	0.4	0.5	0	0.4	0.8	0.1	0	0	0.1	0	0	0	0	0	0	0.5	0.2	0	0.4	0.3

	SH 121 SBFR Southbound					PLANO PKWY-PAIGE Westbound					Northbound					PLANO PKWY-PAIGE Eastbound					
Start Time	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	27	226	26	**59**	338	30	325	0	0	355	0	0	0	0	0	0	94	53	0	147	840
17:15	**40**	267	25	51	383	**38**	365	0	0	403	0	0	0	0	0	0	91	**72**	0	163	949
17:30	28	240	33	59	360	29	**408**	0	0	**437**	0	0	0	0	0	0	**103**	47	0	150	947
17:45	34	**284**	**35**	56	**409**	25	373	0	0	398	0	0	0	0	0	**3**	96	66	0	**165**	**972**
Total Volume	129	1017	119	225	1490	122	1471	0	0	1593	0	0	0	0	0	3	384	238	0	625	3708
% App. Total	8.7	68.3	8	15.1		7.7	92.3	0	0		0	0	0	0		0.5	61.4	38.1	0		
PHF	.806	.895	.850	.953	.911	.803	.901	.000	.000	.911	.000	.000	.000	.000	.000	.250	.932	.826	.000	.947	.954

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : PLANO PKWY-PAIGE RD @ SH 121 NBFR
Site Code : 00000060
Start Date : 10/11/2011
Page No : 1

Groups Printed- Cars - Trucks

	Southbound					PLANO PKWY-PAIGE Westbound					SH 121 NBFR Northbound					PLANO PKWY-PAIGE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:00	0	0	0	0	0	0	120	34	0	154	139	167	11	22	339	59	52	0	0	111	604
16:15	0	0	0	0	0	0	117	28	0	145	149	174	15	28	366	66	45	0	0	111	622
16:30	0	0	0	0	0	0	127	24	0	151	168	223	18	18	427	53	54	0	0	107	685
16:45	0	0	0	0	0	0	156	31	0	187	137	185	27	18	367	72	52	0	0	124	678
Total	0	0	0	0	0	0	520	117	0	637	593	749	71	86	1499	250	203	0	0	453	2589
17:00	0	0	0	0	0	0	178	37	0	215	181	213	24	49	467	64	56	0	0	120	802
17:15	0	0	0	0	0	0	243	39	0	282	167	214	21	27	429	66	81	0	0	147	858
17:30	0	0	0	0	0	0	195	46	0	241	233	277	20	44	574	61	53	0	0	114	929
17:45	0	0	0	0	0	0	189	35	0	224	197	215	27	21	460	83	59	0	0	142	826
Total	0	0	0	0	0	0	805	157	0	962	778	919	92	141	1930	274	249	0	0	523	3415
Grand Total	0	0	0	0	0	0	1325	274	0	1599	1371	1668	163	227	3429	524	452	0	0	976	6004
Apprch %	0	0	0	0		0	82.9	17.1	0		40	48.6	4.8	6.6		53.7	46.3	0	0		
Total %	0	0	0	0	0	0	22.1	4.6	0	26.6	22.8	27.8	2.7	3.8	57.1	8.7	7.5	0	0	16.3	
Cars	0	0	0	0	0	0	1322	270	0	1592	1370	1666	158	227	3421	521	449	0	0	970	5983
% Cars	0	0	0	0	0	0	99.8	98.5	0	99.6	99.9	99.9	96.9	100	99.8	99.4	99.3	0	0	99.4	99.7
Trucks	0	0	0	0	0	0	3	4	0	7	1	2	5	0	8	3	3	0	0	6	21
% Trucks	0	0	0	0	0	0	0.2	1.5	0	0.4	0.1	0.1	3.1	0	0.2	0.6	0.7	0	0	0.6	0.3

	Southbound					PLANO PKWY-PAIGE Westbound					SH 121 NBFR Northbound					PLANO PKWY-PAIGE Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	0	178	37	0	215	181	213	24	**49**	467	64	56	0	0	120	802
17:15	0	0	0	0	0	0	**243**	39	0	**282**	167	214	21	27	429	66	**81**	0	0	**147**	858
17:30	0	0	0	0	0	0	195	**46**	0	241	**233**	**277**	20	44	**574**	61	53	0	0	114	**929**
17:45	0	0	0	0	0	0	189	35	0	224	197	215	**27**	21	460	**83**	59	0	0	142	826
Total Volume	0	0	0	0	0	0	805	157	0	962	778	919	92	141	1930	274	249	0	0	523	3415
% App. Total	0	0	0	0		0	83.7	16.3	0		40.3	47.6	4.8	7.3		52.4	47.6	0	0		
PHF	.000	.000	.000	.000	.000	.000	.828	.853	.000	.853	.835	.829	.852	.719	.841	.825	.769	.000	.000	.889	.919

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : S COLONY @ SH 121 SBFR
Site Code : 00000010
Start Date : 10/11/2011
Page No : 1

Groups Printed- Cars - Trucks

	SH 121 SBFR Southbound					Westbound					Northbound					S COLONY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:00	0	322	63	0	385	0	0	0	0	0	0	0	0	0	0	0	0	28	0	28	413
16:15	0	298	69	0	367	0	0	0	0	0	0	0	0	0	0	0	0	25	0	25	392
16:30	0	377	89	0	466	0	0	0	0	0	0	0	0	0	0	0	0	16	0	16	482
16:45	0	327	61	0	388	0	0	0	0	0	0	0	0	0	0	0	0	21	0	21	409
Total	0	1324	282	0	1606	0	0	0	0	0	0	0	0	0	0	0	0	90	0	90	1696
17:00	0	407	100	0	507	0	0	0	0	0	0	0	0	0	0	0	0	18	0	18	525
17:15	0	389	97	0	486	0	0	0	0	0	0	0	0	0	0	0	0	24	0	24	510
17:30	0	374	88	0	462	0	0	0	0	0	0	0	0	0	0	0	0	28	0	28	490
17:45	0	317	67	0	384	0	0	0	0	0	0	0	0	0	0	0	0	28	0	28	412
Total	0	1487	352	0	1839	0	0	0	0	0	0	0	0	0	0	0	0	98	0	98	1937
Grand Total	0	2811	634	0	3445	0	0	0	0	0	0	0	0	0	0	0	0	188	0	188	3633
Apprch %	0	81.6	18.4	0		0	0	0	0		0	0	0	0		0	0	100	0		
Total %	0	77.4	17.5	0	94.8	0	0	0	0	0	0	0	0	0	0	0	0	5.2	0	5.2	
Cars	0	2799	634	0	3433	0	0	0	0	0	0	0	0	0	0	0	0	188	0	188	3621
% Cars	0	99.6	100	0	99.7	0	0	0	0	0	0	0	0	0	0	0	0	100	0	100	99.7
Trucks	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
% Trucks	0	0.4	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3

	SH 121 SBFR Southbound					Westbound					Northbound					S COLONY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	0	**407**	**100**	0	**507**	0	0	0	0	0	0	0	0	0	0	0	0	18	0	18	**525**
17:15	0	389	97	0	486	0	0	0	0	0	0	0	0	0	0	0	0	24	0	24	510
17:30	0	374	88	0	462	0	0	0	0	0	0	0	0	0	0	0	0	**28**	0	**28**	490
17:45	0	317	67	0	384	0	0	0	0	0	0	0	0	0	0	0	0	28	0	28	412
Total Volume	0	1487	352	0	1839	0	0	0	0	0	0	0	0	0	0	0	0	98	0	98	1937
% App. Total	0	80.9	19.1	0		0	0	0	0		0	0	0	0		0	0	100	0		
PHF	.000	.913	.880	.000	.907	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.875	.000	.875	.922

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : SPRING CREEK PKWY @ SH 121 SBFR
Site Code : 00000061
Start Date : 10/11/2011
Page No : 1

Groups Printed- Cars - Trucks

	SH 121 SBFR Southbound					SPRING CREEK Westbound					Northbound					SPRING CREEK Eastbound					
Start Time	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:00	10	221	2	2	235	182	20	0	0	202	0	0	0	0	0	0	13	24	0	37	474
16:15	14	240	0	1	255	173	47	0	0	220	0	0	0	0	0	0	16	21	0	37	512
16:30	5	265	3	3	276	199	44	0	0	243	0	0	0	0	0	0	11	20	0	31	550
16:45	12	232	5	7	256	203	47	0	0	250	0	0	0	0	0	0	16	24	0	40	546
Total	41	958	10	13	1022	757	158	0	0	915	0	0	0	0	0	0	56	89	0	145	2082
17:00	14	258	2	5	279	247	52	0	0	299	0	0	0	0	0	0	17	27	0	44	622
17:15	26	284	1	5	316	301	53	0	0	354	0	0	0	0	0	0	21	53	0	74	744
17:30	15	252	0	6	273	249	63	0	0	312	0	0	0	0	0	0	16	33	0	49	634
17:45	9	267	3	1	280	256	56	0	0	312	0	0	0	0	0	0	13	24	0	37	629
Total	64	1061	6	17	1148	1053	224	0	0	1277	0	0	0	0	0	0	67	137	0	204	2629
Grand Total	105	2019	16	30	2170	1810	382	0	0	2192	0	0	0	0	0	0	123	226	0	349	4711
Apprch %	4.8	93	0.7	1.4		82.6	17.4	0	0		0	0	0	0		0	35.2	64.8	0		
Total %	2.2	42.9	0.3	0.6	46.1	38.4	8.1	0	0	46.5	0	0	0	0	0	0	2.6	4.8	0	7.4	
Cars	104	1999	16	29	2148	1805	376	0	0	2181	0	0	0	0	0	0	121	224	0	345	4674
% Cars	99	99	100	96.7	99	99.7	98.4	0	0	99.5	0	0	0	0	0	0	98.4	99.1	0	98.9	99.2
Trucks	1	20	0	1	22	5	6	0	0	11	0	0	0	0	0	0	2	2	0	4	37
% Trucks	1	1	0	3.3	1	0.3	1.6	0	0	0.5	0	0	0	0	0	0	1.6	0.9	0	1.1	0.8

	SH 121 SBFR Southbound					SPRING CREEK Westbound					Northbound					SPRING CREEK Eastbound					
Start Time	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	14	258	2	5	279	247	52	0	0	299	0	0	0	0	0	0	17	27	0	44	622
17:15	**26**	**284**	1	5	**316**	**301**	53	0	0	**354**	0	0	0	0	0	0	**21**	**53**	0	**74**	**744**
17:30	15	252	0	**6**	273	249	**63**	0	0	312	0	0	0	0	0	0	16	33	0	49	634
17:45	9	267	**3**	1	280	256	56	0	0	312	0	0	0	0	0	0	13	24	0	37	629
Total Volume	64	1061	6	17	1148	1053	224	0	0	1277	0	0	0	0	0	0	67	137	0	204	2629
% App. Total	5.6	92.4	0.5	1.5		82.5	17.5	0	0		0	0	0	0		0	32.8	67.2	0		
PHF	.615	.934	.500	.708	.908	.875	.889	.000	.000	.902	.000	.000	.000	.000	.000	.000	.798	.646	.000	.689	.883

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : SPRING CREEK PKWY @ SH 121 NBFR
Site Code : 00000010
Start Date : 10/11/2011
Page No : 1

Groups Printed- Cars - Trucks

	Southbound					SPRING CREEK Westbound					SH 121 NBFR Northbound					SPRING CREEK Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:00	0	0	0	0	0	0	190	17	0	207	7	153	74	9	243	0	21	0	0	21	471
16:15	0	0	0	0	0	0	206	19	0	225	16	203	76	18	313	2	20	0	0	22	560
16:30	0	0	0	0	0	0	218	24	0	242	23	228	77	12	340	2	17	0	0	19	601
16:45	0	0	0	0	0	0	232	22	0	254	21	234	85	18	358	5	27	0	0	32	644
Total	0	0	0	0	0	0	846	82	0	928	67	818	312	57	1254	9	85	0	0	94	2276
17:00	0	0	0	0	0	0	276	45	0	321	21	193	98	20	332	1	29	0	0	30	683
17:15	0	0	0	0	0	0	334	45	0	379	14	268	93	22	397	1	49	0	0	50	826
17:30	0	0	0	0	0	0	285	57	0	342	26	258	81	18	383	2	32	0	0	34	759
17:45	0	0	0	0	0	0	283	58	0	341	27	257	88	17	389	3	29	0	0	32	762
Total	0	0	0	0	0	0	1178	205	0	1383	88	976	360	77	1501	7	139	0	0	146	3030
Grand Total	0	0	0	0	0	0	2024	287	0	2311	155	1794	672	134	2755	16	224	0	0	240	5306
Apprch %	0	0	0	0		0	87.6	12.4	0		5.6	65.1	24.4	4.9		6.7	93.3	0	0		
Total %	0	0	0	0	0	0	38.1	5.4	0	43.6	2.9	33.8	12.7	2.5	51.9	0.3	4.2	0	0	4.5	
Cars	0	0	0	0	0	0	2013	287	0	2300	155	1783	671	134	2743	16	221	0	0	237	5280
% Cars	0	0	0	0	0	0	99.5	100	0	99.5	100	99.4	99.9	100	99.6	100	98.7	0	0	98.8	99.5
Trucks	0	0	0	0	0	0	11	0	0	11	0	11	1	0	12	0	3	0	0	3	26
% Trucks	0	0	0	0	0	0	0.5	0	0	0.5	0	0.6	0.1	0	0.4	0	1.3	0	0	1.2	0.5

	Southbound					SPRING CREEK Westbound					SH 121 NBFR Northbound					SPRING CREEK Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	0	276	45	0	321	21	193	**98**	20	332	1	29	0	0	30	683
17:15	0	0	0	0	0	0	**334**	45	0	**379**	14	**268**	93	**22**	**397**	1	**49**	0	0	**50**	**826**
17:30	0	0	0	0	0	0	285	57	0	342	26	258	81	18	383	2	32	0	0	34	759
17:45	0	0	0	0	0	0	283	**58**	0	341	**27**	257	88	17	389	**3**	29	0	0	32	762
Total Volume	0	0	0	0	0	0	1178	205	0	1383	88	976	360	77	1501	7	139	0	0	146	3030
% App. Total	0	0	0	0		0	85.2	14.8	0		5.9	65	24	5.1		4.8	95.2	0	0		
PHF	.000	.000	.000	.000	.000	.000	.882	.884	.000	.912	.815	.910	.918	.875	.945	.583	.709	.000	.000	.730	.917

GRAM Traffic North Texas, Inc.

1120 W. Lovers Ln
Arlington, TX 76013

File Name : SH 121 SBFR @ LEGACY
Site Code : 00000051
Start Date : 10/31/2011
Page No : 1

Groups Printed- CARS - TRUCKS

	SH 121 SBFR Southbound					LEGACY Westbound					Northbound					LEGACY Eastbound					
Start Time	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:00	10	134	28	26	198	167	303	0	0	470	0	0	0	0	0	0	118	68	0	186	854
16:15	11	156	35	26	228	167	378	0	0	545	0	0	0	0	0	0	112	85	0	197	970
16:30	11	157	31	28	227	179	449	0	0	628	0	0	0	0	0	0	103	72	0	175	1030
16:45	19	149	40	33	241	211	440	0	0	651	0	0	0	0	0	0	112	103	0	215	1107
Total	51	596	134	113	894	724	1570	0	0	2294	0	0	0	0	0	0	445	328	0	773	3961
17:00	9	179	38	55	281	205	453	0	0	658	0	0	0	0	0	0	137	106	0	243	1182
17:15	11	206	40	37	294	215	478	0	0	693	0	0	0	0	0	0	163	102	0	265	1252
17:30	12	177	38	26	253	185	509	0	0	694	0	0	0	0	0	0	133	107	0	240	1187
17:45	10	170	45	22	247	152	509	0	0	661	0	0	0	0	0	0	131	80	0	211	1119
Total	42	732	161	140	1075	757	1949	0	0	2706	0	0	0	0	0	0	564	395	0	959	4740
Grand Total	93	1328	295	253	1969	1481	3519	0	0	5000	0	0	0	0	0	0	1009	723	0	1732	8701
Apprch %	4.7	67.4	15	12.8		29.6	70.4	0	0		0	0	0	0		0	58.3	41.7	0		
Total %	1.1	15.3	3.4	2.9	22.6	17	40.4	0	0	57.5	0	0	0	0	0	0	11.6	8.3	0	19.9	
CARS	93	1311	294	242	1940	1479	3518	0	0	4997	0	0	0	0	0	0	1009	721	0	1730	8667
% CARS	100	98.7	99.7	95.7	98.5	99.9	100	0	0	99.9	0	0	0	0	0	0	100	99.7	0	99.9	99.6
TRUCKS	0	17	1	11	29	2	1	0	0	3	0	0	0	0	0	0	0	2	0	2	34
% TRUCKS	0	1.3	0.3	4.3	1.5	0.1	0	0	0	0.1	0	0	0	0	0	0	0	0.3	0	0.1	0.4

	SH 121 SBFR Southbound					LEGACY Westbound					Northbound					LEGACY Eastbound					
Start Time	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	9	179	38	**55**	281	205	453	0	0	658	0	0	0	0	0	0	137	106	0	243	1182
17:15	11	**206**	40	37	**294**	**215**	478	0	0	693	0	0	0	0	0	0	**163**	102	0	**265**	**1252**
17:30	**12**	177	38	26	253	185	**509**	0	0	**694**	0	0	0	0	0	0	133	**107**	0	240	1187
17:45	10	170	**45**	22	247	152	509	0	0	661	0	0	0	0	0	0	131	80	0	211	1119
Total Volume	42	732	161	140	1075	757	1949	0	0	2706	0	0	0	0	0	0	564	395	0	959	4740
% App. Total	3.9	68.1	15	13		28	72	0	0		0	0	0	0		0	58.8	41.2	0		
PHF	.875	.888	.894	.636	.914	.880	.957	.000	.000	.975	.000	.000	.000	.000	.000	.000	.865	.923	.000	.905	.946

GRAM Traffic North Texas, Inc.

1120 W. Lovers Ln
Arlington, TX 76013

File Name : SH 121 NBFR @ LEGACY
Site Code : 00000121
Start Date : 11/1/2011
Page No : 1

Groups Printed- CARS - TRUCKS

	Southbound					LEGACY Westbound					SH 121 NBFR Northbound					LEGACY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:00	0	0	0	0	0	0	375	58	0	433	114	140	36	2	292	31	94	0	0	125	850
16:15	0	0	0	0	0	0	377	54	0	431	155	159	31	5	350	23	101	0	0	124	905
16:30	0	0	0	0	0	0	446	70	0	516	176	156	31	3	366	16	90	0	0	106	988
16:45	0	0	0	0	0	0	489	71	0	560	161	169	49	7	386	30	102	0	0	132	1078
Total	0	0	0	0	0	0	1687	253	0	1940	606	624	147	17	1394	100	387	0	0	487	3821
17:00	0	0	0	0	0	0	474	80	0	554	178	192	52	8	430	31	113	0	0	144	1128
17:15	0	0	0	0	0	0	529	60	0	589	178	175	57	9	419	41	131	0	0	172	1180
17:30	0	0	0	0	0	0	509	36	0	545	183	231	63	12	489	35	112	0	0	147	1181
17:45	0	0	0	0	0	0	473	42	0	515	183	190	60	3	436	24	114	0	0	138	1089
Total	0	0	0	0	0	0	1985	218	0	2203	722	788	232	32	1774	131	470	0	0	601	4578
Grand Total	0	0	0	0	0	0	3672	471	0	4143	1328	1412	379	49	3168	231	857	0	0	1088	8399
Apprch %	0	0	0	0		0	88.6	11.4	0		41.9	44.6	12	1.5		21.2	78.8	0	0		
Total %	0	0	0	0	0	0	43.7	5.6	0	49.3	15.8	16.8	4.5	0.6	37.7	2.8	10.2	0	0	13	
CARS	0	0	0	0	0	0	3669	471	0	4140	1328	1401	379	49	3157	231	857	0	0	1088	8385
% CARS	0	0	0	0	0	0	99.9	100	0	99.9	100	99.2	100	100	99.7	100	100	0	0	100	99.8
TRUCKS	0	0	0	0	0	0	3	0	0	3	0	11	0	0	11	0	0	0	0	0	14
% TRUCKS	0	0	0	0	0	0	0.1	0	0	0.1	0	0.8	0	0	0.3	0	0	0	0	0	0.2

	Southbound					LEGACY Westbound					SH 121 NBFR Northbound					LEGACY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	0	474	**80**	0	554	178	192	52	8	430	31	113	0	0	144	1128
17:15	0	0	0	0	0	0	**529**	60	0	**589**	178	175	57	9	419	**41**	**131**	0	0	**172**	1180
17:30	0	0	0	0	0	0	509	36	0	545	**183**	**231**	**63**	**12**	**489**	35	112	0	0	147	**1181**
17:45	0	0	0	0	0	0	473	42	0	515	183	190	60	3	436	24	114	0	0	138	1089
Total Volume	0	0	0	0	0	0	1985	218	0	2203	722	788	232	32	1774	131	470	0	0	601	4578
% App. Total	0	0	0	0		0	90.1	9.9	0		40.7	44.4	13.1	1.8		21.8	78.2	0	0		
PHF	.000	.000	.000	.000	.000	.000	.938	.681	.000	.935	.986	.853	.921	.667	.907	.799	.897	.000	.000	.874	.969

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : PLANO PKWY @ PIZZA INN WEST DRIVEWAY
Site Code : 00000120
Start Date : 10/11/2011
Page No : 1

Groups Printed- Cars - Trucks

	Southbound					PLANO PKWY Westbound					PIZZA INN WEST DRIVEWAY Northbound					PLANO PKWY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:00	0	0	0	0	0	1	113	0	0	114	3	0	2	0	5	0	53	2	0	55	174
16:15	0	0	0	0	0	0	103	0	0	103	1	0	0	0	1	0	69	1	0	70	174
16:30	0	0	0	0	0	0	125	0	0	125	0	0	1	0	1	0	79	0	0	79	205
16:45	0	0	0	0	0	0	169	0	0	169	1	0	0	0	1	0	67	6	0	73	243
Total	0	0	0	0	0	1	510	0	0	511	5	0	3	0	8	0	268	9	0	277	796
17:00	0	0	0	0	0	0	191	0	0	191	6	0	2	0	8	0	87	0	0	87	286
17:15	0	0	0	0	0	0	243	0	0	243	8	0	1	0	9	0	97	0	0	97	349
17:30	0	0	0	0	0	0	199	0	0	199	1	0	2	0	3	0	68	1	0	69	271
17:45	0	0	0	0	0	0	178	0	0	178	1	0	0	0	1	0	81	0	0	81	260
Total	0	0	0	0	0	0	811	0	0	811	16	0	5	0	21	0	333	1	0	334	1166
Grand Total	0	0	0	0	0	1	1321	0	0	1322	21	0	8	0	29	0	601	10	0	611	1962
Apprch %	0	0	0	0		0.1	99.9	0	0		72.4	0	27.6	0		0	98.4	1.6	0		
Total %	0	0	0	0	0	0.1	67.3	0	0	67.4	1.1	0	0.4	0	1.5	0	30.6	0.5	0	31.1	
Cars	0	0	0	0	0	1	1316	0	0	1317	20	0	7	0	27	0	596	8	0	604	1948
% Cars	0	0	0	0	0	100	99.6	0	0	99.6	95.2	0	87.5	0	93.1	0	99.2	80	0	98.9	99.3
Trucks	0	0	0	0	0	0	5	0	0	5	1	0	1	0	2	0	5	2	0	7	14
% Trucks	0	0	0	0	0	0	0.4	0	0	0.4	4.8	0	12.5	0	6.9	0	0.8	20	0	1.1	0.7

	Southbound					PLANO PKWY Westbound					PIZZA INN WEST DRIVEWAY Northbound					PLANO PKWY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	0	191	0	0	191	6	0	**2**	0	8	0	87	0	0	87	286
17:15	0	0	0	0	0	0	**243**	0	0	**243**	**8**	0	1	0	**9**	0	**97**	0	0	**97**	**349**
17:30	0	0	0	0	0	0	199	0	0	199	1	0	2	0	3	0	68	**1**	0	69	271
17:45	0	0	0	0	0	0	178	0	0	178	1	0	0	0	1	0	81	0	0	81	260
Total Volume	0	0	0	0	0	0	811	0	0	811	16	0	5	0	21	0	333	1	0	334	1166
% App. Total	0	0	0	0		0	100	0	0		76.2	0	23.8	0		0	99.7	0.3	0		
PHF	.000	.000	.000	.000	.000	.000	.834	.000	.000	.834	.500	.000	.625	.000	.583	.000	.858	.250	.000	.861	.835

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : PLANO PKWY @ TITTLE DR
Site Code : 00000010
Start Date : 10/11/2011
Page No : 1

Groups Printed- Cars - Trucks

	Southbound					PLANO PKWY Westbound					TITTLE DR Northbound					PLANO PKWY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:00	0	0	0	0	0	0	127	0	0	127	21	0	4	0	25	1	55	6	0	62	214
16:15	0	0	0	0	0	0	120	0	0	120	25	0	2	0	27	0	63	4	0	67	214
16:30	0	0	0	0	0	1	128	0	0	129	28	0	3	0	31	0	65	6	0	71	231
16:45	0	0	0	0	0	1	169	0	0	170	17	0	0	0	17	1	71	6	0	78	265
Total	0	0	0	0	0	2	544	0	0	546	91	0	9	0	100	2	254	22	0	278	924
17:00	0	0	0	0	0	3	193	0	0	196	31	0	4	0	35	0	77	5	0	82	313
17:15	0	0	0	0	0	1	231	0	0	232	25	0	2	0	27	0	95	7	0	102	361
17:30	0	0	0	0	0	1	231	0	0	232	31	0	1	0	32	0	63	8	0	71	335
17:45	0	0	0	0	0	3	195	0	0	198	20	0	2	0	22	0	79	12	0	91	311
Total	0	0	0	0	0	8	850	0	0	858	107	0	9	0	116	0	314	32	0	346	1320
Grand Total	0	0	0	0	0	10	1394	0	0	1404	198	0	18	0	216	2	568	54	0	624	2244
Apprch %	0	0	0	0		0.7	99.3	0	0		91.7	0	8.3	0		0.3	91	8.7	0		
Total %	0	0	0	0	0	0.4	62.1	0	0	62.6	8.8	0	0.8	0	9.6	0.1	25.3	2.4	0	27.8	
Cars	0	0	0	0	0	9	1389	0	0	1398	196	0	17	0	213	2	563	51	0	616	2227
% Cars	0	0	0	0	0	90	99.6	0	0	99.6	99	0	94.4	0	98.6	100	99.1	94.4	0	98.7	99.2
Trucks	0	0	0	0	0	1	5	0	0	6	2	0	1	0	3	0	5	3	0	8	17
% Trucks	0	0	0	0	0	10	0.4	0	0	0.4	1	0	5.6	0	1.4	0	0.9	5.6	0	1.3	0.8

	Southbound					PLANO PKWY Westbound					TITTLE DR Northbound					PLANO PKWY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	0	0	0	0	0	**3**	193	0	0	196	**31**	0	**4**	0	**35**	0	77	5	0	82	313
17:15	0	0	0	0	0	1	**231**	0	0	**232**	25	0	2	0	27	0	**95**	7	0	**102**	**361**
17:30	0	0	0	0	0	1	231	0	0	232	31	0	1	0	32	0	63	8	0	71	335
17:45	0	0	0	0	0	3	195	0	0	198	20	0	2	0	22	0	79	**12**	0	91	311
Total Volume	0	0	0	0	0	8	850	0	0	858	107	0	9	0	116	0	314	32	0	346	1320
% App. Total	0	0	0	0		0.9	99.1	0	0		92.2	0	7.8	0		0	90.8	9.2	0		
PHF	.000	.000	.000	.000	.000	.667	.920	.000	.000	.925	.863	.000	.563	.000	.829	.000	.826	.667	.000	.848	.914

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : SPRING CREEK PKWY @ HEADQUARTERS
Site Code : 00000060
Start Date : 10/11/2011
Page No : 1

Groups Printed- Cars - Trucks

	HEADQUARTERS Southbound					SPRING CREEK Westbound					Northbound					SPRING CREEK Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
16:00	10	0	34	0	44	0	166	3	0	169	0	0	0	0	0	12	82	0	0	94	307
16:15	6	0	40	0	46	0	194	2	0	196	0	0	0	0	0	6	91	0	0	97	339
16:30	12	0	39	0	51	0	199	0	0	199	0	0	0	0	0	5	87	0	0	92	342
16:45	21	0	46	0	67	0	215	2	0	217	0	0	0	0	0	12	100	0	0	112	396
Total	49	0	159	0	208	0	774	7	0	781	0	0	0	0	0	35	360	0	0	395	1384
17:00	25	0	54	0	79	0	263	0	0	263	0	0	0	0	0	9	108	0	0	117	459
17:15	27	0	73	0	100	0	303	1	0	304	0	0	0	0	0	6	124	0	0	130	534
17:30	27	0	79	0	106	0	277	0	0	277	0	0	0	0	0	5	122	0	0	127	510
17:45	15	0	54	0	69	0	294	0	0	294	0	0	0	0	0	5	112	0	0	117	480
Total	94	0	260	0	354	0	1137	1	0	1138	0	0	0	0	0	25	466	0	0	491	1983
Grand Total	143	0	419	0	562	0	1911	8	0	1919	0	0	0	0	0	60	826	0	0	886	3367
Apprch %	25.4	0	74.6	0		0	99.6	0.4	0		0	0	0	0		6.8	93.2	0	0		
Total %	4.2	0	12.4	0	16.7	0	56.8	0.2	0	57	0	0	0	0	0	1.8	24.5	0	0	26.3	
Cars	142	0	419	0	561	0	1900	8	0	1908	0	0	0	0	0	60	822	0	0	882	3351
% Cars	99.3	0	100	0	99.8	0	99.4	100	0	99.4	0	0	0	0	0	100	99.5	0	0	99.5	99.5
Trucks	1	0	0	0	1	0	11	0	0	11	0	0	0	0	0	0	4	0	0	4	16
% Trucks	0.7	0	0	0	0.2	0	0.6	0	0	0.6	0	0	0	0	0	0	0.5	0	0	0.5	0.5

	HEADQUARTERS Southbound					SPRING CREEK Westbound					Northbound					SPRING CREEK Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 17:00																					
17:00	25	0	54	0	79	0	263	0	0	263	0	0	0	0	0	**9**	108	0	0	117	459
17:15	**27**	0	73	0	100	0	**303**	**1**	0	**304**	0	0	0	0	0	6	**124**	0	0	**130**	**534**
17:30	27	0	**79**	0	**106**	0	277	0	0	277	0	0	0	0	0	5	122	0	0	127	510
17:45	15	0	54	0	69	0	294	0	0	294	0	0	0	0	0	5	112	0	0	117	480
Total Volume	94	0	260	0	354	0	1137	1	0	1138	0	0	0	0	0	25	466	0	0	491	1983
% App. Total	26.6	0	73.4	0		0	99.9	0.1	0		0	0	0	0		5.1	94.9	0	0		
PHF	.870	.000	.823	.000	.835	.000	.938	.250	.000	.936	.000	.000	.000	.000	.000	.694	.940	.000	.000	.944	.928

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : SH 121 WBFR @ PLANO PKWY-PAIGE RD - SAT
Site Code : 00000120
Start Date : 10/8/2011
Page No : 1

Groups Printed- CARS - TRUCKS

	PAIGE RD Southbound					SH 121 WBFR Westbound					PLANO PKWY Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
13:00	0	72	65	0	137	19	176	23	64	282	17	132	0	0	149	0	0	0	0	0	568
13:15	0	85	54	0	139	16	164	23	63	266	21	111	0	0	132	0	0	0	0	0	537
13:30	0	105	69	0	174	23	182	15	57	277	15	125	0	0	140	0	0	0	0	0	591
13:45	0	86	64	0	150	20	163	21	70	274	15	144	0	0	159	0	0	0	0	0	583
Total	0	348	252	0	600	78	685	82	254	1099	68	512	0	0	580	0	0	0	0	0	2279
14:00	0	80	47	0	127	20	201	19	57	297	18	101	0	0	119	0	0	0	0	0	543
14:15	0	78	51	0	129	15	179	25	53	272	15	116	0	0	131	0	0	0	0	0	532
14:30	0	95	66	0	161	24	204	30	66	324	20	120	0	0	140	0	0	0	0	0	625
14:45	0	105	61	0	166	24	170	12	126	332	23	125	0	0	148	0	0	0	0	0	646
Total	0	358	225	0	583	83	754	86	302	1225	76	462	0	0	538	0	0	0	0	0	2346
15:00	0	115	48	0	163	22	191	13	71	297	22	133	0	0	155	0	0	0	0	0	615
15:15	1	109	52	0	162	20	206	20	77	323	21	147	0	0	168	0	0	0	0	0	653
15:30	0	114	80	0	194	19	203	26	60	308	13	132	0	0	145	0	0	0	0	0	647
15:45	0	100	60	0	160	17	177	13	45	252	24	110	0	0	134	0	0	0	0	0	546
Total	1	438	240	0	679	78	777	72	253	1180	80	522	0	0	602	0	0	0	0	0	2461
Grand Total	1	1144	717	0	1862	239	2216	240	809	3504	224	1496	0	0	1720	0	0	0	0	0	7086
Apprch %	0.1	61.4	38.5	0		6.8	63.2	6.8	23.1		13	87	0	0		0	0	0	0		
Total %	0	16.1	10.1	0	26.3	3.4	31.3	3.4	11.4	49.4	3.2	21.1	0	0	24.3	0	0	0	0	0	
CARS	1	1142	716	0	1859	236	2213	240	809	3498	224	1495	0	0	1719	0	0	0	0	0	7076
% CARS	100	99.8	99.9	0	99.8	98.7	99.9	100	100	99.8	100	99.9	0	0	99.9	0	0	0	0	0	99.9
TRUCKS	0	2	1	0	3	3	3	0	0	6	0	1	0	0	1	0	0	0	0	0	10
% TRUCKS	0	0.2	0.1	0	0.2	1.3	0.1	0	0	0.2	0	0.1	0	0	0.1	0	0	0	0	0	0.1

	PAIGE RD Southbound					SH 121 WBFR Westbound					PLANO PKWY Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 13:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 14:45																					
14:45	0	105	61	0	166	**24**	170	12	**126**	**332**	**23**	125	0	0	148	0	0	0	0	0	646
15:00	0	**115**	48	0	163	22	191	13	71	297	22	133	0	0	155	0	0	0	0	0	615
15:15	**1**	109	52	0	162	20	**206**	20	77	323	21	**147**	0	0	**168**	0	0	0	0	0	**653**
15:30	0	114	**80**	0	**194**	19	203	**26**	60	308	13	132	0	0	145	0	0	0	0	0	647
Total Volume	1	443	241	0	685	85	770	71	334	1260	79	537	0	0	616	0	0	0	0	0	2561
% App. Total	0.1	64.7	35.2	0		6.7	61.1	5.6	26.5		12.8	87.2	0	0		0	0	0	0		
PHF	.250	.963	.753	.000	.883	.885	.934	.683	.663	.949	.859	.913	.000	.000	.917	.000	.000	.000	.000	.000	.980

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : SH 121 EBFR @ PLANO PKWY-PAIGE RD - SAT
Site Code : 00000061
Start Date : 10/8/2011
Page No : 1

Groups Printed- CARS - TRUCKS

	PAIGE RD Southbound					Westbound					PLANO PKWY Northbound					SH 121 EBFR Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-turn	App. Total	Int. Total
13:00	48	45	0	0	93	0	0	0	0	0	0	54	6	0	60	93	114	22	16	245	398
13:15	53	50	0	0	103	0	0	0	0	0	0	53	14	0	67	79	106	14	24	223	393
13:30	69	65	0	0	134	0	0	0	0	0	0	44	9	0	53	96	102	8	18	224	411
13:45	58	53	0	0	111	0	0	0	0	0	0	52	3	0	55	109	98	11	15	233	399
Total	228	213	0	0	441	0	0	0	0	0	0	203	32	0	235	377	420	55	73	925	1601
14:00	57	49	0	0	106	0	0	0	0	0	0	51	2	0	53	71	96	14	16	197	356
14:15	61	34	1	0	96	0	0	0	0	0	0	60	7	0	67	72	116	14	21	223	386
14:30	76	37	0	0	113	0	0	0	0	0	0	42	5	0	47	97	115	18	29	259	419
14:45	85	42	0	0	127	0	0	0	0	0	0	62	7	0	69	84	131	20	27	262	458
Total	279	162	1	0	442	0	0	0	0	0	0	215	21	0	236	324	458	66	93	941	1619
15:00	88	52	0	0	140	0	0	0	0	0	0	63	9	0	72	94	104	13	15	226	438
15:15	79	49	0	0	128	0	0	0	0	0	0	60	9	0	69	107	125	19	15	266	463
15:30	73	39	0	0	112	0	0	0	0	0	0	61	6	0	67	86	145	26	30	287	466
15:45	65	57	0	0	122	0	0	0	0	0	0	55	12	0	67	81	124	18	19	242	431
Total	305	197	0	0	502	0	0	0	0	0	0	239	36	0	275	368	498	76	79	1021	1798
Grand Total	812	572	1	0	1385	0	0	0	0	0	0	657	89	0	746	1069	1376	197	245	2887	5018
Apprch %	58.6	41.3	0.1	0		0	0	0	0		0	88.1	11.9	0		37	47.7	6.8	8.5		
Total %	16.2	11.4	0	0	27.6	0	0	0	0	0	0	13.1	1.8	0	14.9	21.3	27.4	3.9	4.9	57.5	
CARS	812	567	1	0	1380	0	0	0	0	0	0	656	89	0	745	1066	1371	194	244	2875	5000
% CARS	100	99.1	100	0	99.6	0	0	0	0	0	0	99.8	100	0	99.9	99.7	99.6	98.5	99.6	99.6	99.6
TRUCKS	0	5	0	0	5	0	0	0	0	0	0	1	0	0	1	3	5	3	1	12	18
% TRUCKS	0	0.9	0	0	0.4	0	0	0	0	0	0	0.2	0	0	0.1	0.3	0.4	1.5	0.4	0.4	0.4

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : SH 121 WBFR @ S COLONY BLVD - SAT
Site Code : 00000010
Start Date : 10/8/2011
Page No : 1

Groups Printed- CARS - TRUCKS

	S COLONY RD Southbound					SH 121 WBFR Westbound					S COLONY RD Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
13:00	0	0	33	0	33	0	270	20	0	290	0	0	0	0	0	0	0	0	0	0	323
13:15	0	0	33	0	33	0	247	22	0	269	0	0	0	0	0	0	0	0	0	0	302
13:30	0	0	28	0	28	0	271	31	0	302	0	0	0	0	0	0	0	0	0	0	330
13:45	0	0	39	0	39	0	246	32	0	278	0	0	0	0	0	0	0	0	0	0	317
Total	0	0	133	0	133	0	1034	105	0	1139	0	0	0	0	0	0	0	0	0	0	1272
14:00	0	0	29	0	29	0	290	23	0	313	0	0	0	0	0	0	0	0	0	0	342
14:15	0	0	24	0	24	1	260	31	0	292	0	0	0	0	0	0	0	0	0	0	316
14:30	1	0	48	0	49	0	293	29	0	322	0	0	0	0	0	0	0	0	0	0	371
14:45	0	0	105	0	105	0	257	35	0	292	0	0	0	0	0	0	0	0	0	0	397
Total	1	0	206	0	207	1	1100	118	0	1219	0	0	0	0	0	0	0	0	0	0	1426
15:00	0	0	41	0	41	0	273	36	0	309	0	0	0	0	0	0	0	0	0	0	350
15:15	0	0	37	0	37	0	329	41	0	370	0	0	0	0	0	0	0	0	0	0	407
15:30	0	0	31	0	31	0	281	32	0	313	0	0	0	0	0	0	0	0	0	0	344
15:45	0	0	22	0	22	0	258	34	0	292	0	0	0	0	0	0	0	0	0	0	314
Total	0	0	131	0	131	0	1141	143	0	1284	0	0	0	0	0	0	0	0	0	0	1415
Grand Total	1	0	470	0	471	1	3275	366	0	3642	0	0	0	0	0	0	0	0	0	0	4113
Apprch %	0.2	0	99.8	0		0	89.9	10	0		0	0	0	0		0	0	0	0		
Total %	0	0	11.4	0	11.5	0	79.6	8.9	0	88.5	0	0	0	0	0	0	0	0	0	0	
CARS	1	0	470	0	471	1	3263	366	0	3630	0	0	0	0	0	0	0	0	0	0	4101
% CARS	100	0	100	0	100	100	99.6	100	0	99.7	0	0	0	0	0	0	0	0	0	0	99.7
TRUCKS	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	12
% TRUCKS	0	0	0	0	0	0	0.4	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0.3

	S COLONY RD Southbound					SH 121 WBFR Westbound					S COLONY RD Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 13:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 14:30																					
14:30	**1**	0	48	0	49	0	293	29	0	322	0	0	0	0	0	0	0	0	0	0	371
14:45	0	0	**105**	0	**105**	0	257	35	0	292	0	0	0	0	0	0	0	0	0	0	397
15:00	0	0	41	0	41	0	273	36	0	309	0	0	0	0	0	0	0	0	0	0	350
15:15	0	0	37	0	37	0	**329**	**41**	0	**370**	0	0	0	0	0	0	0	0	0	0	**407**
Total Volume	1	0	231	0	232	0	1152	141	0	1293	0	0	0	0	0	0	0	0	0	0	1525
% App. Total	0.4	0	99.6	0		0	89.1	10.9	0		0	0	0	0		0	0	0	0		
PHF	.250	.000	.550	.000	.552	.000	.875	.860	.000	.874	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.937

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : SH 121 WBFR @ W SPRING CREEK PKWY - SAT
Site Code : 00000023
Start Date : 10/8/2011
Page No : 1

Groups Printed- CARS - TRUCKS

	W SPRING CREEK PKWY Southbound					SH 121 WBFR Westbound					W SPRING CREEK PKWY Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
13:00	0	10	7	0	17	12	182	1	6	201	74	11	0	0	85	0	0	0	0	0	303
13:15	0	4	14	0	18	6	147	2	1	156	66	13	0	0	79	0	0	0	0	0	253
13:30	0	8	7	0	15	11	169	1	2	183	84	19	0	0	103	0	0	0	0	0	301
13:45	0	7	6	0	13	10	185	2	3	200	57	18	0	0	75	0	0	0	0	0	288
Total	0	29	34	0	63	39	683	6	12	740	281	61	0	0	342	0	0	0	0	0	1145
14:00	0	4	9	0	13	8	197	3	2	210	74	13	0	0	87	0	0	0	0	0	310
14:15	2	3	3	0	8	7	169	2	2	180	64	17	0	0	81	0	0	0	0	0	269
14:30	0	11	5	0	16	10	194	0	6	210	72	19	0	0	91	0	0	0	0	0	317
14:45	0	7	12	0	19	10	151	0	4	165	76	21	0	0	97	0	0	0	0	0	281
Total	2	25	29	0	56	35	711	5	14	765	286	70	0	0	356	0	0	0	0	0	1177
15:00	0	1	11	0	12	6	190	1	5	202	87	18	0	0	105	0	0	0	0	0	319
15:15	0	8	11	0	19	12	224	1	3	240	85	26	0	0	111	0	0	0	0	0	370
15:30	0	9	6	0	15	10	207	1	1	219	62	16	0	0	78	0	0	0	0	0	312
15:45	0	3	15	0	18	8	164	3	3	178	58	21	0	0	79	0	0	0	0	0	275
Total	0	21	43	0	64	36	785	6	12	839	292	81	0	0	373	0	0	0	0	0	1276
Grand Total	2	75	106	0	183	110	2179	17	38	2344	859	212	0	0	1071	0	0	0	0	0	3598
Apprch %	1.1	41	57.9	0		4.7	93	0.7	1.6		80.2	19.8	0	0		0	0	0	0		
Total %	0.1	2.1	2.9	0	5.1	3.1	60.6	0.5	1.1	65.1	23.9	5.9	0	0	29.8	0	0	0	0	0	
CARS	2	75	105	0	182	110	2172	17	38	2337	856	212	0	0	1068	0	0	0	0	0	3587
% CARS	100	100	99.1	0	99.5	100	99.7	100	100	99.7	99.7	100	0	0	99.7	0	0	0	0	0	99.7
TRUCKS	0	0	1	0	1	0	7	0	0	7	3	0	0	0	3	0	0	0	0	0	11
% TRUCKS	0	0	0.9	0	0.5	0	0.3	0	0	0.3	0.3	0	0	0	0.3	0	0	0	0	0	0.3

	W SPRING CREEK PKWY Southbound					SH 121 WBFR Westbound					W SPRING CREEK PKWY Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-turn	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 13:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 14:30																					
14:30	0	**11**	5	0	16	10	194	0	**6**	210	72	19	0	0	91	0	0	0	0	0	317
14:45	0	7	**12**	0	**19**	10	151	0	4	165	76	21	0	0	97	0	0	0	0	0	281
15:00	0	1	11	0	12	6	190	**1**	5	202	**87**	18	0	0	105	0	0	0	0	0	319
15:15	0	8	11	0	19	**12**	**224**	1	3	**240**	85	**26**	0	0	**111**	0	0	0	0	0	**370**
Total Volume	0	27	39	0	66	38	759	2	18	817	320	84	0	0	404	0	0	0	0	0	1287
% App. Total	0	40.9	59.1	0		4.7	92.9	0.2	2.2		79.2	20.8	0	0		0	0	0	0		
PHF	.000	.614	.813	.000	.868	.792	.847	.500	.750	.851	.920	.808	.000	.000	.910	.000	.000	.000	.000	.000	.870

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : SH 121 EBFR @ W SPRING CREEK PKWY - SAT
Site Code : 00000022
Start Date : 10/8/2011
Page No : 1

Groups Printed- CARS - TRUCKS

	W SPRING CREEK PKWY Southbound					Westbound					W SPRING CREEK PKWY Northbound					SH 121 EBFR Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-turn	App. Total	Int. Total
13:00	3	18	0	0	21	0	0	0	0	0	0	78	13	0	91	8	139	63	9	219	331
13:15	1	11	0	0	12	0	0	0	0	0	0	71	12	0	83	6	134	62	12	214	309
13:30	3	16	0	0	19	0	0	0	0	0	0	91	8	0	99	11	148	49	13	221	339
13:45	0	18	0	0	18	0	0	0	0	0	0	66	5	0	71	11	135	59	21	226	315
Total	7	63	0	0	70	0	0	0	0	0	0	306	38	0	344	36	556	233	55	880	1294
14:00	2	10	0	0	12	0	0	0	0	0	0	84	4	0	88	4	131	69	12	216	316
14:15	0	13	0	0	13	0	0	0	0	0	0	74	3	0	77	10	117	48	13	188	278
14:30	1	20	0	0	21	0	0	0	0	0	0	75	11	0	86	14	145	57	9	225	332
14:45	0	17	0	0	17	0	0	0	0	0	0	84	12	0	96	12	175	82	11	280	393
Total	3	60	0	0	63	0	0	0	0	0	0	317	30	0	347	40	568	256	45	909	1319
15:00	0	6	0	0	6	0	0	0	0	0	0	96	5	0	101	9	148	70	10	237	344
15:15	2	19	0	0	21	0	0	0	0	0	0	91	8	0	99	13	137	75	20	245	365
15:30	0	20	0	0	20	0	0	0	0	0	0	68	16	0	84	9	174	74	11	268	372
15:45	0	11	0	0	11	0	0	0	0	0	0	72	13	0	85	15	134	77	27	253	349
Total	2	56	0	0	58	0	0	0	0	0	0	327	42	0	369	46	593	296	68	1003	1430
Grand Total	12	179	0	0	191	0	0	0	0	0	0	950	110	0	1060	122	1717	785	168	2792	4043
Apprch %	6.3	93.7	0	0		0	0	0	0		0	89.6	10.4	0		4.4	61.5	28.1	6		
Total %	0.3	4.4	0	0	4.7	0	0	0	0	0	0	23.5	2.7	0	26.2	3	42.5	19.4	4.2	69.1	
CARS	12	179	0	0	191	0	0	0	0	0	0	947	110	0	1057	122	1712	785	168	2787	4035
% CARS	100	100	0	0	100	0	0	0	0	0	0	99.7	100	0	99.7	100	99.7	100	100	99.8	99.8
TRUCKS	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	0	5	0	0	5	8
% TRUCKS	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0.3	0	0.3	0	0	0.2	0.2

	W SPRING CREEK PKWY Southbound					Westbound					W SPRING CREEK PKWY Northbound					SH 121 EBFR Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-turn	App. Total	Int. Total
Peak Hour Analysis From 13:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 14:45																					
14:45	0	17	0	0	17	0	0	0	0	0	0	84	12	0	96	12	**175**	**82**	11	**280**	**393**
15:00	0	6	0	0	6	0	0	0	0	0	0	**96**	5	0	**101**	9	148	70	10	237	344
15:15	**2**	19	0	0	**21**	0	0	0	0	0	0	91	8	0	99	**13**	137	75	**20**	245	365
15:30	0	**20**	0	0	20	0	0	0	0	0	0	68	**16**	0	84	9	174	74	11	268	372
Total Volume	2	62	0	0	64	0	0	0	0	0	0	339	41	0	380	43	634	301	52	1030	1474
% App. Total	3.1	96.9	0	0		0	0	0	0		0	89.2	10.8	0		4.2	61.6	29.2	5		
PHF	.250	.775	.000	.000	.762	.000	.000	.000	.000	.000	.000	.883	.641	.000	.941	.827	.906	.918	.650	.920	.938

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : SH 121 SBFR @ LEGACY - SAT
Site Code : 00000051
Start Date : 10/29/2011
Page No : 1

Groups Printed- CARS - TRUCKS

	SH 121 SBFR Southbound					LEGACY Westbound					Northbound					LEGACY Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
13:00	13	118	41	29	201	95	142	0	0	237	0	0	0	0	0	0	129	54	0	183	621
13:15	10	124	44	23	201	115	175	0	0	290	0	0	0	0	0	0	117	69	0	186	677
13:30	10	120	45	20	195	71	162	0	0	233	0	0	0	0	0	0	129	59	0	188	616
13:45	12	130	42	26	210	67	159	0	0	226	0	0	0	0	0	0	144	64	0	208	644
Total	45	492	172	98	807	348	638	0	0	986	0	0	0	0	0	0	519	246	0	765	2558
14:00	6	152	40	27	225	61	125	0	0	186	0	0	0	0	0	0	122	62	0	184	595
14:15	14	134	39	27	214	70	144	0	0	214	0	0	0	0	0	0	128	80	0	208	636
14:30	10	136	41	30	217	36	168	0	0	204	0	0	0	0	0	0	104	55	0	159	580
14:45	15	130	53	23	221	47	148	0	0	195	0	0	0	0	0	0	108	68	0	176	592
Total	45	552	173	107	877	214	585	0	0	799	0	0	0	0	0	0	462	265	0	727	2403
15:00	8	149	47	26	230	51	144	0	0	195	0	0	0	0	0	0	133	53	0	186	611
15:15	8	156	43	35	242	51	132	0	0	183	0	0	0	0	0	0	101	55	0	156	581
15:30	7	138	42	37	224	31	146	0	0	177	0	0	0	0	0	0	123	55	0	178	579
15:45	13	171	37	27	248	73	145	0	0	218	0	0	0	0	0	0	113	49	0	162	628
Total	36	614	169	125	944	206	567	0	0	773	0	0	0	0	0	0	470	212	0	682	2399
Grand Total	126	1658	514	330	2628	768	1790	0	0	2558	0	0	0	0	0	0	1451	723	0	2174	7360
Apprch %	4.8	63.1	19.6	12.6		30	70	0	0		0	0	0	0		0	66.7	33.3	0		
Total %	1.7	22.5	7	4.5	35.7	10.4	24.3	0	0	34.8	0	0	0	0	0	0	19.7	9.8	0	29.5	
CARS	126	1653	512	317	2608	765	1784	0	0	2549	0	0	0	0	0	0	1451	711	0	2162	7319
% CARS	100	99.7	99.6	96.1	99.2	99.6	99.7	0	0	99.6	0	0	0	0	0	0	100	98.3	0	99.4	99.4
TRUCKS	0	5	2	13	20	3	6	0	0	9	0	0	0	0	0	0	0	12	0	12	41
% TRUCKS	0	0.3	0.4	3.9	0.8	0.4	0.3	0	0	0.4	0	0	0	0	0	0	0	1.7	0	0.6	0.6

	SH 121 SBFR Southbound					LEGACY Westbound					Northbound					LEGACY Eastbound					
Start Time	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 13:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 13:00																					
13:00	**13**	118	41	**29**	201	95	142	0	0	237	0	0	0	0	0	0	129	54	0	183	621
13:15	10	124	44	23	201	**115**	**175**	0	0	**290**	0	0	0	0	0	0	117	**69**	0	186	**677**
13:30	10	120	**45**	20	195	71	162	0	0	233	0	0	0	0	0	0	129	59	0	188	616
13:45	12	**130**	42	26	**210**	67	159	0	0	226	0	0	0	0	0	0	**144**	64	0	**208**	644
Total Volume	45	492	172	98	807	348	638	0	0	986	0	0	0	0	0	0	519	246	0	765	2558
% App. Total	5.6	61	21.3	12.1		35.3	64.7	0	0		0	0	0	0		0	67.8	32.2	0		
PHF	.865	.946	.956	.845	.961	.757	.911	.000	.000	.850	.000	.000	.000	.000	.000	.000	.901	.891	.000	.919	.945

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : SH 121 NBFR @ LEGACY - SAT
Site Code : 00000121
Start Date : 10/29/2011
Page No : 1

Groups Printed- CARS - TRUCKS

	Southbound					LEGACY Westbound					SH 121 NBFR Northbound					LEGACY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
13:00	0	0	0	0	0	0	173	11	0	184	62	130	42	3	237	44	103	0	0	147	568
13:15	0	0	0	0	0	0	200	11	0	211	87	102	45	2	236	28	92	0	0	120	567
13:30	0	0	0	0	0	0	160	3	0	163	76	138	48	2	264	47	99	0	0	146	573
13:45	0	0	0	0	0	0	142	7	0	149	86	120	28	3	237	38	113	0	0	151	537
Total	0	0	0	0	0	0	675	32	0	707	311	490	163	10	974	157	407	0	0	564	2245
14:00	0	0	0	0	0	0	114	12	0	126	73	134	43	5	255	41	91	0	0	132	513
14:15	0	0	0	0	0	0	148	8	0	156	64	135	27	2	228	40	103	0	0	143	527
14:30	0	0	0	0	0	0	118	6	0	124	85	146	40	3	274	22	93	0	0	115	513
14:45	0	0	0	0	0	0	129	4	0	133	68	123	44	1	236	30	90	0	0	120	489
Total	0	0	0	0	0	0	509	30	0	539	290	538	154	11	993	133	377	0	0	510	2042
15:00	0	0	0	0	0	0	130	3	0	133	66	117	35	2	220	38	100	0	0	138	491
15:15	0	0	0	0	0	0	120	3	0	123	65	121	40	3	229	25	84	0	0	109	461
15:30	0	0	0	0	0	0	113	3	0	116	61	134	39	9	243	31	101	0	0	132	491
15:45	0	0	0	0	0	0	148	3	0	151	67	151	47	7	272	36	89	0	0	125	548
Total	0	0	0	0	0	0	511	12	0	523	259	523	161	21	964	130	374	0	0	504	1991
Grand Total	0	0	0	0	0	0	1695	74	0	1769	860	1551	478	42	2931	420	1158	0	0	1578	6278
Apprch %	0	0	0	0		0	95.8	4.2	0		29.3	52.9	16.3	1.4		26.6	73.4	0	0		
Total %	0	0	0	0	0	0	27	1.2	0	28.2	13.7	24.7	7.6	0.7	46.7	6.7	18.4	0	0	25.1	
CARS	0	0	0	0	0	0	1692	73	0	1765	854	1543	474	42	2913	420	1158	0	0	1578	6256
% CARS	0	0	0	0	0	0	99.8	98.6	0	99.8	99.3	99.5	99.2	100	99.4	100	100	0	0	100	99.6
TRUCKS	0	0	0	0	0	0	3	1	0	4	6	8	4	0	18	0	0	0	0	0	22
% TRUCKS	0	0	0	0	0	0	0.2	1.4	0	0.2	0.7	0.5	0.8	0	0.6	0	0	0	0	0	0.4

	Southbound					LEGACY Westbound					SH 121 NBFR Northbound					LEGACY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	U-TURN	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 13:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 13:00																					
13:00	0	0	0	0	0	0	173	**11**	0	184	62	130	42	**3**	237	44	103	0	0	147	568
13:15	0	0	0	0	0	0	**200**	11	0	**211**	**87**	102	45	2	236	28	92	0	0	120	567
13:30	0	0	0	0	0	0	160	3	0	163	76	**138**	**48**	2	**264**	**47**	99	0	0	146	**573**
13:45	0	0	0	0	0	0	142	7	0	149	86	120	28	3	237	38	**113**	0	0	**151**	537
Total Volume	0	0	0	0	0	0	675	32	0	707	311	490	163	10	974	157	407	0	0	564	2245
% App. Total	0	0	0	0		0	95.5	4.5	0		31.9	50.3	16.7	1		27.8	72.2	0	0		
PHF	.000	.000	.000	.000	.000	.000	.844	.727	.000	.838	.894	.888	.849	.833	.922	.835	.900	.000	.000	.934	.979

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : PLANO PKWY @ TITTLE DR - SAT
Site Code : 00000052
Start Date : 10/8/2011
Page No : 1

Groups Printed- CARS - TRUCKS

	PLANO PKWY Southbound					Westbound					PLANO PKWY Northbound					TITTLE DR Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
13:00	0	64	0	0	64	0	0	0	0	0	0	61	0	0	61	1	0	0	0	1	126
13:15	1	61	1	0	63	0	0	0	0	0	0	80	0	0	80	2	0	0	0	2	145
13:30	0	69	1	0	70	0	0	0	0	0	0	53	0	0	53	0	0	0	0	0	123
13:45	3	57	3	0	63	0	0	0	0	0	0	52	0	0	52	1	0	0	0	1	116
Total	4	251	5	0	260	0	0	0	0	0	0	246	0	0	246	4	0	0	0	4	510
14:00	0	60	1	0	61	0	0	0	0	0	0	58	0	0	58	2	0	0	0	2	121
14:15	0	47	2	0	49	0	0	0	0	0	0	60	0	0	60	5	0	0	0	5	114
14:30	0	57	1	0	58	0	0	0	0	0	0	44	0	0	44	6	0	0	0	6	108
14:45	0	71	2	0	73	0	0	0	0	0	0	80	0	0	80	1	0	0	0	1	154
Total	0	235	6	0	241	0	0	0	0	0	0	242	0	0	242	14	0	0	0	14	497
15:00	2	60	1	0	63	0	0	0	0	0	0	61	0	0	61	3	0	0	0	3	127
15:15	0	65	1	0	66	0	0	0	0	0	0	77	0	0	77	0	0	0	0	0	143
15:30	0	63	1	0	64	0	0	0	0	0	2	73	0	0	75	2	0	1	0	3	142
15:45	1	72	2	0	75	0	0	0	0	0	1	69	1	0	71	1	0	0	0	1	147
Total	3	260	5	0	268	0	0	0	0	0	3	280	1	0	284	6	0	1	0	7	559
Grand Total	7	746	16	0	769	0	0	0	0	0	3	768	1	0	772	24	0	1	0	25	1566
Apprch %	0.9	97	2.1	0		0	0	0	0		0.4	99.5	0.1	0		96	0	4	0		
Total %	0.4	47.6	1	0	49.1	0	0	0	0	0	0.2	49	0.1	0	49.3	1.5	0	0.1	0	1.6	
CARS	7	744	10	0	761	0	0	0	0	0	3	768	1	0	772	23	0	1	0	24	1557
% CARS	100	99.7	62.5	0	99	0	0	0	0	0	100	100	100	0	100	95.8	0	100	0	96	99.4
TRUCKS	0	2	6	0	8	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	9
% TRUCKS	0	0.3	37.5	0	1	0	0	0	0	0	0	0	0	0	0	4.2	0	0	0	4	0.6

	PLANO PKWY Southbound					Westbound					PLANO PKWY Northbound					TITTLE DR Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 13:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 14:45																					
14:45	0	**71**	**2**	0	**73**	0	0	0	0	0	0	**80**	0	0	**80**	1	0	0	0	1	**154**
15:00	**2**	60	1	0	63	0	0	0	0	0	0	61	0	0	61	**3**	0	0	0	**3**	127
15:15	0	65	1	0	66	0	0	0	0	0	0	77	0	0	77	0	0	0	0	0	143
15:30	0	63	1	0	64	0	0	0	0	0	**2**	73	0	0	75	2	0	**1**	0	3	142
Total Volume	2	259	5	0	266	0	0	0	0	0	2	291	0	0	293	6	0	1	0	7	566
% App. Total	0.8	97.4	1.9	0		0	0	0	0		0.7	99.3	0	0		85.7	0	14.3	0		
PHF	.250	.912	.625	.000	.911	.000	.000	.000	.000	.000	.250	.909	.000	.000	.916	.500	.000	.250	.000	.583	.919

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : PLANO PKWY @ PIZZA INN WEST DRIVEWAY - SAT
Site Code : 00000010
Start Date : 10/8/2011
Page No : 1

Groups Printed- CARS - TRUCKS

	PLANO PKWY Southbound					Westbound					PLANO PKWY Northbound					PIZZA INN WEST DRIVEWAY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
13:00	0	62	0	0	62	0	0	0	0	0	0	52	0	0	52	0	0	0	0	0	114
13:15	0	61	0	0	61	0	0	0	0	0	0	72	0	0	72	0	0	0	0	0	133
13:30	0	70	0	0	70	0	0	0	0	0	0	50	0	0	50	1	0	0	0	1	121
13:45	0	50	1	0	51	0	0	0	0	0	0	50	0	0	50	0	0	0	0	0	101
Total	0	243	1	0	244	0	0	0	0	0	0	224	0	0	224	1	0	0	0	1	469
14:00	0	57	0	0	57	0	0	0	0	0	0	61	0	0	61	0	0	0	0	0	118
14:15	0	48	0	0	48	0	0	0	0	0	0	62	0	0	62	0	0	0	0	0	110
14:30	0	57	0	0	57	0	0	0	0	0	0	44	0	0	44	0	0	0	0	0	101
14:45	0	63	1	0	64	0	0	0	0	0	0	66	0	0	66	0	0	0	0	0	130
Total	0	225	1	0	226	0	0	0	0	0	0	233	0	0	233	0	0	0	0	0	459
15:00	0	58	0	0	58	0	0	0	0	0	0	64	0	0	64	0	0	0	0	0	122
15:15	0	65	0	0	65	0	0	0	0	0	0	65	0	0	65	4	0	0	0	4	134
15:30	0	64	0	0	64	0	0	0	0	0	0	68	0	0	68	0	0	0	0	0	132
15:45	0	69	0	0	69	0	0	0	0	0	0	62	0	0	62	0	0	0	0	0	131
Total	0	256	0	0	256	0	0	0	0	0	0	259	0	0	259	4	0	0	0	4	519
Grand Total	0	724	2	0	726	0	0	0	0	0	0	716	0	0	716	5	0	0	0	5	1447
Apprch %	0	99.7	0.3	0		0	0	0	0		0	100	0	0		100	0	0	0		
Total %	0	50	0.1	0	50.2	0	0	0	0	0	0	49.5	0	0	49.5	0.3	0	0	0	0.3	
CARS	0	722	2	0	724	0	0	0	0	0	0	715	0	0	715	5	0	0	0	5	1444
% CARS	0	99.7	100	0	99.7	0	0	0	0	0	0	99.9	0	0	99.9	100	0	0	0	100	99.8
TRUCKS	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
% TRUCKS	0	0.3	0	0	0.3	0	0	0	0	0	0	0.1	0	0	0.1	0	0	0	0	0	0.2

	PLANO PKWY Southbound					Westbound					PLANO PKWY Northbound					PIZZA INN WEST DRIVEWAY Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 13:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 15:00																					
15:00	0	58	0	0	58	0	0	0	0	0	0	64	0	0	64	0	0	0	0	0	122
15:15	0	65	0	0	65	0	0	0	0	0	0	65	0	0	65	**4**	0	0	0	**4**	**134**
15:30	0	64	0	0	64	0	0	0	0	0	0	**68**	0	0	**68**	0	0	0	0	0	132
15:45	0	**69**	0	0	**69**	0	0	0	0	0	0	62	0	0	62	0	0	0	0	0	131
Total Volume	0	256	0	0	256	0	0	0	0	0	0	259	0	0	259	4	0	0	0	4	519
% App. Total	0	100	0	0		0	0	0	0		0	100	0	0		100	0	0	0		
PHF	.000	.928	.000	.000	.928	.000	.000	.000	.000	.000	.000	.952	.000	.000	.952	.250	.000	.000	.000	.250	.968

GRAM Traffic North Texas, Inc.

