Liberty Triangle Car Wash Development

TRAFFIC IMPACT STUDY

December 11, 2019

Prepared For:
Star Development Corporation
244 West Mill Street, Suite 101
Liberty, MO 64068

Prepared By:
Priority Engineers, Inc.
PO Box 563
Garden City, MO 64747

December 11, 2019

Mr. Tim Harris
Star Development Corporation
244 West Mill St, Ste 101
Liberty, MO 64068

Re: Liberty Triangle Car Wash Traffic Impact Study – Liberty, MO

Dear Mr. Harris:

In response to your request, Priority Engineers, Inc. has completed a traffic impact study for the above referenced project. The purpose of the analysis is to determine the potential traffic impacts associated with this development on the intersections and streets surrounding this site, primarily during the AM and PM peak hours. The following report documents our analysis and recommendations.

We appreciate the opportunity to work with you on this project. Please contact us with any questions or if you require additional information.

Sincerely,

PRIORITY ENGINEERS, INC.

Kristin L. Skinner, P.E., PTOE
President

Priority Engineers, Inc.
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816.738.4400

Table of Contents

1) INTRODUCTION

The purpose of this study is to examine the potential traffic impacts associated with the proposed Liberty Triangle Car Wash Development in Liberty, Missouri. In addition to the proposed car wash, two additional buildings are planned which are expected to contain a bank and a retail store. The site is located to the southwest of Missouri 291 Highway between College Street and Blue Jay Drive within the Liberty Triangle development. Access to the site will be onto from Blue Jay Drive, cross-access to College Street, and through a deeded access point onto Missouri 291 Highway.

The study area is shown in Figure 1. The site layout is shown in Figure 2.

2) EXISTING CONDITIONS

The existing site is located to the south of the intersection of Blue Jay Drive and Missouri 291 Highway on a vacant parcel within the Liberty Triangle development. Existing curb cuts have been established into the property from Blue Jay Drive as well as cross-access to the south.

Missouri 291 Highway is a five lane roadway adjacent to this property with two lanes in each direction and a two-way left turn lane (TWLTL). Southbound along Missouri 291 Highway between Blue Jay Drive and College Street, there is an additional through lane that ends as a right turn lane at College Street. The Mid-America Regional Council (MARC) has given this portion of Missouri 291 a functional classification of Freeway/Expressway. The posted speed limit is 45 miles per hour to the northwest and lowers to 40 miles per hour just south of Blue Jay Drive. Stewart Road, Blue Jay Drive, and College Street are classified by MARC as local streets. Stewart Road has a posted speed limit of 35 miles per hour while Blue Jay Drive and College Street are both posted as 30 miles per hour.

The site is within the existing Liberty Triangle development and is surrounded by primarily retail uses. On the west side of Blue Jay Drive there is an existing RV park. West of the Liberty Triangle development is Interstate 35, and to the south is Missouri 152 Highway, also known as Kansas Street.

Peak Hour turning movement traffic counts for the intersections of Missouri Highway 291 with Stewart Road, Blue Jay Drive, and College Street were collected in November of this year from 6:30 to 8:30 AM and from 4:00 to 6:00 PM on a typical weekday. The peak hours were determined to be from 7:15 to 8:15 AM and from 4:45 to 5:45 PM. Additional counts were collected at Stewart Road and Blue Jay Drive and will be discussed further in the following section. The complete traffic counts are shown in Appendix II. The peak hour traffic volumes and existing lane configurations are shown in Figures 3-7.

3) STEWART ROAD INTERSECTION CLOSURE & SIGNAL WARRANTS

The City of Liberty has indicated that there are plans to close the intersection of Stewart Road and Missouri 291 Highway. Stewart Road will end in a cul-de-sac until such a time when a connecting road can be constructed north of the existing Miller's Kampark site.

Thirteen hour counts were completed at both the Stewart Road and Missouri 291 Highway intersection and the Blue Jay Drive and Missouri 291 Highway intersection. The Stewart Road intersection currently meets the Manual on Uniform Traffic Control Devices (MUTCD) Warrant 3, the Peak Hour Warrant, is within 2 cars of meeting Warrant 2, the Four-Hour Warrant, and

meets 7 of the 8 hours for Warrant 1 Condition B, the Eight Hour Warrant. The Blue Jay Drive intersection does not meet any signal warrants in the existing conditions.

When the connecting roadway has been constructed to the north of the existing Miller's Kampark site, it could be assumed that 100% of the existing Stewart Road traffic would utilize the Blue Jay Drive intersection with Missouri 291. Prior to this connecting road being constructed, some of the diverted Stewart Road traffic may utilize the College Street intersection with Missouri 291 instead. The assumption was made that 65% of the Stewart Road traffic will utilize Blue Jay Drive with the remaining utilizing College Street. These redistributed traffic volumes can be seen in Figures 7 and 8.

Table 1 below summarizes the signal warrants related to Stewart Road and Blue Jay Drive associated with the closure of Steward Road. With 100% of the Stewart Road traffic diverted to Blue Jay Drive, the intersection exceeds the 8 hour signal warrant. Assuming only 65% of the diverted traffic volumes utilize Blue Jay Drive, the intersection meets the peak hour warrant, the four hour warrant, and is within 5 vehicles of meeting the 8th hour for the 8 hour warrant.

If the Stewart Road closure is delayed, the intersection of Blue Jay Drive and Missouri 291 Highway is not expected to meet signal warrants due to the proposed Car Wash development.

Table 1: Signal Warrants

Intersection	Warrant	Met?	Notes
Existing MO 291 & Stewart	Peak Hour 4 Hour 8 Hour, Condition B	Yes 3 hours met 7 hours met	2 vehicles from meeting 4th Hour
Existing MO 291 & Blue Jay	Peak Hour 4 Hour 8 Hour	No No No	
Blue Jay & Stewart Combined Volumes (No Build)	Peak Hour 4 Hour 8 Hour, Condition B	8 hours met 8 hours met 9 hours met	
Blue Jay + 65% Stewart Traffic Volumes (No Build)	Peak Hour 4 Hour 8 Hour, Condition B	7 hours met 6 hours met 7 hours met	5 vehicles from meeting 8th hour
MO 291 & Blue Jay + Car Wash Development (Stewart Road still open)	Peak Hour	No	

4) PROPOSED DEVELOPMENT

The proposed site plan is shown in Figure 2. The proposed car wash will be a total of 7,600 square feet. The proposed bank will be 3,600 square feet, and the retail or medical office will be 10,000 square feet. An access will be constructed directly onto Missouri 291 Highway between Blue Jay Drive and College Street opposite the existing car wash drive on the northeast side of Missouri 291. This proposed access will primarily serve the retail and bank sites. The car wash will primarily have access off of Blue Jay Drive.

5) TRIP GENERATION

The vehicle trips generated by the proposed development were estimated using the Institute of Transportation Engineers' Trip Generation, 10th Edition. Land Uses 948, Automated Car Wash, and 949, Car Wash and Detail Center, were both considered for the car wash site. Land Use 949 provides data based only on wash stalls. The proposed car wash has a single lane in, but the building can service multiple vehicles at once. Land Use 948 provided information based on the square footage of the car wash, but did not have daily or AM Peak Hour traffic volumes available. Land use 948 was utilized for the PM Peak Hour, and land use 949 was utilized for the AM Peak Hour and daily traffic volumes. It was determined that a Car Wash and Detail Center (Land Use 949) with 8 wash stalls generated a similar traffic volume in the PM Peak Hour to a 7600 square foot Automated Car Wash (Land Use 948). Therefore, when utilizing Land Use 949 for the AM Peak and daily volumes, 8 stalls were assumed.

Land Use 912, Dive-in Bank was used for the bank site. Land Use 820, Shopping Center, was used for the 10,000 square foot building. This provided a more conservative, higher volume, estimation of proposed traffic than a Medical/Dental Office which has 18% of the total volume of a similarly sized Shopping Center in the AM Peak Hour and 36% in the PM Peak Hour.

The estimated AM and PM peak hour traffic volumes associated with this development are shown in Table 2.

Table 2: Trip Generation

			AM Peak			PM Peak		
Land Use	***Intensity***	***Daily***	***Total***	***In***	***Out***	***Total***	***In***	***Out***
Car Wash and Detail Center	7,600 SF	1250	69	43	26	108	54	54
Drive-in Bank	3,600 SF	415	34	20	14	74	37	37
Shopping Center	10,000 SF	1256	157	97	60	99	47	52
Total		**2,921**	**260**	**160**	**100**	**281**	**138**	**143**

6) PASS-BY TRIPS

Pass-by trips are made as intermediate stops on the way from an origin to a primary trip destination without a route diversion. For this site, pass-by trips will be those vehicles already traveling along Missouri 291 Highway. Chapter 10 and Appendix E of the ITE *Trip Generation*

Handbook, 3rd Edition was consulted in estimating these trips, and the average pass-by rate was used. For the Drive-In Bank, 29% was used in the AM Peak Hour, and 35% in the PM Peak Hour. For the Shopping Center, a 34% pass-by rate was used in the PM Peak Hour. For all uses, the same number of entering and exiting pass-by trips were assumed, based on the smaller of the entering or exiting volume for each use.

Trip Generation volumes were adjusted as shown in Table 3 below to reflect pass-by trips.

Table 3: Trip Generation with Pass-By Reduction

Land Use	Intensity	ITE Code	AM Peak			PM Peak		
			Total	In	Out	Total	In	Out
Car Wash and Detail Center	7,600 SF	948/949	69	43	26	108	54	54
Drive-in Bank	3,600 SF	912	34	20	14	74	37	37
			-8	*-4*	*-4*	*-26*	*-13*	*-13*
Shopping Center	10,000 SF	820	157	97	60	99	47	52
						-32	*-16*	*-16*
Subtotal			**260**	**160**	**100**	**281**	**138**	**143**
Pass-By Trips			***-8***	***-4***	***-4***	***-58***	***-29***	***-29***
Total New Trips			**252**	**156**	**96**	**223**	**109**	**114**

7) TRIP DISTRIBUTION AND ASSIGNMENT

Trips generated by the proposed Liberty Triangle Car Wash development were distributed based on existing traffic flows and a general analysis of the surrounding area. The trips were distributed onto the existing street system approximately as follows:

- 40 percent to/from the north on Missouri 291 Highway
- 25 percent to/from the south on Missouri 291 Highway
- 10 percent to/from the east on College Street/Forest Avenue
- 25 percent to/from the south through the existing Liberty Triangle Development

Pass-by Trips were distributed in the following way based on existing traffic volumes.

In the AM Peak Hour:
- 50 percent northbound on Missouri 291 Highway
- 50 percent southbound on Missouri 291 Highway

In the PM Peak Hour:
- 62 percent northbound on Missouri 291 Highway
- 38 percent southbound on Missouri 291 Highway

The proposed trips are shown in Figures 13 and 14.

8) LEVEL OF SERVICE AND VOLUME/CAPACITY ANALYSES

Capacity analysis was used to quantify the impacts of the increased traffic on the intersections studied. The methodology outlined in the Highway Capacity Manual, 6th Edition, was used as a basis to perform the analysis for this study. Capacity analysis defines the quality of traffic operation for an intersection using a grading system called Level of Service (LOS). The LOS is defined in terms of average vehicle delay. Levels of service A through F have been established with A representing the best and F the worst.

Table 4: Level of Service Definitions

Level of Service	*Unsignalized Intersection*	*Signalized Intersection*
A	< 10 Seconds	< 10 Seconds
B	< 15 Seconds	< 20 Seconds
C	< 25 Seconds	< 35 Seconds
D	< 35 Seconds	< 55 Seconds
E	< 50 Seconds	< 80 Seconds
F	≥ 50 Seconds	≥ 80 Seconds

The study intersections were evaluated using Synchro, an analysis package based in part on Highway Capacity Manual methods. The analysis reports are included in Appendix II. Signal timing was based upon a 100 second cycle length in the AM Peak Hour and a 120 second cycle length in the PM Peak Hour.

Existing Conditions

The levels of service, lane configuration, and queue lengths for the existing conditions are shown in Figures 5 and 6 in Appendix I. The overall level of service at the signalized intersection of Missouri 291 Highway and College Street is a B in the AM Peak Hour and a C in the PM Peak Hour. The Stewart Road stop controlled movement exiting the Liberty Triangle Development is an E in the AM Peak Hour and a F in the PM Peak Hour. The intersection of Blue Jay Drive and Missouri 291 Highway functions well in both peak hours with levels of service of C or better and design queues of less than one vehicle.

Existing Traffic Volumes following Stewart Road Closure

This scenario represents the existing traffic volumes following the Stewart Road closure. As discussed in Section 3, it was assumed that 65% of the Stewart Road traffic will be diverted through Blue Jay Drive, with the remaining utilizing College Street.

A traffic signal is recommended at Blue Jay Drive when Stewart Road is closed. Figures 9 and 10 illustrate the levels of service, lane configuration and queue lengths for this condition. Both signals function at an overall level of service B in the AM Peak Hour. In the PM Peak Hour, Blue Jay Drive will function at an overall level of service B and College Street will remain at an overall level of service C.

In addition to the signal scenario, a scenario was modeled in which a traffic signal is not installed at the intersection of Blue Jay Drive and Missouri 291 Highway. This scenario is shown in Figures 11 and 12.

Proposed Conditions

This scenario represents the existing traffic volumes following the Steward Road closure combined with the proposed development. The bank and retail portions of the site are assumed to use proposed Drive 1 while the Car Wash traffic will primarily access Blue Jay Drive.

Both signals function at an overall level of service B in the AM Peak Hour. In the PM Peak Hour, Blue Jay Drive will function at an overall level of service B and College Street will remain at an overall level of service C. Proposed Drive 1 will be stop controlled, with the stop controlled movement functioning at a level of service C in the AM Peak Hour and a D in the PM Peak Hour. The maximum design queue length for this movement is less than two vehicles.

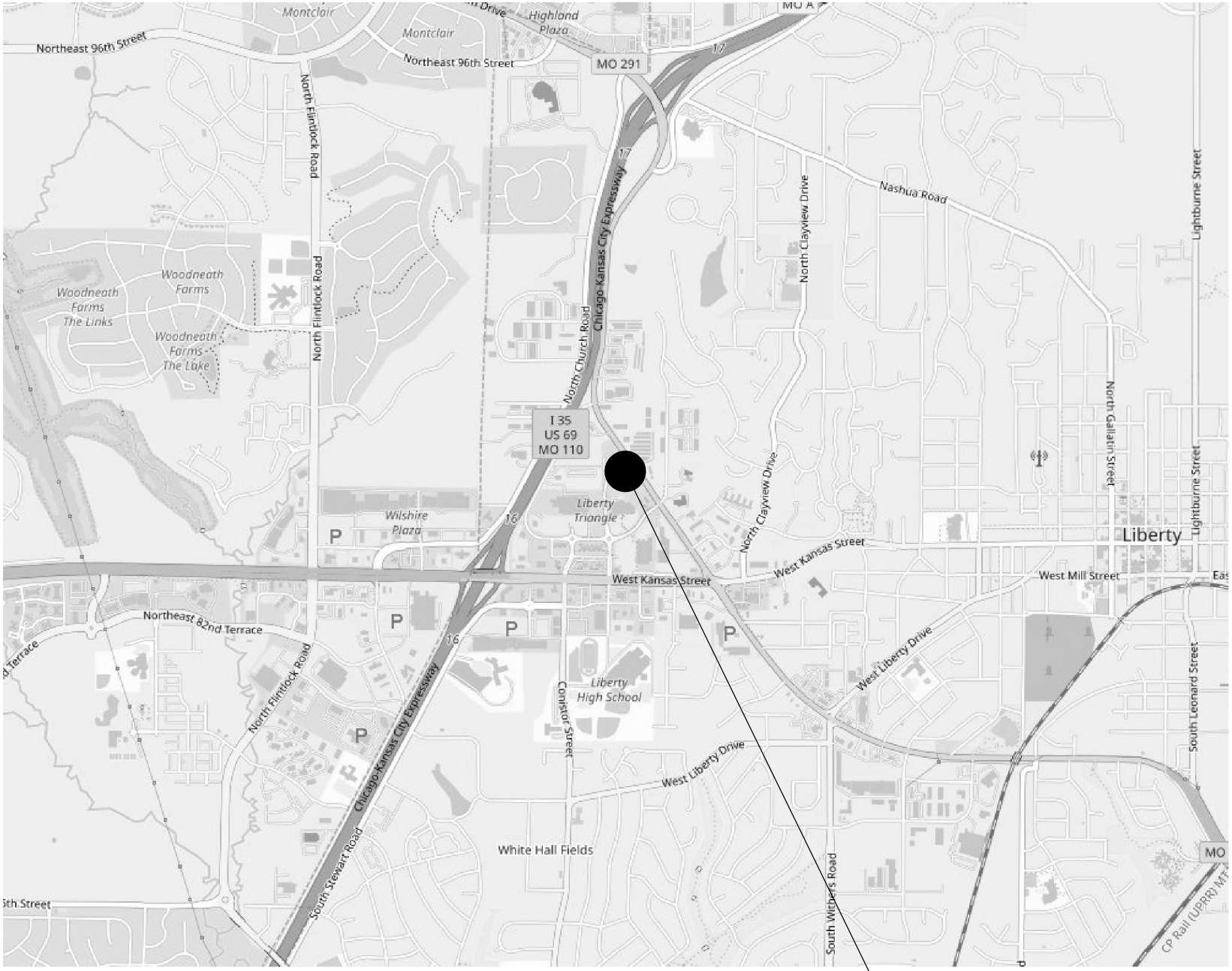
Levels of service, lane configuration and design queue lengths for the proposed conditions are shown in Figures 15-18.

9) RECOMMENDATIONS & CONCLUSIONS

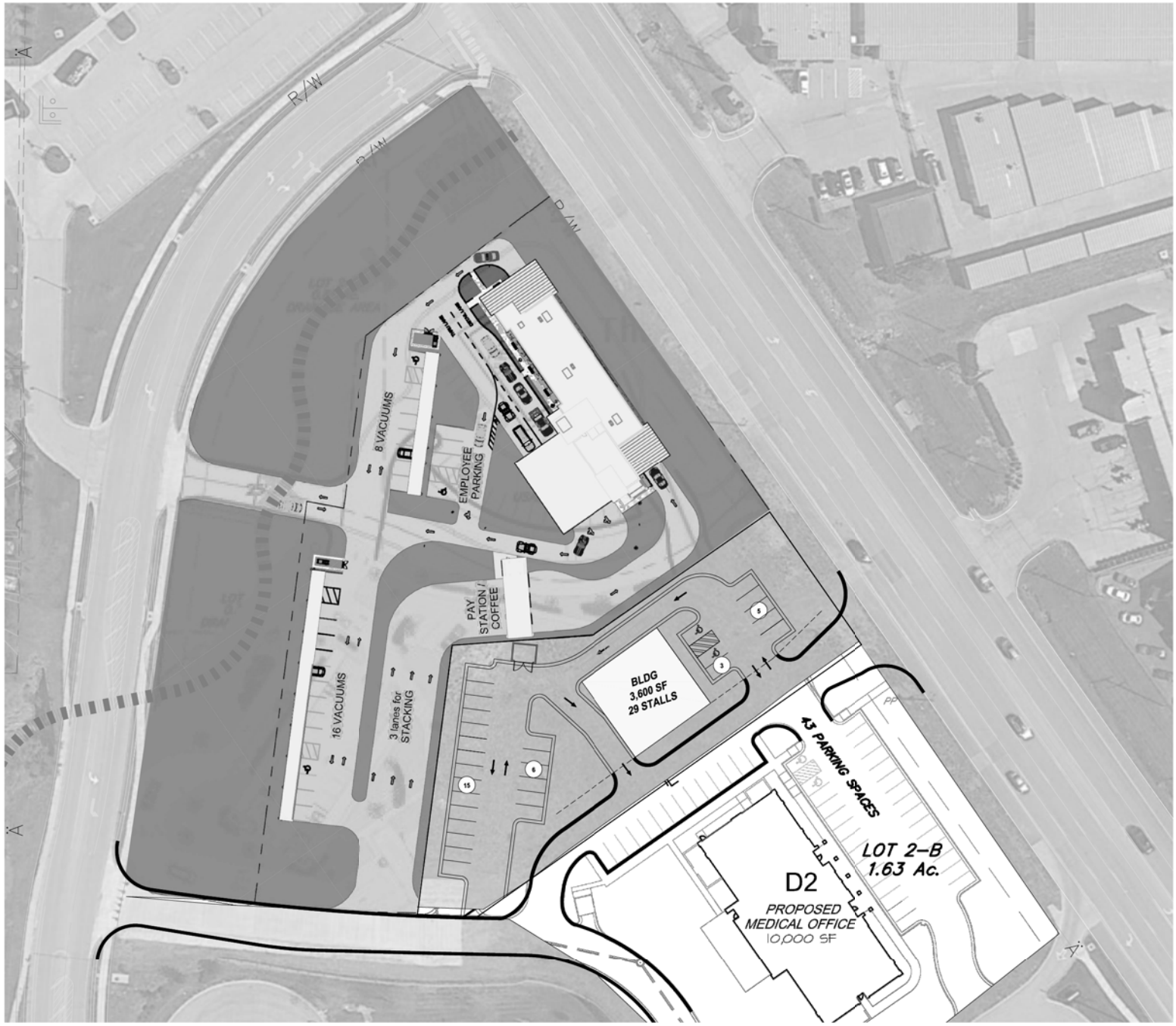
This study documents the impact of the proposed Liberty Triangle Car Wash Development on adjacent intersections during the AM and PM peak hours. Based on the findings of this report, it is recommended that traffic signal be constructed when Stewart Drive is closed. This recommendation is not based on the development, but on the existing traffic volumes at Stewart Road.

