I-35 & 92 Highway Commercial

TRAFFIC IMPACT STUDY

August 31, 2009

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

8-31-09

LUTJEN

August 31, 2009

Mr. Timothy Harris
Star Development Corporation
244 West Mill Street, Suite 101
Liberty, Missouri 64068

Re: I-35 & MO 92 Commercial Development
Lutjen No. 09107

Dear Mr. Harris:

In response to your request, Lutjen, Inc. has completed 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 surrounding streets, primarily during the AM and PM peak hour. 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,

LUTJEN, INC.

Kristin L. Skinner, P.E., PTOE
Traffic Engineer

Lutjen, Inc.
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1) INTRODUCTION

The purpose of this study is to examine the potential traffic impacts associated with the proposed commercial development at the southeast corner of Interstate 35 and Missouri Route 92 in Kearney, Missouri. This development will consist of a pharmacy, gas station, hotel, grocery store, restaurants and general retail. The primary access point to this development will be through a realigned Regency Drive. There will also be an entrance located between the I-35 interchange and Regency Drive that will not allow left turns out of the development (right-in/right-out/left-in).

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

2) EXISTING CONDITIONS

The existing site is a total of 37.15 acres of farmland, with a small retail site at the northern edge. The site is bordered to the west by I-35 and to the north by Missouri Route 92. MO 92 is a 35 mile per hour roadway with two lanes in each direction and a two-way left turn lane. The north and south sides of MO 92 that are not included in this site consist of commercial development. Single family residential housing borders the site to the east.

AM and PM Peak Hour traffic counts were obtained from MoDOT in the form of Synchro Models. The traffic counts are approximately twelve months old. Traffic counts dated April 29, 2009 were also provided for the intersection of Missouri Rotue 92 and Platte Clay Way. These counts were consistent with those provided in the Synchro models. Additional turning movement traffic counts were conducted on June 17th, 2009 from 7:00 to 8:00 am and from 4:45 to 5:45 pm at each of the five commercial drives located between the northbound I-35 ramps and the Regency Avenue/South Platte Clay Way intersection with MO 92. The peak hour traffic volumes and existing lane configurations are shown in Figures 3-6.

3) PROPOSED DEVELOPMENT

The proposed site plan is shown in Figure 2. As part of this development, existing Regency Avenue will be realigned so that Drive A becomes the through street and Regency Avenue will tee into Drive A. Drive A will continue to the southern border of the property and is expected to extend south to 19th Street and to act as a frontage road in the future. In addition to Drive A, there will be an Entrance (Drive B) on MO 92 located between the northbound I-35 ramps and the South Platte Clay Way/Drive A Intersection. Drive B will be a right-in/right-out/left-in entrance, with the exiting left turn movement restricted by a channelizing island and signing. Drive B will travel south within the site to intersect Drive A with a roundabout approximately 350' south of MO 92.

A 14,800 square foot Pharmacy with a drive-through window will be located on the west side of the RI/RO entrance and a 4,675 square foot gas station on the east. Along the north and west side of Drive A, there will be a 4,750 square foot fast food restaurant with a drive-through window, an 8,750 square foot retail site, an 8,750 square foot restaurant, and an 18,000 square foot hotel. In the southeast corner of the site, there will be a 65,000 square foot grocery store. Also on the south and east side of Drive A there will be two retail sites with 10,800 square feet and 11,900 square feet, and two high turn-over sit-down restaurants, each 10,800 square feet.

4) APPROVED DEVELOPMENT

There is no known approved development in the area surrounding this site.

5) TRIP GENERATION

The vehicle trips generated by the proposed development were estimated using the Institute of Transportation Engineers' Trip Generation, 8th Edition. The estimated AM and PM peak hour traffic volumes associated with each phase of this development are shown in Table 1.

Table 1: Trip Generation

Land Use	*Intensity*	*ADT*	*A.M. Peak Hour*			*P.M. Peak Hour*		
			Total	*In*	*Out*	*Total*	*In*	*Out*
Shopping Center	169,025 SF	9,552	210	128	82	904	443	461
Total		**9,552**	**210**	**128**	**82**	**904**	**443**	**461**

6) PASS-BY TRIPS

Pass-by trips are made as intermediate stops on the way from an origin to a primary trip destination with-out a route diversion. Pass-by trips were considered for the Pharmacy, Gas Station, Restaurants, and Grocery store sites using methods outlined in the Institute of Transportation Engineers' Trip Generation Handbook. During the PM Peak Hour, 33% of the trips generated were assumed to be pass-by.

Table 2 summarizes the primary and pass-by trip volumes for the proposed site.

Table 2: Pass-By Trips

Land Use	*Intensity*	*AM Pass-By*	*A.M. Peak Hour*			*PM Pass-By*	*P.M. Peak Hour*		
			Total	*In*	*Out*		*Total*	*In*	*Out*
Shopping Center	169,025 SF		210	128	82		606	294	312
		0%				33%	298	149	149
Total			**210**	**128**	**82**		**904**	**443**	**461**

7) TRIP DISTRIBUTION AND ASSIGNMENT

Trips generated by the I-35 and MO 92 Commercial Development were distributed based on existing traffic flows and a general analysis of the surrounding area. The counts taken at the commercial drives were considered as an indicator of the traffic patterns for commercial sites. Table 3 summarizes the approximate trip distribution.

Table 3: Trip Distribution

	AM		PM	
	To	From	To	From
To/From S Platte Clay Way	5%	10%	5%	10%
To/From Regency	5%	10%	5%	10%
To/From the East on MO 92				
To/From North on MO 33	5%	8%	10%	10%
To/From South on MO 33	5%	15%	10%	10%
To/From East on MO 92	5%	20%	15%	20%
To/From the West on MO 92				
To/From North on I-35	5%	5%	5%	5%
To/From South on I-35	40%	12%	15%	25%
To/From West on MO 92	30%	20%	35%	10%
Total	100%	100%	100%	100%

The trips generated by the development were added to existing traffic during the AM and PM peak hours. The AM and PM peak hour traffic volumes for each phase are shown in Figures 7 and 8 in Appendix I.