1120 W. Lovers Lane
Arlington, Texas 76013

File Name : W SPRING CREEK PKWY @ HEADQUARTERS - SAT
Site Code : 00000010
Start Date : 10/8/2011
Page No : 1

Groups Printed- CARS - TRUCKS

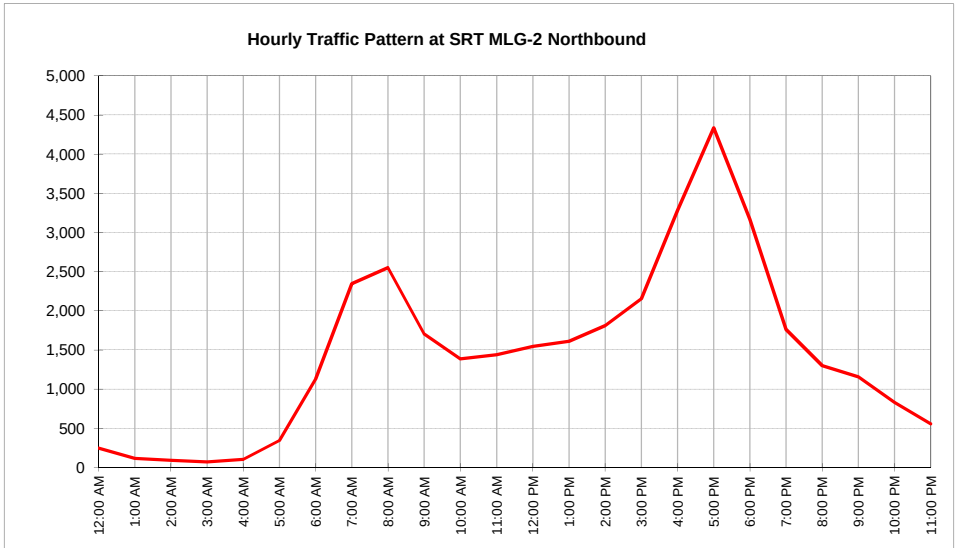
	W SPRING CREEK PKWY Southbound					HEADQUARTERS Westbound					W SPRING CREEK PKWY Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
13:00	4	76	0	0	80	3	1	2	0	6	0	86	4	0	90	0	0	0	0	0	176
13:15	2	73	0	0	75	1	0	1	0	2	0	86	0	0	86	0	0	0	0	0	163
13:30	2	65	0	0	67	4	1	8	0	13	0	89	1	0	90	0	0	0	0	0	170
13:45	3	71	0	0	74	2	0	2	0	4	0	70	2	0	72	0	0	0	0	0	150
Total	11	285	0	0	296	10	2	13	0	25	0	331	7	0	338	0	0	0	0	0	659
14:00	2	70	0	0	72	3	1	2	0	6	0	82	4	0	86	0	0	0	0	0	164
14:15	2	61	0	0	63	2	0	3	1	6	0	69	2	0	71	0	0	0	0	0	140
14:30	2	81	0	0	83	6	0	0	0	6	0	86	1	0	87	0	0	0	0	0	176
14:45	4	89	0	0	93	2	0	2	0	4	0	97	1	0	98	0	0	0	0	0	195
Total	10	301	0	0	311	13	1	7	1	22	0	334	8	0	342	0	0	0	0	0	675
15:00	2	81	0	0	83	2	0	4	0	6	0	91	3	0	94	0	0	0	0	0	183
15:15	3	89	0	0	92	1	0	7	0	8	0	98	3	0	101	0	0	0	0	0	201
15:30	4	90	0	0	94	6	0	5	0	11	0	78	3	0	81	0	0	0	0	0	186
15:45	4	84	0	0	88	1	0	2	0	3	0	91	2	0	93	0	0	0	0	0	184
Total	13	344	0	0	357	10	0	18	0	28	0	358	11	0	369	0	0	0	0	0	754
Grand Total	34	930	0	0	964	33	3	38	1	75	0	1023	26	0	1049	0	0	0	0	0	2088
Apprch %	3.5	96.5	0	0		44	4	50.7	1.3		0	97.5	2.5	0		0	0	0	0		
Total %	1.6	44.5	0	0	46.2	1.6	0.1	1.8	0	3.6	0	49	1.2	0	50.2	0	0	0	0	0	
CARS	34	930	0	0	964	33	0	38	1	72	0	1020	26	0	1046	0	0	0	0	0	2082
% CARS	100	100	0	0	100	100	0	100	100	96	0	99.7	100	0	99.7	0	0	0	0	0	99.7
TRUCKS	0	0	0	0	0	0	3	0	0	3	0	3	0	0	3	0	0	0	0	0	6
% TRUCKS	0	0	0	0	0	0	100	0	0	4	0	0.3	0	0	0.3	0	0	0	0	0	0.3

	W SPRING CREEK PKWY Southbound					HEADQUARTERS Westbound					W SPRING CREEK PKWY Northbound					Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 13:00 to 15:45 - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 14:45																					
14:45	**4**	89	0	0	93	2	0	2	0	4	0	97	1	0	98	0	0	0	0	0	195
15:00	2	81	0	0	83	2	0	4	0	6	0	91	**3**	0	94	0	0	0	0	0	183
15:15	3	89	0	0	92	1	0	**7**	0	8	0	**98**	3	0	**101**	0	0	0	0	0	**201**
15:30	4	**90**	0	0	**94**	**6**	0	5	0	**11**	0	78	3	0	81	0	0	0	0	0	186
Total Volume	13	349	0	0	362	11	0	18	0	29	0	364	10	0	374	0	0	0	0	0	765
% App. Total	3.6	96.4	0	0		37.9	0	62.1	0		0	97.3	2.7	0		0	0	0	0		
PHF	.813	.969	.000	.000	.963	.458	.000	.643	.000	.659	.000	.929	.833	.000	.926	.000	.000	.000	.000	.000	.951

TV-SRT0437.7AR 35,047 September 2010 SRT NB SRT MLG-2 NB 437.713 NTTA

Average Weekday Hourly Traffic Volumes
Location: Northbound SRT MLG-2
Time: September 2010

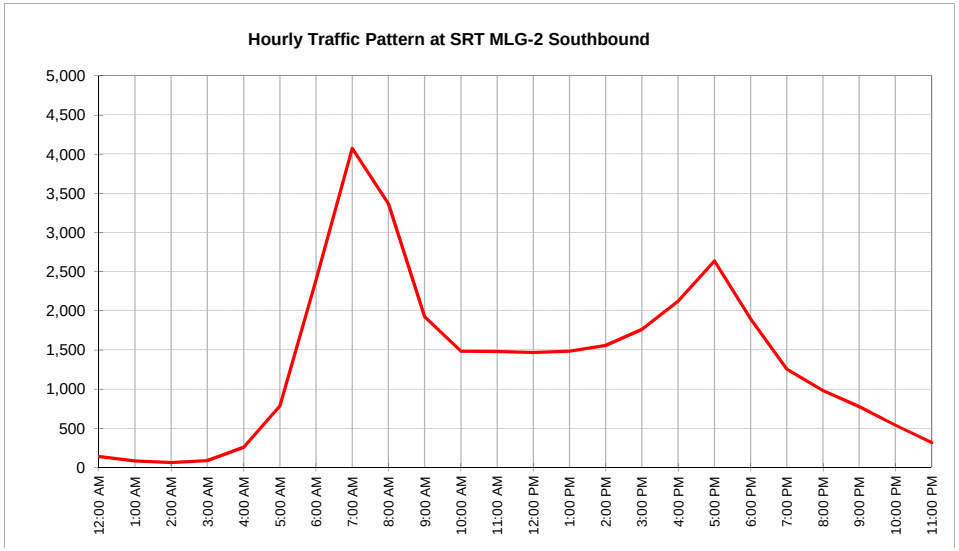
Time:	Weekday Average	Saturday
12:00 AM	245	423
1:00 AM	117	255
2:00 AM	90	188
3:00 AM	70	118
4:00 AM	104	87
5:00 AM	343	156
6:00 AM	1,128	428
7:00 AM	2,348	794
8:00 AM	2,553	1033
9:00 AM	1,707	1190
10:00 AM	1,387	1367
11:00 AM	1,438	1499
12:00 PM	1,546	1714
1:00 PM	1,612	1752
2:00 PM	1,813	1706
3:00 PM	2,155	1812
4:00 PM	3,281	1815
5:00 PM	4,338	1866
6:00 PM	3,167	1796
7:00 PM	1,763	1415
8:00 PM	1,300	1096
9:00 PM	1,156	972
10:00 PM	829	934
11:00 PM	557	775



TV-SRT0438.7AL 32,945 September 2010 SRT SB SRT MLG-2 SB 438.688 NTTA

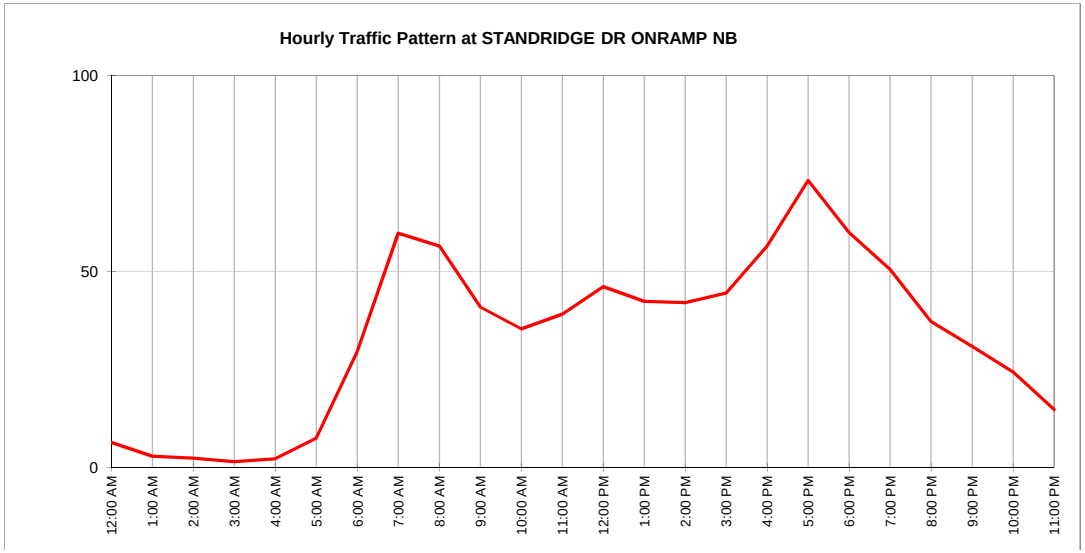
Average Weekday Hourly Traffic Volumes
Location: Southbound SRT MLG-2
Time: September 2010

Time:	Weekday Average	Saturday
12:00 AM	139	283
1:00 AM	81	154
2:00 AM	64	120
3:00 AM	88	76
4:00 AM	260	128
5:00 AM	786	300
6:00 AM	2,396	609
7:00 AM	4,074	909
8:00 AM	3,370	1188
9:00 AM	1,926	1402
10:00 AM	1,484	1445
11:00 AM	1,480	1616
12:00 PM	1,467	1665
1:00 PM	1,483	1625
2:00 PM	1,556	1686
3:00 PM	1,762	1722
4:00 PM	2,122	1784
5:00 PM	2,637	1724
6:00 PM	1,897	1602
7:00 PM	1,257	1170
8:00 PM	981	960
9:00 PM	776	873
10:00 PM	543	750
11:00 PM	316	538



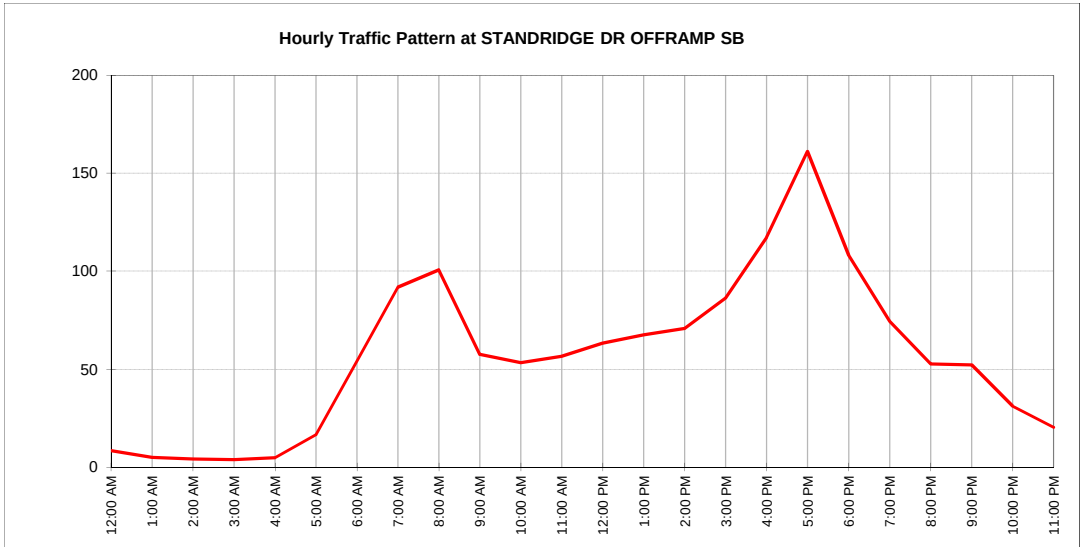
TV-SRT0448.2AR	807	June 2010	SRT	NB	STANDRIDGE DR ONRAMP NB	448.187	NTTA

	Jun-2010	
Time:	**Weekday Average**	Saturday
12:00 AM	6	25
1:00 AM	3	10
2:00 AM	2	11
3:00 AM	2	3
4:00 AM	2	3
5:00 AM	7	5
6:00 AM	30	13
7:00 AM	60	20
8:00 AM	57	33
9:00 AM	41	41
10:00 AM	35	46
11:00 AM	39	52
12:00 PM	46	64
1:00 PM	42	52
2:00 PM	42	52
3:00 PM	45	56
4:00 PM	57	63
5:00 PM	73	74
6:00 PM	60	72
7:00 PM	51	80
8:00 PM	37	74
9:00 PM	31	64
10:00 PM	24	46
11:00 PM	15	38



TV-SRT0451.3AL	1,360	June 2010	SRT	SB	STANDRIDGE DR OFFRAMP SB	451.317	NTTA

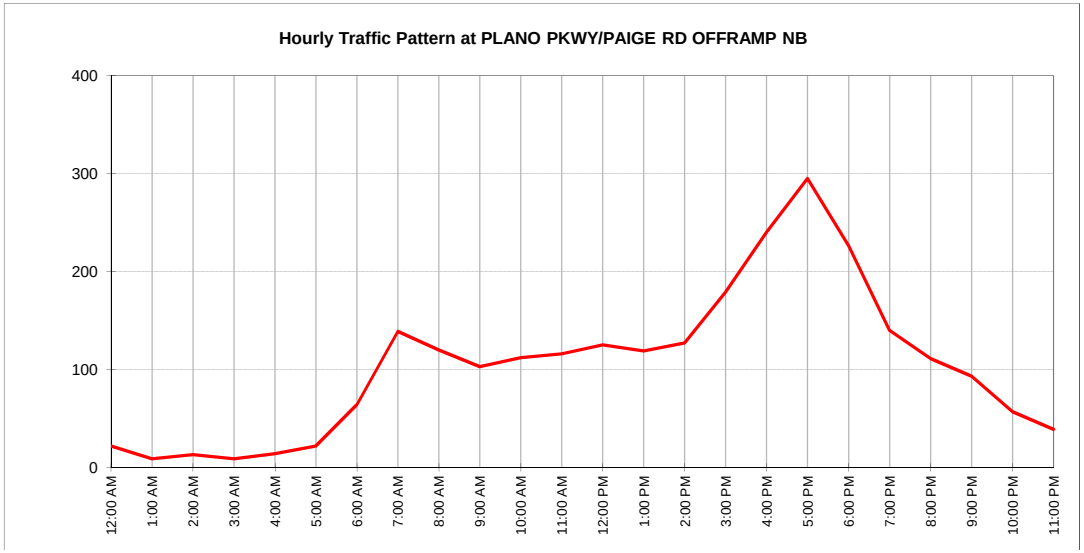
	Jun-2010	
Time:	**Weekday Average**	Saturday
12:00 AM	8	15
1:00 AM	5	12
2:00 AM	4	11
3:00 AM	4	5
4:00 AM	5	4
5:00 AM	16	10
6:00 AM	54	20
7:00 AM	92	32
8:00 AM	101	39
9:00 AM	58	56
10:00 AM	53	67
11:00 AM	57	79
12:00 PM	63	85
1:00 PM	67	105
2:00 PM	71	88
3:00 PM	86	90
4:00 PM	117	102
5:00 PM	161	94
6:00 PM	108	75
7:00 PM	74	81
8:00 PM	53	74
9:00 PM	52	57
10:00 PM	31	45
11:00 PM	20	36



TV-SRT0483.2AR	2,494	November 2010	SRT	NB	PLANO PKWY/PAIGE RD OFFRAMP NB	483.176	NTTA

Nov-2010

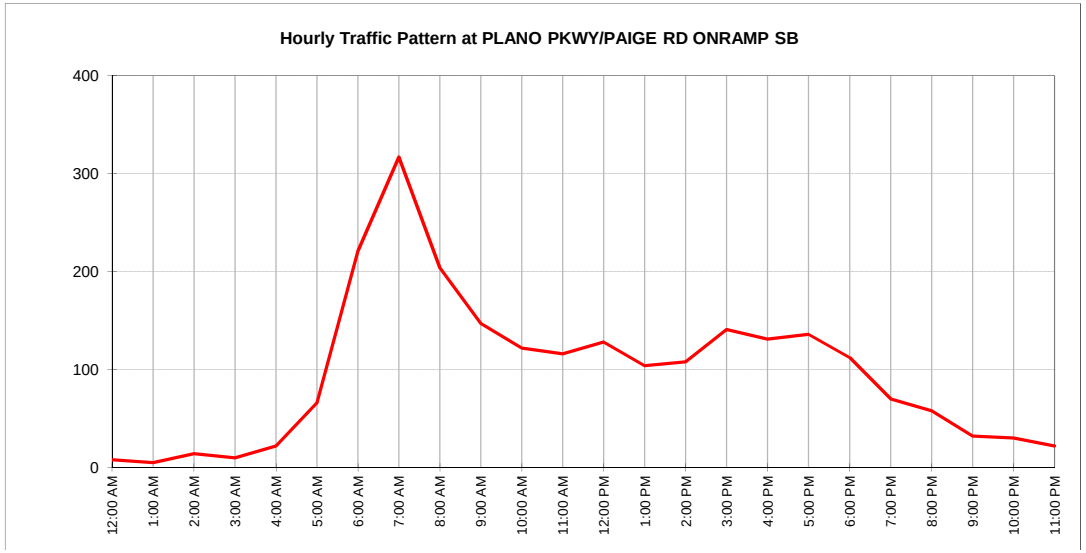
Time:	Weekday Average
12:00 AM	22
1:00 AM	9
2:00 AM	13
3:00 AM	9
4:00 AM	14
5:00 AM	22
6:00 AM	64
7:00 AM	139
8:00 AM	120
9:00 AM	103
10:00 AM	112
11:00 AM	116
12:00 PM	125
1:00 PM	119
2:00 PM	127
3:00 PM	179
4:00 PM	240
5:00 PM	295
6:00 PM	226
7:00 PM	140
8:00 PM	111
9:00 PM	93
10:00 PM	57
11:00 PM	39



TV-SRT0479.5AL	2,324	November 2010	SRT	SB	PLANO PKWY/PAIGE RD ONRAMP SB	479.543	NTTA

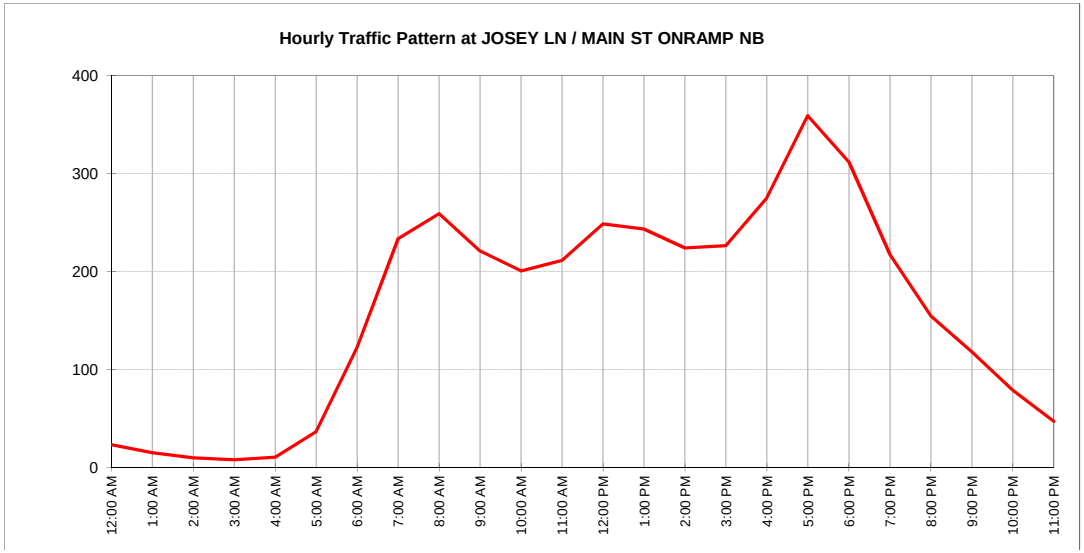
Nov-2010

Time:	Weekday Average
12:00 AM	8
1:00 AM	5
2:00 AM	14
3:00 AM	10
4:00 AM	22
5:00 AM	66
6:00 AM	221
7:00 AM	317
8:00 AM	204
9:00 AM	147
10:00 AM	122
11:00 AM	116
12:00 PM	128
1:00 PM	104
2:00 PM	108
3:00 PM	141
4:00 PM	131
5:00 PM	136
6:00 PM	112
7:00 PM	70
8:00 PM	58
9:00 PM	32
10:00 PM	30
11:00 PM	22



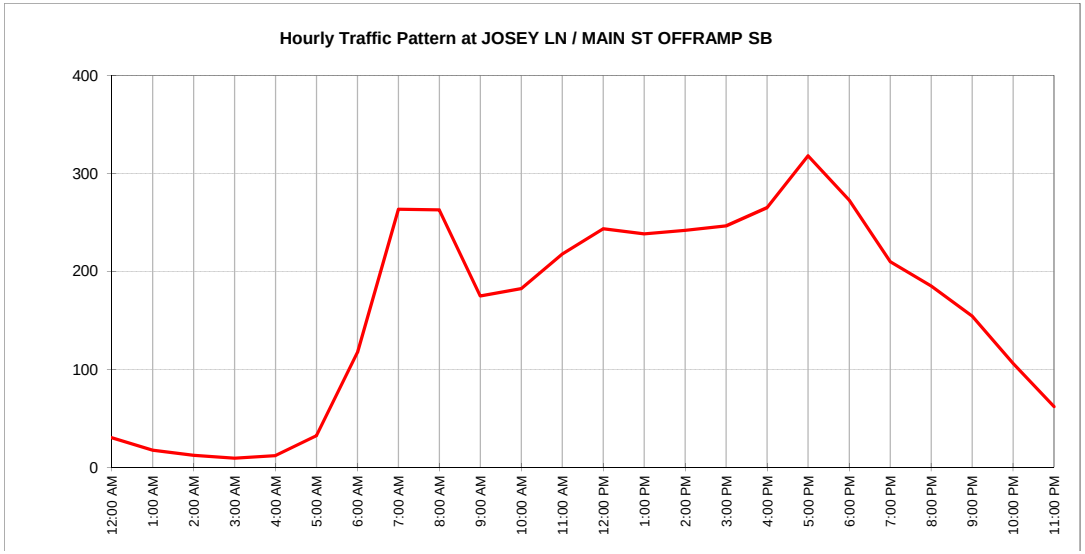
TV-SRT0498.0AR	3,855	June 2010	SRT	NB	JOSEY LN / MAIN ST ONRAMP NB	498.022	NTTA

	Jun-2010	
Time:	**Weekday Average**	Saturday
12:00 AM	23	50
1:00 AM	15	28
2:00 AM	10	27
3:00 AM	8	16
4:00 AM	11	13
5:00 AM	37	26
6:00 AM	123	77
7:00 AM	234	122
8:00 AM	259	183
9:00 AM	221	238
10:00 AM	201	263
11:00 AM	212	296
12:00 PM	249	287
1:00 PM	243	310
2:00 PM	224	287
3:00 PM	226	272
4:00 PM	275	276
5:00 PM	359	281
6:00 PM	312	258
7:00 PM	217	243
8:00 PM	155	203
9:00 PM	118	164
10:00 PM	79	113
11:00 PM	47	73



TV-SRT0500.7AL	3,871	June 2010	SRT	SB	JOSEY LN / MAIN ST OFFRAMP SB	500.705	NTTA

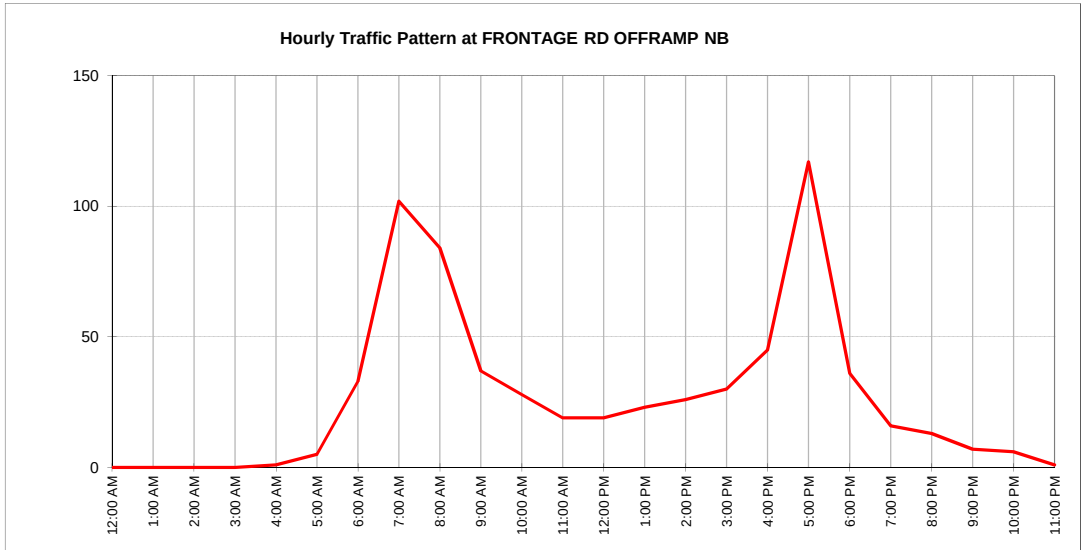
	Jun-2010	
Time:	**Weekday Average**	Saturday
12:00 AM	30	70
1:00 AM	17	33
2:00 AM	12	30
3:00 AM	9	19
4:00 AM	12	12
5:00 AM	32	20
6:00 AM	117	65
7:00 AM	263	106
8:00 AM	263	145
9:00 AM	175	177
10:00 AM	182	233
11:00 AM	218	272
12:00 PM	243	297
1:00 PM	238	310
2:00 PM	242	295
3:00 PM	246	294
4:00 PM	265	311
5:00 PM	318	281
6:00 PM	272	284
7:00 PM	210	220
8:00 PM	185	224
9:00 PM	154	195
10:00 PM	106	150
11:00 PM	62	122



TV-SRT0529.5AR	648	November 2010	SRT	NB	FRONTAGE RD OFFRAMP NB	529.509	NTTA

Nov-2010

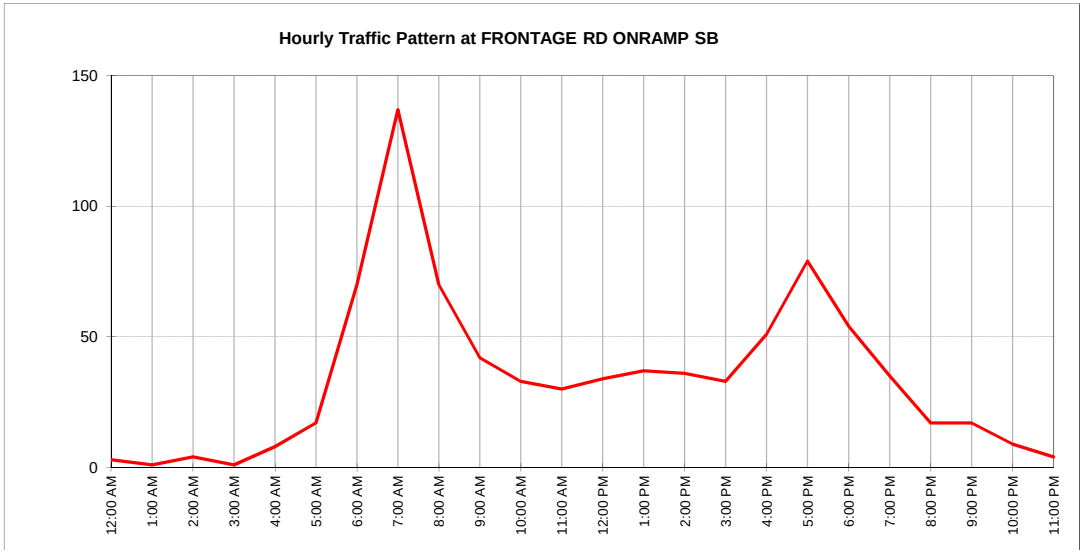
Time:	Weekday Average
12:00 AM	0
1:00 AM	0
2:00 AM	0
3:00 AM	0
4:00 AM	1
5:00 AM	5
6:00 AM	33
7:00 AM	102
8:00 AM	84
9:00 AM	37
10:00 AM	28
11:00 AM	19
12:00 PM	19
1:00 PM	23
2:00 PM	26
3:00 PM	30
4:00 PM	45
5:00 PM	117
6:00 PM	36
7:00 PM	16
8:00 PM	13
9:00 PM	7
10:00 PM	6
11:00 PM	1



TV-SRT0527.4AL	822	November 2010	SRT	SB	FRONTAGE RD ONRAMP SB	527.406	NTTA

Nov-2010

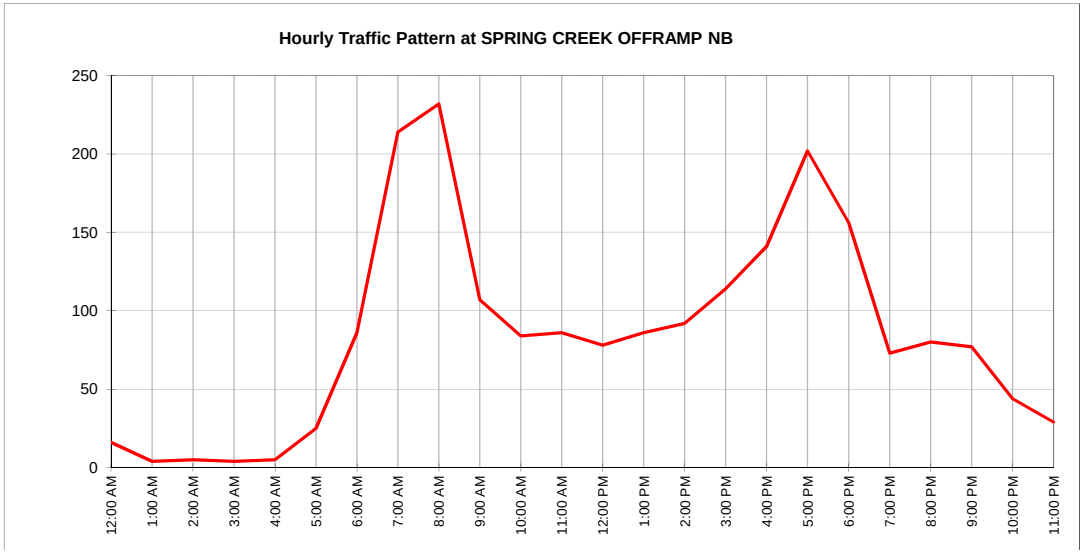
Time:	Weekday Average
12:00 AM	3
1:00 AM	1
2:00 AM	4
3:00 AM	1
4:00 AM	8
5:00 AM	17
6:00 AM	70
7:00 AM	137
8:00 AM	70
9:00 AM	42
10:00 AM	33
11:00 AM	30
12:00 PM	34
1:00 PM	37
2:00 PM	36
3:00 PM	33
4:00 PM	51
5:00 PM	79
6:00 PM	54
7:00 PM	35
8:00 PM	17
9:00 PM	17
10:00 PM	9
11:00 PM	4



TV-SRT0560.4AR	2,040	November 2010	SRT	NB	SPRING CREEK OFFRAMP NB	560.362	NTTA

Nov-2010

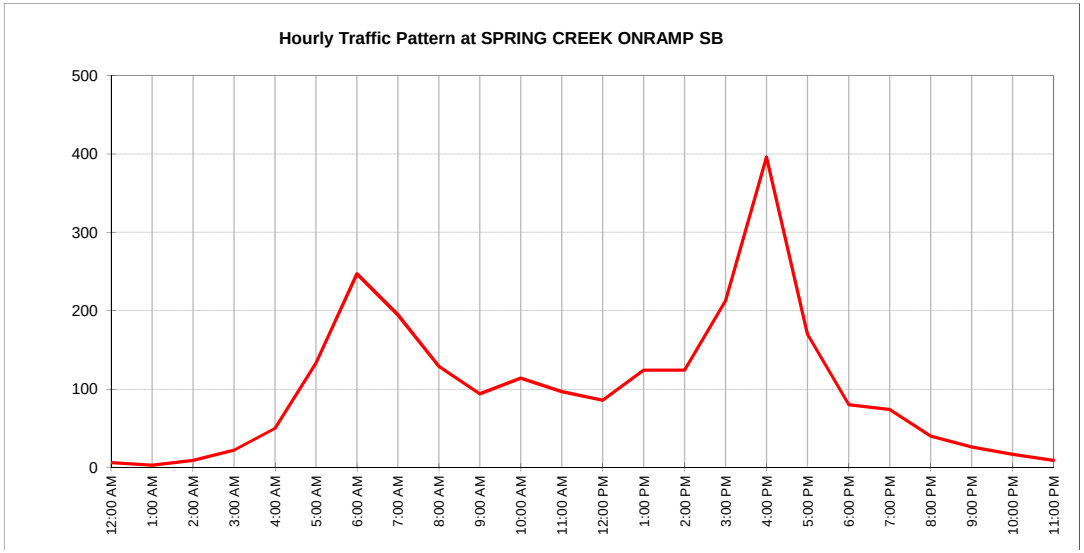
Time:	Weekday Average
12:00 AM	16
1:00 AM	4
2:00 AM	5
3:00 AM	4
4:00 AM	5
5:00 AM	25
6:00 AM	86
7:00 AM	214
8:00 AM	232
9:00 AM	107
10:00 AM	84
11:00 AM	86
12:00 PM	78
1:00 PM	86
2:00 PM	92
3:00 PM	114
4:00 PM	141
5:00 PM	202
6:00 PM	156
7:00 PM	73
8:00 PM	80
9:00 PM	77
10:00 PM	44
11:00 PM	29



TV-SRT0559.5AL	2,458	November 2010	SRT	SB	SPRING CREEK ONRAMP SB	559.540	NTTA

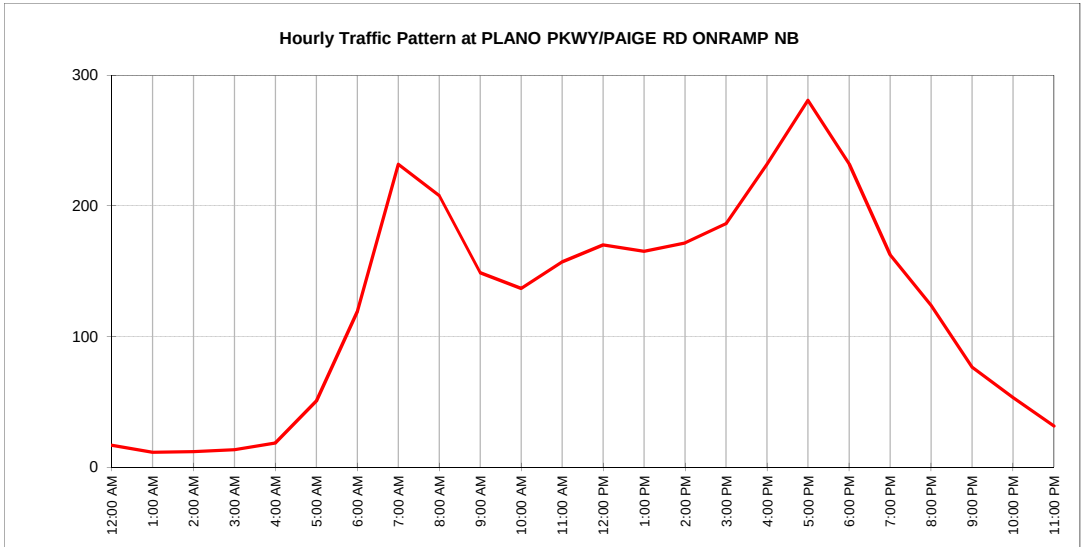
Nov-2010

Time:	Weekday Average
12:00 AM	6
1:00 AM	3
2:00 AM	9
3:00 AM	22
4:00 AM	50
5:00 AM	133
6:00 AM	247
7:00 AM	195
8:00 AM	129
9:00 AM	94
10:00 AM	114
11:00 AM	97
12:00 PM	86
1:00 PM	124
2:00 PM	124
3:00 PM	213
4:00 PM	396
5:00 PM	170
6:00 PM	80
7:00 PM	74
8:00 PM	40
9:00 PM	26
10:00 PM	17
11:00 PM	9



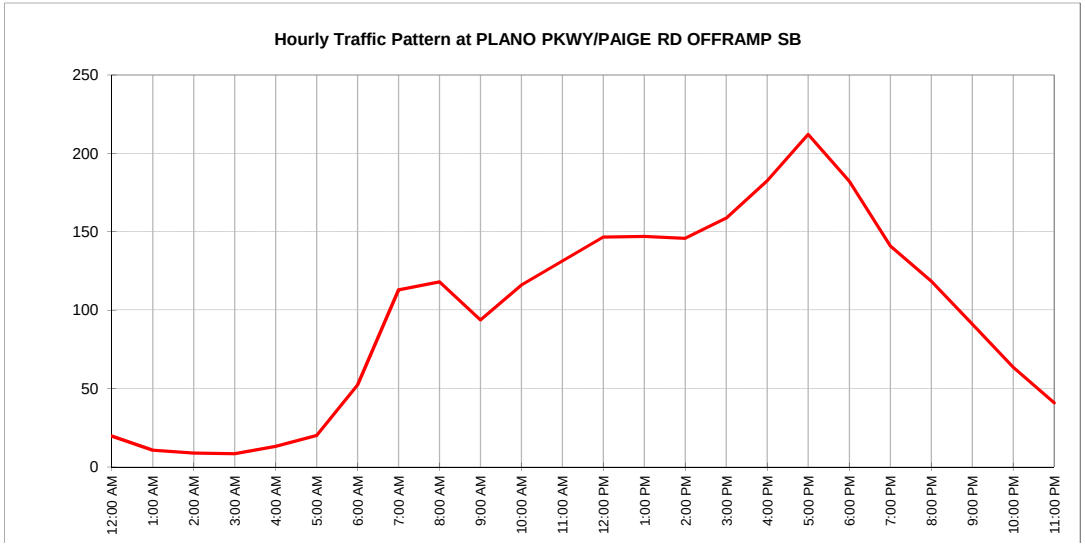
TV-SRT0573.4AR	3,008	June 2010	SRT	NB	PLANO PKWY/PAIGE RD ONRAMP NB	573.364	NTTA

	Jun-2010	Nov-2010
Time:	**Weekday Average**	Saturday
12:00 AM	17	23
1:00 AM	11	21
2:00 AM	12	21
3:00 AM	13	17
4:00 AM	18	13
5:00 AM	51	21
6:00 AM	119	57
7:00 AM	232	95
8:00 AM	208	129
9:00 AM	149	162
10:00 AM	137	205
11:00 AM	157	217
12:00 PM	170	246
1:00 PM	165	224
2:00 PM	172	224
3:00 PM	186	240
4:00 PM	232	280
5:00 PM	281	259
6:00 PM	232	262
7:00 PM	162	182
8:00 PM	124	175
9:00 PM	77	103
10:00 PM	53	76
11:00 PM	31	55



TV-SRT0573.9AL	2,335	June 2010	SRT	SB	PLANO PKWY/PAIGE RD OFFRAMP SB	573.934	NTTA

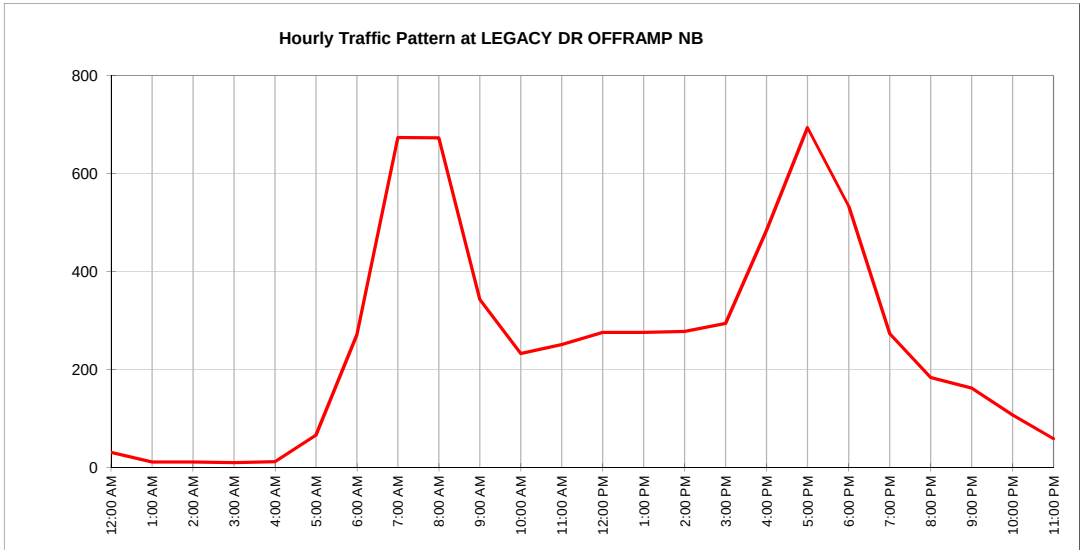
	Jun-2010	Nov-2010
Time:	**Weekday Average**	Saturday
12:00 AM	20	39
1:00 AM	11	25
2:00 AM	9	19
3:00 AM	9	11
4:00 AM	13	14
5:00 AM	20	11
6:00 AM	52	22
7:00 AM	113	43
8:00 AM	118	52
9:00 AM	94	84
10:00 AM	116	169
11:00 AM	131	169
12:00 PM	147	192
1:00 PM	147	198
2:00 PM	146	193
3:00 PM	159	200
4:00 PM	183	202
5:00 PM	212	192
6:00 PM	182	167
7:00 PM	141	156
8:00 PM	119	152
9:00 PM	91	103
10:00 PM	64	85
11:00 PM	41	73



TV-SRT0607.4AR	6,206	November 2010	SRT	NB	LEGACY DR OFFRAMP NB	607.361	NTTA

Nov-2010

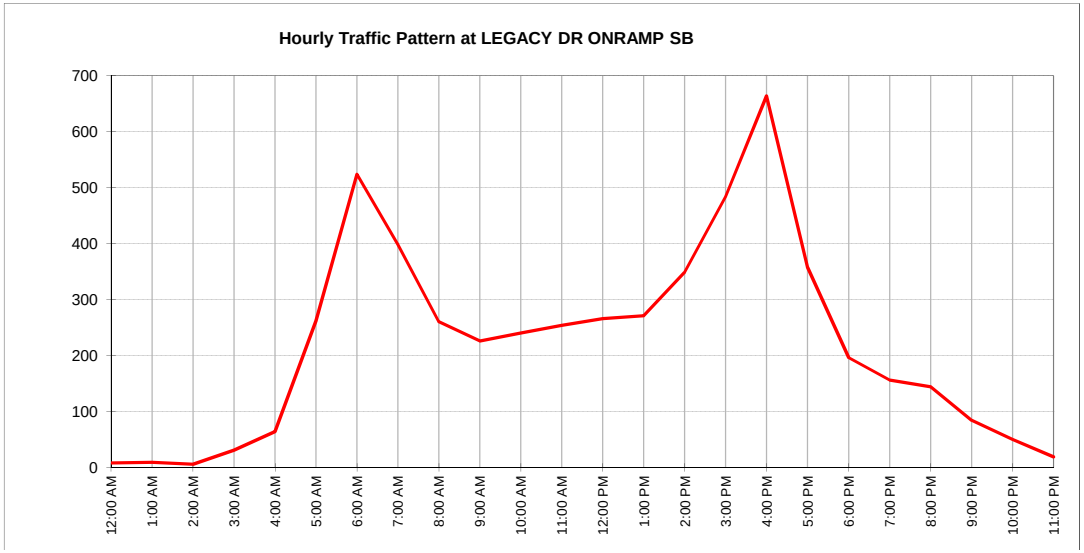
Time:	Weekday Average
12:00 AM	31
1:00 AM	11
2:00 AM	11
3:00 AM	10
4:00 AM	12
5:00 AM	66
6:00 AM	271
7:00 AM	674
8:00 AM	673
9:00 AM	343
10:00 AM	233
11:00 AM	251
12:00 PM	276
1:00 PM	276
2:00 PM	278
3:00 PM	294
4:00 PM	484
5:00 PM	694
6:00 PM	533
7:00 PM	273
8:00 PM	184
9:00 PM	162
10:00 PM	107
11:00 PM	59



TV-SRT0608.2AL	5,323	November 2010	SRT	SB	LEGACY DR ONRAMP SB	608.236	NTTA

Nov-2010

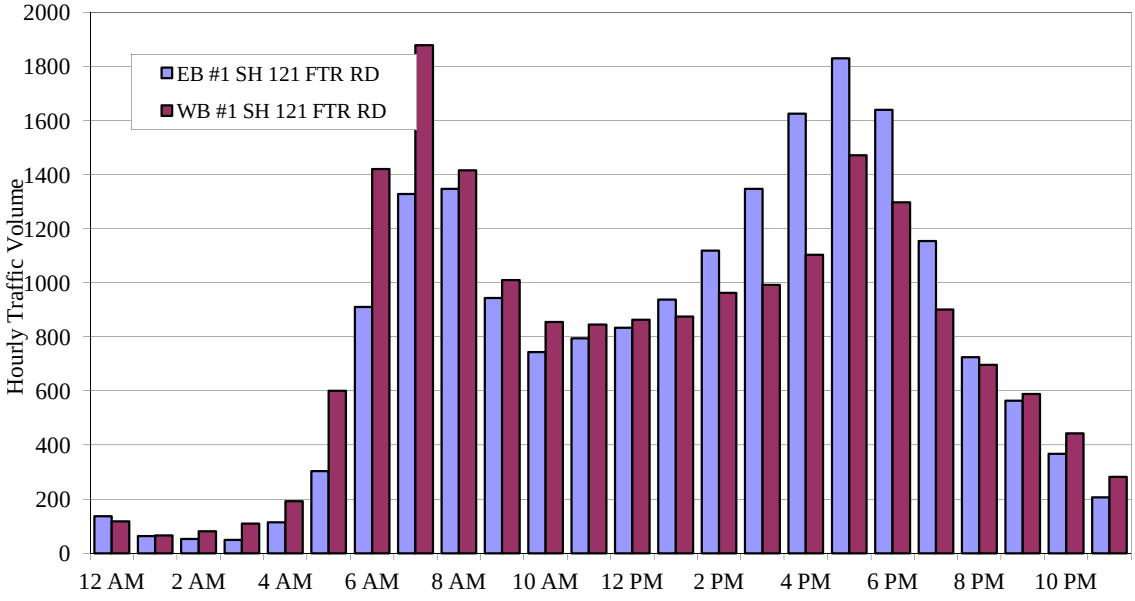
Time:	Weekday Average
12:00 AM	8
1:00 AM	9
2:00 AM	6
3:00 AM	31
4:00 AM	64
5:00 AM	262
6:00 AM	524
7:00 AM	398
8:00 AM	260
9:00 AM	226
10:00 AM	240
11:00 AM	254
12:00 PM	266
1:00 PM	271
2:00 PM	349
3:00 PM	484
4:00 PM	664
5:00 PM	358
6:00 PM	196
7:00 PM	156
8:00 PM	144
9:00 PM	84
10:00 PM	50
11:00 PM	19



QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#1 SH 121 FTR RD - EAST OF STANDRIDGE
24-Hour Traffic Counts
4-Apr-11

Time	EB #1 SH 121 FTR RD					WB #1 SH 121 FTR RD				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	41	40	30	26	137	30	36	24	28	118
1 AM	24	16	15	8	63	19	16	14	17	66
2 AM	9	17	22	5	53	20	18	14	29	81
3 AM	10	8	13	18	49	25	18	42	24	109
4 AM	8	16	39	51	114	38	39	53	62	192
5 AM	39	51	90	123	303	76	138	174	212	600
6 AM	152	239	262	258	911	296	316	366	442	1420
7 AM	269	305	340	414	1328	492	494	461	431	1878
8 AM	375	342	330	300	1347	428	356	343	289	1416
9 AM	248	237	252	206	943	249	254	237	270	1010
10 AM	188	195	193	168	744	204	227	202	222	855
11 AM	200	178	212	204	794	252	181	196	216	845
12 PM	203	192	209	229	833	221	219	211	212	863
1 PM	225	231	237	245	938	241	218	215	201	875
2 PM	249	277	293	300	1119	235	229	247	251	962
3 PM	315	330	345	357	1347	246	244	269	233	992
4 PM	388	411	404	422	1625	290	276	238	299	1103
5 PM	461	455	461	453	1830	362	356	387	366	1471
6 PM	431	417	408	383	1639	384	325	337	251	1297
7 PM	321	301	288	244	1154	248	234	221	198	901
8 PM	205	176	181	163	725	201	171	158	166	696
9 PM	149	150	138	127	564	158	159	144	128	589
10 PM	116	91	87	74	368	112	119	107	105	443
11 PM	55	64	48	39	206	91	82	62	47	282
24 Hour	19,134					19,064				

Grand Total:		38,198
AM Peak Hour:	3,248	7:15 AM to 8:15 AM
PM Peak Hour:	3,301	5:00 PM to 6:00 PM



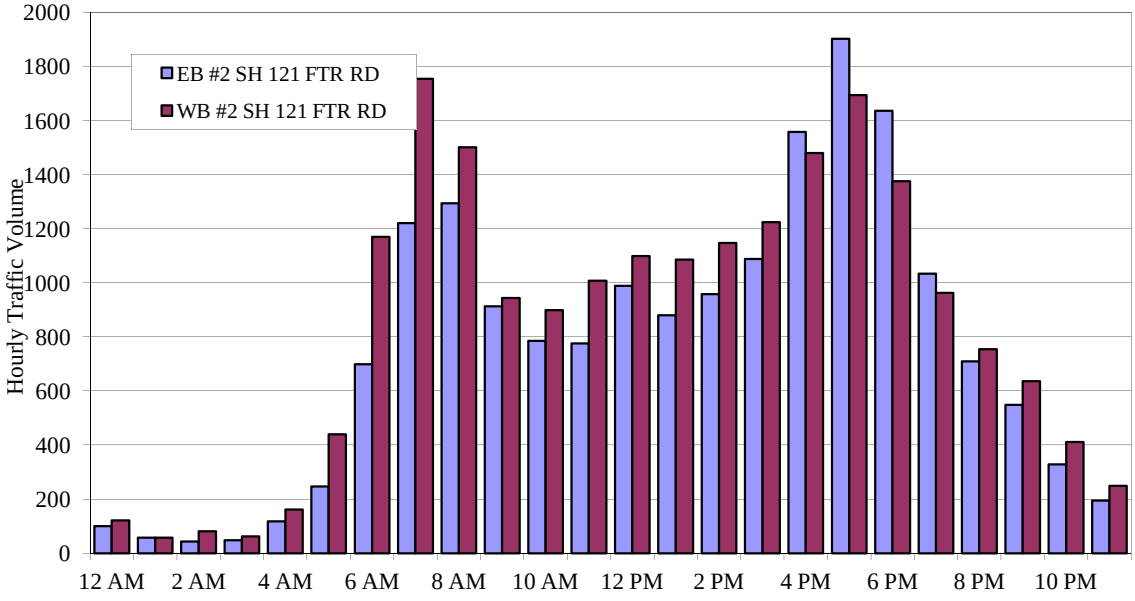
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#2 SH 121 FTR RD - EAST OF MAIN

24-Hour Traffic Counts

4-Apr-11

Time	EB #2 SH 121 FTR RD					WB #2 SH 121 FTR RD				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	30	34	16	20	100	40	30	22	29	121
1 AM	10	18	17	12	57	19	16	13	9	57
2 AM	11	6	16	10	43	22	21	15	23	81
3 AM	10	8	12	18	48	18	9	19	16	62
4 AM	6	25	45	42	118	25	38	48	50	161
5 AM	40	20	67	120	247	60	118	120	142	440
6 AM	108	143	210	238	699	200	278	343	349	1170
7 AM	210	282	354	374	1220	421	456	458	419	1754
8 AM	326	362	306	300	1294	430	412	374	285	1501
9 AM	245	252	218	198	913	250	222	252	220	944
10 AM	186	226	184	189	785	208	226	228	236	898
11 AM	179	219	179	198	775	227	230	315	235	1007
12 PM	216	227	268	278	989	288	276	288	246	1098
1 PM	199	220	212	249	880	265	264	270	287	1086
2 PM	255	221	239	243	958	267	266	312	302	1147
3 PM	226	246	302	314	1088	294	303	291	336	1224
4 PM	310	398	400	449	1557	359	371	364	386	1480
5 PM	486	478	468	470	1902	430	419	450	395	1694
6 PM	468	402	413	353	1636	377	364	354	280	1375
7 PM	284	300	238	212	1034	271	257	220	214	962
8 PM	200	172	171	166	709	219	200	185	150	754
9 PM	147	155	120	126	548	184	163	149	140	636
10 PM	91	85	82	70	328	117	114	102	78	411
11 PM	60	66	37	32	195	74	66	66	43	249
24 Hour	18,123					20,312				

Grand Total:	38,435	
AM Peak Hour:	3,135	7:30 AM to 8:30 AM
PM Peak Hour:	3,596	5:00 PM to 6:00 PM



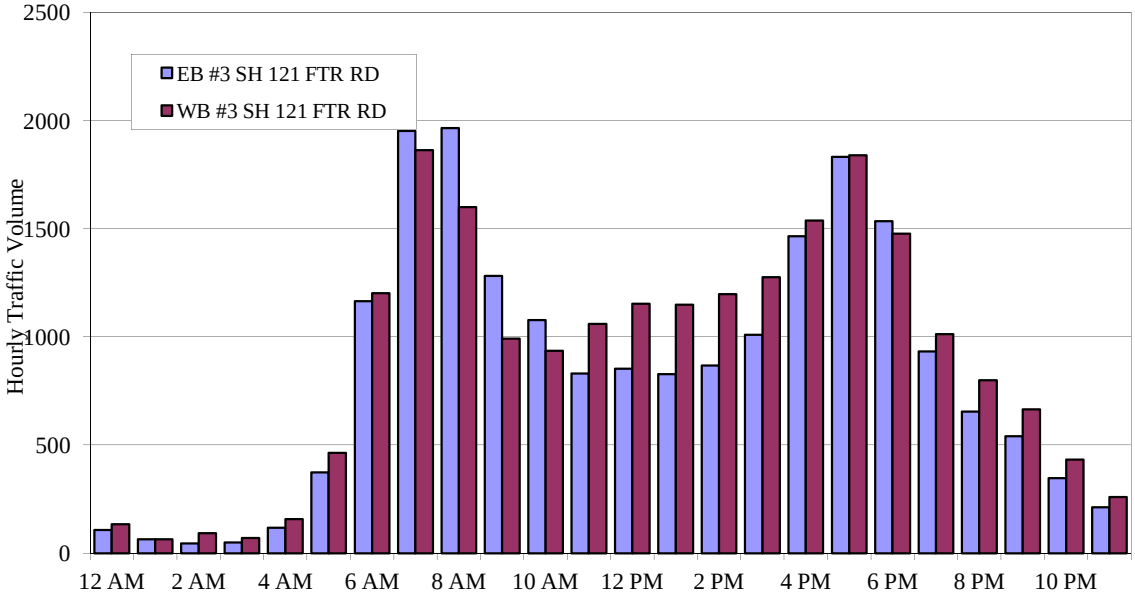
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#3 SH 121 FTR RD - EAST OF BLAIR OAKS

24-Hour Traffic Counts

4-Apr-11

Time	EB #3 SH 121 FTR RD					WB #3 SH 121 FTR RD				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	27	42	15	23	107	42	34	24	34	134
1 AM	12	24	17	12	65	15	18	16	16	65
2 AM	8	10	13	14	45	24	22	21	26	93
3 AM	10	7	14	18	49	19	10	19	22	70
4 AM	7	26	42	42	117	24	40	48	46	158
5 AM	46	52	92	184	374	68	117	125	153	463
6 AM	204	233	344	384	1165	214	274	373	341	1202
7 AM	329	490	558	575	1952	430	494	489	449	1862
8 AM	504	572	460	429	1965	470	430	390	310	1600
9 AM	333	335	310	304	1282	249	255	253	234	991
10 AM	267	318	240	252	1077	228	233	226	248	935
11 AM	232	214	198	186	830	238	231	332	258	1059
12 PM	180	211	223	238	852	290	287	320	256	1153
1 PM	193	198	208	228	827	278	278	283	310	1149
2 PM	220	212	222	214	868	293	268	322	314	1197
3 PM	218	234	260	298	1010	312	316	310	338	1276
4 PM	284	388	355	438	1465	378	374	378	408	1538
5 PM	450	476	445	460	1831	464	456	491	428	1839
6 PM	437	383	376	338	1534	404	390	381	302	1477
7 PM	264	268	210	190	932	282	266	232	233	1013
8 PM	185	178	163	129	655	237	216	190	156	799
9 PM	142	146	129	123	540	197	166	158	144	665
10 PM	97	96	70	84	347	129	110	110	84	433
11 PM	67	74	39	32	212	78	69	65	48	260
24 Hour	20,101					21,431				

Grand Total:		41,532
AM Peak Hour:	4,047	7:30 AM to 8:30 AM
PM Peak Hour:	3,670	5:00 PM to 6:00 PM



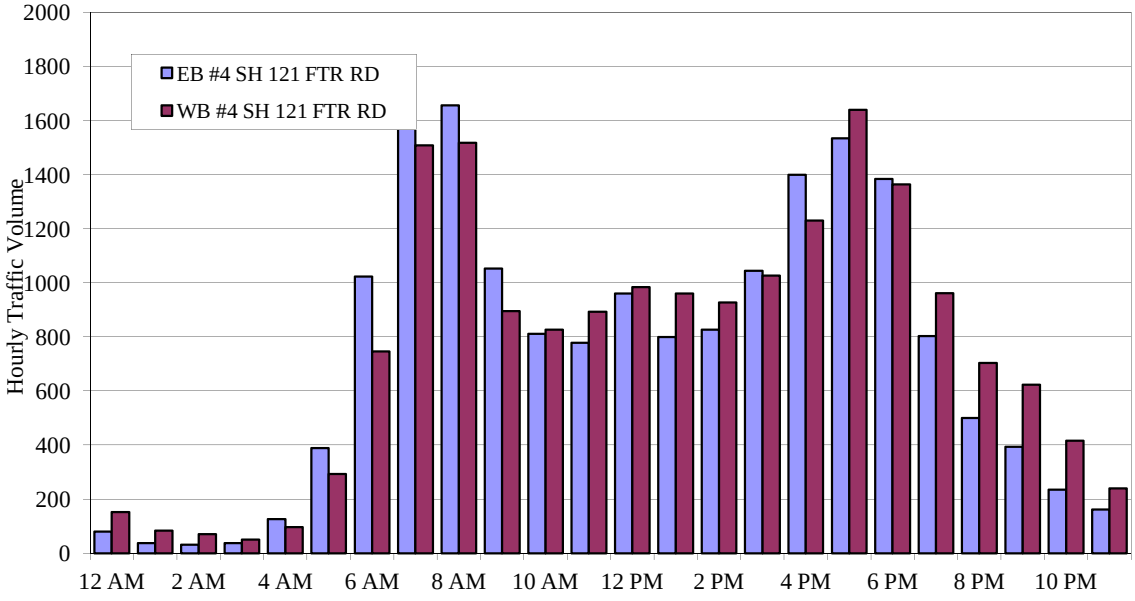
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#4 SH 121 FTR RD - EAST OF PAIGE

24-Hour Traffic Counts

4-Apr-11

Time	EB #4 SH 121 FTR RD					WB #4 SH 121 FTR RD				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	25	30	11	14	80	48	54	22	28	152
1 AM	11	7	12	7	37	18	25	16	24	83
2 AM	7	11	8	6	32	16	16	14	25	71
3 AM	6	10	12	9	37	6	16	14	14	50
4 AM	7	37	34	48	126	20	11	29	36	96
5 AM	50	80	96	163	389	42	92	68	91	293
6 AM	154	228	297	344	1023	126	196	172	252	746
7 AM	336	374	540	513	1763	285	352	427	444	1508
8 AM	438	492	404	322	1656	429	398	362	328	1517
9 AM	308	308	226	210	1052	287	217	203	188	895
10 AM	194	226	203	188	811	218	215	208	185	826
11 AM	180	198	202	198	778	191	211	232	259	893
12 PM	203	254	259	244	960	249	247	232	256	984
1 PM	198	178	206	217	799	238	228	263	231	960
2 PM	220	192	212	203	827	213	228	222	264	927
3 PM	234	223	282	305	1044	231	271	266	258	1026
4 PM	286	334	360	419	1399	278	247	357	348	1230
5 PM	386	386	408	354	1534	346	426	449	418	1639
6 PM	368	332	366	318	1384	424	329	338	273	1364
7 PM	238	236	183	146	803	252	265	231	213	961
8 PM	130	136	116	118	500	183	176	169	175	703
9 PM	121	104	96	73	394	187	155	148	133	623
10 PM	71	58	50	56	235	118	103	107	88	416
11 PM	53	43	32	34	162	69	61	67	43	240
24 Hour	17,825					18,203				

Grand Total:		36,028
AM Peak Hour:	3,681	7:30 AM to 8:30 AM
PM Peak Hour:	3,233	5:15 PM to 6:15 PM



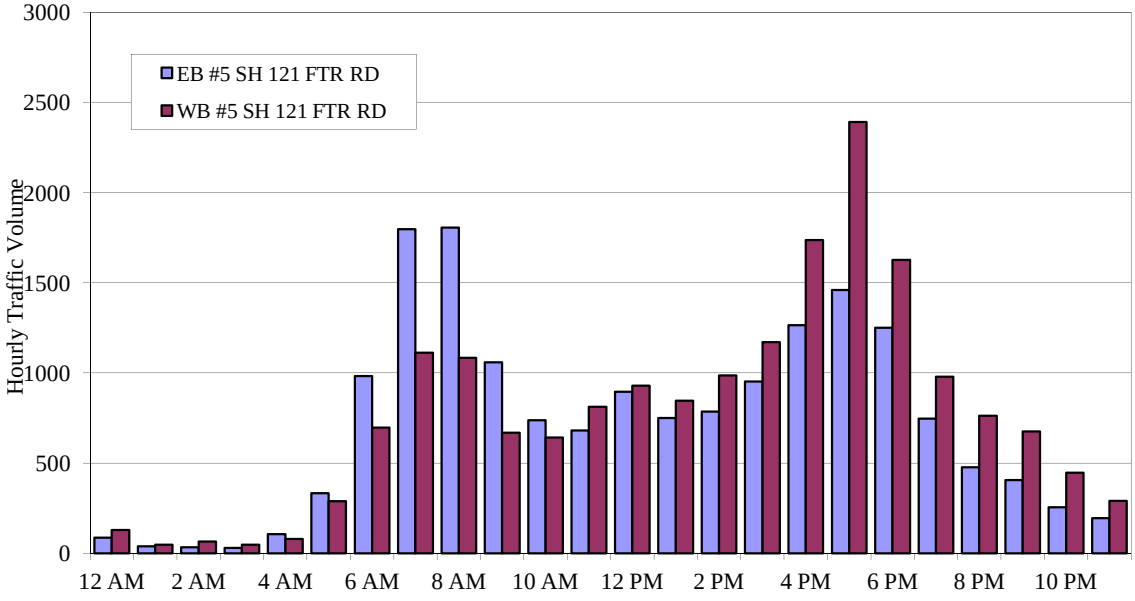
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#5 SH 121 FTR RD - EAST OF MORNING STAR