No improvements are necessary as a result of this development.

APPENDIX I



Project Location	Liberty Triangle Car Wash Liberty, MO	No Scale Figure 1	Priority Engineers PO Box 563 Garden City, MO 64747 816.738.4400



Site Plan

Liberty Triangle Car Wash
Liberty, MO

No Scale

Figure 2

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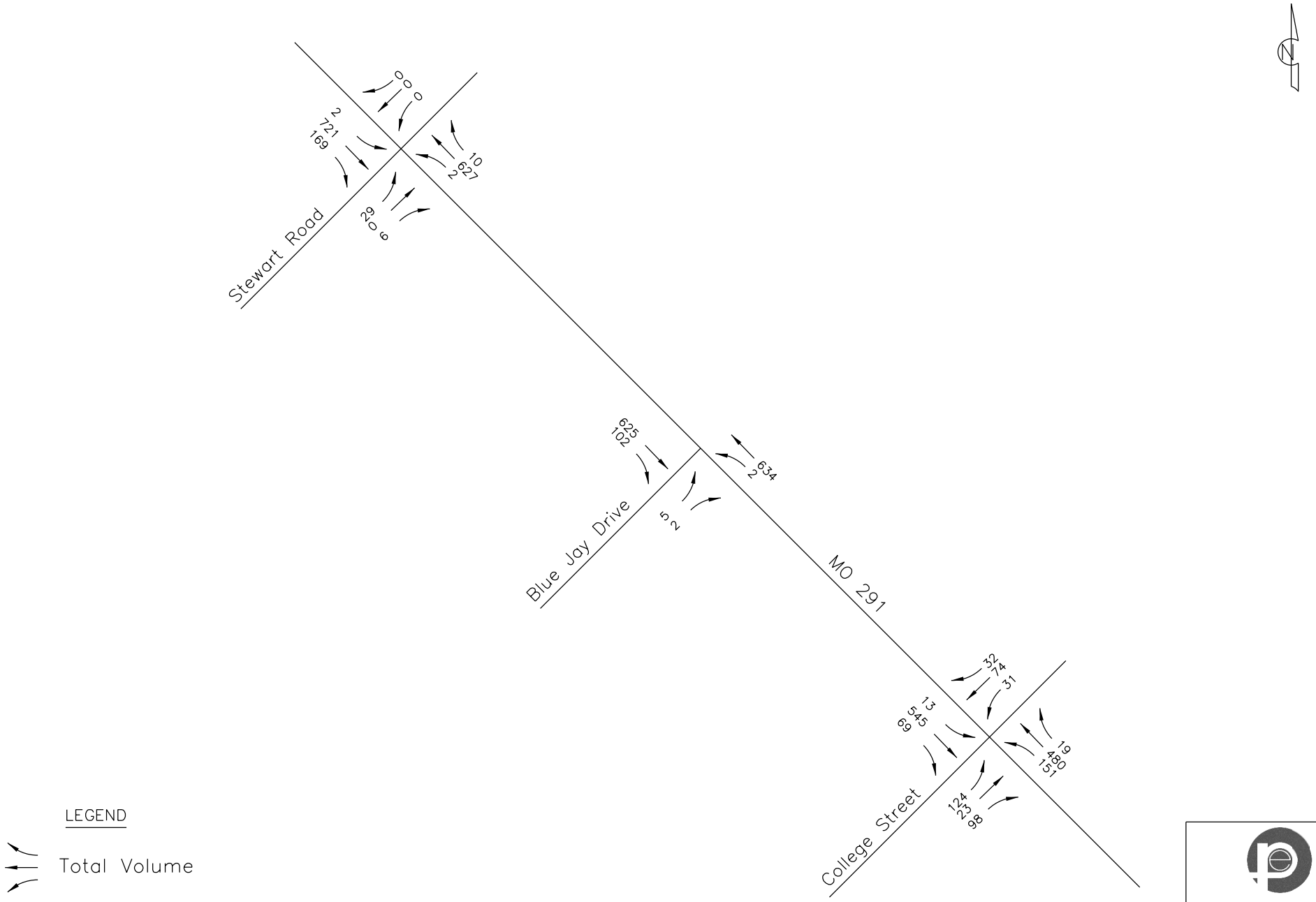

Existing AM Peak Hour
Traffic Volumes

Liberty Triangle Car Wash
Liberty, MO

No Scale

Figure 3

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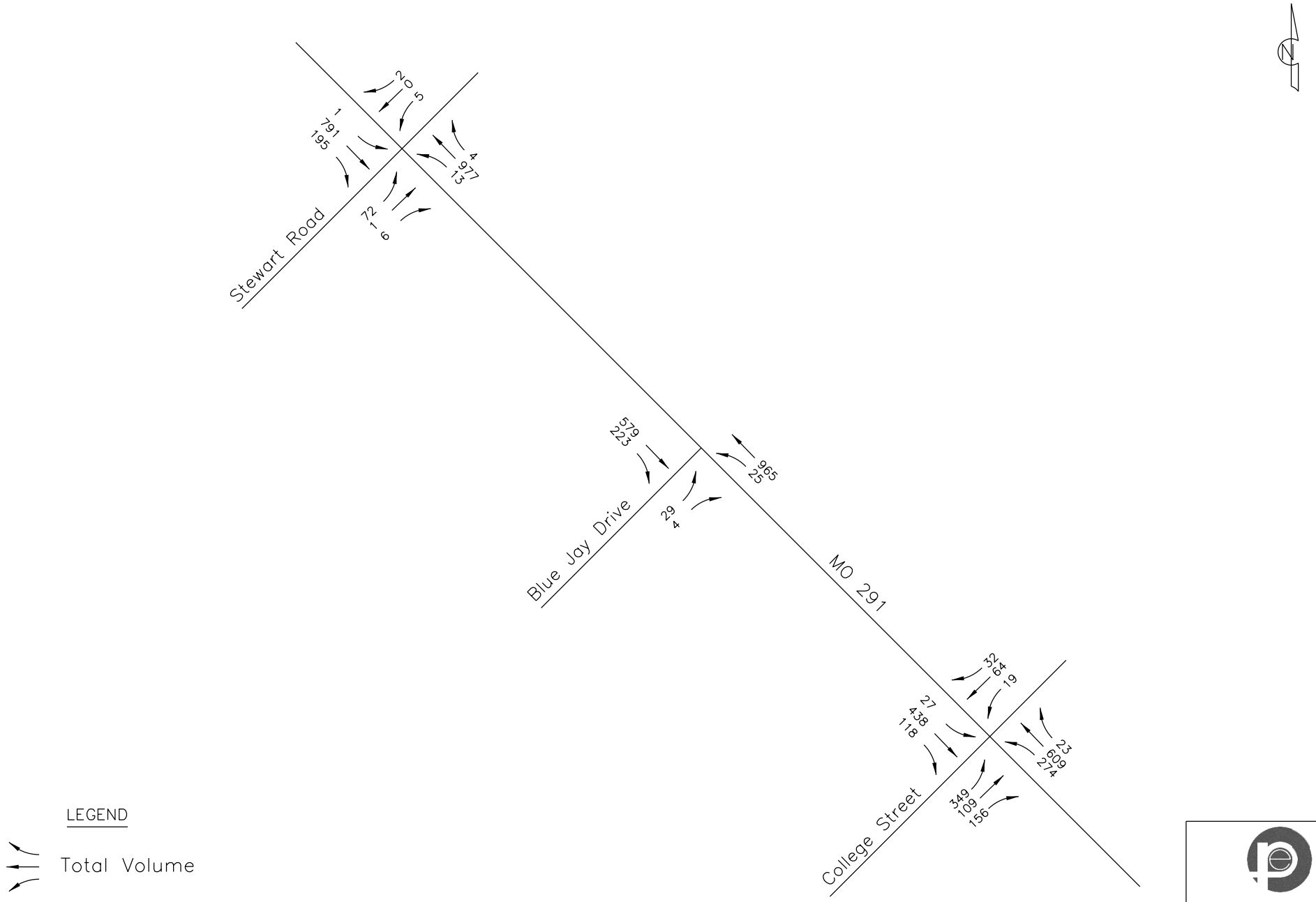

Existing PM Peak Hour Traffic Volumes	Liberty Triangle Car Wash Liberty, MO	No Scale	Figure 4

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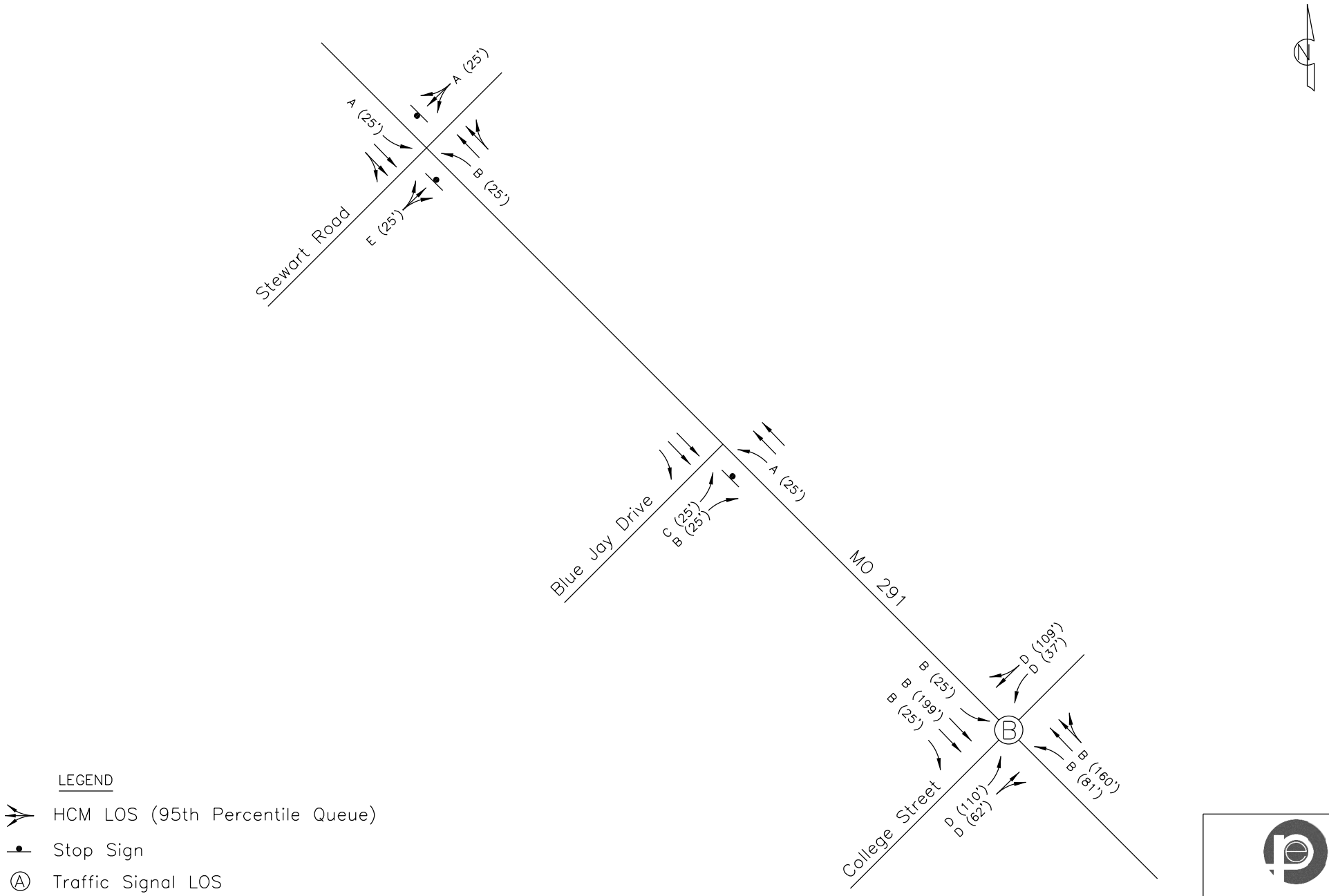
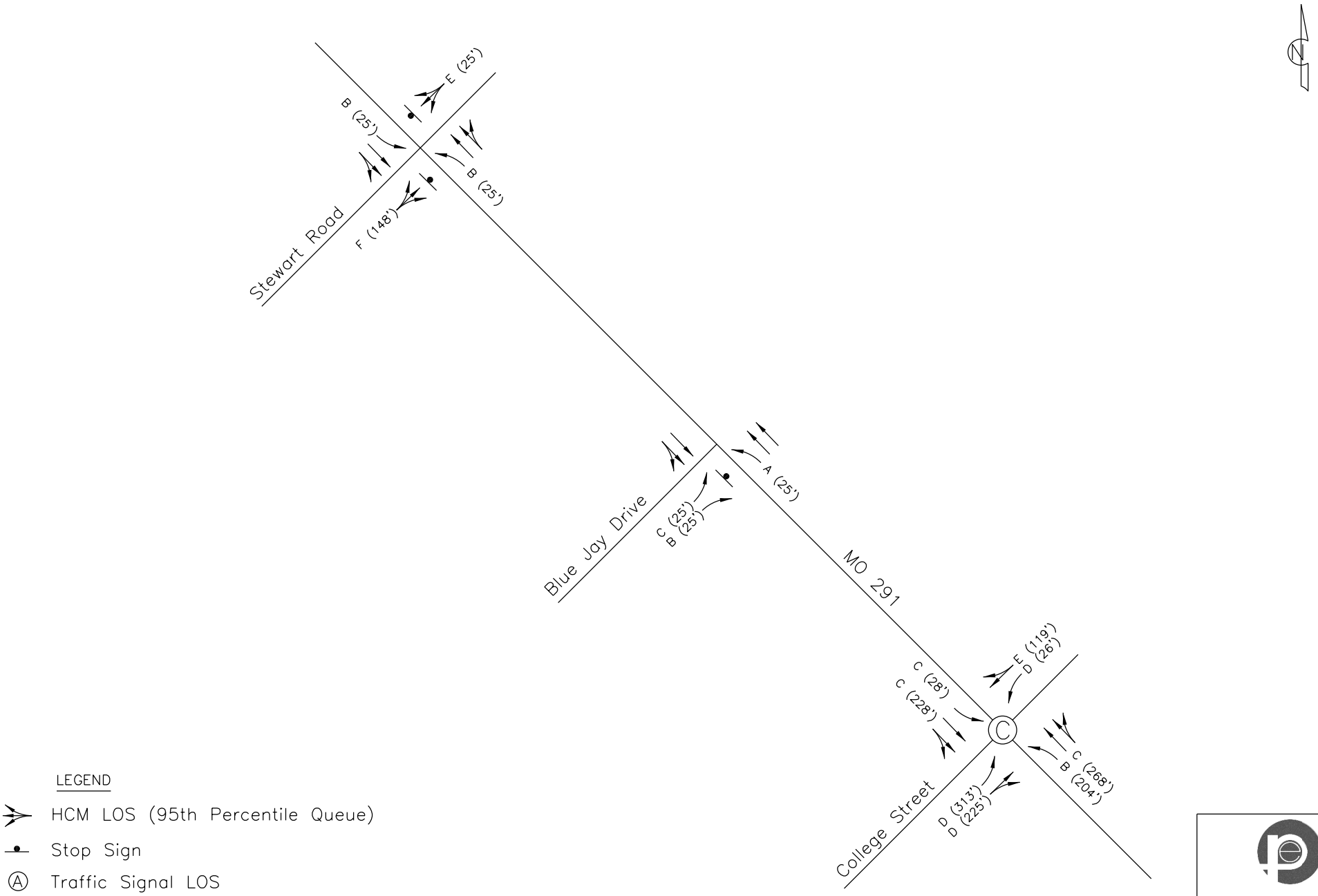


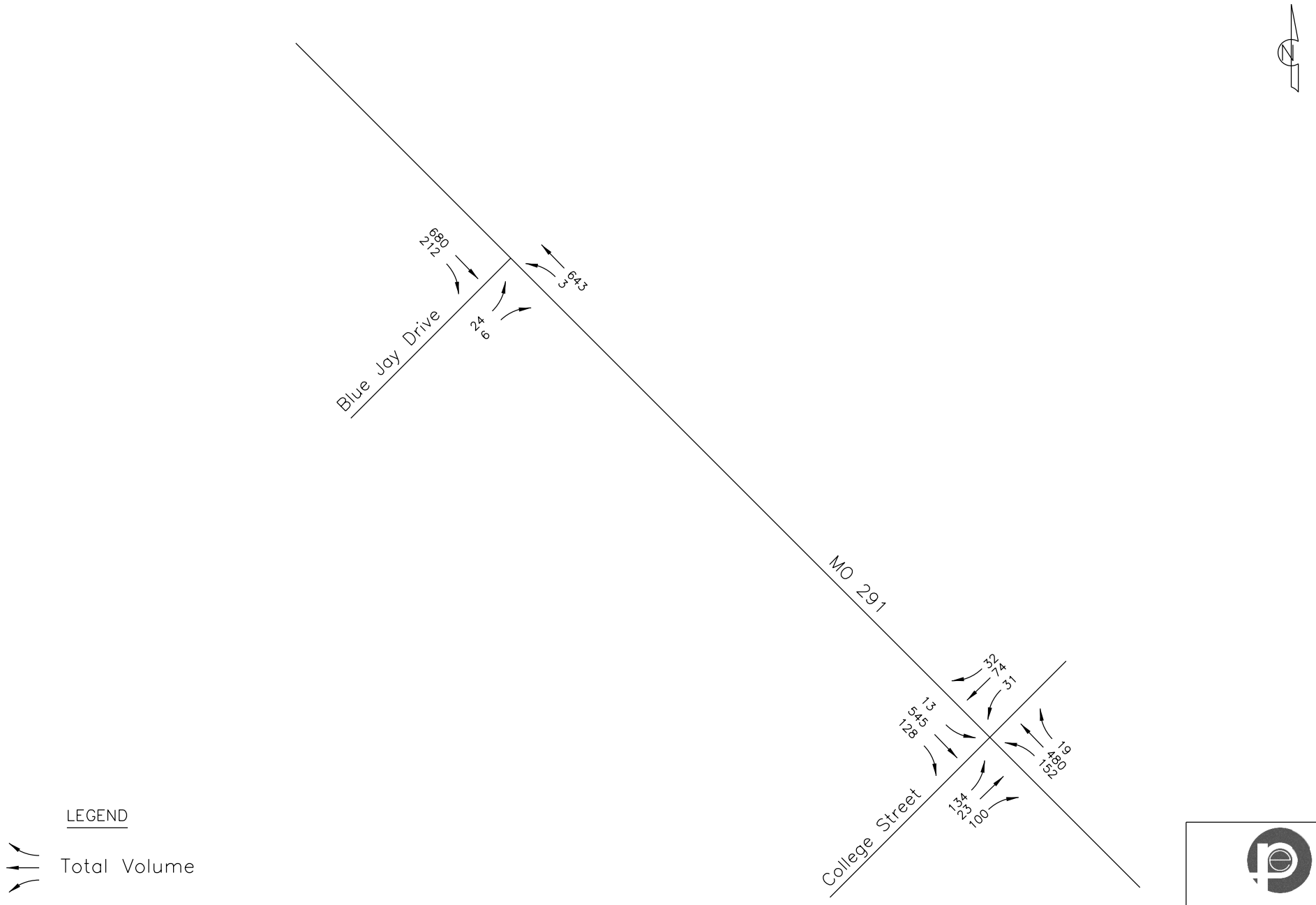
LEGEND

- HCM LOS (95th Percentile Queue)
- Stop Sign
- Ⓐ Traffic Signal LOS

Existing AM Peak Hour Lane Configuration & Levels of Service	Liberty Triangle Car Wash Liberty, MO	No Scale Figure 5	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