8) SIGNAL WARRANT ANALYSIS

The intersection of Drive A and the realigned Regency Drive was evaluated for signalization using the Manual on Uniform Traffic Control Devices (MUTCD) 2003 Edition. The Peak Hour Warrant (Warrant 3) was not met during the AM or PM peak hour. The high percentage of right-turning vehicles on Regency would make further make signalization unnecessary even if traffic volumes on Regency were higher than expected.

9) FUTURE CONDITIONS

Based on the City of Kearney Master Plan and upon the Kearney Access Justification Report completed by Transystems in 2005, it seems unlikely that MO 92 will continue to be the only access point to I-35 in the future. For the purpose of this study, it was assumed that the 19th Street half diamond interchange would be completed by the year 2025. The future traffic volumes for the year 2025 provided in the Access Justification Report was used to model the AM and PM Peak Hours in the Future scenarios. Improvements to MO 92 at the interchange were also assumed as shown in Exhibit 2 of the Access Justification Report. Additionally, it was assumed that Missouri Route 92 would be widened to two lanes in each direction past Missouri Route 33 to the east and that a southbound right turn lane would be added on Platte Clay Way at Missouri Route 92.

Future AM and PM Peak Hour traffic volumes are shown in Figures 11 and 12 in Appendix I.

10) LEVEL OF SERVICE AND VOLUME/CAPACITY ANALYSIS

Capacity analysis was used to quantify the impacts of the increased traffic on the intersections studied. The methodology outlined in the Highway Capacity Manual, 2000 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 3: 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.

Existing Conditions
The levels of service, lane configuration, and queue lengths for existing conditions are shown in Figures 5 and 6 in Appendix I. For the existing scenarios, the Synchro files provided by MoDOT were used, including the timing provided in those files. In the AM Peak Hour, the intersection of MO 33 and MO 92 is currently functioning at a level of service D. All other intersections are functioning well during both the AM and PM peak hours with isolated movements functioning at levels of service D.

Proposed Conditions
The levels of service, lane configuration, and queue lengths for the proposed conditions are shown in Figures 9 and 10.

In both the AM and PM peak hours, all signalized intersections will function at a level of service of C or better, with some movements functioning at a level of service D.

The westbound left turn movement at the unsignalized intersection of Regency Drive and Drive A will have a level of service F in both PM peak hour. Although this is undesirable, a low level of service is not uncommon for unsignalized left turn movements. All other unsignalized movements analyzed operate at a level of service C or better.

Future Conditions
The levels of service, lane configuration, and queue lengths for the year 2025 conditions are shown in Figures 13 and 14.

In the future PM peak hour, the intersection of Missouri Route 92 and Platte Clay Way has a level of service D with several movements classed as E. Additional lanes on Missouri Route 92 would improve the level of service.

11) RECOMMENDATIONS AND DISCUSSION

This study documents the impact of the proposed I-35 & MO 92 Commercial Development on adjacent intersections during the AM and PM peak hours. The following are the recommended improvements associated with this development.

MO 92 & I-35 Southbound Ramps:

- No recommended improvements

MO 92 & I-35 Northbound Ramps:

- Additional northbound right turn lane on the ramp

Proposed Drive B:

- Eastbound Right Turn Lane
- Channelizing Island and signs to prevent left turns leaving the site

MO 92 & S Platte Clay Way/Drive A Intersection:

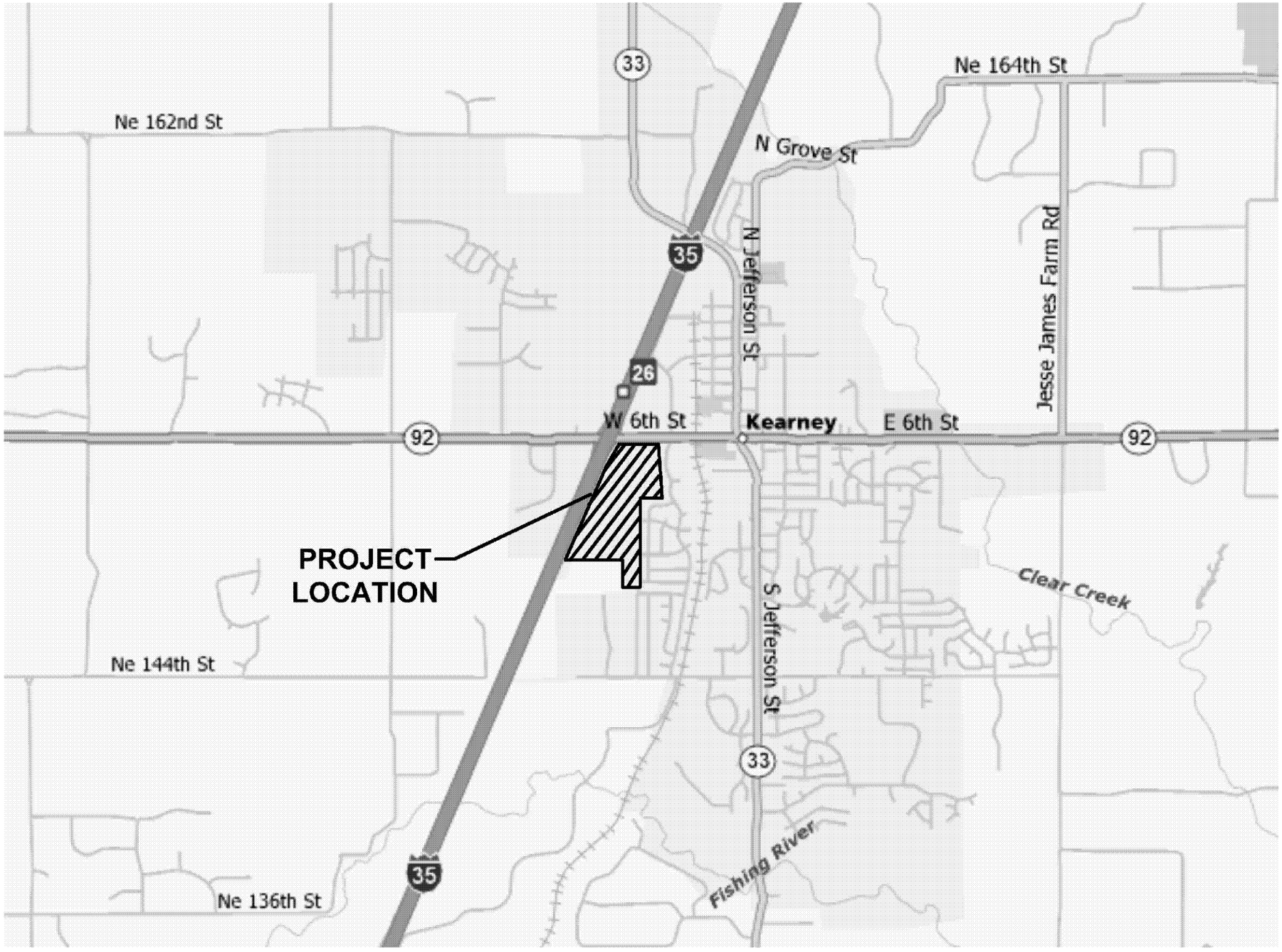
- Additional northbound left turn lane
- Two southbound lanes (one will terminate as southbound left turn lane at re-aligned Regency Avenue)
- Eastbound right turn lane