24-Hour Traffic Counts

4-Apr-11

Time	EB #5 SH 121 FTR RD					WB #5 SH 121 FTR RD				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	28	29	14	15	86	39	33	32	24	128
1 AM	12	5	14	7	38	14	12	7	15	48
2 AM	7	12	8	6	33	19	16	12	18	65
3 AM	6	7	8	9	30	8	10	8	21	47
4 AM	6	27	32	41	106	9	24	24	22	79
5 AM	46	56	80	150	332	44	80	69	96	289
6 AM	140	233	268	342	983	126	162	187	222	697
7 AM	338	396	489	574	1797	250	286	293	282	1111
8 AM	462	523	429	392	1806	302	332	248	202	1084
9 AM	324	286	232	216	1058	199	140	168	162	669
10 AM	189	210	174	164	737	186	157	156	142	641
11 AM	156	176	161	188	681	186	188	244	194	812
12 PM	186	229	242	238	895	233	252	236	208	929
1 PM	190	171	204	185	750	214	222	204	205	845
2 PM	212	174	196	204	786	228	236	259	262	985
3 PM	209	203	256	284	952	284	243	314	329	1170
4 PM	256	296	324	388	1264	384	462	430	460	1736
5 PM	354	383	368	355	1460	566	718	581	526	2391
6 PM	331	316	320	284	1251	480	444	386	316	1626
7 PM	212	225	182	128	747	246	286	228	219	979
8 PM	130	124	114	109	477	214	204	164	181	763
9 PM	117	108	98	82	405	184	188	148	156	676
10 PM	73	67	59	56	255	126	126	101	94	447
11 PM	58	58	38	40	194	82	82	70	56	290
24 Hour	17,123					18,507				

Grand Total:		35,630
AM Peak Hour:	3,257	7:30 AM to 8:30 AM
PM Peak Hour:	3,851	5:00 PM to 6:00 PM



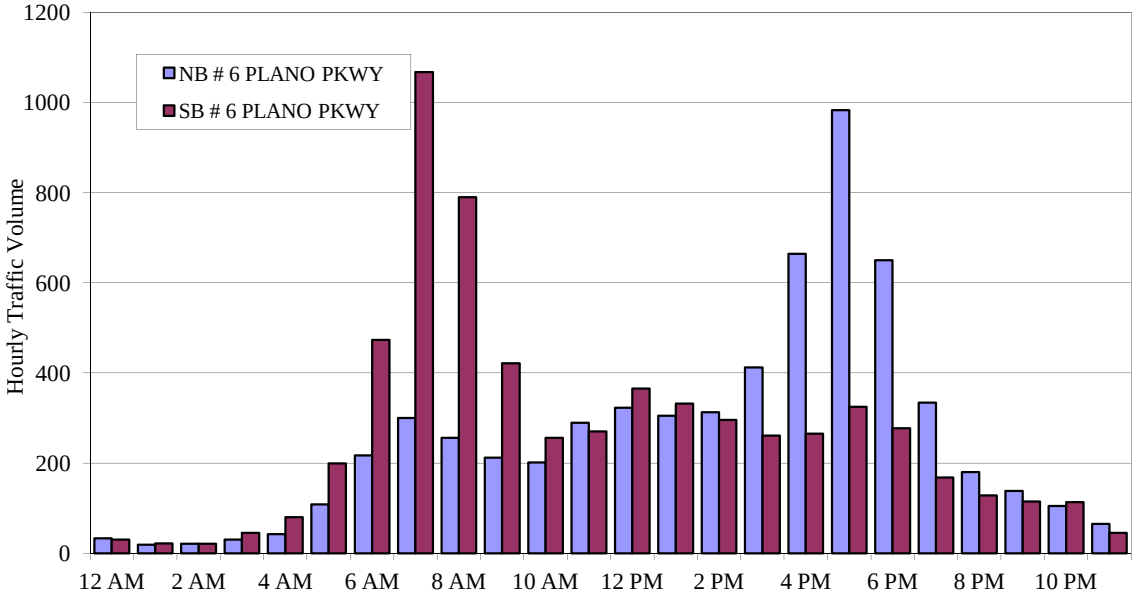
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
 # 6 PLANO PKWY - SOUTH OF SH 121

24-Hour Traffic Counts

4-Apr-11

Time	NB # 6 PLANO PKWY					SB # 6 PLANO PKWY				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	4	8	6	15	33	7	18	2	3	30
1 AM	7	6	6	0	19	5	8	3	6	22
2 AM	6	7	4	4	21	5	5	5	6	21
3 AM	5	6	9	10	30	12	7	8	18	45
4 AM	2	8	13	19	42	10	13	22	35	80
5 AM	21	28	25	34	108	19	43	53	84	199
6 AM	44	50	65	58	217	85	103	124	161	473
7 AM	60	71	84	85	300	175	252	287	353	1067
8 AM	75	70	55	56	256	234	222	179	155	790
9 AM	51	64	53	44	212	123	122	82	94	421
10 AM	43	50	48	60	201	58	76	72	50	256
11 AM	62	64	80	83	289	68	58	83	61	270
12 PM	86	98	79	60	323	82	82	109	92	365
1 PM	77	74	79	75	305	87	90	80	75	332
2 PM	83	56	90	84	313	86	74	75	61	296
3 PM	81	95	106	130	412	53	66	72	70	261
4 PM	159	151	158	196	664	59	74	59	73	265
5 PM	244	274	244	221	983	85	80	71	89	325
6 PM	206	193	127	124	650	76	67	72	62	277
7 PM	106	96	71	61	334	40	40	42	46	168
8 PM	47	50	37	46	180	35	35	26	32	128
9 PM	40	43	31	24	138	28	30	27	30	115
10 PM	22	28	29	26	105	27	26	33	27	113
11 PM	18	16	20	11	65	15	18	8	4	45
24 Hour	6,200					6,364				

Grand Total:		12,564
AM Peak Hour:	1,441	7:15 AM to 8:15 AM
PM Peak Hour:	1,308	5:00 PM to 6:00 PM



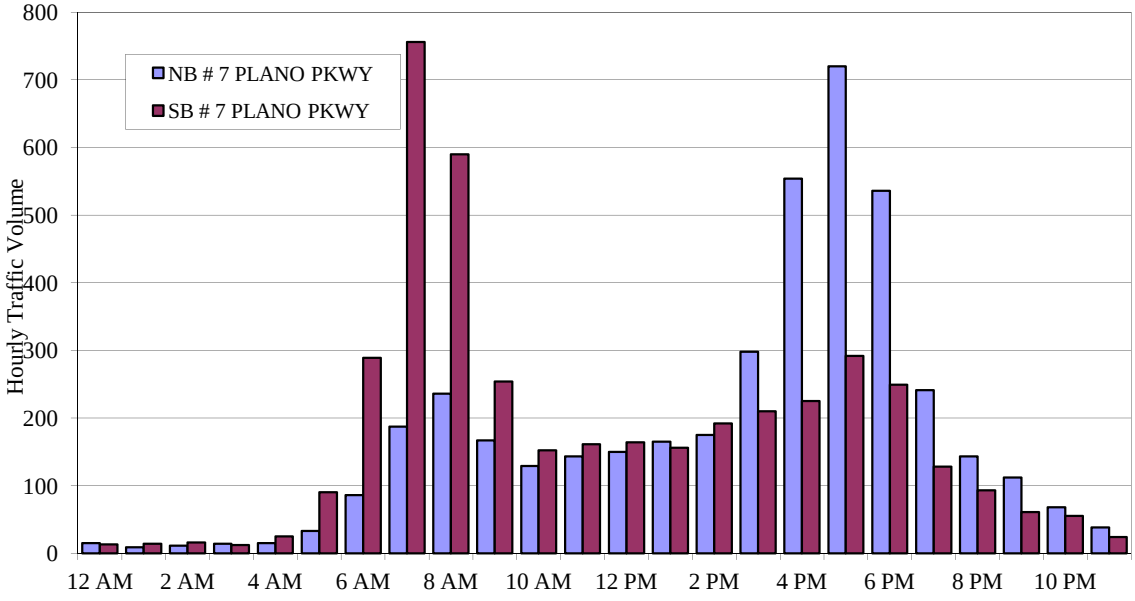
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
 # 7 PLANO PKWY - SOUTH OF WINDHAVEN

24-Hour Traffic Counts

4-Apr-11

Time	NB # 7 PLANO PKWY					SB # 7 PLANO PKWY				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	2	4	5	4	15	2	7	2	2	13
1 AM	5	3	0	1	9	2	5	4	3	14
2 AM	6	2	2	1	11	3	4	5	4	16
3 AM	0	4	7	3	14	0	8	2	2	12
4 AM	2	3	3	7	15	2	3	8	12	25
5 AM	4	5	12	12	33	14	21	25	30	90
6 AM	11	15	21	39	86	59	57	82	91	289
7 AM	46	42	53	46	187	114	172	228	242	756
8 AM	54	55	63	64	236	204	159	128	99	590
9 AM	59	47	30	31	167	72	69	65	48	254
10 AM	32	29	37	31	129	37	31	50	34	152
11 AM	37	34	36	36	143	43	38	38	42	161
12 PM	39	36	40	35	150	40	32	45	47	164
1 PM	44	37	41	43	165	26	41	43	46	156
2 PM	42	44	45	44	175	41	53	48	50	192
3 PM	65	58	71	104	298	46	54	57	53	210
4 PM	118	133	145	158	554	51	60	47	67	225
5 PM	174	189	184	173	720	72	75	60	85	292
6 PM	169	152	130	85	536	72	64	49	64	249
7 PM	76	68	52	45	241	30	42	26	30	128
8 PM	33	49	32	29	143	25	28	21	19	93
9 PM	44	28	25	15	112	20	16	11	14	61
10 PM	24	15	12	17	68	14	12	20	9	55
11 PM	11	10	12	5	38	9	5	4	6	24
24 Hour	4,245					4,221				

Grand Total:		8,466
AM Peak Hour:	1,041	7:30 AM to 8:30 AM
PM Peak Hour:	1,012	5:00 PM to 6:00 PM



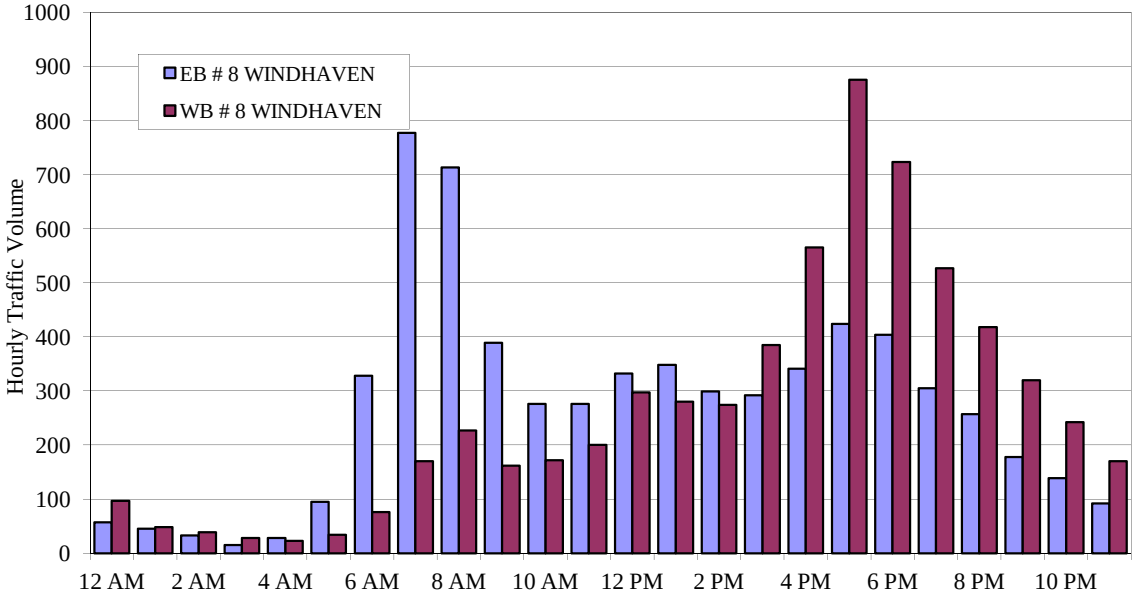
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
 # 8 WINDHAVEN - EAST OF PLANO CITY LIMIT

24-Hour Traffic Counts

4-Apr-11

Time	EB # 8 WINDHAVEN					WB # 8 WINDHAVEN				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	18	11	15	13	57	29	23	25	20	97
1 AM	14	6	16	9	45	19	10	13	6	48
2 AM	17	5	8	3	33	9	13	10	7	39
3 AM	3	4	5	3	15	5	6	7	10	28
4 AM	6	2	5	15	28	4	8	6	5	23
5 AM	18	20	26	31	95	5	7	13	9	34
6 AM	49	67	94	118	328	13	20	19	24	76
7 AM	167	169	198	243	777	30	47	45	48	170
8 AM	192	203	151	167	713	66	65	46	50	227
9 AM	105	91	101	92	389	42	33	44	43	162
10 AM	70	73	76	57	276	40	46	45	41	172
11 AM	65	62	80	69	276	33	48	58	61	200
12 PM	73	74	94	91	332	71	79	74	73	297
1 PM	68	106	80	94	348	83	60	66	71	280
2 PM	70	70	76	83	299	70	62	75	67	274
3 PM	71	84	63	74	292	87	97	91	110	385
4 PM	66	99	89	87	341	108	120	144	193	565
5 PM	115	98	109	102	424	202	213	254	206	875
6 PM	101	117	90	96	404	194	206	162	161	723
7 PM	65	76	90	74	305	148	149	126	104	527
8 PM	61	68	70	58	257	126	104	93	95	418
9 PM	53	50	39	36	178	104	67	82	67	320
10 PM	37	24	43	35	139	67	62	61	52	242
11 PM	33	17	24	18	92	43	56	37	34	170
24 Hour	6,443					6,352				

Grand Total:		12,795
AM Peak Hour:	1,060	7:30 AM to 8:30 AM
PM Peak Hour:	1,299	5:00 PM to 6:00 PM



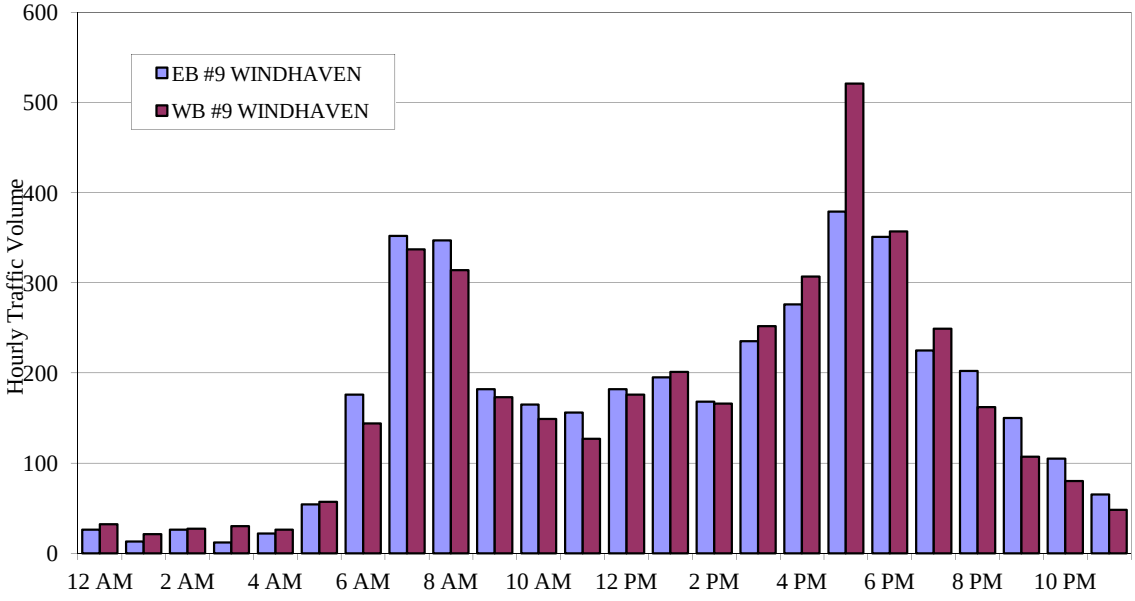
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#9 WINDHAVEN - EAST OF PLANO PKWY

24-Hour Traffic Counts

4-Apr-11

Time	EB #9 WINDHAVEN					WB #9 WINDHAVEN				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	11	7	3	5	26	8	5	9	10	32
1 AM	3	3	4	3	13	6	4	5	6	21
2 AM	6	6	6	8	26	5	6	7	9	27
3 AM	3	2	5	2	12	3	9	8	10	30
4 AM	4	3	9	6	22	5	7	8	6	26
5 AM	12	12	13	17	54	9	9	16	23	57
6 AM	28	35	52	61	176	24	31	36	53	144
7 AM	67	77	99	109	352	59	88	107	83	337
8 AM	119	80	75	73	347	94	95	66	59	314
9 AM	58	43	41	40	182	59	42	35	37	173
10 AM	41	51	35	38	165	39	37	40	33	149
11 AM	33	34	43	46	156	28	29	34	36	127
12 PM	52	33	45	52	182	39	38	43	56	176
1 PM	49	48	50	48	195	52	45	52	52	201
2 PM	33	40	44	51	168	41	35	39	51	166
3 PM	64	43	60	68	235	41	65	66	80	252
4 PM	53	65	82	76	276	65	68	67	107	307
5 PM	95	98	102	84	379	114	149	137	121	521
6 PM	98	107	83	63	351	97	96	81	83	357
7 PM	49	57	60	59	225	72	65	62	50	249
8 PM	49	57	50	46	202	49	40	39	34	162
9 PM	43	34	37	36	150	32	25	22	28	107
10 PM	30	23	24	28	105	22	25	21	12	80
11 PM	17	21	17	10	65	6	15	11	16	48
24 Hour	4,064					4,063				

Grand Total:		8,127
AM Peak Hour:	786	7:30 AM to 8:30 AM
PM Peak Hour:	900	5:00 PM to 6:00 PM



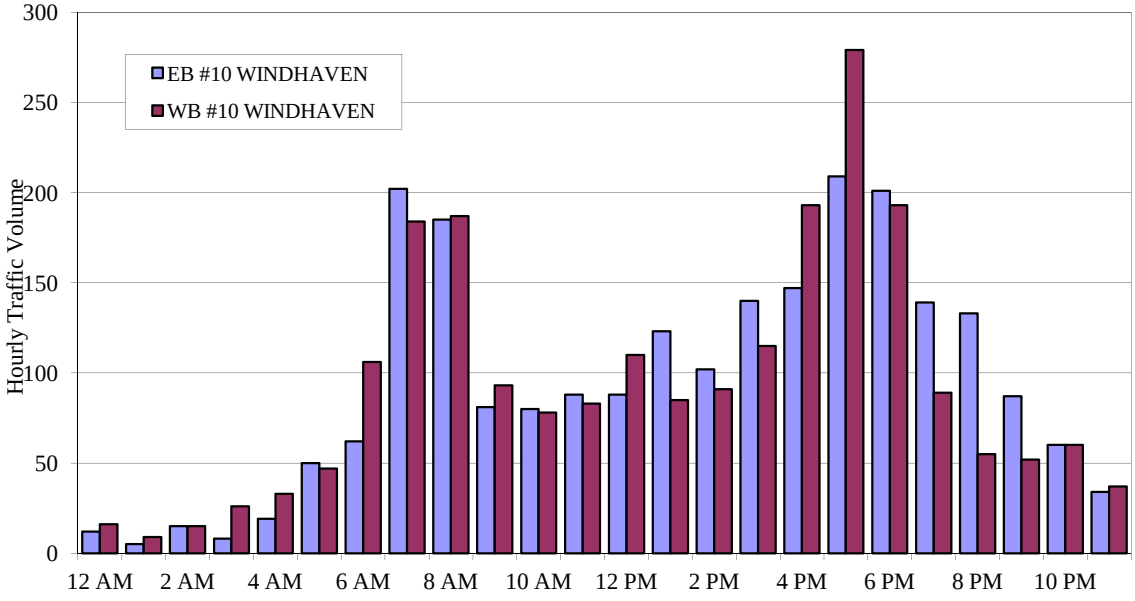
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#10 WINDHAVEN - WEST OF SH 121

24-Hour Traffic Counts

4-Apr-11

Time	EB #10 WINDHAVEN					WB #10 WINDHAVEN				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	5	1	4	2	12	5	3	5	3	16
1 AM	1	0	4	0	5	1	1	3	4	9
2 AM	2	5	3	5	15	2	4	3	6	15
3 AM	1	3	3	1	8	5	4	6	11	26
4 AM	2	4	6	7	19	7	6	9	11	33
5 AM	14	9	8	19	50	7	9	12	19	47
6 AM	17	11	17	17	62	24	21	25	36	106
7 AM	25	43	51	83	202	32	43	56	53	184
8 AM	79	42	36	28	185	57	52	41	37	187
9 AM	25	21	19	16	81	35	22	19	17	93
10 AM	19	19	22	20	80	19	21	24	14	78
11 AM	21	23	16	28	88	16	20	19	28	83
12 PM	23	16	28	21	88	25	22	28	35	110
1 PM	30	27	42	24	123	21	18	22	24	85
2 PM	20	21	31	30	102	21	20	23	27	91
3 PM	31	28	36	45	140	21	29	33	32	115
4 PM	25	29	47	46	147	45	51	44	53	193
5 PM	52	53	49	55	209	61	78	73	67	279
6 PM	54	74	41	32	201	55	59	43	36	193
7 PM	33	37	30	39	139	27	22	19	21	89
8 PM	31	33	35	34	133	17	15	13	10	55
9 PM	25	23	20	19	87	14	15	12	11	52
10 PM	15	12	18	15	60	17	14	16	13	60
11 PM	9	10	10	5	34	11	10	9	7	37
24 Hour	2,270					2,236				

Grand Total:		4,506
AM Peak Hour:	473	7:30 AM to 8:30 AM
PM Peak Hour:	488	5:00 PM to 6:00 PM



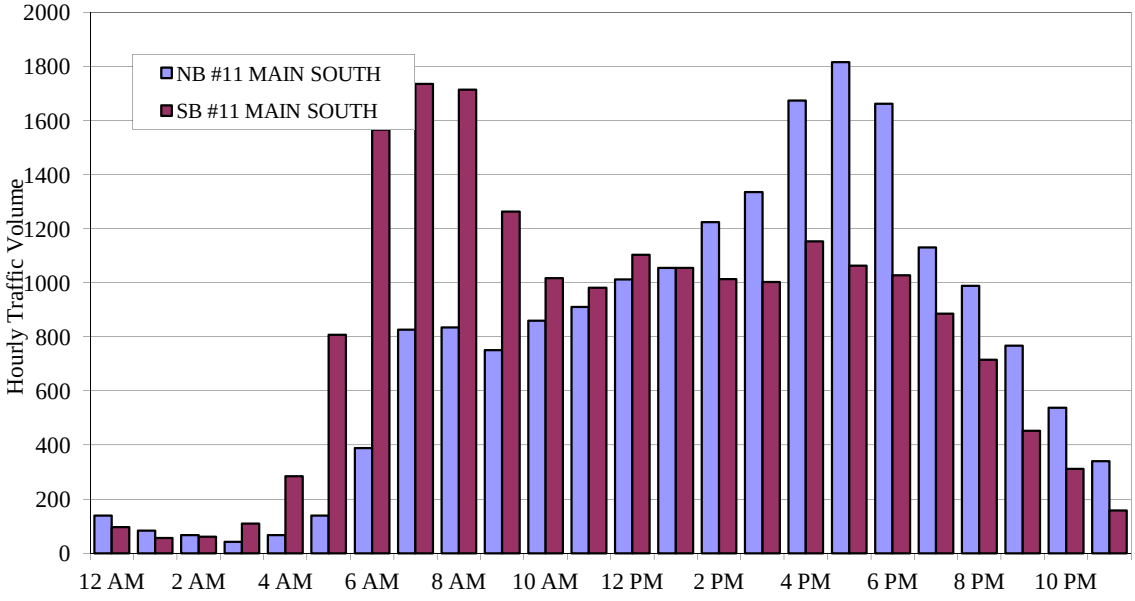
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#11 MAIN SOUTH - OF MEMORIAL

24-Hour Traffic Counts

4-Apr-11

Time	NB #11 MAIN SOUTH					SB #11 MAIN SOUTH				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	40	40	32	27	139	28	26	23	20	97
1 AM	26	30	18	9	83	14	12	12	18	56
2 AM	11	20	21	15	67	11	24	15	11	61
3 AM	11	11	12	8	42	19	16	36	39	110
4 AM	12	14	15	26	67	46	47	95	97	285
5 AM	24	33	32	50	139	105	178	251	274	808
6 AM	70	87	99	133	389	354	378	429	405	1566
7 AM	142	221	228	236	827	410	429	476	420	1735
8 AM	223	205	194	213	835	464	434	425	391	1714
9 AM	196	181	184	190	751	326	352	320	265	1263
10 AM	199	217	233	210	859	271	258	235	253	1017
11 AM	202	220	235	254	911	268	231	216	266	981
12 PM	253	252	259	248	1012	220	291	310	282	1103
1 PM	250	252	278	275	1055	241	288	255	271	1055
2 PM	288	301	324	311	1224	239	259	270	245	1013
3 PM	275	331	352	377	1335	256	234	269	244	1003
4 PM	399	437	412	425	1673	300	260	283	310	1153
5 PM	431	451	472	461	1815	263	268	267	265	1063
6 PM	439	425	427	371	1662	284	250	278	215	1027
7 PM	325	309	261	235	1130	241	242	224	178	885
8 PM	251	260	255	223	989	204	171	185	155	715
9 PM	213	200	182	172	767	128	123	121	81	453
10 PM	146	141	127	124	538	92	91	79	50	312
11 PM	115	88	78	59	340	51	52	28	27	158
24 Hour	18,649					19,633				

Grand Total: 38,282
AM Peak Hour: 2,697 7:15 AM to 8:15 AM
PM Peak Hour: 2,907 5:15 PM to 6:15 PM



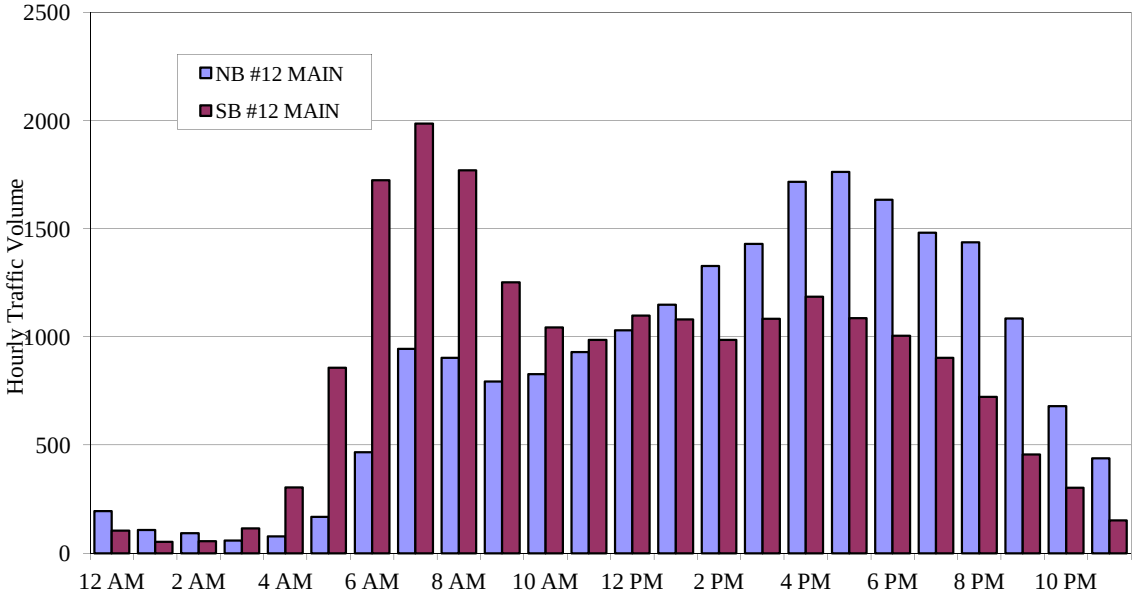
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#12 MAIN - SOUTH OF S COLONY

24-Hour Traffic Counts

4-Apr-11

Time	NB #12 MAIN					SB #12 MAIN				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	50	55	49	40	194	28	34	22	21	105
1 AM	34	32	25	16	107	12	14	13	13	52
2 AM	24	25	27	17	93	12	19	14	11	56
3 AM	16	12	11	19	58	17	18	39	41	115
4 AM	10	20	21	27	78	50	56	88	110	304
5 AM	25	37	47	59	168	122	192	274	269	857
6 AM	67	90	150	159	466	383	425	452	463	1723
7 AM	183	219	261	281	944	469	491	507	519	1986
8 AM	254	227	216	206	903	495	441	419	414	1769
9 AM	218	206	178	191	793	327	334	312	279	1252
10 AM	204	206	198	219	827	287	257	226	274	1044
11 AM	194	233	236	267	930	258	239	245	243	985
12 PM	253	252	253	272	1030	261	276	291	270	1098
1 PM	271	263	297	317	1148	249	305	250	276	1080
2 PM	298	302	362	365	1327	242	256	236	251	985
3 PM	297	346	366	421	1430	258	260	302	263	1083
4 PM	416	421	444	435	1716	285	290	298	312	1185
5 PM	455	422	463	422	1762	246	291	281	269	1087
6 PM	439	441	387	367	1634	281	278	228	218	1005
7 PM	371	367	372	371	1481	261	233	237	172	903
8 PM	392	379	350	315	1436	185	173	208	156	722
9 PM	285	324	276	200	1085	126	125	105	100	456
10 PM	188	175	161	155	679	80	95	75	52	302
11 PM	122	113	105	98	438	49	43	29	31	152
24 Hour	20,727					20,306				

Grand Total:		41,033
AM Peak Hour:	3,027	7:15 AM to 8:15 AM
PM Peak Hour:	2,905	4:45 PM to 5:45 PM



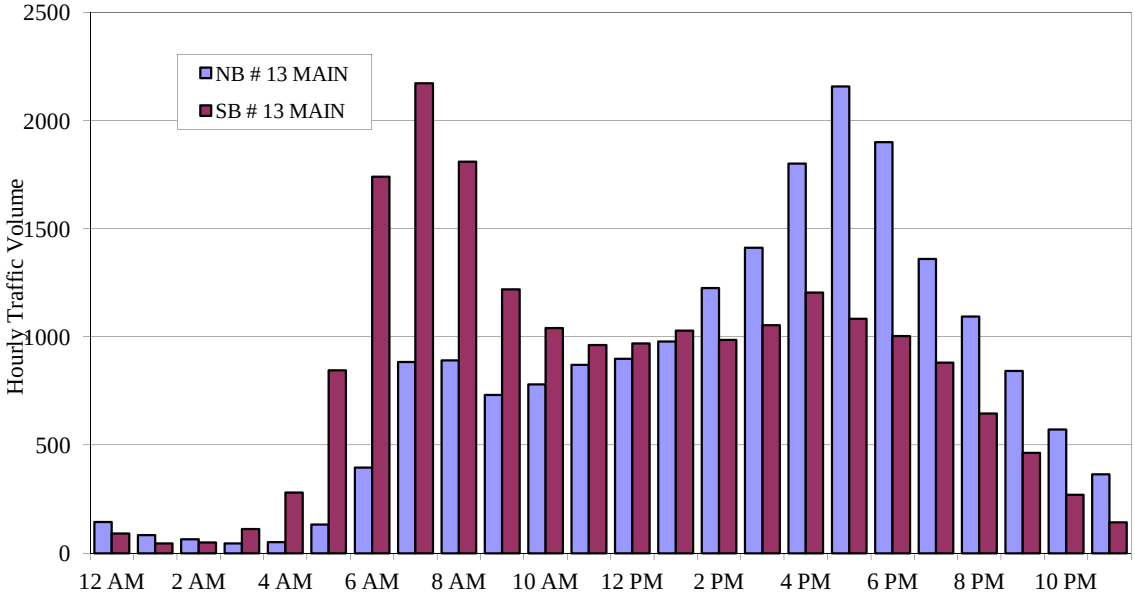
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
 # 13 MAIN - SOUTH OF N COLONY

24-Hour Traffic Counts

4-Apr-11

Time	NB # 13 MAIN					SB # 13 MAIN				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	39	40	30	35	144	24	32	14	21	91
1 AM	22	27	18	17	84	11	10	13	11	45
2 AM	16	18	15	16	65	15	14	10	11	50
3 AM	10	13	12	10	45	17	18	42	35	112
4 AM	8	14	11	18	51	47	53	93	87	280
5 AM	25	30	32	45	132	125	173	297	250	845
6 AM	51	84	110	151	396	382	433	452	473	1740
7 AM	184	204	239	256	883	507	541	567	556	2171
8 AM	266	222	209	194	891	503	446	436	425	1810
9 AM	182	183	184	182	731	307	337	317	258	1219
10 AM	184	184	205	207	780	274	252	238	277	1041
11 AM	217	226	214	213	870	251	231	250	230	962
12 PM	214	231	227	227	899	250	246	251	223	970
1 PM	212	221	258	287	978	259	274	245	250	1028
2 PM	287	286	326	327	1226	245	230	260	250	985
3 PM	325	320	379	387	1411	273	248	272	260	1053
4 PM	411	409	455	525	1800	294	341	287	282	1204
5 PM	534	550	536	537	2157	275	259	270	279	1083
6 PM	529	482	459	429	1899	272	248	241	243	1004
7 PM	387	354	317	302	1360	247	223	226	185	881
8 PM	292	282	278	241	1093	167	171	170	137	645
9 PM	219	243	197	184	843	132	114	120	97	463
10 PM	167	128	134	143	572	77	88	59	46	270
11 PM	115	98	75	76	364	44	38	35	26	143
24 Hour	19,674					20,095				

Grand Total:		39,769
AM Peak Hour:	3,132	7:15 AM to 8:15 AM
PM Peak Hour:	3,240	5:00 PM to 6:00 PM



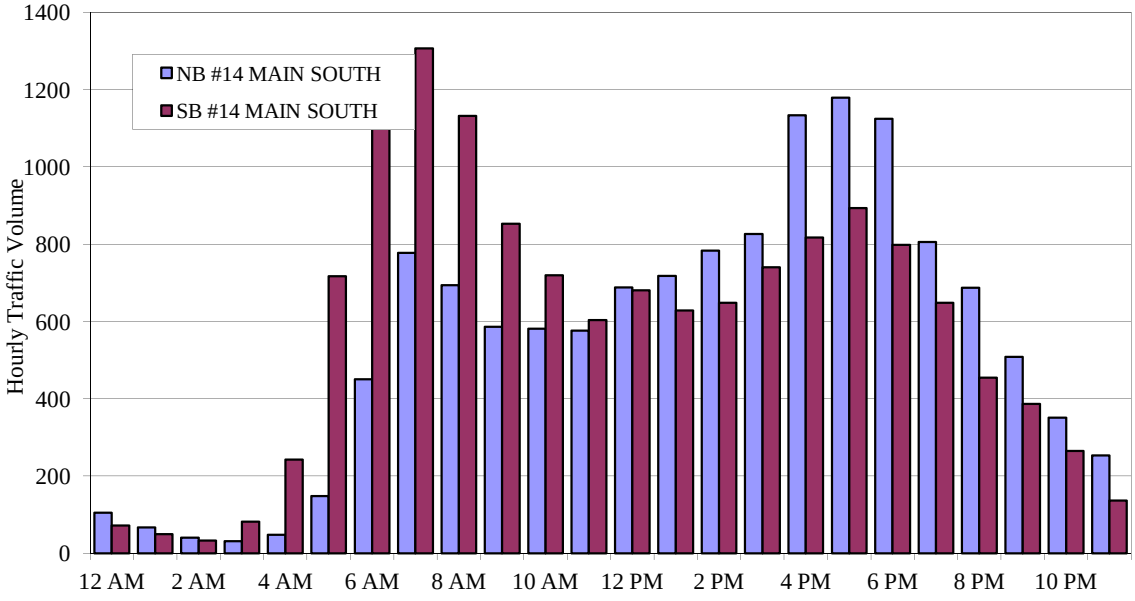
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#14 MAIN SOUTH - OF BLUE SKY COMPLEX

24-Hour Traffic Counts

4-Apr-11

Time	NB #14 MAIN SOUTH					SB #14 MAIN SOUTH				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	20	29	31	25	105	20	16	19	17	72
1 AM	28	16	13	10	67	18	14	7	10	49
2 AM	11	9	9	11	40	9	13	5	6	33
3 AM	7	13	5	6	31	14	13	30	25	82
4 AM	2	8	14	24	48	33	51	70	88	242
5 AM	21	30	39	58	148	106	169	204	238	717
6 AM	75	89	144	142	450	251	282	298	319	1150
7 AM	164	199	217	197	777	336	328	325	317	1306
8 AM	183	177	166	168	694	309	284	268	271	1132
9 AM	168	148	136	134	586	206	236	219	192	853
10 AM	128	142	148	163	581	187	183	173	176	719
11 AM	130	147	140	159	576	161	152	137	153	603
12 PM	144	172	189	183	688	165	171	183	161	680
1 PM	177	187	175	179	718	155	163	158	152	628
2 PM	174	188	209	212	783	155	158	164	171	648
3 PM	219	180	207	220	826	159	175	189	217	740
4 PM	259	263	290	321	1133	206	186	207	218	817
5 PM	296	291	304	288	1179	207	222	233	231	893
6 PM	273	323	287	241	1124	218	201	192	187	798
7 PM	243	197	212	153	805	173	165	163	147	648
8 PM	170	183	181	153	687	128	112	109	105	454
9 PM	117	164	130	97	508	108	96	95	87	386
10 PM	94	83	86	88	351	76	68	62	59	265
11 PM	90	67	42	54	253	41	39	29	27	136
24 Hour	13,158					14,051				

Grand Total:		27,209
AM Peak Hour:	2,083	7:00 AM to 8:00 AM
PM Peak Hour:	2,092	4:45 PM to 5:45 PM



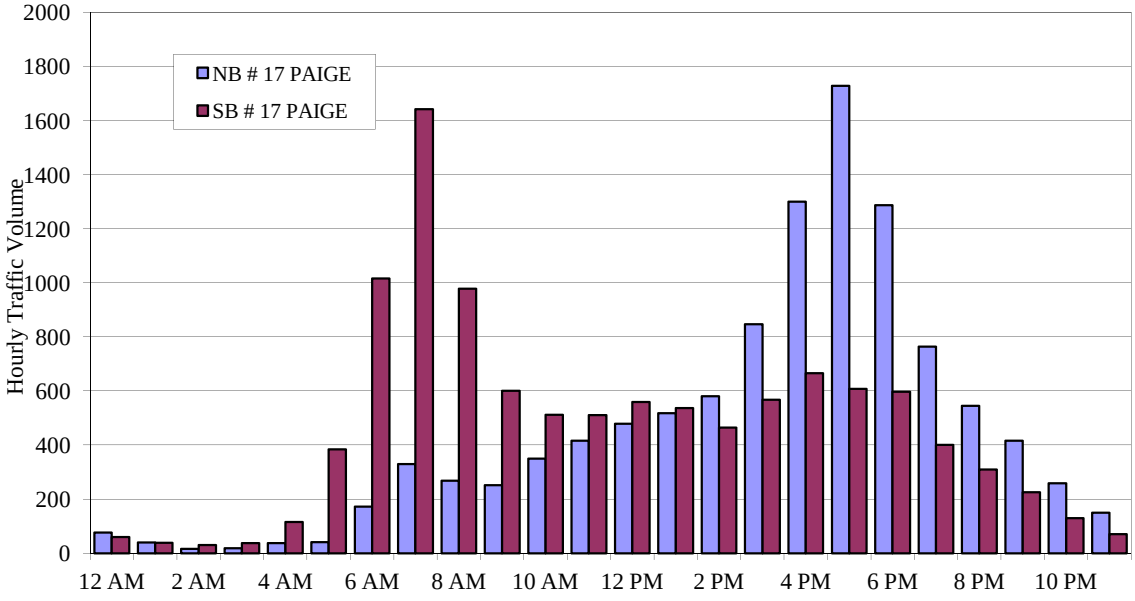
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
 # 17 PAIGE - SOUTH OF MEMORIAL

24-Hour Traffic Counts

4-Apr-11

Time	NB # 17 PAIGE					SB # 17 PAIGE				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	15	22	24	15	76	18	15	10	17	60
1 AM	16	8	9	7	40	7	8	11	12	38
2 AM	6	4	4	2	16	5	9	8	8	30
3 AM	3	7	4	4	18	9	5	11	12	37
4 AM	3	1	18	15	37	16	28	37	34	115
5 AM	8	8	10	15	41	49	85	116	134	384
6 AM	26	35	60	51	172	192	248	269	307	1016
7 AM	90	87	74	78	329	378	452	434	378	1642
8 AM	74	64	62	68	268	340	256	239	143	978
9 AM	61	55	53	82	251	178	153	133	136	600
10 AM	92	76	95	87	350	126	142	136	108	512
11 AM	94	104	104	114	416	124	120	129	138	511
12 PM	117	115	138	109	479	134	149	154	122	559
1 PM	126	144	124	124	518	137	145	129	126	537
2 PM	131	153	155	141	580	127	112	119	106	464
3 PM	182	161	230	273	846	139	132	146	150	567
4 PM	255	325	352	368	1300	156	153	184	172	665
5 PM	462	435	443	388	1728	159	159	148	141	607
6 PM	393	351	315	228	1287	159	159	154	125	597
7 PM	238	201	158	167	764	108	104	95	94	401
8 PM	152	147	136	110	545	95	78	60	77	310
9 PM	132	103	98	83	416	67	54	54	50	225
10 PM	80	69	53	56	258	26	44	32	28	130
11 PM	53	35	29	33	150	20	13	21	17	71
24 Hour	10,885					11,056				

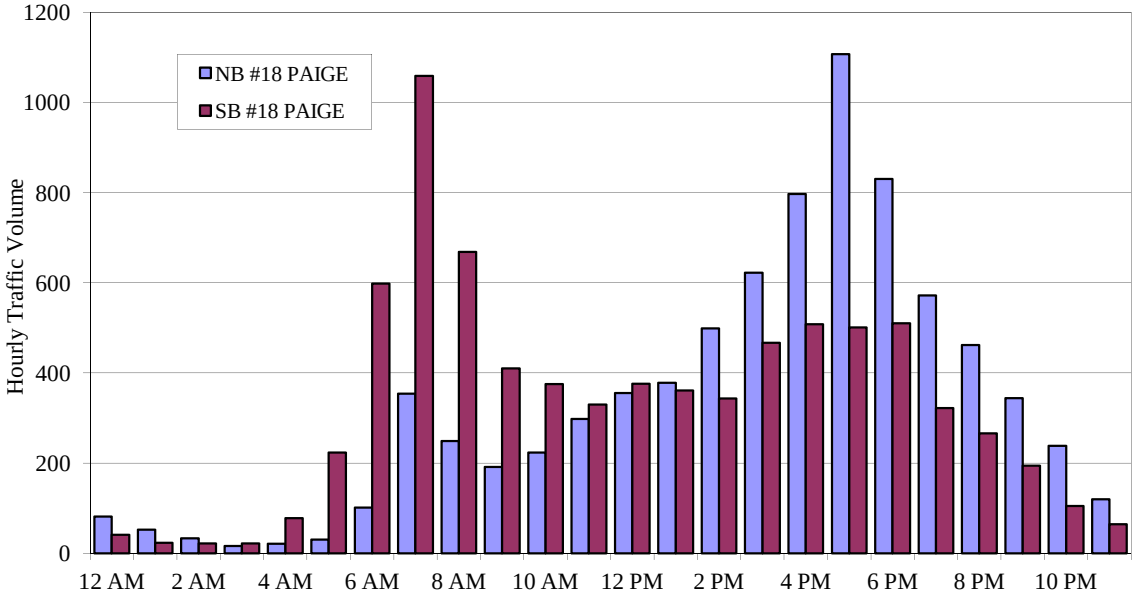
Grand Total: 21,941
AM Peak Hour: 1,971 7:00 AM to 8:00 AM
PM Peak Hour: 2,346 4:45 PM to 5:45 PM



QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#18 PAIGE - NORTH OF S COLONY
24-Hour Traffic Counts
4-Apr-11

Time	NB #18 PAIGE					SB #18 PAIGE				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	24	21	13	23	81	8	12	9	12	41
1 AM	20	12	9	11	52	7	6	5	5	23
2 AM	8	10	9	6	33	5	5	7	5	22
3 AM	3	3	6	4	16	4	4	7	7	22
4 AM	4	2	2	13	21	12	19	23	24	78
5 AM	10	4	8	8	30	26	60	59	78	223
6 AM	9	31	30	31	101	102	139	187	170	598
7 AM	53	83	127	91	354	214	241	299	305	1059
8 AM	97	70	47	35	249	241	166	150	111	668
9 AM	48	50	46	47	191	101	108	107	94	410
10 AM	41	65	51	66	223	83	88	105	99	375
11 AM	59	81	73	85	298	80	78	85	87	330
12 PM	92	78	90	95	355	78	101	101	96	376
1 PM	88	93	93	104	378	97	81	87	96	361
2 PM	95	112	150	142	499	95	87	77	84	343
3 PM	131	136	155	200	622	137	107	115	108	467
4 PM	202	197	181	217	797	115	130	128	135	508
5 PM	275	251	291	290	1107	132	119	133	117	501
6 PM	221	203	221	185	830	125	121	130	134	510
7 PM	166	149	132	125	572	102	78	82	60	322
8 PM	117	114	124	107	462	80	69	60	57	266
9 PM	86	91	95	72	344	63	52	44	35	194
10 PM	67	73	51	47	238	29	41	23	12	105
11 PM	31	38	32	19	120	23	13	15	13	64
24 Hour	7,973					7,866				

Grand Total:		15,839
AM Peak Hour:	1,484	7:15 AM to 8:15 AM
PM Peak Hour:	1,608	5:00 PM to 6:00 PM



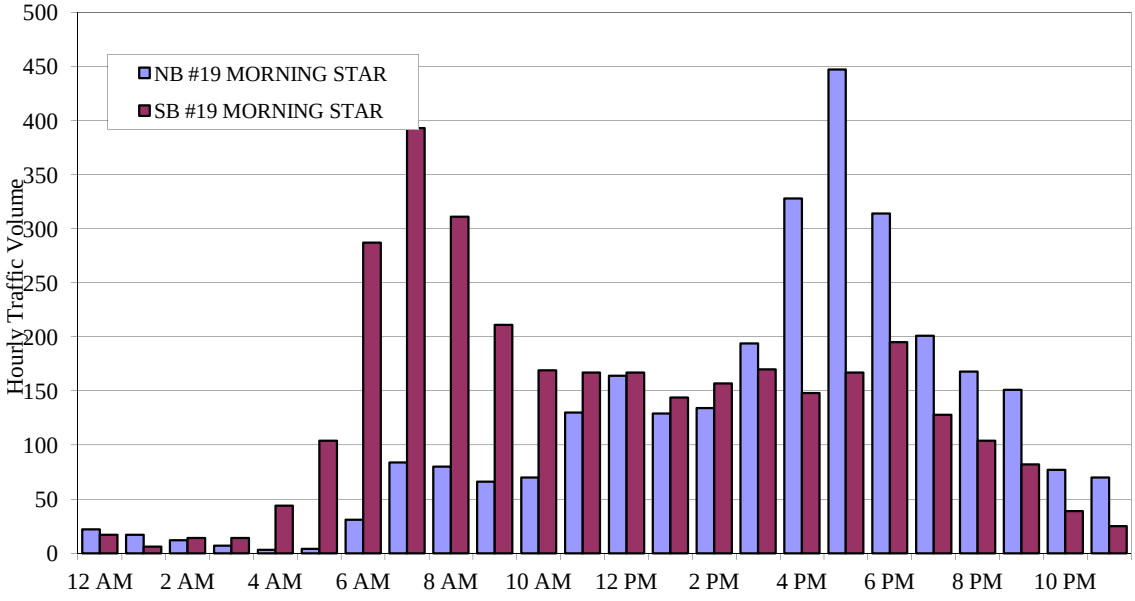
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#19 MORNING STAR - NORTH OF SH 121

24-Hour Traffic Counts

4-Apr-11

Time	NB #19 MORNING STAR					SB #19 MORNING STAR				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	3	7	9	3	22	4	6	4	3	17
1 AM	5	6	2	4	17	5	1	0	0	6
2 AM	3	5	3	1	12	3	3	4	4	14
3 AM	3	2	0	2	7	2	4	3	5	14
4 AM	0	1	0	2	3	3	12	12	17	44
5 AM	1	0	2	1	4	14	19	27	44	104
6 AM	8	7	5	11	31	48	74	80	85	287
7 AM	15	21	22	26	84	84	87	109	113	393
8 AM	24	16	19	21	80	87	85	72	67	311
9 AM	15	18	17	16	66	63	64	45	39	211
10 AM	17	16	15	22	70	46	44	35	44	169
11 AM	34	34	38	24	130	38	43	42	44	167
12 PM	49	42	38	35	164	39	40	49	39	167
1 PM	35	29	35	30	129	33	32	38	41	144
2 PM	31	29	37	37	134	34	35	50	38	157
3 PM	36	41	55	62	194	43	37	49	41	170
4 PM	69	79	89	91	328	36	41	31	40	148
5 PM	105	121	104	117	447	44	38	41	44	167
6 PM	88	84	74	68	314	48	59	49	39	195
7 PM	60	52	51	38	201	38	34	29	27	128
8 PM	38	43	40	47	168	25	23	25	31	104
9 PM	50	39	32	30	151	17	26	27	12	82
10 PM	21	21	17	18	77	13	3	12	11	39
11 PM	17	17	20	16	70	3	10	9	3	25
24 Hour	2,903					3,263				

Grand Total:		6,166
AM Peak Hour:	489	7:15 AM to 8:15 AM
PM Peak Hour:	614	5:00 PM to 6:00 PM



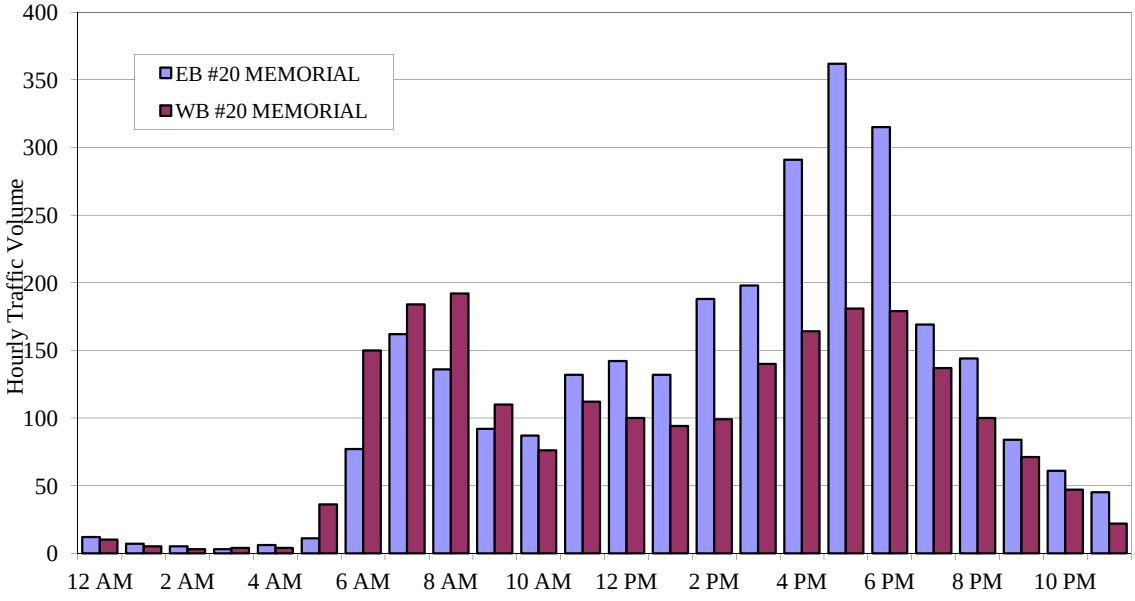
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#20 MEMORIAL - EAST OF STANDRIDGE

24-Hour Traffic Counts

4-Apr-11

Time	EB #20 MEMORIAL					WB #20 MEMORIAL				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	4	3	3	2	12	4	3	2	1	10
1 AM	0	2	3	2	7	1	1	0	3	5
2 AM	2	1	1	1	5	0	2	0	1	3
3 AM	0	0	0	3	3	0	1	1	2	4
4 AM	0	3	1	2	6	1	1	1	1	4
5 AM	1	2	3	5	11	6	6	9	15	36
6 AM	11	18	21	27	77	28	35	43	44	150
7 AM	36	39	39	48	162	45	56	36	47	184
8 AM	32	42	27	35	136	55	59	37	41	192
9 AM	17	31	22	22	92	32	29	26	23	110
10 AM	24	22	14	27	87	21	22	13	20	76
11 AM	23	32	38	39	132	24	27	30	31	112
12 PM	41	40	24	37	142	22	20	30	28	100
1 PM	37	35	26	34	132	33	15	20	26	94
2 PM	42	52	47	47	188	20	26	30	23	99
3 PM	44	48	51	55	198	37	31	35	37	140
4 PM	65	79	64	83	291	42	37	42	43	164
5 PM	77	99	82	104	362	46	44	56	35	181
6 PM	77	85	84	69	315	51	47	44	37	179
7 PM	50	42	43	34	169	30	35	36	36	137
8 PM	51	33	31	29	144	31	33	18	18	100
9 PM	20	30	20	14	84	24	17	9	21	71
10 PM	18	10	19	14	61	18	17	4	8	47
11 PM	17	8	11	9	45	4	7	6	5	22
24 Hour	2,861					2,220				

Grand Total:		5,081
AM Peak Hour:	358	7:30 AM to 8:30 AM
PM Peak Hour:	548	5:15 PM to 6:15 PM



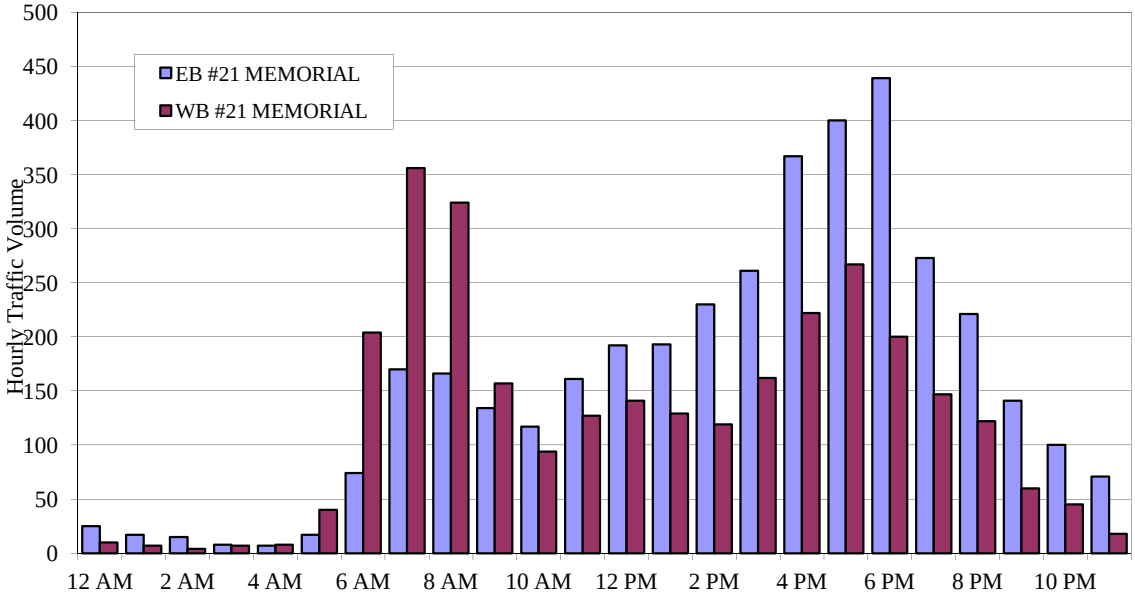
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#21 MEMORIAL - WEST OF MAIN

24-Hour Traffic Counts

4-Apr-11

Time	EB #21 MEMORIAL					WB #21 MEMORIAL				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	3	10	8	4	25	2	3	4	1	10
1 AM	2	5	6	4	17	1	2	1	3	7
2 AM	4	5	4	2	15	2	2	0	0	4
3 AM	0	3	4	1	8	1	1	3	2	7
4 AM	0	3	1	3	7	1	2	1	4	8
5 AM	6	1	4	6	17	7	7	9	17	40
6 AM	8	15	25	26	74	34	48	51	71	204
7 AM	41	37	41	51	170	78	87	107	84	356
8 AM	51	44	32	39	166	95	88	75	66	324
9 AM	34	39	31	30	134	50	42	31	34	157
10 AM	35	32	19	31	117	23	24	25	22	94
11 AM	31	42	47	41	161	28	30	33	36	127
12 PM	50	35	58	49	192	33	33	37	38	141
1 PM	48	53	40	52	193	42	33	30	24	129
2 PM	50	51	61	68	230	27	25	36	31	119
3 PM	56	60	75	70	261	38	26	37	61	162
4 PM	79	107	82	99	367	51	64	48	59	222
5 PM	101	92	103	104	400	62	68	74	63	267
6 PM	119	90	110	120	439	53	51	52	44	200
7 PM	83	65	61	64	273	43	32	34	38	147
8 PM	62	60	51	48	221	33	34	28	27	122
9 PM	32	42	40	27	141	18	16	10	16	60
10 PM	30	21	24	25	100	17	13	8	7	45
11 PM	27	20	12	12	71	5	5	4	4	18
24 Hour	3,799					2,970				

Grand Total:		6,769
AM Peak Hour:	561	7:30 AM to 8:30 AM
PM Peak Hour:	676	5:15 PM to 6:15 PM



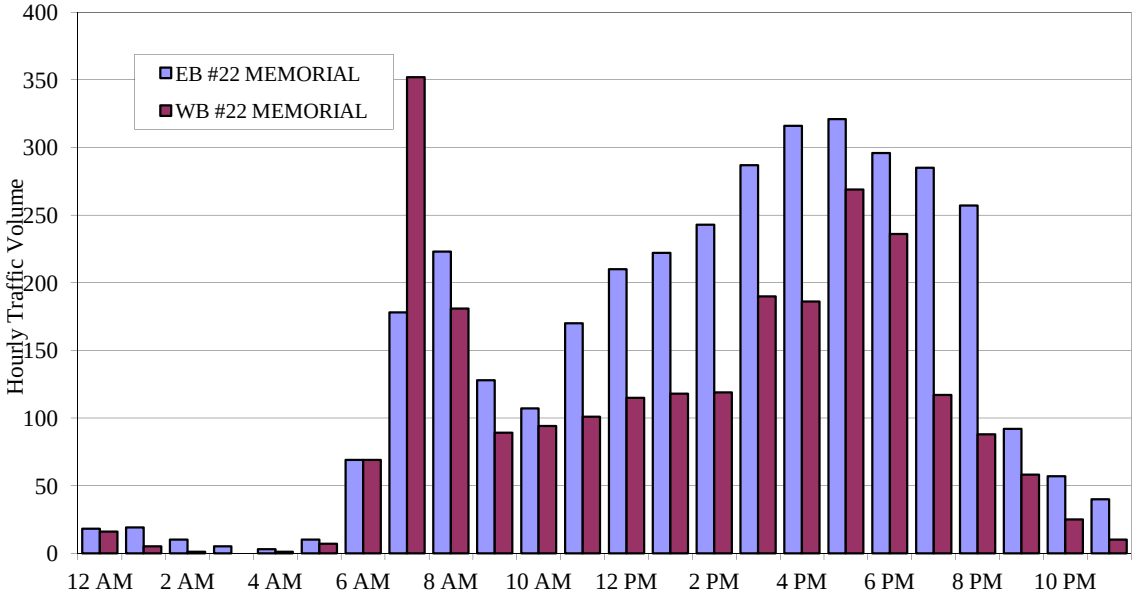
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#22 MEMORIAL - WEST OF PAIGE

24-Hour Traffic Counts

4-Apr-11

Time	EB #22 MEMORIAL					WB #22 MEMORIAL				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	3	7	3	5	18	2	7	4	3	16
1 AM	6	5	4	4	19	4	0	0	1	5
2 AM	1	3	5	1	10	0	1	0	0	1
3 AM	0	3	2	0	5	0	0	0	0	0
4 AM	1	0	2	0	3	0	1	0	0	1
5 AM	1	3	0	6	10	1	2	1	3	7
6 AM	4	9	24	32	69	9	13	19	28	69
7 AM	28	39	53	58	178	29	44	110	169	352
8 AM	63	55	64	41	223	110	29	20	22	181
9 AM	33	30	27	38	128	18	24	30	17	89
10 AM	22	27	25	33	107	17	22	27	28	94
11 AM	40	44	41	45	170	24	28	22	27	101
12 PM	53	51	52	54	210	24	29	33	29	115
1 PM	51	60	51	60	222	20	30	25	43	118
2 PM	54	66	61	62	243	32	32	23	32	119
3 PM	57	64	88	78	287	44	55	42	49	190
4 PM	83	72	74	87	316	35	47	52	52	186
5 PM	80	83	70	88	321	63	55	87	64	269
6 PM	76	76	79	65	296	71	59	52	54	236
7 PM	68	73	75	69	285	32	39	20	26	117
8 PM	67	72	68	50	257	31	19	24	14	88
9 PM	34	21	23	14	92	22	12	13	11	58
10 PM	15	12	17	13	57	8	5	5	7	25
11 PM	8	13	10	9	40	5	2	2	1	10
24 Hour	3,566					2,447				

Grand Total:		6,013
AM Peak Hour:	647	7:30 AM to 8:30 AM
PM Peak Hour:	594	5:15 PM to 6:15 PM



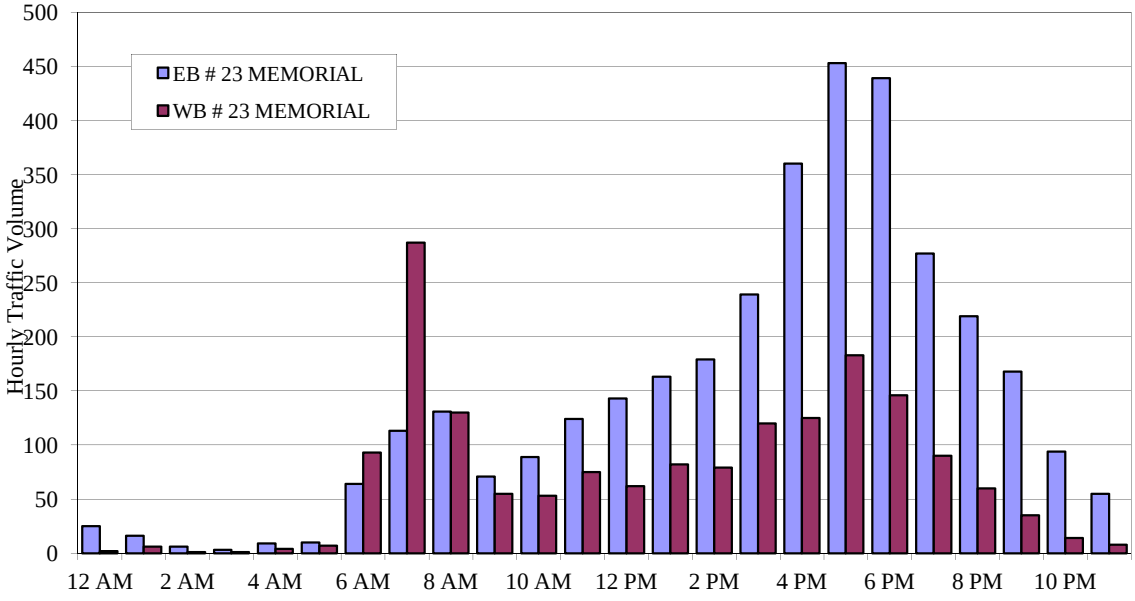
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
 # 23 MEMORIAL - WEST OF S COLONY

24-Hour Traffic Counts

4-Apr-11

Time	EB # 23 MEMORIAL					WB # 23 MEMORIAL				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	3	5	9	8	25	0	1	0	1	2
1 AM	3	7	2	4	16	2	2	1	1	6
2 AM	3	2	0	1	6	1	0	0	0	1
3 AM	0	1	0	2	3	0	0	0	1	1
4 AM	0	2	2	5	9	0	1	0	3	4
5 AM	3	2	2	3	10	2	0	0	5	7
6 AM	4	3	15	42	64	11	16	23	43	93
7 AM	28	23	26	36	113	45	48	83	111	287
8 AM	51	38	16	26	131	74	27	14	15	130
9 AM	15	13	26	17	71	8	24	16	7	55
10 AM	19	25	24	21	89	16	13	11	13	53
11 AM	38	33	24	29	124	14	27	14	20	75
12 PM	43	26	33	41	143	16	13	17	16	62
1 PM	39	26	46	52	163	28	16	14	24	82
2 PM	47	45	37	50	179	18	19	19	23	79
3 PM	37	40	67	95	239	21	36	30	33	120
4 PM	77	92	87	104	360	21	37	32	35	125
5 PM	111	109	117	116	453	33	48	50	52	183
6 PM	123	110	114	92	439	44	36	26	40	146
7 PM	77	77	69	54	277	23	23	21	23	90
8 PM	49	67	49	54	219	18	16	15	11	60
9 PM	48	46	45	29	168	15	8	7	5	35
10 PM	22	27	19	26	94	6	0	4	4	14
11 PM	24	17	9	5	55	2	2	2	2	8
24 Hour	3,450					1,718				