Existing PM Peak Hour Lane Configuration & Levels of Service	Liberty Triangle Car Wash Liberty, MO	No Scale Figure 6	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



Existing AM Peak Hour
Traffic Volumes after
Stewart Road Closure

Liberty Triangle Car Wash
Liberty, MO

No Scale

Figure 7

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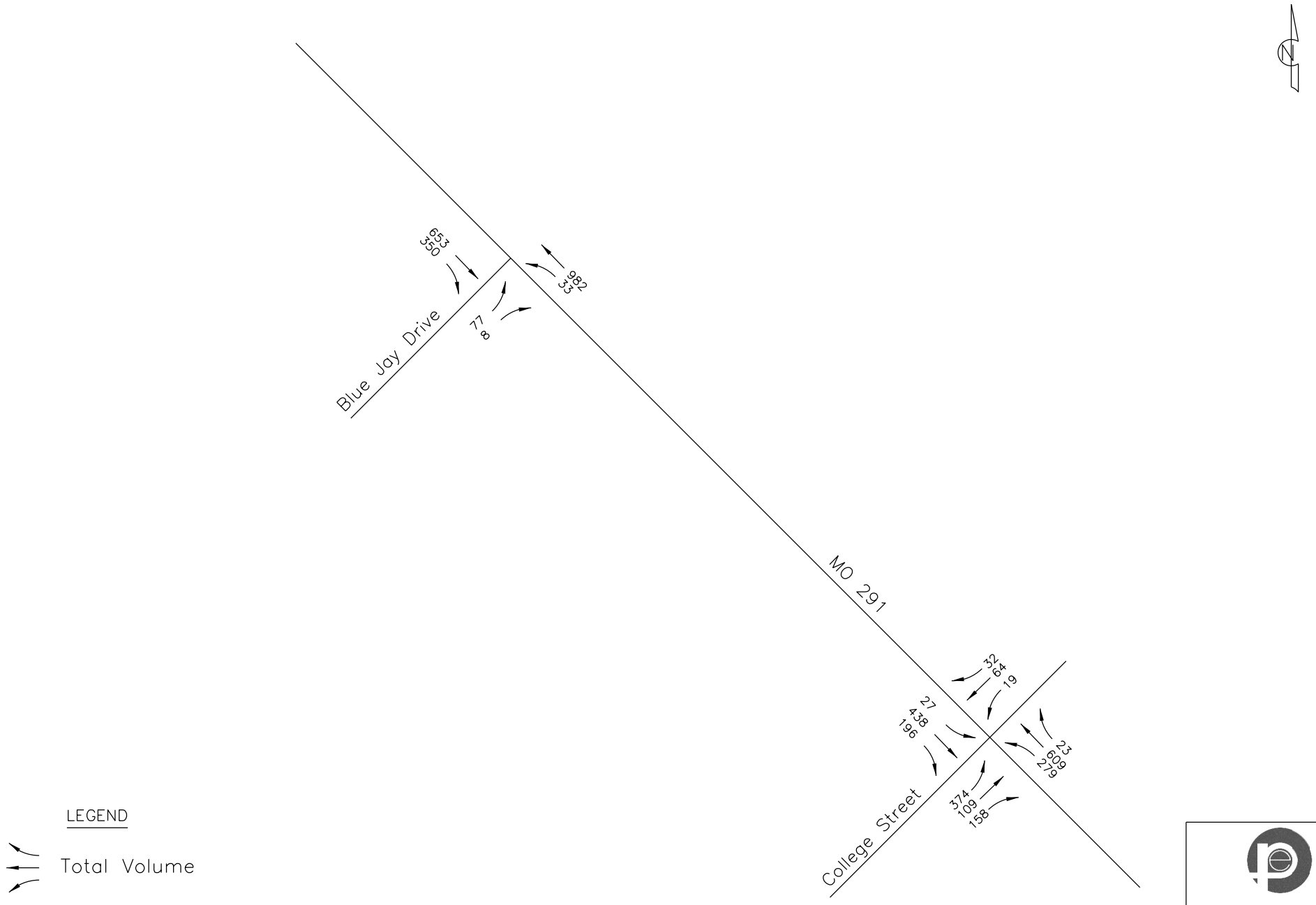
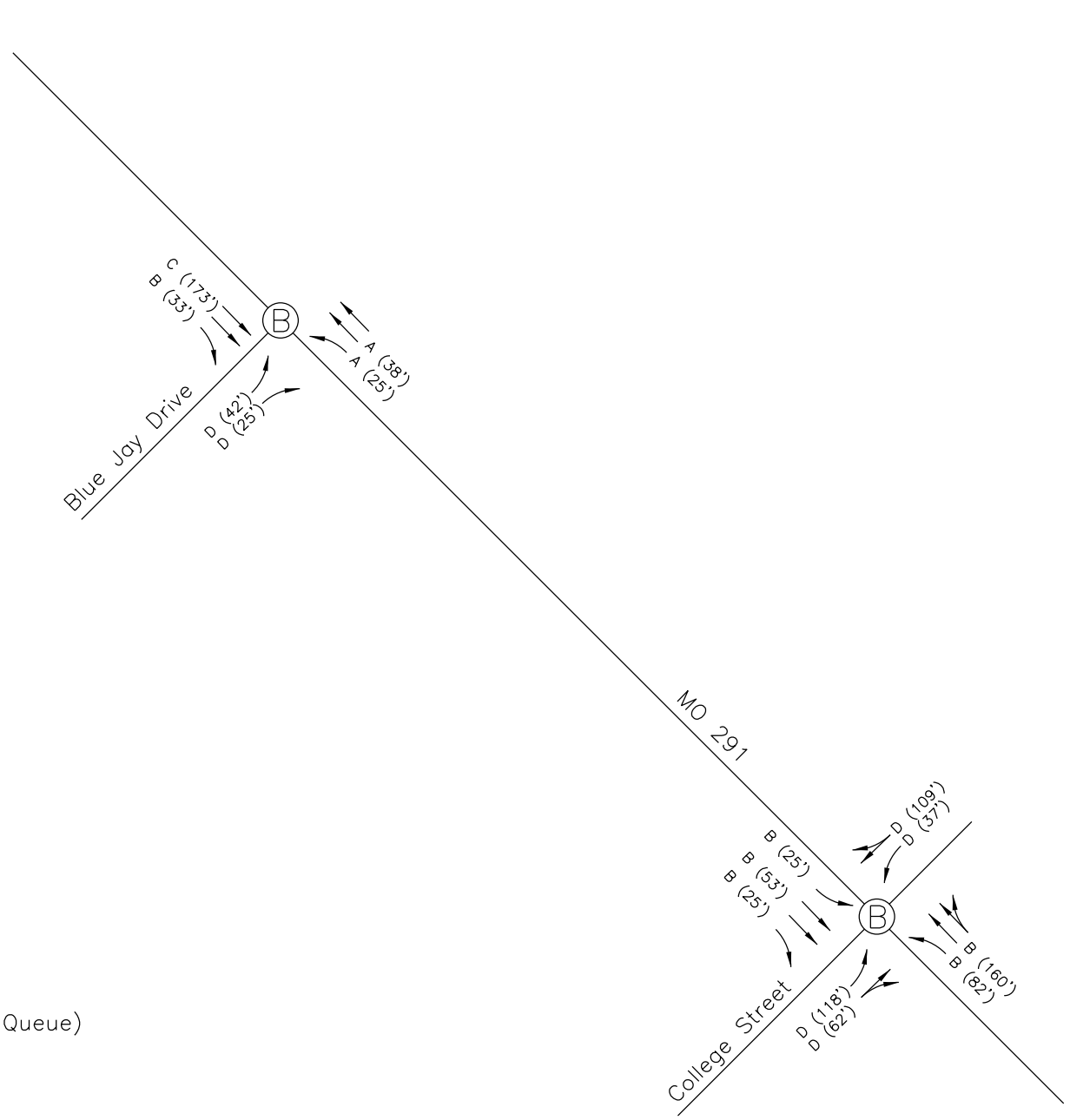


LEGEND

Total Volume

Existing PM Peak Hour Traffic Volumes after Stewart Road Closure	Liberty Triangle Car Wash Liberty, MO	No Scale Figure 8	Priority Engineers PO Box 563 Garden City, MO 64747 816.738.4400



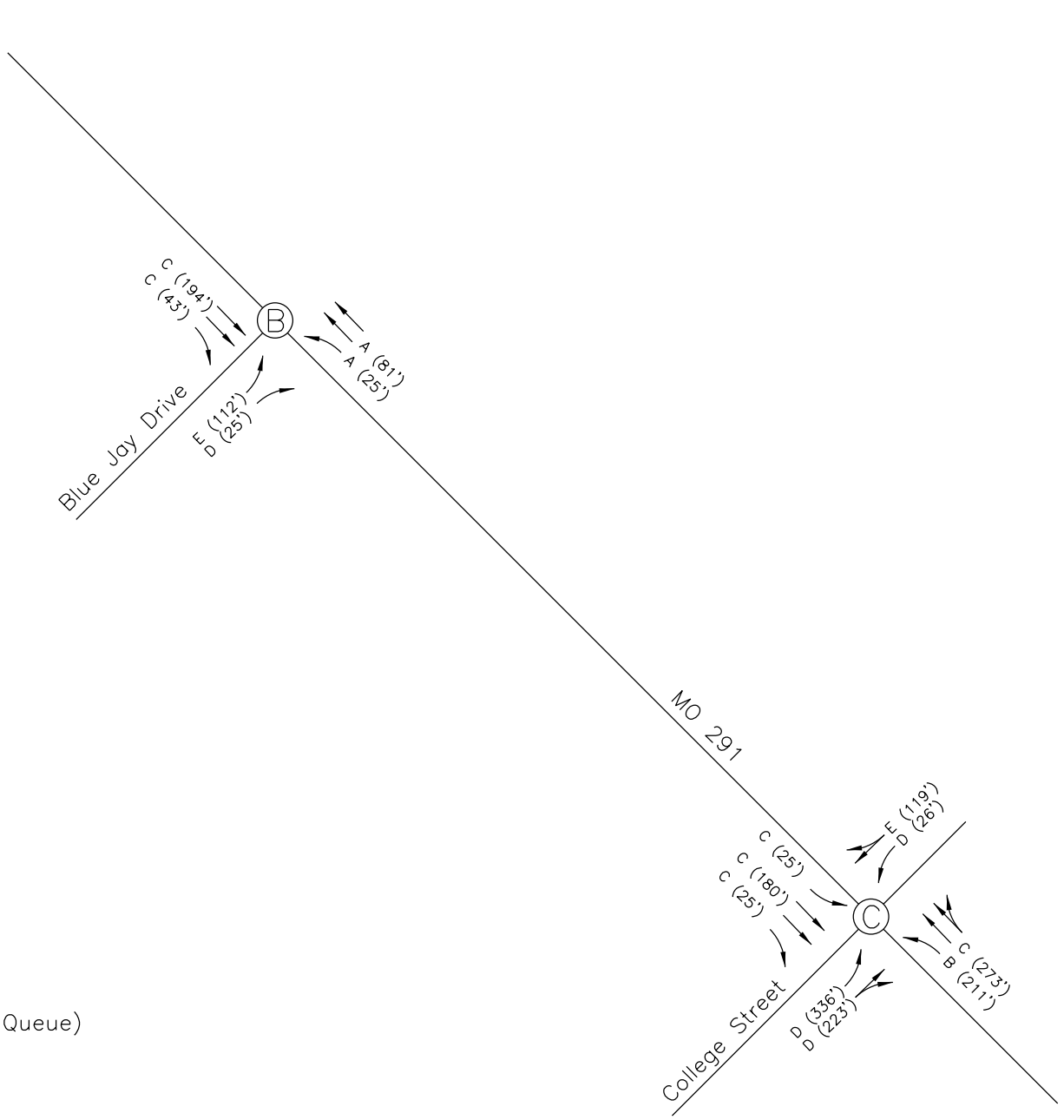
LEGEND

HCM LOS (95th Percentile Queue)

Stop Sign

Ⓐ Traffic Signal LOS

Existing AM Peak Hour Lane Configuration & Levels of Service after Stewart Road Closure	Liberty Triangle Car Wash Liberty, MO	No Scale Figure 9	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



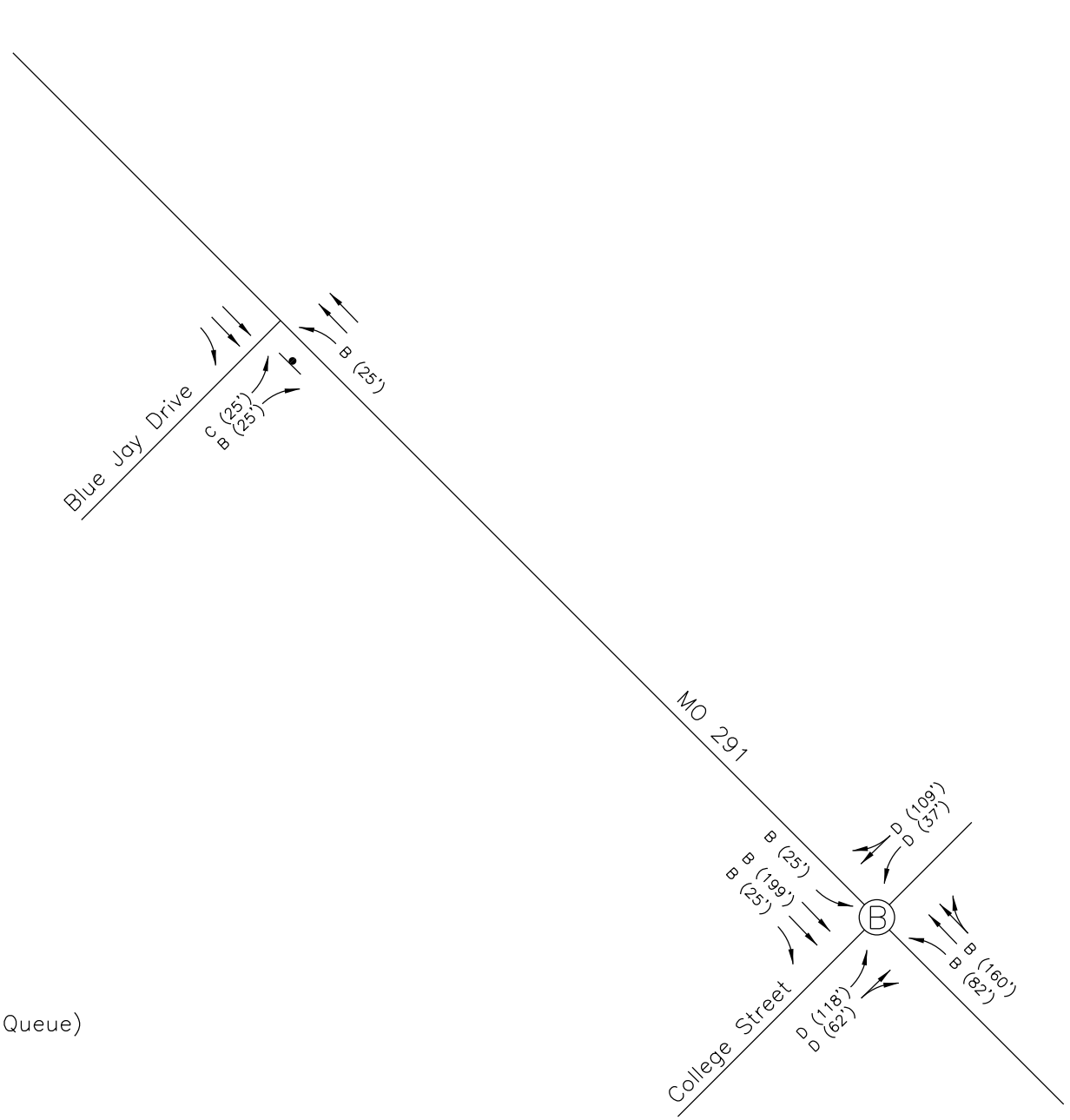
LEGEND

HCM LOS (95th Percentile Queue)

Stop Sign

Ⓐ Traffic Signal LOS

Existing PM Peak Hour Lane Configuration & Levels of Service after Stewart Road Closure	Liberty Triangle Car Wash Liberty, MO	No Scale Figure 10	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