In addition to the improvements listed above, a northbound right turn lane and a southbound right turn lane would improve the level of service at this intersection. For the purpose of this report, right-of-way and grade restraints with existing properties were assumed to make these improvements impossible, and they were not analyzed. If right-of-way becomes available, or other improvements are made, right turn lanes should be considered.

Realigned Regency Avenue (Tee intersection with Drive A):

- Westbound left and right turn lane
- Southbound left turn lane (will terminated one of the southbound lanes)

APPENDIX I



NOT TO SCALE

FIGURE 1

LOCATION MAP

Location: R:\Engineering\Kearney – 09107\Figure 1.dwg

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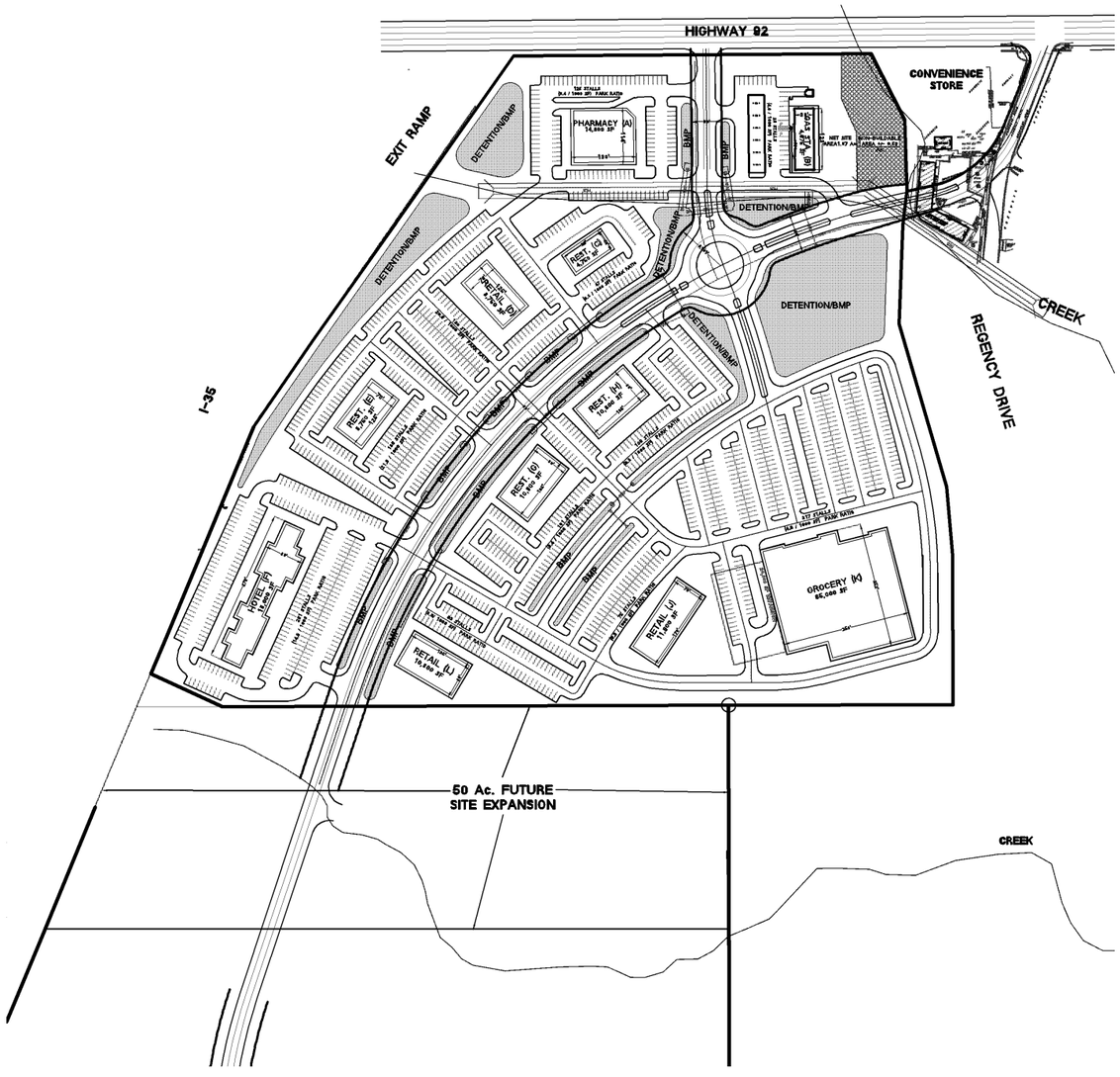
92 HWY & I-35
SITE PLAN
ZONING DISTRICT C2

A Part of the N 1/2
Sec. 34, Twp. 53N, Rge. 31W
City of Kearney, Clay County, Missouri