Grand Total:		5,168
AM Peak Hour:	452	7:15 AM to 8:15 AM
PM Peak Hour:	659	5:15 PM to 6:15 PM



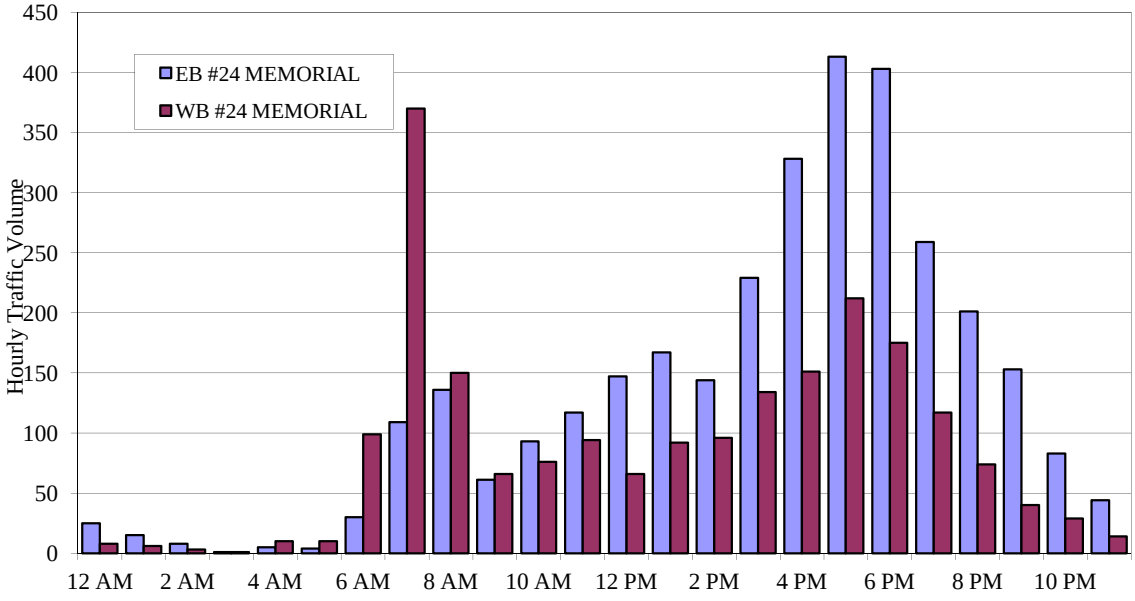
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
#24 MEMORIAL - WEST OF MORNING STAR

24-Hour Traffic Counts

4-Apr-11

Time	EB #24 MEMORIAL					WB #24 MEMORIAL				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	7	4	7	7	25	3	2	1	2	8
1 AM	1	6	4	4	15	3	3	0	0	6
2 AM	4	4	0	0	8	1	2	0	0	3
3 AM	0	1	0	0	1	0	1	0	0	1
4 AM	0	2	2	1	5	2	1	2	5	10
5 AM	1	1	1	1	4	3	2	1	4	10
6 AM	2	2	8	18	30	12	20	20	47	99
7 AM	23	32	23	31	109	64	70	106	130	370
8 AM	50	39	25	22	136	80	26	23	21	150
9 AM	16	15	16	14	61	18	14	17	17	66
10 AM	17	25	24	27	93	21	17	18	20	76
11 AM	32	32	20	33	117	15	22	30	27	94
12 PM	39	32	33	43	147	20	12	15	19	66
1 PM	44	35	38	50	167	25	19	22	26	92
2 PM	43	31	36	34	144	30	21	23	22	96
3 PM	50	46	52	81	229	27	38	29	40	134
4 PM	78	72	87	91	328	24	42	44	41	151
5 PM	95	102	112	104	413	50	48	54	60	212
6 PM	108	110	109	76	403	59	36	33	47	175
7 PM	71	66	61	61	259	31	35	20	31	117
8 PM	51	62	40	48	201	24	12	16	22	74
9 PM	43	37	45	28	153	16	8	7	9	40
10 PM	26	20	19	18	83	8	4	7	10	29
11 PM	15	16	7	6	44	2	3	8	1	14
24 Hour	3,175					2,093				

Grand Total:		5,268
AM Peak Hour:	522	7:15 AM to 8:15 AM
PM Peak Hour:	647	5:15 PM to 6:15 PM



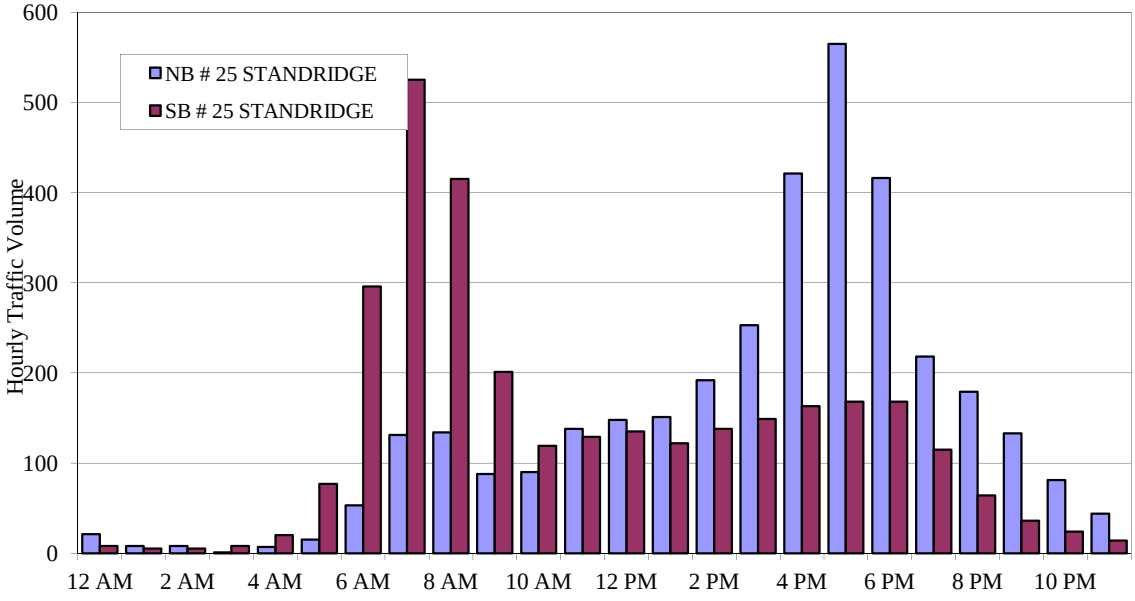
QUALITY COUNTS, INC.
DATA COLLECTION & ANALYSIS
THE COLONY, TX
 # 25 STANDRIDGE - NORTH OF SH 121

24-Hour Traffic Counts

4-Apr-11

Time	NB # 25 STANDRIDGE					SB # 25 STANDRIDGE				
Start	:00	:15	:30	:45	Ttl.	:00	:15	:30	:45	Ttl.
12 AM	9	9	2	1	21	4	2	2	0	8
1 AM	1	3	2	2	8	2	1	2	0	5
2 AM	3	3	1	1	8	1	1	2	1	5
3 AM	0	0	0	1	1	2	3	1	2	8
4 AM	1	1	1	4	7	4	2	5	9	20
5 AM	2	1	4	8	15	12	14	21	30	77
6 AM	12	13	14	14	53	43	72	86	95	296
7 AM	26	27	36	42	131	119	147	116	143	525
8 AM	30	46	27	31	134	126	130	89	70	415
9 AM	19	25	21	23	88	66	49	47	39	201
10 AM	23	13	23	31	90	36	31	26	26	119
11 AM	27	39	27	45	138	36	37	27	29	129
12 PM	38	42	35	33	148	31	36	34	34	135
1 PM	43	25	42	41	151	35	28	23	36	122
2 PM	50	41	45	56	192	31	28	38	41	138
3 PM	55	62	64	72	253	40	35	32	42	149
4 PM	96	109	105	111	421	34	49	38	42	163
5 PM	133	136	147	149	565	46	39	47	36	168
6 PM	124	112	99	81	416	49	51	36	32	168
7 PM	65	49	57	47	218	41	29	28	17	115
8 PM	47	47	43	42	179	20	20	12	12	64
9 PM	29	41	36	27	133	5	9	9	13	36
10 PM	29	15	18	19	81	13	5	4	2	24
11 PM	13	10	12	9	44	4	5	4	1	14
24 Hour	3,495					3,104				

Grand Total:		6,599
AM Peak Hour:	669	7:30 AM to 8:30 AM
PM Peak Hour:	733	5:00 PM to 6:00 PM



PLANO PKWY SOUTH OF SH 121 (CLASS) – NB
Start Date: 10/15/2011
Start Time: 12:00:00 AM

Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	TOTAL
10/15/2011	12:00 AM	0	17	0	0	1	0	0	0	2	0	0	0	0	0	20
10/15/2011	12:15 AM	0	13	2	0	1	0	0	0	1	0	0	0	0	0	17
10/15/2011	12:30 AM	0	7	7	0	0	0	0	1	0	0	0	0	0	0	15
10/15/2011	12:45 AM	0	9	2	0	0	0	0	0	0	0	0	0	0	0	11
10/15/2011	01:00 AM	0	4	5	4	0	0	0	0	0	0	0	0	0	0	13
10/15/2011	01:15 AM	0	12	2	0	0	0	0	0	2	0	0	0	0	0	16
10/15/2011	01:30 AM	0	7	6	0	1	0	0	0	0	0	0	0	0	0	14
10/15/2011	01:45 AM	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
10/15/2011	02:00 AM	0	9	1	0	0	0	0	0	1	0	0	0	0	0	11
10/15/2011	02:15 AM	0	7	5	0	0	0	0	0	0	0	0	0	0	0	12
10/15/2011	02:30 AM	0	6	2	0	1	0	0	0	0	0	0	0	0	0	9
10/15/2011	02:45 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
10/15/2011	03:00 AM	0	4	2	0	0	0	0	0	0	0	0	0	0	0	6
10/15/2011	03:15 AM	0	3	3	0	0	0	0	0	0	0	0	0	0	0	6
10/15/2011	03:30 AM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
10/15/2011	03:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10/15/2011	04:00 AM	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
10/15/2011	04:15 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
10/15/2011	04:30 AM	0	3	1	0	1	0	0	0	0	0	0	0	0	0	5
10/15/2011	04:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
10/15/2011	05:00 AM	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
10/15/2011	05:15 AM	0	1	3	0	0	0	0	0	0	0	0	0	0	0	4
10/15/2011	05:30 AM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
10/15/2011	05:45 AM	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
10/15/2011	06:00 AM	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
10/15/2011	06:15 AM	0	8	2	0	0	0	0	0	0	0	0	0	0	1	11
10/15/2011	06:30 AM	0	5	2	0	2	0	0	0	0	0	0	0	0	0	9
10/15/2011	06:45 AM	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
10/15/2011	07:00 AM	0	13	2	0	0	0	0	0	0	0	0	0	0	0	15
10/15/2011	07:15 AM	0	15	0	0	0	0	0	0	0	0	0	0	0	2	17
10/15/2011	07:30 AM	0	16	3	0	1	0	0	0	0	0	0	0	0	0	20
10/15/2011	07:45 AM	0	13	7	0	2	0	0	0	0	0	0	0	0	0	22
10/15/2011	08:00 AM	0	15	4	0	0	0	0	1	0	0	0	0	0	1	21
10/15/2011	08:15 AM	0	14	7	0	0	0	0	1	0	0	0	0	0	1	23
10/15/2011	08:30 AM	0	14	5	0	1	0	0	2	0	0	0	0	0	0	22
10/15/2011	08:45 AM	0	25	4	0	1	0	0	0	0	0	0	0	0	0	30
10/15/2011	09:00 AM	0	20	8	0	3	0	0	0	0	0	0	0	0	0	31
10/15/2011	09:15 AM	1	26	6	0	3	1	0	0	0	0	0	0	0	0	37
10/15/2011	09:30 AM	1	28	8	0	0	0	0	1	0	0	0	0	0	6	44
10/15/2011	09:45 AM	0	27	6	0	0	1	0	0	1	0	0	0	0	4	39
10/15/2011	10:00 AM	2	42	11	1	2	0	0	1	0	0	0	0	0	0	59
10/15/2011	10:15 AM	1	29	6	0	2	0	0	0	0	0	0	0	0	1	39
10/15/2011	10:30 AM	1	31	8	0	3	1	0	1	0	0	0	0	0	0	45
10/15/2011	10:45 AM	1	46	11	0	3	0	0	0	1	0	0	0	0	1	63
10/15/2011	11:00 AM	1	36	9	1	2	0	0	0	0	0	1	0	0	1	51
10/15/2011	11:15 AM	0	46	17	0	0	0	0	0	0	0	0	1	0	0	64
10/15/2011	11:30 AM	0	40	15	0	3	0	0	0	0	0	0	0	0	0	58
10/15/2011	11:45 AM	2	48	11	0	0	1	0	1	0	0	0	0	0	0	63
10/15/2011	12:00 PM	0	43	10	0	0	0	0	2	0	0	0	0	0	0	55
10/15/2011	12:15 PM	1	53	13	0	1	0	0	0	0	0	0	0	0	1	69
10/15/2011	12:30 PM	0	43	16	1	1	0	0	0	0	0	0	0	0	0	61
10/15/2011	12:45 PM	1	47	8	0	3	0	0	0	0	0	0	0	0	0	59
10/15/2011	01:00 PM	0	48	12	0	2	0	0	1	0	0	0	0	0	0	63
10/15/2011	01:15 PM	1	50	7	0	0	0	0	1	0	0	0	0	0	1	60
10/15/2011	01:30 PM	2	49	14	0	2	0	0	0	0	0	0	0	0	1	68
10/15/2011	01:45 PM	2	40	11	0	2	0	0	0	0	0	0	0	0	0	55
10/15/2011	02:00 PM	0	35	6	3	0	0	0	1	0	0	0	0	0	0	45
10/15/2011	02:15 PM	0	39	14	0	1	0	0	0	0	0	0	0	0	0	54
10/15/2011	02:30 PM	1	32	20	0	3	0	0	0	0	0	0	0	0	0	56
10/15/2011	02:45 PM	1	35	15	0	6	0	0	0	0	0	0	0	0	0	57
10/15/2011	03:00 PM	0	40	11	0	3	0	0	1	0	0	0	0	0	1	56
10/15/2011	03:15 PM	0	48	15	0	4	0	0	1	0	1	0	0	0	0	69
10/15/2011	03:30 PM	0	35	8	0	1	0	0	1	0	0	0	0	0	1	46
10/15/2011	03:45 PM	0	40	22	0	2	0	0	1	0	0	0	0	0	1	66
10/15/2011	04:00 PM	1	42	14	1	3	0	0	0	0	0	0	0	0	1	62
10/15/2011	04:15 PM	0	44	12	0	1	0	0	1	0	0	0	0	0	0	58
10/15/2011	04:30 PM	0	29	8	0	1	1	0	1	0	0	0	0	0	3	43
10/15/2011	04:45 PM	2	48	14	0	3	0	0	1	0	0	0	0	0	0	68
10/15/2011	05:00 PM	0	46	14	0	2	1	0	1	0	0	0	0	0	0	64
10/15/2011	05:15 PM	0	53	11	0	5	0	0	0	1	0	0	0	0	0	70
10/15/2011	05:30 PM	0	50	9	0	0	0	0	0	0	0	0	0	0	1	60
10/15/2011	05:45 PM	0	49	11	0	1	0	0	0	0	0	0	0	0	0	61
10/15/2011	06:00 PM	2	45	12	0	1	0	0	0	0	0	0	0	0	0	60
10/15/2011	06:15 PM	1	46	10	0	0	0	0	0	0	0	0	0	0	0	57
10/15/2011	06:30 PM	0	37	12	0	1	0	0	0	0	0	0	0	0	0	50
10/15/2011	06:45 PM	1	47	12	0	0	0	0	1	0	0	0	0	0	0	61
10/15/2011	07:00 PM	1	34	10	0	0	0	0	1	0	0	0	0	0	0	46
10/15/2011	07:15 PM	1	49	8	0	2	0	0	0	0	0	0	0	0	0	60
10/15/2011	07:30 PM	0	32	10	0	0	0	0	0	0	0	0	0	0	0	42
10/15/2011	07:45 PM	1	34	8	0	0	0	0	1	0	0	0	0	0	0	44
10/15/2011	08:00 PM	0	19	7	0	0	0	0	0	0	0	0	0	0	0	26
10/15/2011	08:15 PM	0	27	10	0	2	0	0	0	0	0	0	0	0	0	39
10/15/2011	08:30 PM	0	23	10	0	1	0	0	0	0	0	0	0	0	0	34

10/15/2011	08:45 PM	0	24	4	0	0	0	0	0	0	0	0	0	0	28
10/15/2011	09:00 PM	1	15	6	0	1	0	0	0	0	0	0	0	0	23
10/15/2011	09:15 PM	0	30	6	7	1	0	0	0	0	0	0	0	2	46
10/15/2011	09:30 PM	0	23	6	0	2	0	0	0	0	0	0	0	1	32
10/15/2011	09:45 PM	0	23	4	0	3	0	0	1	0	0	0	0	0	31
10/15/2011	10:00 PM	0	19	8	0	0	0	0	0	0	0	0	0	1	28
10/15/2011	10:15 PM	0	29	6	0	1	0	0	0	0	0	0	0	0	36
10/15/2011	10:30 PM	0	23	5	0	0	0	0	0	0	0	0	0	0	28
10/15/2011	10:45 PM	0	16	5	0	1	0	0	1	0	0	0	0	0	23
10/15/2011	11:00 PM	0	22	3	0	2	0	0	0	0	0	0	0	0	27
10/15/2011	11:15 PM	1	28	9	0	0	0	0	0	0	0	0	0	0	38
10/15/2011	11:30 PM	0	21	3	0	0	0	0	0	0	0	0	0	0	24
10/15/2011	11:45 PM	0	16	4	0	0	0	0	0	0	0	0	0	0	20
		31	2428	669	18	98	6	0	27	9	1	1	1	0	33	3322

SPRING CREEK PKWY SOUTH OF SH 121 (CLASS) – NB
Start Date: 10/14/2011
Start Time: 12:00:00 AM

Date	Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classed	TOTAL
10/14/2011	12:00 AM	0	12	1	0	0	0	0	0	0	0	0	0	0	0	13
10/14/2011	12:15 AM	1	12	2	0	0	0	0	0	0	0	0	0	0	0	15
10/14/2011	12:30 AM	0	9	0	0	0	0	0	0	0	0	0	0	0	0	9
10/14/2011	12:45 AM	0	14	0	0	0	0	0	0	0	0	0	0	0	0	14
10/14/2011	01:00 AM	0	8	0	0	0	0	0	0	0	0	0	0	0	0	8
10/14/2011	01:15 AM	0	7	3	0	0	0	0	0	0	0	0	0	0	0	10
10/14/2011	01:30 AM	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
10/14/2011	01:45 AM	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
10/14/2011	02:00 AM	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
10/14/2011	02:15 AM	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
10/14/2011	02:30 AM	0	6	3	0	0	0	0	0	0	0	0	0	0	0	9
10/14/2011	02:45 AM	0	1	2	0	0	0	0	0	0	0	0	0	0	0	3
10/14/2011	03:00 AM	0	7	0	0	0	0	0	0	0	0	0	0	0	0	7
10/14/2011	03:15 AM	0	3	0	1	0	0	0	0	0	0	0	0	0	0	4
10/14/2011	03:30 AM	0	3	1	0	0	0	0	0	0	0	0	0	0	0	4
10/14/2011	03:45 AM	0	6	3	0	0	0	0	0	0	0	0	0	0	0	9
10/14/2011	04:00 AM	0	4	2	0	0	0	0	0	0	0	0	0	0	0	6
10/14/2011	04:15 AM	0	6	2	0	0	0	0	0	0	0	0	0	0	0	8
10/14/2011	04:30 AM	0	7	3	0	0	0	0	0	0	0	0	0	0	0	10
10/14/2011	04:45 AM	0	5	0	0	0	0	0	0	0	0	0	0	0	0	5
10/14/2011	05:00 AM	0	7	2	0	0	0	0	0	0	0	0	0	0	0	9
10/14/2011	05:15 AM	0	14	1	0	0	0	0	0	0	0	0	0	0	0	15
10/14/2011	05:30 AM	0	7	3	0	0	0	0	0	0	0	0	0	0	0	10
10/14/2011	05:45 AM	1	10	5	0	1	0	0	0	0	0	0	0	0	0	17
10/14/2011	06:00 AM	0	18	7	0	0	0	0	0	0	0	0	0	0	0	25
10/14/2011	06:15 AM	0	21	4	0	1	0	0	0	0	0	0	0	0	0	26
10/14/2011	06:30 AM	0	36	11	1	0	0	0	0	0	1	1	0	0	0	50
10/14/2011	06:45 AM	0	33	6	0	7	0	0	1	0	0	0	0	0	0	47
10/14/2011	07:00 AM	1	49	19	1	5	0	0	1	0	0	0	0	0	1	77
10/14/2011	07:15 AM	0	74	15	0	3	1	0	1	0	0	0	0	0	1	95
10/14/2011	07:30 AM	0	69	14	0	1	0	0	0	0	0	0	0	0	1	85
10/14/2011	07:45 AM	0	71	22	0	2	0	0	0	0	0	0	0	0	0	95
10/14/2011	08:00 AM	1	74	23	0	2	0	0	1	0	0	0	0	0	2	103
10/14/2011	08:15 AM	0	79	18	1	3	0	0	4	0	0	0	0	0	1	106
10/14/2011	08:30 AM	0	70	15	0	4	0	0	1	0	0	0	0	0	1	91
10/14/2011	08:45 AM	2	62	15	0	3	0	0	0	0	0	0	0	0	0	82
10/14/2011	09:00 AM	0	54	18	0	4	0	0	0	0	0	0	0	0	0	76
10/14/2011	09:15 AM	0	47	15	0	1	0	0	2	0	0	0	0	0	0	65
10/14/2011	09:30 AM	3	42	20	1	2	0	0	0	1	0	0	0	0	0	69
10/14/2011	09:45 AM	0	57	17	0	2	0	0	0	0	0	0	0	0	0	76
10/14/2011	10:00 AM	0	54	21	0	0	0	0	3	0	0	0	0	0	1	79
10/14/2011	10:15 AM	1	51	15	0	1	1	0	1	0	0	0	0	0	0	70
10/14/2011	10:30 AM	0	45	21	0	2	0	0	1	0	0	0	0	0	1	70
10/14/2011	10:45 AM	0	49	12	1	1	0	0	2	0	0	1	0	0	1	67
10/14/2011	11:00 AM	0	52	15	0	5	0	0	1	0	0	0	0	0	0	73
10/14/2011	11:15 AM	1	68	22	0	3	0	0	1	0	0	1	0	0	0	96
10/14/2011	11:30 AM	0	84	24	0	5	0	0	3	0	0	0	0	0	0	116
10/14/2011	11:45 AM	1	77	26	0	8	0	0	0	0	0	0	0	0	0	112
10/14/2011	12:00 PM	0	76	27	0	9	1	0	2	0	0	0	0	0	1	116
10/14/2011	12:15 PM	1	84	30	0	6	0	0	0	0	0	0	0	0	1	122
10/14/2011	12:30 PM	0	85	23	0	2	0	0	3	0	0	0	0	1	1	115
10/14/2011	12:45 PM	1	70	28	0	4	1	0	1	1	0	0	0	0	0	106
10/14/2011	01:00 PM	3	77	21	0	6	0	0	0	0	0	0	0	0	0	107
10/14/2011	01:15 PM	0	72	21	0	4	0	0	2	0	0	0	0	0	2	101
10/14/2011	01:30 PM	0	67	14	2	6	0	0	1	0	0	0	0	0	0	90
10/14/2011	01:45 PM	0	70	21	0	2	0	0	2	0	0	0	0	0	0	95
10/14/2011	02:00 PM	0	59	27	2	5	0	0	1	0	0	0	0	0	0	94
10/14/2011	02:15 PM	0	92	28	0	6	0	0	3	0	0	0	0	0	0	129
10/14/2011	02:30 PM	1	87	32	1	4	1	0	1	0	0	0	0	0	3	130
10/14/2011	02:45 PM	3	73	31	1	4	0	0	2	0	0	0	0	0	1	115
10/14/2011	03:00 PM	1	82	29	0	2	0	0	4	0	0	0	0	0	0	118
10/14/2011	03:15 PM	0	108	25	0	4	2	0	2	0	0	0	0	0	2	143
10/14/2011	03:30 PM	1	123	38	0	1	0	0	0	0	0	0	0	0	3	166
10/14/2011	03:45 PM	1	116	40	0	9	0	0	1	0	0	0	1	0	0	168
10/14/2011	04:00 PM	3	150	39	0	10	1	0	1	0	0	0	0	0	1	205
10/14/2011	04:15 PM	1	164	41	1	7	0	0	2	0	1	2	0	0	2	221
10/14/2011	04:30 PM	2	161	48	0	10	1	0	5	0	0	0	0	0	6	233
10/14/2011	04:45 PM	2	188	46	2	9	0	0	0	0	1	0	0	0	4	252
10/14/2011	05:00 PM	3	212	47	0	8	0	0	2	1	1	0	0	0	22	296
10/14/2011	05:15 PM	3	197	45	0	4	0	0	4	0	1	0	0	0	19	273
10/14/2011	05:30 PM	5	207	47	0	7	0	0	0	1	0	0	0	0	3	270
10/14/2011	05:45 PM	2	198	46	0	5	0	0	2	0	1	1	0	0	8	263
10/14/2011	06:00 PM	2	159	36	0	6	0	0	3	0	0	0	0	0	2	208
10/14/2011	06:15 PM	2	150	33	0	6	0	0	6	0	0	0	0	1	1	199
10/14/2011	06:30 PM	2	121	36	0	3	1	0	1	1	0	0	0	0	0	165
10/14/2011	06:45 PM	0	106	25	0	2	0	0	1	1	1	0	1	0	0	137
10/14/2011	07:00 PM	1	91	16	0	2	0	0	2	0	0	0	0	0	2	114
10/14/2011	07:15 PM	2	89	21	0	6	0	0	1	0	0	0	0	0	0	119
10/14/2011	07:30 PM	0	68	19	0	0	0	0	2	0	0	0	0	0	1	90
10/14/2011	07:45 PM	1	74	12	0	1	0	0	0	0	0	0	0	0	1	89
10/14/2011	08:00 PM	0	85	12	0	0	0	0	0	0	0	0	0	0	2	99
10/14/2011	08:15 PM	1	51	16	0	2	0	0	0	0	0	0	0	0	0	70
10/14/2011	08:30 PM	0	40	13	0	0	0	0	0	0	0	0	0	0	1	54
10/14/2011	08:45 PM	0	49	9	0	2	0	0	0	0	0	0	0	0	0	60
10/14/2011	09:00 PM	0	43	16	0	0	0	0	0	0	0	0	0	0	0	59
10/14/2011	09:15 PM	0	43	4	0	0	0	0	0	0	0	0	0	0	0	47
10/14/2011	09:30 PM	1	43	9	0	0	0	0	1	0	0	0	0	0	0	54
10/14/2011	09:45 PM	0	34	14	0	1	0	0	1	0	0	0	0	0	0	50
10/14/2011	10:00 PM	0	62	7	0	2	0	0	0	0	0	0	0	0	1	72
10/14/2011	10:15 PM	1	53	11	0	0	0	0	0	0	0	0	0	0	0	65
10/14/2011	10:30 PM	2	45	8	0	1	0	0	0	0	0	0	0	0	0	56
10/14/2011	10:45 PM	0	55	14	0	1	0	0	1	0	0	0	0	0	0	71
10/14/2011	11:00 PM	1	44	7	0	2	0	0	0	0	1	0	0	0	0	55
10/14/2011	11:15 PM	0	34	7	0	0	0	0	0	0	0	0	0	0	0	41
10/14/2011	11:30 PM	0	35	9	0	1	0	0	0	0	0	0	0	0	0	45
10/14/2011	11:45 PM	0	32	2	0	0	0	0	0	0	0	0	0	0	0	34
10/15/2011	12:00 AM	0	27	2	0	0	0	0	0	2	0	0	0	0	0	31

10/15/2011 12:15 AM	0	14	2	0	1	1	0	0	0	0	0	0	0	1	19
10/15/2011 12:30 AM	0	19	2	0	0	0	0	0	1	0	0	0	0	0	22
10/15/2011 12:45 AM	0	17	0	0	0	0	0	1	2	0	0	0	0	0	20
10/15/2011 01:00 AM	0	15	1	0	0	0	0	0	1	0	0	0	0	0	17
10/15/2011 01:15 AM	0	6	7	0	0	0	0	0	2	0	0	0	0	0	15
10/15/2011 01:30 AM	0	14	4	0	0	0	0	0	1	0	0	0	0	0	19
10/15/2011 01:45 AM	0	7	4	0	1	0	0	1	1	0	0	0	0	0	14
10/15/2011 02:00 AM	0	7	2	0	0	0	0	0	1	0	0	0	0	0	10
10/15/2011 02:15 AM	0	15	2	0	0	0	0	0	2	0	0	0	0	0	19
10/15/2011 02:30 AM	0	14	0	0	0	0	0	0	1	0	0	0	0	0	15
10/15/2011 02:45 AM	0	8	1	0	0	0	0	0	2	0	0	0	0	0	11
10/15/2011 03:00 AM	0	8	5	0	0	0	0	0	0	0	0	0	0	0	13
10/15/2011 03:15 AM	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
10/15/2011 03:30 AM	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
10/15/2011 03:45 AM	0	5	1	0	0	0	0	0	0	0	0	0	0	0	6
10/15/2011 04:00 AM	0	4	3	0	0	0	0	0	0	0	0	0	0	0	7
10/15/2011 04:15 AM	0	4	2	0	1	0	0	0	0	0	0	0	0	0	7
10/15/2011 04:30 AM	0	7	3	0	0	0	0	0	0	0	0	0	0	0	10
10/15/2011 04:45 AM	0	2	1	0	0	0	0	0	0	0	0	0	0	0	3
10/15/2011 05:00 AM	0	7	4	0	0	0	0	0	0	0	0	0	0	0	11
10/15/2011 05:15 AM	0	1	1	0	0	0	0	0	0	0	0	0	0	0	2
10/15/2011 05:30 AM	0	6	1	0	0	0	0	0	0	0	0	0	0	0	7
10/15/2011 05:45 AM	0	11	2	0	0	0	0	0	0	0	0	0	0	0	13
10/15/2011 06:00 AM	0	4	3	0	0	0	0	0	0	0	0	0	0	0	7
10/15/2011 06:15 AM	0	14	4	0	0	0	0	0	0	0	0	0	0	0	18
10/15/2011 06:30 AM	0	20	7	0	3	0	0	0	0	0	0	0	0	0	30
10/15/2011 06:45 AM	0	14	3	0	1	0	0	0	0	0	0	0	0	0	18
10/15/2011 07:00 AM	0	20	3	0	2	0	0	0	0	0	0	0	0	0	25
10/15/2011 07:15 AM	0	23	12	0	2	0	0	0	1	0	0	0	0	0	38
10/15/2011 07:30 AM	0	20	5	0	1	0	0	0	0	0	0	0	0	0	26
10/15/2011 07:45 AM	0	32	17	0	0	0	0	0	0	0	0	0	0	0	49
10/15/2011 08:00 AM	0	30	8	0	1	0	0	0	0	0	0	0	0	1	40
10/15/2011 08:15 AM	0	39	17	1	2	0	0	1	0	0	0	0	0	0	60
10/15/2011 08:30 AM	0	32	15	0	0	0	0	0	0	0	0	0	0	0	47
10/15/2011 08:45 AM	0	42	12	0	3	0	0	0	0	0	0	0	0	0	57
10/15/2011 09:00 AM	0	44	16	0	1	0	0	0	0	0	0	0	0	0	61
10/15/2011 09:15 AM	1	39	12	0	2	0	0	0	0	0	0	0	0	0	54
10/15/2011 09:30 AM	2	40	26	0	2	0	0	0	0	0	0	0	0	2	72
10/15/2011 09:45 AM	1	60	19	0	0	1	0	0	0	0	1	0	0	0	82
10/15/2011 10:00 AM	0	48	15	1	2	0	0	0	0	0	0	0	0	1	67
10/15/2011 10:15 AM	1	61	21	0	1	2	0	0	0	0	0	0	0	5	91
10/15/2011 10:30 AM	0	50	21	0	2	1	0	2	0	0	0	0	0	1	77
10/15/2011 10:45 AM	1	53	20	0	2	1	0	4	0	0	0	0	0	0	81
10/15/2011 11:00 AM	0	48	18	0	6	0	0	2	0	0	0	0	0	1	75
10/15/2011 11:15 AM	2	62	16	0	3	1	0	1	0	0	0	0	0	1	86
10/15/2011 11:30 AM	0	68	16	0	3	1	0	1	0	0	0	0	0	0	89
10/15/2011 11:45 AM	2	61	16	0	6	0	0	1	0	0	0	0	0	2	88
10/15/2011 12:00 PM	0	67	22	0	4	1	0	0	0	0	0	0	0	4	98
10/15/2011 12:15 PM	2	71	23	0	2	1	0	0	0	0	0	0	0	2	101
10/15/2011 12:30 PM	1	61	9	0	4	0	0	3	0	0	0	0	0	0	78
10/15/2011 12:45 PM	0	71	21	0	2	0	0	0	0	0	0	0	0	2	96
10/15/2011 01:00 PM	2	59	16	0	1	0	0	1	0	0	1	0	0	1	81
10/15/2011 01:15 PM	0	60	19	0	5	0	0	1	0	0	0	0	0	0	85
10/15/2011 01:30 PM	0	72	21	0	3	0	0	0	0	0	0	0	0	1	97
10/15/2011 01:45 PM	0	69	30	0	5	0	0	1	0	0	0	0	0	4	109
10/15/2011 02:00 PM	0	53	26	0	1	1	0	1	0	0	0	0	0	0	82
10/15/2011 02:15 PM	0	71	19	0	4	0	0	0	0	0	0	0	0	0	94
10/15/2011 02:30 PM	0	64	21	0	3	0	0	3	0	0	0	0	0	0	91
10/15/2011 02:45 PM	0	85	22	0	5	0	0	0	1	0	0	0	0	2	115
10/15/2011 03:00 PM	0	57	16	0	2	0	0	0	0	0	0	0	0	1	76
10/15/2011 03:15 PM	1	83	27	0	5	0	0	0	0	0	0	0	0	0	116
10/15/2011 03:30 PM	2	70	25	0	7	0	0	0	0	0	0	0	0	2	106
10/15/2011 03:45 PM	2	73	20	0	2	0	0	1	0	0	0	0	0	3	101
10/15/2011 04:00 PM	0	85	24	0	0	0	0	2	0	0	0	0	0	1	112
10/15/2011 04:15 PM	1	72	19	0	1	0	0	2	0	0	0	0	0	1	96
10/15/2011 04:30 PM	1	77	25	0	1	0	0	0	0	0	0	0	0	0	104
10/15/2011 04:45 PM	3	91	17	0	3	0	0	0	0	0	0	0	0	0	114
10/15/2011 05:00 PM	1	74	29	0	1	0	0	1	0	0	0	0	0	1	107
10/15/2011 05:15 PM	2	62	19	0	1	0	0	1	0	0	0	0	0	0	85
10/15/2011 05:30 PM	3	73	14	0	1	0	0	0	0	0	0	0	0	1	92
10/15/2011 05:45 PM	1	82	13	0	1	0	0	0	0	0	0	0	0	1	98
10/15/2011 06:00 PM	1	71	20	0	3	0	0	0	0	0	0	0	0	2	97
10/15/2011 06:15 PM	2	68	15	0	2	0	0	0	0	0	0	0	0	0	87
10/15/2011 06:30 PM	0	79	16	0	2	0	0	0	0	0	0	0	0	1	98
10/15/2011 06:45 PM	1	80	21	1	0	0	0	0	0	0	0	0	0	2	105
10/15/2011 07:00 PM	0	51	11	0	3	0	0	0	0	0	0	0	0	0	65
10/15/2011 07:15 PM	0	61	19	0	1	0	0	1	0	0	0	0	0	1	83
10/15/2011 07:30 PM	1	61	13	0	3	0	0	1	0	1	0	0	0	1	81
10/15/2011 07:45 PM	0	51	14	0	4	0	0	1	0	0	0	0	0	1	71
10/15/2011 08:00 PM	0	54	11	0	0	0	0	1	0	0	0	0	0	0	66
10/15/2011 08:15 PM	0	29	7	0	3	0	0	0	0	0	0	0	0	0	39
10/15/2011 08:30 PM	1	33	10	0	3	0	0	1	0	0	0	0	0	0	48
10/15/2011 08:45 PM	0	40	10	0	1	0	0	0	0	0	0	0	0	0	51
10/15/2011 09:00 PM	0	37	10	0	1	0	0	0	0	0	0	0	0	0	48
10/15/2011 09:15 PM	1	37	10	0	1	0	0	0	0	0	0	0	0	0	49
10/15/2011 09:30 PM	1	47	7	0	0	0	0	0	0	0	0	0	0	0	55
10/15/2011 09:45 PM	1	45	10	0	1	0	0	0	0	0	0	0	0	1	58
10/15/2011 10:00 PM	0	42	21	0	1	0	0	0	0	0	1	0	0	0	65
10/15/2011 10:15 PM	0	48	6	0	2	0	0	0	0	0	0	0	0	1	57
10/15/2011 10:30 PM	0	38	5	0	3	0	0	0	0	0	0	0	0	0	46
10/15/2011 10:45 PM	1	40	7	0	0	0	0	0	0	0	0	0	0	0	48
10/15/2011 11:00 PM	1	41	13	0	0	0	0	0	0	0	0	0	0	0	55
10/15/2011 11:15 PM	2	44	8	0	1	0	0	1	0	0	0	0	0	1	57
10/15/2011 11:30 PM	0	37	9	0	0	0	0	1	0	0	0	0	0	1	48
10/15/2011 11:45 PM	0	30	6	0	2	0	0	1	0	0	0	0	0	0	39
	106	9953	2732	18	387	21	0	122	24	9	9	2	2	154	13539

SH 121 NBFR BETWEEN LEGACY & SPRING CREEK
Start Date: 10/28/2011
Start Time: 12:00:00 AM

Date	Time	NB
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10/28/2011	03:45 AM	13
10/28/2011	04:00 AM	11
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10/28/2011	05:30 AM	66
10/28/2011	05:45 AM	94
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10/29/2011	01:45 AM	17
10/29/2011	02:00 AM	22

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10/29/2011	02:45 PM	252
10/29/2011	03:00 PM	218
10/29/2011	03:15 PM	227
10/29/2011	03:30 PM	239
10/29/2011	03:45 PM	275

10/29/2011 04:00 PM	235
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10/29/2011 04:30 PM	206
10/29/2011 04:45 PM	261
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10/29/2011 11:45 PM	68
	31893

SH 121 SBFR BETWEEN LEGACY & SPRING CREEK
Start Date: 10/28/2011
Start Time: 12:00:00 AM

Date	Time	SB
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10/28/2011	02:45 AM	9
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10/28/2011	03:45 AM	15
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10/28/2011	01:45 PM	161
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10/29/2011 11:45 PM	59
	25270

SH 121 EBFR BETWEEN PLANO & MORNINGSTAR
Start Date: 10/15/2011
Start Time: 12:00:00 AM

Date	Time	EB
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10/15/2011	03:30 PM	282
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10/15/2011	04:00 PM	229
10/15/2011	04:15 PM	266
10/15/2011	04:30 PM	280
10/15/2011	04:45 PM	288
10/15/2011	05:00 PM	273
10/15/2011	05:15 PM	248
10/15/2011	05:30 PM	261
10/15/2011	05:45 PM	247
10/15/2011	06:00 PM	261
10/15/2011	06:15 PM	257
10/15/2011	06:30 PM	239
10/15/2011	06:45 PM	227
10/15/2011	07:00 PM	194
10/15/2011	07:15 PM	194
10/15/2011	07:30 PM	166
10/15/2011	07:45 PM	183
10/15/2011	08:00 PM	186
10/15/2011	08:15 PM	132
10/15/2011	08:30 PM	127
10/15/2011	08:45 PM	128
10/15/2011	09:00 PM	117
10/15/2011	09:15 PM	109
10/15/2011	09:30 PM	90
10/15/2011	09:45 PM	98
10/15/2011	10:00 PM	105
10/15/2011	10:15 PM	90
10/15/2011	10:30 PM	97
10/15/2011	10:45 PM	80
10/15/2011	11:00 PM	87
10/15/2011	11:15 PM	92
10/15/2011	11:30 PM	83
10/15/2011	11:45 PM	72
		13824

SH 121 WBFR BETWEEN PLANO & COLONY
Start Date: 10/15/2011
Start Time: 12:00:00 AM

Date	Time	WB
10/15/2011	12:00 AM	61
10/15/2011	12:15 AM	62
10/15/2011	12:30 AM	45
10/15/2011	12:45 AM	32
10/15/2011	01:00 AM	31
10/15/2011	01:15 AM	28
10/15/2011	01:30 AM	43
10/15/2011	01:45 AM	15
10/15/2011	02:00 AM	30
10/15/2011	02:15 AM	29
10/15/2011	02:30 AM	17
10/15/2011	02:45 AM	28
10/15/2011	03:00 AM	16
10/15/2011	03:15 AM	19
10/15/2011	03:30 AM	20
10/15/2011	03:45 AM	16
10/15/2011	04:00 AM	21
10/15/2011	04:15 AM	18
10/15/2011	04:30 AM	29
10/15/2011	04:45 AM	22
10/15/2011	05:00 AM	27
10/15/2011	05:15 AM	38
10/15/2011	05:30 AM	55
10/15/2011	05:45 AM	48
10/15/2011	06:00 AM	58
10/15/2011	06:15 AM	64
10/15/2011	06:30 AM	92
10/15/2011	06:45 AM	77
10/15/2011	07:00 AM	98
10/15/2011	07:15 AM	121
10/15/2011	07:30 AM	126
10/15/2011	07:45 AM	143
10/15/2011	08:00 AM	150
10/15/2011	08:15 AM	170
10/15/2011	08:30 AM	216
10/15/2011	08:45 AM	167
10/15/2011	09:00 AM	187
10/15/2011	09:15 AM	203
10/15/2011	09:30 AM	223
10/15/2011	09:45 AM	202
10/15/2011	10:00 AM	221
10/15/2011	10:15 AM	225
10/15/2011	10:30 AM	231
10/15/2011	10:45 AM	277
10/15/2011	11:00 AM	233
10/15/2011	11:15 AM	266
10/15/2011	11:30 AM	276
10/15/2011	11:45 AM	241
10/15/2011	12:00 PM	314
10/15/2011	12:15 PM	264

10/15/2011 12:30 PM	322
10/15/2011 12:45 PM	276
10/15/2011 01:00 PM	283
10/15/2011 01:15 PM	280
10/15/2011 01:30 PM	288
10/15/2011 01:45 PM	275
10/15/2011 02:00 PM	302
10/15/2011 02:15 PM	279
10/15/2011 02:30 PM	289
10/15/2011 02:45 PM	270
10/15/2011 03:00 PM	313
10/15/2011 03:15 PM	295
10/15/2011 03:30 PM	332
10/15/2011 03:45 PM	276
10/15/2011 04:00 PM	292
10/15/2011 04:15 PM	283
10/15/2011 04:30 PM	319
10/15/2011 04:45 PM	289
10/15/2011 05:00 PM	272
10/15/2011 05:15 PM	283
10/15/2011 05:30 PM	314
10/15/2011 05:45 PM	287
10/15/2011 06:00 PM	323
10/15/2011 06:15 PM	289
10/15/2011 06:30 PM	280
10/15/2011 06:45 PM	262
10/15/2011 07:00 PM	269
10/15/2011 07:15 PM	247
10/15/2011 07:30 PM	218
10/15/2011 07:45 PM	211
10/15/2011 08:00 PM	199
10/15/2011 08:15 PM	172
10/15/2011 08:30 PM	163
10/15/2011 08:45 PM	175
10/15/2011 09:00 PM	149
10/15/2011 09:15 PM	165
10/15/2011 09:30 PM	149
10/15/2011 09:45 PM	156
10/15/2011 10:00 PM	176
10/15/2011 10:15 PM	143
10/15/2011 10:30 PM	145
10/15/2011 10:45 PM	128
10/15/2011 11:00 PM	133
10/15/2011 11:15 PM	106
10/15/2011 11:30 PM	116
10/15/2011 11:45 PM	72
	16460

SAVANT GROUP
TRANSPORTATION ENGINEERS & PLANNERS

APPENDIX C: 2011 EXISTING ANALYSES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	387	238	122	1471	0	0	0	0	129	1017	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	1.00	0.86					0.91	0.91	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	1770	6408					1610	3333	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	1770	6408					1610	3333	
Peak-hour factor, PHF	0.25	0.93	0.83	0.80	0.90	1.00	1.00	1.00	1.00	0.81	0.90	0.85
Adj. Flow (vph)	0	416	287	152	1634	0	0	0	0	159	1130	140
RTOR Reduction (vph)	0	0	103	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	416	184	152	1634	0	0	0	0	143	1279	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		28.3	28.3	21.9	56.3					51.3	51.3	
Effective Green, g (s)		28.3	28.3	21.9	56.3					51.3	51.3	
Actuated g/C Ratio		0.24	0.24	0.18	0.47					0.43	0.43	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		1511	373	323	3006					688	1425	
v/s Ratio Prot		0.06		0.09	c0.26							
v/s Ratio Perm			0.12							0.09	0.38	
v/c Ratio		0.28	0.49	0.47	0.54					0.21	0.90	
Uniform Delay, d1		37.5	39.6	43.9	22.7					21.6	31.9	
Progression Factor		1.00	1.00	1.17	0.83					1.00	1.00	
Incremental Delay, d2		0.0	0.4	0.2	0.0					0.7	9.2	
Delay (s)		37.5	40.0	51.5	18.9					22.3	41.1	
Level of Service		D	D	D	B					C	D	
Approach Delay (s)		38.5			21.7			0.0			39.3	
Approach LOS		D			C			A			D	

Intersection Summary			
HCM Average Control Delay	31.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	274	249	0	0	805	157	778	919	92	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7		6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.95		0.91	0.91	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.99	1.00			
Satd. Flow (prot)	3433	3539			3454		1610	3357	1583			
Flt Permitted	0.95	1.00			1.00		0.95	0.99	1.00			
Satd. Flow (perm)	3433	3539			3454		1610	3357	1583			
Peak-hour factor, PHF	0.83	0.77	1.00	1.00	0.83	0.85	0.83	0.83	0.85	1.00	1.00	1.00
Adj. Flow (vph)	330	323	0	0	970	185	937	1107	108	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	0	52	0	0	0
Lane Group Flow (vph)	330	323	0	0	1146	0	665	1379	56	0	0	0
Turn Type	Prot						Perm		Perm			
Protected Phases	5	5 6						8				
Permitted Phases					6		8		8			
Actuated Green, G (s)	13.1	63.4			44.6		43.8	43.8	43.8			
Effective Green, g (s)	13.1	57.7			44.6		43.8	43.8	43.8			
Actuated g/C Ratio	0.11	0.48			0.37		0.36	0.36	0.36			
Clearance Time (s)	6.1				5.7		6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0		2.0	2.0	2.0			
Lane Grp Cap (vph)	375	1702			1284		588	1225	578			
v/s Ratio Prot	c0.10	0.09										
v/s Ratio Perm					c0.33		c0.41	0.41	0.04			
v/c Ratio	0.88	0.19			0.89		1.13	1.13	0.10			
Uniform Delay, d1	52.7	17.8			35.4		38.1	38.1	25.1			
Progression Factor	0.48	1.23			1.00		1.00	1.00	1.00			
Incremental Delay, d2	20.0	0.0			8.0		78.7	67.6	0.3			
Delay (s)	45.3	22.0			43.4		116.8	105.7	25.4			
Level of Service	D	C			D		F	F	C			
Approach Delay (s)		33.8			43.4			105.1			0.0	
Approach LOS		C			D			F			A	

Intersection Summary			
HCM Average Control Delay	75.3	HCM Level of Service	E
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	82.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	98	0	0	1487	352
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	0.88	1.00	1.00	0.91	0.88
Hourly flow rate (vph)	0	111	0	0	1634	400
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1834	745	2034			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1834	745	2034			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	69	100			
cM capacity (veh/h)	67	357	274			

Direction, Lane #	EB 1	SB 1	SB 2	SB 3
Volume Total	111	654	654	727
Volume Left	0	0	0	0
Volume Right	111	0	0	400
cSH	357	1700	1700	1700
Volume to Capacity	0.31	0.38	0.38	0.43
Queue Length 95th (ft)	33	0	0	0
Control Delay (s)	19.6	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	19.6	0.0		
Approach LOS	C			

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	67	137	1053	224	0	0	0	0	64	1061	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0						8.0	
Lane Util. Factor		0.95	1.00	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3539	1583	3433	3539						5057	
Flt Permitted		1.00	1.00	0.70	1.00						1.00	
Satd. Flow (perm)		3539	1583	2528	3539						5057	
Peak-hour factor, PHF	1.00	0.80	0.65	0.87	0.89	1.00	1.00	1.00	1.00	0.62	0.93	0.50
Adj. Flow (vph)	0	84	211	1210	252	0	0	0	0	103	1141	12
RTOR Reduction (vph)	0	0	15	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	84	196	1210	252	0	0	0	0	0	1256	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2 9		6	2 6 9						14 15	
Permitted Phases			2 9	2 6 9						14 15		
Actuated Green, G (s)		29.8	29.8	47.8	52.8						84.2	
Effective Green, g (s)		23.8	23.8	41.8	46.8						84.2	
Actuated g/C Ratio		0.16	0.16	0.28	0.31						0.56	
Clearance Time (s)				5.0								
Vehicle Extension (s)				1.8								
Lane Grp Cap (vph)		562	251	813	1104						2839	
v/s Ratio Prot		0.02		c0.18	0.07							
v/s Ratio Perm			0.12	c0.24							0.25	
v/c Ratio		0.15	0.78	1.49	0.23						0.44	
Uniform Delay, d1		54.4	60.6	52.5	38.2						19.2	
Progression Factor		1.00	1.00	0.49	0.48						1.00	
Incremental Delay, d2		0.1	14.0	222.2	0.0						0.0	
Delay (s)		54.5	74.6	247.7	18.5						19.2	
Level of Service		D	E	F	B						B	
Approach Delay (s)		68.9			208.2			0.0			19.2	
Approach LOS		E			F			A			B	

Intersection Summary			
HCM Average Control Delay	115.8	HCM Level of Service	F
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	23.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	139	0	0	1178	205	88	976	360	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		8.0	8.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5062	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5062	1583			
Peak-hour factor, PHF	0.58	0.71	1.00	1.00	0.88	0.88	0.81	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	12	196	0	0	1339	233	109	1073	391	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	160	0	0	225	0	0	0
Lane Group Flow (vph)	12	196	0	0	1339	73	0	1182	166	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	2 14	2 6 9 14			6 9			15				
Permitted Phases						6 9	15		15			
Actuated Green, G (s)	44.0	82.0			32.0	32.0		52.0	52.0			
Effective Green, g (s)	44.0	76.0			32.0	32.0		52.0	52.0			
Actuated g/C Ratio	0.29	0.51			0.21	0.21		0.35	0.35			
Clearance Time (s)								8.0	8.0			
Vehicle Extension (s)								3.5	3.5			
Lane Grp Cap (vph)	519	2576			1367	338		1755	549			
v/s Ratio Prot	0.01	c0.04			c0.21							
v/s Ratio Perm						0.05		0.23	0.11			
v/c Ratio	0.02	0.08			0.98	0.22		0.67	0.30			
Uniform Delay, d1	37.7	19.0			58.7	48.7		41.8	35.8			
Progression Factor	0.74	0.72			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.0	0.0			19.9	1.5		2.1	1.4			
Delay (s)	27.9	13.7			78.6	50.1		43.9	37.2			
Level of Service	C	B			E	D		D	D			
Approach Delay (s)		14.5			74.4			42.2			0.0	
Approach LOS		B			E			D			A	

Intersection Summary			
HCM Average Control Delay	55.6	HCM Level of Service	E
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	564	395	757	1949	0	0	0	0	42	732	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.91	0.88	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.97	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		5085	2787	3433	3539						4943	
Flt Permitted		1.00	1.00	0.27	1.00						1.00	
Satd. Flow (perm)		5085	2787	959	3539						4943	
Peak-hour factor, PHF	1.00	0.87	0.92	0.88	0.96	1.00	1.00	1.00	1.00	0.88	0.89	0.89
Adj. Flow (vph)	0	648	429	860	2030	0	0	0	0	48	822	181
RTOR Reduction (vph)	0	0	59	0	0	0	0	0	0	0	7	0
Lane Group Flow (vph)	0	648	370	860	2030	0	0	0	0	0	1044	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		
Actuated Green, G (s)		16.0	16.0	48.0	54.0						24.0	
Effective Green, g (s)		16.0	16.0	48.0	54.0						24.0	
Actuated g/C Ratio		0.18	0.18	0.53	0.60						0.27	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		904	495	1391	2123						1318	
v/s Ratio Prot		0.13		0.22	c0.57							
v/s Ratio Perm			0.13	0.11							0.21	
v/c Ratio		0.72	0.75	0.62	0.96						0.79	
Uniform Delay, d1		34.9	35.1	18.3	16.9						30.7	
Progression Factor		1.00	1.00	0.07	0.60						1.00	
Incremental Delay, d2		4.9	9.9	0.4	5.1						4.9	
Delay (s)		39.7	45.0	1.7	15.2						35.6	
Level of Service		D	D	A	B						D	
Approach Delay (s)		41.8			11.2			0.0			35.6	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	131	470	0	0	1985	218	722	788	232	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86			0.91	1.00			
Frt	1.00	1.00			0.98			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.98	1.00			
Satd. Flow (prot)	3433	5085			6281			4976	1583			
Flt Permitted	0.11	1.00			1.00			0.98	1.00			
Satd. Flow (perm)	391	5085			6281			4976	1583			
Peak-hour factor, PHF	0.80	0.90	1.00	1.00	0.94	0.68	0.99	0.85	0.92	1.00	1.00	1.00
Adj. Flow (vph)	164	522	0	0	2112	321	729	927	252	0	0	0
RTOR Reduction (vph)	0	0	0	0	22	0	0	0	165	0	0	0
Lane Group Flow (vph)	164	522	0	0	2411	0	0	1656	87	0	0	0
Turn Type	pm+pt						Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6						8		8			
Actuated Green, G (s)	41.0	47.0			37.0			31.0	31.0			
Effective Green, g (s)	41.0	47.0			37.0			31.0	31.0			
Actuated g/C Ratio	0.46	0.52			0.41			0.34	0.34			
Clearance Time (s)	6.0				6.0			6.0	6.0			
Vehicle Extension (s)	3.0				3.0			3.0	3.0			
Lane Grp Cap (vph)	313	2656			2582			1714	545			
v/s Ratio Prot	c0.02	0.10			c0.38							
v/s Ratio Perm	0.22							0.33	0.05			
v/c Ratio	0.52	0.20			0.93			1.20dl	0.16			
Uniform Delay, d1	18.9	11.4			25.3			29.0	20.5			
Progression Factor	2.29	0.11			1.00			1.00	1.00			
Incremental Delay, d2	1.1	0.0			7.8			14.4	0.1			
Delay (s)	44.4	1.2			33.1			43.4	20.6			
Level of Service	D	A			C			D	C			
Approach Delay (s)		11.6			33.1			40.4			0.0	
Approach LOS		B			C			D			A	

Intersection Summary			
HCM Average Control Delay	32.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	314	32	8	850	107	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3479		1770	3539	1770	1583
Flt Permitted	1.00		0.36	1.00	0.95	1.00
Satd. Flow (perm)	3479		680	3539	1770	1583
Peak-hour factor, PHF	0.83	0.67	0.67	0.92	0.86	0.56
Adj. Flow (vph)	378	48	12	924	124	16
RTOR Reduction (vph)	15	0	0	0	0	14
Lane Group Flow (vph)	411	0	12	924	124	2
Turn Type			pm+pt			custom
Protected Phases	4		3	8		
Permitted Phases			8		2	2
Actuated Green, G (s)	15.8		22.3	22.3	4.4	4.4
Effective Green, g (s)	15.8		22.3	22.3	4.4	4.4
Actuated g/C Ratio	0.41		0.58	0.58	0.11	0.11
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1420		406	2039	201	180
v/s Ratio Prot	0.12		0.00	c0.26		
v/s Ratio Perm			0.02		c0.07	0.00
v/c Ratio	0.29		0.03	0.45	0.62	0.01
Uniform Delay, d1	7.7		4.0	4.7	16.3	15.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.0	0.2	5.5	0.0
Delay (s)	7.8		4.0	4.9	21.9	15.2
Level of Service	A		A	A	C	B
Approach Delay (s)	7.8			4.9	21.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	7.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	38.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	333	1	0	811	16	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.25	1.00	0.83	0.50	0.63
Hourly flow rate (vph)	387	4	0	977	32	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)	1015					
pX, platoon unblocked						
vC, conflicting volume			391		878	196
vC1, stage 1 conf vol					389	
vC2, stage 2 conf vol					489	
vCu, unblocked vol			391		878	196
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		92	99
cM capacity (veh/h)			1164		412	813

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	258	133	0	489	489	32	8
Volume Left	0	0	0	0	0	32	0
Volume Right	0	4	0	0	0	0	8
cSH	1700	1700	1700	1700	1700	412	813
Volume to Capacity	0.15	0.08	0.00	0.29	0.29	0.08	0.01
Queue Length 95th (ft)	0	0	0	0	0	6	1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	14.5	9.5
Lane LOS						B	A
Approach Delay (s)	0.0		0.0			13.5	
Approach LOS						B	

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	94	260	1137	1	25	466
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.82	0.94	0.25	0.69	0.94
Hourly flow rate (vph)	108	317	1210	4	36	496
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh)			1			1
Upstream signal (ft)						752
pX, platoon unblocked						
vC, conflicting volume	1447	403			1214	
vC1, stage 1 conf vol	1210					
vC2, stage 2 conf vol	238					
vCu, unblocked vol	1447	403			1214	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	47	47			94	
cM capacity (veh/h)	203	597			571	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	108	317	403	403	403	4	36	165	165	165
Volume Left	108	0	0	0	0	0	36	0	0	0
Volume Right	0	317	0	0	0	4	0	0	0	0
cSH	203	597	1700	1700	1700	1700	571	1700	1700	1700
Volume to Capacity	0.53	0.53	0.24	0.24	0.24	0.00	0.06	0.10	0.10	0.10
Queue Length 95th (ft)	69	78	0	0	0	0	5	0	0	0
Control Delay (s)	41.3	17.7	0.0	0.0	0.0	0.0	11.7	0.0	0.0	0.0
Lane LOS	E	C					B			
Approach Delay (s)	23.7		0.0				0.8			
Approach LOS	C									

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	444	241	79	537	0	0	0	0	85	770	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	1.00	0.86					0.91	0.91	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	1770	6408					1610	3332	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	1770	6408					1610	3332	
Peak-hour factor, PHF	0.25	0.96	0.75	0.86	0.91	1.00	1.00	1.00	1.00	0.89	0.93	0.68
Adj. Flow (vph)	0	462	321	92	590	0	0	0	0	96	828	104
RTOR Reduction (vph)	0	0	152	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	462	169	92	590	0	0	0	0	86	934	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		17.2	17.2	9.7	33.0					44.6	44.6	
Effective Green, g (s)		17.2	17.2	9.7	33.0					44.6	44.6	
Actuated g/C Ratio		0.19	0.19	0.11	0.37					0.50	0.50	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		1225	303	191	2350					798	1651	
v/s Ratio Prot		0.07		c0.05	c0.09							
v/s Ratio Perm			c0.11							0.05	0.28	
v/c Ratio		0.38	0.56	0.48	0.25					0.11	0.57	
Uniform Delay, d1		31.7	33.0	37.8	19.9					12.1	15.9	
Progression Factor		1.00	1.00	1.70	1.43					1.00	1.00	
Incremental Delay, d2		0.1	1.3	0.7	0.0					0.3	1.4	
Delay (s)		31.8	34.2	64.9	28.5					12.4	17.3	
Level of Service		C	C	E	C					B	B	
Approach Delay (s)		32.8			33.4			0.0			16.9	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	325	182	0	0	246	31	371	505	78	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	4.0	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	3539	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.88	1.00	1.00	0.98	0.86	0.87	0.87	0.75	1.00	1.00	1.00
Adj. Flow (vph)	353	207	0	0	251	36	426	580	104	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	36	0	0	50	0	0	0
Lane Group Flow (vph)	353	207	0	0	251	0	426	580	54	0	0	0
Turn Type	Prot					NA	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases					6		8		8			
Actuated Green, G (s)	12.5	31.1			12.5	0.0	46.5	46.5	46.5			
Effective Green, g (s)	12.5	31.1			12.5	0.0	46.5	46.5	46.5			
Actuated g/C Ratio	0.14	0.35			0.14	0.00	0.52	0.52	0.52			
Clearance Time (s)	6.1				5.7		6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0		2.0	2.0	2.0			
Lane Grp Cap (vph)	477	1223			706	0	1774	1828	818			
v/s Ratio Prot	c0.10	c0.06			c0.05			c0.16				
v/s Ratio Perm							0.12		0.03			
v/c Ratio	0.74	0.17			0.36	0.00	0.24	0.32	0.07			
Uniform Delay, d1	37.2	20.5			35.1	45.0	12.0	12.6	10.9			
Progression Factor	1.88	0.89			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	5.2	0.0			0.1	0.0	0.0	0.0	0.0			
Delay (s)	75.2	18.3			35.2	45.0	12.0	12.6	10.9			
Level of Service	E	B			D	D	B	B	B			
Approach Delay (s)		54.2			36.4			12.2			0.0	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	232	0	0	1152	141
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.55	1.00	1.00	0.88	0.86
Hourly flow rate (vph)	0	422	0	0	1309	164
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1391	518	1473			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1391	518	1473			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	16	100			
cM capacity (veh/h)	133	502	454			

Direction, Lane #	EB 1	SB 1	SB 2	SB 3
Volume Total	422	524	524	426
Volume Left	0	0	0	0
Volume Right	422	0	0	164
cSH	502	1700	1700	1700
Volume to Capacity	0.84	0.31	0.31	0.25
Queue Length 95th (ft)	213	0	0	0
Control Delay (s)	39.5	0.0	0.0	0.0
Lane LOS	E			
Approach Delay (s)	39.5	0.0		
Approach LOS	E			

Intersection Summary			
Average Delay	8.8		
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	27	39	320	84	0	0	0	0	38	759	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0						8.0	
Lane Util. Factor		0.95	1.00	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3539	1583	3433	3539						5069	
Flt Permitted		1.00	1.00	0.73	1.00						1.00	
Satd. Flow (perm)		3539	1583	2627	3539						5069	
Peak-hour factor, PHF	1.00	0.61	0.81	0.92	0.81	1.00	1.00	1.00	1.00	0.79	0.85	0.50
Adj. Flow (vph)	0	44	48	348	104	0	0	0	0	48	893	4
RTOR Reduction (vph)	0	0	43	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	44	5	348	104	0	0	0	0	0	945	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2 9		6	2 6 9						14 15	
Permitted Phases			2 9	2 6 9						14 15		
Actuated Green, G (s)		18.1	18.1	33.1	38.1						68.9	
Effective Green, g (s)		12.1	12.1	27.1	32.1						68.9	
Actuated g/C Ratio		0.10	0.10	0.23	0.27						0.57	
Clearance Time (s)				5.0								
Vehicle Extension (s)				1.8								
Lane Grp Cap (vph)		357	160	694	947						2910	
v/s Ratio Prot		0.01		c0.06	0.03							
v/s Ratio Perm			0.00	c0.05							0.19	
v/c Ratio		0.12	0.03	0.50	0.11						0.32	
Uniform Delay, d1		49.1	48.7	40.0	33.2						13.4	
Progression Factor		1.00	1.00	0.10	0.66						1.00	
Incremental Delay, d2		0.1	0.1	0.4	0.0						0.0	
Delay (s)		49.2	48.7	4.5	22.0						13.4	
Level of Service		D	D	A	C						B	
Approach Delay (s)		49.0			8.6			0.0			13.4	
Approach LOS		D			A			A			B	