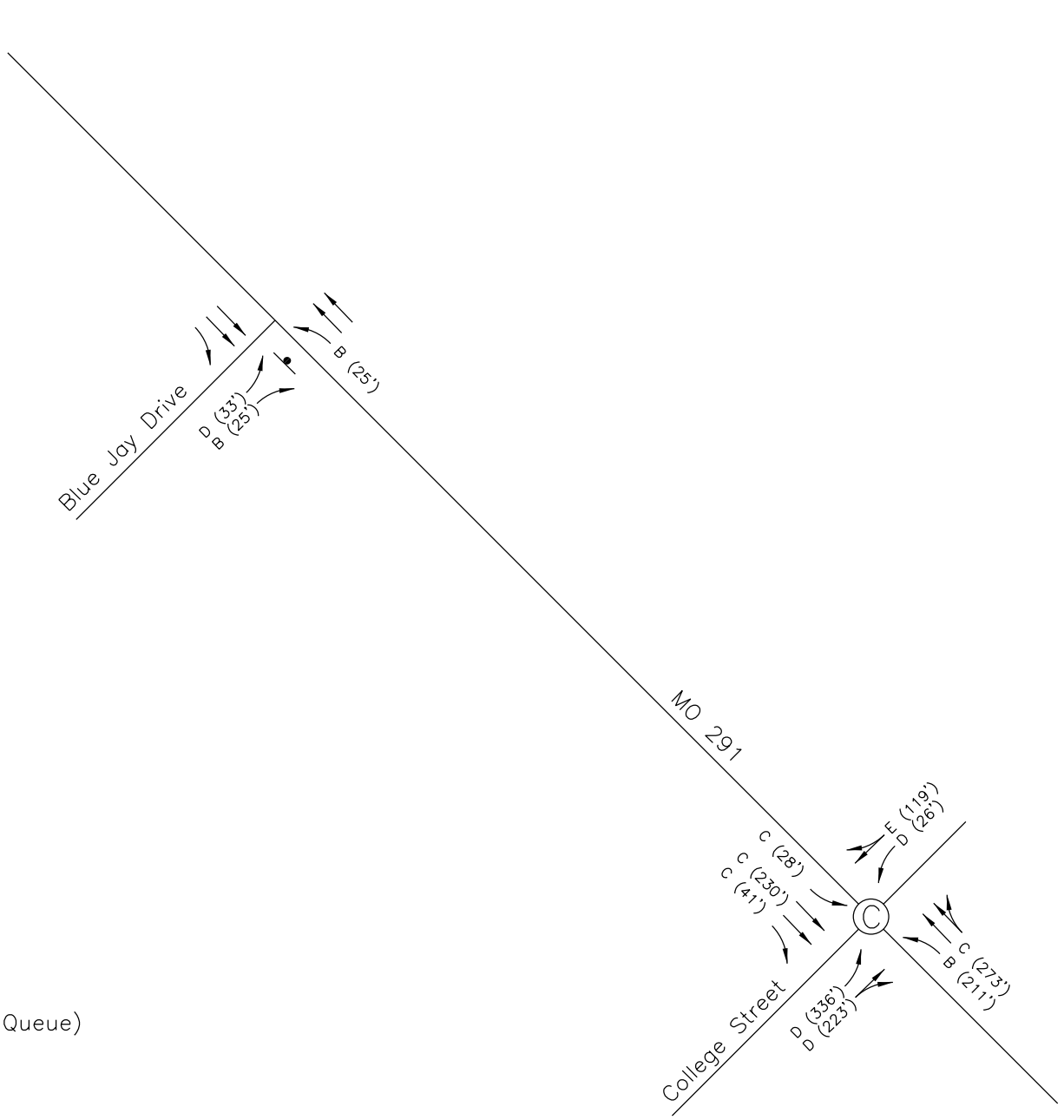
LEGEND

HCM LOS (95th Percentile Queue)

Stop Sign

Ⓐ Traffic Signal LOS

Existing AM Peak Hour Lane Configuration & Levels of Service (No Signal) after Stewart Road Closure	Liberty Triangle Car Wash Liberty, MO	No Scale Figure 11	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



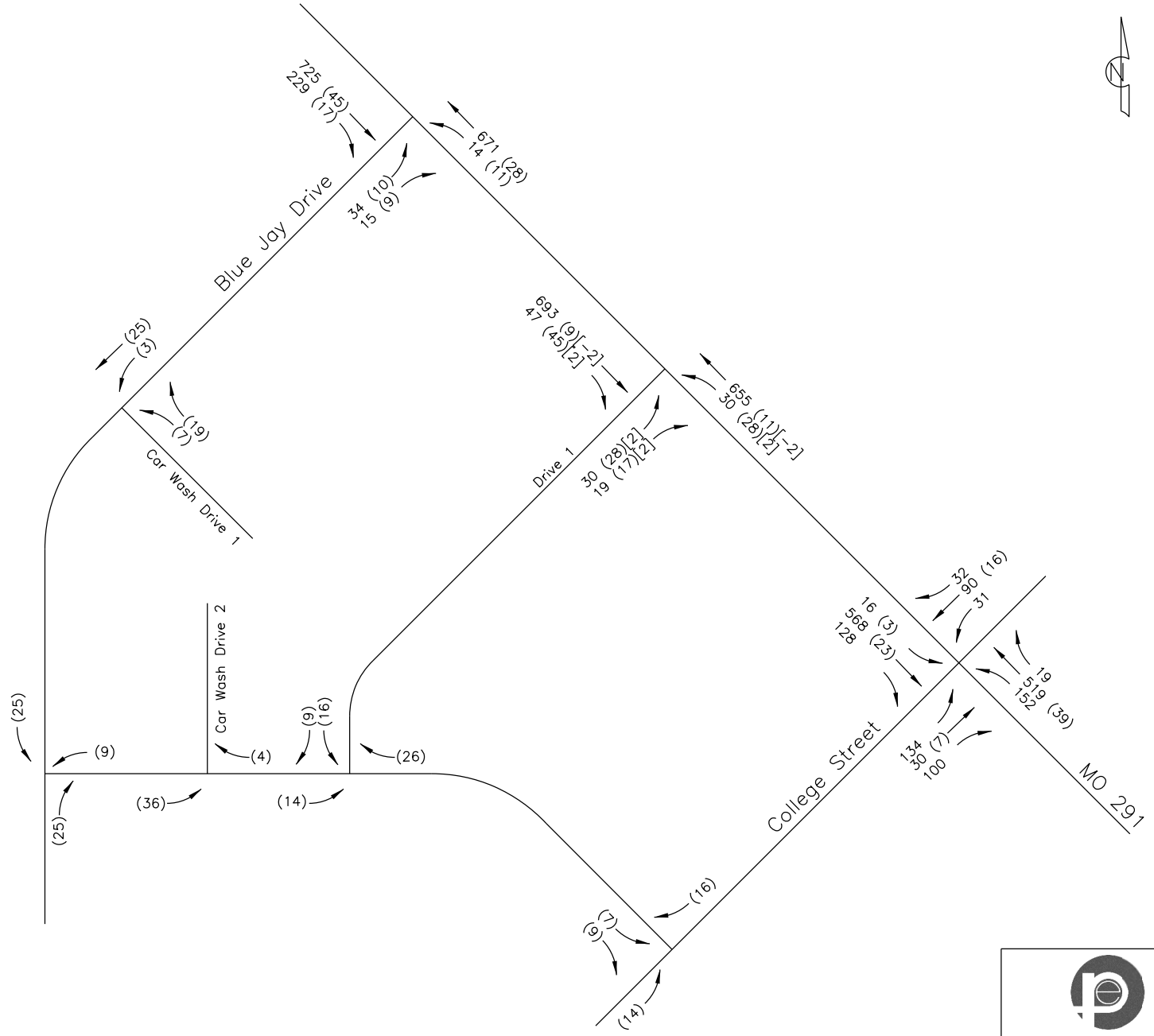
LEGEND

HCM LOS (95th Percentile Queue)

Stop Sign

Ⓐ Traffic Signal LOS

Existing PM Peak Hour Lane Configuration & Levels of Service (No Signal) after Stewart Road Closure	Liberty Triangle Car Wash Liberty, MO	No Scale Figure 12	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



Existing + Proposed Development AM Peak Hour Traffic Volumes	Liberty Triangle Car Wash Liberty, MO	No Scale Figure 13

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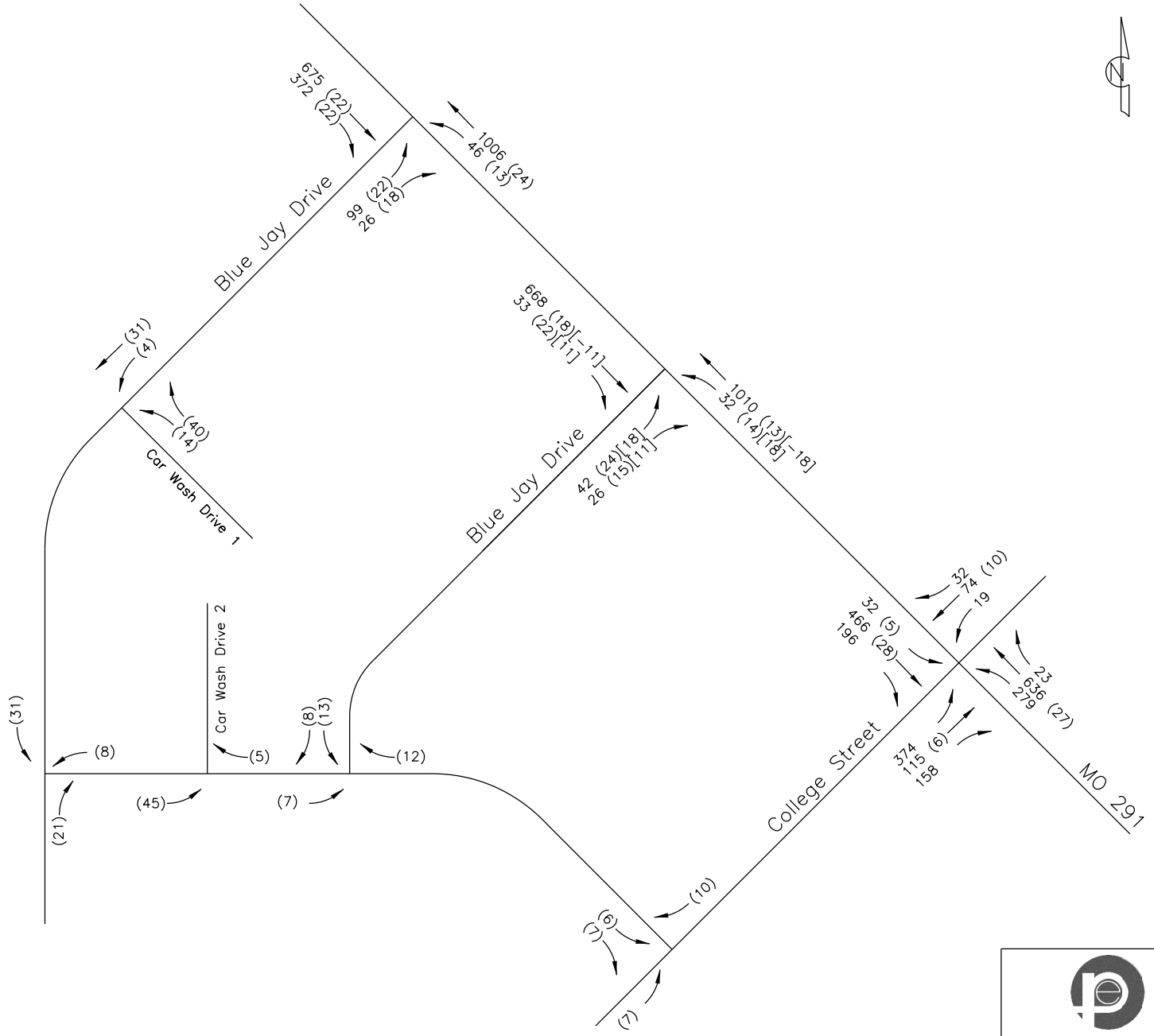

LEGEND

Total Volume

Existing + Proposed Development
PM Peak Hour
Traffic Volumes

Liberty Triangle Car Wash
Liberty, MO

No Scale

Figure 14

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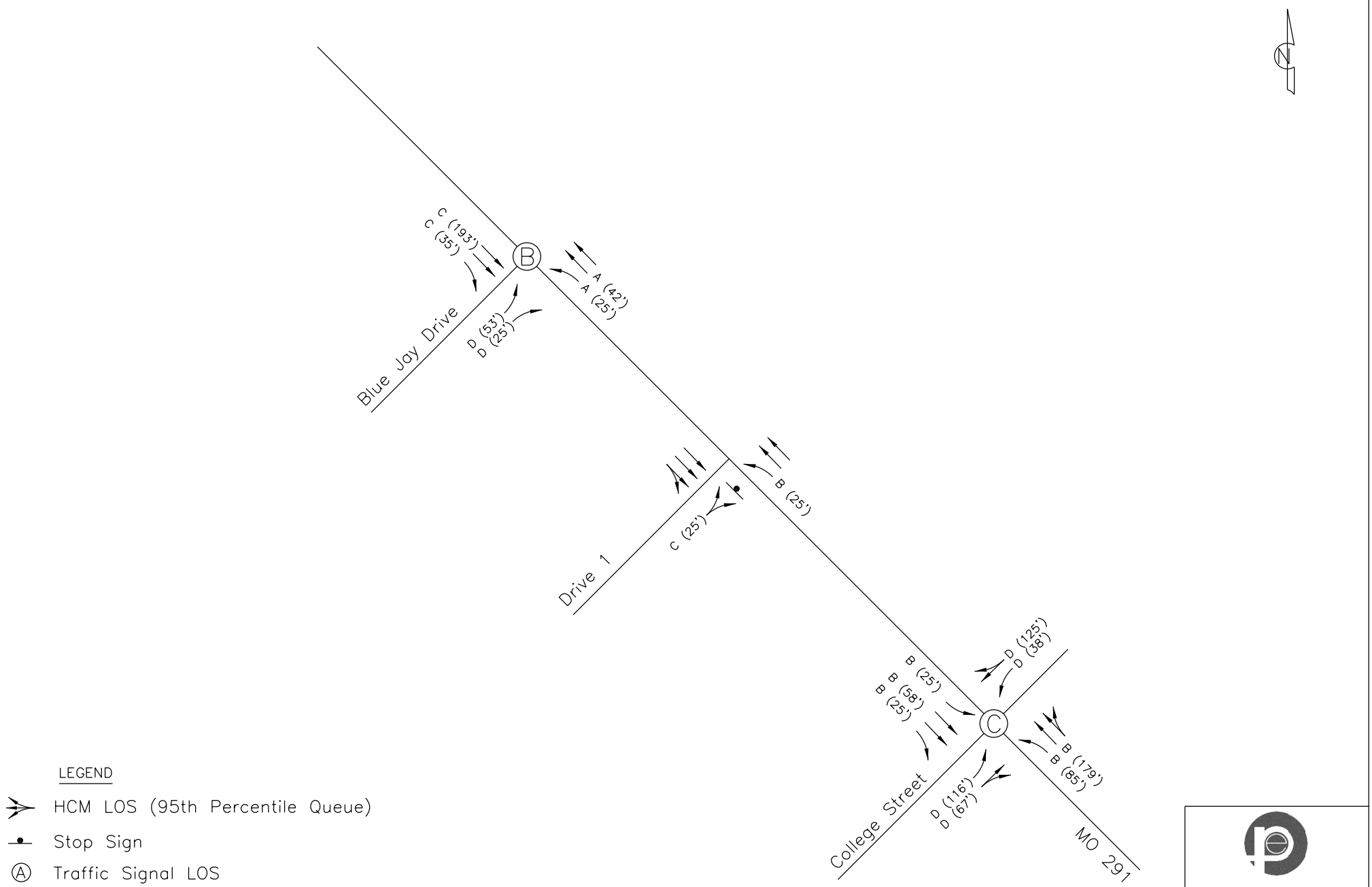

Existing + Proposed Development
AM Peak Hour
Lane Configuration &
Levels of Service

Liberty Triangle Car Wash
Liberty, MO

No Scale

Figure 15

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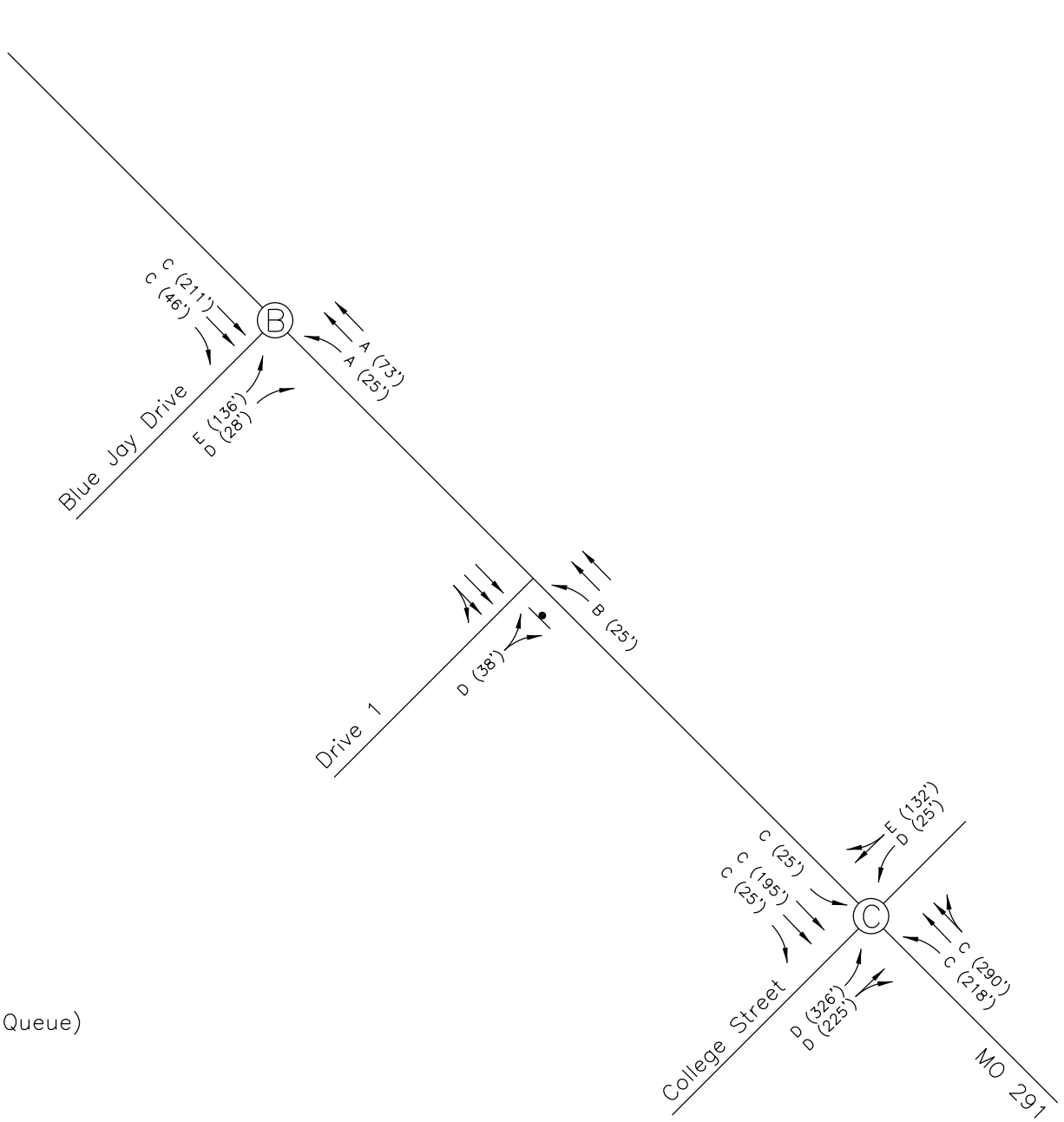

Existing + Proposed Development
PM Peak Hour
Lane Configuration &
Levels of Service