SITE PLAN
SHEET 1 OF 1



GENERAL NOTES:

1. Drawing scale is 1"=100'.
2. Existing Zoning: C-2.
3. Use: Commercial-Retail.
4. Land area, building coverage, right-of-way, phasing, construction dates are as indicated in Development Data.
5. Ingress and egress to each lot will be from a dedicated public street and/or via access easement.
6. Layout of lots, streets, open areas, and pedestrian circulation are indicated on plan.
7. The maintenance of the storm water facilities shall be according to the covenants, deeds, & restrictions.
8. Cross access will be granted across all lots and outparcels. Cross parking will be granted across all lots, but not outparcels.
9. Each lot will require Final Plan approval.
10. Proposed contours, grades, easements and utilities are indicated on utility plan, and subject to, final engineering, and approval by city. Private utilities and easements are not indicated and are subject to final design by individual companies.
11. Layout of lots, streets, open areas, and pedestrian circulation are indicated on plan. All public sidewalks are to be located within right-of-way. Private sidewalks shall be a minimum of 5' wide.

LEGEND:

1. Limits of Plan:
2. Topography is shown as thus:
   - Existing 300
   - Proposed 300
3. Existing and proposed curbs are shown as thus:
   - Existing
   - Proposed
3. Proposed Detention and/or BMP areas are shown as thus:

SITE DEVELOPMENT DATA:

SINGLE PHASE DEVELOPMENT	
GROSS SITE AREA	37.15Ac 1,618,254SF
BUILDING SQUARE FEET	189,025 SF
PARKING PROVIDED:	1,511

UTILITIES:

EXISTING STORM SEWER	ESTM
PROPOSED STORM SEWER	STM
FUTURE STORM SEWER	FSTM
EXISTING SANITARY SEWER	SSAN
PROPOSED SANITARY SEWER	SAN
FUTURE SANITARY SEWER	FSAN
EXISTING WATER MAINS	EW
PROPOSED WATER MAINS	W
FUTURE WATER MAINS	FW

SURVEY LEGEND:

⊕ – SET CROSS	● – SET 1/2" BAR
OHP – OVERHEAD POWER	PP – POWER POLE
OHT – OVERHEAD TELEPHONE	WV – WATER VALVE
LP – LIGHT POLE	FH – FIRE HYDRANT
TMH – TELEPHONE MANHOLE	WM – WATER METER
EM – ELECTRIC METER	FP – FENCE POST
SM – SEWER MANHOLE	BH – BORE HOLE
EB – ELECTRIC BOX	GM – GAS METER
TS – TRAFFIC SIGNAL	CT – CABLE TV
TSB – TRAFFIC SIGNAL BOX	MB – MAILBOX
TSM – TRAFFIC SIGNAL MANHOLE	CI – CURB INLET
KMH – KCPL MANHOLE	DI – DROP INLET
TP – TELEPHONE PEDESTAL	FI – FIELD INLET
TB – TELEPHONE BOX	GP – GUARD POST

APPLICANT

STAR DEVELOPMENT
244 Mill Street
Ste. 101
LIBERTY, MO 64068
TELEPHONE # (816) 781-3322

N

SCALE
0' 300' 600'
1"=30' HORIZ.

FIGURE 2

DEVELOPMENT PLAN

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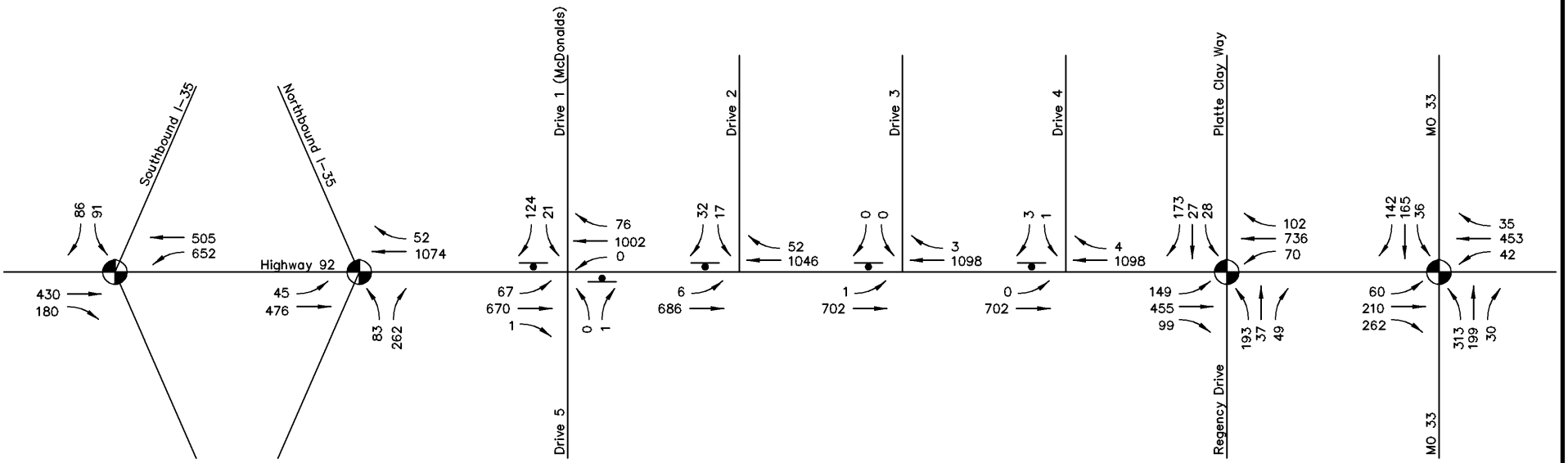
Location: R:\Engineering\Kearney – 09107\Figure 2.dwg