Intersection Summary			
HCM Average Control Delay	14.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.0
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	62	0	0	339	41	43	634	301	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		8.0	8.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5068	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5068	1583			
Peak-hour factor, PHF	0.25	0.78	1.00	1.00	0.88	0.64	0.83	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	8	79	0	0	385	64	52	697	327	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	50	0	0	196	0	0	0
Lane Group Flow (vph)	8	79	0	0	385	14	0	749	131	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	2 14	2 6 9 14			6 9			15				
Permitted Phases						6 9	15		15			
Actuated Green, G (s)	23.6	56.1			26.5	26.5		47.9	47.9			
Effective Green, g (s)	23.6	50.1			26.5	26.5		47.9	47.9			
Actuated g/C Ratio	0.20	0.42			0.22	0.22		0.40	0.40			
Clearance Time (s)								8.0	8.0			
Vehicle Extension (s)								3.5	3.5			
Lane Grp Cap (vph)	348	2123			1415	350		2023	632			
v/s Ratio Prot	0.00	c0.02			c0.06							
v/s Ratio Perm						0.01		0.15	0.08			
v/c Ratio	0.02	0.04			0.27	0.04		0.37	0.21			
Uniform Delay, d1	38.9	20.7			38.8	36.8		25.4	23.6			
Progression Factor	0.71	0.73			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.0	0.0			0.5	0.2		0.5	0.7			
Delay (s)	27.6	15.0			39.2	37.0		25.9	24.3			
Level of Service	C	B			D	D		C	C			
Approach Delay (s)		16.2			38.9			25.5			0.0	
Approach LOS		B			D			C			A	

Intersection Summary			
HCM Average Control Delay	28.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	519	246	348	638	0	0	0	0	45	492	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.91	0.88	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.96	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		5085	2787	3433	3539						4886	
Flt Permitted		1.00	1.00	0.42	1.00						1.00	
Satd. Flow (perm)		5085	2787	1533	3539						4886	
Peak-hour factor, PHF	1.00	0.90	0.89	0.76	0.91	1.00	1.00	1.00	1.00	0.87	0.95	0.96
Adj. Flow (vph)	0	577	276	458	701	0	0	0	0	52	518	179
RTOR Reduction (vph)	0	0	120	0	0	0	0	0	0	0	103	0
Lane Group Flow (vph)	0	577	156	458	701	0	0	0	0	0	646	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		
Actuated Green, G (s)		16.0	16.0	21.0	27.0						16.0	
Effective Green, g (s)		16.0	16.0	21.0	27.0						16.0	
Actuated g/C Ratio		0.29	0.29	0.38	0.49						0.29	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1479	811	758	1737						1421	
v/s Ratio Prot		0.11		0.05	c0.20							
v/s Ratio Perm			0.06	c0.18							0.13	
v/c Ratio		0.39	0.19	0.60	0.40						0.45	
Uniform Delay, d1		15.6	14.6	15.0	8.9						15.9	
Progression Factor		1.00	1.00	1.30	0.93						1.00	
Incremental Delay, d2		0.8	0.5	1.2	0.1						1.1	
Delay (s)		16.4	15.2	20.7	8.4						17.0	
Level of Service		B	B	C	A						B	
Approach Delay (s)		16.0			13.3			0.0			17.0	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	15.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	157	407	0	0	675	32	311	490	163	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86			0.91	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.98	1.00			
Satd. Flow (prot)	3433	5085			6358			4989	1583			
Flt Permitted	0.30	1.00			1.00			0.98	1.00			
Satd. Flow (perm)	1076	5085			6358			4989	1583			
Peak-hour factor, PHF	0.84	0.90	1.00	1.00	0.84	0.73	0.89	0.89	0.85	1.00	1.00	1.00
Adj. Flow (vph)	187	452	0	0	804	44	349	551	192	0	0	0
RTOR Reduction (vph)	0	0	0	0	15	0	0	0	129	0	0	0
Lane Group Flow (vph)	187	452	0	0	833	0	0	900	63	0	0	0
Turn Type	pm+pt						Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6						8		8			
Actuated Green, G (s)	18.9	24.9			14.9			18.1	18.1			
Effective Green, g (s)	18.9	24.9			14.9			18.1	18.1			
Actuated g/C Ratio	0.34	0.45			0.27			0.33	0.33			
Clearance Time (s)	6.0				6.0			6.0	6.0			
Vehicle Extension (s)	3.0				3.0			3.0	3.0			
Lane Grp Cap (vph)	541	2302			1722			1642	521			
v/s Ratio Prot	0.03	c0.09			c0.13							
v/s Ratio Perm	0.09							0.18	0.04			
v/c Ratio	0.35	0.20			0.48			0.55	0.12			
Uniform Delay, d1	12.5	9.0			16.8			15.1	12.9			
Progression Factor	0.58	0.15			1.00			1.00	1.00			
Incremental Delay, d2	0.4	0.0			0.2			1.3	0.5			
Delay (s)	7.6	1.4			17.0			16.4	13.4			
Level of Service	A	A			B			B	B			
Approach Delay (s)		3.3			17.0			15.9			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	259	5	2	291	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3525		1770	3539	1770	1583
Flt Permitted	1.00		0.38	1.00	0.95	1.00
Satd. Flow (perm)	3525		716	3539	1770	1583
Peak-hour factor, PHF	0.91	0.63	0.25	0.91	0.50	0.25
Adj. Flow (vph)	285	8	8	320	12	4
RTOR Reduction (vph)	4	0	0	0	0	4
Lane Group Flow (vph)	289	0	8	320	12	0
Turn Type			pm+pt			Perm
Protected Phases	4		3	8	2	
Permitted Phases			8			2
Actuated Green, G (s)	4.4		10.8	10.8	0.6	0.6
Effective Green, g (s)	4.4		10.8	10.8	0.6	0.6
Actuated g/C Ratio	0.19		0.46	0.46	0.03	0.03
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	663		348	1633	45	41
v/s Ratio Prot	c0.08		0.00	c0.09	c0.01	
v/s Ratio Perm			0.01			0.00
v/c Ratio	0.44		0.02	0.20	0.27	0.00
Uniform Delay, d1	8.4		4.2	3.7	11.2	11.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5		0.0	0.1	3.2	0.0
Delay (s)	8.9		4.2	3.8	14.4	11.1
Level of Service	A		A	A	B	B
Approach Delay (s)	8.9			3.8	13.5	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	23.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	21.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	256	0	0	259	4	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	1.00	1.00	0.95	0.25	1.00
Hourly flow rate (vph)	275	0	0	273	16	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)	1015					
pX, platoon unblocked						
vC, conflicting volume			275		412	138
vC1, stage 1 conf vol					275	
vC2, stage 2 conf vol					136	
vCu, unblocked vol			275		412	138
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1285		622	886

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	184	92	0	136	136	16	0
Volume Left	0	0	0	0	0	16	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	622	1700
Volume to Capacity	0.11	0.05	0.00	0.08	0.08	0.03	0.00
Queue Length 95th (ft)	0	0	0	0	0	2	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.9	0.0
Lane LOS						B	A
Approach Delay (s)	0.0		0.0			10.9	
Approach LOS						B	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	17.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	11	18	364	10	13	349
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.46	0.64	0.93	0.83	0.81	0.97
Hourly flow rate (vph)	24	28	391	12	16	360
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh)			1			1
Upstream signal (ft)						752
pX, platoon unblocked						
vC, conflicting volume	543	130			403	
vC1, stage 1 conf vol	391					
vC2, stage 2 conf vol	152					
vCu, unblocked vol	543	130			403	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	97			99	
cM capacity (veh/h)	538	895			1152	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	24	28	130	130	130	12	16	120	120	120
Volume Left	24	0	0	0	0	0	16	0	0	0
Volume Right	0	28	0	0	0	12	0	0	0	0
cSH	538	895	1700	1700	1700	1700	1152	1700	1700	1700
Volume to Capacity	0.04	0.03	0.08	0.08	0.08	0.01	0.01	0.07	0.07	0.07
Queue Length 95th (ft)	3	2	0	0	0	0	1	0	0	0
Control Delay (s)	12.0	9.2	0.0	0.0	0.0	0.0	8.2	0.0	0.0	0.0
Lane LOS	B	A					A			
Approach Delay (s)	10.5		0.0				0.3			
Approach LOS	B									

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	20.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	387	238	122	1471	0	0	0	0	129	1017	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	1.00	0.86					0.91	0.91	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	1770	6408					1610	3333	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	1770	6408					1610	3333	
Peak-hour factor, PHF	0.25	0.93	0.83	0.80	0.90	1.00	1.00	1.00	1.00	0.81	0.90	0.85
Adj. Flow (vph)	0	416	287	152	1634	0	0	0	0	159	1130	140
RTOR Reduction (vph)	0	0	44	0	0	0	0	0	0	0	8	0
Lane Group Flow (vph)	0	416	243	152	1634	0	0	0	0	143	1278	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		28.6	28.6	11.9	46.6					41.0	41.0	
Effective Green, g (s)		28.6	28.6	11.9	46.6					41.0	41.0	
Actuated g/C Ratio		0.29	0.29	0.12	0.47					0.41	0.41	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		1833	453	211	2986					660	1367	
v/s Ratio Prot		0.06		c0.09	c0.26							
v/s Ratio Perm			0.15							0.09	0.38	
v/c Ratio		0.23	0.54	0.72	0.55					0.22	0.93	
Uniform Delay, d1		27.3	30.1	42.4	19.1					19.1	28.2	
Progression Factor		1.00	1.00	1.36	1.01					1.00	1.00	
Incremental Delay, d2		0.0	0.6	7.3	0.1					0.8	13.1	
Delay (s)		27.3	30.7	65.0	19.4					19.9	41.3	
Level of Service		C	C	E	B					B	D	
Approach Delay (s)		28.7			23.3			0.0			39.1	
Approach LOS		C			C			A			D	

Intersection Summary			
HCM Average Control Delay	30.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	6.1
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	274	249	0	0	805	157	778	919	92	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7		6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91		0.97	0.95	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			4963		3433	3539	1583			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			4963		3433	3539	1583			
Peak-hour factor, PHF	0.83	0.77	1.00	1.00	0.83	0.85	0.83	0.83	0.85	1.00	1.00	1.00
Adj. Flow (vph)	330	323	0	0	970	185	937	1107	108	0	0	0
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	66	0	0	0
Lane Group Flow (vph)	330	323	0	0	1142	0	937	1107	42	0	0	0
Turn Type	Prot						Perm		Perm			
Protected Phases	5	5 6						8				
Permitted Phases					6		8		8			
Actuated Green, G (s)	12.6	48.2			29.9		39.0	39.0	39.0			
Effective Green, g (s)	12.6	42.5			29.9		39.0	39.0	39.0			
Actuated g/C Ratio	0.13	0.42			0.30		0.39	0.39	0.39			
Clearance Time (s)	6.1				5.7		6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0		2.0	2.0	2.0			
Lane Grp Cap (vph)	433	1504			1484		1339	1380	617			
v/s Ratio Prot	c0.10	0.09						c0.31				
v/s Ratio Perm					c0.23		0.27		0.03			
v/c Ratio	0.76	0.21			0.77		0.70	0.80	0.07			
Uniform Delay, d1	42.3	18.2			31.9		25.6	27.1	19.1			
Progression Factor	0.50	1.24			1.00		1.00	1.00	1.00			
Incremental Delay, d2	7.0	0.0			2.2		3.1	5.0	0.2			
Delay (s)	28.0	22.5			34.1		28.7	32.1	19.3			
Level of Service	C	C			C		C	C	B			
Approach Delay (s)		25.3			34.1			29.9			0.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	98	0	0	1487	352
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	0.88	1.00	1.00	0.91	0.88
Hourly flow rate (vph)	0	111	0	0	1634	400
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1834	745	2034			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1834	745	2034			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	69	100			
cM capacity (veh/h)	67	357	274			

Direction, Lane #	EB 1	SB 1	SB 2	SB 3
Volume Total	111	654	654	727
Volume Left	0	0	0	0
Volume Right	111	0	0	400
cSH	357	1700	1700	1700
Volume to Capacity	0.31	0.38	0.38	0.43
Queue Length 95th (ft)	33	0	0	0
Control Delay (s)	19.6	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	19.6	0.0		
Approach LOS	C			

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	67	137	1053	224	0	0	0	0	64	1061	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	5.0	5.0						8.0	
Lane Util. Factor		0.95	1.00	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3539	1583	3433	3539						5057	
Flt Permitted		1.00	1.00	0.70	1.00						1.00	
Satd. Flow (perm)		3539	1583	2528	3539						5057	
Peak-hour factor, PHF	1.00	0.80	0.65	0.87	0.89	1.00	1.00	1.00	1.00	0.62	0.93	0.50
Adj. Flow (vph)	0	84	211	1210	252	0	0	0	0	103	1141	12
RTOR Reduction (vph)	0	0	17	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	84	194	1210	252	0	0	0	0	0	1255	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2 9		6	2 6 9						14 15	
Permitted Phases			2 9	2 6 9						14 15		
Actuated Green, G (s)		32.7	32.7	68.7	73.7						62.3	
Effective Green, g (s)		32.7	32.7	68.7	73.7						62.3	
Actuated g/C Ratio		0.22	0.22	0.46	0.49						0.42	
Clearance Time (s)				5.0								
Vehicle Extension (s)				1.8								
Lane Grp Cap (vph)		772	345	1375	1739						2100	
v/s Ratio Prot		0.02		c0.21	0.07							
v/s Ratio Perm			0.12	c0.19							0.25	
v/c Ratio		0.11	0.56	0.88	0.14						0.60	
Uniform Delay, d1		47.0	52.3	34.3	20.9						34.1	
Progression Factor		1.00	1.00	0.35	0.68						1.00	
Incremental Delay, d2		0.0	1.7	6.0	0.0						0.3	
Delay (s)		47.0	54.0	17.9	14.3						34.4	
Level of Service		D	D	B	B						C	
Approach Delay (s)		52.0			17.3			0.0			34.4	
Approach LOS		D			B			A			C	

Intersection Summary			
HCM Average Control Delay	27.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	7	139	0	0	1178	205	88	976	360	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	5.0		8.0	8.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5062	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5062	1583			
Peak-hour factor, PHF	0.58	0.71	1.00	1.00	0.88	0.88	0.81	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	12	196	0	0	1339	233	109	1073	391	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	148	0	0	238	0	0	0
Lane Group Flow (vph)	12	196	0	0	1339	85	0	1182	153	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	2 14	2 6 9 14			6 9			15				
Permitted Phases						6 9	15		15			
Actuated Green, G (s)	22.3	93.0			54.7	54.7		41.0	41.0			
Effective Green, g (s)	22.3	87.0			54.7	54.7		41.0	41.0			
Actuated g/C Ratio	0.15	0.58			0.36	0.36		0.27	0.27			
Clearance Time (s)								8.0	8.0			
Vehicle Extension (s)								3.5	3.5			
Lane Grp Cap (vph)	263	2949			2337	577		1384	433			
v/s Ratio Prot	0.01	c0.04			c0.21							
v/s Ratio Perm						0.05		0.23	0.10			
v/c Ratio	0.05	0.07			0.57	0.15		0.85	0.35			
Uniform Delay, d1	54.7	13.8			38.3	32.0		51.7	43.8			
Progression Factor	1.03	1.41			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.1	0.0			1.0	0.5		6.9	2.2			
Delay (s)	56.3	19.4			39.3	32.5		58.6	46.1			
Level of Service	E	B			D	C		E	D			
Approach Delay (s)		21.5			38.3			55.4			0.0	
Approach LOS		C			D			E			A	

Intersection Summary			
HCM Average Control Delay	45.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	23.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	564	395	757	1949	0	0	0	0	42	732	161
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.91	0.88	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.97	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		5085	2787	3433	3539						4943	
Flt Permitted		1.00	1.00	0.30	1.00						1.00	
Satd. Flow (perm)		5085	2787	1095	3539						4943	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	613	429	823	2118	0	0	0	0	46	796	175
RTOR Reduction (vph)	0	0	86	0	0	0	0	0	0	0	9	0
Lane Group Flow (vph)	0	613	343	823	2118	0	0	0	0	0	1008	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		
Actuated Green, G (s)		17.0	17.0	52.0	58.0						20.0	
Effective Green, g (s)		17.0	17.0	52.0	58.0						20.0	
Actuated g/C Ratio		0.19	0.19	0.58	0.64						0.22	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		961	526	1542	2281						1098	
v/s Ratio Prot		0.12		0.21	c0.60							
v/s Ratio Perm			0.12	0.10							0.20	
v/c Ratio		0.64	0.65	0.53	0.93						0.92	
Uniform Delay, d1		33.7	33.8	14.9	14.2						34.2	
Progression Factor		1.00	1.00	0.11	0.84						1.00	
Incremental Delay, d2		3.2	6.2	0.1	2.8						11.9	
Delay (s)		36.9	39.9	1.8	14.7						46.1	
Level of Service		D	D	A	B						D	
Approach Delay (s)		38.1			11.1			0.0			46.1	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	314	32	8	850	107	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.91		1.00	0.95	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4999		1770	3539	1770	1583
Flt Permitted	1.00		0.36	1.00	0.95	1.00
Satd. Flow (perm)	4999		668	3539	1770	1583
Peak-hour factor, PHF	0.83	0.67	0.67	0.92	0.86	0.56
Adj. Flow (vph)	378	48	12	924	124	16
RTOR Reduction (vph)	25	0	0	0	0	14
Lane Group Flow (vph)	401	0	12	924	124	2
Turn Type			pm+pt			custom
Protected Phases	4		3	8		
Permitted Phases			8		2	2
Actuated Green, G (s)	15.8		22.3	22.3	4.4	4.4
Effective Green, g (s)	15.8		22.3	22.3	4.4	4.4
Actuated g/C Ratio	0.41		0.58	0.58	0.11	0.11
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2041		399	2039	201	180
v/s Ratio Prot	0.08		0.00	c0.26		
v/s Ratio Perm			0.02		c0.07	0.00
v/c Ratio	0.20		0.03	0.45	0.62	0.01
Uniform Delay, d1	7.4		4.0	4.7	16.3	15.2
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0		0.0	0.2	5.5	0.0
Delay (s)	7.4		4.0	4.9	21.9	15.2
Level of Service	A		A	A	C	B
Approach Delay (s)	7.4			4.9	21.1	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	7.1	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	38.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	39.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	131	470	0	0	1985	218	722	788	232	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86			0.91	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.98	1.00			
Satd. Flow (prot)	3433	5085			6313			4967	1583			
Flt Permitted	0.11	1.00			1.00			0.98	1.00			
Satd. Flow (perm)	402	5085			6313			4967	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	142	511	0	0	2158	237	785	857	252	0	0	0
RTOR Reduction (vph)	0	0	0	0	20	0	0	0	162	0	0	0
Lane Group Flow (vph)	142	511	0	0	2375	0	0	1642	90	0	0	0
Turn Type	pm+pt						Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6						8		8			
Actuated Green, G (s)	40.0	46.0			36.0			32.0	32.0			
Effective Green, g (s)	40.0	46.0			36.0			32.0	32.0			
Actuated g/C Ratio	0.44	0.51			0.40			0.36	0.36			
Clearance Time (s)	6.0				6.0			6.0	6.0			
Vehicle Extension (s)	3.0				3.0			3.0	3.0			
Lane Grp Cap (vph)	313	2599			2525			1766	563			
v/s Ratio Prot	c0.02	0.10			c0.38							
v/s Ratio Perm	0.18							0.33	0.06			
v/c Ratio	0.45	0.20			0.94			1.25dl	0.16			
Uniform Delay, d1	19.2	12.0			26.0			27.9	19.8			
Progression Factor	1.82	0.08			1.00			1.00	1.00			
Incremental Delay, d2	0.8	0.0			8.5			9.1	0.1			
Delay (s)	35.8	1.0			34.5			37.0	19.9			
Level of Service	D	A			C			D	B			
Approach Delay (s)		8.5			34.5			34.8			0.0	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM Average Control Delay	31.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	333	1	0	811	16	5
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.25	1.00	0.83	0.50	0.63
Hourly flow rate (vph)	387	4	0	977	32	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)	1015					
pX, platoon unblocked						
vC, conflicting volume			391		878	196
vC1, stage 1 conf vol					389	
vC2, stage 2 conf vol					489	
vCu, unblocked vol			391		878	196
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		92	99
cM capacity (veh/h)			1164		412	813

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	258	133	0	489	489	32	8
Volume Left	0	0	0	0	0	32	0
Volume Right	0	4	0	0	0	0	8
cSH	1700	1700	1700	1700	1700	412	813
Volume to Capacity	0.15	0.08	0.00	0.29	0.29	0.08	0.01
Queue Length 95th (ft)	0	0	0	0	0	6	1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	14.5	9.5
Lane LOS						B	A
Approach Delay (s)	0.0		0.0			13.5	
Approach LOS						B	

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	94	260	1137	1	25	466
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.82	0.94	0.25	0.69	0.94
Hourly flow rate (vph)	108	317	1210	4	36	496
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh)			1			1
Upstream signal (ft)						752
pX, platoon unblocked						
vC, conflicting volume	1447	403			1214	
vC1, stage 1 conf vol	1210					
vC2, stage 2 conf vol	238					
vCu, unblocked vol	1447	403			1214	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	47	47			94	
cM capacity (veh/h)	203	597			571	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	108	317	403	403	403	4	36	165	165	165
Volume Left	108	0	0	0	0	0	36	0	0	0
Volume Right	0	317	0	0	0	4	0	0	0	0
cSH	203	597	1700	1700	1700	1700	571	1700	1700	1700
Volume to Capacity	0.53	0.53	0.24	0.24	0.24	0.00	0.06	0.10	0.10	0.10
Queue Length 95th (ft)	69	78	0	0	0	0	5	0	0	0
Control Delay (s)	41.3	17.7	0.0	0.0	0.0	0.0	11.7	0.0	0.0	0.0
Lane LOS	E	C					B			
Approach Delay (s)	23.7		0.0				0.8			
Approach LOS	C									

Intersection Summary			
Average Delay	4.8		
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	444	241	79	537	0	0	0	0	85	770	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1						6.7	
Lane Util. Factor		0.86	1.00	0.81	0.81						0.91	
Frt		1.00	0.85	1.00	1.00						0.98	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		6408	1583	1433	6031						4985	
Flt Permitted		1.00	1.00	0.46	0.93						1.00	
Satd. Flow (perm)		6408	1583	700	5588						4985	
Peak-hour factor, PHF	0.25	0.96	0.75	0.86	0.91	1.00	1.00	1.00	1.00	0.89	0.93	0.68
Adj. Flow (vph)	0	462	321	92	590	0	0	0	0	96	828	104
RTOR Reduction (vph)	0	0	118	0	0	0	0	0	0	0	11	0
Lane Group Flow (vph)	0	462	203	83	599	0	0	0	0	0	1017	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		
Actuated Green, G (s)		19.2	19.2	25.1	25.1						46.4	
Effective Green, g (s)		19.2	19.2	25.1	25.1						46.4	
Actuated g/C Ratio		0.21	0.21	0.28	0.28						0.52	
Clearance Time (s)		5.7	5.7	6.1							6.7	
Vehicle Extension (s)		2.0	2.0	1.0							2.0	
Lane Grp Cap (vph)		1367	338	243	1587						2570	
v/s Ratio Prot		0.07		0.02	c0.02							
v/s Ratio Perm			c0.13	0.07	0.08						0.20	
v/c Ratio		0.34	0.60	0.34	0.38						0.40	
Uniform Delay, d1		30.0	31.9	24.8	26.2						13.3	
Progression Factor		1.00	1.00	0.29	1.18						1.00	
Incremental Delay, d2		0.1	2.1	0.3	0.1						0.5	
Delay (s)		30.1	34.0	7.6	30.8						13.7	
Level of Service		C	C	A	C						B	
Approach Delay (s)		31.7			28.0			0.0			13.7	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM Average Control Delay	23.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	325	182	0	0	246	31	371	505	78	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7		6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91		0.97	0.95	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			4990		3433	3539	1583			
Flt Permitted	0.57	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	2056	3539			4990		3433	3539	1583			
Peak-hour factor, PHF	0.92	0.88	1.00	1.00	0.98	0.86	0.87	0.87	0.75	1.00	1.00	1.00
Adj. Flow (vph)	353	207	0	0	251	36	426	580	104	0	0	0
RTOR Reduction (vph)	0	0	0	0	30	0	0	0	39	0	0	0
Lane Group Flow (vph)	353	207	0	0	257	0	426	580	65	0	0	0
Turn Type	pm+pt						Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6				6		8		8			
Actuated Green, G (s)	15.4	21.5			9.5		56.1	56.1	56.1			
Effective Green, g (s)	15.4	21.5			9.5		56.1	56.1	56.1			
Actuated g/C Ratio	0.17	0.24			0.11		0.62	0.62	0.62			
Clearance Time (s)	6.1				5.7		6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0		2.0	2.0	2.0			
Lane Grp Cap (vph)	442	845			527		2140	2206	987			
v/s Ratio Prot	c0.05	0.06			0.05			c0.16				
v/s Ratio Perm	c0.08						0.12		0.04			
v/c Ratio	0.80	0.24			0.49		0.20	0.26	0.07			
Uniform Delay, d1	34.7	27.7			38.0		7.3	7.6	6.7			
Progression Factor	1.65	1.00			1.00		1.00	1.00	1.00			
Incremental Delay, d2	9.0	0.1			0.3		0.0	0.0	0.0			
Delay (s)	66.4	27.6			38.2		7.3	7.7	6.7			
Level of Service	E	C			D		A	A	A			
Approach Delay (s)		52.1			38.2			7.4			0.0	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	24.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	232	0	0	1152	141
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.55	1.00	1.00	0.88	0.86
Hourly flow rate (vph)	0	422	0	0	1309	164
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1391	518	1473			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1391	518	1473			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	16	100			
cM capacity (veh/h)	133	502	454			

Direction, Lane #	EB 1	SB 1	SB 2	SB 3
Volume Total	422	524	524	426
Volume Left	0	0	0	0
Volume Right	422	0	0	164
cSH	502	1700	1700	1700
Volume to Capacity	0.84	0.31	0.31	0.25
Queue Length 95th (ft)	213	0	0	0
Control Delay (s)	39.5	0.0	0.0	0.0
Lane LOS	E			
Approach Delay (s)	39.5	0.0		
Approach LOS	E			

Intersection Summary			
Average Delay	8.8		
Intersection Capacity Utilization	46.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	27	39	320	84	0	0	0	0	38	759	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3539	1583	3433	3539						5069	
Flt Permitted		1.00	1.00	0.73	1.00						1.00	
Satd. Flow (perm)		3539	1583	2627	3539						5069	
Peak-hour factor, PHF	1.00	0.61	0.81	0.92	0.81	1.00	1.00	1.00	1.00	0.79	0.85	0.50
Adj. Flow (vph)	0	44	48	348	104	0	0	0	0	48	893	4
RTOR Reduction (vph)	0	0	34	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	44	14	348	104	0	0	0	0	0	944	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			6	5 6						8		
Actuated Green, G (s)		16.0	16.0	21.0	27.0						16.0	
Effective Green, g (s)		16.0	16.0	21.0	27.0						16.0	
Actuated g/C Ratio		0.29	0.29	0.38	0.49						0.29	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1030	461	1076	1737						1475	
v/s Ratio Prot		0.01		c0.03	c0.03							
v/s Ratio Perm			0.01	c0.09							0.19	
v/c Ratio		0.04	0.03	0.32	0.06						0.64	
Uniform Delay, d1		14.0	14.0	11.7	7.3						17.0	
Progression Factor		1.00	1.00	0.39	1.01						0.82	
Incremental Delay, d2		0.1	0.1	0.8	0.1						2.0	
Delay (s)		14.1	14.1	5.4	7.4						15.9	
Level of Service		B	B	A	A						B	
Approach Delay (s)		14.1			5.9			0.0			15.9	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM Average Control Delay	12.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	62	0	0	339	41	43	634	301	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5068	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5068	1583			
Peak-hour factor, PHF	0.25	0.78	1.00	1.00	0.88	0.64	0.83	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	8	79	0	0	385	64	52	697	327	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	45	0	0	226	0	0	0
Lane Group Flow (vph)	8	79	0	0	385	19	0	749	101	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	1	1 2			2			4				
Permitted Phases						2	4		4			
Actuated Green, G (s)	4.0	26.0			16.0	16.0		17.0	17.0			
Effective Green, g (s)	4.0	26.0			16.0	16.0		17.0	17.0			
Actuated g/C Ratio	0.07	0.47			0.29	0.29		0.31	0.31			
Clearance Time (s)	6.0				6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	129	2404			1864	461		1566	489			
v/s Ratio Prot	c0.00	c0.02			c0.06							
v/s Ratio Perm						0.01		0.15	0.06			
v/c Ratio	0.06	0.03			0.21	0.04		0.48	0.21			
Uniform Delay, d1	23.8	7.8			14.7	14.0		15.4	14.0			
Progression Factor	0.98	0.95			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.9	0.0			0.3	0.2		1.0	1.0			
Delay (s)	24.1	7.4			15.0	14.2		16.5	15.0			
Level of Service	C	A			B	B		B	B			
Approach Delay (s)		8.9			14.8			16.0			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	519	246	348	638	0	0	0	0	45	492	172
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.91	0.88	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.96	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		5085	2787	3433	3539						4885	
Flt Permitted		1.00	1.00	0.43	1.00						1.00	
Satd. Flow (perm)		5085	2787	1553	3539						4885	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	564	267	378	693	0	0	0	0	49	535	187
RTOR Reduction (vph)	0	0	123	0	0	0	0	0	0	0	110	0
Lane Group Flow (vph)	0	564	144	378	693	0	0	0	0	0	661	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		
Actuated Green, G (s)		16.2	16.2	22.5	28.5						14.5	
Effective Green, g (s)		16.2	16.2	22.5	28.5						14.5	
Actuated g/C Ratio		0.29	0.29	0.41	0.52						0.26	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1498	821	851	1834						1288	
v/s Ratio Prot		0.11		0.05	c0.20							
v/s Ratio Perm			0.05	c0.13							0.14	
v/c Ratio		0.38	0.18	0.44	0.38						0.51	
Uniform Delay, d1		15.4	14.4	10.8	7.9						17.2	
Progression Factor		1.00	1.00	1.33	0.93						1.00	
Incremental Delay, d2		0.7	0.5	0.3	0.1						0.3	
Delay (s)		16.1	14.9	14.7	7.5						17.6	
Level of Service		B	B	B	A						B	
Approach Delay (s)		15.7			10.0			0.0			17.6	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	14.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	157	407	0	0	675	32	311	490	163	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86			0.91	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.98	1.00			
Satd. Flow (prot)	3433	5085			6364			4989	1583			
Flt Permitted	0.33	1.00			1.00			0.98	1.00			
Satd. Flow (perm)	1202	5085			6364			4989	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	171	442	0	0	734	35	338	533	177	0	0	0
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	127	0	0	0
Lane Group Flow (vph)	171	442	0	0	757	0	0	871	50	0	0	0
Turn Type	pm+pt						Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6						8		8			
Actuated Green, G (s)	21.5	27.5			16.6			15.5	15.5			
Effective Green, g (s)	21.5	27.5			16.6			15.5	15.5			
Actuated g/C Ratio	0.39	0.50			0.30			0.28	0.28			
Clearance Time (s)	6.0				6.0			6.0	6.0			
Vehicle Extension (s)	3.0				3.0			3.0	3.0			
Lane Grp Cap (vph)	669	2543			1921			1406	446			
v/s Ratio Prot	0.02	c0.09			c0.12							
v/s Ratio Perm	0.08							0.17	0.03			
v/c Ratio	0.26	0.17			0.39			0.62	0.11			
Uniform Delay, d1	10.7	7.5			15.2			17.2	14.6			
Progression Factor	0.96	0.53			1.00			0.59	0.69			
Incremental Delay, d2	0.2	0.0			0.6			0.8	0.1			
Delay (s)	10.5	4.0			15.8			10.9	10.3			
Level of Service	B	A			B			B	B			
Approach Delay (s)		5.8			15.8			10.8			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	11.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	259	5	2	291	6	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3525		1770	3539	1770	1583
Flt Permitted	1.00		0.38	1.00	0.95	1.00
Satd. Flow (perm)	3525		716	3539	1770	1583
Peak-hour factor, PHF	0.91	0.63	0.25	0.91	0.50	0.25
Adj. Flow (vph)	285	8	8	320	12	4
RTOR Reduction (vph)	4	0	0	0	0	4
Lane Group Flow (vph)	289	0	8	320	12	0
Turn Type			pm+pt			Perm
Protected Phases	4		3	8	2	
Permitted Phases			8			2
Actuated Green, G (s)	4.4		10.8	10.8	0.6	0.6
Effective Green, g (s)	4.4		10.8	10.8	0.6	0.6
Actuated g/C Ratio	0.19		0.46	0.46	0.03	0.03
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	663		348	1633	45	41
v/s Ratio Prot	c0.08		0.00	c0.09	c0.01	
v/s Ratio Perm			0.01			0.00
v/c Ratio	0.44		0.02	0.20	0.27	0.00
Uniform Delay, d1	8.4		4.2	3.7	11.2	11.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5		0.0	0.1	3.2	0.0
Delay (s)	8.9		4.2	3.8	14.4	11.1
Level of Service	A		A	A	B	B
Approach Delay (s)	8.9			3.8	13.5	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	6.4	HCM Level of Service	A
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	23.4	Sum of lost time (s)	18.0
Intersection Capacity Utilization	21.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	256	0	0	259	4	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	1.00	1.00	0.95	0.25	1.00
Hourly flow rate (vph)	275	0	0	273	16	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)	1015					
pX, platoon unblocked						
vC, conflicting volume			275		412	138
vC1, stage 1 conf vol					275	
vC2, stage 2 conf vol					136	
vCu, unblocked vol			275		412	138
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1285		622	886

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	NB 2
Volume Total	184	92	0	136	136	16	0
Volume Left	0	0	0	0	0	16	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	622	1700
Volume to Capacity	0.11	0.05	0.00	0.08	0.08	0.03	0.00
Queue Length 95th (ft)	0	0	0	0	0	2	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	10.9	0.0
Lane LOS						B	A
Approach Delay (s)	0.0		0.0			10.9	
Approach LOS						B	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	17.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	11	18	364	10	13	349
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.46	0.64	0.93	0.83	0.81	0.97
Hourly flow rate (vph)	24	28	391	12	16	360
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh)			1			1
Upstream signal (ft)						752
pX, platoon unblocked						
vC, conflicting volume	543	130			403	
vC1, stage 1 conf vol	391					
vC2, stage 2 conf vol	152					
vCu, unblocked vol	543	130			403	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	97			99	
cM capacity (veh/h)	538	895			1152	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	24	28	130	130	130	12	16	120	120	120
Volume Left	24	0	0	0	0	0	16	0	0	0
Volume Right	0	28	0	0	0	12	0	0	0	0
cSH	538	895	1700	1700	1700	1700	1152	1700	1700	1700
Volume to Capacity	0.04	0.03	0.08	0.08	0.08	0.01	0.01	0.07	0.07	0.07
Queue Length 95th (ft)	3	2	0	0	0	0	1	0	0	0
Control Delay (s)	12.0	9.2	0.0	0.0	0.0	0.0	8.2	0.0	0.0	0.0
Lane LOS	B	A					A			
Approach Delay (s)	10.5		0.0				0.3			
Approach LOS	B									

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	20.8%	ICU Level of Service	A
Analysis Period (min)	15		

SAVANT GROUP
TRANSPORTATION ENGINEERS & PLANNERS

APPENDIX D: 2015 BACKGROUND ANALYSES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	444	273	140	1688	0	0	0	0	148	1167	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	1.00	0.86					0.91	0.91	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	1770	6408					1610	3333	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	1770	6408					1610	3333	
Peak-hour factor, PHF	0.25	0.93	0.83	0.80	0.90	1.00	1.00	1.00	1.00	0.81	0.90	0.85
Adj. Flow (vph)	0	477	329	175	1876	0	0	0	0	183	1297	161
RTOR Reduction (vph)	0	0	23	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	477	306	175	1876	0	0	0	0	165	1474	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		34.1	34.1	11.1	50.9					46.3	46.3	
Effective Green, g (s)		34.1	34.1	11.1	45.2					46.3	46.3	
Actuated g/C Ratio		0.31	0.31	0.10	0.41					0.42	0.42	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		1986	491	179	2633					678	1403	
v/s Ratio Prot		0.07		c0.10	c0.29							
v/s Ratio Perm			0.19							0.10	0.44	
v/c Ratio		0.24	0.62	0.98	0.71					0.24	1.05	
Uniform Delay, d1		28.3	32.4	49.3	27.0					20.5	31.9	
Progression Factor		1.00	1.00	0.43	1.07					1.00	1.00	
Incremental Delay, d2		0.0	1.8	41.2	0.4					0.9	38.4	
Delay (s)		28.3	34.2	62.1	29.3					21.4	70.3	
Level of Service		C	C	E	C					C	E	
Approach Delay (s)		30.7			32.1			0.0			65.4	
Approach LOS		C			C			A			E	

Intersection Summary			
HCM Average Control Delay	44.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	314	286	0	0	924	180	893	1055	106	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7		6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91		0.97	0.95	1.00			
Frt	1.00	1.00			0.98		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			4963		3433	3539	1583			
Flt Permitted	0.95	1.00			1.00		0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			4963		3433	3539	1583			
Peak-hour factor, PHF	0.83	0.77	1.00	1.00	0.83	0.85	0.83	0.83	0.85	1.00	1.00	1.00
Adj. Flow (vph)	378	371	0	0	1113	212	1076	1271	125	0	0	0
RTOR Reduction (vph)	0	0	0	0	10	0	0	0	73	0	0	0
Lane Group Flow (vph)	378	371	0	0	1315	0	1076	1271	52	0	0	0
Turn Type	Prot						Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases							8		8			
Actuated Green, G (s)	13.5	53.3			33.7		44.3	44.3	44.3			
Effective Green, g (s)	13.5	53.3			33.7		44.3	44.3	44.3			
Actuated g/C Ratio	0.12	0.48			0.31		0.40	0.40	0.40			
Clearance Time (s)	6.1				5.7		6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0		2.0	2.0	2.0			
Lane Grp Cap (vph)	421	1715			1520		1383	1425	638			
v/s Ratio Prot	c0.11	0.10			c0.27			c0.36				
v/s Ratio Perm							0.31		0.03			
v/c Ratio	0.90	0.22			0.87		0.78	0.89	0.08			
Uniform Delay, d1	47.6	16.3			36.0		28.6	30.6	20.3			
Progression Factor	0.52	1.21			1.00		1.00	1.00	1.00			
Incremental Delay, d2	20.7	0.0			5.2		4.4	8.8	0.2			
Delay (s)	45.2	19.8			41.2		32.9	39.4	20.5			
Level of Service	D	B			D		C	D	C			
Approach Delay (s)		32.6			41.2			35.7			0.0	
Approach LOS		C			D			D			A	

Intersection Summary			
HCM Average Control Delay	36.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	113	0	0	1710	405
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	0.88	1.00	1.00	0.91	0.88
Hourly flow rate (vph)	0	128	0	0	1879	460
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1879	626	2339			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1879	626	2339			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	70	100			
cM capacity (veh/h)	63	427	208			

Direction, Lane #	EB 1	SB 1	SB 2	SB 3	SB 4
Volume Total	128	626	626	626	460
Volume Left	0	0	0	0	0
Volume Right	128	0	0	0	460
cSH	427	1700	1700	1700	1700
Volume to Capacity	0.30	0.37	0.37	0.37	0.27
Queue Length 95th (ft)	31	0	0	0	0
Control Delay (s)	17.0	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	17.0	0.0			
Approach LOS	C				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	77	157	1208	257	0	0	0	0	73	1103	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3539	1583	3433	3539						5055	
Flt Permitted		1.00	1.00	0.69	1.00						1.00	
Satd. Flow (perm)		3539	1583	2500	3539						5055	
Peak-hour factor, PHF	1.00	0.80	0.65	0.87	0.89	1.00	1.00	1.00	1.00	0.62	0.93	0.50
Adj. Flow (vph)	0	96	242	1389	289	0	0	0	0	118	1186	14
RTOR Reduction (vph)	0	0	7	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	96	235	1389	289	0	0	0	0	0	1317	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			6	5 6						8		
Actuated Green, G (s)		14.8	14.8	37.8	43.8						24.2	
Effective Green, g (s)		14.8	14.8	37.8	43.8						24.2	
Actuated g/C Ratio		0.19	0.19	0.47	0.55						0.30	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		655	293	1449	1938						1529	
v/s Ratio Prot		0.03		c0.28	c0.08							
v/s Ratio Perm			0.15	c0.18							0.26	
v/c Ratio		0.15	0.80	0.96	0.15						0.86	
Uniform Delay, d1		27.3	31.2	18.9	8.9						26.3	
Progression Factor		1.00	1.00	0.81	1.14						1.00	
Incremental Delay, d2		0.1	14.7	10.8	0.0						6.6	
Delay (s)		27.4	45.9	26.1	10.2						32.9	
Level of Service		C	D	C	B						C	
Approach Delay (s)		40.6			23.3			0.0			32.9	
Approach LOS		D			C			A			C	

Intersection Summary			
HCM Average Control Delay	28.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	160	0	0	1352	235	101	1120	413	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5062	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5062	1583			
Peak-hour factor, PHF	0.58	0.71	1.00	1.00	0.88	0.88	0.81	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	14	225	0	0	1536	267	125	1231	449	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	79	0	0	264	0	0	0
Lane Group Flow (vph)	14	225	0	0	1536	188	0	1356	185	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	1	1 2			2			4				
Permitted Phases						2	4		4			
Actuated Green, G (s)	4.0	35.0			25.0	25.0		33.0	33.0			
Effective Green, g (s)	4.0	35.0			25.0	25.0		33.0	33.0			
Actuated g/C Ratio	0.05	0.44			0.31	0.31		0.41	0.41			
Clearance Time (s)	6.0				6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	89	2225			2003	495		2088	653			
v/s Ratio Prot	0.01	c0.04			c0.24							
v/s Ratio Perm						0.12		0.27	0.12			
v/c Ratio	0.16	0.10			0.77	0.38		0.65	0.28			
Uniform Delay, d1	36.4	13.2			24.9	21.5		18.9	15.6			
Progression Factor	1.22	1.36			1.00	1.00		1.00	1.00			
Incremental Delay, d2	3.3	0.1			2.9	2.2		1.6	1.1			
Delay (s)	47.9	18.1			27.7	23.7		20.4	16.7			
Level of Service	D	B			C	C		C	B			
Approach Delay (s)		19.8			27.1			19.5			0.0	
Approach LOS		B			C			B			A	

Intersection Summary			
HCM Average Control Delay	23.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	647	453	869	2237	0	0	0	0	48	840	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.91	0.88	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.97	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		5085	2787	3433	3539						4943	
Flt Permitted		1.00	1.00	0.25	1.00						1.00	
Satd. Flow (perm)		5085	2787	903	3539						4943	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	703	492	945	2432	0	0	0	0	52	913	201
RTOR Reduction (vph)	0	0	77	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	703	415	945	2432	0	0	0	0	0	1161	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		
Actuated Green, G (s)		16.0	16.0	60.0	66.0						22.0	
Effective Green, g (s)		16.0	16.0	60.0	66.0						22.0	
Actuated g/C Ratio		0.16	0.16	0.60	0.66						0.22	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		814	446	1655	2336						1087	
v/s Ratio Prot		0.14		0.25	c0.69							
v/s Ratio Perm			0.15	0.09							0.23	
v/c Ratio		0.86	0.93	0.57	1.04						1.07	
Uniform Delay, d1		40.9	41.4	16.6	17.0						39.0	
Progression Factor		1.00	1.00	0.61	0.60						1.00	
Incremental Delay, d2		11.8	28.2	0.1	23.0						47.3	
Delay (s)		52.7	69.7	10.3	33.3						86.3	
Level of Service		D	E	B	C						F	
Approach Delay (s)		59.7			26.9			0.0			86.3	
Approach LOS		E			C			A			F	

Intersection Summary			
HCM Average Control Delay	45.8	HCM Level of Service	D
HCM Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	108.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	539	0	0	2278	250	829	904	266	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0	6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86		0.86	0.86	1.00			
Frt	1.00	1.00			0.99		1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00		0.95	0.98	1.00			
Satd. Flow (prot)	3433	5085			6313		1522	4733	1583			
Flt Permitted	0.09	1.00			1.00		0.95	0.98	1.00			
Satd. Flow (perm)	336	5085			6313		1522	4733	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	586	0	0	2476	272	901	983	289	0	0	0
RTOR Reduction (vph)	0	0	0	0	18	0	0	0	168	0	0	0
Lane Group Flow (vph)	163	586	0	0	2730	0	460	1424	121	0	0	0
Turn Type	pm+pt						Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6						8		8			
Actuated Green, G (s)	47.0	53.0			43.0		35.0	35.0	35.0			
Effective Green, g (s)	47.0	53.0			43.0		35.0	35.0	35.0			
Actuated g/C Ratio	0.47	0.53			0.43		0.35	0.35	0.35			
Clearance Time (s)	6.0				6.0		6.0	6.0	6.0			
Vehicle Extension (s)	3.0				3.0		3.0	3.0	3.0			
Lane Grp Cap (vph)	282	2695			2715		533	1657	554			
v/s Ratio Prot	c0.02	0.12			c0.43							
v/s Ratio Perm	0.25						c0.30	0.30	0.08			
v/c Ratio	0.58	0.22			1.01		0.86	0.86	0.22			
Uniform Delay, d1	22.7	12.5			28.5		30.3	30.2	22.9			
Progression Factor	2.33	0.06			1.00		1.00	1.00	1.00			
Incremental Delay, d2	1.3	0.0			18.6		13.5	4.7	0.2			
Delay (s)	54.1	0.8			47.1		43.8	34.9	23.1			
Level of Service	D	A			D		D	C	C			
Approach Delay (s)		12.4			47.1			35.2			0.0	
Approach LOS		B			D			D			A	

Intersection Summary			
HCM Average Control Delay	38.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	108.8%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	360	37	9	975	123	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4999		1770	5085	1770	1583
Flt Permitted	1.00		0.33	1.00	0.95	1.00
Satd. Flow (perm)	4999		611	5085	1770	1583
Peak-hour factor, PHF	0.83	0.67	0.67	0.92	0.86	0.56
Adj. Flow (vph)	434	55	13	1060	143	18
RTOR Reduction (vph)	26	0	0	0	0	16
Lane Group Flow (vph)	463	0	13	1060	143	2
Turn Type			pm+pt			custom
Protected Phases	4		3	8		
Permitted Phases			8		2	2
Actuated Green, G (s)	14.5		21.0	21.0	4.5	4.5
Effective Green, g (s)	14.5		21.0	21.0	4.5	4.5
Actuated g/C Ratio	0.39		0.56	0.56	0.12	0.12
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1933		358	2848	212	190
v/s Ratio Prot	0.09		0.00	c0.21		
v/s Ratio Perm			0.02		c0.08	0.00
v/c Ratio	0.24		0.04	0.37	0.67	0.01
Uniform Delay, d1	7.8		4.1	4.6	15.8	14.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.0	0.1	8.2	0.0
Delay (s)	7.8		4.2	4.7	24.0	14.6
Level of Service	A		A	A	C	B
Approach Delay (s)	7.8			4.7	22.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	7.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	37.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	382	1	0	931	18	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.25	1.00	0.83	0.50	0.63
Hourly flow rate (vph)	444	4	0	1122	36	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)	1015					
pX, platoon unblocked						
vC, conflicting volume			448		820	150
vC1, stage 1 conf vol					446	
vC2, stage 2 conf vol					374	
vCu, unblocked vol			448		820	150
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		92	99
cM capacity (veh/h)			1109		433	869

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2
Volume Total	178	178	93	0	374	374	374	36	10
Volume Left	0	0	0	0	0	0	0	36	0
Volume Right	0	0	4	0	0	0	0	0	10
cSH	1700	1700	1700	1700	1700	1700	1700	433	869
Volume to Capacity	0.10	0.10	0.05	0.00	0.22	0.22	0.22	0.08	0.01
Queue Length 95th (ft)	0	0	0	0	0	0	0	7	1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.1	9.2
Lane LOS								B	A
Approach Delay (s)	0.0			0.0				13.0	
Approach LOS								B	

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	28.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	108	298	1305	1	29	535
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.82	0.94	0.25	0.69	0.94
Hourly flow rate (vph)	124	363	1388	4	42	569
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh)			1			1
Upstream signal (ft)						752
pX, platoon unblocked						
vC, conflicting volume	1662	463			1392	
vC1, stage 1 conf vol	1388					
vC2, stage 2 conf vol	274					
vCu, unblocked vol	1662	463			1392	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	24	33			91	
cM capacity (veh/h)	162	546			487	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	124	363	463	463	463	4	42	190	190	190
Volume Left	124	0	0	0	0	0	42	0	0	0
Volume Right	0	363	0	0	0	4	0	0	0	0
cSH	162	546	1700	1700	1700	1700	487	1700	1700	1700
Volume to Capacity	0.76	0.67	0.27	0.27	0.27	0.00	0.09	0.11	0.11	0.11
Queue Length 95th (ft)	121	123	0	0	0	0	7	0	0	0
Control Delay (s)	76.4	23.7	0.0	0.0	0.0	0.0	13.1	0.0	0.0	0.0
Lane LOS	F	C					B			
Approach Delay (s)	37.2		0.0				0.9			
Approach LOS	E									

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	510	277	91	616	0	0	0	0	98	884	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	1.00	0.86					0.91	0.91	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	1770	6408					1610	3333	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	1770	6408					1610	3333	
Peak-hour factor, PHF	0.25	0.96	0.75	0.86	0.91	1.00	1.00	1.00	1.00	0.89	0.93	0.68
Adj. Flow (vph)	0	531	369	106	677	0	0	0	0	110	951	119
RTOR Reduction (vph)	0	0	41	0	0	0	0	0	0	0	9	0
Lane Group Flow (vph)	0	531	328	106	677	0	0	0	0	99	1072	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		26.0	26.0	7.8	39.5					37.7	37.7	
Effective Green, g (s)		26.0	26.0	7.8	33.8					37.7	37.7	
Actuated g/C Ratio		0.29	0.29	0.09	0.38					0.42	0.42	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		1851	457	153	2407					674	1396	
v/s Ratio Prot		0.08		c0.06	0.11							
v/s Ratio Perm			c0.21							0.06	0.32	
v/c Ratio		0.29	0.72	0.69	0.28					0.15	0.77	
Uniform Delay, d1		24.8	28.7	39.9	19.6					16.2	22.4	
Progression Factor		1.00	1.00	0.36	1.06					1.00	1.00	
Incremental Delay, d2		0.0	4.5	10.4	0.0					0.5	4.1	
Delay (s)		24.8	33.2	24.9	20.9					16.7	26.5	
Level of Service		C	C	C	C					B	C	
Approach Delay (s)		28.3			21.4			0.0			25.7	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM Average Control Delay	25.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	373	209	0	0	282	36	426	579	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	5.7	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	3539	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.88	1.00	1.00	0.98	0.86	0.87	0.87	0.75	1.00	1.00	1.00
Adj. Flow (vph)	405	238	0	0	288	42	490	666	120	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	37	0	0	51	0	0	0
Lane Group Flow (vph)	405	238	0	0	288	5	490	666	69	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases					6	6	8		8			
Actuated Green, G (s)	9.9	25.8			9.8	9.8	51.8	51.8	51.8			
Effective Green, g (s)	9.9	25.8			9.8	9.8	51.8	51.8	51.8			
Actuated g/C Ratio	0.11	0.29			0.11	0.11	0.58	0.58	0.58			
Clearance Time (s)	6.1				5.7	5.7	6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	378	1015			554	172	1976	2037	911			
v/s Ratio Prot	c0.12	0.07			c0.06			c0.19				
v/s Ratio Perm						0.00	0.14		0.04			
v/c Ratio	1.07	0.23			0.52	0.03	0.25	0.33	0.08			
Uniform Delay, d1	40.0	24.5			37.9	35.8	9.5	10.0	8.5			
Progression Factor	0.86	0.66			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	66.3	0.0			0.3	0.0	0.0	0.0	0.0			
Delay (s)	100.5	16.2			38.2	35.9	9.5	10.0	8.5			
Level of Service	F	B			D	D	A	B	A			
Approach Delay (s)		69.3			37.9			9.7			0.0	
Approach LOS		E			D			A			A	

Intersection Summary			
HCM Average Control Delay	30.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	267	0	0	1325	162
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.55	1.00	1.00	0.88	0.86
Hourly flow rate (vph)	0	485	0	0	1506	188
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1600	596	1694			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1600	596	1694			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	0	100			
cM capacity (veh/h)	97	447	373			

Direction, Lane #	EB 1	SB 1	SB 2	SB 3
Volume Total	485	602	602	490
Volume Left	0	0	0	0
Volume Right	485	0	0	188
cSH	447	1700	1700	1700
Volume to Capacity	1.09	0.35	0.35	0.29
Queue Length 95th (ft)	403	0	0	0
Control Delay (s)	98.3	0.0	0.0	0.0
Lane LOS	F			
Approach Delay (s)	98.3	0.0		
Approach LOS	F			

Intersection Summary			
Average Delay	21.9		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	31	45	367	96	0	0	0	0	44	871	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3539	1583	3433	3539						5069	
Flt Permitted		1.00	1.00	0.74	1.00						1.00	
Satd. Flow (perm)		3539	1583	2677	3539						5069	
Peak-hour factor, PHF	1.00	0.61	0.81	0.92	0.81	1.00	1.00	1.00	1.00	0.79	0.85	0.50
Adj. Flow (vph)	0	51	56	399	119	0	0	0	0	56	1025	4
RTOR Reduction (vph)	0	0	44	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	51	12	399	119	0	0	0	0	0	1084	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			6	5 6						8		
Actuated Green, G (s)		5.4	5.4	10.4	16.4						26.6	
Effective Green, g (s)		5.4	5.4	10.4	16.4						26.6	
Actuated g/C Ratio		0.10	0.10	0.19	0.30						0.48	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		347	155	575	1055						2452	
v/s Ratio Prot		0.01		c0.06	c0.03							
v/s Ratio Perm			0.01	c0.07							0.21	
v/c Ratio		0.15	0.08	0.69	0.11						0.44	
Uniform Delay, d1		22.7	22.5	20.5	14.0						9.3	
Progression Factor		1.00	1.00	1.59	0.89						0.83	
Incremental Delay, d2		0.2	0.2	3.6	0.0						0.5	
Delay (s)		22.9	22.7	36.1	12.6						8.2	
Level of Service		C	C	D	B						A	
Approach Delay (s)		22.8			30.7			0.0			8.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	71	0	0	389	47	49	728	345	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5068	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5068	1583			
Peak-hour factor, PHF	0.25	0.78	1.00	1.00	0.88	0.64	0.83	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	8	91	0	0	442	73	59	800	375	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	52	0	0	259	0	0	0
Lane Group Flow (vph)	8	91	0	0	442	21	0	859	116	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	1	1 2			2			4				
Permitted Phases						2	4		4			
Actuated Green, G (s)	4.0	26.0			16.0	16.0		17.0	17.0			
Effective Green, g (s)	4.0	26.0			16.0	16.0		17.0	17.0			
Actuated g/C Ratio	0.07	0.47			0.29	0.29		0.31	0.31			
Clearance Time (s)	6.0				6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	129	2404			1864	461		1566	489			
v/s Ratio Prot	0.00	c0.02			c0.07							
v/s Ratio Perm						0.01		0.17	0.07			
v/c Ratio	0.06	0.04			0.24	0.05		0.55	0.24			
Uniform Delay, d1	23.8	7.8			14.9	14.0		15.8	14.2			
Progression Factor	1.16	1.25			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.9	0.0			0.3	0.2		1.4	1.1			
Delay (s)	28.5	9.8			15.2	14.2		17.2	15.3			
Level of Service	C	A			B	B		B	B			
Approach Delay (s)		11.3			15.0			16.6			0.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	596	282	399	732	0	0	0	0	52	565	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.91	0.88	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.96	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		5085	2787	3433	3539						4885	
Flt Permitted		1.00	1.00	0.39	1.00						1.00	
Satd. Flow (perm)		5085	2787	1425	3539						4885	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	648	307	434	796	0	0	0	0	57	614	214
RTOR Reduction (vph)	0	0	83	0	0	0	0	0	0	0	91	0
Lane Group Flow (vph)	0	648	224	434	796	0	0	0	0	0	794	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		
Actuated Green, G (s)		16.0	16.0	21.0	27.0						16.0	
Effective Green, g (s)		16.0	16.0	21.0	27.0						16.0	
Actuated g/C Ratio		0.29	0.29	0.38	0.49						0.29	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1479	811	727	1737						1421	
v/s Ratio Prot		0.13		0.05	c0.22							
v/s Ratio Perm			0.08	c0.17							0.16	
v/c Ratio		0.44	0.28	0.60	0.46						0.56	
Uniform Delay, d1		15.8	15.0	12.0	9.2						16.5	
Progression Factor		1.00	1.00	1.39	0.71						1.00	
Incremental Delay, d2		0.9	0.8	1.2	0.2						1.6	
Delay (s)		16.8	15.9	17.9	6.7						18.1	
Level of Service		B	B	B	A						B	
Approach Delay (s)		16.5			10.7			0.0			18.1	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	14.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	467	0	0	775	37	357	562	187	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86			0.91	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.98	1.00			
Satd. Flow (prot)	3433	5085			6364			4988	1583			
Flt Permitted	0.29	1.00			1.00			0.98	1.00			
Satd. Flow (perm)	1031	5085			6364			4988	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	508	0	0	842	40	388	611	203	0	0	0
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	140	0	0	0
Lane Group Flow (vph)	196	508	0	0	870	0	0	999	63	0	0	0
Turn Type	pm+pt						Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6						8		8			
Actuated Green, G (s)	20.0	26.0			16.0			17.0	17.0			
Effective Green, g (s)	20.0	26.0			16.0			17.0	17.0			
Actuated g/C Ratio	0.36	0.47			0.29			0.31	0.31			
Clearance Time (s)	6.0				6.0			6.0	6.0			
Vehicle Extension (s)	3.0				3.0			3.0	3.0			
Lane Grp Cap (vph)	550	2404			1851			1542	489			
v/s Ratio Prot	c0.03	0.10			c0.14							
v/s Ratio Perm	0.10							0.20	0.04			
v/c Ratio	0.36	0.21			0.47			0.65	0.13			
Uniform Delay, d1	14.0	8.5			16.0			16.4	13.7			
Progression Factor	0.69	0.54			1.00			0.49	0.21			
Incremental Delay, d2	0.4	0.0			0.9			0.9	0.1			
Delay (s)	10.0	4.6			16.9			8.9	3.0			
Level of Service	B	A			B			A	A			
Approach Delay (s)		6.1			16.9			7.9			0.0	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	10.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	297	6	2	334	7	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5063		1770	5085	1770	1583
Flt Permitted	1.00		0.39	1.00	0.95	1.00
Satd. Flow (perm)	5063		730	5085	1770	1583
Peak-hour factor, PHF	0.91	0.63	0.25	0.91	0.50	0.25
Adj. Flow (vph)	326	10	8	367	14	4
RTOR Reduction (vph)	7	0	0	0	0	4
Lane Group Flow (vph)	329	0	8	367	14	0
Turn Type			pm+pt			Perm
Protected Phases	4		3	8	2	
Permitted Phases			8			2
Actuated Green, G (s)	4.2		10.6	10.6	0.6	0.6
Effective Green, g (s)	4.2		10.6	10.6	0.6	0.6
Actuated g/C Ratio	0.18		0.46	0.46	0.03	0.03
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	917		351	2323	46	41
v/s Ratio Prot	c0.07		0.00	c0.07	c0.01	
v/s Ratio Perm			0.01			0.00
v/c Ratio	0.36		0.02	0.16	0.30	0.00
Uniform Delay, d1	8.3		4.2	3.7	11.1	11.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.0	0.0	3.7	0.0
Delay (s)	8.6		4.2	3.7	14.8	11.0
Level of Service	A		A	A	B	B
Approach Delay (s)	8.6			3.7	14.0	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	23.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	19.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	294	0	0	297	5	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	1.00	1.00	0.95	0.25	1.00
Hourly flow rate (vph)	316	0	0	313	20	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)	1015					
pX, platoon unblocked						
vC, conflicting volume			316		420	105
vC1, stage 1 conf vol					316	
vC2, stage 2 conf vol					104	
vCu, unblocked vol			316		420	105
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1241		608	929

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2
Volume Total	126	126	63	0	104	104	104	20	0
Volume Left	0	0	0	0	0	0	0	20	0
Volume Right	0	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700	608	1700
Volume to Capacity	0.07	0.07	0.04	0.00	0.06	0.06	0.06	0.03	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	3	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0
Lane LOS								B	A
Approach Delay (s)	0.0			0.0				11.1	
Approach LOS								B	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	15.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	13	21	418	11	15	400
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.46	0.64	0.93	0.83	0.81	0.97
Hourly flow rate (vph)	28	33	449	13	19	412
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh)			1			1
Upstream signal (ft)						752
pX, platoon unblocked						
vC, conflicting volume	624	150			463	
vC1, stage 1 conf vol	449					
vC2, stage 2 conf vol	174					
vCu, unblocked vol	624	150			463	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	96			98	
cM capacity (veh/h)	497	870			1095	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	28	33	150	150	150	13	19	137	137	137
Volume Left	28	0	0	0	0	0	19	0	0	0
Volume Right	0	33	0	0	0	13	0	0	0	0
cSH	497	870	1700	1700	1700	1700	1095	1700	1700	1700
Volume to Capacity	0.06	0.04	0.09	0.09	0.09	0.01	0.02	0.08	0.08	0.08
Queue Length 95th (ft)	5	3	0	0	0	0	1	0	0	0
Control Delay (s)	12.7	9.3	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0
Lane LOS	B	A					A			
Approach Delay (s)	10.9		0.0				0.4			
Approach LOS	B									

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	444	273	140	1688	0	0	0	0	148	1167	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	1.00	0.86					0.86	0.86	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	1770	6408					1522	4724	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	1770	6408					1522	4724	
Peak-hour factor, PHF	0.25	0.93	0.83	0.80	0.90	1.00	1.00	1.00	1.00	0.81	0.90	0.85
Adj. Flow (vph)	0	477	329	175	1876	0	0	0	0	183	1297	161
RTOR Reduction (vph)	0	0	23	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	477	306	175	1876	0	0	0	0	165	1474	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		34.1	34.1	11.1	50.9					46.3	46.3	
Effective Green, g (s)		34.1	34.1	11.1	45.2					46.3	46.3	
Actuated g/C Ratio		0.31	0.31	0.10	0.41					0.42	0.42	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		1986	491	179	2633					641	1988	
v/s Ratio Prot		0.07		c0.10	c0.29							
v/s Ratio Perm			0.19							0.11	0.31	
v/c Ratio		0.24	0.62	0.98	0.71					0.26	0.74	
Uniform Delay, d1		28.3	32.4	49.3	27.0					20.7	26.8	
Progression Factor		1.00	1.00	0.29	0.99					1.00	1.00	
Incremental Delay, d2		0.0	1.8	49.5	0.5					1.0	2.5	
Delay (s)		28.3	34.2	64.0	27.2					21.7	29.3	
Level of Service		C	C	E	C					C	C	
Approach Delay (s)		30.7			30.4			0.0			28.6	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM Average Control Delay	29.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	314	286	0	0	924	180	893	1055	106	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	5.7	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	3539	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	3539	1583			
Peak-hour factor, PHF	0.83	0.77	1.00	1.00	0.83	0.85	0.83	0.83	0.85	1.00	1.00	1.00
Adj. Flow (vph)	378	371	0	0	1113	212	1076	1271	125	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	10	0	0	71	0	0	0
Lane Group Flow (vph)	378	371	0	0	1113	202	1076	1271	54	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	13.5	51.0			31.4	31.4	46.6	46.6	46.6			
Effective Green, g (s)	13.5	51.0			31.4	31.4	46.6	46.6	46.6			
Actuated g/C Ratio	0.12	0.46			0.29	0.29	0.42	0.42	0.42			
Clearance Time (s)	6.1				5.7	5.7	6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	421	1641			1452	452	1454	1499	671			
v/s Ratio Prot	c0.11	0.10			c0.22			c0.36				
v/s Ratio Perm						0.13	0.31		0.03			
v/c Ratio	0.90	0.23			0.77	0.45	0.74	0.85	0.08			
Uniform Delay, d1	47.6	17.7			35.9	32.2	26.6	28.5	18.9			
Progression Factor	0.52	1.15			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	20.7	0.0			2.2	0.3	3.4	6.1	0.2			
Delay (s)	45.2	20.3			38.2	32.4	30.0	34.7	19.2			
Level of Service	D	C			D	C	C	C	B			
Approach Delay (s)		32.9			37.3			31.9			0.0	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM Average Control Delay	33.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	98	0	0	1487	352
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	0.88	1.00	1.00	0.91	0.88
Hourly flow rate (vph)	0	111	0	0	1634	400
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1834	745	2034			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1834	745	2034			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	69	100			
cM capacity (veh/h)	67	357	274			