Liberty Triangle Car Wash
Liberty, MO

No Scale

Figure 16

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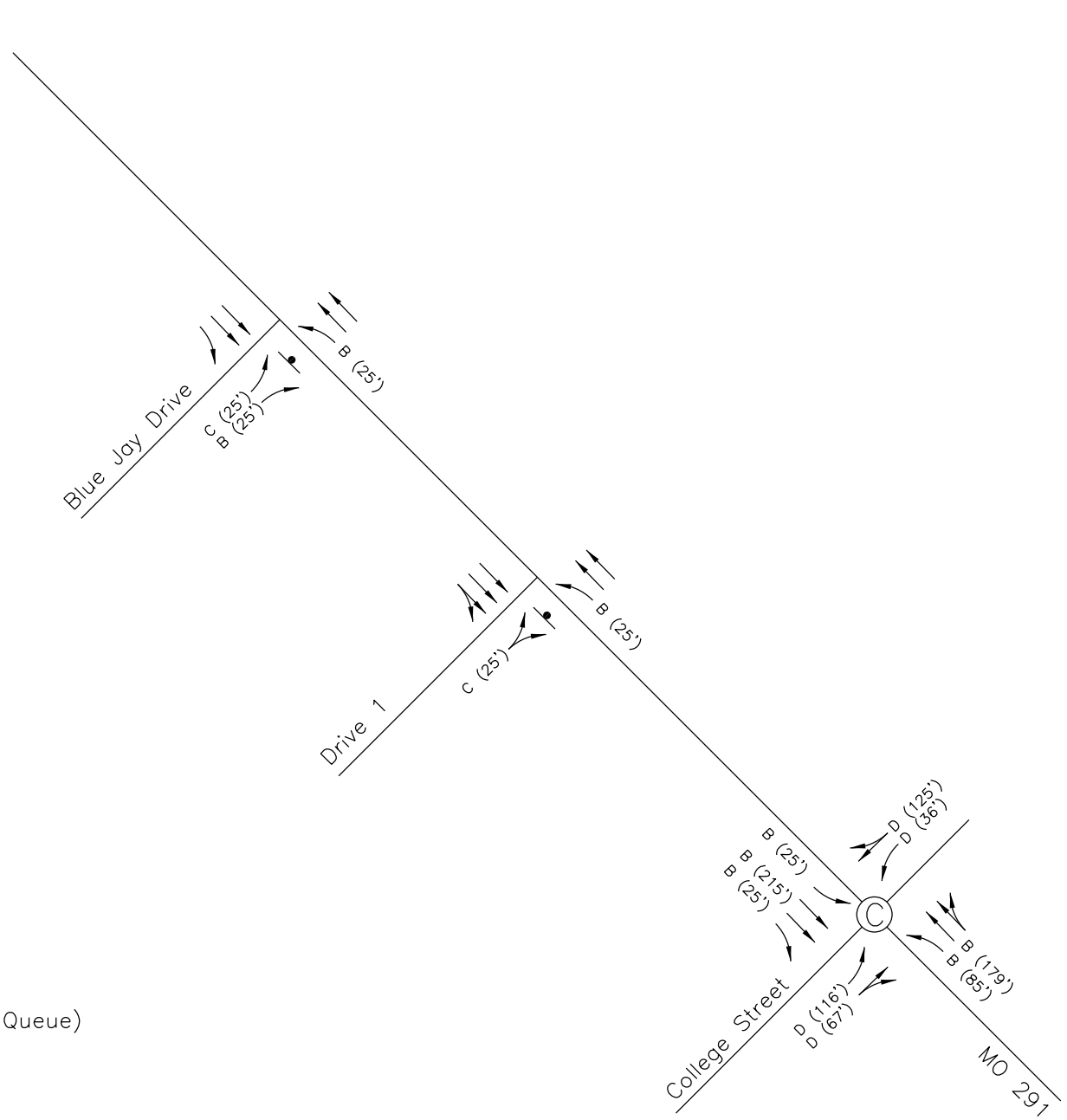

LEGEND

- HCM LOS (95th Percentile Queue)
- Stop Sign
- Ⓐ Traffic Signal LOS

Existing + Proposed Development AM Peak Hour Lane Configuration & Levels of Service (No Signal)	Liberty Triangle Car Wash Liberty, MO	No Scale Figure 17

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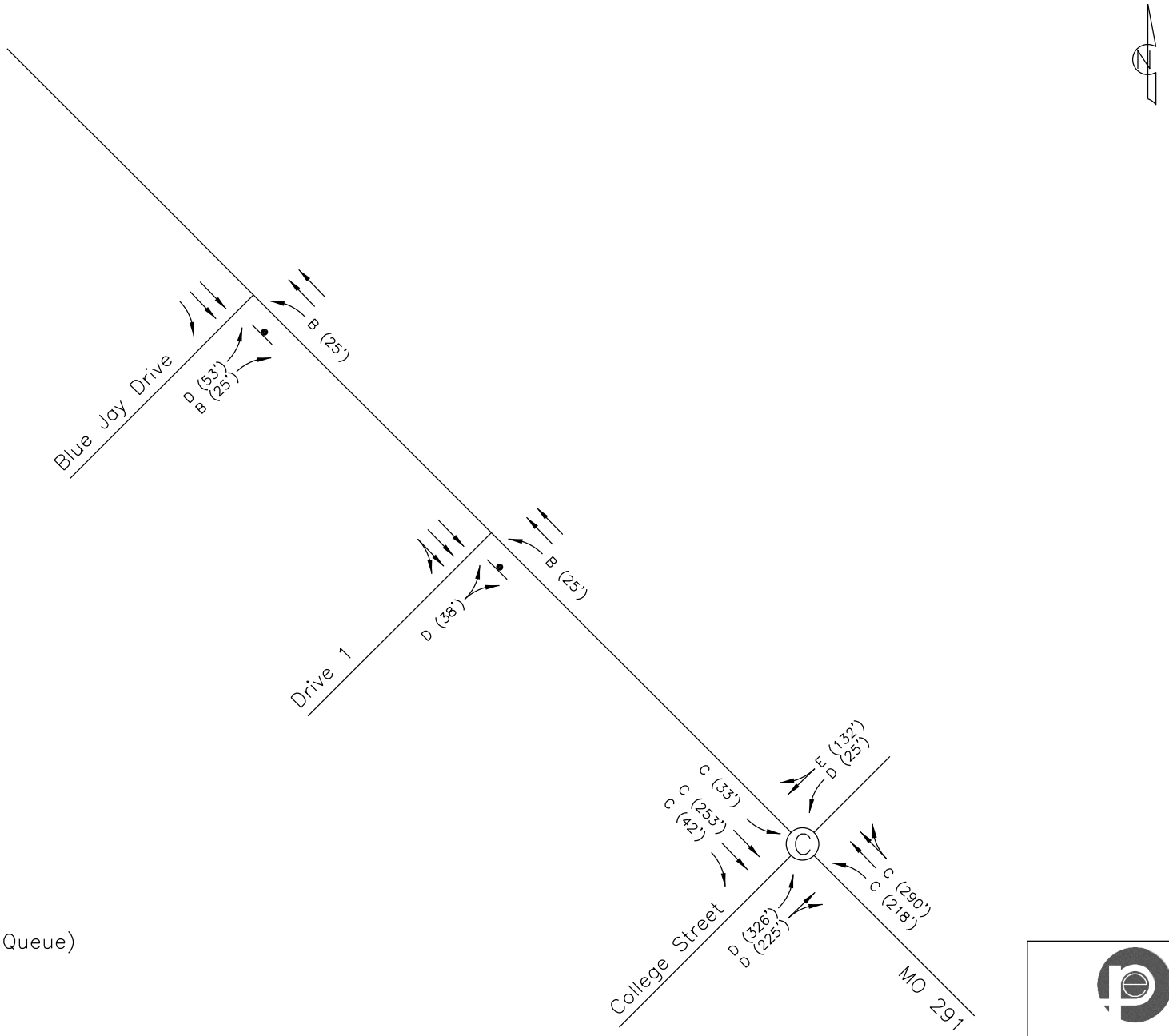

Existing + Proposed Development PM Peak Hour Lane Configuration & Levels of Service (No Signal)	Liberty Triangle Car Wash Liberty, MO	No Scale Figure 18

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APPENDIX II

291 & Stewart

	Eastbound			Westbound			Northbound			Southbound				
Start Time	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Totals**	
6:30	0	0	1	0	0	0	0	83	0	0	115	31	**230**	
6:45	1	0	0	0	0	0	1	105	2	0	139	36	**284**	
7:00	6	0	0	0	0	0	0	92	2	0	161	30	**291**	
7:15	9	0	1	0	0	0	0	139	3	0	202	40	**394**	1199
7:30	7	0	4	0	0	0	1	177	1	0	186	44	**420**	1389
7:45	6	0	1	0	0	0	1	170	2	1	177	36	**394**	1499
8:00	7	0	0	0	0	0	0	141	4	1	160	49	**362**	1570
8:15	4	0	2	2	0	1	2	134	4	2	154	35	**340**	1516
Totals	**29**	**0**	**6**	**0**	**0**	**0**	**2**	**627**	**10**	**2**	**725**	**169**	**1570**	
Trucks	**2**		**1**				**2**	**40**			**47**	**2**		
	7%		17%				100%	6%			6%	1%		

291 & Blue Jay

	Eastbound			Westbound			Northbound			Southbound				
Start Time	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Totals**	
6:30	4		0				0	80			109	9	**202**	
6:45	1		1				0	102			121	13	**238**	
7:00	2		1				2	94			139	18	**256**	
7:15	0		0				0	154			163	34	**351**	1047
7:30	3		0				1	173			154	36	**367**	1212
7:45	1		1				1	177			162	19	**361**	1335
8:00	1		1				0	144			146	13	**305**	1384
8:15	2		1				2	143			141	14	**303**	1336
Totals	**5**	**0**	**2**	**0**	**0**	**0**	**2**	**648**	**0**	**0**	**625**	**102**	**1384**	
Trucks								**43**			**47**			
								7%			8%			

291 & College

	Eastbound			Westbound			Northbound			Southbound				
Start Time	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Totals**	
6:30	14	1	7	7	15	5	18	57	1	1	85	9	**220**	
6:45	19	0	11	2	12	2	20	86	1	0	92	15	**260**	
7:00	27	7	17	7	17	4	25	66	2	2	114	8	**296**	
7:15	30	2	18	5	17	8	26	113	7	0	123	13	**362**	1138
7:30	34	11	30	6	21	5	57	132	3	6	121	17	**443**	1361
7:45	26	3	34	12	22	12	37	134	5	5	128	16	**434**	1535
8:00	34	7	16	8	14	7	31	90	4	2	115	23	**351**	1590
8:15	30	8	18	4	14	8	27	103	1	5	107	20	**345**	1573
Totals	**124**	**23**	**98**	**31**	**74**	**32**	**151**	**469**	**19**	**13**	**487**	**69**	**1590**	
Trucks	**6**		**3**			**1**	**2**	**33**	**1**		**44**	**3**		
	5%		3%			3%	1%	7%	5%		9%	4%		

291 & Stewart

	Eastbound			Westbound			Northbound			Southbound				
Start Time	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Totals**	
16:00	16	0	1	0	0	1	2	247	2	0	191	51	**511**	
16:15	16	0	4	0	0	2	6	234	1	1	191	48	**503**	
16:30	17	0	2	0	0	1	3	252	3	4	166	64	**512**	
16:45	15	0	1	1	0	2	5	228	1	1	179	66	**499**	2025
17:00	21	1	1	0	0	0	1	261	0	0	190	45	**520**	2034
17:15	20	0	1	2	0	0	2	276	1	0	209	49	**560**	2091
17:30	16	0	3	2	0	0	5	241	2	0	198	35	**502**	2081
17:45	21	0	2	2	0	1	1	226	1	2	188	36	**480**	2062
Totals	**72**	**1**	**6**	**5**	**0**	**2**	**13**	**1006**	**4**	**1**	**776**	**195**	**2081**	
Trucks								**7**			**12**	**4**		
								1%			2%	2%		

291 & Blue Jay

	Eastbound			Westbound			Northbound			Southbound				
Start Time	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Totals**	
16:00	4		0				1	237			133	56	**431**	
16:15	2		2				1	217			129	64	**415**	
16:30	4		1				3	254			97	60	**419**	
16:45	6		1				3	232			137	58	**437**	1702
17:00	6		0				6	253			160	36	**461**	1732
17:15	12		2				12	263			159	50	**498**	1815
17:30	5		1				4	217			123	79	**429**	1825
17:45	9		1				1	213			131	64	**419**	1807
Totals	**29**	**0**	**4**	**0**	**0**	**0**	**25**	**965**	**0**	**0**	**579**	**223**	**1825**	
Trucks								**12**			**17**	**2**		
								1%			3%	1%		

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	Eastbound			Westbound			Northbound			Southbound				
Start Time	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Totals**	
16:00	81	17	35	6	16	7	47	140	8	12	108	17	**494**	
16:15	77	14	30	5	14	6	51	131	7	5	88	18	**446**	
16:30	75	27	37	6	13	6	60	171	9	8	83	7	**502**	
16:45	82	27	37	5	11	5	54	142	3	5	108	17	**496**	1938
17:00	84	27	35	3	11	9	76	155	7	4	105	43	**559**	2003
17:15	103	29	28	6	22	11	78	147	7	11	93	37	**572**	2129
17:30	80	26	56	5	20	7	66	128	6	7	93	21	**515**	2142
17:45	82	19	41	6	13	4	58	126	10	14	99	13	**485**	2131
Totals	**349**	**109**	**156**	**19**	**64**	**32**	**274**	**572**	**23**	**27**	**399**	**118**	**2142**	
Trucks	**1**		**3**	**1**			**2**	**12**			**17**	**1**		
	0%		2%	5%			1%	2%			4%	1%		

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	Eastbound			Westbound			Northbound			Southbound										
Start Time	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Totals**		Major		Minor			
6:00	3	0	0	0	0	0	1	60	0	0	63	8	**135**		132		3			
6:15	2	0	0	0	0	0	0	58	0	0	106	10	**176**		174		2			
6:30	0	0	1	0	0	0	0	83	0	0	115	31	**230**		229		1			
6:45	1	0	0	0	0	0	1	105	2	0	139	36	**284**	825	281	816	1	7		
7:00	6	0	0	0	0	0	0	92	2	0	161	30	**291**	981	283	967	6	10		
7:15	9	0	1	0	0	0	0	139	3	0	202	40	**394**	1199	381	1174	10	18		
7:30	7	0	4	0	0	0	1	177	1	0	186	44	**420**	1389	408	1353	11	28		
7:45	6	0	1	0	0	0	1	170	2	1	177	36	**394**	1499	384	1456	7	34		
8:00	7	0	0	0	0	0	0	141	4	1	160	49	**362**	1570	350	1523	7	35		
8:15	4	0	2	2	0	1	2	134	4	2	154	35	**340**	1516	325	1467	6	31		
8:30	7	1	2	2	0	0	4	113	3	1	159	32	**324**	1420	308	1367	9	29		
8:45	7	0	0	1	0	2	4	134	3	0	164	34	**349**	1375	336	1319	7	29		
9:00	7	0	3	1	0	0	3	97	1	1	197	31	**341**	1354	328	1297	10	32		
9:15	5	0	6	3	1	0	0	165	1	1	141	27	**350**	1364	333	1305	11	37		
9:30	13	0	1	1	0	1	2	107	1	1	136	32	**295**	1335	277	1274	14	42		
9:45	19	0	2	0	0	0	3	122	0	1	139	34	**320**	1306	298	1236	21	56		
10:00	9	1	2	2	0	0	2	115	1	1	158	26	**317**	1282	301	1209	11	57		
10:15	7	0	5	0	0	2	2	151	4	1	136	35	**343**	1275	324	1200	12	58		
10:30	8	0	5	2	0	1	3	125	3	0	154	27	**328**	1308	309	1232	13	57		
10:45	14	0	3	1	0	2	1	140	1	1	165	32	**360**	1348	338	1272	17	53		
11:00	6	0	1	1	0	3	1	139	4	0	170	44	**369**	1400	354	1325	7	49		
11:15	9	0	2	1	0	1	3	161	2	0	141	32	**352**	1409	337	1338	11	48		
11:30	13	0	1	0	0	0	2	166	2	0	197	46	**427**	1508	411	1440	14	49		
11:45	21	0	3	0	0	1	3	157	4	0	204	31	**424**	1572	395	1497	24	56		
12:00	12	1	2	1	0	1	1	187	1	0	144	25	**375**	1578	357	1500	14	63		
12:15	18	1	1	1	1	0	3	166	3	0	151	33	**378**	1604	353	1516	19	71		
12:30	11	0	5	0	0	0	1	170	4	1	154	26	**372**	1549	351	1456	16	73		
12:45	15	0	2	1	0	0	4	168	1	0	160	35	**386**	1511	367	1428	17	66		
13:00	16	0	7	0	0	0	4	181	3	0	143	33	**387**	1523	361	1432	23	75		
13:15	20	1	3	2	0	0	2	181	0	1	133	24	**367**	1512	340	1419	23	79		
13:30	19	0	4	0	0	0	3	187	6	0	141	23	**383**	1523	354	1422	23	86		
13:45	15	0	4	0	0	0	2	172	0	0	155	36	**384**	1521	365	1420	19	88		
14:00	10	1	4	1	0	0	1	164	1	0	154	22	**358**	1492	341	1400	14	79		
14:15	16	0	2	1	0	0	2	195	2	1	145	22	**386**	1511	364	1424	18	74		
14:30	22	2	3	2	1	2	1	209	0	0	161	34	**437**	1565	405	1475	25	76		
14:45	14	1	2	0	0	0	3	203	4	0	171	38	**436**	1617	415	1525	16	73		
15:00	13	2	3	0	1	0	4	228	4	1	156	23	**435**	1694	411	1595	16	75		
15:15	10	0	1	0	0	1	3	258	1	2	172	19	**467**	1775	452	1683	11	68		
15:30	17	0	5	2	0	1	1	231	1	1	193	32	**484**	1822	457	1735	22	65		
15:45	14	1	0	0	1	2	4	235	1	0	202	36	**496**	1882	477	1797	14	63		
16:00	16	0	1	0	0	1	2	247	2	0	191	51	**511**	1958	491	1877	17	64		
16:15	16	0	4	0	0	2	6	234	1	1	191	48	**503**	1994	479	1904	20	73		
16:30	17	0	2	0	0	1	3	252	3	4	166	64	**512**	2022	485	1932	19	70		
16:45	15	0	1	1	0	2	5	228	1	1	179	66	**499**	2025	478	1933	16	72		
17:00	21	1	1	0	0	0	1	261	0	0	190	45	**520**	2034	497	1939	22	77		
17:15	20	0	1	2	0	0	2	276	1	0	209	49	**560**	2091	536	1996	21	78		
17:30	16	0	3	2	0	0	5	241	2	0	198	35	**502**	2081	479	1990	19	78		
17:45	21	0	2	2	0	1	1	226	1	2	188	36	**480**	2062	451	1963	23	85		
18:00	23	0	3	0	0	0	1	228	0	0	158	51	**464**	2006	438	1904	26	89		
18:15	36	0	1	0	0	0	0	196	0	0	144	29	**406**	1852	369	1737	37	105		
18:30	9	0	1	0	0	0	3	184	0	0	160	26	**383**	1733	373	1631	10	96		
18:45	24	0	2	0	0	0	0	174	0	0	131	28	**359**	1612	333	1513	26	99		
19:00	19		0	0				175	1		107	22	**324**	1472	304	1379	19	92		
19:15	12		0	0				134	0		105	11	**262**	1328	250	1260	12	67		
19:30	12		1	1				133	1		81	12	**241**	1186	226	1113	13	70		

Condition A	Condition B		
420/140	630/70	7 hours	
4 Hour	Within 2 cars		
Peak Hour	5 hours		