LEGEND

Vehicle Movement

XX (XX) = Total Volumes

Stop Sign

Traffic Signal

N

EXISTING AM PEAK HOUR TRAFFIC VOLUMES

I-35 & 92 HWY

KEARNEY, MISSOURI

No Scale

Figure 3

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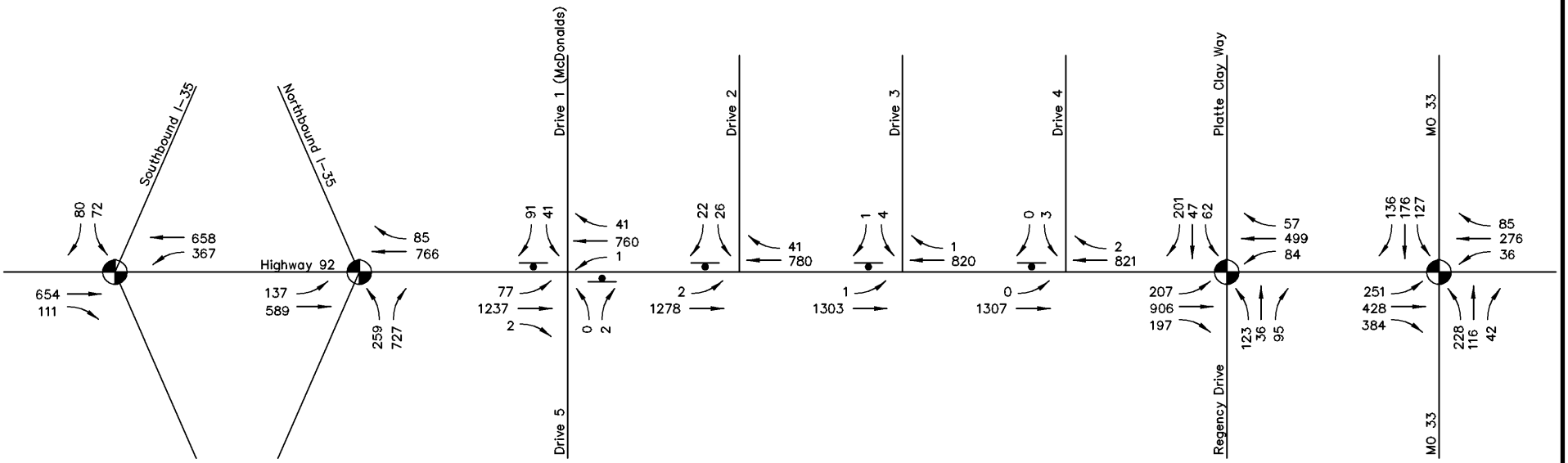

LEGEND

Vehicle Movement

XX (XX) = Total Volumes

Stop Sign

Traffic Signal

N

EXISTING PM PEAK HOUR TRAFFIC VOLUMES

I-35 & 92 HWY

KEARNEY, MISSOURI

No Scale

Figure 4

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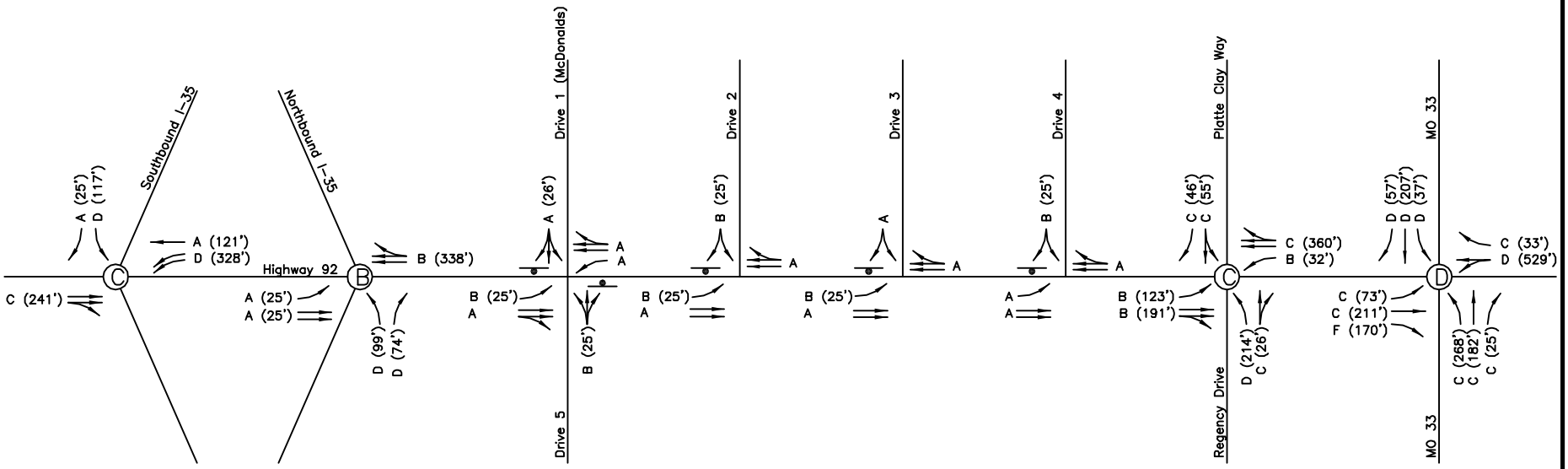

LEGEND

HCM LOS (95TH Percentile Queue)