Direction, Lane #	EB 1	SB 1	SB 2	SB 3
Volume Total	111	654	654	727
Volume Left	0	0	0	0
Volume Right	111	0	0	400
cSH	357	1700	1700	1700
Volume to Capacity	0.31	0.38	0.38	0.43
Queue Length 95th (ft)	33	0	0	0
Control Delay (s)	19.6	0.0	0.0	0.0
Lane LOS	C			
Approach Delay (s)	19.6	0.0		
Approach LOS	C			

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	77	157	1208	257	0	0	0	0	73	1218	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3539	1583	3433	3539						5057	
Flt Permitted		1.00	1.00	0.69	1.00						1.00	
Satd. Flow (perm)		3539	1583	2500	3539						5057	
Peak-hour factor, PHF	1.00	0.80	0.65	0.87	0.89	1.00	1.00	1.00	1.00	0.62	0.93	0.50
Adj. Flow (vph)	0	96	242	1389	289	0	0	0	0	118	1310	14
RTOR Reduction (vph)	0	0	7	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	96	235	1389	289	0	0	0	0	0	1441	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			6	5 6						8		
Actuated Green, G (s)		15.4	15.4	42.4	48.4						29.6	
Effective Green, g (s)		15.4	15.4	42.4	48.4						29.6	
Actuated g/C Ratio		0.17	0.17	0.47	0.54						0.33	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		606	271	1458	1903						1663	
v/s Ratio Prot		0.03		c0.29	0.08							
v/s Ratio Perm			0.15	c0.16							0.28	
v/c Ratio		0.16	0.87	0.95	0.15						0.87	
Uniform Delay, d1		31.8	36.3	21.3	10.5						28.3	
Progression Factor		1.00	1.00	1.54	1.16						0.77	
Incremental Delay, d2		0.1	24.2	9.9	0.0						4.3	
Delay (s)		31.9	60.5	42.7	12.2						26.1	
Level of Service		C	E	D	B						C	
Approach Delay (s)		52.4			37.5			0.0			26.1	
Approach LOS		D			D			A			C	

Intersection Summary			
HCM Average Control Delay	34.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	160	0	0	1352	235	101	1120	413	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5062	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5062	1583			
Peak-hour factor, PHF	0.58	0.71	1.00	1.00	0.88	0.88	0.81	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	14	225	0	0	1536	267	125	1231	449	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	69	0	0	249	0	0	0
Lane Group Flow (vph)	14	225	0	0	1536	198	0	1356	200	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	1	1 2			2			4				
Permitted Phases						2	4		4			
Actuated Green, G (s)	4.0	38.0			28.0	28.0		40.0	40.0			
Effective Green, g (s)	4.0	38.0			28.0	28.0		40.0	40.0			
Actuated g/C Ratio	0.04	0.42			0.31	0.31		0.44	0.44			
Clearance Time (s)	6.0				6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	79	2147			1994	492		2250	704			
v/s Ratio Prot	0.01	c0.04			c0.24							
v/s Ratio Perm						0.13		0.27	0.13			
v/c Ratio	0.18	0.10			0.77	0.40		0.60	0.28			
Uniform Delay, d1	41.4	15.7			28.1	24.4		19.0	15.9			
Progression Factor	0.80	1.95			1.00	1.00		1.00	1.00			
Incremental Delay, d2	4.3	0.1			2.9	2.4		1.2	1.0			
Delay (s)	37.3	30.7			31.0	26.9		20.2	16.9			
Level of Service	D	C			C	C		C	B			
Approach Delay (s)		31.1			30.4			19.4			0.0	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM Average Control Delay	25.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	84.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	647	453	869	2237	0	0	0	0	48	840	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	6.0
Lane Util. Factor		0.91	0.88	0.97	0.91						0.91	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						1.00	1.00
Satd. Flow (prot)		5085	2787	3433	5085						5072	1583
Flt Permitted		1.00	1.00	0.25	1.00						1.00	1.00
Satd. Flow (perm)		5085	2787	915	5085						5072	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	703	492	945	2432	0	0	0	0	52	913	201
RTOR Reduction (vph)	0	0	32	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	703	460	945	2432	0	0	0	0	0	965	200
Turn Type			Perm	pm+pt						Perm		Perm
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		4
Actuated Green, G (s)		18.5	18.5	43.5	49.5						28.5	28.5
Effective Green, g (s)		18.5	18.5	43.5	49.5						28.5	28.5
Actuated g/C Ratio		0.21	0.21	0.48	0.55						0.32	0.32
Clearance Time (s)		6.0	6.0	6.0							6.0	6.0
Vehicle Extension (s)		3.0	3.0	3.0							3.0	3.0
Lane Grp Cap (vph)		1045	573	1142	2797						1606	501
v/s Ratio Prot		0.14		0.23	c0.48							
v/s Ratio Perm			0.17	0.17							0.19	0.13
v/c Ratio		0.67	0.80	0.83	0.87						0.60	0.40
Uniform Delay, d1		33.0	34.0	23.7	17.5						26.0	24.0
Progression Factor		1.00	1.00	0.27	0.74						1.00	1.00
Incremental Delay, d2		3.5	11.4	2.5	1.9						1.7	2.4
Delay (s)		36.4	45.4	8.9	14.8						27.6	26.4
Level of Service		D	D	A	B						C	C
Approach Delay (s)		40.1			13.2			0.0			27.4	
Approach LOS		D			B			A			C	

Intersection Summary			
HCM Average Control Delay	21.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	539	0	0	2278	250	829	904	266	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	5085			6408	1583	3433	3539	1583			
Flt Permitted	0.11	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	391	5085			6408	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	586	0	0	2476	272	901	983	289	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	19	0	0	167	0	0	0
Lane Group Flow (vph)	163	586	0	0	2476	253	901	983	122	0	0	0
Turn Type	pm+pt					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					6	8		8			
Actuated Green, G (s)	41.5	47.5			37.0	37.0	30.5	30.5	30.5			
Effective Green, g (s)	41.5	47.5			37.0	37.0	30.5	30.5	30.5			
Actuated g/C Ratio	0.46	0.53			0.41	0.41	0.34	0.34	0.34			
Clearance Time (s)	6.0				6.0	6.0	6.0	6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	332	2684			2634	651	1163	1199	536			
v/s Ratio Prot	c0.02	0.12			c0.39			c0.28				
v/s Ratio Perm	0.20					0.16	0.26		0.08			
v/c Ratio	0.49	0.22			0.94	0.39	0.77	0.82	0.23			
Uniform Delay, d1	18.9	11.3			25.4	18.6	26.7	27.2	21.3			
Progression Factor	2.24	0.14			1.00	1.00	0.83	0.84	0.89			
Incremental Delay, d2	0.8	0.0			7.6	0.4	3.1	4.2	0.2			
Delay (s)	43.4	1.7			33.0	19.0	25.3	27.0	19.1			
Level of Service	D	A			C	B	C	C	B			
Approach Delay (s)		10.7			31.6			25.2			0.0	
Approach LOS		B			C			C			A	

Intersection Summary			
HCM Average Control Delay	26.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	360	37	9	975	123	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4999		1770	5085	1770	1583
Flt Permitted	1.00		0.33	1.00	0.95	1.00
Satd. Flow (perm)	4999		611	5085	1770	1583
Peak-hour factor, PHF	0.83	0.67	0.67	0.92	0.86	0.56
Adj. Flow (vph)	434	55	13	1060	143	18
RTOR Reduction (vph)	26	0	0	0	0	16
Lane Group Flow (vph)	463	0	13	1060	143	2
Turn Type			pm+pt			custom
Protected Phases	4		3	8		
Permitted Phases			8		2	2
Actuated Green, G (s)	14.5		21.0	21.0	4.5	4.5
Effective Green, g (s)	14.5		21.0	21.0	4.5	4.5
Actuated g/C Ratio	0.39		0.56	0.56	0.12	0.12
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1933		358	2848	212	190
v/s Ratio Prot	0.09		0.00	c0.21		
v/s Ratio Perm			0.02		c0.08	0.00
v/c Ratio	0.24		0.04	0.37	0.67	0.01
Uniform Delay, d1	7.8		4.1	4.6	15.8	14.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.0	0.1	8.2	0.0
Delay (s)	7.8		4.2	4.7	24.0	14.6
Level of Service	A		A	A	C	B
Approach Delay (s)	7.8			4.7	22.9	
Approach LOS	A			A	C	

Intersection Summary			
HCM Average Control Delay	7.3	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	37.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	35.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	382	1	0	931	18	6
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.25	1.00	0.83	0.50	0.63
Hourly flow rate (vph)	444	4	0	1122	36	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)	1015					
pX, platoon unblocked						
vC, conflicting volume			448		820	150
vC1, stage 1 conf vol					446	
vC2, stage 2 conf vol					374	
vCu, unblocked vol			448		820	150
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		92	99
cM capacity (veh/h)			1109		433	869

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2
Volume Total	178	178	93	0	374	374	374	36	10
Volume Left	0	0	0	0	0	0	0	36	0
Volume Right	0	0	4	0	0	0	0	0	10
cSH	1700	1700	1700	1700	1700	1700	1700	433	869
Volume to Capacity	0.10	0.10	0.05	0.00	0.22	0.22	0.22	0.08	0.01
Queue Length 95th (ft)	0	0	0	0	0	0	0	7	1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.1	9.2
Lane LOS								B	A
Approach Delay (s)	0.0			0.0				13.0	
Approach LOS								B	

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	28.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	108	298	1305	1	29	535
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.82	0.94	0.25	0.69	0.94
Hourly flow rate (vph)	124	363	1388	4	42	569
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh)			1			1
Upstream signal (ft)						752
pX, platoon unblocked						
vC, conflicting volume	1662	463			1392	
vC1, stage 1 conf vol	1388					
vC2, stage 2 conf vol	274					
vCu, unblocked vol	1662	463			1392	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	24	33			91	
cM capacity (veh/h)	162	546			487	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	124	363	463	463	463	4	42	190	190	190
Volume Left	124	0	0	0	0	0	42	0	0	0
Volume Right	0	363	0	0	0	4	0	0	0	0
cSH	162	546	1700	1700	1700	1700	487	1700	1700	1700
Volume to Capacity	0.76	0.67	0.27	0.27	0.27	0.00	0.09	0.11	0.11	0.11
Queue Length 95th (ft)	121	123	0	0	0	0	7	0	0	0
Control Delay (s)	76.4	23.7	0.0	0.0	0.0	0.0	13.1	0.0	0.0	0.0
Lane LOS	F	C					B			
Approach Delay (s)	37.2		0.0				0.9			
Approach LOS	E									

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	510	277	91	616	0	0	0	0	98	884	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	0.97	0.91					0.86	0.86	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	5085					1522	4724	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	5085					1522	4724	
Peak-hour factor, PHF	0.25	0.96	0.75	0.86	0.91	1.00	1.00	1.00	1.00	0.89	0.93	0.68
Adj. Flow (vph)	0	531	369	106	677	0	0	0	0	110	951	119
RTOR Reduction (vph)	0	0	40	0	0	0	0	0	0	0	13	0
Lane Group Flow (vph)	0	531	329	106	677	0	0	0	0	99	1068	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		26.0	26.0	6.1	37.8					39.4	39.4	
Effective Green, g (s)		26.0	26.0	6.1	32.1					39.4	39.4	
Actuated g/C Ratio		0.29	0.29	0.07	0.36					0.44	0.44	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		1851	457	233	1814					666	2068	
v/s Ratio Prot		0.08		c0.03	0.13							
v/s Ratio Perm			c0.21							0.07	0.23	
v/c Ratio		0.29	0.72	0.45	0.37					0.15	0.52	
Uniform Delay, d1		24.8	28.7	40.4	21.5					15.2	18.4	
Progression Factor		1.00	1.00	0.34	1.18					1.00	1.00	
Incremental Delay, d2		0.0	4.7	0.5	0.0					0.5	0.9	
Delay (s)		24.8	33.4	14.2	25.4					15.7	19.3	
Level of Service		C	C	B	C					B	B	
Approach Delay (s)		28.4			23.9			0.0			19.0	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM Average Control Delay	23.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	373	209	0	0	282	36	426	579	90	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	5.7	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	3539	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.88	1.00	1.00	0.98	0.86	0.87	0.87	0.75	1.00	1.00	1.00
Adj. Flow (vph)	405	238	0	0	288	42	490	666	120	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	37	0	0	51	0	0	0
Lane Group Flow (vph)	405	238	0	0	288	5	490	666	69	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases					6	6	8		8			
Actuated Green, G (s)	9.9	25.9			9.9	9.9	51.7	51.7	51.7			
Effective Green, g (s)	9.9	25.9			9.9	9.9	51.7	51.7	51.7			
Actuated g/C Ratio	0.11	0.29			0.11	0.11	0.57	0.57	0.57			
Clearance Time (s)	6.1				5.7	5.7	6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	378	1018			559	174	1972	2033	909			
v/s Ratio Prot	c0.12	0.07			c0.06			c0.19				
v/s Ratio Perm						0.00	0.14		0.04			
v/c Ratio	1.07	0.23			0.52	0.03	0.25	0.33	0.08			
Uniform Delay, d1	40.0	24.5			37.8	35.7	9.5	10.0	8.5			
Progression Factor	0.86	0.68			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	66.3	0.0			0.3	0.0	0.0	0.0	0.0			
Delay (s)	100.5	16.7			38.1	35.8	9.5	10.1	8.5			
Level of Service	F	B			D	D	A	B	A			
Approach Delay (s)		69.5			37.8			9.7			0.0	
Approach LOS		E			D			A			A	

Intersection Summary			
HCM Average Control Delay	30.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	267	0	0	1325	162
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.55	1.00	1.00	0.88	0.86
Hourly flow rate (vph)	0	485	0	0	1506	188
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1600	596	1694			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1600	596	1694			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	0	100			
cM capacity (veh/h)	97	447	373			

Direction, Lane #	EB 1	SB 1	SB 2	SB 3
Volume Total	485	602	602	490
Volume Left	0	0	0	0
Volume Right	485	0	0	188
cSH	447	1700	1700	1700
Volume to Capacity	1.09	0.35	0.35	0.29
Queue Length 95th (ft)	403	0	0	0
Control Delay (s)	98.3	0.0	0.0	0.0
Lane LOS	F			
Approach Delay (s)	98.3	0.0		
Approach LOS	F			

Intersection Summary			
Average Delay	21.9		
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	31	45	367	96	0	0	0	0	44	871	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	0.86	0.86						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	0.97						1.00	
Satd. Flow (prot)		3539	1583	3044	3122						5069	
Flt Permitted		1.00	1.00	0.72	0.81						1.00	
Satd. Flow (perm)		3539	1583	2313	2581						5069	
Peak-hour factor, PHF	1.00	0.61	0.81	0.92	0.81	1.00	1.00	1.00	1.00	0.79	0.85	0.50
Adj. Flow (vph)	0	51	56	399	119	0	0	0	0	56	1025	4
RTOR Reduction (vph)	0	0	40	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	51	16	267	251	0	0	0	0	0	1084	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			6	5 6						8		
Actuated Green, G (s)		7.0	7.0	11.0	11.0						26.0	
Effective Green, g (s)		7.0	7.0	11.0	11.0						26.0	
Actuated g/C Ratio		0.13	0.13	0.20	0.20						0.47	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		450	201	516	556						2396	
v/s Ratio Prot		0.01		c0.04	0.03							
v/s Ratio Perm			0.01	c0.07	0.06						0.21	
v/c Ratio		0.11	0.08	0.52	0.45						0.45	
Uniform Delay, d1		21.3	21.2	19.3	19.3						9.7	
Progression Factor		1.00	1.00	1.54	1.04						0.78	
Incremental Delay, d2		0.1	0.2	0.9	0.6						0.5	
Delay (s)		21.4	21.3	30.6	20.8						8.1	
Level of Service		C	C	C	C						A	
Approach Delay (s)		21.3			25.8			0.0			8.1	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	71	0	0	389	47	49	728	345	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5068	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5068	1583			
Peak-hour factor, PHF	0.25	0.78	1.00	1.00	0.88	0.64	0.83	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	8	91	0	0	442	73	59	800	375	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	52	0	0	259	0	0	0
Lane Group Flow (vph)	8	91	0	0	442	21	0	859	116	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	1	1 2			2			4				
Permitted Phases						2	4		4			
Actuated Green, G (s)	4.0	26.0			16.0	16.0		17.0	17.0			
Effective Green, g (s)	4.0	26.0			16.0	16.0		17.0	17.0			
Actuated g/C Ratio	0.07	0.47			0.29	0.29		0.31	0.31			
Clearance Time (s)	6.0				6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	129	2404			1864	461		1566	489			
v/s Ratio Prot	0.00	c0.02			c0.07							
v/s Ratio Perm						0.01		0.17	0.07			
v/c Ratio	0.06	0.04			0.24	0.05		0.55	0.24			
Uniform Delay, d1	23.8	7.8			14.9	14.0		15.8	14.2			
Progression Factor	1.17	1.22			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.9	0.0			0.3	0.2		1.4	1.1			
Delay (s)	28.6	9.5			15.2	14.2		17.2	15.3			
Level of Service	C	A			B	B		B	B			
Approach Delay (s)		11.1			15.0			16.6			0.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM Average Control Delay	15.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	596	282	399	732	0	0	0	0	52	565	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.91	0.88	0.97	0.91						0.91	
Frt		1.00	0.85	1.00	1.00						0.96	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		5085	2787	3433	5085						4885	
Flt Permitted		1.00	1.00	0.39	1.00						1.00	
Satd. Flow (perm)		5085	2787	1425	5085						4885	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	648	307	434	796	0	0	0	0	57	614	214
RTOR Reduction (vph)	0	0	82	0	0	0	0	0	0	0	94	0
Lane Group Flow (vph)	0	648	225	434	796	0	0	0	0	0	791	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		
Actuated Green, G (s)		16.3	16.3	22.5	28.5						14.5	
Effective Green, g (s)		16.3	16.3	22.5	28.5						14.5	
Actuated g/C Ratio		0.30	0.30	0.41	0.52						0.26	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1507	826	809	2635						1288	
v/s Ratio Prot		0.13		c0.06	0.16							
v/s Ratio Perm			0.08	c0.16							0.16	
v/c Ratio		0.43	0.27	0.54	0.30						0.61	
Uniform Delay, d1		15.6	14.8	11.0	7.6						17.8	
Progression Factor		1.00	1.00	1.47	0.82						1.00	
Incremental Delay, d2		0.9	0.8	0.6	0.1						0.9	
Delay (s)		16.5	15.6	16.8	6.3						18.7	
Level of Service		B	B	B	A						B	
Approach Delay (s)		16.2			10.0			0.0			18.7	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM Average Control Delay	14.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	467	0	0	775	37	357	562	187	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	5085			6408	1583	3433	3539	1583			
Flt Permitted	0.31	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	1110	5085			6408	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	508	0	0	842	40	388	611	203	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	27	0	0	146	0	0	0
Lane Group Flow (vph)	196	508	0	0	842	13	388	611	57	0	0	0
Turn Type	pm+pt					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					6	8		8			
Actuated Green, G (s)	21.6	27.6			17.6	17.6	15.4	15.4	15.4			
Effective Green, g (s)	21.6	27.6			17.6	17.6	15.4	15.4	15.4			
Actuated g/C Ratio	0.39	0.50			0.32	0.32	0.28	0.28	0.28			
Clearance Time (s)	6.0				6.0	6.0	6.0	6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	605	2552			2051	507	961	991	443			
v/s Ratio Prot	c0.02	0.10			c0.13			c0.17				
v/s Ratio Perm	0.10					0.01	0.11		0.04			
v/c Ratio	0.32	0.20			0.41	0.03	0.40	0.62	0.13			
Uniform Delay, d1	12.3	7.6			14.6	12.8	16.1	17.2	14.8			
Progression Factor	0.72	0.54			1.00	1.00	0.49	0.54	0.53			
Incremental Delay, d2	0.3	0.0			0.6	0.1	0.3	1.1	0.1			
Delay (s)	9.2	4.2			15.2	12.9	8.1	10.3	7.9			
Level of Service	A	A			B	B	A	B	A			
Approach Delay (s)		5.6			15.1			9.2			0.0	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	10.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	297	6	2	334	7	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5063		1770	5085	1770	1583
Flt Permitted	1.00		0.39	1.00	0.95	1.00
Satd. Flow (perm)	5063		730	5085	1770	1583
Peak-hour factor, PHF	0.91	0.63	0.25	0.91	0.50	0.25
Adj. Flow (vph)	326	10	8	367	14	4
RTOR Reduction (vph)	7	0	0	0	0	4
Lane Group Flow (vph)	329	0	8	367	14	0
Turn Type			pm+pt			Perm
Protected Phases	4		3	8	2	
Permitted Phases			8			2
Actuated Green, G (s)	4.2		10.6	10.6	0.6	0.6
Effective Green, g (s)	4.2		10.6	10.6	0.6	0.6
Actuated g/C Ratio	0.18		0.46	0.46	0.03	0.03
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	917		351	2323	46	41
v/s Ratio Prot	c0.07		0.00	c0.07	c0.01	
v/s Ratio Perm			0.01			0.00
v/c Ratio	0.36		0.02	0.16	0.30	0.00
Uniform Delay, d1	8.3		4.2	3.7	11.1	11.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2		0.0	0.0	3.7	0.0
Delay (s)	8.6		4.2	3.7	14.8	11.0
Level of Service	A		A	A	B	B
Approach Delay (s)	8.6			3.7	14.0	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	6.2	HCM Level of Service	A
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	23.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	19.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	294	0	0	297	5	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	1.00	1.00	0.95	0.25	1.00
Hourly flow rate (vph)	316	0	0	313	20	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)	1015					
pX, platoon unblocked						
vC, conflicting volume			316		420	105
vC1, stage 1 conf vol					316	
vC2, stage 2 conf vol					104	
vCu, unblocked vol			316		420	105
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		97	100
cM capacity (veh/h)			1241		608	929

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2
Volume Total	126	126	63	0	104	104	104	20	0
Volume Left	0	0	0	0	0	0	0	20	0
Volume Right	0	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700	608	1700
Volume to Capacity	0.07	0.07	0.04	0.00	0.06	0.06	0.06	0.03	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	3	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.1	0.0
Lane LOS								B	A
Approach Delay (s)	0.0			0.0				11.1	
Approach LOS								B	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	15.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	13	21	418	11	15	400
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.46	0.64	0.93	0.83	0.81	0.97
Hourly flow rate (vph)	28	33	449	13	19	412
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh)			1			1
Upstream signal (ft)						752
pX, platoon unblocked						
vC, conflicting volume	624	150			463	
vC1, stage 1 conf vol	449					
vC2, stage 2 conf vol	174					
vCu, unblocked vol	624	150			463	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	94	96			98	
cM capacity (veh/h)	497	870			1095	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	28	33	150	150	150	13	19	137	137	137
Volume Left	28	0	0	0	0	0	19	0	0	0
Volume Right	0	33	0	0	0	13	0	0	0	0
cSH	497	870	1700	1700	1700	1700	1095	1700	1700	1700
Volume to Capacity	0.06	0.04	0.09	0.09	0.09	0.01	0.02	0.08	0.08	0.08
Queue Length 95th (ft)	5	3	0	0	0	0	1	0	0	0
Control Delay (s)	12.7	9.3	0.0	0.0	0.0	0.0	8.3	0.0	0.0	0.0
Lane LOS	B	A					A			
Approach Delay (s)	10.9		0.0				0.4			
Approach LOS	B									

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	22.5%	ICU Level of Service	A
Analysis Period (min)	15		

SAVANT GROUP
TRANSPORTATION ENGINEERS & PLANNERS

APPENDIX E: 2020 BACKGROUND ANALYSES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	527	324	166	2005	0	0	0	0	176	1386	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	6.7
Lane Util. Factor		0.86	1.00	1.00	0.86					0.91	0.91	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		6408	1583	1770	6408					1610	3388	1583
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (perm)		6408	1583	1770	6408					1610	3388	1583
Peak-hour factor, PHF	0.25	0.93	0.83	0.80	0.90	1.00	1.00	1.00	1.00	0.81	0.90	0.85
Adj. Flow (vph)	0	567	390	208	2228	0	0	0	0	217	1540	191
RTOR Reduction (vph)	0	0	21	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	567	369	208	2228	0	0	0	0	195	1562	190
Turn Type			Perm	Prot						Perm		Perm
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		4
Actuated Green, G (s)		34.3	34.3	13.9	53.9					53.3	53.3	53.3
Effective Green, g (s)		34.3	34.3	13.9	48.2					53.3	53.3	53.3
Actuated g/C Ratio		0.29	0.29	0.12	0.40					0.44	0.44	0.44
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	6.7
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	2.0
Lane Grp Cap (vph)		1832	452	205	2574					715	1505	703
v/s Ratio Prot		0.09		c0.12	c0.35							
v/s Ratio Perm			0.23							0.12	0.46	0.12
v/c Ratio		0.31	0.82	1.01	0.87					0.27	1.04	0.27
Uniform Delay, d1		33.6	39.9	53.0	32.9					21.1	33.4	21.1
Progression Factor		1.00	1.00	0.40	0.99					1.00	1.00	1.00
Incremental Delay, d2		0.0	10.4	43.7	1.4					0.9	33.6	0.9
Delay (s)		33.6	50.3	64.9	34.2					22.0	67.0	22.0
Level of Service		C	D	E	C					C	E	C
Approach Delay (s)		40.4			36.8			0.0			58.1	
Approach LOS		D			D			A			E	

Intersection Summary			
HCM Average Control Delay	45.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	373	339	0	0	1097	214	1060	1253	125	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	5.7	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	3539	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	3539	1583			
Peak-hour factor, PHF	0.83	0.77	1.00	1.00	0.83	0.85	0.83	0.83	0.85	1.00	1.00	1.00
Adj. Flow (vph)	449	440	0	0	1322	252	1277	1510	147	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	67	0	0	0
Lane Group Flow (vph)	449	440	0	0	1322	246	1277	1510	80	0	0	0
Turn Type	Prot					custom	Perm		Perm			
Protected Phases	5	5 6						8				
Permitted Phases					6	6	8		8			
Actuated Green, G (s)	15.9	56.1			34.1	34.1	51.5	51.5	51.5			
Effective Green, g (s)	15.9	56.1			34.1	34.1	51.5	51.5	51.5			
Actuated g/C Ratio	0.13	0.47			0.28	0.28	0.43	0.43	0.43			
Clearance Time (s)	6.1				5.7	5.7	6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	455	1654			1445	450	1473	1519	679			
v/s Ratio Prot	c0.13	0.12						c0.43				
v/s Ratio Perm					c0.26	0.16	0.37		0.05			
v/c Ratio	0.99	0.27			0.91	0.55	0.87	0.99	0.12			
Uniform Delay, d1	51.9	19.4			41.5	36.4	31.1	34.1	20.6			
Progression Factor	0.46	1.17			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	38.0	0.0			9.1	0.7	7.1	21.7	0.4			
Delay (s)	62.1	22.7			50.6	37.1	38.3	55.8	20.9			
Level of Service	E	C			D	D	D	E	C			
Approach Delay (s)		42.6			48.5			46.4			0.0	
Approach LOS		D			D			D			A	

Intersection Summary			
HCM Average Control Delay	46.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	133	0	0	2022	479
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	0.88	1.00	1.00	0.91	0.88
Hourly flow rate (vph)	0	151	0	0	2222	544
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	2494	1013	2766			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2494	1013	2766			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	36	100			
cM capacity (veh/h)	24	237	140			

Direction, Lane #	EB 1	SB 1	SB 2	SB 3
Volume Total	151	889	889	989
Volume Left	0	0	0	0
Volume Right	151	0	0	544
cSH	237	1700	1700	1700
Volume to Capacity	0.64	0.52	0.52	0.58
Queue Length 95th (ft)	97	0	0	0
Control Delay (s)	43.7	0.0	0.0	0.0
Lane LOS	E			
Approach Delay (s)	43.7	0.0		
Approach LOS	E			

Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	333	667	1435	305	0	0	0	0	87	1446	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3539	1583	3433	3539						5057	
Flt Permitted		1.00	1.00	0.49	1.00						1.00	
Satd. Flow (perm)		3539	1583	1759	3539						5057	
Peak-hour factor, PHF	1.00	0.80	0.65	0.87	0.89	1.00	1.00	1.00	1.00	0.62	0.93	0.50
Adj. Flow (vph)	0	416	1026	1649	343	0	0	0	0	140	1555	16
RTOR Reduction (vph)	0	0	1	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	416	1025	1649	343	0	0	0	0	0	1710	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			6	5 6						8		
Actuated Green, G (s)		51.0	51.0	65.0	71.0						27.0	
Effective Green, g (s)		51.0	51.0	65.0	71.0						27.0	
Actuated g/C Ratio		0.46	0.46	0.59	0.65						0.25	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1641	734	1252	2284						1241	
v/s Ratio Prot		0.12		c0.17	0.10							
v/s Ratio Perm			c0.65	0.61							0.34	
v/c Ratio		0.25	1.40	1.32	0.15						1.38	
Uniform Delay, d1		17.9	29.5	18.9	7.7						41.5	
Progression Factor		1.00	1.00	1.53	1.26						1.00	
Incremental Delay, d2		0.4	186.9	145.4	0.1						175.3	
Delay (s)		18.3	216.4	174.1	9.7						216.8	
Level of Service		B	F	F	A						F	
Approach Delay (s)		159.3			145.8			0.0			216.8	
Approach LOS		F			F			A			F	

Intersection Summary			
HCM Average Control Delay	173.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.38		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	127.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	240	0	0	1605	279	120	1330	491	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5062	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5062	1583			
Peak-hour factor, PHF	0.58	0.71	1.00	1.00	0.88	0.88	0.81	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	259	338	0	0	1824	317	148	1462	534	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	29	0	0	304	0	0	0
Lane Group Flow (vph)	259	338	0	0	1824	288	0	1610	230	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	1	1 2			2			4				
Permitted Phases						2	4		4			
Actuated Green, G (s)	17.0	58.0			35.0	35.0		40.0	40.0			
Effective Green, g (s)	17.0	58.0			35.0	35.0		40.0	40.0			
Actuated g/C Ratio	0.15	0.53			0.32	0.32		0.36	0.36			
Clearance Time (s)	6.0				6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	274	2681			2039	504		1841	576			
v/s Ratio Prot	c0.15	0.07			c0.28							
v/s Ratio Perm						0.18		0.32	0.15			
v/c Ratio	0.95	0.13			0.89	0.57		0.87	0.40			
Uniform Delay, d1	46.0	13.2			35.7	31.2		32.7	26.1			
Progression Factor	0.82	0.74			1.00	1.00		1.00	1.00			
Incremental Delay, d2	38.8	0.1			6.6	4.6		6.1	2.1			
Delay (s)	76.3	9.8			42.3	35.9		38.8	28.1			
Level of Service	E	A			D	D		D	C			
Approach Delay (s)		38.6			41.4			36.1			0.0	
Approach LOS		D			D			D			A	

Intersection Summary			
HCM Average Control Delay	38.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	127.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	769	538	1032	2656	0	0	0	0	57	998	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	6.0
Lane Util. Factor		0.91	0.88	0.97	0.91						0.91	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						1.00	1.00
Satd. Flow (prot)		5085	2787	3433	5085						5072	1583
Flt Permitted		1.00	1.00	0.18	1.00						1.00	1.00
Satd. Flow (perm)		5085	2787	657	5085						5072	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	836	585	1122	2887	0	0	0	0	62	1085	238
RTOR Reduction (vph)	0	0	13	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	836	572	1122	2887	0	0	0	0	0	1147	237
Turn Type			Perm	pm+pt						Perm		Perm
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		4
Actuated Green, G (s)		22.0	22.0	52.0	58.0						30.0	30.0
Effective Green, g (s)		22.0	22.0	52.0	58.0						30.0	30.0
Actuated g/C Ratio		0.22	0.22	0.52	0.58						0.30	0.30
Clearance Time (s)		6.0	6.0	6.0							6.0	6.0
Vehicle Extension (s)		3.0	3.0	3.0							3.0	3.0
Lane Grp Cap (vph)		1119	613	1174	2949						1522	475
v/s Ratio Prot		0.16		0.29	c0.57							
v/s Ratio Perm			0.21	0.21							0.23	0.15
v/c Ratio		0.75	0.93	0.96	0.98						0.75	0.50
Uniform Delay, d1		36.4	38.3	28.3	20.4						31.7	28.8
Progression Factor		1.00	1.00	0.66	0.52						1.00	1.00
Incremental Delay, d2		4.6	23.1	5.7	4.5						2.2	0.8
Delay (s)		41.0	61.4	24.4	15.1						33.8	29.6
Level of Service		D	E	C	B						C	C
Approach Delay (s)		49.4			17.7			0.0			33.1	
Approach LOS		D			B			A			C	

Intersection Summary			
HCM Average Control Delay	27.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	179	641	0	0	2705	297	984	1074	316	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	5085			6408	1583	3433	3539	1583			
Flt Permitted	0.09	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	314	5085			6408	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	195	697	0	0	2940	323	1070	1167	343	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	146	0	0	0
Lane Group Flow (vph)	195	697	0	0	2940	317	1070	1167	197	0	0	0
Turn Type	pm+pt					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					6	8		8			
Actuated Green, G (s)	50.0	56.0			46.0	46.0	32.0	32.0	32.0			
Effective Green, g (s)	50.0	56.0			46.0	46.0	32.0	32.0	32.0			
Actuated g/C Ratio	0.50	0.56			0.46	0.46	0.32	0.32	0.32			
Clearance Time (s)	6.0				6.0	6.0	6.0	6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	282	2848			2948	728	1099	1132	507			
v/s Ratio Prot	c0.03	0.14			c0.46			c0.33				
v/s Ratio Perm	0.32					0.20	0.31		0.12			
v/c Ratio	0.69	0.24			1.00	0.43	0.97	1.03	0.39			
Uniform Delay, d1	22.6	11.2			26.9	18.2	33.6	34.0	26.4			
Progression Factor	2.93	0.11			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	4.7	0.0			16.0	1.9	20.9	35.0	0.5			
Delay (s)	70.9	1.2			42.9	20.1	54.4	69.0	26.9			
Level of Service	E	A			D	C	D	E	C			
Approach Delay (s)		16.5			40.6			57.4			0.0	
Approach LOS		B			D			E			A	

Intersection Summary			
HCM Average Control Delay	43.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	428	44	11	1158	146	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4999		1770	5085	1770	1583
Flt Permitted	1.00		0.31	1.00	0.95	1.00
Satd. Flow (perm)	4999		585	5085	1770	1583
Peak-hour factor, PHF	0.83	0.67	0.67	0.92	0.86	0.56
Adj. Flow (vph)	516	66	16	1259	170	21
RTOR Reduction (vph)	26	0	0	0	0	18
Lane Group Flow (vph)	556	0	16	1259	170	3
Turn Type			pm+pt			custom
Protected Phases	4		3	8		
Permitted Phases			8		2	2
Actuated Green, G (s)	17.5		24.1	24.1	7.2	7.2
Effective Green, g (s)	17.5		24.1	24.1	7.2	7.2
Actuated g/C Ratio	0.40		0.56	0.56	0.17	0.17
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2020		342	2830	294	263
v/s Ratio Prot	0.11		0.00	c0.25		
v/s Ratio Perm			0.03		c0.10	0.00
v/c Ratio	0.28		0.05	0.44	0.58	0.01
Uniform Delay, d1	8.6		4.7	5.7	16.6	15.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.1	0.1	2.7	0.0
Delay (s)	8.7		4.8	5.8	19.4	15.1
Level of Service	A		A	A	B	B
Approach Delay (s)	8.7			5.8	18.9	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	7.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	43.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	454	1	0	1105	22	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.25	1.00	0.83	0.50	0.63
Hourly flow rate (vph)	528	4	0	1331	44	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)	1015					
pX, platoon unblocked						
vC, conflicting volume			532		974	178
vC1, stage 1 conf vol					530	
vC2, stage 2 conf vol					444	
vCu, unblocked vol			532		974	178
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		88	99
cM capacity (veh/h)			1032		379	834

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2
Volume Total	211	211	110	0	444	444	444	44	11
Volume Left	0	0	0	0	0	0	0	44	0
Volume Right	0	0	4	0	0	0	0	0	11
cSH	1700	1700	1700	1700	1700	1700	1700	379	834
Volume to Capacity	0.12	0.12	0.06	0.00	0.26	0.26	0.26	0.12	0.01
Queue Length 95th (ft)	0	0	0	0	0	0	0	10	1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7	9.4
Lane LOS								C	A
Approach Delay (s)	0.0			0.0				14.5	
Approach LOS								B	

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	128	354	1550	1	34	635
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.82	0.94	0.25	0.69	0.94
Hourly flow rate (vph)	147	432	1649	4	49	676
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh)			1			1
Upstream signal (ft)						752
pX, platoon unblocked						
vC, conflicting volume	1973	550			1653	
vC1, stage 1 conf vol	1649					
vC2, stage 2 conf vol	324					
vCu, unblocked vol	1973	550			1653	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	10			87	
cM capacity (veh/h)	117	479			386	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	147	432	550	550	550	4	49	225	225	225
Volume Left	147	0	0	0	0	0	49	0	0	0
Volume Right	0	432	0	0	0	4	0	0	0	0
cSH	117	479	1700	1700	1700	1700	386	1700	1700	1700
Volume to Capacity	1.25	0.90	0.32	0.32	0.32	0.00	0.13	0.13	0.13	0.13
Queue Length 95th (ft)	238	253	0	0	0	0	11	0	0	0
Control Delay (s)	236.6	49.8	0.0	0.0	0.0	0.0	15.7	0.0	0.0	0.0
Lane LOS	F	E					C			
Approach Delay (s)	97.3		0.0				1.1			
Approach LOS	F									

Intersection Summary			
Average Delay	19.3		
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	605	328	108	732	0	0	0	0	116	1049	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	1.00	0.86					0.86	0.86	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	1770	6408					1522	4723	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	1770	6408					1522	4723	
Peak-hour factor, PHF	0.25	0.96	0.75	0.86	0.91	1.00	1.00	1.00	1.00	0.89	0.93	0.68
Adj. Flow (vph)	0	630	437	126	804	0	0	0	0	130	1128	143
RTOR Reduction (vph)	0	0	91	0	0	0	0	0	0	0	16	0
Lane Group Flow (vph)	0	630	346	126	804	0	0	0	0	117	1268	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		24.2	24.2	11.1	41.4					36.2	36.2	
Effective Green, g (s)		24.2	24.2	11.1	41.4					36.2	36.2	
Actuated g/C Ratio		0.27	0.27	0.12	0.46					0.40	0.40	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		1723	426	218	2948					612	1900	
v/s Ratio Prot		0.10		c0.07	c0.13							
v/s Ratio Perm			c0.22							0.08	0.27	
v/c Ratio		0.37	0.81	0.58	0.27					0.19	0.67	
Uniform Delay, d1		26.7	30.8	37.2	15.0					17.4	22.0	
Progression Factor		1.00	1.00	1.70	1.75					1.00	1.00	
Incremental Delay, d2		0.0	10.7	2.3	0.0					0.7	1.9	
Delay (s)		26.7	41.5	65.6	26.3					18.1	23.9	
Level of Service		C	D	E	C					B	C	
Approach Delay (s)		32.8			31.7			0.0			23.4	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM Average Control Delay	28.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	443	248	0	0	335	42	506	688	106	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	5.7	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	3539	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.88	1.00	1.00	0.98	0.86	0.87	0.87	0.75	1.00	1.00	1.00
Adj. Flow (vph)	482	282	0	0	342	49	582	791	141	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	42	0	0	71	0	0	0
Lane Group Flow (vph)	482	282	0	0	342	7	582	791	70	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases					6	6	8		8			
Actuated Green, G (s)	14.8	33.0			12.1	12.1	44.6	44.6	44.6			
Effective Green, g (s)	14.8	33.0			12.1	12.1	44.6	44.6	44.6			
Actuated g/C Ratio	0.16	0.37			0.13	0.13	0.50	0.50	0.50			
Clearance Time (s)	6.1				5.7	5.7	6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	565	1298			684	213	1701	1754	784			
v/s Ratio Prot	c0.14	c0.08			c0.07			c0.22				
v/s Ratio Perm						0.00	0.17		0.04			
v/c Ratio	0.85	0.22			0.50	0.03	0.34	0.45	0.09			
Uniform Delay, d1	36.5	19.6			36.1	33.9	13.8	14.7	12.0			
Progression Factor	1.85	0.92			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	11.1	0.0			0.2	0.0	0.0	0.1	0.0			
Delay (s)	78.7	18.1			36.4	33.9	13.8	14.8	12.0			
Level of Service	E	B			D	C	B	B	B			
Approach Delay (s)		56.4			36.0			14.2			0.0	
Approach LOS		E			D			B			A	

Intersection Summary			
HCM Average Control Delay	29.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	316	0	0	1567	192
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.55	1.00	1.00	0.88	0.86
Hourly flow rate (vph)	0	575	0	0	1781	223
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1892	705	2004			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1892	705	2004			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	0	100			
cM capacity (veh/h)	62	379	282			

Direction, Lane #	EB 1	SB 1	SB 2	SB 3
Volume Total	575	712	712	579
Volume Left	0	0	0	0
Volume Right	575	0	0	223
cSH	379	1700	1700	1700
Volume to Capacity	1.52	0.42	0.42	0.34
Queue Length 95th (ft)	784	0	0	0
Control Delay (s)	272.3	0.0	0.0	0.0
Lane LOS	F			
Approach Delay (s)	272.3	0.0		
Approach LOS	F			

Intersection Summary			
Average Delay	60.7		
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	37	53	436	114	0	0	0	0	52	1034	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3539	1583	3433	3539						5069	
Flt Permitted		1.00	1.00	0.72	1.00						1.00	
Satd. Flow (perm)		3539	1583	2584	3539						5069	
Peak-hour factor, PHF	1.00	0.61	0.81	0.92	0.81	1.00	1.00	1.00	1.00	0.79	0.85	0.50
Adj. Flow (vph)	0	61	65	474	141	0	0	0	0	66	1216	6
RTOR Reduction (vph)	0	0	20	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	61	45	474	141	0	0	0	0	0	1287	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			6	5 6						8		
Actuated Green, G (s)		16.0	16.0	20.0	26.0						17.0	
Effective Green, g (s)		16.0	16.0	20.0	26.0						17.0	
Actuated g/C Ratio		0.29	0.29	0.36	0.47						0.31	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1030	461	1001	1673						1567	
v/s Ratio Prot		0.02		c0.03	0.04							
v/s Ratio Perm			0.03	c0.14							0.25	
v/c Ratio		0.06	0.10	0.47	0.08						0.82	
Uniform Delay, d1		14.1	14.2	13.0	8.0						17.6	
Progression Factor		1.00	1.00	0.52	0.92						1.15	
Incremental Delay, d2		0.1	0.4	1.6	0.1						4.1	
Delay (s)		14.2	14.7	8.4	7.5						24.3	
Level of Service		B	B	A	A						C	
Approach Delay (s)		14.4			8.2			0.0			24.3	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	84	0	0	462	56	59	864	410	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5068	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5068	1583			
Peak-hour factor, PHF	0.25	0.78	1.00	1.00	0.88	0.64	0.83	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	12	108	0	0	525	88	71	949	446	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	62	0	0	308	0	0	0
Lane Group Flow (vph)	12	108	0	0	525	26	0	1020	138	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	1	1 2			2			4				
Permitted Phases						2	4		4			
Actuated Green, G (s)	4.0	26.0			16.0	16.0		17.0	17.0			
Effective Green, g (s)	4.0	26.0			16.0	16.0		17.0	17.0			
Actuated g/C Ratio	0.07	0.47			0.29	0.29		0.31	0.31			
Clearance Time (s)	6.0				6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	129	2404			1864	461		1566	489			
v/s Ratio Prot	c0.01	0.02			c0.08							
v/s Ratio Perm						0.02		0.20	0.09			
v/c Ratio	0.09	0.04			0.28	0.06		0.65	0.28			
Uniform Delay, d1	23.8	7.8			15.1	14.1		16.4	14.4			
Progression Factor	0.98	0.87			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.3	0.0			0.4	0.2		2.1	1.4			
Delay (s)	24.6	6.8			15.4	14.3		18.6	15.8			
Level of Service	C	A			B	B		B	B			
Approach Delay (s)		8.6			15.3			17.7			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	16.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	707	335	474	870	0	0	0	0	64	671	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	6.0
Lane Util. Factor		0.91	0.88	0.97	0.91						0.91	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						1.00	1.00
Satd. Flow (prot)		5085	2787	3433	5085						5063	1583
Flt Permitted		1.00	1.00	0.32	1.00						1.00	1.00
Satd. Flow (perm)		5085	2787	1164	5085						5063	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	768	364	515	946	0	0	0	0	70	729	254
RTOR Reduction (vph)	0	0	44	0	0	0	0	0	0	0	0	60
Lane Group Flow (vph)	0	768	320	515	946	0	0	0	0	0	799	194
Turn Type			Perm	pm+pt						Perm		Perm
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		4
Actuated Green, G (s)		16.0	16.0	21.0	27.0						16.0	16.0
Effective Green, g (s)		16.0	16.0	21.0	27.0						16.0	16.0
Actuated g/C Ratio		0.29	0.29	0.38	0.49						0.29	0.29
Clearance Time (s)		6.0	6.0	6.0							6.0	6.0
Vehicle Extension (s)		3.0	3.0	3.0							3.0	3.0
Lane Grp Cap (vph)		1479	811	651	2496						1473	461
v/s Ratio Prot		0.15		c0.07	0.19							
v/s Ratio Perm			0.11	c0.23							0.16	0.12
v/c Ratio		0.52	0.39	0.79	0.38						0.54	0.42
Uniform Delay, d1		16.3	15.6	16.5	8.8						16.4	15.8
Progression Factor		1.00	1.00	1.20	0.98						1.00	1.00
Incremental Delay, d2		1.3	1.4	5.6	0.1						1.4	2.8
Delay (s)		17.6	17.1	25.4	8.7						17.9	18.6
Level of Service		B	B	C	A						B	B
Approach Delay (s)		17.4			14.6			0.0			18.0	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	16.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	214	555	0	0	920	44	424	668	222	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	5085			6408	1583	3433	3539	1583			
Flt Permitted	0.26	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	933	5085			6408	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	233	603	0	0	1000	48	461	726	241	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	34	0	0	140	0	0	0
Lane Group Flow (vph)	233	603	0	0	1000	14	461	726	101	0	0	0
Turn Type	pm+pt					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					6	8		8			
Actuated Green, G (s)	19.5	25.5			15.5	15.5	17.5	17.5	17.5			
Effective Green, g (s)	19.5	25.5			15.5	15.5	17.5	17.5	17.5			
Actuated g/C Ratio	0.35	0.46			0.28	0.28	0.32	0.32	0.32			
Clearance Time (s)	6.0				6.0	6.0	6.0	6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	513	2358			1806	446	1092	1126	504			
v/s Ratio Prot	0.03	c0.12			c0.16			c0.21				
v/s Ratio Perm	0.13					0.01	0.13		0.06			
v/c Ratio	0.45	0.26			0.55	0.03	0.42	0.64	0.20			
Uniform Delay, d1	12.3	9.0			16.8	14.3	14.8	16.1	13.7			
Progression Factor	1.10	0.13			1.00	1.00	1.85	1.80	3.80			
Incremental Delay, d2	0.6	0.0			0.4	0.0	1.1	2.6	0.8			
Delay (s)	14.2	1.2			17.2	14.3	28.4	31.5	52.7			
Level of Service	B	A			B	B	C	C	D			
Approach Delay (s)		4.8			17.0			34.1			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM Average Control Delay	21.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	356	7	3	397	8	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5064		1770	5085	1770	1583
Flt Permitted	1.00		0.33	1.00	0.95	1.00
Satd. Flow (perm)	5064		611	5085	1770	1583
Peak-hour factor, PHF	0.91	0.63	0.25	0.91	0.50	0.25
Adj. Flow (vph)	391	11	12	436	16	4
RTOR Reduction (vph)	6	0	0	0	0	4
Lane Group Flow (vph)	396	0	12	436	16	0
Turn Type			pm+pt			Perm
Protected Phases	4		3	8	2	
Permitted Phases			8			2
Actuated Green, G (s)	6.2		12.6	12.6	0.6	0.6
Effective Green, g (s)	6.2		12.6	12.6	0.6	0.6
Actuated g/C Ratio	0.25		0.50	0.50	0.02	0.02
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1246		324	2543	42	38
v/s Ratio Prot	c0.08		0.00	c0.09	c0.01	
v/s Ratio Perm			0.02			0.00
v/c Ratio	0.32		0.04	0.17	0.38	0.00
Uniform Delay, d1	7.8		3.9	3.4	12.1	12.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.0	0.0	5.7	0.0
Delay (s)	7.9		3.9	3.5	17.8	12.0
Level of Service	A		A	A	B	B
Approach Delay (s)	7.9			3.5	16.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	5.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	25.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	349	0	0	353	5	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	1.00	1.00	0.95	0.25	1.00
Hourly flow rate (vph)	375	0	0	372	20	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)	1015					
pX, platoon unblocked						
vC, conflicting volume			375		499	125
vC1, stage 1 conf vol					375	
vC2, stage 2 conf vol					124	
vCu, unblocked vol			375		499	125
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	100
cM capacity (veh/h)			1180		562	902

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2
Volume Total	150	150	75	0	124	124	124	20	0
Volume Left	0	0	0	0	0	0	0	20	0
Volume Right	0	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700	562	1700
Volume to Capacity	0.09	0.09	0.04	0.00	0.07	0.07	0.07	0.04	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	3	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6	0.0
Lane LOS								B	A
Approach Delay (s)	0.0			0.0				11.6	
Approach LOS								B	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	16.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	15	25	496	14	18	476
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.46	0.64	0.93	0.83	0.81	0.97
Hourly flow rate (vph)	33	39	533	17	22	491
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh)			1			1
Upstream signal (ft)						752
pX, platoon unblocked						
vC, conflicting volume	741	178			550	
vC1, stage 1 conf vol	533					
vC2, stage 2 conf vol	208					
vCu, unblocked vol	741	178			550	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	95			98	
cM capacity (veh/h)	444	835			1016	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	33	39	178	178	178	17	22	164	164	164
Volume Left	33	0	0	0	0	0	22	0	0	0
Volume Right	0	39	0	0	0	17	0	0	0	0
cSH	444	835	1700	1700	1700	1700	1016	1700	1700	1700
Volume to Capacity	0.07	0.05	0.10	0.10	0.10	0.01	0.02	0.10	0.10	0.10
Queue Length 95th (ft)	6	4	0	0	0	0	2	0	0	0
Control Delay (s)	13.8	9.5	0.0	0.0	0.0	0.0	8.6	0.0	0.0	0.0
Lane LOS	B	A					A			
Approach Delay (s)	11.5		0.0				0.4			
Approach LOS	B									

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	527	324	166	2005	0	0	0	0	176	1386	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	0.97	0.91					0.97	0.91	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	5085					3433	5001	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	5085					3433	5001	
Peak-hour factor, PHF	0.25	0.93	0.83	0.80	0.90	1.00	1.00	1.00	1.00	0.81	0.90	0.85
Adj. Flow (vph)	0	567	390	208	2228	0	0	0	0	217	1540	191
RTOR Reduction (vph)	0	0	2	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	567	388	208	2228	0	0	0	0	217	1730	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		34.3	34.3	5.9	45.9					31.3	31.3	
Effective Green, g (s)		34.3	34.3	5.9	40.2					31.3	31.3	
Actuated g/C Ratio		0.38	0.38	0.07	0.45					0.35	0.35	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		2442	603	225	2271					1194	1739	
v/s Ratio Prot		0.09		0.06	c0.44						c0.35	
v/s Ratio Perm			0.24							0.06		
v/c Ratio		0.23	0.64	0.92	0.98					0.18	0.99	
Uniform Delay, d1		18.9	22.8	41.8	24.5					20.4	29.3	
Progression Factor		1.00	1.00	0.40	1.02					1.00	1.00	
Incremental Delay, d2		0.0	1.8	31.5	11.9					0.0	20.2	
Delay (s)		18.9	24.6	48.1	36.8					20.5	49.4	
Level of Service		B	C	D	D					C	D	
Approach Delay (s)		21.2			37.7			0.0			46.2	
Approach LOS		C			D			A			D	

Intersection Summary			
HCM Average Control Delay	37.9	HCM Level of Service	D
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	108.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	373	339	0	0	1097	214	1060	1253	125	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	5.7	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.94	0.91	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	4990	5085	1583			
Flt Permitted	0.13	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	463	3539			5085	1583	4990	5085	1583			
Peak-hour factor, PHF	0.83	0.77	1.00	1.00	0.83	0.85	0.83	0.83	0.85	1.00	1.00	1.00
Adj. Flow (vph)	449	440	0	0	1322	252	1277	1510	147	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	2	0	0	92	0	0	0
Lane Group Flow (vph)	449	440	0	0	1322	250	1277	1510	55	0	0	0
Turn Type	pm+pt					custom	Perm		Perm			
Protected Phases	5	5 6						8				
Permitted Phases	5 6				6	6	8		8			
Actuated Green, G (s)	38.1	44.2			31.2	31.2	33.4	33.4	33.4			
Effective Green, g (s)	38.1	44.2			31.2	31.2	33.4	33.4	33.4			
Actuated g/C Ratio	0.42	0.49			0.35	0.35	0.37	0.37	0.37			
Clearance Time (s)	6.1				5.7	5.7	6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	424	1738			1763	549	1852	1887	587			
v/s Ratio Prot	c0.08	0.12						c0.30				
v/s Ratio Perm	c0.37				0.26	0.16	0.26		0.03			
v/c Ratio	1.06	0.25			0.75	0.46	0.69	0.80	0.09			
Uniform Delay, d1	20.6	13.3			26.0	22.8	23.9	25.3	18.4			
Progression Factor	1.67	1.18			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	60.0	0.0			1.6	0.2	2.1	3.7	0.3			
Delay (s)	94.4	15.7			27.5	23.0	26.0	29.0	18.7			
Level of Service	F	B			C	C	C	C	B			
Approach Delay (s)		55.4			26.8			27.2			0.0	
Approach LOS		E			C			C			A	

Intersection Summary			
HCM Average Control Delay	31.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	108.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	98	0	0	1487	352
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	0.88	1.00	1.00	0.91	0.88
Hourly flow rate (vph)	0	111	0	0	1634	400
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1834	745	2034			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1834	745	2034			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	69	100			
cM capacity (veh/h)	67	357	274			

Direction, Lane #	EB 1	EB 2	SB 1	SB 2	SB 3
Volume Total	56	56	654	654	727
Volume Left	0	0	0	0	0
Volume Right	56	56	0	0	400
cSH	357	357	1700	1700	1700
Volume to Capacity	0.16	0.16	0.38	0.38	0.43
Queue Length 95th (ft)	14	14	0	0	0
Control Delay (s)	16.9	16.9	0.0	0.0	0.0
Lane LOS	C	C			
Approach Delay (s)	16.9		0.0		
Approach LOS	C				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	333	667	1435	305	0	0	0	0	87	1446	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3539	1583	3433	3539						5057	
Flt Permitted		1.00	1.00	0.34	1.00						1.00	
Satd. Flow (perm)		3539	1583	1244	3539						5057	
Peak-hour factor, PHF	1.00	0.80	0.65	0.87	0.89	1.00	1.00	1.00	1.00	0.62	0.93	0.50
Adj. Flow (vph)	0	416	1026	1649	343	0	0	0	0	140	1555	16
RTOR Reduction (vph)	0	0	2	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	416	1024	1649	343	0	0	0	0	0	1710	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			6	5 6						8		
Actuated Green, G (s)		20.0	20.0	56.0	62.0						36.0	
Effective Green, g (s)		20.0	20.0	56.0	62.0						36.0	
Actuated g/C Ratio		0.18	0.18	0.51	0.56						0.33	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		643	288	1350	1995						1655	
v/s Ratio Prot		0.12		c0.40	0.10							
v/s Ratio Perm			c0.65	0.22							0.34	
v/c Ratio		0.65	3.56	1.22	0.17						1.03	
Uniform Delay, d1		41.7	45.0	23.8	11.6						37.0	
Progression Factor		1.00	1.00	0.59	1.13						0.80	
Incremental Delay, d2		2.2	1159.2	104.2	0.0						24.9	
Delay (s)		44.0	1204.2	118.3	13.1						54.3	
Level of Service		D	F	F	B						D	
Approach Delay (s)		869.5			100.2			0.0			54.3	
Approach LOS		F			F			A			D	

Intersection Summary			
HCM Average Control Delay	300.6	HCM Level of Service	F
HCM Volume to Capacity ratio	1.66		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	127.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	425	0	0	1605	279	120	1330	491	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5062	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5062	1583			
Peak-hour factor, PHF	0.58	0.71	1.00	1.00	0.88	0.88	0.81	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	17	599	0	0	1824	317	148	1462	534	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	52	0	0	121	0	0	0
Lane Group Flow (vph)	17	599	0	0	1824	265	0	1610	413	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	1	1 2			2			4				
Permitted Phases						2	4		4			
Actuated Green, G (s)	5.0	52.0			41.0	41.0		46.0	46.0			
Effective Green, g (s)	5.0	52.0			41.0	41.0		46.0	46.0			
Actuated g/C Ratio	0.05	0.47			0.37	0.37		0.42	0.42			
Clearance Time (s)	6.0				6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	80	2404			2388	590		2117	662			
v/s Ratio Prot	0.01	c0.12			c0.28							
v/s Ratio Perm						0.17		0.32	0.26			
v/c Ratio	0.21	0.25			0.76	0.45		0.76	0.62			
Uniform Delay, d1	50.6	17.3			30.3	26.0		27.3	25.2			
Progression Factor	1.28	1.77			1.00	1.00		1.00	1.00			
Incremental Delay, d2	4.4	0.2			2.4	2.5		2.6	4.4			
Delay (s)	69.0	30.8			32.6	28.5		29.9	29.6			
Level of Service	E	C			C	C		C	C			
Approach Delay (s)		31.9			32.0			29.8			0.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	31.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	127.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	769	538	1032	2656	0	0	0	0	57	998	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	6.0
Lane Util. Factor		0.91	0.88	0.97	0.91						0.91	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						1.00	1.00
Satd. Flow (prot)		5085	2787	3433	5085						5072	1583
Flt Permitted		1.00	1.00	0.19	1.00						1.00	1.00
Satd. Flow (perm)		5085	2787	696	5085						5072	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	836	585	1122	2887	0	0	0	0	62	1085	238
RTOR Reduction (vph)	0	0	15	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	836	570	1122	2887	0	0	0	0	0	1147	237
Turn Type			Perm	pm+pt						Perm		Perm
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		4
Actuated Green, G (s)		27.0	27.0	63.0	69.0						29.0	29.0
Effective Green, g (s)		27.0	27.0	63.0	69.0						29.0	29.0
Actuated g/C Ratio		0.25	0.25	0.57	0.63						0.26	0.26
Clearance Time (s)		6.0	6.0	6.0							6.0	6.0
Vehicle Extension (s)		3.0	3.0	3.0							3.0	3.0
Lane Grp Cap (vph)		1248	684	1294	3190						1337	417
v/s Ratio Prot		0.16		0.28	c0.57							
v/s Ratio Perm			0.20	0.21							0.23	0.15
v/c Ratio		0.67	0.83	0.87	0.91						0.86	0.57
Uniform Delay, d1		37.5	39.4	26.8	17.7						38.5	35.1
Progression Factor		1.00	1.00	0.27	0.70						1.00	1.00
Incremental Delay, d2		2.9	11.4	2.0	1.3						5.7	1.8
Delay (s)		40.3	50.8	9.3	13.7						44.2	36.8
Level of Service		D	D	A	B						D	D
Approach Delay (s)		44.6			12.5			0.0			42.9	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	179	641	0	0	2705	297	984	1074	316	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	5085			6408	1583	3433	3539	1583			
Flt Permitted	0.08	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	278	5085			6408	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	195	697	0	0	2940	323	1070	1167	343	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	146	0	0	0
Lane Group Flow (vph)	195	697	0	0	2940	317	1070	1167	197	0	0	0
Turn Type	pm+pt					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					6	8		8			
Actuated Green, G (s)	56.0	62.0			52.0	52.0	36.0	36.0	36.0			
Effective Green, g (s)	56.0	62.0			52.0	52.0	36.0	36.0	36.0			
Actuated g/C Ratio	0.51	0.56			0.47	0.47	0.33	0.33	0.33			
Clearance Time (s)	6.0				6.0	6.0	6.0	6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	256	2866			3029	748	1124	1158	518			
v/s Ratio Prot	c0.03	0.14			c0.46			c0.33				
v/s Ratio Perm	0.36					0.20	0.31		0.12			
v/c Ratio	0.76	0.24			0.97	0.42	0.95	1.01	0.38			
Uniform Delay, d1	24.6	12.1			28.3	19.1	36.2	37.0	28.4			
Progression Factor	3.57	0.12			1.00	1.00	0.77	0.77	0.48			
Incremental Delay, d2	9.5	0.0			10.8	1.8	15.2	26.8	0.4			
Delay (s)	97.5	1.5			39.1	20.9	42.9	55.3	14.1			
Level of Service	F	A			D	C	D	E	B			
Approach Delay (s)		22.5			37.3			44.7			0.0	
Approach LOS		C			D			D			A	

Intersection Summary			
HCM Average Control Delay	38.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	428	44	11	1158	146	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	4999		1770	5085	1770	1583
Flt Permitted	1.00		0.31	1.00	0.95	1.00
Satd. Flow (perm)	4999		585	5085	1770	1583
Peak-hour factor, PHF	0.83	0.67	0.67	0.92	0.86	0.56
Adj. Flow (vph)	516	66	16	1259	170	21
RTOR Reduction (vph)	26	0	0	0	0	18
Lane Group Flow (vph)	556	0	16	1259	170	3
Turn Type			pm+pt			custom
Protected Phases	4		3	8		
Permitted Phases			8		2	2
Actuated Green, G (s)	17.5		24.1	24.1	7.2	7.2
Effective Green, g (s)	17.5		24.1	24.1	7.2	7.2
Actuated g/C Ratio	0.40		0.56	0.56	0.17	0.17
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2020		342	2830	294	263
v/s Ratio Prot	0.11		0.00	c0.25		
v/s Ratio Perm			0.03		c0.10	0.00
v/c Ratio	0.28		0.05	0.44	0.58	0.01
Uniform Delay, d1	8.6		4.7	5.7	16.6	15.1
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.1	0.1	2.7	0.0
Delay (s)	8.7		4.8	5.8	19.4	15.1
Level of Service	A		A	A	B	B
Approach Delay (s)	8.7			5.8	18.9	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	7.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	43.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	454	1	0	1105	22	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.86	0.25	1.00	0.83	0.50	0.63
Hourly flow rate (vph)	528	4	0	1331	44	11
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)	1015					
pX, platoon unblocked						
vC, conflicting volume			532		974	178
vC1, stage 1 conf vol					530	
vC2, stage 2 conf vol					444	
vCu, unblocked vol			532		974	178
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		88	99
cM capacity (veh/h)			1032		379	834

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2
Volume Total	211	211	110	0	444	444	444	44	11
Volume Left	0	0	0	0	0	0	0	44	0
Volume Right	0	0	4	0	0	0	0	0	11
cSH	1700	1700	1700	1700	1700	1700	1700	379	834
Volume to Capacity	0.12	0.12	0.06	0.00	0.26	0.26	0.26	0.12	0.01
Queue Length 95th (ft)	0	0	0	0	0	0	0	10	1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.7	9.4
Lane LOS								C	A
Approach Delay (s)	0.0			0.0				14.5	
Approach LOS								B	

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	128	354	1550	1	34	635
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.87	0.82	0.94	0.25	0.69	0.94
Hourly flow rate (vph)	147	432	1649	4	49	676
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh)			1			1
Upstream signal (ft)						752
pX, platoon unblocked						
vC, conflicting volume	1973	550			1653	
vC1, stage 1 conf vol	1649					
vC2, stage 2 conf vol	324					
vCu, unblocked vol	1973	550			1653	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	10			87	
cM capacity (veh/h)	117	479			386	

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	74	74	216	216	550	550	550	4	49	225	225	225
Volume Left	74	74	0	0	0	0	0	0	49	0	0	0
Volume Right	0	0	216	216	0	0	0	4	0	0	0	0
cSH	117	117	479	479	1700	1700	1700	1700	386	1700	1700	1700
Volume to Capacity	0.63	0.63	0.45	0.45	0.32	0.32	0.32	0.00	0.13	0.13	0.13	0.13
Queue Length 95th (ft)	80	80	57	57	0	0	0	0	11	0	0	0
Control Delay (s)	77.1	77.1	18.5	18.5	0.0	0.0	0.0	0.0	15.7	0.0	0.0	0.0
Lane LOS	F	F	C	C					C			
Approach Delay (s)	33.4				0.0				1.1			
Approach LOS	D											