291 & Blue Jay

	Eastbound			Westbound			Northbound			Southbound										
Start Time	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Left**	**Through**	**Right**	**Totals**	**Peak Hour**		Major		Minor		ConditionA ConditionB
6:00	2		0				0	57			53	7	**119**			117		2		420/140 630/70
6:15	3		0				0	52			102	8	**165**			162		3		
6:30	4		0				0	80			109	9	**202**			198		4		
6:45	1		1				0	102			121	13	**238**	724		236	713	2	11	
7:00	2		1				2	94			139	18	**256**	861		253	849	3	12	
7:15	0		0				0	154			163	34	**351**	1047		351	1038	0	9	
7:30	3		0				1	173			154	36	**367**	1212		364	1204	3	8	
7:45	1		1				1	177			162	19	**361**	1335		359	1327	2	8	
8:00	1		1				0	144			146	13	**305**	1384		303	1377	2	7	
8:15	2		1				2	143			141	14	**303**	1336		300	1326	3	10	
8:30	1		0				1	125			143	17	**287**	1256		286	1248	1	8	
8:45	0		0				2	140			161	8	**311**	1206		311	1200	0	6	
9:00	1		0				0	102			185	19	**307**	1208		306	1203	1	5	
9:15	0		0				0	169			136	13	**318**	1223		318	1221	0	2	
9:30	1		1				5	116			134	9	**266**	1202		264	1199	2	3	
9:45	5		2				2	125			124	14	**272**	1163		265	1153	7	10	
10:00	1		0				1	114			147	17	**280**	1136		279	1126	1	10	
10:15	1		1				1	154			129	15	**301**	1119		299	1107	2	12	
10:30	5		0				0	125			146	16	**292**	1145		287	1130	5	15	
10:45	2		0				2	144			143	23	**314**	1187		312	1177	2	10	
11:00	3		2				3	155			153	22	**338**	1245		333	1231	5	14	
11:15	3		1				4	155			129	17	**309**	1253		305	1237	4	16	
11:30	4		3				4	168			182	17	**378**	1339		371	1321	7	18	
11:45	4		0				6	159			179	27	**375**	1400		371	1380	4	20	
12:00	4		3				4	181			129	19	**340**	1402		333	1380	7	22	
12:15	3		5				1	172			142	13	**336**	1429		328	1403	8	26	
12:30	6		2				3	163			148	14	**336**	1387		328	1360	8	27	
12:45	10		0				6	172			145	20	**353**	1365		343	1332	10	33	
13:00	3		1				0	174			127	21	**326**	1351		322	1321	4	30	
13:15	3		3				1	182			125	13	**327**	1342		321	1314	6	28	
13:30	6		0				3	186			134	12	**341**	1347		335	1321	6	26	
13:45	7		2				3	163			149	16	**340**	1334		331	1309	9	25	
14:00	8		2				2	169			147	12	**340**	1348		330	1317	10	31	
14:15	5		1				1	187			141	13	**348**	1369		342	1338	6	31	
14:30	6		4				2	200			157	10	**379**	1407		369	1372	10	35	
14:45	3		3				5	203			132	42	**388**	1455		382	1423	6	32	
15:00	3		3				0	234			144	21	**405**	1520		399	1492	6	28	
15:15	7		0				4	238			147	28	**424**	1596		417	1567	7	29	
15:30	6		3				2	228			175	25	**439**	1656		430	1628	9	28	
15:45	8		4				1	235			151	39	**438**	1706		426	1672	12	34	
16:00	4		0				1	237			133	56	**431**	1732		427	1700	4	32	
16:15	2		2				1	217			129	64	**415**	1723		411	1694	4	29	
16:30	4		1				3	254			97	60	**419**	1703		414	1678	5	25	
16:45	6		1				3	232			137	58	**437**	1702		430	1682	7	20	
17:00	6		0				6	253			160	36	**461**	1732		455	1710	6	22	
17:15	12		2				12	263			159	50	**498**	1815		484	1783	14	32	
17:30	5		1				4	217			123	79	**429**	1825		423	1792	6	33	
17:45	9		1				1	213			131	64	**419**	1807		409	1771	10	36	
18:00	10		0				2	205			128	40	**385**	1731		375	1691	10	40	
18:15	6		0				0	184			134	16	**340**	1573		334	1541	6	32	
18:30	1		1				0	184			146	16	**348**	1492		346	1464	2	28	
18:45	3		1				0	167			122	12	**305**	1378		301	1356	4	22	
19:00	7		1					177			98	13	**296**	1289		288	1269	8	20	
19:15	5		2					123			101	2	**233**	1182		226	1161	7	21	
19:30													**0**	834		0	815	0	19	

100% Combined Stewart & Blue Jay

Start Time	Major		Minor		ConditionA	Condition B	
6:00	117		5		420/140	630/70	9 hours
6:15	162		5				
6:30	198		5		4 Hour - 80 min		8 Hours
6:45	236	713	3	18			
7:00	253	849	9	22	Peak Hour = 75 min		8 hours
7:15	351	1038	10	27			
7:30	364	1204	14	36			
7:45	359	1327	9	42			
8:00	303	1377	9	42			
8:15	300	1326	9	41			
8:30	286	1248	10	37			
8:45	311	1200	7	35			
9:00	306	1203	11	37			
9:15	318	1221	11	39			
9:30	264	1199	16	45			
9:45	265	1153	28	66			
10:00	279	1126	12	67			
10:15	299	1107	14	70			
10:30	287	1130	18	72			
10:45	312	1177	19	63			
11:00	333	1231	12	63			
11:15	305	1237	15	64			
11:30	371	1321	21	67			
11:45	371	1380	28	76			
12:00	333	1380	21	85			
12:15	328	1403	27	97			
12:30	328	1360	24	100			
12:45	343	1332	27	99			
13:00	322	1321	27	105			
13:15	321	1314	29	107			
13:30	335	1321	29	112			
13:45	331	1309	28	113			
14:00	330	1317	24	110			
14:15	342	1338	24	105			
14:30	369	1372	35	111			
14:45	382	1423	22	105			
15:00	399	1492	22	103			
15:15	417	1567	18	97			
15:30	430	1628	31	93			
15:45	426	1672	26	97			
16:00	427	1700	21	96			
16:15	411	1694	24	102			
16:30	414	1678	24	95			
16:45	430	1682	23	92			
17:00	455	1710	28	99			
17:15	484	1783	35	110			
17:30	423	1792	25	111			
17:45	409	1771	33	121			
18:00	375	1691	36	129			
18:15	334	1541	43	137			
18:30	346	1464	12	124			
18:45	301	1356	30	121			
19:00	0	981	19	104			
19:15	0	647	12	73			
19:30	0	301	13	74			

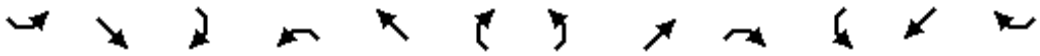
Totals

65% Combined Stewart & Blue Jay

Start Time	Major		Minor		ConditionA	Condition B		
6:00	117		3.95		420/140	630/70	7 hours	5 cars
6:15	162		4.3					
6:30	198		4.65		4 Hour - 80 min		6 hours	
6:45	236	713	2.65	16				
7:00	253	849	6.9	19	Peak Hour = 75 min		7 hours	
7:15	351	1038	6.5	21				
7:30	364	1204	10.15	26				
7:45	359	1327	6.55	30				
8:00	303	1377	6.55	30				
8:15	300	1326	6.9	30				
8:30	286	1248	6.85	27				
8:45	311	1200	4.55	25				
9:00	306	1203	7.5	26				
9:15	318	1221	7.15	26				
9:30	264	1199	11.1	30				
9:45	265	1153	20.65	46				
10:00	279	1126	8.15	47				
10:15	299	1107	9.8	50				
10:30	287	1130	13.45	52				
10:45	312	1177	13.05	44				
11:00	333	1231	9.55	46				
11:15	305	1237	11.15	47				
11:30	371	1321	16.1	50				
11:45	371	1380	19.6	56				
12:00	333	1380	16.1	63				
12:15	328	1403	20.35	72				
12:30	328	1360	18.4	74				
12:45	343	1332	21.05	76				
13:00	322	1321	18.95	79				
13:15	321	1314	20.95	79				
13:30	335	1321	20.95	82				
13:45	331	1309	21.35	82				
14:00	330	1317	19.1	82				
14:15	342	1338	17.7	79				
14:30	369	1372	26.25	84				
14:45	382	1423	16.4	79				
15:00	399	1492	16.4	77				
15:15	417	1567	14.15	73				
15:30	430	1628	23.3	70				
15:45	426	1672	21.1	75				
16:00	427	1700	15.05	74				
16:15	411	1694	17	76				
16:30	414	1678	17.35	71				
16:45	430	1682	17.4	67				
17:00	455	1710	20.3	72				
17:15	484	1783	27.65	83				
17:30	423	1792	18.35	84				
17:45	409	1771	24.95	91				
18:00	375	1691	26.9	98				
18:15	334	1541	30.05	100				
18:30	346	1464	8.5	90				
18:45	301	1356	20.9	86				
19:00	288	1269	20.35	80				
19:15	226	1161	14.8	65				
19:30	0	815	8.45	65				

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	14	592	75	164	543	135	132	34	115
v/c Ratio	0.03	0.37	0.09	0.34	0.26	0.41	0.31	0.15	0.55
Control Delay	10.1	20.2	0.2	11.4	12.0	31.6	12.2	27.5	44.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	20.2	0.2	11.4	12.0	31.6	12.2	27.5	44.3
Queue Length 50th (ft)	3	127	0	42	78	67	14	16	58
Queue Length 95th (ft)	13	199	0	81	160	110	62	37	109
Internal Link Dist (ft)		914			890		414		420
Turn Bay Length (ft)	200			200		100		200	
Base Capacity (vph)	481	1598	840	509	2055	334	504	222	371
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.37	0.09	0.32	0.26	0.40	0.26	0.15	0.31

Intersection Summary



Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	13	545	69	151	480	19	124	23	98	31	74	32
Future Volume (veh/h)	13	545	69	151	480	19	124	23	98	31	74	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	592	75	164	522	21	135	25	107	34	80	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	528	1866	832	514	1989	80	255	44	188	210	108	47
Arrive On Green	0.02	0.52	0.52	0.06	0.57	0.57	0.09	0.14	0.14	0.03	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	1781	3482	140	1781	309	1323	1781	1234	540
Grp Volume(v), veh/h	14	592	75	164	266	277	135	0	132	34	0	115
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1845	1781	0	1632	1781	0	1773
Q Serve(g_s), s	0.4	9.5	2.4	4.1	7.5	7.6	6.7	0.0	7.5	1.7	0.0	6.3
Cycle Q Clear(g_c), s	0.4	9.5	2.4	4.1	7.5	7.6	6.7	0.0	7.5	1.7	0.0	6.3
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.81	1.00		0.30
Lane Grp Cap(c), veh/h	528	1866	832	514	1015	1054	255	0	232	210	0	155
V/C Ratio(X)	0.03	0.32	0.09	0.32	0.26	0.26	0.53	0.00	0.57	0.16	0.00	0.74
Avail Cap(c_a), veh/h	589	1866	832	617	1015	1054	299	0	424	245	0	355
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	10.7	13.5	11.8	9.7	10.8	10.8	36.1	0.0	40.0	39.7	0.0	44.5
Incr Delay (d2), s/veh	0.0	0.4	0.2	0.4	0.6	0.6	1.7	0.0	2.2	0.4	0.0	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.5	0.9	1.4	2.8	2.9	3.0	0.0	3.1	0.8	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.7	14.0	12.1	10.1	11.4	11.4	37.8	0.0	42.2	40.0	0.0	51.4
LnGrp LOS	B	B	B	B	B	B	D	A	D	D	A	D
Approach Vol, veh/h		681			707			267			149	
Approach Delay, s/veh		13.7			11.1			40.0			48.8	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	63.1	9.1	20.2	12.2	58.5	14.5	14.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	40.0	5.0	26.0	12.0	33.0	11.0	20.0
Max Q Clear Time (g_c+I1), s	2.4	9.6	3.7	9.5	6.1	11.5	8.7	8.3
Green Ext Time (p_c), s	0.0	3.0	0.0	0.6	0.2	3.8	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	19.5
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.1

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	625	102	2	634	5	2
Future Vol, veh/h	625	102	2	634	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	100	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	679	111	2	689	5	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	790	0	1028	340
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	349	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	826	-	230	656
Stage 1	-	-	-	-	465	-
Stage 2	-	-	-	-	685	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	826	-	230	656
Mov Cap-2 Maneuver	-	-	-	-	351	-
Stage 1	-	-	-	-	464	-
Stage 2	-	-	-	-	685	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	14
HCM LOS			B

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	SET	SER
Capacity (veh/h)	351	656	826	-	-	-
HCM Lane V/C Ratio	0.015	0.003	0.003	-	-	-
HCM Control Delay (s)	15.4	10.5	9.4	-	-	-
HCM Lane LOS	C	B	A	-	-	-
HCM 95th %tile Q(veh)	0	0	0	-	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	0	6	0	0	0	2	627	10	2	721	169
Future Vol, veh/h	29	0	6	0	0	0	2	627	10	2	721	169
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	0	7	0	0	0	2	682	11	2	784	184

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1225	1577	484	1088	1664	347	968	0	0	693	0	0
Stage 1	880	880	-	692	692	-	-	-	-	-	-	-
Stage 2	345	697	-	396	972	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	135	109	529	170	96	649	707	-	-	898	-	-
Stage 1	308	363	-	400	443	-	-	-	-	-	-	-
Stage 2	644	441	-	601	329	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	134	108	529	167	96	649	707	-	-	898	-	-
Mov Cap-2 Maneuver	134	108	-	167	96	-	-	-	-	-	-	-
Stage 1	307	362	-	399	442	-	-	-	-	-	-	-
Stage 2	642	440	-	592	328	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	35.9	0	0	0
HCM LOS	E	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	707	-	-	154	-	898	-	-
HCM Lane V/C Ratio	0.003	-	-	0.247	-	0.002	-	-
HCM Control Delay (s)	10.1	-	-	35.9	0	9	-	-
HCM Lane LOS	B	-	-	E	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.9	-	0	-	-

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	29	476	128	298	687	379	288	21	105
v/c Ratio	0.08	0.39	0.18	0.60	0.41	0.74	0.48	0.12	0.58
Control Delay	17.1	33.0	0.6	21.8	23.3	40.1	28.0	27.5	54.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.1	33.0	0.6	21.8	23.3	40.1	28.0	27.5	54.8
Queue Length 50th (ft)	10	146	0	125	194	234	127	10	65
Queue Length 95th (ft)	28	228	0	204	268	313	225	26	119
Internal Link Dist (ft)		914			890		414		420
Turn Bay Length (ft)	200			200		100		200	
Base Capacity (vph)	344	1223	707	566	1675	518	627	175	280
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.39	0.18	0.53	0.41	0.73	0.46	0.12	0.38

Intersection Summary

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	27	438	118	274	609	23	349	109	156	19	64	32
Future Volume (veh/h)	27	438	118	274	609	23	349	109	156	19	64	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	476	128	298	662	25	379	118	170	21	70	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	385	1416	632	516	1707	64	455	183	264	182	91	46
Arrive On Green	0.03	0.40	0.40	0.12	0.49	0.49	0.21	0.26	0.26	0.02	0.08	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3492	132	1781	693	998	1781	1176	588
Grp Volume(v), veh/h	29	476	128	298	337	350	379	0	288	21	0	105
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1847	1781	0	1691	1781	0	1764
Q Serve(g_s), s	1.1	11.2	6.3	11.3	14.3	14.4	22.6	0.0	18.1	1.3	0.0	7.0
Cycle Q Clear(g_c), s	1.1	11.2	6.3	11.3	14.3	14.4	22.6	0.0	18.1	1.3	0.0	7.0
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.59	1.00		0.33
Lane Grp Cap(c), veh/h	385	1416	632	516	868	903	455	0	447	182	0	137
V/C Ratio(X)	0.08	0.34	0.20	0.58	0.39	0.39	0.83	0.00	0.64	0.12	0.00	0.77
Avail Cap(c_a), veh/h	413	1416	632	665	868	903	485	0	564	219	0	265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.3	25.1	23.6	17.0	19.3	19.4	37.6	0.0	39.1	49.3	0.0	54.3
Incr Delay (d2), s/veh	0.1	0.6	0.7	1.0	1.3	1.3	11.3	0.0	1.7	0.3	0.0	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.7	2.5	4.4	5.9	6.1	11.2	0.0	7.7	0.6	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.4	25.7	24.3	18.0	20.7	20.6	48.8	0.0	40.8	49.6	0.0	63.0
LnGrp LOS	C	C	C	B	C	C	D	A	D	D	A	E
Approach Vol, veh/h		633			985			667			126	
Approach Delay, s/veh		25.2			19.8			45.4			60.8	
Approach LOS		C			B			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	64.7	8.5	37.7	19.9	53.8	31.0	15.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	46.0	5.0	40.0	24.0	27.0	27.0	18.0
Max Q Clear Time (g_c+I1), s	3.1	16.4	3.3	20.1	13.3	13.2	24.6	9.0
Green Ext Time (p_c), s	0.0	4.0	0.0	1.7	0.6	2.8	0.3	0.3

Intersection Summary	
HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.4

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	579	223	25	965	29	4
Future Vol, veh/h	579	223	25	965	29	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	100	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	629	242	27	1049	32	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	871	0	1208	315
Stage 1	-	-	-	-	629	-
Stage 2	-	-	-	-	579	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	770	-	176	681
Stage 1	-	-	-	-	494	-
Stage 2	-	-	-	-	524	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	770	-	170	681
Mov Cap-2 Maneuver	-	-	-	-	300	-
Stage 1	-	-	-	-	477	-
Stage 2	-	-	-	-	524	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.2	17.4
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	SET	SER
Capacity (veh/h)	300	681	770	-	-	-
HCM Lane V/C Ratio	0.105	0.006	0.035	-	-	-
HCM Control Delay (s)	18.4	10.3	9.8	-	-	-
HCM Lane LOS	C	B	A	-	-	-
HCM 95th %tile Q(veh)	0.3	0	0.1	-	-	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	1	6	5	0	2	13	977	4	1	791	195
Future Vol, veh/h	72	1	6	5	0	2	13	977	4	1	791	195
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	100	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	1	7	5	0	2	14	1062	4	1	860	212

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1527	2062	536	1525	2166	533	1072	0	0	1066	0	0
Stage 1	968	968	-	1092	1092	-	-	-	-	-	-	-
Stage 2	559	1094	-	433	1074	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	80	54	489	81	46	491	646	-	-	649	-	-
Stage 1	273	330	-	229	289	-	-	-	-	-	-	-
Stage 2	481	288	-	571	294	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 78	53	489	77	45	491	646	-	-	649	-	-
Mov Cap-2 Maneuver	~ 78	53	-	77	45	-	-	-	-	-	-	-
Stage 1	267	329	-	224	283	-	-	-	-	-	-	-
Stage 2	468	282	-	561	293	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	198.5	43.5	0.1	0
HCM LOS	F	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	646	-	-	83	101	649	-	-
HCM Lane V/C Ratio	0.022	-	-	1.035	0.075	0.002	-	-
HCM Control Delay (s)	10.7	-	-	198.5	43.5	10.6	-	-
HCM Lane LOS	B	-	-	F	E	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	5.9	0.2	0	-	-

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

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	14	592	139	165	543	146	134	34	115
v/c Ratio	0.03	0.37	0.17	0.34	0.26	0.44	0.32	0.15	0.55
Control Delay	6.7	10.7	0.4	11.4	12.1	32.2	12.1	27.5	44.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	10.7	0.4	11.4	12.1	32.2	12.1	27.5	44.3
Queue Length 50th (ft)	2	42	0	43	78	73	14	16	58
Queue Length 95th (ft)	m5	53	0	82	160	118	62	37	109
Internal Link Dist (ft)		914			890		414		420
Turn Bay Length (ft)	200			200		100		200	
Base Capacity (vph)	481	1595	839	518	2052	335	505	222	371
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.37	0.17	0.32	0.26	0.44	0.27	0.15	0.31