Ⓐ Traffic Signal Level of Service

Stop Sign

N

EXISTING AM PEAK HOUR LANE CONFIGURATION & LEVEL OF SERVICE

I-35 & 92 HWY

KEARNEY, MISSOURI

No Scale

Figure 5

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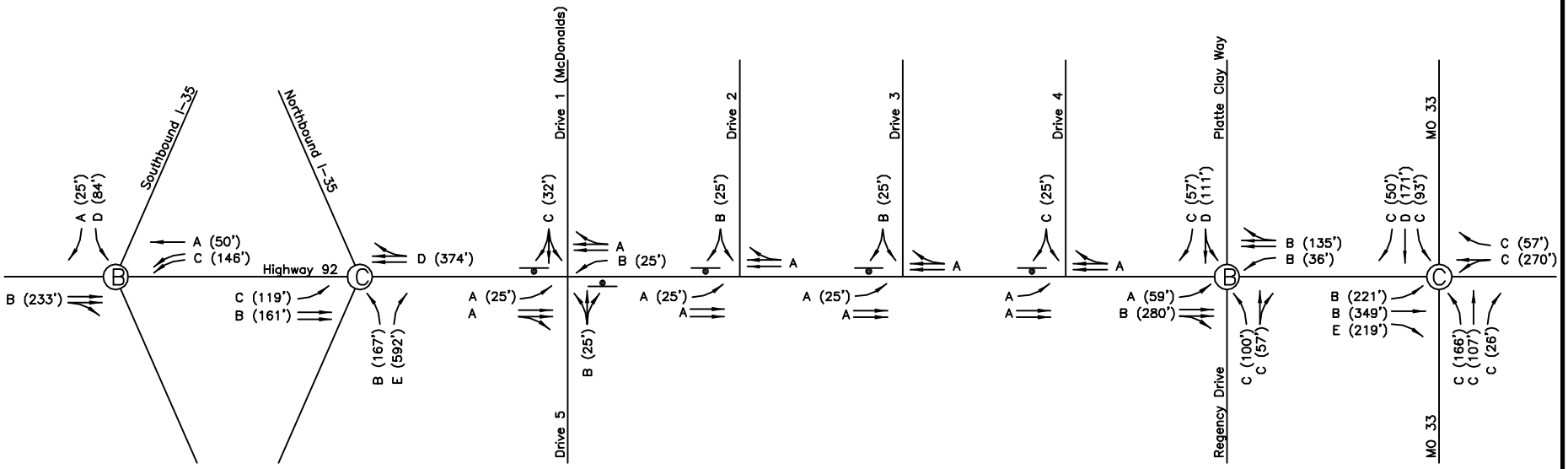

LEGEND

HCM LOS (95TH Percentile Queue)

Ⓐ Traffic Signal Level of Service

Stop Sign

N

EXISTING PM PEAK HOUR LANE CONFIGURATION & LEVEL OF SERVICE

I-35 & 92 HWY

KEARNEY, MISSOURI

No Scale

Figure 6

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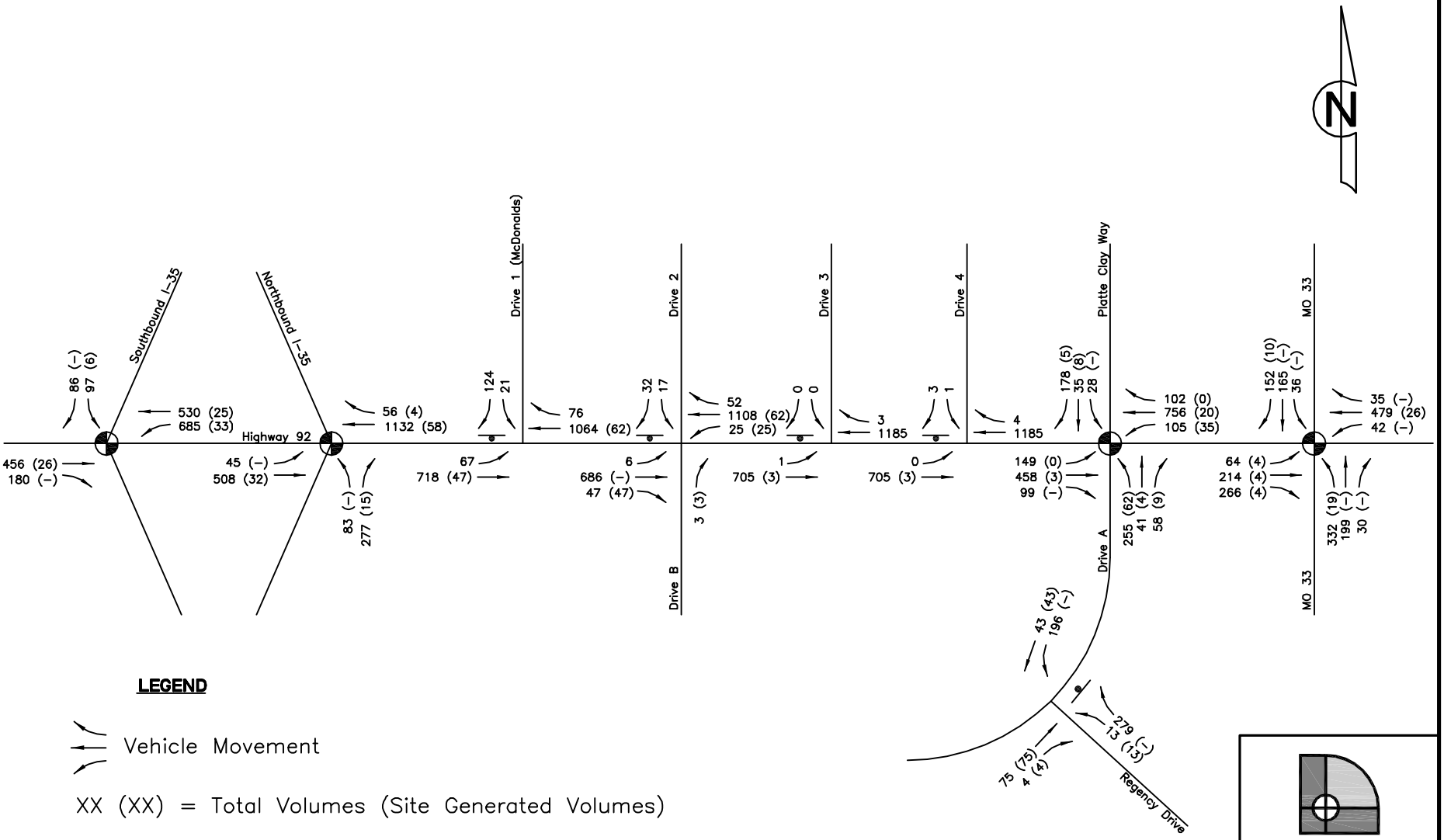

LEGEND

Vehicle Movement

XX (XX) = Total Volumes (Site Generated Volumes)