Intersection Summary			
Average Delay	6.8		
Intersection Capacity Utilization	49.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	605	328	108	732	0	0	0	0	116	1049	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1						6.7	6.7
Lane Util. Factor		0.86	1.00	0.97	0.91						0.91	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						0.99	1.00
Satd. Flow (prot)		6408	1583	3433	5085						5059	1583
Flt Permitted		1.00	1.00	0.37	1.00						0.99	1.00
Satd. Flow (perm)		6408	1583	1337	5085						5059	1583
Peak-hour factor, PHF	0.25	0.96	0.75	0.86	0.91	1.00	1.00	1.00	1.00	0.89	0.93	0.68
Adj. Flow (vph)	0	630	437	126	804	0	0	0	0	130	1128	143
RTOR Reduction (vph)	0	0	67	0	0	0	0	0	0	0	0	79
Lane Group Flow (vph)	0	630	370	126	804	0	0	0	0	0	1258	64
Turn Type			Perm	pm+pt						Perm		Perm
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		4
Actuated Green, G (s)		28.6	28.6	33.9	39.6						37.6	37.6
Effective Green, g (s)		28.6	28.6	33.9	33.9						37.6	37.6
Actuated g/C Ratio		0.32	0.32	0.38	0.38						0.42	0.42
Clearance Time (s)		5.7	5.7	6.1							6.7	6.7
Vehicle Extension (s)		2.0	2.0	1.0							2.0	2.0
Lane Grp Cap (vph)		2036	503	627	1915						2114	661
v/s Ratio Prot		0.10		0.01	c0.16							
v/s Ratio Perm			c0.23	0.06							0.25	0.04
v/c Ratio		0.31	0.74	0.20	0.42						0.60	0.10
Uniform Delay, d1		23.2	27.3	20.1	20.8						20.3	15.9
Progression Factor		1.00	1.00	0.14	0.83						1.00	1.00
Incremental Delay, d2		0.0	4.8	0.1	0.1						1.2	0.3
Delay (s)		23.3	32.1	2.8	17.3						21.5	16.2
Level of Service		C	C	A	B						C	B
Approach Delay (s)		26.9			15.4			0.0			21.0	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM Average Control Delay	21.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	23.0
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	443	248	0	0	335	42	506	688	106	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	5.7	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.94	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	4990	3539	1583			
Flt Permitted	0.53	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	1910	3539			5085	1583	4990	3539	1583			
Peak-hour factor, PHF	0.92	0.88	1.00	1.00	0.98	0.86	0.87	0.87	0.75	1.00	1.00	1.00
Adj. Flow (vph)	482	282	0	0	342	49	582	791	141	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	43	0	0	57	0	0	0
Lane Group Flow (vph)	482	282	0	0	342	6	582	791	84	0	0	0
Turn Type	pm+pt					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6				6	6	8		8			
Actuated Green, G (s)	18.0	24.1			11.1	11.1	53.5	53.5	53.5			
Effective Green, g (s)	18.0	24.1			11.1	11.1	53.5	53.5	53.5			
Actuated g/C Ratio	0.20	0.27			0.12	0.12	0.59	0.59	0.59			
Clearance Time (s)	6.1				5.7	5.7	6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	499	948			627	195	2966	2104	941			
v/s Ratio Prot	c0.07	0.08			0.07			c0.22				
v/s Ratio Perm	c0.12					0.00	0.12		0.05			
v/c Ratio	0.97	0.30			0.55	0.03	0.20	0.38	0.09			
Uniform Delay, d1	34.4	26.2			37.1	34.7	8.4	9.5	7.8			
Progression Factor	0.92	0.61			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	30.9	0.1			0.5	0.0	0.0	0.0	0.0			
Delay (s)	62.6	16.2			37.6	34.7	8.4	9.6	7.8			
Level of Service	E	B			D	C	A	A	A			
Approach Delay (s)		45.4			37.2			9.0			0.0	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM Average Control Delay	23.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	316	0	0	1567	192
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.55	1.00	1.00	0.88	0.86
Hourly flow rate (vph)	0	575	0	0	1781	223
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1892	705	2004			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1892	705	2004			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	0	100			
cM capacity (veh/h)	62	379	282			

Direction, Lane #	EB 1	EB 2	SB 1	SB 2	SB 3
Volume Total	287	287	712	712	579
Volume Left	0	0	0	0	0
Volume Right	287	287	0	0	223
cSH	379	379	1700	1700	1700
Volume to Capacity	0.76	0.76	0.42	0.42	0.34
Queue Length 95th (ft)	153	153	0	0	0
Control Delay (s)	38.9	38.9	0.0	0.0	0.0
Lane LOS	E	E			
Approach Delay (s)	38.9		0.0		
Approach LOS	E				

Intersection Summary			
Average Delay	8.7		
Intersection Capacity Utilization	52.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	37	53	436	114	0	0	0	0	52	1034	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3539	1583	3433	3539						5069	
Flt Permitted		1.00	1.00	0.72	1.00						1.00	
Satd. Flow (perm)		3539	1583	2584	3539						5069	
Peak-hour factor, PHF	1.00	0.61	0.81	0.92	0.81	1.00	1.00	1.00	1.00	0.79	0.85	0.50
Adj. Flow (vph)	0	61	65	474	141	0	0	0	0	66	1216	6
RTOR Reduction (vph)	0	0	20	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	61	45	474	141	0	0	0	0	0	1287	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			6	5 6						8		
Actuated Green, G (s)		16.0	16.0	20.0	26.0						17.0	
Effective Green, g (s)		16.0	16.0	20.0	26.0						17.0	
Actuated g/C Ratio		0.29	0.29	0.36	0.47						0.31	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1030	461	1001	1673						1567	
v/s Ratio Prot		0.02		c0.03	0.04							
v/s Ratio Perm			0.03	c0.14							0.25	
v/c Ratio		0.06	0.10	0.47	0.08						0.82	
Uniform Delay, d1		14.1	14.2	13.0	8.0						17.6	
Progression Factor		1.00	1.00	0.52	0.92						1.02	
Incremental Delay, d2		0.1	0.4	1.6	0.1						3.7	
Delay (s)		14.2	14.7	8.4	7.5						21.7	
Level of Service		B	B	A	A						C	
Approach Delay (s)		14.4			8.2			0.0			21.7	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM Average Control Delay	17.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	84	0	0	462	56	59	864	410	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5068	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5068	1583			
Peak-hour factor, PHF	0.25	0.78	1.00	1.00	0.88	0.64	0.83	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	12	108	0	0	525	88	71	949	446	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	62	0	0	308	0	0	0
Lane Group Flow (vph)	12	108	0	0	525	26	0	1020	138	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	1	1 2			2			4				
Permitted Phases						2	4		4			
Actuated Green, G (s)	4.0	26.0			16.0	16.0		17.0	17.0			
Effective Green, g (s)	4.0	26.0			16.0	16.0		17.0	17.0			
Actuated g/C Ratio	0.07	0.47			0.29	0.29		0.31	0.31			
Clearance Time (s)	6.0				6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	129	2404			1864	461		1566	489			
v/s Ratio Prot	c0.01	0.02			c0.08							
v/s Ratio Perm						0.02		0.20	0.09			
v/c Ratio	0.09	0.04			0.28	0.06		0.65	0.28			
Uniform Delay, d1	23.8	7.8			15.1	14.1		16.4	14.4			
Progression Factor	0.98	0.87			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.3	0.0			0.4	0.2		2.1	1.4			
Delay (s)	24.6	6.8			15.4	14.3		18.6	15.8			
Level of Service	C	A			B	B		B	B			
Approach Delay (s)		8.6			15.3			17.7			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	16.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	51.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	707	335	474	870	0	0	0	0	61	671	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.91	0.88	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						0.96	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		5085	2787	3433	3539						4885	
Flt Permitted		1.00	1.00	0.32	1.00						1.00	
Satd. Flow (perm)		5085	2787	1164	3539						4885	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	768	364	515	946	0	0	0	0	66	729	254
RTOR Reduction (vph)	0	0	44	0	0	0	0	0	0	0	60	0
Lane Group Flow (vph)	0	768	320	515	946	0	0	0	0	0	989	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		
Actuated Green, G (s)		16.0	16.0	21.0	27.0						16.0	
Effective Green, g (s)		16.0	16.0	21.0	27.0						16.0	
Actuated g/C Ratio		0.29	0.29	0.38	0.49						0.29	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1479	811	651	1737						1421	
v/s Ratio Prot		0.15		0.07	c0.27							
v/s Ratio Perm			0.11	c0.23							0.20	
v/c Ratio		0.52	0.39	0.79	0.54						0.70	
Uniform Delay, d1		16.3	15.6	16.5	9.7						17.3	
Progression Factor		1.00	1.00	1.18	0.84						1.00	
Incremental Delay, d2		1.3	1.4	5.5	0.3						2.8	
Delay (s)		17.6	17.1	24.9	8.4						20.2	
Level of Service		B	B	C	A						C	
Approach Delay (s)		17.4			14.2			0.0			20.2	
Approach LOS		B			B			A			C	

Intersection Summary			
HCM Average Control Delay	16.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	214	555	0	0	920	44	424	668	222	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0			6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86			0.91	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.98	1.00			
Satd. Flow (prot)	3433	5085			6364			4988	1583			
Flt Permitted	0.25	1.00			1.00			0.98	1.00			
Satd. Flow (perm)	903	5085			6364			4988	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	233	603	0	0	1000	48	461	726	241	0	0	0
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	142	0	0	0
Lane Group Flow (vph)	233	603	0	0	1036	0	0	1187	99	0	0	0
Turn Type	pm+pt						Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6						8		8			
Actuated Green, G (s)	20.0	26.0			16.0			17.0	17.0			
Effective Green, g (s)	20.0	26.0			16.0			17.0	17.0			
Actuated g/C Ratio	0.36	0.47			0.29			0.31	0.31			
Clearance Time (s)	6.0				6.0			6.0	6.0			
Vehicle Extension (s)	3.0				3.0			3.0	3.0			
Lane Grp Cap (vph)	512	2404			1851			1542	489			
v/s Ratio Prot	0.03	c0.12			c0.16							
v/s Ratio Perm	0.13							0.24	0.06			
v/c Ratio	0.46	0.25			0.56			0.77	0.20			
Uniform Delay, d1	12.0	8.7			16.5			17.2	14.0			
Progression Factor	1.17	0.12			1.00			0.49	0.14			
Incremental Delay, d2	0.6	0.0			1.2			2.2	0.2			
Delay (s)	14.6	1.0			17.7			10.6	2.1			
Level of Service	B	A			B			B	A			
Approach Delay (s)		4.8			17.7			9.2			0.0	
Approach LOS		A			B			A			A	

Intersection Summary			
HCM Average Control Delay	10.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	356	7	3	397	8	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.91		1.00	0.91	1.00	1.00
Frt	1.00		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	5064		1770	5085	1770	1583
Flt Permitted	1.00		0.33	1.00	0.95	1.00
Satd. Flow (perm)	5064		611	5085	1770	1583
Peak-hour factor, PHF	0.91	0.63	0.25	0.91	0.50	0.25
Adj. Flow (vph)	391	11	12	436	16	4
RTOR Reduction (vph)	6	0	0	0	0	4
Lane Group Flow (vph)	396	0	12	436	16	0
Turn Type			pm+pt			Perm
Protected Phases	4		3	8	2	
Permitted Phases			8			2
Actuated Green, G (s)	6.2		12.6	12.6	0.6	0.6
Effective Green, g (s)	6.2		12.6	12.6	0.6	0.6
Actuated g/C Ratio	0.25		0.50	0.50	0.02	0.02
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1246		324	2543	42	38
v/s Ratio Prot	c0.08		0.00	c0.09	c0.01	
v/s Ratio Perm			0.02			0.00
v/c Ratio	0.32		0.04	0.17	0.38	0.00
Uniform Delay, d1	7.8		3.9	3.4	12.1	12.0
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1		0.0	0.0	5.7	0.0
Delay (s)	7.9		3.9	3.5	17.8	12.0
Level of Service	A		A	A	B	B
Approach Delay (s)	7.9			3.5	16.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM Average Control Delay	5.8	HCM Level of Service	A
HCM Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	25.2	Sum of lost time (s)	18.0
Intersection Capacity Utilization	21.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	349	0	0	353	5	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.93	1.00	1.00	0.95	0.25	1.00
Hourly flow rate (vph)	375	0	0	372	20	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	Raised			Raised		
Median storage veh)	1			1		
Upstream signal (ft)	1015					
pX, platoon unblocked						
vC, conflicting volume			375		499	125
vC1, stage 1 conf vol					375	
vC2, stage 2 conf vol					124	
vCu, unblocked vol			375		499	125
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	100
cM capacity (veh/h)			1180		562	902

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2
Volume Total	150	150	75	0	124	124	124	20	0
Volume Left	0	0	0	0	0	0	0	20	0
Volume Right	0	0	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700	562	1700
Volume to Capacity	0.09	0.09	0.04	0.00	0.07	0.07	0.07	0.04	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	3	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6	0.0
Lane LOS								B	A
Approach Delay (s)	0.0			0.0				11.6	
Approach LOS								B	

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	16.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	15	25	496	14	18	476
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.46	0.64	0.93	0.83	0.81	0.97
Hourly flow rate (vph)	33	39	533	17	22	491
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			Raised			Raised
Median storage veh)			1			1
Upstream signal (ft)						752
pX, platoon unblocked						
vC, conflicting volume	741	178			550	
vC1, stage 1 conf vol	533					
vC2, stage 2 conf vol	208					
vCu, unblocked vol	741	178			550	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)	5.8					
tF (s)	3.5	3.3			2.2	
p0 queue free %	93	95			98	
cM capacity (veh/h)	444	835			1016	

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3	SB 4
Volume Total	16	16	20	20	178	178	178	17	22	164	164	164
Volume Left	16	16	0	0	0	0	0	0	22	0	0	0
Volume Right	0	0	20	20	0	0	0	17	0	0	0	0
cSH	444	444	835	835	1700	1700	1700	1700	1016	1700	1700	1700
Volume to Capacity	0.04	0.04	0.02	0.02	0.10	0.10	0.10	0.01	0.02	0.10	0.10	0.10
Queue Length 95th (ft)	3	3	2	2	0	0	0	0	2	0	0	0
Control Delay (s)	13.4	13.4	9.4	9.4	0.0	0.0	0.0	0.0	8.6	0.0	0.0	0.0
Lane LOS	B	B	A	A					A			
Approach Delay (s)	11.2				0.0				0.4			
Approach LOS	B											

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		

SAVANT GROUP
TRANSPORTATION ENGINEERS & PLANNERS

APPENDIX F: 2015 TOTAL ANALYSES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	444	273	843	1688	0	0	0	0	218	1167	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	0.97	0.91					0.86	0.86	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	5085					1522	4704	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	5085					1522	4704	
Peak-hour factor, PHF	0.25	0.96	0.75	0.86	0.91	1.00	1.00	1.00	1.00	0.89	0.93	0.68
Adj. Flow (vph)	0	462	364	980	1855	0	0	0	0	245	1255	201
RTOR Reduction (vph)	0	0	8	0	0	0	0	0	0	0	6	0
Lane Group Flow (vph)	0	462	356	980	1855	0	0	0	0	220	1475	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		34.3	34.3	40.9	81.3					56.3	56.3	
Effective Green, g (s)		34.3	34.3	40.9	81.3					56.3	56.3	
Actuated g/C Ratio		0.23	0.23	0.27	0.54					0.38	0.38	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		1465	362	936	2756					571	1766	
v/s Ratio Prot		0.07		c0.29	0.36							
v/s Ratio Perm			c0.23							0.14	0.31	
v/c Ratio		0.32	0.98	1.05	0.67					0.39	0.84	
Uniform Delay, d1		48.1	57.6	54.5	24.8					34.2	42.6	
Progression Factor		1.00	1.00	1.00	1.14					0.93	0.93	
Incremental Delay, d2		0.0	42.7	39.6	0.4					1.2	3.0	
Delay (s)		48.1	100.2	94.1	28.7					32.9	42.6	
Level of Service		D	F	F	C					C	D	
Approach Delay (s)		71.1			51.3			0.0			41.3	
Approach LOS		E			D			A			D	

Intersection Summary			
HCM Average Control Delay	51.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	119.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	314	356	0	0	1627	180	893	1309	314	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	5.7	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	3539	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.88	1.00	1.00	0.98	0.86	1.00	1.00	1.00	0.87	0.87	0.75
Adj. Flow (vph)	341	405	0	0	1660	209	893	1309	314	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	10	0	0	129	0	0	0
Lane Group Flow (vph)	341	405	0	0	1660	199	893	1309	185	0	0	0
Turn Type	Prot					custom	Perm		Perm			
Protected Phases	5	5 6						8				
Permitted Phases					6	6	8		8			
Actuated Green, G (s)	5.9	69.5			57.5	57.5	68.1	68.1	68.1			
Effective Green, g (s)	5.9	69.5			57.5	57.5	68.1	68.1	68.1			
Actuated g/C Ratio	0.04	0.46			0.38	0.38	0.45	0.45	0.45			
Clearance Time (s)	6.1				5.7	5.7	6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	135	1640			1949	607	1559	1607	719			
v/s Ratio Prot	c0.10	0.11						c0.37				
v/s Ratio Perm					c0.33	0.13	0.26		0.12			
v/c Ratio	2.53	0.25			0.85	0.33	0.57	0.81	0.26			
Uniform Delay, d1	72.0	24.4			42.3	32.6	30.2	35.5	25.3			
Progression Factor	1.27	1.30			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	707.6	0.0			3.7	0.1	1.5	4.7	0.9			
Delay (s)	799.4	31.8			46.0	32.7	31.8	40.1	26.2			
Level of Service	F	C			D	C	C	D	C			
Approach Delay (s)		382.7			44.5			35.4			0.0	
Approach LOS		F			D			D			A	

Intersection Summary			
HCM Average Control Delay	89.2	HCM Level of Service	F
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	119.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	113	0	0	4394	405
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.55	1.00	1.00	0.88	0.86
Hourly flow rate (vph)	0	205	0	0	4993	471
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	5229	1900	5464			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	5229	1900	5464			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	0	100			
cM capacity (veh/h)	0	59	11			

Direction, Lane #	EB 1	SB 1	SB 2	SB 3
Volume Total	205	1997	1997	1470
Volume Left	0	0	0	0
Volume Right	205	0	0	471
cSH	59	1700	1700	1700
Volume to Capacity	3.48	1.17	1.17	0.86
Queue Length 95th (ft)	Err	0	0	0
Control Delay (s)	Err	0.0	0.0	0.0
Lane LOS	F			
Approach Delay (s)	Err	0.0		
Approach LOS	F			

Intersection Summary			
Average Delay	362.3		
Intersection Capacity Utilization	107.6%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	77	157	1830	257	0	0	0	0	1065	1218	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						0.98	
Satd. Flow (prot)		3539	1583	3433	3539						4962	
Flt Permitted		1.00	1.00	0.67	1.00						0.98	
Satd. Flow (perm)		3539	1583	2429	3539						4962	
Peak-hour factor, PHF	1.00	0.61	0.81	0.92	0.81	1.00	1.00	1.00	1.00	0.79	0.85	0.50
Adj. Flow (vph)	0	126	194	1989	317	0	0	0	0	1348	1433	14
RTOR Reduction (vph)	0	0	4	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	126	190	1989	317	0	0	0	0	0	2794	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			6	5 6						8		
Actuated Green, G (s)		18.0	18.0	74.0	80.0						58.0	
Effective Green, g (s)		18.0	18.0	74.0	80.0						58.0	
Actuated g/C Ratio		0.12	0.12	0.49	0.53						0.39	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		425	190	1573	1887						1919	
v/s Ratio Prot		0.04		c0.47	0.09							
v/s Ratio Perm			0.12	c0.15							0.56	
v/c Ratio		0.30	1.00	1.26	0.17						1.97dl	
Uniform Delay, d1		60.2	66.0	35.9	17.9						46.0	
Progression Factor		1.00	1.00	0.95	0.69						0.98	
Incremental Delay, d2		1.8	64.8	122.4	0.1						207.4	
Delay (s)		62.0	130.7	156.4	12.4						252.6	
Level of Service		E	F	F	B						F	
Approach Delay (s)		103.7			136.6			0.0			252.6	
Approach LOS		F			F			A			F	

Intersection Summary			
HCM Average Control Delay	194.4	HCM Level of Service	F
HCM Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	136.8%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	1152	0	0	1974	546	101	1765	476	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5070	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5070	1583			
Peak-hour factor, PHF	0.25	0.78	1.00	1.00	0.88	0.64	0.83	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	32	1477	0	0	2243	853	122	1940	517	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	28	0	0	18	0	0	0
Lane Group Flow (vph)	32	1477	0	0	2243	825	0	2062	499	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	1	1 2			2			4				
Permitted Phases						2	4		4			
Actuated Green, G (s)	7.0	82.0			69.0	69.0		56.0	56.0			
Effective Green, g (s)	7.0	82.0			69.0	69.0		56.0	56.0			
Actuated g/C Ratio	0.05	0.55			0.46	0.46		0.37	0.37			
Clearance Time (s)	6.0				6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	83	2780			2948	728		1893	591			
v/s Ratio Prot	0.02	c0.29			0.35							
v/s Ratio Perm						c0.52		0.41	0.32			
v/c Ratio	0.39	0.53			0.76	1.13		1.09	0.85			
Uniform Delay, d1	69.4	21.7			33.6	40.5		47.0	43.0			
Progression Factor	0.53	2.08			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.2	0.1			1.9	76.7		49.6	13.9			
Delay (s)	38.3	45.3			35.6	117.2		96.6	56.9			
Level of Service	D	D			D	F		F	E			
Approach Delay (s)		45.1			58.0			88.6			0.0	
Approach LOS		D			E			F			A	

Intersection Summary			
HCM Average Control Delay	66.3	HCM Level of Service	E
HCM Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	136.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	647	453	869	2237	0	0	0	0	48	840	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.91	0.88	0.97	0.91						0.91	
Frt		1.00	0.85	1.00	1.00						0.97	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		5085	2787	3433	5085						4943	
Flt Permitted		1.00	1.00	0.29	1.00						1.00	
Satd. Flow (perm)		5085	2787	1055	5085						4943	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	703	492	945	2432	0	0	0	0	52	913	201
RTOR Reduction (vph)	0	0	22	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	703	470	945	2432	0	0	0	0	0	1164	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		
Actuated Green, G (s)		17.0	17.0	37.0	43.0						20.0	
Effective Green, g (s)		17.0	17.0	37.0	43.0						20.0	
Actuated g/C Ratio		0.23	0.23	0.49	0.57						0.27	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1153	632	1155	2915						1318	
v/s Ratio Prot		0.14		0.22	c0.48							
v/s Ratio Perm			0.17	0.19							0.24	
v/c Ratio		0.61	0.74	0.82	0.83						0.88	
Uniform Delay, d1		26.0	27.0	18.7	13.1						26.4	
Progression Factor		1.00	1.00	0.35	0.75						1.00	
Incremental Delay, d2		2.4	7.7	1.7	0.8						7.3	
Delay (s)		28.4	34.7	8.2	10.6						33.7	
Level of Service		C	C	A	B						C	
Approach Delay (s)		31.0			9.9			0.0			33.7	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	539	0	0	2278	250	829	904	266	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	5085			6408	1583	3433	3539	1583			
Flt Permitted	0.13	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	466	5085			6408	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	586	0	0	2476	272	901	983	289	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	21	0	0	191	0	0	0
Lane Group Flow (vph)	163	586	0	0	2476	251	901	983	98	0	0	0
Turn Type	pm+pt					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					6	8		8			
Actuated Green, G (s)	35.0	41.0			31.0	31.0	22.0	22.0	22.0			
Effective Green, g (s)	35.0	41.0			31.0	31.0	22.0	22.0	22.0			
Actuated g/C Ratio	0.47	0.55			0.41	0.41	0.29	0.29	0.29			
Clearance Time (s)	6.0				6.0	6.0	6.0	6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	376	2780			2649	654	1007	1038	464			
v/s Ratio Prot	c0.02	0.12			c0.39			c0.28				
v/s Ratio Perm	0.18					0.16	0.26		0.06			
v/c Ratio	0.43	0.21			0.93	0.38	0.89	0.95	0.21			
Uniform Delay, d1	15.2	8.7			21.0	15.3	25.4	25.9	20.0			
Progression Factor	1.95	0.11			1.00	1.00	1.32	1.38	2.03			
Incremental Delay, d2	0.6	0.0			7.7	1.7	1.1	2.3	0.0			
Delay (s)	30.2	1.0			28.7	17.1	34.7	38.1	40.5			
Level of Service	C	A			C	B	C	D	D			
Approach Delay (s)		7.3			27.6			37.0			0.0	
Approach LOS		A			C			D			A	

Intersection Summary			
HCM Average Control Delay	28.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	536	37	9	1186	20	123	0	10	0	0	493
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0		6.0	6.0			6.0	6.0
Lane Util. Factor		0.91		1.00	0.91		1.00	1.00			0.95	0.95
Frt		0.99		1.00	1.00		1.00	0.85			0.85	0.85
Flt Protected		1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)		5016		1770	5074		1770	1583			1504	1504
Flt Permitted		1.00		0.30	1.00		0.31	1.00			1.00	1.00
Satd. Flow (perm)		5016		559	5074		582	1583			1504	1504
Peak-hour factor, PHF	0.25	0.91	0.63	0.25	0.91	1.00	0.50	1.00	0.25	1.00	1.00	1.00
Adj. Flow (vph)	0	589	59	36	1303	20	246	0	40	0	0	493
RTOR Reduction (vph)	0	15	0	0	1	0	0	26	0	0	219	218
Lane Group Flow (vph)	0	633	0	36	1322	0	246	14	0	0	28	28
Turn Type	pm+pt			pm+pt			pm+pt			pm+pt		Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		19.7		27.2	27.2		20.9	20.9			6.8	6.8
Effective Green, g (s)		19.7		27.2	27.2		20.9	20.9			6.8	6.8
Actuated g/C Ratio		0.33		0.45	0.45		0.35	0.35			0.11	0.11
Clearance Time (s)		6.0		6.0	6.0		6.0	6.0			6.0	6.0
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		1644		283	2296		363	550			170	170
v/s Ratio Prot		0.13		0.00	c0.26		c0.09	0.01			0.02	
v/s Ratio Perm				0.05			c0.14					0.02
v/c Ratio		0.38		0.13	0.58		0.68	0.03			0.16	0.16
Uniform Delay, d1		15.5		9.5	12.2		15.6	12.9			24.1	24.1
Progression Factor		1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2		0.2		0.2	0.4		5.0	0.0			0.5	0.5
Delay (s)		15.7		9.7	12.5		20.6	12.9			24.5	24.5
Level of Service		B		A	B		C	B			C	C
Approach Delay (s)		15.7			12.5			19.5			24.5	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	16.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	176	382	1	0	958	15	18	0	6	0	0	203
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	0.93	1.00	1.00	0.95	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	176	411	1	0	1008	15	72	0	6	0	0	203
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		1015										
pX, platoon unblocked												
vC, conflicting volume	1023			412			1302	1787	137	1511	1780	344
vC1, stage 1 conf vol							763	763		1016	1016	
vC2, stage 2 conf vol							539	1023		495	764	
vCu, unblocked vol	1023			412			1302	1787	137	1511	1780	344
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	74			100			40	100	99	100	100	69
cM capacity (veh/h)	674			1144			120	107	886	168	168	652

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	SB 1
Volume Total	176	164	164	83	0	403	403	217	72	6	203
Volume Left	176	0	0	0	0	0	0	0	72	0	0
Volume Right	0	0	0	1	0	0	0	15	0	6	203
cSH	674	1700	1700	1700	1700	1700	1700	1700	120	886	652
Volume to Capacity	0.26	0.10	0.10	0.05	0.00	0.24	0.24	0.13	0.60	0.01	0.31
Queue Length 95th (ft)	26	0	0	0	0	0	0	0	75	1	33
Control Delay (s)	12.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	72.0	9.1	13.0
Lane LOS	B								F	A	B
Approach Delay (s)	3.7				0.0				67.2		13.0
Approach LOS									F		B

Intersection Summary			
Average Delay	5.3		
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	510	277	644	616	0	0	0	0	173	884	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	0.97	0.91					0.86	0.86	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	5085					1522	4723	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	5085					1522	4723	
Peak-hour factor, PHF	0.25	0.96	0.75	0.86	0.91	1.00	1.00	1.00	1.00	0.89	0.93	0.68
Adj. Flow (vph)	0	531	369	749	677	0	0	0	0	194	951	119
RTOR Reduction (vph)	0	0	6	0	0	0	0	0	0	0	14	0
Lane Group Flow (vph)	0	531	363	749	677	0	0	0	0	175	1075	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		29.2	29.2	24.0	58.9					28.3	28.3	
Effective Green, g (s)		29.2	29.2	24.0	53.2					28.3	28.3	
Actuated g/C Ratio		0.29	0.29	0.24	0.53					0.28	0.28	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		1871	462	824	2705					431	1337	
v/s Ratio Prot		0.08		c0.22	0.13							
v/s Ratio Perm			c0.23							0.11	0.23	
v/c Ratio		0.28	0.78	0.91	0.25					0.41	0.80	
Uniform Delay, d1		27.3	32.5	36.9	12.6					29.0	33.3	
Progression Factor		1.00	1.00	0.41	1.48					1.00	1.00	
Incremental Delay, d2		0.0	7.9	12.9	0.0					2.8	5.2	
Delay (s)		27.4	40.4	28.1	18.7					31.9	38.5	
Level of Service		C	D	C	B					C	D	
Approach Delay (s)		32.7			23.6			0.0			37.6	
Approach LOS		C			C			A			D	

Intersection Summary			
HCM Average Control Delay	30.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	373	281	0	0	835	36	426	916	353	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	5.7	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	3539	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.88	1.00	1.00	0.98	0.86	1.00	1.00	1.00	0.87	0.87	0.75
Adj. Flow (vph)	405	319	0	0	852	42	426	916	353	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	19	0	0	200	0	0	0
Lane Group Flow (vph)	405	319	0	0	852	23	426	916	153	0	0	0
Turn Type	Prot					custom	Perm		Perm			
Protected Phases	5	5 6						8				
Permitted Phases					6	6	8		8			
Actuated Green, G (s)	13.9	44.3			24.3	24.3	43.3	43.3	43.3			
Effective Green, g (s)	13.9	44.3			24.3	24.3	43.3	43.3	43.3			
Actuated g/C Ratio	0.14	0.44			0.24	0.24	0.43	0.43	0.43			
Clearance Time (s)	6.1				5.7	5.7	6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	477	1568			1236	385	1486	1532	685			
v/s Ratio Prot	c0.12	0.09						c0.26				
v/s Ratio Perm					c0.17	0.01	0.12		0.10			
v/c Ratio	0.85	0.20			0.69	0.06	0.29	0.60	0.22			
Uniform Delay, d1	42.0	17.0			34.4	29.1	18.4	21.7	17.8			
Progression Factor	0.47	0.90			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	12.5	0.0			1.3	0.0	0.5	1.7	0.8			
Delay (s)	32.4	15.4			35.7	29.1	18.8	23.4	18.5			
Level of Service	C	B			D	C	B	C	B			
Approach Delay (s)		24.9			35.4			21.3			0.0	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM Average Control Delay	25.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	67.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	267	0	0	3231	162
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.25	0.55	1.00	1.00	0.88	0.86
Hourly flow rate (vph)	0	485	0	0	3672	188
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	3766	1318	3860			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3766	1318	3860			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	0	100			
cM capacity (veh/h)	3	148	50			

Direction, Lane #	EB 1	SB 1	SB 2	SB 3
Volume Total	485	1469	1469	923
Volume Left	0	0	0	0
Volume Right	485	0	0	188
cSH	148	1700	1700	1700
Volume to Capacity	3.29	0.86	0.86	0.54
Queue Length 95th (ft)	Err	0	0	0
Control Delay (s)	Err	0.0	0.0	0.0
Lane LOS	F			
Approach Delay (s)	Err	0.0		
Approach LOS	F			

Intersection Summary			
Average Delay	1117.1		
Intersection Capacity Utilization	89.2%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	31	45	975	96	0	0	0	0	1415	871	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.95	1.00	0.97	0.95						0.91	
Frt		1.00	0.85	1.00	1.00						1.00	
Flt Protected		1.00	1.00	0.95	1.00						0.97	
Satd. Flow (prot)		3539	1583	3433	3539						4928	
Flt Permitted		1.00	1.00	0.72	1.00						0.97	
Satd. Flow (perm)		3539	1583	2609	3539						4928	
Peak-hour factor, PHF	1.00	0.61	0.81	0.92	0.81	1.00	1.00	1.00	1.00	0.79	0.85	0.50
Adj. Flow (vph)	0	51	56	1060	119	0	0	0	0	1791	1025	4
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	51	21	1060	119	0	0	0	0	0	2820	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			6	5 6						8		
Actuated Green, G (s)		18.0	18.0	74.0	80.0						58.0	
Effective Green, g (s)		18.0	18.0	74.0	80.0						58.0	
Actuated g/C Ratio		0.12	0.12	0.49	0.53						0.39	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		425	190	1595	1887						1905	
v/s Ratio Prot		0.01		c0.25	0.03							
v/s Ratio Perm			0.01	c0.08							0.57	
v/c Ratio		0.12	0.11	0.66	0.06						2.62dl	
Uniform Delay, d1		58.9	58.9	27.9	16.9						46.0	
Progression Factor		1.00	1.00	0.39	0.90						1.00	
Incremental Delay, d2		0.6	1.2	2.1	0.0						219.0	
Delay (s)		59.5	60.0	12.9	15.2						265.0	
Level of Service		E	E	B	B						F	
Approach Delay (s)		59.8			13.1			0.0			265.0	
Approach LOS		E			B			A			F	

Intersection Summary			
HCM Average Control Delay	187.3	HCM Level of Service	F
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	117.1%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	1443	0	0	997	389	49	1617	440	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0		6.0	6.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5077	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5077	1583			
Peak-hour factor, PHF	0.25	0.78	1.00	1.00	0.88	0.64	0.83	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	8	1850	0	0	1133	608	59	1777	478	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	53	0	0	6	0	0	0
Lane Group Flow (vph)	8	1850	0	0	1133	555	0	1836	472	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	1	1 2			2			4				
Permitted Phases						2	4		4			
Actuated Green, G (s)	7.0	82.0			69.0	69.0		56.0	56.0			
Effective Green, g (s)	7.0	82.0			69.0	69.0		56.0	56.0			
Actuated g/C Ratio	0.05	0.55			0.46	0.46		0.37	0.37			
Clearance Time (s)	6.0				6.0	6.0		6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0		3.0	3.0			
Lane Grp Cap (vph)	83	2780			2948	728		1895	591			
v/s Ratio Prot	0.00	c0.36			0.18							
v/s Ratio Perm						c0.35		0.36	0.30			
v/c Ratio	0.10	0.67			0.38	0.76		0.97	0.80			
Uniform Delay, d1	68.5	24.2			26.6	33.7		46.1	42.0			
Progression Factor	0.46	2.26			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.2	0.1			0.4	7.4		14.5	10.8			
Delay (s)	31.8	54.8			26.9	41.1		60.7	52.7			
Level of Service	C	D			C	D		E	D			
Approach Delay (s)		54.7			31.9			59.0			0.0	
Approach LOS		D			C			E			A	

Intersection Summary			
HCM Average Control Delay	49.7	HCM Level of Service	D
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	117.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	596	282	399	732	0	0	0	0	52	565	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	
Lane Util. Factor		0.91	0.88	0.97	0.91						0.91	
Frt		1.00	0.85	1.00	1.00						0.96	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		5085	2787	3433	5085						4885	
Flt Permitted		1.00	1.00	0.39	1.00						1.00	
Satd. Flow (perm)		5085	2787	1425	5085						4885	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	648	307	434	796	0	0	0	0	57	614	214
RTOR Reduction (vph)	0	0	82	0	0	0	0	0	0	0	94	0
Lane Group Flow (vph)	0	648	225	434	796	0	0	0	0	0	791	0
Turn Type			Perm	pm+pt						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		
Actuated Green, G (s)		16.3	16.3	22.5	28.5						14.5	
Effective Green, g (s)		16.3	16.3	22.5	28.5						14.5	
Actuated g/C Ratio		0.30	0.30	0.41	0.52						0.26	
Clearance Time (s)		6.0	6.0	6.0							6.0	
Vehicle Extension (s)		3.0	3.0	3.0							3.0	
Lane Grp Cap (vph)		1507	826	809	2635						1288	
v/s Ratio Prot		0.13		c0.06	c0.16							
v/s Ratio Perm			0.08	c0.16							0.16	
v/c Ratio		0.43	0.27	0.54	0.30						0.61	
Uniform Delay, d1		15.6	14.8	11.0	7.6						17.8	
Progression Factor		1.00	1.00	1.74	0.99						1.00	
Incremental Delay, d2		0.9	0.8	0.6	0.1						0.9	
Delay (s)		16.5	15.6	19.8	7.5						18.7	
Level of Service		B	B	B	A						B	
Approach Delay (s)		16.2			11.9			0.0			18.7	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	15.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	467	0	0	775	37	357	562	187	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	5085			6408	1583	3433	3539	1583			
Flt Permitted	0.31	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	1107	5085			6408	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	508	0	0	842	40	388	611	203	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	28	0	0	146	0	0	0
Lane Group Flow (vph)	196	508	0	0	842	12	388	611	57	0	0	0
Turn Type	pm+pt					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					6	8		8			
Actuated Green, G (s)	21.6	27.6			16.6	16.6	15.4	15.4	15.4			
Effective Green, g (s)	21.6	27.6			16.6	16.6	15.4	15.4	15.4			
Actuated g/C Ratio	0.39	0.50			0.30	0.30	0.28	0.28	0.28			
Clearance Time (s)	6.0				6.0	6.0	6.0	6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	646	2552			1934	478	961	991	443			
v/s Ratio Prot	0.03	c0.10			c0.13			c0.17				
v/s Ratio Perm	0.09					0.01	0.11		0.04			
v/c Ratio	0.30	0.20			0.44	0.03	0.40	0.62	0.13			
Uniform Delay, d1	10.8	7.6			15.4	13.5	16.1	17.2	14.8			
Progression Factor	1.24	0.54			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.2	0.0			0.7	0.1	0.3	1.1	0.1			
Delay (s)	13.6	4.2			16.1	13.6	16.4	18.4	14.9			
Level of Service	B	A			B	B	B	B	B			
Approach Delay (s)		6.8			16.0			17.1			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	54.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	544	6	2	473	22	7	0	1	0	0	414
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0				6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00				1.00
Frt	1.00	1.00		1.00	0.99		1.00	0.85				0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00				1.00
Satd. Flow (prot)	1770	5073		1770	5054		1770	1583				1583
Flt Permitted	0.32	1.00		0.41	1.00		0.76	1.00				1.00
Satd. Flow (perm)	596	5073		765	5054		1410	1583				1583
Peak-hour factor, PHF	0.25	0.91	0.63	0.25	0.91	1.00	0.50	1.00	0.25	1.00	1.00	1.00
Adj. Flow (vph)	456	598	10	8	520	22	14	0	4	0	0	414
RTOR Reduction (vph)	0	2	0	0	7	0	0	3	0	0	0	230
Lane Group Flow (vph)	456	606	0	8	535	0	14	1	0	0	0	184
Turn Type	pm+pt			pm+pt			Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	32.3	25.6		16.8	16.1		10.2	10.2				10.2
Effective Green, g (s)	32.3	25.6		16.8	16.1		10.2	10.2				10.2
Actuated g/C Ratio	0.59	0.47		0.31	0.30		0.19	0.19				0.19
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0				6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0				3.0
Lane Grp Cap (vph)	573	2383		249	1493		264	296				296
v/s Ratio Prot	c0.15	0.12		0.00	0.11			0.00				
v/s Ratio Perm	c0.32			0.01			0.01					c0.12
v/c Ratio	0.80	0.25		0.03	0.36		0.05	0.00				0.62
Uniform Delay, d1	6.8	8.7		13.1	15.1		18.2	18.0				20.4
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00				1.00
Incremental Delay, d2	7.5	0.1		0.1	0.1		0.1	0.0				4.0
Delay (s)	14.4	8.8		13.2	15.3		18.3	18.0				24.4
Level of Service	B	A		B	B		B	B				C
Approach Delay (s)		11.2			15.2			18.2			24.4	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	54.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	247	294	0	0	357	16	5	0	0	0	0	102
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	0.93	1.00	1.00	0.95	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	247	316	0	0	376	16	20	0	0	0	0	102
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		Raised			Raised							
Median storage veh)		1			1							
Upstream signal (ft)		1015										
pX, platoon unblocked												
vC, conflicting volume	392			316			1037	1202	105	983	1194	133
vC1, stage 1 conf vol							810	810		384	384	
vC2, stage 2 conf vol							227	392		599	810	
vCu, unblocked vol	392			316			1037	1202	105	983	1194	133
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)							6.5	5.5		6.5	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	79			100			90	100	100	100	100	89
cM capacity (veh/h)	1163			1241			207	216	929	276	243	891

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	WB 4	NB 1	NB 2	SB 1
Volume Total	247	126	126	63	0	150	150	91	20	0	102
Volume Left	247	0	0	0	0	0	0	0	20	0	0
Volume Right	0	0	0	0	0	0	0	16	0	0	102
cSH	1163	1700	1700	1700	1700	1700	1700	1700	207	1700	891
Volume to Capacity	0.21	0.07	0.07	0.04	0.00	0.09	0.09	0.05	0.10	0.00	0.11
Queue Length 95th (ft)	20	0	0	0	0	0	0	0	8	0	10
Control Delay (s)	8.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	24.3	0.0	9.6
Lane LOS	A								C	A	A
Approach Delay (s)	3.9				0.0				24.3		9.6
Approach LOS									C		A

Intersection Summary			
Average Delay	3.4		
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection has too many lanes per leg.

HCM All-Way analysis is limited to two lanes per leg.

Channelized right turn lanes are not counted.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	287	273	403	1596	0	0	0	0	180	1167	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	0.97	0.91					0.86	0.86	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	5085					1522	4705	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	5085					1522	4705	
Peak-hour factor, PHF	0.25	0.96	0.75	0.86	0.91	1.00	1.00	1.00	1.00	0.89	0.93	0.68
Adj. Flow (vph)	0	299	364	469	1754	0	0	0	0	202	1255	201
RTOR Reduction (vph)	0	0	3	0	0	0	0	0	0	0	9	0
Lane Group Flow (vph)	0	299	361	469	1754	0	0	0	0	182	1467	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		32.9	32.9	10.3	48.9					28.3	28.3	
Effective Green, g (s)		32.9	32.9	10.3	43.2					28.3	28.3	
Actuated g/C Ratio		0.37	0.37	0.11	0.48					0.31	0.31	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		2342	579	393	2441					479	1479	
v/s Ratio Prot		0.05		c0.14	c0.34							
v/s Ratio Perm			0.23							0.12	0.31	
v/c Ratio		0.13	0.62	1.19	0.72					0.38	0.99	
Uniform Delay, d1		19.0	23.5	39.8	18.6					24.0	30.7	
Progression Factor		1.00	1.00	0.52	1.13					1.15	1.11	
Incremental Delay, d2		0.0	1.5	108.2	0.7					1.1	14.1	
Delay (s)		19.0	25.0	129.0	21.8					28.6	48.4	
Level of Service		B	C	F	C					C	D	
Approach Delay (s)		22.3			44.4			0.0			46.2	
Approach LOS		C			D			A			D	

Intersection Summary			
HCM Average Control Delay	41.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	157	318	0	0	1094	273	893	1164	180	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	5.7	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	3539	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.88	1.00	1.00	0.98	0.86	1.00	1.00	1.00	0.87	0.87	0.75
Adj. Flow (vph)	171	361	0	0	1116	317	893	1164	180	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	10	0	0	106	0	0	0
Lane Group Flow (vph)	171	361	0	0	1116	307	893	1164	74	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	5.9	40.4			28.4	28.4	37.2	37.2	37.2			
Effective Green, g (s)	5.9	40.4			28.4	28.4	37.2	37.2	37.2			
Actuated g/C Ratio	0.07	0.45			0.32	0.32	0.41	0.41	0.41			
Clearance Time (s)	6.1				5.7	5.7	6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	225	1589			1605	500	1419	1463	654			
v/s Ratio Prot	c0.05	0.10			c0.22			c0.33				
v/s Ratio Perm						0.19	0.26		0.05			
v/c Ratio	0.76	0.23			0.70	0.61	0.63	0.80	0.11			
Uniform Delay, d1	41.4	15.2			27.0	26.1	20.9	23.1	16.3			
Progression Factor	1.38	0.97			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	12.7	0.0			1.1	1.6	2.1	4.6	0.4			
Delay (s)	69.9	14.8			28.1	27.7	23.1	27.6	16.6			
Level of Service	E	B			C	C	C	C	B			
Approach Delay (s)		32.5			28.0			24.9			0.0	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM Average Control Delay	26.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	157	112	1012	92	0	0	0	0	648	1548	404
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.95					0.86	0.86	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		3539	1583	3433	3539					1522	4791	1583
Flt Permitted		1.00	1.00	0.64	1.00					0.95	1.00	1.00
Satd. Flow (perm)		3539	1583	2327	3539					1522	4791	1583
Peak-hour factor, PHF	0.25	0.92	0.55	0.92	0.92	0.92	1.00	1.00	0.92	0.92	0.88	0.86
Adj. Flow (vph)	0	171	204	1100	100	0	0	0	0	704	1759	470
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	171	204	1100	100	0	0	0	0	591	1872	470
Turn Type			Free	pm+pt						Perm		Free
Protected Phases		2		1	1 2						4	
Permitted Phases			Free	1 2						4		Free
Actuated Green, G (s)		9.7	90.0	33.0	39.0					39.0	39.0	90.0
Effective Green, g (s)		9.7	90.0	33.0	39.0					39.0	39.0	90.0
Actuated g/C Ratio		0.11	1.00	0.37	0.43					0.43	0.43	1.00
Clearance Time (s)		6.0		6.0						6.0	6.0	
Vehicle Extension (s)		3.0		3.0						3.0	3.0	
Lane Grp Cap (vph)		381	1583	1140	1534					660	2076	1583
v/s Ratio Prot		0.05		c0.25	0.03							
v/s Ratio Perm			0.13	c0.10						0.39	0.39	c0.30
v/c Ratio		0.45	0.13	0.96	0.07					0.90	0.90	0.30
Uniform Delay, d1		37.6	0.0	26.8	14.9					23.6	23.7	0.0
Progression Factor		1.00	1.00	0.53	1.82					1.00	1.00	1.00
Incremental Delay, d2		0.8	0.2	12.1	0.0					17.1	6.9	0.5
Delay (s)		38.5	0.2	26.2	27.0					40.7	30.6	0.5
Level of Service		D	A	C	C					D	C	A
Approach Delay (s)		17.6			26.3			0.0			27.8	
Approach LOS		B			C			A			C	

Intersection Summary			
HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	157	648	0	0	1012	675	92	1831	1271	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	4.0	6.0	6.0	4.0			
Lane Util. Factor	1.00	0.91			0.91	1.00	1.00	0.91	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	1770	5085			5085	1583	1770	5085	1583			
Flt Permitted	0.17	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	324	5085			5085	1583	1770	5085	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	171	704	0	0	1100	734	100	1990	1382	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	171	704	0	0	1100	734	100	1990	1382	0	0	0
Turn Type	pm+pt					Free	Perm		Free			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					Free	8		Free			
Actuated Green, G (s)	31.0	37.0			23.0	90.0	41.0	41.0	90.0			
Effective Green, g (s)	31.0	37.0			23.0	90.0	41.0	41.0	90.0			
Actuated g/C Ratio	0.34	0.41			0.26	1.00	0.46	0.46	1.00			
Clearance Time (s)	6.0				6.0		6.0	6.0				
Vehicle Extension (s)	3.0				3.0		3.0	3.0				
Lane Grp Cap (vph)	240	2091			1300	1583	806	2317	1583			
v/s Ratio Prot	0.06	0.14			0.22			0.39				
v/s Ratio Perm	0.18					0.46	0.06		c0.87			
v/c Ratio	0.71	0.34			0.85	0.46	0.12	0.86	0.87			
Uniform Delay, d1	33.9	18.1			31.8	0.0	14.1	21.9	0.0			
Progression Factor	0.59	1.50			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	16.2	0.2			6.9	1.0	0.3	4.4	7.0			
Delay (s)	36.4	27.3			38.7	1.0	14.5	26.3	7.0			
Level of Service	D	C			D	A	B	C	A			
Approach Delay (s)		29.0			23.6			18.3			0.0	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM Average Control Delay	21.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	77	157	870	257	0	0	0	0	580	1103	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	4.0	5.0	5.0					8.0	8.0	
Lane Util. Factor		0.95	1.00	0.97	0.95					0.97	0.91	
Frt		1.00	0.85	1.00	1.00					1.00	1.00	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3539	1583	3433	3539					3433	5077	
Flt Permitted		1.00	1.00	0.67	1.00					0.95	1.00	
Satd. Flow (perm)		3539	1583	2429	3539					3433	5077	
Peak-hour factor, PHF	1.00	0.61	0.81	0.92	0.81	1.00	1.00	1.00	1.00	0.79	0.85	0.50
Adj. Flow (vph)	0	126	194	946	317	0	0	0	0	734	1298	14
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	2	0
Lane Group Flow (vph)	0	126	194	946	317	0	0	0	0	734	1310	0
Turn Type			Free	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			Free	5 6						8		
Actuated Green, G (s)		10.2	75.0	24.0	29.0					33.0	33.0	
Effective Green, g (s)		10.2	75.0	24.0	29.0					33.0	33.0	
Actuated g/C Ratio		0.14	1.00	0.32	0.39					0.44	0.44	
Clearance Time (s)		5.0		5.0						8.0	8.0	
Vehicle Extension (s)		3.0		3.0						3.0	3.0	
Lane Grp Cap (vph)		481	1583	962	1368					1511	2234	
v/s Ratio Prot		0.04		c0.18	0.09						c0.26	
v/s Ratio Perm			c0.12	c0.13						0.21		
v/c Ratio		0.26	0.12	0.98	0.23					0.49	0.59	
Uniform Delay, d1		29.0	0.0	24.0	15.5					15.0	15.9	
Progression Factor		1.00	1.00	0.55	0.50					0.72	0.71	
Incremental Delay, d2		0.3	0.2	19.2	0.1					0.7	0.7	
Delay (s)		29.3	0.2	32.5	7.8					11.4	12.0	
Level of Service		C	A	C	A					B	B	
Approach Delay (s)		11.6			26.3			0.0			11.8	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM Average Control Delay	16.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	8	666	0	0	1014	573	101	1526	626	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	4.0		8.0	4.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5068	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5068	1583			
Peak-hour factor, PHF	0.25	0.78	1.00	1.00	0.88	0.64	0.83	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	32	854	0	0	1152	895	122	1677	680	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	32	854	0	0	1152	895	0	1799	680	0	0	0
Turn Type	Prot					Free	Perm		Free			
Protected Phases	1	1 2			2			4				
Permitted Phases						Free	4		Free			
Actuated Green, G (s)	8.0	31.0			18.0	75.0		31.0	75.0			
Effective Green, g (s)	8.0	31.0			18.0	75.0		31.0	75.0			
Actuated g/C Ratio	0.11	0.41			0.24	1.00		0.41	1.00			
Clearance Time (s)	5.0				5.0			8.0				
Vehicle Extension (s)	3.0				3.0			3.0				
Lane Grp Cap (vph)	189	2102			1538	1583		2095	1583			
v/s Ratio Prot	0.02	0.17			c0.18							
v/s Ratio Perm						c0.57		0.35	0.43			
v/c Ratio	0.17	0.41			0.75	0.57		0.86	0.43			
Uniform Delay, d1	30.5	15.5			26.4	0.0		20.0	0.0			
Progression Factor	1.38	1.63			1.00	1.00		1.00	1.00			
Incremental Delay, d2	1.8	0.5			3.4	1.5		4.9	0.9			
Delay (s)	43.7	25.8			29.8	1.5		24.9	0.9			
Level of Service	D	C			C	A		C	A			
Approach Delay (s)		26.5			17.4			18.3			0.0	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	647	453	869	2237	0	0	0	0	48	840	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	6.0
Lane Util. Factor		0.91	0.88	0.97	0.91						0.91	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						1.00	1.00
Satd. Flow (prot)		5085	2787	3433	5085						5072	1583
Flt Permitted		1.00	1.00	0.29	1.00						1.00	1.00
Satd. Flow (perm)		5085	2787	1055	5085						5072	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	703	492	945	2432	0	0	0	0	52	913	201
RTOR Reduction (vph)	0	0	22	0	0	0	0	0	0	0	0	2
Lane Group Flow (vph)	0	703	470	945	2432	0	0	0	0	0	965	199
Turn Type			Perm	pm+pt						Perm		Perm
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		4
Actuated Green, G (s)		17.0	17.0	37.0	43.0						20.0	20.0
Effective Green, g (s)		17.0	17.0	37.0	43.0						20.0	20.0
Actuated g/C Ratio		0.23	0.23	0.49	0.57						0.27	0.27
Clearance Time (s)		6.0	6.0	6.0							6.0	6.0
Vehicle Extension (s)		3.0	3.0	3.0							3.0	3.0
Lane Grp Cap (vph)		1153	632	1155	2915						1353	422
v/s Ratio Prot		0.14		0.22	c0.48							
v/s Ratio Perm			0.17	0.19							0.19	0.13
v/c Ratio		0.61	0.74	0.82	0.83						0.71	0.47
Uniform Delay, d1		26.0	27.0	18.7	13.1						24.9	23.1
Progression Factor		1.00	1.00	0.35	0.74						1.00	1.00
Incremental Delay, d2		2.4	7.7	1.7	0.8						1.8	0.8
Delay (s)		28.4	34.7	8.2	10.5						26.7	23.9
Level of Service		C	C	A	B						C	C
Approach Delay (s)		31.0			9.9			0.0			26.2	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM Average Control Delay	17.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	150	539	0	0	2278	250	829	904	266	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	5085			6408	1583	3433	3539	1583			
Flt Permitted	0.13	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	466	5085			6408	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	586	0	0	2476	272	901	983	289	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	21	0	0	191	0	0	0
Lane Group Flow (vph)	163	586	0	0	2476	251	901	983	98	0	0	0
Turn Type	pm+pt					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					6	8		8			
Actuated Green, G (s)	35.0	41.0			31.0	31.0	22.0	22.0	22.0			
Effective Green, g (s)	35.0	41.0			31.0	31.0	22.0	22.0	22.0			
Actuated g/C Ratio	0.47	0.55			0.41	0.41	0.29	0.29	0.29			
Clearance Time (s)	6.0				6.0	6.0	6.0	6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	376	2780			2649	654	1007	1038	464			
v/s Ratio Prot	c0.02	0.12			c0.39			c0.28				
v/s Ratio Perm	0.18					0.16	0.26		0.06			
v/c Ratio	0.43	0.21			0.93	0.38	0.89	0.95	0.21			
Uniform Delay, d1	15.2	8.7			21.0	15.3	25.4	25.9	20.0			
Progression Factor	1.95	0.12			1.00	1.00	1.26	1.26	2.72			
Incremental Delay, d2	0.6	0.0			7.7	1.7	7.0	12.0	0.1			
Delay (s)	30.2	1.1			28.7	17.1	39.1	44.6	54.5			
Level of Service	C	A			C	B	D	D	D			
Approach Delay (s)		7.4			27.6			43.6			0.0	
Approach LOS		A			C			D			A	

Intersection Summary			
HCM Average Control Delay	31.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	72	394	37	9	1097	13	123	0	10	0	0	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0				6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00				1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.85				0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00				1.00
Satd. Flow (prot)	1770	4994		1770	5077		1770	1583				1583
Flt Permitted	0.17	1.00		0.46	1.00		0.76	1.00				1.00
Satd. Flow (perm)	324	4994		861	5077		1410	1583				1583
Peak-hour factor, PHF	0.25	0.91	0.63	0.25	0.91	1.00	0.50	1.00	0.25	1.00	1.00	1.00
Adj. Flow (vph)	288	433	59	36	1205	13	246	0	40	0	0	141
RTOR Reduction (vph)	0	27	0	0	2	0	0	31	0	0	0	108
Lane Group Flow (vph)	288	465	0	36	1216	0	246	9	0	0	0	33
Turn Type	pm+pt			pm+pt			Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	28.0	23.0		21.0	19.5		13.0	13.0				13.0
Effective Green, g (s)	28.0	23.0		21.0	19.5		13.0	13.0				13.0
Actuated g/C Ratio	0.50	0.41		0.38	0.35		0.23	0.23				0.23
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0				6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0				3.0
Lane Grp Cap (vph)	294	2070		350	1784		330	371				371
v/s Ratio Prot	c0.09	0.09		0.00	0.24			0.01				
v/s Ratio Perm	c0.41			0.04			c0.17					0.02
v/c Ratio	0.98	0.22		0.10	0.68		0.75	0.03				0.09
Uniform Delay, d1	10.5	10.5		10.9	15.4		19.7	16.4				16.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00				1.00
Incremental Delay, d2	46.3	0.1		0.1	1.1		8.8	0.0				0.1
Delay (s)	56.8	10.5		11.1	16.4		28.6	16.4				16.7
Level of Service	E	B		B	B		C	B				B
Approach Delay (s)		27.6			16.3			26.9			16.7	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	55.5	Sum of lost time (s)	18.0
Intersection Capacity Utilization	52.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	382	1	0	949	459	18	0	6	523	0	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0		6.0	6.0	6.0	
Lane Util. Factor	1.00	0.91			0.91	1.00	1.00		1.00	0.95	0.95	
Frt	1.00	1.00			1.00	0.85	1.00		0.85	1.00	0.94	
Flt Protected	0.95	1.00			1.00	1.00	0.95		1.00	0.95	0.97	
Satd. Flow (prot)	1770	5083			5085	1583	1770		1583	1681	1621	
Flt Permitted	0.17	1.00			1.00	1.00	0.95		1.00	0.95	0.97	
Satd. Flow (perm)	323	5083			5085	1583	1770		1583	1681	1621	
Peak-hour factor, PHF	1.00	0.93	1.00	1.00	0.95	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	34	411	1	0	999	459	72	0	6	523	0	116
RTOR Reduction (vph)	0	0	0	0	0	334	0	0	4	0	31	0
Lane Group Flow (vph)	34	412	0	0	999	125	72	0	2	324	284	0
Turn Type	pm+pt			pm+pt		Perm	Prot		custom	pm+pt		
Protected Phases	5	2		1	6		4!			3	8!	
Permitted Phases	2			6		6			4	8		
Actuated Green, G (s)	24.6	24.6			17.1	17.1	16.2		16.2	26.2	26.2	
Effective Green, g (s)	24.6	24.6			17.1	17.1	16.2		16.2	26.2	26.2	
Actuated g/C Ratio	0.39	0.39			0.27	0.27	0.26		0.26	0.42	0.42	
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0		6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	161	1991			1385	431	457		408	701	676	
v/s Ratio Prot	0.01	c0.08			c0.20		0.04			c0.03	0.03	
v/s Ratio Perm	0.08					0.08			0.00	0.16	0.15	
v/c Ratio	0.21	0.21			0.72	0.29	0.16		0.00	0.46	0.42	
Uniform Delay, d1	13.0	12.6			20.7	18.1	18.0		17.3	13.2	12.9	
Progression Factor	1.00	1.00			1.00	1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.2			3.3	1.7	0.7		0.0	0.5	0.4	
Delay (s)	13.6	12.9			24.0	19.8	18.8		17.3	13.7	13.3	
Level of Service	B	B			C	B	B		B	B	B	
Approach Delay (s)		12.9			22.6			18.6			13.5	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	487	47	442	511	0	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0		6.0
Lane Util. Factor	1.00	1.00	0.91	1.00		0.91
Frt	1.00	0.85	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1770	1583	5085	1583		5085
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1770	1583	5085	1583		5085
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	529	51	480	555	0	576
RTOR Reduction (vph)	0	33	0	306	0	0
Lane Group Flow (vph)	529	18	480	249	0	576
Turn Type		Perm		Perm	pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Actuated Green, G (s)	20.1	20.1	26.1	26.1		26.1
Effective Green, g (s)	20.1	20.1	26.1	26.1		26.1
Actuated g/C Ratio	0.35	0.35	0.45	0.45		0.45
Clearance Time (s)	6.0	6.0	6.0	6.0		6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	611	547	2280	710		2280
v/s Ratio Prot	c0.30		0.09			0.11
v/s Ratio Perm		0.01		c0.16		
v/c Ratio	0.87	0.03	0.21	0.35		0.25
Uniform Delay, d1	17.8	12.6	9.8	10.5		10.0
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	12.3	0.0	0.2	1.4		0.3
Delay (s)	30.0	12.6	10.0	11.9		10.3
Level of Service	C	B	A	B		B
Approach Delay (s)	28.5		11.0			10.3
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	58.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	487	678	108	0	298	636	1305	1	29	535	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	4.0
Lane Util. Factor		0.95	1.00	1.00		1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt		1.00	0.85	1.00		0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		3539	1583	1770		1583	3433	5085	1583	1770	5085	1583
Flt Permitted		1.00	1.00	0.24		1.00	0.33	1.00	1.00	0.19	1.00	1.00
Satd. Flow (perm)		3539	1583	442		1583	1176	5085	1583	362	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.46	0.92	0.64	0.92	0.93	0.83	0.81	0.97	0.92
Adj. Flow (vph)	0	529	737	235	0	466	691	1403	1	36	552	783
RTOR Reduction (vph)	0	0	0	0	0	132	0	0	1	0	0	0
Lane Group Flow (vph)	0	529	737	235	0	334	691	1403	0	36	552	783
Turn Type			Free	pm+pt		Perm	pm+pt		Perm	pm+pt		Free
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases			Free	8		8	2		2	6		Free
Actuated Green, G (s)		16.0	73.6	27.0		27.0	34.6	27.0	27.0	22.2	20.6	73.6
Effective Green, g (s)		16.0	73.6	27.0		27.0	34.6	27.0	27.0	22.2	20.6	73.6
Actuated g/C Ratio		0.22	1.00	0.37		0.37	0.47	0.37	0.37	0.30	0.28	1.00
Clearance Time (s)		6.0		6.0		6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		769	1583	252		581	798	1865	581	140	1423	1583
v/s Ratio Prot		0.15		c0.06			c0.09	0.28		0.01	0.11	
v/s Ratio Perm			0.47	c0.28		0.21	c0.31		0.00	0.07		0.49
v/c Ratio		0.69	0.47	0.93		0.57	0.87	0.75	0.00	0.26	0.39	0.49
Uniform Delay, d1		26.5	0.0	21.1		18.7	14.9	20.4	14.8	18.6	21.4	0.0
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		5.0	1.0	38.6		4.1	9.7	2.9	0.0	1.0	0.8	1.1
Delay (s)		31.5	1.0	59.7		22.8	24.6	23.2	14.8	19.6	22.2	1.1
Level of Service		C	A	E		C	C	C	B	B	C	A
Approach Delay (s)		13.7			35.2			23.7			10.1	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	73.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	323	277	230	588	0	0	0	0	133	884	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	0.97	0.91					0.86	0.86	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	5085					1522	4724	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	5085					1522	4724	
Peak-hour factor, PHF	0.25	0.96	0.75	0.86	0.91	1.00	1.00	1.00	1.00	0.89	0.93	0.68
Adj. Flow (vph)	0	336	369	267	646	0	0	0	0	149	951	119
RTOR Reduction (vph)	0	0	14	0	0	0	0	0	0	0	14	0
Lane Group Flow (vph)	0	336	355	267	646	0	0	0	0	134	1071	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		26.8	26.8	9.6	42.1					35.1	35.1	
Effective Green, g (s)		26.8	26.8	9.6	36.4					35.1	35.1	
Actuated g/C Ratio		0.30	0.30	0.11	0.40					0.39	0.39	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		1908	471	366	2057					594	1842	
v/s Ratio Prot		0.05		c0.08	0.13							
v/s Ratio Perm			c0.22							0.09	0.23	
v/c Ratio		0.18	0.75	0.73	0.31					0.23	0.58	
Uniform Delay, d1		23.4	28.6	38.9	18.3					18.4	21.7	
Progression Factor		1.00	1.00	0.50	0.94					1.00	1.02	
Incremental Delay, d2		0.0	6.0	6.0	0.0					0.5	0.7	
Delay (s)		23.4	34.6	25.4	17.2					18.9	22.7	
Level of Service		C	C	C	B					B	C	
Approach Delay (s)		29.3			19.6			0.0			22.3	
Approach LOS		C			B			A			C	