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	13	545	128	152	480	19	134	23	100	31	74	32
Future Volume (veh/h)	13	545	128	152	480	19	134	23	100	31	74	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	592	139	165	522	21	146	25	109	34	80	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	523	1843	822	491	1971	79	264	45	196	216	108	47
Arrive On Green	0.02	0.52	0.52	0.06	0.57	0.57	0.09	0.15	0.15	0.03	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	1781	3482	140	1781	304	1327	1781	1234	540
Grp Volume(v), veh/h	14	592	139	165	266	277	146	0	134	34	0	115
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1845	1781	0	1631	1781	0	1773
Q Serve(g_s), s	0.4	9.6	4.6	4.2	7.6	7.7	7.2	0.0	7.6	1.7	0.0	6.3
Cycle Q Clear(g_c), s	0.4	9.6	4.6	4.2	7.6	7.7	7.2	0.0	7.6	1.7	0.0	6.3
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.81	1.00		0.30
Lane Grp Cap(c), veh/h	523	1843	822	491	1006	1044	264	0	240	216	0	155
V/C Ratio(X)	0.03	0.32	0.17	0.34	0.26	0.27	0.55	0.00	0.56	0.16	0.00	0.74
Avail Cap(c_a), veh/h	583	1843	822	610	1006	1044	299	0	424	250	0	355
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.95	0.95	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.0	13.9	12.7	10.0	11.1	11.1	35.4	0.0	39.6	39.7	0.0	44.5
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.4	0.6	0.6	1.8	0.0	2.0	0.3	0.0	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.6	1.7	1.5	2.8	2.9	3.2	0.0	3.2	0.8	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.0	14.3	13.1	10.4	11.7	11.7	37.2	0.0	41.6	40.0	0.0	51.4
LnGrp LOS	B	B	B	B	B	B	D	A	D	D	A	D
Approach Vol, veh/h		745			708			280			149	
Approach Delay, s/veh		14.0			11.4			39.3			48.8	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	62.6	9.1	20.7	12.3	57.9	15.1	14.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	40.0	5.0	26.0	13.0	32.0	11.0	20.0
Max Q Clear Time (g_c+I1), s	2.4	9.7	3.7	9.6	6.2	11.6	9.2	8.3
Green Ext Time (p_c), s	0.0	3.0	0.0	0.6	0.2	4.0	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

Lane Group	SET	SER	NWL	NWT	NEL	NER
Lane Group Flow (vph)	739	230	3	699	26	7
v/c Ratio	0.34	0.22	0.00	0.22	0.21	0.06
Control Delay	10.8	2.0	1.3	1.1	47.2	25.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.8	2.0	1.3	1.1	47.2	25.0
Queue Length 50th (ft)	125	0	0	16	16	0
Queue Length 95th (ft)	173	33	m1	38	42	14
Internal Link Dist (ft)	804			914	769	
Turn Bay Length (ft)		200	100		250	
Base Capacity (vph)	2182	1064	748	3116	354	322
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.22	0.00	0.22	0.07	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	680	212	3	643	24	6
Future Volume (veh/h)	680	212	3	643	24	6
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	739	230	3	699	26	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1564	697	854	3021	53	48
Arrive On Green	0.44	0.44	0.70	1.00	0.03	0.03
Sat Flow, veh/h	3647	1585	1781	3647	1781	1585
Grp Volume(v), veh/h	739	230	3	699	26	7
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	14.7	9.5	0.0	0.0	1.4	0.4
Cycle Q Clear(g_c), s	14.7	9.5	0.0	0.0	1.4	0.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1564	697	854	3021	53	48
V/C Ratio(X)	0.47	0.33	0.00	0.23	0.49	0.15
Avail Cap(c_a), veh/h	1564	697	854	3021	356	317
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.96	0.96	1.00	1.00
Uniform Delay (d), s/veh	19.8	18.3	3.3	0.0	47.7	47.3
Incr Delay (d2), s/veh	1.0	1.3	0.0	0.2	6.7	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	3.5	0.0	0.1	0.7	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.8	19.6	3.3	0.2	54.4	48.7
LnGrp LOS	C	B	A	A	D	D
Approach Vol, veh/h	969			702	33	
Approach Delay, s/veh	20.5			0.2	53.2	
Approach LOS	C			A	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		91.0		9.0	41.0	50.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		68.0		20.0	18.0	44.0
Max Q Clear Time (g_c+I1), s		2.0		3.4	2.0	16.7
Green Ext Time (p_c), s		5.0		0.0	0.0	5.9

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	29	476	213	303	687	407	290	21	105
v/c Ratio	0.09	0.40	0.31	0.62	0.42	0.77	0.48	0.12	0.58
Control Delay	13.3	22.2	1.8	23.0	24.1	41.0	27.1	27.2	54.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.3	22.2	1.8	23.0	24.1	41.0	27.1	27.2	54.8
Queue Length 50th (ft)	7	62	0	130	197	252	126	10	65
Queue Length 95th (ft)	17	180	13	211	273	336	223	26	119
Internal Link Dist (ft)		914			890		414		420
Turn Bay Length (ft)	200			200		100		200	
Base Capacity (vph)	336	1182	692	539	1641	534	641	175	280
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.40	0.31	0.56	0.42	0.76	0.45	0.12	0.38

Intersection Summary

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	27	438	196	279	609	23	374	109	158	19	64	32
Future Volume (veh/h)	27	438	196	279	609	23	374	109	158	19	64	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	476	213	303	662	25	407	118	172	21	70	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	1353	604	489	1659	63	479	191	279	182	91	46
Arrive On Green	0.03	0.38	0.38	0.12	0.48	0.48	0.22	0.28	0.28	0.02	0.08	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3492	132	1781	688	1002	1781	1176	588
Grp Volume(v), veh/h	29	476	213	303	337	350	407	0	290	21	0	105
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1847	1781	0	1690	1781	0	1764
Q Serve(g_s), s	1.2	11.5	11.5	11.9	14.7	14.7	24.3	0.0	17.9	1.3	0.0	7.0
Cycle Q Clear(g_c), s	1.2	11.5	11.5	11.9	14.7	14.7	24.3	0.0	17.9	1.3	0.0	7.0
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.59	1.00		0.33
Lane Grp Cap(c), veh/h	372	1353	604	489	844	878	479	0	470	182	0	137
V/C Ratio(X)	0.08	0.35	0.35	0.62	0.40	0.40	0.85	0.00	0.62	0.12	0.00	0.77
Avail Cap(c_a), veh/h	400	1353	604	601	844	878	500	0	577	219	0	265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.96	0.96	0.96	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	26.6	26.6	18.1	20.4	20.4	36.9	0.0	37.8	49.3	0.0	54.3
Incr Delay (d2), s/veh	0.1	0.7	1.6	1.3	1.4	1.4	12.6	0.0	1.3	0.3	0.0	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.8	4.7	4.7	6.1	6.3	12.2	0.0	7.6	0.6	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	27.2	28.1	19.4	21.8	21.8	49.5	0.0	39.1	49.6	0.0	63.0
LnGrp LOS	C	C	C	B	C	C	D	A	D	D	A	E
Approach Vol, veh/h		718			990			697			126	
Approach Delay, s/veh		27.3			21.0			45.2			60.8	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	63.0	8.5	39.4	20.4	51.7	32.6	15.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	45.0	5.0	41.0	22.0	28.0	28.0	18.0
Max Q Clear Time (g_c+I1), s	3.2	16.7	3.3	19.9	13.9	13.5	26.3	9.0
Green Ext Time (p_c), s	0.0	4.0	0.0	1.8	0.6	3.1	0.3	0.3

Intersection Summary	
HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

Lane Group	SET	SER	NWL	NWT	NEL	NER
Lane Group Flow (vph)	710	380	36	1067	84	9
v/c Ratio	0.33	0.34	0.05	0.36	0.52	0.06
Control Delay	12.7	2.1	2.0	1.8	62.5	25.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.7	2.1	2.0	1.8	62.5	25.4
Queue Length 50th (ft)	139	0	2	42	63	0
Queue Length 95th (ft)	194	43	m8	81	112	16
Internal Link Dist (ft)	804			914	769	
Turn Bay Length (ft)		200	100		250	
Base Capacity (vph)	2168	1116	727	2970	368	336
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.33	0.34	0.05	0.36	0.23	0.03

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	653	350	33	982	77	8
Future Volume (veh/h)	653	350	33	982	77	8
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	710	380	36	1067	84	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1688	753	787	2979	110	98
Arrive On Green	0.47	0.47	0.63	1.00	0.06	0.06
Sat Flow, veh/h	3647	1585	1781	3647	1781	1585
Grp Volume(v), veh/h	710	380	36	1067	84	9
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	15.7	19.9	0.0	0.0	5.6	0.6
Cycle Q Clear(g_c), s	15.7	19.9	0.0	0.0	5.6	0.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1688	753	787	2979	110	98
V/C Ratio(X)	0.42	0.50	0.05	0.36	0.76	0.09
Avail Cap(c_a), veh/h	1688	753	787	2979	371	330
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.82	0.82	1.00	1.00
Uniform Delay (d), s/veh	20.7	21.8	4.4	0.0	55.4	53.1
Incr Delay (d2), s/veh	0.8	2.4	0.1	0.3	10.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	7.5	0.2	0.1	2.8	0.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.4	24.2	4.5	0.3	65.8	53.5
LnGrp LOS	C	C	A	A	E	D
Approach Vol, veh/h	1090			1103	93	
Approach Delay, s/veh	22.4			0.4	64.7	
Approach LOS	C			A	E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		106.6		13.4	43.6	63.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		83.0		25.0	20.0	57.0
Max Q Clear Time (g_c+I1), s		2.0		7.6	2.0	21.9
Green Ext Time (p_c), s		9.1		0.2	0.0	6.6

Intersection Summary		
HCM 6th Ctrl Delay		13.5
HCM 6th LOS		B

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	14	592	139	165	543	146	134	34	115
v/c Ratio	0.03	0.37	0.17	0.34	0.26	0.44	0.32	0.15	0.55
Control Delay	10.1	20.2	0.5	11.4	12.1	32.2	12.1	27.5	44.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.1	20.2	0.5	11.4	12.1	32.2	12.1	27.5	44.3
Queue Length 50th (ft)	3	127	0	43	78	73	14	16	58
Queue Length 95th (ft)	13	199	0	82	160	118	62	37	109
Internal Link Dist (ft)		914			890		414		420
Turn Bay Length (ft)	200			200		100		200	
Base Capacity (vph)	481	1595	839	518	2052	335	505	222	371
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.37	0.17	0.32	0.26	0.44	0.27	0.15	0.31

Intersection Summary

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	13	545	128	152	480	19	134	23	100	31	74	32
Future Volume (veh/h)	13	545	128	152	480	19	134	23	100	31	74	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	14	592	139	165	522	21	146	25	109	34	80	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	523	1843	822	491	1971	79	264	45	196	216	108	47
Arrive On Green	0.02	0.52	0.52	0.06	0.57	0.57	0.09	0.15	0.15	0.03	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	1781	3482	140	1781	304	1327	1781	1234	540
Grp Volume(v), veh/h	14	592	139	165	266	277	146	0	134	34	0	115
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1845	1781	0	1631	1781	0	1773
Q Serve(g_s), s	0.4	9.6	4.6	4.2	7.6	7.7	7.2	0.0	7.6	1.7	0.0	6.3
Cycle Q Clear(g_c), s	0.4	9.6	4.6	4.2	7.6	7.7	7.2	0.0	7.6	1.7	0.0	6.3
Prop In Lane	1.00		1.00	1.00		0.08	1.00		0.81	1.00		0.30
Lane Grp Cap(c), veh/h	523	1843	822	491	1006	1044	264	0	240	216	0	155
V/C Ratio(X)	0.03	0.32	0.17	0.34	0.26	0.27	0.55	0.00	0.56	0.16	0.00	0.74
Avail Cap(c_a), veh/h	583	1843	822	610	1006	1044	299	0	424	250	0	355
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.0	13.9	12.7	10.0	11.1	11.1	35.4	0.0	39.6	39.7	0.0	44.5
Incr Delay (d2), s/veh	0.0	0.5	0.4	0.4	0.6	0.6	1.8	0.0	2.0	0.3	0.0	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.6	1.7	1.5	2.8	2.9	3.2	0.0	3.2	0.8	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.0	14.4	13.1	10.4	11.7	11.7	37.2	0.0	41.6	40.0	0.0	51.4
LnGrp LOS	B	B	B	B	B	B	D	A	D	D	A	D
Approach Vol, veh/h		745			708			280			149	
Approach Delay, s/veh		14.1			11.4			39.3			48.8	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.6	62.6	9.1	20.7	12.3	57.9	15.1	14.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	40.0	5.0	26.0	13.0	32.0	11.0	20.0
Max Q Clear Time (g_c+I1), s	2.4	9.7	3.7	9.6	6.2	11.6	9.2	8.3
Green Ext Time (p_c), s	0.0	3.0	0.0	0.6	0.2	4.0	0.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	0.3

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	680	212	3	643	24	6
Future Vol, veh/h	680	212	3	643	24	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	100	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	739	230	3	699	26	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	969	0	1095	370
Stage 1	-	-	-	-	739	-
Stage 2	-	-	-	-	356	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	707	-	208	627
Stage 1	-	-	-	-	433	-
Stage 2	-	-	-	-	680	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	707	-	207	627
Mov Cap-2 Maneuver	-	-	-	-	328	-
Stage 1	-	-	-	-	431	-
Stage 2	-	-	-	-	680	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	SET	SER
Capacity (veh/h)	328	627	707	-	-	-
HCM Lane V/C Ratio	0.08	0.01	0.005	-	-	-
HCM Control Delay (s)	16.9	10.8	10.1	-	-	-
HCM Lane LOS	C	B	B	-	-	-
HCM 95th %tile Q(veh)	0.3	0	0	-	-	-

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	29	476	213	303	687	407	290	21	105
v/c Ratio	0.09	0.40	0.31	0.62	0.42	0.77	0.48	0.12	0.58
Control Delay	17.7	34.1	3.9	23.0	24.1	41.0	27.1	27.2	54.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.7	34.1	3.9	23.0	24.1	41.0	27.1	27.2	54.8
Queue Length 50th (ft)	11	150	0	130	197	252	126	10	65
Queue Length 95th (ft)	28	230	41	211	273	336	223	26	119
Internal Link Dist (ft)		914			890		414		420
Turn Bay Length (ft)	200			200		100		200	
Base Capacity (vph)	336	1182	692	539	1641	534	641	175	280
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.40	0.31	0.56	0.42	0.76	0.45	0.12	0.38

Intersection Summary

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	27	438	196	279	609	23	374	109	158	19	64	32
Future Volume (veh/h)	27	438	196	279	609	23	374	109	158	19	64	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	476	213	303	662	25	407	118	172	21	70	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	1353	604	489	1659	63	479	191	279	182	91	46
Arrive On Green	0.03	0.38	0.38	0.12	0.48	0.48	0.22	0.28	0.28	0.02	0.08	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3492	132	1781	688	1002	1781	1176	588
Grp Volume(v), veh/h	29	476	213	303	337	350	407	0	290	21	0	105
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1847	1781	0	1690	1781	0	1764
Q Serve(g_s), s	1.2	11.5	11.5	11.9	14.7	14.7	24.3	0.0	17.9	1.3	0.0	7.0
Cycle Q Clear(g_c), s	1.2	11.5	11.5	11.9	14.7	14.7	24.3	0.0	17.9	1.3	0.0	7.0
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.59	1.00		0.33
Lane Grp Cap(c), veh/h	372	1353	604	489	844	878	479	0	470	182	0	137
V/C Ratio(X)	0.08	0.35	0.35	0.62	0.40	0.40	0.85	0.00	0.62	0.12	0.00	0.77
Avail Cap(c_a), veh/h	400	1353	604	601	844	878	500	0	577	219	0	265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.5	26.6	26.6	18.1	20.4	20.4	36.9	0.0	37.8	49.3	0.0	54.3
Incr Delay (d2), s/veh	0.1	0.7	1.6	1.3	1.4	1.4	12.6	0.0	1.3	0.3	0.0	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.8	4.7	4.7	6.1	6.3	12.2	0.0	7.6	0.6	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	27.3	28.2	19.4	21.8	21.8	49.5	0.0	39.1	49.6	0.0	63.0
LnGrp LOS	C	C	C	B	C	C	D	A	D	D	A	E
Approach Vol, veh/h		718			990			697			126	
Approach Delay, s/veh		27.3			21.0			45.2			60.8	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	63.0	8.5	39.4	20.4	51.7	32.6	15.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	45.0	5.0	41.0	22.0	28.0	28.0	18.0
Max Q Clear Time (g_c+I1), s	3.2	16.7	3.3	19.9	13.9	13.5	26.3	9.0
Green Ext Time (p_c), s	0.0	4.0	0.0	1.8	0.6	3.1	0.3	0.3

Intersection Summary	
HCM 6th Ctrl Delay	31.4
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.1

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	653	350	33	982	77	8
Future Vol, veh/h	653	350	33	982	77	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	100	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	710	380	36	1067	84	9

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1090	0	1316	355
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	606	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	636	-	149	641
Stage 1	-	-	-	-	448	-
Stage 2	-	-	-	-	507	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	636	-	141	641
Mov Cap-2 Maneuver	-	-	-	-	267	-
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	507	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.4	23.2
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	SET	SER
Capacity (veh/h)	267	641	636	-	-	-
HCM Lane V/C Ratio	0.313	0.014	0.056	-	-	-
HCM Control Delay (s)	24.5	10.7	11	-	-	-
HCM Lane LOS	C	B	B	-	-	-
HCM 95th %tile Q(veh)	1.3	0	0.2	-	-	-

Intersection	
Int Delay, s/veh	1

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	693	47	30	655	30	19
Future Vol, veh/h	693	47	30	655	30	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	753	51	33	712	33	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	804	0	1201	402
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	422	-
Critical Hdwy	-	-	5.34	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	3.12	-	3.67	3.92
Pot Cap-1 Maneuver	-	-	486	-	209	511
Stage 1	-	-	-	-	338	-
Stage 2	-	-	-	-	609	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	486	-	195	511
Mov Cap-2 Maneuver	-	-	-	-	195	-
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	609	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.6	22.6
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	257	486	-	-	-
HCM Lane V/C Ratio	0.207	0.067	-	-	-
HCM Control Delay (s)	22.6	12.9	-	-	-
HCM Lane LOS	C	B	-	-	-
HCM 95th %tile Q(veh)	0.8	0.2	-	-	-

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	17	617	139	165	585	146	142	34	133
v/c Ratio	0.04	0.40	0.17	0.36	0.30	0.44	0.32	0.14	0.59
Control Delay	6.7	11.4	0.5	12.3	14.7	31.1	12.6	26.3	46.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.7	11.4	0.5	12.3	14.7	31.1	12.6	26.3	46.4
Queue Length 50th (ft)	2	44	0	44	88	72	18	16	71
Queue Length 95th (ft)	m6	58	0	85	179	116	67	36	125
Internal Link Dist (ft)		426			890		414		420
Turn Bay Length (ft)	200			200		100		200	
Base Capacity (vph)	456	1547	821	495	1925	339	512	236	370
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.40	0.17	0.33	0.30	0.43	0.28	0.14	0.36