Stop Sign

PROPOSED AM PEAK HOUR TRAFFIC VOLUMES

I-35 & 92 HWY
KEARNEY, MISSOURI

No Scale

Figure 7

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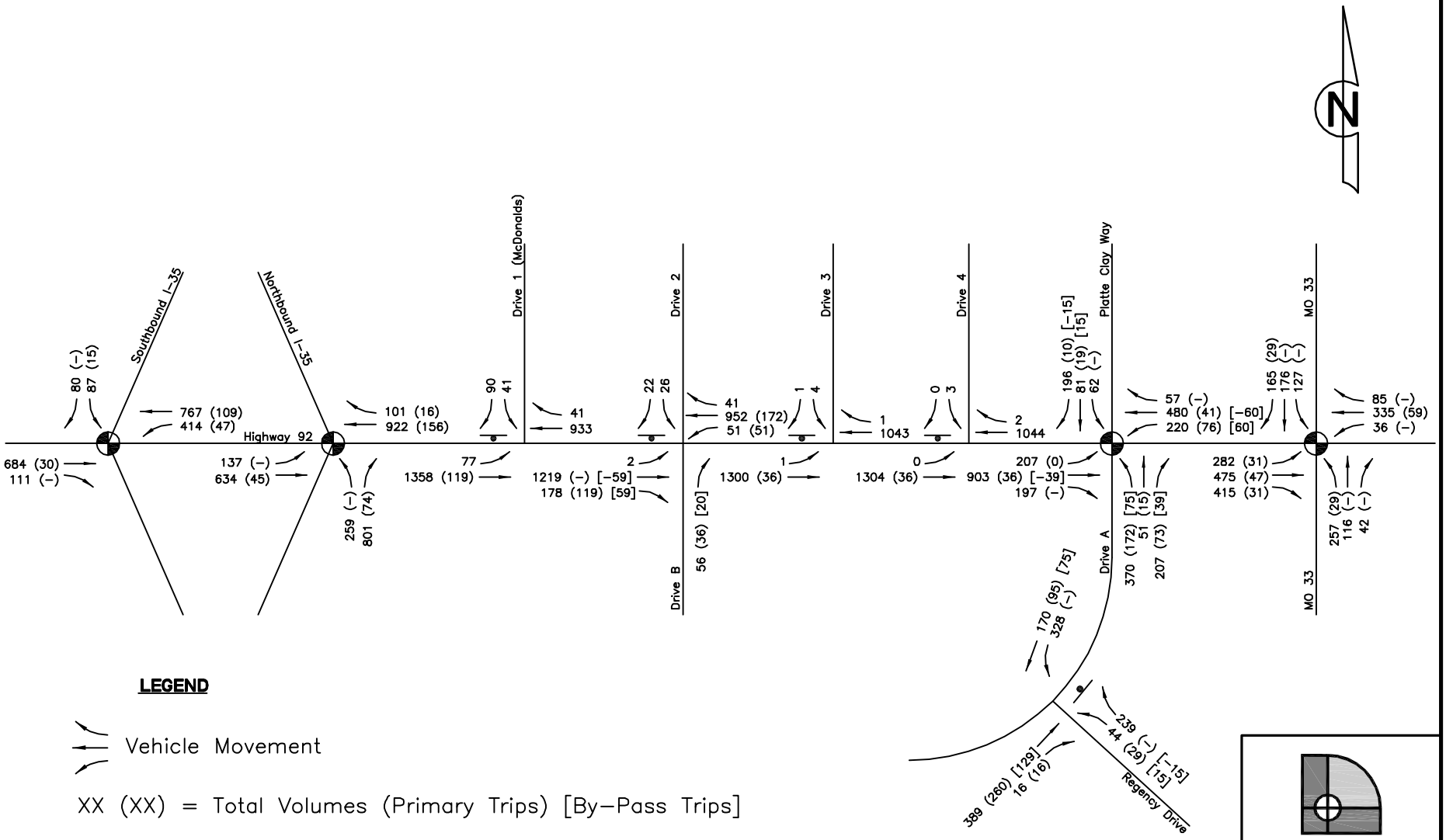

LEGEND

Vehicle Movement

XX (XX) = Total Volumes (Primary Trips) [By–Pass Trips]

Stop Sign

PROPOSED PM PEAK HOUR TRAFFIC VOLUMES

I-35 & 92 HWY

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Figure 8

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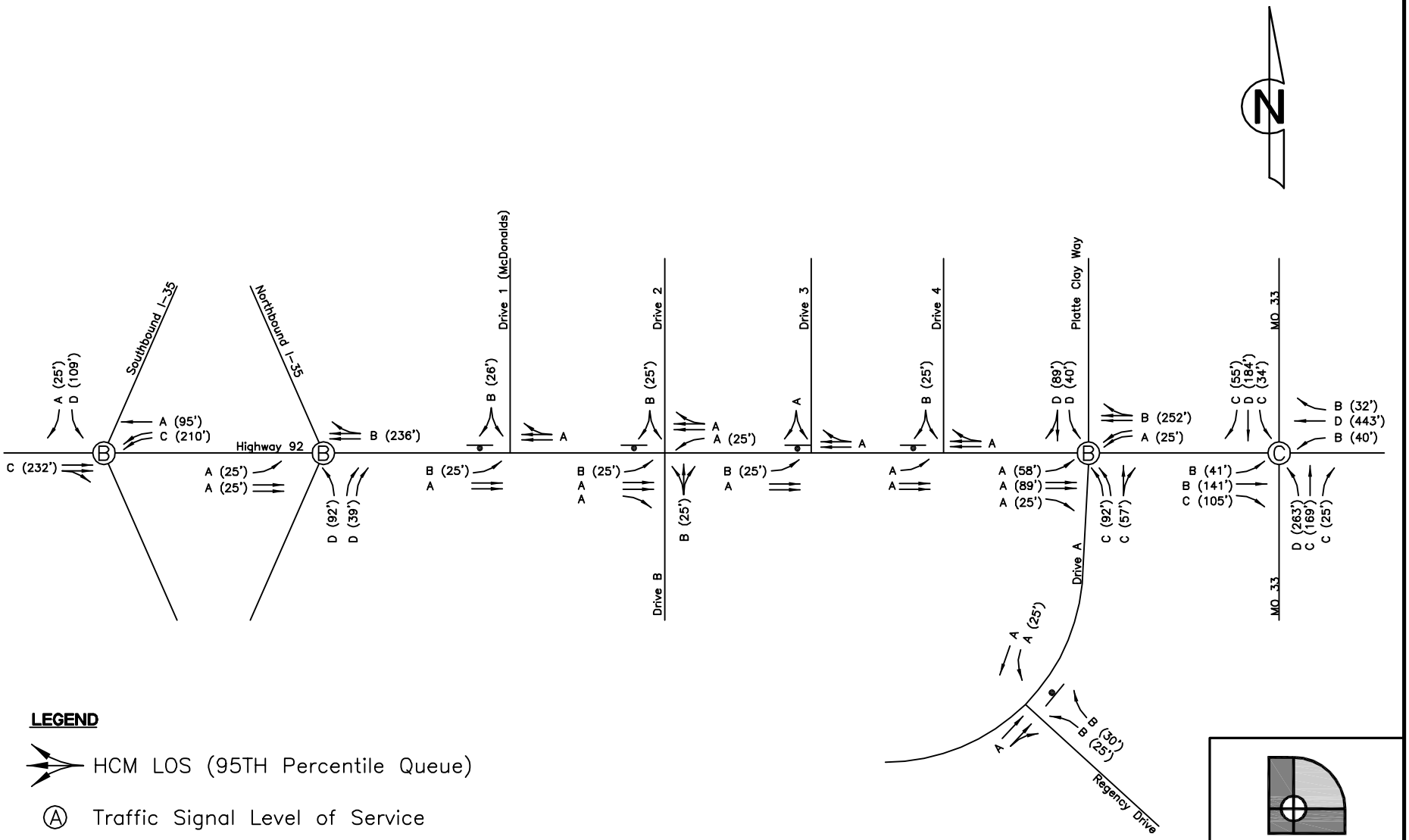