Intersection Summary			
HCM Average Control Delay	23.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	186	244	0	0	394	64	426	751	220	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	5.7	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	3539	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.88	1.00	1.00	0.98	0.86	1.00	1.00	1.00	0.87	0.87	0.75
Adj. Flow (vph)	202	277	0	0	402	74	426	751	220	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	44	0	0	97	0	0	0
Lane Group Flow (vph)	202	277	0	0	402	30	426	751	123	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	8.1	27.2			13.0	13.0	50.4	50.4	50.4			
Effective Green, g (s)	8.1	27.2			13.0	13.0	50.4	50.4	50.4			
Actuated g/C Ratio	0.09	0.30			0.14	0.14	0.56	0.56	0.56			
Clearance Time (s)	6.1				5.7	5.7	6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	309	1070			735	229	1922	1982	886			
v/s Ratio Prot	c0.06	0.08			c0.08			c0.21				
v/s Ratio Perm						0.02	0.12		0.08			
v/c Ratio	0.65	0.26			0.55	0.13	0.22	0.38	0.14			
Uniform Delay, d1	39.6	23.8			35.8	33.6	9.9	11.1	9.4			
Progression Factor	0.74	0.71			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	3.7	0.0			0.4	0.1	0.3	0.6	0.3			
Delay (s)	33.2	16.8			36.2	33.7	10.2	11.6	9.8			
Level of Service	C	B			D	C	B	B	A			
Approach Delay (s)		23.7			35.8			10.9			0.0	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM Average Control Delay	18.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	55.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	186	266	1128	28	0	0	0	0	690	1094	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.95					0.86	0.86	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		3539	1583	3433	3539					1522	4763	1583
Flt Permitted		1.00	1.00	0.62	1.00					0.95	0.99	1.00
Satd. Flow (perm)		3539	1583	2258	3539					1522	4763	1583
Peak-hour factor, PHF	0.25	0.92	0.55	0.92	0.92	0.92	1.00	1.00	0.92	0.92	0.88	0.86
Adj. Flow (vph)	0	202	484	1226	30	0	0	0	0	750	1243	188
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	202	484	1226	30	0	0	0	0	480	1513	188
Turn Type			Free	pm+pt						Perm		Free
Protected Phases		2		1	1 2						4	
Permitted Phases			Free	1 2						4		Free
Actuated Green, G (s)		10.4	90.0	32.4	38.4					39.6	39.6	90.0
Effective Green, g (s)		10.4	90.0	32.4	38.4					39.6	39.6	90.0
Actuated g/C Ratio		0.12	1.00	0.36	0.43					0.44	0.44	1.00
Clearance Time (s)		6.0		6.0						6.0	6.0	
Vehicle Extension (s)		3.0		3.0						3.0	3.0	
Lane Grp Cap (vph)		409	1583	1100	1510					670	2096	1583
v/s Ratio Prot		0.06		c0.27	0.01							
v/s Ratio Perm			0.31	c0.13						0.32	0.32	0.12
v/c Ratio		0.49	0.31	1.11	0.02					0.72	0.72	0.12
Uniform Delay, d1		37.3	0.0	27.4	14.9					20.6	20.7	0.0
Progression Factor		1.00	1.00	0.73	1.60					1.00	1.00	1.00
Incremental Delay, d2		0.9	0.5	59.5	0.0					6.5	2.2	0.2
Delay (s)		38.3	0.5	79.4	23.9					27.1	22.9	0.2
Level of Service		D	A	E	C					C	C	A
Approach Delay (s)		11.6			78.1			0.0			21.8	
Approach LOS		B			E			A			C	

Intersection Summary			
HCM Average Control Delay	37.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	221	690	0	0	1128	752	28	1195	1471	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	4.0	6.0	6.0	4.0			
Lane Util. Factor	1.00	0.91			0.91	1.00	1.00	0.91	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	1770	5085			5085	1583	1770	5085	1583			
Flt Permitted	0.15	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	276	5085			5085	1583	1770	5085	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	240	750	0	0	1226	817	30	1299	1599	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	240	750	0	0	1226	817	30	1299	1599	0	0	0
Turn Type	pm+pt					Free	Perm		Free			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					Free	8		Free			
Actuated Green, G (s)	39.0	45.0			27.0	90.0	33.0	33.0	90.0			
Effective Green, g (s)	39.0	45.0			27.0	90.0	33.0	33.0	90.0			
Actuated g/C Ratio	0.43	0.50			0.30	1.00	0.37	0.37	1.00			
Clearance Time (s)	6.0				6.0		6.0	6.0				
Vehicle Extension (s)	3.0				3.0		3.0	3.0				
Lane Grp Cap (vph)	319	2543			1526	1583	649	1865	1583			
v/s Ratio Prot	0.10	0.15			0.24			0.26				
v/s Ratio Perm	0.23					0.52	0.02		c1.01			
v/c Ratio	0.75	0.29			0.80	0.52	0.05	0.70	1.01			
Uniform Delay, d1	30.6	13.2			29.1	0.0	18.4	24.2	45.0			
Progression Factor	0.16	2.20			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	14.9	0.2			4.6	1.2	0.1	2.2	25.1			
Delay (s)	19.9	29.3			33.6	1.2	18.5	26.4	70.1			
Level of Service	B	C			C	A	B	C	E			
Approach Delay (s)		27.0			20.7			50.2			0.0	
Approach LOS		C			C			D			A	

Intersection Summary			
HCM Average Control Delay	36.2	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	78.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	31	45	270	96	0	0	0	0	824	871	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	4.0	5.0	5.0					8.0	8.0	
Lane Util. Factor		0.95	1.00	0.97	0.95					0.97	0.91	
Frt		1.00	0.85	1.00	1.00					1.00	1.00	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3539	1583	3433	3539					3433	5082	
Flt Permitted		1.00	1.00	0.72	1.00					0.95	1.00	
Satd. Flow (perm)		3539	1583	2609	3539					3433	5082	
Peak-hour factor, PHF	1.00	0.61	0.81	0.92	0.81	1.00	1.00	1.00	1.00	0.79	0.85	0.50
Adj. Flow (vph)	0	51	56	293	119	0	0	0	0	1043	1025	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	51	56	293	119	0	0	0	0	1043	1028	0
Turn Type			Free	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			Free	5 6						8		
Actuated Green, G (s)		7.1	75.0	24.0	29.0					33.0	33.0	
Effective Green, g (s)		7.1	75.0	24.0	29.0					33.0	33.0	
Actuated g/C Ratio		0.09	1.00	0.32	0.39					0.44	0.44	
Clearance Time (s)		5.0		5.0						8.0	8.0	
Vehicle Extension (s)		3.0		3.0						3.0	3.0	
Lane Grp Cap (vph)		335	1583	1021	1368					1511	2236	
v/s Ratio Prot		0.01		c0.06	0.03						0.20	
v/s Ratio Perm			c0.04	c0.03						c0.30		
v/c Ratio		0.15	0.04	0.29	0.09					0.69	0.46	
Uniform Delay, d1		31.2	0.0	19.5	14.6					16.9	14.7	
Progression Factor		1.00	1.00	0.29	0.76					1.00	1.00	
Incremental Delay, d2		0.2	0.0	0.2	0.0					2.6	0.7	
Delay (s)		31.4	0.0	5.8	11.1					19.5	15.4	
Level of Service		C	A	A	B					B	B	
Approach Delay (s)		15.0			7.3			0.0			17.5	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM Average Control Delay	15.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	851	0	0	292	144	49	1313	662	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	4.0		8.0	4.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5075	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5075	1583			
Peak-hour factor, PHF	0.25	0.78	1.00	1.00	0.88	0.64	0.83	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	8	1091	0	0	332	225	59	1443	720	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	8	1091	0	0	332	225	0	1502	720	0	0	0
Turn Type	Prot					Free	Perm		Free			
Protected Phases	1	1 2			2			4				
Permitted Phases						Free	4		Free			
Actuated Green, G (s)	8.0	31.0			18.0	75.0		31.0	75.0			
Effective Green, g (s)	8.0	31.0			18.0	75.0		31.0	75.0			
Actuated g/C Ratio	0.11	0.41			0.24	1.00		0.41	1.00			
Clearance Time (s)	5.0				5.0			8.0				
Vehicle Extension (s)	3.0				3.0			3.0				
Lane Grp Cap (vph)	189	2102			1538	1583		2098	1583			
v/s Ratio Prot	0.00	c0.21			0.05							
v/s Ratio Perm						0.14		0.30	c0.45			
v/c Ratio	0.04	0.52			0.22	0.14		0.72	0.45			
Uniform Delay, d1	30.1	16.4			22.8	0.0		18.3	0.0			
Progression Factor	1.46	1.83			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.3	0.7			0.3	0.2		2.1	0.9			
Delay (s)	44.2	30.7			23.2	0.2		20.5	0.9			
Level of Service	D	C			C	A		C	A			
Approach Delay (s)		30.8			13.9			14.1			0.0	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM Average Control Delay	18.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	596	282	399	732	0	0	0	0	52	565	197
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	6.0
Lane Util. Factor		0.91	0.88	0.97	0.91						0.91	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						1.00	1.00
Satd. Flow (prot)		5085	2787	3433	5085						5064	1583
Flt Permitted		1.00	1.00	0.39	1.00						1.00	1.00
Satd. Flow (perm)		5085	2787	1425	5085						5064	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	648	307	434	796	0	0	0	0	57	614	214
RTOR Reduction (vph)	0	0	79	0	0	0	0	0	0	0	0	95
Lane Group Flow (vph)	0	648	228	434	796	0	0	0	0	0	671	119
Turn Type			Perm	pm+pt						Perm		Perm
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		4
Actuated Green, G (s)		17.7	17.7	22.7	28.7						14.3	14.3
Effective Green, g (s)		17.7	17.7	22.7	28.7						14.3	14.3
Actuated g/C Ratio		0.32	0.32	0.41	0.52						0.26	0.26
Clearance Time (s)		6.0	6.0	6.0							6.0	6.0
Vehicle Extension (s)		3.0	3.0	3.0							3.0	3.0
Lane Grp Cap (vph)		1636	897	771	2653						1317	412
v/s Ratio Prot		0.13		c0.05	0.16							
v/s Ratio Perm			0.08	c0.18							0.13	0.08
v/c Ratio		0.40	0.25	0.56	0.30						0.51	0.29
Uniform Delay, d1		14.5	13.8	13.6	7.5						17.4	16.3
Progression Factor		1.00	1.00	1.32	0.99						1.00	1.00
Incremental Delay, d2		0.7	0.7	0.9	0.1						0.3	0.4
Delay (s)		15.2	14.5	18.9	7.4						17.7	16.7
Level of Service		B	B	B	A						B	B
Approach Delay (s)		15.0			11.5			0.0			17.4	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	180	467	0	0	775	37	357	562	187	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	5085			6408	1583	3433	3539	1583			
Flt Permitted	0.31	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	1108	5085			6408	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	508	0	0	842	40	388	611	203	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	28	0	0	147	0	0	0
Lane Group Flow (vph)	196	508	0	0	842	12	388	611	56	0	0	0
Turn Type	pm+pt					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					6	8		8			
Actuated Green, G (s)	21.7	27.7			16.7	16.7	15.3	15.3	15.3			
Effective Green, g (s)	21.7	27.7			16.7	16.7	15.3	15.3	15.3			
Actuated g/C Ratio	0.39	0.50			0.30	0.30	0.28	0.28	0.28			
Clearance Time (s)	6.0				6.0	6.0	6.0	6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	649	2561			1946	481	955	984	440			
v/s Ratio Prot	0.03	c0.10			c0.13			c0.17				
v/s Ratio Perm	0.09					0.01	0.11		0.04			
v/c Ratio	0.30	0.20			0.43	0.03	0.41	0.62	0.13			
Uniform Delay, d1	10.7	7.5			15.4	13.4	16.2	17.3	14.9			
Progression Factor	0.67	0.14			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.2	0.0			0.7	0.1	0.3	1.2	0.1			
Delay (s)	7.4	1.1			16.1	13.5	16.4	18.5	15.0			
Level of Service	A	A			B	B	B	B	B			
Approach Delay (s)		2.8			15.9			17.3			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	13.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	385	6	2	400	14	7	0	1	0	0	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0				6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00				1.00
Frt	1.00	1.00		1.00	1.00		1.00	0.85				0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00				1.00
Satd. Flow (prot)	1770	5068		1770	5062		1770	1583				1583
Flt Permitted	0.34	1.00		0.49	1.00		1.00	1.00				1.00
Satd. Flow (perm)	631	5068		915	5062		1863	1583				1583
Peak-hour factor, PHF	0.25	0.91	0.63	0.25	0.91	1.00	0.50	1.00	0.25	1.00	1.00	1.00
Adj. Flow (vph)	324	423	10	8	440	14	14	0	4	0	0	74
RTOR Reduction (vph)	0	3	0	0	5	0	0	4	0	0	0	69
Lane Group Flow (vph)	324	430	0	8	449	0	14	0	0	0	0	5
Turn Type	pm+pt			pm+pt			Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	29.9	23.3		14.9	14.3		3.2	3.2				3.2
Effective Green, g (s)	29.9	23.3		14.9	14.3		3.2	3.2				3.2
Actuated g/C Ratio	0.66	0.52		0.33	0.32		0.07	0.07				0.07
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0				6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0				3.0
Lane Grp Cap (vph)	661	2618		314	1605		132	112				112
v/s Ratio Prot	c0.10	0.08		0.00	0.09			0.00				
v/s Ratio Perm	c0.22			0.01			c0.01					0.00
v/c Ratio	0.49	0.16		0.03	0.28		0.11	0.00				0.05
Uniform Delay, d1	3.8	5.8		10.2	11.5		19.6	19.5				19.5
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00				1.00
Incremental Delay, d2	0.6	0.0		0.0	0.1		0.4	0.0				0.2
Delay (s)	4.3	5.8		10.2	11.6		20.0	19.5				19.7
Level of Service	A	A		B	B		B	B				B
Approach Delay (s)		5.2			11.6			19.9			19.7	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM Average Control Delay	8.5	HCM Level of Service	A
HCM Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	45.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	31.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	87	294	0	0	340	536	5	0	0	464	0	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0			6.0	6.0	
Lane Util. Factor	1.00	0.91			0.91	1.00	1.00			0.95	0.95	
Frt	1.00	1.00			1.00	0.85	1.00			1.00	0.98	
Flt Protected	0.95	1.00			1.00	1.00	0.95			0.95	0.96	
Satd. Flow (prot)	1770	5085			5085	1583	1770			1681	1660	
Flt Permitted	0.39	1.00			1.00	1.00	0.95			0.95	0.96	
Satd. Flow (perm)	730	5085			5085	1583	1770			1681	1660	
Peak-hour factor, PHF	1.00	0.93	1.00	1.00	0.95	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	87	316	0	0	358	536	20	0	0	464	0	37
RTOR Reduction (vph)	0	0	0	0	0	393	0	0	0	0	10	0
Lane Group Flow (vph)	87	316	0	0	358	143	20	0	0	251	240	0
Turn Type	pm+pt			pm+pt		Perm	Prot		custom	pm+pt		
Protected Phases	5	2		1	6		4!			3	8!	
Permitted Phases	2			6		6			4	8		
Actuated Green, G (s)	26.2	26.2			17.1	17.1	16.1			26.1	26.1	
Effective Green, g (s)	26.2	26.2			17.1	17.1	16.1			26.1	26.1	
Actuated g/C Ratio	0.41	0.41			0.27	0.27	0.25			0.41	0.41	
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0			6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0			3.0	3.0	
Lane Grp Cap (vph)	348	2072			1352	421	443			682	674	
v/s Ratio Prot	c0.01	0.06			0.07		0.01			c0.02	0.02	
v/s Ratio Perm	0.09					c0.09				0.13	0.12	
v/c Ratio	0.25	0.15			0.26	0.34	0.05			0.37	0.36	
Uniform Delay, d1	12.2	12.0			18.6	19.0	18.3			13.3	13.3	
Progression Factor	1.00	1.00			1.00	1.00	1.00			1.00	1.00	
Incremental Delay, d2	0.4	0.2			0.5	2.2	0.2			0.3	0.3	
Delay (s)	12.6	12.2			19.1	21.2	18.5			13.7	13.6	
Level of Service	B	B			B	C	B			B	B	
Approach Delay (s)		12.3			20.4			18.5			13.6	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	64.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	48.0%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	620	76	557	751	0	501
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0		6.0
Lane Util. Factor	1.00	1.00	0.91	1.00		0.91
Frt	1.00	0.85	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1770	1583	5085	1583		5085
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1770	1583	5085	1583		5085
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	674	83	605	816	0	545
RTOR Reduction (vph)	0	49	0	462	0	0
Lane Group Flow (vph)	674	34	605	354	0	545
Turn Type		Perm		Perm	pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Actuated Green, G (s)	29.8	29.8	32.0	32.0		32.0
Effective Green, g (s)	29.8	29.8	32.0	32.0		32.0
Actuated g/C Ratio	0.40	0.40	0.43	0.43		0.43
Clearance Time (s)	6.0	6.0	6.0	6.0		6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	715	639	2205	686		2205
v/s Ratio Prot	c0.38		0.12			0.11
v/s Ratio Perm		0.02		c0.22		
v/c Ratio	0.94	0.05	0.27	0.52		0.25
Uniform Delay, d1	21.2	13.4	13.4	15.2		13.3
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	20.7	0.0	0.3	2.8		0.3
Delay (s)	41.9	13.4	13.7	18.0		13.5
Level of Service	D	B	B	B		B
Approach Delay (s)	38.8		16.2			13.5
Approach LOS	D		B			B

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	73.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	514	748	13	0	21	872	418	11	15	400	1097
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	4.0
Lane Util. Factor		0.95	1.00	1.00		1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt		1.00	0.85	1.00		0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		3539	1583	1770		1583	3433	5085	1583	1770	5085	1583
Flt Permitted		1.00	1.00	0.27		1.00	0.39	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)		3539	1583	500		1583	1407	5085	1583	900	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.46	0.92	0.64	0.92	0.93	0.83	0.81	0.97	0.92
Adj. Flow (vph)	0	559	813	28	0	33	948	449	13	19	412	1192
RTOR Reduction (vph)	0	0	0	0	0	21	0	0	8	0	0	0
Lane Group Flow (vph)	0	559	813	28	0	12	948	449	5	19	412	1192
Turn Type			Free	pm+pt		Perm	pm+pt		Perm	pm+pt		Free
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases			Free	8		8	2		2	6		Free
Actuated Green, G (s)		22.0	78.4	29.6		29.6	36.8	30.0	30.0	21.6	20.8	78.4
Effective Green, g (s)		22.0	78.4	29.6		29.6	36.8	30.0	30.0	21.6	20.8	78.4
Actuated g/C Ratio		0.28	1.00	0.38		0.38	0.47	0.38	0.38	0.28	0.27	1.00
Clearance Time (s)		6.0		6.0		6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		993	1583	215		598	919	1946	606	257	1349	1583
v/s Ratio Prot		0.16		0.00			c0.13	0.09		0.00	0.08	
v/s Ratio Perm			0.51	0.05		0.01	c0.35		0.00	0.02		c0.75
v/c Ratio		0.56	0.51	0.13		0.02	1.03	0.23	0.01	0.07	0.31	0.75
Uniform Delay, d1		24.1	0.0	16.2		15.3	18.6	16.4	15.0	20.8	23.0	0.0
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.3	1.2	0.3		0.1	38.1	0.3	0.0	0.1	0.6	3.4
Delay (s)		26.4	1.2	16.5		15.4	56.7	16.7	15.0	20.9	23.6	3.4
Level of Service		C	A	B		B	E	B	B	C	C	A
Approach Delay (s)		11.5			15.9			43.6			8.7	
Approach LOS		B			B			D			A	

Intersection Summary			
HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	78.4	Sum of lost time (s)	0.0
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

SAVANT GROUP
TRANSPORTATION ENGINEERS & PLANNERS

APPENDIX F: 2020 TOTAL ANALYSES

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	341	324	429	1895	0	0	0	0	208	1386	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	0.97	0.91					0.86	0.86	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	5085					1522	4705	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	5085					1522	4705	
Peak-hour factor, PHF	0.25	0.96	0.75	0.86	0.91	1.00	1.00	1.00	1.00	0.89	0.93	0.68
Adj. Flow (vph)	0	355	432	499	2082	0	0	0	0	234	1490	238
RTOR Reduction (vph)	0	0	4	0	0	0	0	0	0	0	3	0
Lane Group Flow (vph)	0	355	428	499	2082	0	0	0	0	211	1748	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		34.3	34.3	16.9	56.9					40.3	40.3	
Effective Green, g (s)		34.3	34.3	16.9	51.2					40.3	40.3	
Actuated g/C Ratio		0.31	0.31	0.15	0.47					0.37	0.37	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		1998	494	527	2367					558	1724	
v/s Ratio Prot		0.06		c0.15	c0.41							
v/s Ratio Perm			0.27							0.14	0.37	
v/c Ratio		0.18	0.87	0.95	0.88					0.38	1.01	
Uniform Delay, d1		27.6	35.7	46.1	26.6					25.6	34.9	
Progression Factor		1.00	1.00	0.41	1.08					1.00	1.00	
Incremental Delay, d2		0.0	14.3	23.0	3.1					1.9	25.3	
Delay (s)		27.6	49.9	42.1	31.9					27.6	60.1	
Level of Service		C	D	D	C					C	E	
Approach Delay (s)		39.9			33.9			0.0			56.6	
Approach LOS		D			C			A			E	

Intersection Summary			
HCM Average Control Delay	43.1	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.9
Intersection Capacity Utilization	120.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	187	371	0	0	1250	324	1060	1362	200	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	5.7	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	3539	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.88	1.00	1.00	0.98	0.86	1.00	1.00	1.00	0.87	0.87	0.75
Adj. Flow (vph)	203	422	0	0	1276	377	1060	1362	200	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	13	0	0	110	0	0	0
Lane Group Flow (vph)	203	422	0	0	1276	364	1060	1362	90	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	8.9	48.2			33.2	33.2	49.4	49.4	49.4			
Effective Green, g (s)	8.9	48.2			33.2	33.2	49.4	49.4	49.4			
Actuated g/C Ratio	0.08	0.44			0.30	0.30	0.45	0.45	0.45			
Clearance Time (s)	6.1				5.7	5.7	6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	278	1551			1535	478	1542	1589	711			
v/s Ratio Prot	c0.06	0.12			c0.25			c0.38				
v/s Ratio Perm						0.23	0.31		0.06			
v/c Ratio	0.73	0.27			0.83	0.76	0.69	0.86	0.13			
Uniform Delay, d1	49.4	19.7			35.8	34.8	24.1	27.1	17.7			
Progression Factor	0.77	1.01			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	8.2	0.0			3.8	6.3	2.5	6.2	0.4			
Delay (s)	46.3	20.0			39.6	41.1	26.7	33.3	18.1			
Level of Service	D	C			D	D	C	C	B			
Approach Delay (s)		28.5			40.0			29.5			0.0	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM Average Control Delay	32.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	120.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	187	134	1012	110	0	0	0	0	648	1820	480
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.95					0.86	0.86	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	1.00
Satd. Flow (prot)		3539	1583	3433	3539					1522	4798	1583
Flt Permitted		1.00	1.00	0.56	1.00					0.95	1.00	1.00
Satd. Flow (perm)		3539	1583	2007	3539					1522	4798	1583
Peak-hour factor, PHF	0.25	0.92	0.55	0.92	0.92	0.92	1.00	1.00	0.92	0.92	0.88	0.86
Adj. Flow (vph)	0	203	244	1100	120	0	0	0	0	704	2068	558
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	203	244	1100	120	0	0	0	0	634	2138	558
Turn Type			Free	pm+pt						Perm		Free
Protected Phases		2		1	1 2						4	
Permitted Phases			Free	1 2						4		Free
Actuated Green, G (s)		12.7	130.0	49.7	55.7					62.3	62.3	130.0
Effective Green, g (s)		12.7	130.0	49.7	55.7					62.3	62.3	130.0
Actuated g/C Ratio		0.10	1.00	0.38	0.43					0.48	0.48	1.00
Clearance Time (s)		6.0		6.0						6.0	6.0	
Vehicle Extension (s)		3.0		3.0						3.0	3.0	
Lane Grp Cap (vph)		346	1583	1173	1516					729	2299	1583
v/s Ratio Prot		0.06		c0.27	0.03							
v/s Ratio Perm			0.15	c0.09						0.42	0.45	c0.35
v/c Ratio		0.59	0.15	0.94	0.08					0.87	0.93	0.35
Uniform Delay, d1		56.1	0.0	36.6	22.0					30.2	31.8	0.0
Progression Factor		1.00	1.00	0.40	1.96					1.00	1.00	1.00
Incremental Delay, d2		2.5	0.2	9.5	0.0					13.4	8.2	0.6
Delay (s)		58.7	0.2	24.1	43.0					43.6	40.0	0.6
Level of Service		E	A	C	D					D	D	A
Approach Delay (s)		26.8			26.0			0.0			34.1	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM Average Control Delay	31.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	187	648	0	0	1012	675	110	2117	1271	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	4.0	6.0	6.0	4.0			
Lane Util. Factor	1.00	0.91			0.91	1.00	1.00	0.91	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	1770	5085			5085	1583	1770	5085	1583			
Flt Permitted	0.11	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	207	5085			5085	1583	1770	5085	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	203	704	0	0	1100	734	120	2301	1382	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	203	704	0	0	1100	734	120	2301	1382	0	0	0
Turn Type	pm+pt					Free	Perm		Free			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					Free	8		Free			
Actuated Green, G (s)	48.0	54.0			36.0	130.0	64.0	64.0	130.0			
Effective Green, g (s)	48.0	54.0			36.0	130.0	64.0	64.0	130.0			
Actuated g/C Ratio	0.37	0.42			0.28	1.00	0.49	0.49	1.00			
Clearance Time (s)	6.0				6.0		6.0	6.0				
Vehicle Extension (s)	3.0				3.0		3.0	3.0				
Lane Grp Cap (vph)	221	2112			1408	1583	871	2503	1583			
v/s Ratio Prot	0.08	0.14			0.22			0.45				
v/s Ratio Perm	0.25					0.46	0.07		c0.87			
v/c Ratio	0.92	0.33			0.78	0.46	0.14	0.92	0.87			
Uniform Delay, d1	50.1	25.8			43.4	0.0	18.0	30.6	0.0			
Progression Factor	1.25	1.66			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	40.6	0.2			4.4	1.0	0.3	6.9	7.0			
Delay (s)	103.4	43.0			47.7	1.0	18.3	37.5	7.0			
Level of Service	F	D			D	A	B	D	A			
Approach Delay (s)		56.5			29.0			25.8			0.0	
Approach LOS		E			C			C			A	

Intersection Summary			
HCM Average Control Delay	31.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	85.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	333	667	1034	305	0	0	0	0	594	1310	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	4.0	5.0	5.0					8.0	8.0	
Lane Util. Factor		0.95	1.00	0.97	0.95					0.97	0.91	
Frt		1.00	0.85	1.00	1.00					1.00	1.00	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3539	1583	3433	3539					3433	5077	
Flt Permitted		1.00	1.00	0.23	1.00					0.95	1.00	
Satd. Flow (perm)		3539	1583	826	3539					3433	5077	
Peak-hour factor, PHF	1.00	0.61	0.81	0.92	0.81	1.00	1.00	1.00	1.00	0.79	0.85	0.50
Adj. Flow (vph)	0	546	823	1124	377	0	0	0	0	752	1541	16
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	546	823	1124	377	0	0	0	0	752	1556	0
Turn Type			Free	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			Free	5 6						8		
Actuated Green, G (s)		17.5	90.0	41.0	46.0					31.0	31.0	
Effective Green, g (s)		17.5	90.0	41.0	46.0					31.0	31.0	
Actuated g/C Ratio		0.19	1.00	0.46	0.51					0.34	0.34	
Clearance Time (s)		5.0		5.0						8.0	8.0	
Vehicle Extension (s)		3.0		3.0						3.0	3.0	
Lane Grp Cap (vph)		688	1583	1057	1809					1182	1749	
v/s Ratio Prot		0.15		c0.28	0.11						c0.31	
v/s Ratio Perm			c0.52	c0.21						0.22		
v/c Ratio		0.79	0.52	1.06	0.21					0.64	0.89	
Uniform Delay, d1		34.5	0.0	28.3	12.0					24.8	27.9	
Progression Factor		1.00	1.00	0.64	0.80					1.00	1.00	
Incremental Delay, d2		6.3	1.2	38.3	0.0					2.6	7.2	
Delay (s)		40.8	1.2	56.5	9.6					27.4	35.1	
Level of Service		D	A	E	A					C	D	
Approach Delay (s)		17.0			44.7			0.0			32.6	
Approach LOS		B			D			A			C	

Intersection Summary			
HCM Average Control Delay	32.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	10	932	0	0	1204	681	120	1736	704	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	4.0		8.0	4.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5067	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5067	1583			
Peak-hour factor, PHF	0.25	0.78	1.00	1.00	0.88	0.64	0.83	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	40	1195	0	0	1368	1064	145	1908	765	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	40	1195	0	0	1368	1064	0	2053	765	0	0	0
Turn Type	Prot					Free	Perm		Free			
Protected Phases	1	1 2			2			4				
Permitted Phases						Free	4		Free			
Actuated Green, G (s)	7.0	34.0			22.0	90.0		43.0	90.0			
Effective Green, g (s)	7.0	34.0			22.0	90.0		43.0	90.0			
Actuated g/C Ratio	0.08	0.38			0.24	1.00		0.48	1.00			
Clearance Time (s)	5.0				5.0			8.0				
Vehicle Extension (s)	3.0				3.0			3.0				
Lane Grp Cap (vph)	138	1921			1566	1583		2421	1583			
v/s Ratio Prot	0.02	0.23			c0.21							
v/s Ratio Perm						c0.67		0.41	0.48			
v/c Ratio	0.29	0.62			0.87	0.67		0.85	0.48			
Uniform Delay, d1	39.2	22.8			32.7	0.0		20.6	0.0			
Progression Factor	0.91	0.83			1.00	1.00		1.00	1.00			
Incremental Delay, d2	3.7	1.1			7.1	2.3		3.9	1.1			
Delay (s)	39.2	20.0			39.7	2.3		24.6	1.1			
Level of Service	D	C			D	A		C	A			
Approach Delay (s)		20.6			23.4			18.2			0.0	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM Average Control Delay	20.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	5.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	769	538	1032	2656	0	0	0	0	57	998	219
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	6.0
Lane Util. Factor		0.91	0.88	0.97	0.91						0.91	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						1.00	1.00
Satd. Flow (prot)		5085	2787	3433	5085						5072	1583
Flt Permitted		1.00	1.00	0.19	1.00						1.00	1.00
Satd. Flow (perm)		5085	2787	696	5085						5072	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	836	585	1122	2887	0	0	0	0	62	1085	238
RTOR Reduction (vph)	0	0	15	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	0	836	570	1122	2887	0	0	0	0	0	1147	237
Turn Type			Perm	pm+pt						Perm		Perm
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		4
Actuated Green, G (s)		27.0	27.0	63.0	69.0						29.0	29.0
Effective Green, g (s)		27.0	27.0	63.0	69.0						29.0	29.0
Actuated g/C Ratio		0.25	0.25	0.57	0.63						0.26	0.26
Clearance Time (s)		6.0	6.0	6.0							6.0	6.0
Vehicle Extension (s)		3.0	3.0	3.0							3.0	3.0
Lane Grp Cap (vph)		1248	684	1294	3190						1337	417
v/s Ratio Prot		0.16		0.28	c0.57							
v/s Ratio Perm			0.20	0.21							0.23	0.15
v/c Ratio		0.67	0.83	0.87	0.91						0.86	0.57
Uniform Delay, d1		37.5	39.4	26.8	17.7						38.5	35.1
Progression Factor		1.00	1.00	0.27	0.70						1.00	1.00
Incremental Delay, d2		2.9	11.4	2.0	1.3						5.7	1.8
Delay (s)		40.3	50.8	9.3	13.7						44.2	36.8
Level of Service		D	D	A	B						D	D
Approach Delay (s)		44.6			12.5			0.0			42.9	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM Average Control Delay	25.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	179	641	0	0	2705	297	984	1074	316	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	5085			6408	1583	3433	3539	1583			
Flt Permitted	0.08	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	278	5085			6408	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	195	697	0	0	2940	323	1070	1167	343	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	6	0	0	146	0	0	0
Lane Group Flow (vph)	195	697	0	0	2940	317	1070	1167	197	0	0	0
Turn Type	pm+pt					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					6	8		8			
Actuated Green, G (s)	56.0	62.0			52.0	52.0	36.0	36.0	36.0			
Effective Green, g (s)	56.0	62.0			52.0	52.0	36.0	36.0	36.0			
Actuated g/C Ratio	0.51	0.56			0.47	0.47	0.33	0.33	0.33			
Clearance Time (s)	6.0				6.0	6.0	6.0	6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	256	2866			3029	748	1124	1158	518			
v/s Ratio Prot	c0.03	0.14			c0.46			c0.33				
v/s Ratio Perm	0.36					0.20	0.31		0.12			
v/c Ratio	0.76	0.24			0.97	0.42	0.95	1.01	0.38			
Uniform Delay, d1	24.6	12.1			28.3	19.1	36.2	37.0	28.4			
Progression Factor	3.57	0.12			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	9.5	0.0			10.8	1.8	16.5	28.4	0.5			
Delay (s)	97.5	1.5			39.1	20.9	52.7	65.4	28.9			
Level of Service	F	A			D	C	D	E	C			
Approach Delay (s)		22.5			37.3			55.3			0.0	
Approach LOS		C			D			E			A	

Intersection Summary			
HCM Average Control Delay	42.2	HCM Level of Service	D
HCM Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	89.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	72	462	44	11	1280	13	146	0	12	0	0	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0				6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00				1.00
Frt	1.00	0.98		1.00	1.00		1.00	0.85				0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00				1.00
Satd. Flow (prot)	1770	4993		1770	5078		1770	1583				1583
Flt Permitted	0.12	1.00		0.42	1.00		0.76	1.00				1.00
Satd. Flow (perm)	220	4993		789	5078		1410	1583				1583
Peak-hour factor, PHF	0.25	0.91	0.63	0.25	0.91	1.00	0.50	1.00	0.25	1.00	1.00	1.00
Adj. Flow (vph)	288	508	70	44	1407	13	292	0	48	0	0	141
RTOR Reduction (vph)	0	21	0	0	1	0	0	37	0	0	0	109
Lane Group Flow (vph)	288	557	0	44	1419	0	292	11	0	0	0	32
Turn Type	pm+pt			pm+pt			Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	48.9	40.6		30.1	27.8		18.0	18.0				18.0
Effective Green, g (s)	48.9	40.6		30.1	27.8		18.0	18.0				18.0
Actuated g/C Ratio	0.62	0.51		0.38	0.35		0.23	0.23				0.23
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0				6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0				3.0
Lane Grp Cap (vph)	433	2569		330	1789		322	361				361
v/s Ratio Prot	c0.13	0.11		0.00	c0.28			0.01				
v/s Ratio Perm	0.28			0.05			c0.21					0.02
v/c Ratio	0.67	0.22		0.13	0.79		0.91	0.03				0.09
Uniform Delay, d1	15.6	10.5		15.5	23.0		29.6	23.7				24.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00				1.00
Incremental Delay, d2	3.8	0.0		0.2	2.5		27.6	0.0				0.1
Delay (s)	19.4	10.5		15.7	25.5		57.2	23.7				24.1
Level of Service	B	B		B	C		E	C				C
Approach Delay (s)		13.5			25.2			52.5			24.1	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM Average Control Delay	24.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	78.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	454	1	0	1123	459	22	0	7	523	0	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0		6.0	6.0	6.0	
Lane Util. Factor	1.00	0.91			0.91	1.00	1.00		1.00	0.95	0.95	
Frt	1.00	1.00			1.00	0.85	1.00		0.85	1.00	0.94	
Flt Protected	0.95	1.00			1.00	1.00	0.95		1.00	0.95	0.97	
Satd. Flow (prot)	1770	5084			5085	1583	1770		1583	1681	1621	
Flt Permitted	0.17	1.00			1.00	1.00	0.95		1.00	0.95	0.97	
Satd. Flow (perm)	323	5084			5085	1583	1770		1583	1681	1621	
Peak-hour factor, PHF	1.00	0.93	1.00	1.00	0.95	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	34	488	1	0	1182	459	88	0	7	523	0	116
RTOR Reduction (vph)	0	0	0	0	0	334	0	0	5	0	31	0
Lane Group Flow (vph)	34	489	0	0	1182	125	88	0	2	324	284	0
Turn Type	pm+pt			pm+pt		Perm	Prot		custom	pm+pt		
Protected Phases	5	2		1	6		4!			3	8!	
Permitted Phases	2			6		6			4	8		
Actuated Green, G (s)	24.6	24.6			17.1	17.1	16.2		16.2	26.2	26.2	
Effective Green, g (s)	24.6	24.6			17.1	17.1	16.2		16.2	26.2	26.2	
Actuated g/C Ratio	0.39	0.39			0.27	0.27	0.26		0.26	0.42	0.42	
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0		6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	161	1992			1385	431	457		408	701	676	
v/s Ratio Prot	0.01	c0.10			c0.23		0.05			c0.03	0.03	
v/s Ratio Perm	0.08					0.08			0.00	0.16	0.15	
v/c Ratio	0.21	0.25			0.85	0.29	0.19		0.00	0.46	0.42	
Uniform Delay, d1	13.6	12.9			21.7	18.1	18.2		17.3	13.2	12.9	
Progression Factor	1.00	1.00			1.00	1.00	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.3			6.9	1.7	0.9		0.0	0.5	0.4	
Delay (s)	14.2	13.1			28.5	19.8	19.1		17.3	13.7	13.3	
Level of Service	B	B			C	B	B		B	B	B	
Approach Delay (s)		13.2			26.1			19.0			13.5	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	20.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	18.0
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	487	47	442	511	0	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0		6.0
Lane Util. Factor	1.00	1.00	0.91	1.00		0.91
Frt	1.00	0.85	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1770	1583	5085	1583		5085
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1770	1583	5085	1583		5085
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	529	51	480	555	0	576
RTOR Reduction (vph)	0	33	0	306	0	0
Lane Group Flow (vph)	529	18	480	249	0	576
Turn Type		Perm		Perm	pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Actuated Green, G (s)	20.1	20.1	26.1	26.1		26.1
Effective Green, g (s)	20.1	20.1	26.1	26.1		26.1
Actuated g/C Ratio	0.35	0.35	0.45	0.45		0.45
Clearance Time (s)	6.0	6.0	6.0	6.0		6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	611	547	2280	710		2280
v/s Ratio Prot	c0.30		0.09			0.11
v/s Ratio Perm		0.01		c0.16		
v/c Ratio	0.87	0.03	0.21	0.35		0.25
Uniform Delay, d1	17.8	12.6	9.8	10.5		10.0
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	12.3	0.0	0.2	1.4		0.3
Delay (s)	30.0	12.6	10.0	11.9		10.3
Level of Service	C	B	A	B		B
Approach Delay (s)	28.5		11.0			10.3
Approach LOS	C		B			B

Intersection Summary			
HCM Average Control Delay	15.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	58.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	47.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	487	678	128	0	354	636	1350	1	34	635	720
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	4.0
Lane Util. Factor		0.95	1.00	1.00		1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt		1.00	0.85	1.00		0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		3539	1583	1770		1583	3433	5085	1583	1770	5085	1583
Flt Permitted		1.00	1.00	0.22		1.00	0.26	1.00	1.00	0.20	1.00	1.00
Satd. Flow (perm)		3539	1583	415		1583	945	5085	1583	365	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.46	0.92	0.64	0.92	0.93	0.83	0.81	0.97	0.92
Adj. Flow (vph)	0	529	737	278	0	553	691	1452	1	42	655	783
RTOR Reduction (vph)	0	0	0	0	0	125	0	0	1	0	0	0
Lane Group Flow (vph)	0	529	737	278	0	428	691	1452	0	42	655	783
Turn Type			Free	pm+pt		Perm	pm+pt		Perm	pm+pt		Free
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases			Free	8		8	2		2	6		Free
Actuated Green, G (s)		16.0	77.4	29.0		29.0	36.4	28.0	28.0	22.8	20.4	77.4
Effective Green, g (s)		16.0	77.4	29.0		29.0	36.4	28.0	28.0	22.8	20.4	77.4
Actuated g/C Ratio		0.21	1.00	0.37		0.37	0.47	0.36	0.36	0.29	0.26	1.00
Clearance Time (s)		6.0		6.0		6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		732	1583	278		593	766	1840	573	151	1340	1583
v/s Ratio Prot		0.15		c0.09			c0.12	0.29		0.01	0.13	
v/s Ratio Perm			0.47	c0.28		0.27	c0.31		0.00	0.07		0.49
v/c Ratio		0.72	0.47	1.00		0.72	0.90	0.79	0.00	0.28	0.49	0.49
Uniform Delay, d1		28.6	0.0	21.7		20.7	14.9	22.1	15.8	20.1	24.1	0.0
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		6.1	1.0	54.0		7.4	13.8	3.5	0.0	1.0	1.3	1.1
Delay (s)		34.7	1.0	75.7		28.2	28.7	25.6	15.8	21.1	25.4	1.1
Level of Service		C	A	E		C	C	C	B	C	C	A
Approach Delay (s)		15.1			44.1			26.6			12.4	
Approach LOS		B			D			C			B	

Intersection Summary			
HCM Average Control Delay	22.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	77.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	384	328	247	698	0	0	0	0	151	1049	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.7	5.7	6.1	6.1					6.7	6.7	
Lane Util. Factor		0.86	1.00	0.97	0.91					0.86	0.86	
Frt		1.00	0.85	1.00	1.00					1.00	0.98	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		6408	1583	3433	5085					1522	4723	
Flt Permitted		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (perm)		6408	1583	3433	5085					1522	4723	
Peak-hour factor, PHF	0.25	0.96	0.75	0.86	0.91	1.00	1.00	1.00	1.00	0.89	0.93	0.68
Adj. Flow (vph)	0	400	437	287	767	0	0	0	0	170	1128	143
RTOR Reduction (vph)	0	0	7	0	0	0	0	0	0	0	15	0
Lane Group Flow (vph)	0	400	430	287	767	0	0	0	0	153	1273	0
Turn Type			Perm	Prot						Perm		
Protected Phases		2		1	1 2						4	
Permitted Phases			2							4		
Actuated Green, G (s)		30.0	30.0	9.4	45.1					32.1	32.1	
Effective Green, g (s)		30.0	30.0	9.4	39.4					32.1	32.1	
Actuated g/C Ratio		0.33	0.33	0.10	0.44					0.36	0.36	
Clearance Time (s)		5.7	5.7	6.1						6.7	6.7	
Vehicle Extension (s)		2.0	2.0	1.0						2.0	2.0	
Lane Grp Cap (vph)		2136	528	359	2226					543	1685	
v/s Ratio Prot		0.06		c0.08	0.15							
v/s Ratio Perm			c0.27							0.10	0.27	
v/c Ratio		0.19	0.81	0.80	0.34					0.28	0.76	
Uniform Delay, d1		21.3	27.4	39.4	16.8					20.7	25.5	
Progression Factor		1.00	1.00	0.55	0.93					1.01	1.03	
Incremental Delay, d2		0.0	8.9	11.0	0.0					0.7	1.6	
Delay (s)		21.3	36.3	32.7	15.6					21.7	28.0	
Level of Service		C	D	C	B					C	C	
Approach Delay (s)		29.2			20.3			0.0			27.3	
Approach LOS		C			C			A			C	

Intersection Summary			
HCM Average Control Delay	25.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	221	284	0	0	441	76	506	860	237	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1			5.7	5.7	6.7	6.7	6.7			
Lane Util. Factor	0.97	0.95			0.91	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	3539			5085	1583	3433	3539	1583			
Flt Permitted	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	3433	3539			5085	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.88	1.00	1.00	0.98	0.86	1.00	1.00	1.00	0.87	0.87	0.75
Adj. Flow (vph)	240	323	0	0	450	88	506	860	237	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	25	0	0	105	0	0	0
Lane Group Flow (vph)	240	323	0	0	450	63	506	860	132	0	0	0
Turn Type	Prot					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases						6	8		8			
Actuated Green, G (s)	7.7	27.5			13.7	13.7	50.1	50.1	50.1			
Effective Green, g (s)	7.7	27.5			13.7	13.7	50.1	50.1	50.1			
Actuated g/C Ratio	0.09	0.31			0.15	0.15	0.56	0.56	0.56			
Clearance Time (s)	6.1				5.7	5.7	6.7	6.7	6.7			
Vehicle Extension (s)	1.0				2.0	2.0	2.0	2.0	2.0			
Lane Grp Cap (vph)	294	1081			774	241	1911	1970	881			
v/s Ratio Prot	c0.07	0.09			c0.09			c0.24				
v/s Ratio Perm						0.04	0.15		0.08			
v/c Ratio	0.82	0.30			0.58	0.26	0.26	0.44	0.15			
Uniform Delay, d1	40.5	23.9			35.5	33.7	10.4	11.7	9.6			
Progression Factor	0.99	0.70			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	15.1	0.1			0.7	0.2	0.3	0.7	0.4			
Delay (s)	55.1	16.7			36.2	33.9	10.7	12.4	10.0			
Level of Service	E	B			D	C	B	B	B			
Approach Delay (s)		33.1			35.8			11.5			0.0	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM Average Control Delay	20.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	221	316	1128	34	0	0	0	0	690	1270	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0	6.0	4.0
Lane Util. Factor		0.95	1.00	0.97	0.95					0.86	0.86	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		3539	1583	3433	3539					1522	4775	1583
Flt Permitted		1.00	1.00	0.60	1.00					0.95	0.99	1.00
Satd. Flow (perm)		3539	1583	2177	3539					1522	4775	1583
Peak-hour factor, PHF	0.25	0.92	0.55	0.92	0.92	0.92	1.00	1.00	0.92	0.92	0.88	0.86
Adj. Flow (vph)	0	240	575	1226	37	0	0	0	0	750	1443	223
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	240	575	1226	37	0	0	0	0	532	1661	223
Turn Type			Free	pm+pt						Perm		Free
Protected Phases		2		1	1 2						4	
Permitted Phases			Free	1 2						4		Free
Actuated Green, G (s)		11.4	90.0	32.4	38.4					39.6	39.6	90.0
Effective Green, g (s)		11.4	90.0	32.4	38.4					39.6	39.6	90.0
Actuated g/C Ratio		0.13	1.00	0.36	0.43					0.44	0.44	1.00
Clearance Time (s)		6.0		6.0						6.0	6.0	
Vehicle Extension (s)		3.0		3.0						3.0	3.0	
Lane Grp Cap (vph)		448	1583	1077	1510					670	2101	1583
v/s Ratio Prot		0.07		c0.27	0.01							
v/s Ratio Perm			c0.36	c0.14						c0.35	0.35	0.14
v/c Ratio		0.54	0.36	1.14	0.02					0.79	0.79	0.14
Uniform Delay, d1		36.8	0.0	27.3	14.9					21.7	21.6	0.0
Progression Factor		1.00	1.00	0.76	1.69					1.00	1.00	1.00
Incremental Delay, d2		1.2	0.6	68.8	0.0					9.4	3.1	0.2
Delay (s)		38.1	0.6	89.5	25.2					31.1	24.8	0.2
Level of Service		D	A	F	C					C	C	A
Approach Delay (s)		11.7			87.6			0.0			23.9	
Approach LOS		B			F			A			C	

Intersection Summary			
HCM Average Control Delay	39.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	221	690	0	0	1128	752	34	1371	1471	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	4.0	6.0	6.0	4.0			
Lane Util. Factor	1.00	0.91			0.91	1.00	1.00	0.91	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	1770	5085			5085	1583	1770	5085	1583			
Flt Permitted	0.15	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	287	5085			5085	1583	1770	5085	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	240	750	0	0	1226	817	37	1490	1599	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	240	750	0	0	1226	817	37	1490	1599	0	0	0
Turn Type	pm+pt					Free	Perm		Free			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					Free	8		Free			
Actuated Green, G (s)	37.0	43.0			26.0	90.0	35.0	35.0	90.0			
Effective Green, g (s)	37.0	43.0			26.0	90.0	35.0	35.0	90.0			
Actuated g/C Ratio	0.41	0.48			0.29	1.00	0.39	0.39	1.00			
Clearance Time (s)	6.0				6.0		6.0	6.0				
Vehicle Extension (s)	3.0				3.0		3.0	3.0				
Lane Grp Cap (vph)	299	2430			1469	1583	688	1978	1583			
v/s Ratio Prot	0.10	0.15			0.24			0.29				
v/s Ratio Perm	0.23					0.52	0.02		c1.01			
v/c Ratio	0.80	0.31			0.83	0.52	0.05	0.75	1.01			
Uniform Delay, d1	32.0	14.4			30.0	0.0	17.2	23.8	45.0			
Progression Factor	0.37	1.96			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	19.3	0.2			5.7	1.2	0.1	2.7	25.1			
Delay (s)	31.2	28.5			35.7	1.2	17.3	26.5	70.1			
Level of Service	C	C			D	A	B	C	E			
Approach Delay (s)		29.1			21.9			48.7			0.0	
Approach LOS		C			C			D			A	

Intersection Summary			
HCM Average Control Delay	36.7	HCM Level of Service	D
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	0.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	37	53	321	114	0	0	0	0	832	1034	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	4.0	5.0	5.0					8.0	8.0	
Lane Util. Factor		0.95	1.00	0.97	0.95					0.97	0.91	
Frt		1.00	0.85	1.00	1.00					1.00	1.00	
Flt Protected		1.00	1.00	0.95	1.00					0.95	1.00	
Satd. Flow (prot)		3539	1583	3433	3539					3433	5082	
Flt Permitted		1.00	1.00	0.72	1.00					0.95	1.00	
Satd. Flow (perm)		3539	1583	2584	3539					3433	5082	
Peak-hour factor, PHF	1.00	0.61	0.81	0.92	0.81	1.00	1.00	1.00	1.00	0.79	0.85	0.50
Adj. Flow (vph)	0	61	65	349	141	0	0	0	0	1053	1216	6
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	1	0
Lane Group Flow (vph)	0	61	65	349	141	0	0	0	0	1053	1221	0
Turn Type			Free	pm+pt						Perm		
Protected Phases		6		5	5 6						8	
Permitted Phases			Free	5 6						8		
Actuated Green, G (s)		7.4	75.0	23.0	28.0					34.0	34.0	
Effective Green, g (s)		7.4	75.0	23.0	28.0					34.0	34.0	
Actuated g/C Ratio		0.10	1.00	0.31	0.37					0.45	0.45	
Clearance Time (s)		5.0		5.0						8.0	8.0	
Vehicle Extension (s)		3.0		3.0						3.0	3.0	
Lane Grp Cap (vph)		349	1583	969	1321					1556	2304	
v/s Ratio Prot		0.02		c0.07	0.04						0.24	
v/s Ratio Perm			0.04	c0.04						c0.31		
v/c Ratio		0.17	0.04	0.36	0.11					0.68	0.53	
Uniform Delay, d1		31.0	0.0	20.7	15.3					16.2	14.8	
Progression Factor		1.00	1.00	0.29	0.71					1.00	1.00	
Incremental Delay, d2		0.2	0.0	0.2	0.0					2.4	0.9	
Delay (s)		31.2	0.0	6.2	10.9					18.5	15.6	
Level of Service		C	A	A	B					B	B	
Approach Delay (s)		15.1			7.5			0.0			17.0	
Approach LOS		B			A			A			B	

Intersection Summary			
HCM Average Control Delay	15.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	3	865	0	0	347	171	59	1450	727	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0			5.0	4.0		8.0	4.0			
Lane Util. Factor	1.00	0.91			0.86	1.00		0.91	1.00			
Frt	1.00	1.00			1.00	0.85		1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (prot)	1770	5085			6408	1583		5074	1583			
Flt Permitted	0.95	1.00			1.00	1.00		1.00	1.00			
Satd. Flow (perm)	1770	5085			6408	1583		5074	1583			
Peak-hour factor, PHF	0.25	0.78	1.00	1.00	0.88	0.64	0.83	0.91	0.92	1.00	1.00	1.00
Adj. Flow (vph)	12	1109	0	0	394	267	71	1593	790	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	12	1109	0	0	394	267	0	1664	790	0	0	0
Turn Type	Prot					Free	Perm		Free			
Protected Phases	1	1 2			2			4				
Permitted Phases						Free	4		Free			
Actuated Green, G (s)	8.0	31.0			18.0	75.0		31.0	75.0			
Effective Green, g (s)	8.0	31.0			18.0	75.0		31.0	75.0			
Actuated g/C Ratio	0.11	0.41			0.24	1.00		0.41	1.00			
Clearance Time (s)	5.0				5.0			8.0				
Vehicle Extension (s)	3.0				3.0			3.0				
Lane Grp Cap (vph)	189	2102			1538	1583		2097	1583			
v/s Ratio Prot	0.01	c0.22			0.06							
v/s Ratio Perm						0.17		0.33	c0.50			
v/c Ratio	0.06	0.53			0.26	0.17		0.79	0.50			
Uniform Delay, d1	30.1	16.5			23.1	0.0		19.2	0.0			
Progression Factor	1.47	1.85			1.00	1.00		1.00	1.00			
Incremental Delay, d2	0.5	0.7			0.4	0.2		3.2	1.1			
Delay (s)	44.9	31.3			23.5	0.2		22.4	1.1			
Level of Service	D	C			C	A		C	A			
Approach Delay (s)		31.5			14.1			15.5			0.0	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	707	335	474	870	0	0	0	0	61	671	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0						6.0	6.0
Lane Util. Factor		0.91	0.88	0.97	0.91						0.91	1.00
Frt		1.00	0.85	1.00	1.00						1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00						1.00	1.00
Satd. Flow (prot)		5085	2787	3433	5085						5064	1583
Flt Permitted		1.00	1.00	0.33	1.00						1.00	1.00
Satd. Flow (perm)		5085	2787	1176	5085						5064	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	768	364	515	946	0	0	0	0	66	729	254
RTOR Reduction (vph)	0	0	43	0	0	0	0	0	0	0	0	60
Lane Group Flow (vph)	0	768	321	515	946	0	0	0	0	0	795	194
Turn Type			Perm	pm+pt						Perm		Perm
Protected Phases		2		1	1 2						4	
Permitted Phases			2	1 2						4		4
Actuated Green, G (s)		16.6	16.6	21.6	27.6						15.4	15.4
Effective Green, g (s)		16.6	16.6	21.6	27.6						15.4	15.4
Actuated g/C Ratio		0.30	0.30	0.39	0.50						0.28	0.28
Clearance Time (s)		6.0	6.0	6.0							6.0	6.0
Vehicle Extension (s)		3.0	3.0	3.0							3.0	3.0
Lane Grp Cap (vph)		1535	841	667	2552						1418	443
v/s Ratio Prot		0.15		c0.07	0.19							
v/s Ratio Perm			0.12	c0.23							0.16	0.12
v/c Ratio		0.50	0.38	0.77	0.37						0.56	0.44
Uniform Delay, d1		15.8	15.1	16.1	8.4						16.9	16.2
Progression Factor		1.00	1.00	1.17	0.97						1.00	1.00
Incremental Delay, d2		1.2	1.3	4.8	0.1						0.5	0.7
Delay (s)		17.0	16.5	23.5	8.2						17.4	16.9
Level of Service		B	B	C	A						B	B
Approach Delay (s)		16.8			13.6			0.0			17.3	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	15.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	214	555	0	0	920	44	424	668	222	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	6.0			
Lane Util. Factor	0.97	0.91			0.86	1.00	0.97	0.95	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (prot)	3433	5085			6408	1583	3433	3539	1583			
Flt Permitted	0.25	1.00			1.00	1.00	0.95	1.00	1.00			
Satd. Flow (perm)	898	5085			6408	1583	3433	3539	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	233	603	0	0	1000	48	461	726	241	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	34	0	0	158	0	0	0
Lane Group Flow (vph)	233	603	0	0	1000	14	461	726	83	0	0	0
Turn Type	pm+pt					Perm	Perm		Perm			
Protected Phases	5	5 6			6			8				
Permitted Phases	5 6					6	8		8			
Actuated Green, G (s)	21.6	27.6			16.1	16.1	15.4	15.4	15.4			
Effective Green, g (s)	21.6	27.6			16.1	16.1	15.4	15.4	15.4			
Actuated g/C Ratio	0.39	0.50			0.29	0.29	0.28	0.28	0.28			
Clearance Time (s)	6.0				6.0	6.0	6.0	6.0	6.0			
Vehicle Extension (s)	3.0				3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)	606	2552			1876	463	961	991	443			
v/s Ratio Prot	0.04	c0.12			c0.16			c0.21				
v/s Ratio Perm	0.11					0.01	0.13		0.05			
v/c Ratio	0.38	0.24			0.53	0.03	0.48	0.73	0.19			
Uniform Delay, d1	10.9	7.7			16.3	13.9	16.5	17.9	15.0			
Progression Factor	1.39	0.14			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	0.4	0.0			1.1	0.1	0.4	2.8	0.2			
Delay (s)	15.5	1.1			17.4	14.0	16.8	20.8	15.3			
Level of Service	B	A			B	B	B	C	B			
Approach Delay (s)		5.1			17.2			18.6			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	14.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	440	7	3	462	14	8	0	1	0	0	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0				6.0
Lane Util. Factor	1.00	0.91		1.00	0.91		1.00	1.00				1.00
Frt	1.00	1.00		1.00	1.00		1.00	0.85				0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00				1.00
Satd. Flow (prot)	1770	5068		1770	5065		1770	1583				1583
Flt Permitted	0.32	1.00		0.46	1.00		1.00	1.00				1.00
Satd. Flow (perm)	598	5068		859	5065		1863	1583				1583
Peak-hour factor, PHF	0.25	0.91	0.63	0.25	0.91	1.00	0.50	1.00	0.25	1.00	1.00	1.00
Adj. Flow (vph)	324	484	11	12	508	14	16	0	4	0	0	74
RTOR Reduction (vph)	0	3	0	0	4	0	0	4	0	0	0	69
Lane Group Flow (vph)	324	492	0	12	518	0	16	0	0	0	0	5
Turn Type	pm+pt			pm+pt			Perm			Perm		Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	30.8	24.2		15.7	15.1		3.3	3.3				3.3
Effective Green, g (s)	30.8	24.2		15.7	15.1		3.3	3.3				3.3
Actuated g/C Ratio	0.67	0.52		0.34	0.33		0.07	0.07				0.07
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0				6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0				3.0
Lane Grp Cap (vph)	646	2660		304	1659		133	113				113
v/s Ratio Prot	c0.11	0.10		0.00	0.10			0.00				
v/s Ratio Perm	c0.23			0.01			c0.01					0.00
v/c Ratio	0.50	0.19		0.04	0.31		0.12	0.00				0.05
Uniform Delay, d1	3.7	5.8		10.1	11.6		20.0	19.9				19.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00				1.00
Incremental Delay, d2	0.6	0.0		0.1	0.1		0.4	0.0				0.2
Delay (s)	4.4	5.8		10.1	11.7		20.4	19.9				20.1
Level of Service	A	A		B	B		C	B				C
Approach Delay (s)		5.2			11.7			20.3			20.1	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM Average Control Delay	8.6	HCM Level of Service	A
HCM Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	46.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	32.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	87	349	0	0	395	536	5	0	0	464	0	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0			6.0	6.0	
Lane Util. Factor	1.00	0.91			0.91	1.00	1.00			0.95	0.95	
Frt	1.00	1.00			1.00	0.85	1.00			1.00	0.98	
Flt Protected	0.95	1.00			1.00	1.00	0.95			0.95	0.96	
Satd. Flow (prot)	1770	5085			5085	1583	1770			1681	1660	
Flt Permitted	0.37	1.00			1.00	1.00	0.95			0.95	0.96	
Satd. Flow (perm)	689	5085			5085	1583	1770			1681	1660	
Peak-hour factor, PHF	1.00	0.93	1.00	1.00	0.95	1.00	0.25	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	87	375	0	0	416	536	20	0	0	464	0	37
RTOR Reduction (vph)	0	0	0	0	0	393	0	0	0	0	10	0
Lane Group Flow (vph)	87	375	0	0	416	143	20	0	0	251	240	0
Turn Type	pm+pt			pm+pt		Perm	Prot		custom	pm+pt		
Protected Phases	5	2		1	6		4!			3	8!	
Permitted Phases	2			6		6			4	8		
Actuated Green, G (s)	26.2	26.2			17.1	17.1	16.1			26.1	26.1	
Effective Green, g (s)	26.2	26.2			17.1	17.1	16.1			26.1	26.1	
Actuated g/C Ratio	0.41	0.41			0.27	0.27	0.25			0.41	0.41	
Clearance Time (s)	6.0	6.0			6.0	6.0	6.0			6.0	6.0	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0			3.0	3.0	
Lane Grp Cap (vph)	333	2072			1352	421	443			682	674	
v/s Ratio Prot	0.01	c0.07			0.08		0.01			c0.02	0.02	
v/s Ratio Perm	0.09					c0.09				0.13	0.12	
v/c Ratio	0.26	0.18			0.31	0.34	0.05			0.37	0.36	
Uniform Delay, d1	12.2	12.2			18.9	19.0	18.3			13.3	13.3	
Progression Factor	1.00	1.00			1.00	1.00	1.00			1.00	1.00	
Incremental Delay, d2	0.4	0.2			0.6	2.2	0.2			0.3	0.3	
Delay (s)	12.6	12.4			19.5	21.2	18.5			13.7	13.6	
Level of Service	B	B			B	C	B			B	B	
Approach Delay (s)		12.4			20.4			18.5			13.6	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	64.3	Sum of lost time (s)	18.0
Intersection Capacity Utilization	48.1%	ICU Level of Service	A
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	620	76	557	751	0	501
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0		6.0
Lane Util. Factor	1.00	1.00	0.91	1.00		0.91
Frt	1.00	0.85	1.00	0.85		1.00
Flt Protected	0.95	1.00	1.00	1.00		1.00
Satd. Flow (prot)	1770	1583	5085	1583		5085
Flt Permitted	0.95	1.00	1.00	1.00		1.00
Satd. Flow (perm)	1770	1583	5085	1583		5085
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	674	83	605	816	0	545
RTOR Reduction (vph)	0	49	0	462	0	0
Lane Group Flow (vph)	674	34	605	354	0	545
Turn Type		Perm		Perm	pm+pt	
Protected Phases	8		2		1	6
Permitted Phases		8		2	6	
Actuated Green, G (s)	29.8	29.8	32.0	32.0		32.0
Effective Green, g (s)	29.8	29.8	32.0	32.0		32.0
Actuated g/C Ratio	0.40	0.40	0.43	0.43		0.43
Clearance Time (s)	6.0	6.0	6.0	6.0		6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	715	639	2205	686		2205
v/s Ratio Prot	c0.38		0.12			0.11
v/s Ratio Perm		0.02		c0.22		
v/c Ratio	0.94	0.05	0.27	0.52		0.25
Uniform Delay, d1	21.2	13.4	13.4	15.2		13.3
Progression Factor	1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	20.7	0.0	0.3	2.8		0.3
Delay (s)	41.9	13.4	13.7	18.0		13.5
Level of Service	D	B	B	B		B
Approach Delay (s)	38.8		16.2			13.5
Approach LOS	D		B			B

Intersection Summary			
HCM Average Control Delay	21.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	73.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	514	748	15	0	25	872	496	14	18	476	1097
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	4.0
Lane Util. Factor		0.95	1.00	1.00		1.00	0.97	0.91	1.00	1.00	0.91	1.00
Frt		1.00	0.85	1.00		0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95		1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)		3539	1583	1770		1583	3433	5085	1583	1770	5085	1583
Flt Permitted		1.00	1.00	0.26		1.00	0.34	1.00	1.00	0.44	1.00	1.00
Satd. Flow (perm)		3539	1583	478		1583	1219	5085	1583	826	5085	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.46	0.92	0.64	0.92	0.93	0.83	0.81	0.97	0.92
Adj. Flow (vph)	0	559	813	33	0	39	948	533	17	22	491	1192
RTOR Reduction (vph)	0	0	0	0	0	25	0	0	10	0	0	0
Lane Group Flow (vph)	0	559	813	33	0	14	948	533	7	22	491	1192
Turn Type			Free	pm+pt		Perm	pm+pt		Perm	pm+pt		Free
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases			Free	8		8	2		2	6		Free
Actuated Green, G (s)		22.0	82.2	29.6		29.6	40.6	33.0	33.0	21.2	19.6	82.2
Effective Green, g (s)		22.0	82.2	29.6		29.6	40.6	33.0	33.0	21.2	19.6	82.2
Actuated g/C Ratio		0.27	1.00	0.36		0.36	0.49	0.40	0.40	0.26	0.24	1.00
Clearance Time (s)		6.0		6.0		6.0	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		947	1583	197		570	1006	2041	636	231	1212	1583
v/s Ratio Prot		0.16		0.00			c0.17	0.10		0.00	0.10	
v/s Ratio Perm			0.51	0.06		0.01	c0.29		0.00	0.02		c0.75
v/c Ratio		0.59	0.51	0.17		0.02	0.94	0.26	0.01	0.10	0.41	0.75
Uniform Delay, d1		26.2	0.0	18.0		17.0	15.7	16.4	14.8	22.9	26.4	0.0
Progression Factor		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2		2.7	1.2	0.4		0.1	16.3	0.3	0.0	0.2	1.0	3.4
Delay (s)		28.9	1.2	18.4		17.1	31.9	16.8	14.8	23.1	27.4	3.4
Level of Service		C	A	B		B	C	B	B	C	C	A
Approach Delay (s)		12.5			17.7			26.3			10.5	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM Average Control Delay	16.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	82.2	Sum of lost time (s)	0.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			