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	16	568	128	152	519	19	134	30	100	31	90	32
Future Volume (veh/h)	16	568	128	152	519	19	134	30	100	31	90	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	617	139	165	564	21	146	33	109	34	98	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	494	1807	806	474	1936	72	263	60	198	222	128	46
Arrive On Green	0.02	0.51	0.51	0.06	0.55	0.55	0.09	0.16	0.16	0.03	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	1781	3494	130	1781	382	1261	1781	1316	470
Grp Volume(v), veh/h	17	617	139	165	287	298	146	0	142	34	0	133
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1847	1781	0	1643	1781	0	1786
Q Serve(g_s), s	0.5	10.3	4.7	4.3	8.6	8.6	7.1	0.0	8.0	1.7	0.0	7.3
Cycle Q Clear(g_c), s	0.5	10.3	4.7	4.3	8.6	8.6	7.1	0.0	8.0	1.7	0.0	7.3
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.77	1.00		0.26
Lane Grp Cap(c), veh/h	494	1807	806	474	984	1023	263	0	257	222	0	174
V/C Ratio(X)	0.03	0.34	0.17	0.35	0.29	0.29	0.55	0.00	0.55	0.15	0.00	0.77
Avail Cap(c_a), veh/h	550	1807	806	590	984	1023	299	0	427	257	0	357
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.4	14.6	13.2	10.6	11.9	11.9	34.8	0.0	38.9	38.8	0.0	44.0
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.4	0.7	0.7	1.8	0.0	1.8	0.3	0.0	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.9	1.8	1.5	3.2	3.3	3.2	0.0	3.3	0.8	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.4	15.1	13.7	11.0	12.6	12.6	36.6	0.0	40.8	39.1	0.0	50.9
LnGrp LOS	B	B	B	B	B	B	D	A	D	D	A	D
Approach Vol, veh/h		773			750			288			167	
Approach Delay, s/veh		14.8			12.2			38.7			48.5	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	61.4	9.1	21.7	12.4	56.8	15.0	15.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	40.0	5.0	26.0	13.0	32.0	11.0	20.0
Max Q Clear Time (g_c+I1), s	2.5	10.6	3.7	10.0	6.3	12.3	9.1	9.3
Green Ext Time (p_c), s	0.0	3.3	0.0	0.7	0.2	4.1	0.1	0.5

Intersection Summary	
HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Lane Group	SET	SER	NWL	NWT	NEL	NER
Lane Group Flow (vph)	788	249	15	729	37	16
v/c Ratio	0.36	0.23	0.02	0.24	0.28	0.12
Control Delay	11.4	2.1	1.6	1.3	48.1	21.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.4	2.1	1.6	1.3	48.1	21.0
Queue Length 50th (ft)	138	0	1	18	23	0
Queue Length 95th (ft)	193	35	m4	42	53	20
Internal Link Dist (ft)	804			409	769	
Turn Bay Length (ft)		200	100		250	
Base Capacity (vph)	2165	1065	717	3099	354	329
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.23	0.02	0.24	0.10	0.05

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	725	229	14	671	34	15
Future Volume (veh/h)	725	229	14	671	34	15
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	788	249	15	729	37	16
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1564	697	822	2990	69	61
Arrive On Green	0.44	0.44	0.68	1.00	0.04	0.04
Sat Flow, veh/h	3647	1585	1781	3647	1781	1585
Grp Volume(v), veh/h	788	249	15	729	37	16
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	16.0	10.4	0.0	0.0	2.0	1.0
Cycle Q Clear(g_c), s	16.0	10.4	0.0	0.0	2.0	1.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1564	697	822	2990	69	61
V/C Ratio(X)	0.50	0.36	0.02	0.24	0.54	0.26
Avail Cap(c_a), veh/h	1564	697	822	2990	356	317
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	18.6	3.9	0.0	47.2	46.7
Incr Delay (d2), s/veh	1.2	1.4	0.0	0.2	6.4	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	3.8	0.1	0.1	1.0	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.3	20.0	3.9	0.2	53.6	48.9
LnGrp LOS	C	C	A	A	D	D
Approach Vol, veh/h	1037			744	53	
Approach Delay, s/veh	21.0			0.3	52.2	
Approach LOS	C			A	D	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		90.1		9.9	40.1	50.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		68.0		20.0	18.0	44.0
Max Q Clear Time (g_c+I1), s		2.0		4.0	2.0	18.0
Green Ext Time (p_c), s		5.3		0.1	0.0	6.3

Intersection Summary	
HCM 6th Ctrl Delay	13.5
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	1.4

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	668	33	32	1010	42	26
Future Vol, veh/h	668	33	32	1010	42	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	726	36	35	1098	46	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	762	0	1363	381
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	619	-
Critical Hdwy	-	-	5.34	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	3.12	-	3.67	3.92
Pot Cap-1 Maneuver	-	-	509	-	168	527
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	485	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	509	-	156	527
Mov Cap-2 Maneuver	-	-	-	-	156	-
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	485	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.4	30.6
HCM LOS			D

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	213	509	-	-	-
HCM Lane V/C Ratio	0.347	0.068	-	-	-
HCM Control Delay (s)	30.6	12.6	-	-	-
HCM Lane LOS	D	B	-	-	-
HCM 95th %tile Q(veh)	1.5	0.2	-	-	-

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	35	507	213	303	716	407	297	21	115
v/c Ratio	0.11	0.45	0.32	0.65	0.45	0.75	0.47	0.12	0.60
Control Delay	14.8	24.6	1.8	25.3	25.6	38.4	26.4	26.1	57.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	24.6	1.8	25.3	25.6	38.4	26.4	26.1	57.0
Queue Length 50th (ft)	9	75	0	135	214	245	128	10	75
Queue Length 95th (ft)	20	195	13	218	290	326	225	25	132
Internal Link Dist (ft)		427			890		414		420
Turn Bay Length (ft)	200			200		100		200	
Base Capacity (vph)	316	1121	668	528	1596	549	658	182	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.45	0.32	0.57	0.45	0.74	0.45	0.12	0.41

Intersection Summary

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	32	466	196	279	636	23	374	115	158	19	74	32
Future Volume (veh/h)	32	466	196	279	636	23	374	115	158	19	74	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	507	213	303	691	25	407	125	172	21	80	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	358	1329	593	475	1634	59	479	202	278	187	102	45
Arrive On Green	0.03	0.37	0.37	0.12	0.47	0.47	0.22	0.28	0.28	0.02	0.08	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3498	126	1781	713	981	1781	1234	540
Grp Volume(v), veh/h	35	507	213	303	351	365	407	0	297	21	0	115
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1848	1781	0	1694	1781	0	1773
Q Serve(g_s), s	1.4	12.5	11.7	12.0	15.7	15.7	24.1	0.0	18.3	1.3	0.0	7.6
Cycle Q Clear(g_c), s	1.4	12.5	11.7	12.0	15.7	15.7	24.1	0.0	18.3	1.3	0.0	7.6
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.58	1.00		0.30
Lane Grp Cap(c), veh/h	358	1329	593	475	830	863	479	0	480	187	0	147
V/C Ratio(X)	0.10	0.38	0.36	0.64	0.42	0.42	0.85	0.00	0.62	0.11	0.00	0.78
Avail Cap(c_a), veh/h	381	1329	593	614	830	863	515	0	593	224	0	266
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	27.4	27.2	18.7	21.2	21.2	36.4	0.0	37.4	48.8	0.0	54.0
Incr Delay (d2), s/veh	0.1	0.8	1.7	1.4	1.6	1.5	12.1	0.0	1.3	0.3	0.0	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	5.3	4.8	4.8	6.6	6.8	12.0	0.0	7.7	0.6	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.0	28.2	28.8	20.1	22.8	22.8	48.5	0.0	38.7	49.0	0.0	62.7
LnGrp LOS	C	C	C	C	C	C	D	A	D	D	A	E
Approach Vol, veh/h		755			1019			704			136	
Approach Delay, s/veh		28.1			22.0			44.4			60.6	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	62.1	8.5	40.0	20.6	50.9	32.5	15.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	44.0	5.0	42.0	24.0	25.0	29.0	18.0
Max Q Clear Time (g_c+I1), s	3.4	17.7	3.3	20.3	14.0	14.5	26.1	9.6
Green Ext Time (p_c), s	0.0	4.1	0.0	1.8	0.6	2.8	0.4	0.3

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Lane Group	SET	SER	NWL	NWT	NEL	NER
Lane Group Flow (vph)	734	404	50	1093	108	28
v/c Ratio	0.36	0.37	0.07	0.39	0.58	0.15
Control Delay	14.6	2.3	2.1	2.4	62.8	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	14.6	2.3	2.1	2.4	62.8	17.4
Queue Length 50th (ft)	151	0	4	44	81	0
Queue Length 95th (ft)	211	46	m10	73	136	28
Internal Link Dist (ft)	804			407	769	
Turn Bay Length (ft)		200	100		250	
Base Capacity (vph)	2044	1085	685	2811	383	364
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.37	0.07	0.39	0.28	0.08

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Volume (veh/h)	675	372	46	1006	99	26
Future Volume (veh/h)	675	372	46	1006	99	26
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	734	404	50	1093	108	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	1658	740	758	2922	139	123
Arrive On Green	0.47	0.47	0.61	1.00	0.08	0.08
Sat Flow, veh/h	3647	1585	1781	3647	1781	1585
Grp Volume(v), veh/h	734	404	50	1093	108	28
Grp Sat Flow(s),veh/h/ln	1777	1585	1781	1777	1781	1585
Q Serve(g_s), s	16.7	21.9	0.0	0.0	7.1	2.0
Cycle Q Clear(g_c), s	16.7	21.9	0.0	0.0	7.1	2.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1658	740	758	2922	139	123
V/C Ratio(X)	0.44	0.55	0.07	0.37	0.78	0.23
Avail Cap(c_a), veh/h	1658	740	758	2922	386	343
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	22.9	5.2	0.0	54.3	51.9
Incr Delay (d2), s/veh	0.9	2.9	0.2	0.4	9.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	8.3	0.3	0.1	3.5	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.4	25.8	5.4	0.4	63.3	52.9
LnGrp LOS	C	C	A	A	E	D
Approach Vol, veh/h	1138			1143	136	
Approach Delay, s/veh	23.6			0.6	61.2	
Approach LOS	C			A	E	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		104.7		15.3	42.7	62.0
Change Period (Y+Rc), s		6.0		6.0	6.0	6.0
Max Green Setting (Gmax), s		82.0		26.0	20.0	56.0
Max Q Clear Time (g_c+I1), s		2.0		9.1	2.0	23.9
Green Ext Time (p_c), s		9.4		0.3	0.1	6.9

Intersection Summary	
HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Intersection	
Int Delay, s/veh	1

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	693	47	30	655	30	19
Future Vol, veh/h	693	47	30	655	30	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	753	51	33	712	33	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	804	0	1201	402
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	422	-
Critical Hdwy	-	-	5.34	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	3.12	-	3.67	3.92
Pot Cap-1 Maneuver	-	-	486	-	209	511
Stage 1	-	-	-	-	338	-
Stage 2	-	-	-	-	609	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	486	-	195	511
Mov Cap-2 Maneuver	-	-	-	-	195	-
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	609	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.6	22.6
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	257	486	-	-	-
HCM Lane V/C Ratio	0.207	0.067	-	-	-
HCM Control Delay (s)	22.6	12.9	-	-	-
HCM Lane LOS	C	B	-	-	-
HCM 95th %tile Q(veh)	0.8	0.2	-	-	-

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	17	617	139	165	585	146	142	34	133
v/c Ratio	0.04	0.40	0.17	0.36	0.30	0.44	0.32	0.14	0.59
Control Delay	10.7	21.5	0.5	12.3	14.7	31.1	12.6	26.3	46.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.7	21.5	0.5	12.3	14.7	31.1	12.6	26.3	46.4
Queue Length 50th (ft)	4	137	0	44	88	72	18	16	71
Queue Length 95th (ft)	15	215	0	85	179	116	67	36	125
Internal Link Dist (ft)		426			890		414		420
Turn Bay Length (ft)	200			200		100		200	
Base Capacity (vph)	456	1547	821	495	1925	339	512	236	370
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.40	0.17	0.33	0.30	0.43	0.28	0.14	0.36

Intersection Summary

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	16	568	128	152	519	19	134	30	100	31	90	32
Future Volume (veh/h)	16	568	128	152	519	19	134	30	100	31	90	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	617	139	165	564	21	146	33	109	34	98	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	494	1807	806	474	1936	72	263	60	198	222	128	46
Arrive On Green	0.02	0.51	0.51	0.06	0.55	0.55	0.09	0.16	0.16	0.03	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	1781	3494	130	1781	382	1261	1781	1316	470
Grp Volume(v), veh/h	17	617	139	165	287	298	146	0	142	34	0	133
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1847	1781	0	1643	1781	0	1786
Q Serve(g_s), s	0.5	10.3	4.7	4.3	8.6	8.6	7.1	0.0	8.0	1.7	0.0	7.3
Cycle Q Clear(g_c), s	0.5	10.3	4.7	4.3	8.6	8.6	7.1	0.0	8.0	1.7	0.0	7.3
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.77	1.00		0.26
Lane Grp Cap(c), veh/h	494	1807	806	474	984	1023	263	0	257	222	0	174
V/C Ratio(X)	0.03	0.34	0.17	0.35	0.29	0.29	0.55	0.00	0.55	0.15	0.00	0.77
Avail Cap(c_a), veh/h	550	1807	806	590	984	1023	299	0	427	257	0	357
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.4	14.6	13.2	10.6	11.9	11.9	34.8	0.0	38.9	38.8	0.0	44.0
Incr Delay (d2), s/veh	0.0	0.5	0.5	0.4	0.7	0.7	1.8	0.0	1.8	0.3	0.0	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	3.9	1.8	1.5	3.2	3.3	3.2	0.0	3.3	0.8	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	11.4	15.1	13.7	11.0	12.6	12.6	36.6	0.0	40.8	39.1	0.0	50.9
LnGrp LOS	B	B	B	B	B	B	D	A	D	D	A	D
Approach Vol, veh/h		773			750			288			167	
Approach Delay, s/veh		14.8			12.2			38.7			48.5	
Approach LOS		B			B			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.9	61.4	9.1	21.7	12.4	56.8	15.0	15.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	40.0	5.0	26.0	13.0	32.0	11.0	20.0
Max Q Clear Time (g_c+I1), s	2.5	10.6	3.7	10.0	6.3	12.3	9.1	9.3
Green Ext Time (p_c), s	0.0	3.3	0.0	0.7	0.2	4.1	0.1	0.5

Intersection Summary	
HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	0.6

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	725	229	14	671	34	15
Future Vol, veh/h	725	229	14	671	34	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	100	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	788	249	15	729	37	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1037	0	1183	394
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	395	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	666	-	182	605
Stage 1	-	-	-	-	409	-
Stage 2	-	-	-	-	650	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	666	-	178	605
Mov Cap-2 Maneuver	-	-	-	-	299	-
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	650	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.2	16.4
HCM LOS			C

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	SET	SER
Capacity (veh/h)	299	605	666	-	-	-
HCM Lane V/C Ratio	0.124	0.027	0.023	-	-	-
HCM Control Delay (s)	18.7	11.1	10.5	-	-	-
HCM Lane LOS	C	B	B	-	-	-
HCM 95th %tile Q(veh)	0.4	0.1	0.1	-	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	668	33	32	1010	42	26
Future Vol, veh/h	668	33	32	1010	42	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	726	36	35	1098	46	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	762	0	1363	381
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	619	-
Critical Hdwy	-	-	5.34	-	6.29	7.14
Critical Hdwy Stg 1	-	-	-	-	6.64	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	3.12	-	3.67	3.92
Pot Cap-1 Maneuver	-	-	509	-	168	527
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	485	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	509	-	156	527
Mov Cap-2 Maneuver	-	-	-	-	156	-
Stage 1	-	-	-	-	331	-
Stage 2	-	-	-	-	485	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.4	30.6
HCM LOS			D

Minor Lane/Major Mvmt	NELn1	NWL	NWT	SET	SER
Capacity (veh/h)	213	509	-	-	-
HCM Lane V/C Ratio	0.347	0.068	-	-	-
HCM Control Delay (s)	30.6	12.6	-	-	-
HCM Lane LOS	D	B	-	-	-
HCM 95th %tile Q(veh)	1.5	0.2	-	-	-

Lane Group	SEL	SET	SER	NWL	NWT	NEL	NET	SWL	SWT
Lane Group Flow (vph)	35	507	213	303	716	407	297	21	115
v/c Ratio	0.11	0.45	0.32	0.65	0.45	0.75	0.47	0.12	0.60
Control Delay	19.1	36.6	4.2	25.3	25.6	38.4	26.4	26.1	57.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.1	36.6	4.2	25.3	25.6	38.4	26.4	26.1	57.0
Queue Length 50th (ft)	13	166	0	135	214	245	128	10	75
Queue Length 95th (ft)	33	253	42	218	290	326	225	25	132
Internal Link Dist (ft)		427			890		414		420
Turn Bay Length (ft)	200			200		100		200	
Base Capacity (vph)	316	1121	668	528	1596	549	658	182	279
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.45	0.32	0.57	0.45	0.74	0.45	0.12	0.41

Intersection Summary

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	32	466	196	279	636	23	374	115	158	19	74	32
Future Volume (veh/h)	32	466	196	279	636	23	374	115	158	19	74	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	35	507	213	303	691	25	407	125	172	21	80	35
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	358	1329	593	475	1634	59	479	202	278	187	102	45
Arrive On Green	0.03	0.37	0.37	0.12	0.47	0.47	0.22	0.28	0.28	0.02	0.08	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3498	126	1781	713	981	1781	1234	540
Grp Volume(v), veh/h	35	507	213	303	351	365	407	0	297	21	0	115
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1848	1781	0	1694	1781	0	1773
Q Serve(g_s), s	1.4	12.5	11.7	12.0	15.7	15.7	24.1	0.0	18.3	1.3	0.0	7.6
Cycle Q Clear(g_c), s	1.4	12.5	11.7	12.0	15.7	15.7	24.1	0.0	18.3	1.3	0.0	7.6
Prop In Lane	1.00		1.00	1.00		0.07	1.00		0.58	1.00		0.30
Lane Grp Cap(c), veh/h	358	1329	593	475	830	863	479	0	480	187	0	147
V/C Ratio(X)	0.10	0.38	0.36	0.64	0.42	0.42	0.85	0.00	0.62	0.11	0.00	0.78
Avail Cap(c_a), veh/h	381	1329	593	614	830	863	515	0	593	224	0	266
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.9	27.4	27.2	18.7	21.2	21.2	36.4	0.0	37.4	48.8	0.0	54.0
Incr Delay (d2), s/veh	0.1	0.8	1.7	1.4	1.6	1.5	12.1	0.0	1.3	0.3	0.0	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	5.3	4.8	4.8	6.6	6.8	12.0	0.0	7.7	0.6	0.0	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.0	28.2	28.8	20.1	22.8	22.8	48.5	0.0	38.7	49.0	0.0	62.7
LnGrp LOS	C	C	C	C	C	C	D	A	D	D	A	E
Approach Vol, veh/h		755			1019			704			136	
Approach Delay, s/veh		28.1			22.0			44.4			60.6	
Approach LOS		C			C			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.4	62.1	8.5	40.0	20.6	50.9	32.5	15.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	5.0	44.0	5.0	42.0	24.0	25.0	29.0	18.0
Max Q Clear Time (g_c+I1), s	3.4	17.7	3.3	20.3	14.0	14.5	26.1	9.6
Green Ext Time (p_c), s	0.0	4.1	0.0	1.8	0.6	2.8	0.4	0.3

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	1.7

Movement	SET	SER	NWL	NWT	NEL	NER
Lane Configurations						
Traffic Vol, veh/h	675	372	46	1006	99	26
Future Vol, veh/h	675	372	46	1006	99	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	200	100	-	250	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	734	404	50	1093	108	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1138	0	1381	367
Stage 1	-	-	-	-	734	-
Stage 2	-	-	-	-	647	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	610	-	135	630
Stage 1	-	-	-	-	436	-
Stage 2	-	-	-	-	483	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	610	-	124	630
Mov Cap-2 Maneuver	-	-	-	-	246	-
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	483	-

Approach	SE	NW	NE
HCM Control Delay, s	0	0.5	26.4
HCM LOS			D

Minor Lane/Major Mvmt	NELn1	NELn2	NWL	NWT	SET	SER
Capacity (veh/h)	246	630	610	-	-	-
HCM Lane V/C Ratio	0.437	0.045	0.082	-	-	-
HCM Control Delay (s)	30.5	11	11.4	-	-	-
HCM Lane LOS	D	B	B	-	-	-
HCM 95th %tile Q(veh)	2.1	0.1	0.3	-	-	-