PROPOSED AM PEAK HOUR LANE CONFIGURATION & LEVEL OF SERVICE

I-35 & 92 HWY

KEARNEY, MISSOURI

No Scale

Figure 9

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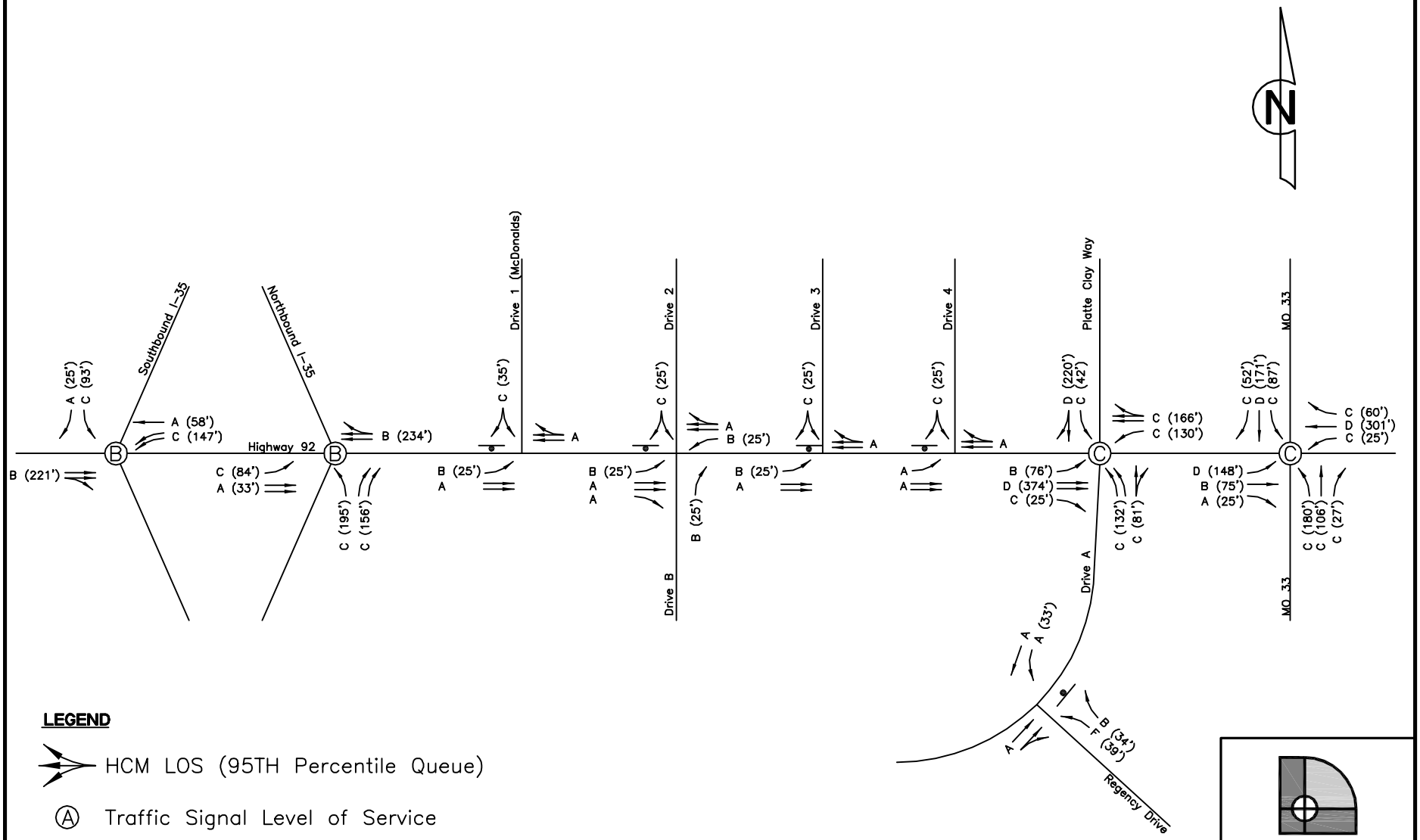

PROPOSED PM PEAK HOUR LANE CONFIGURATION & LEVEL OF SERVICE

I-35 & 92 HWY

KEARNEY, MISSOURI

No Scale

Figure 10

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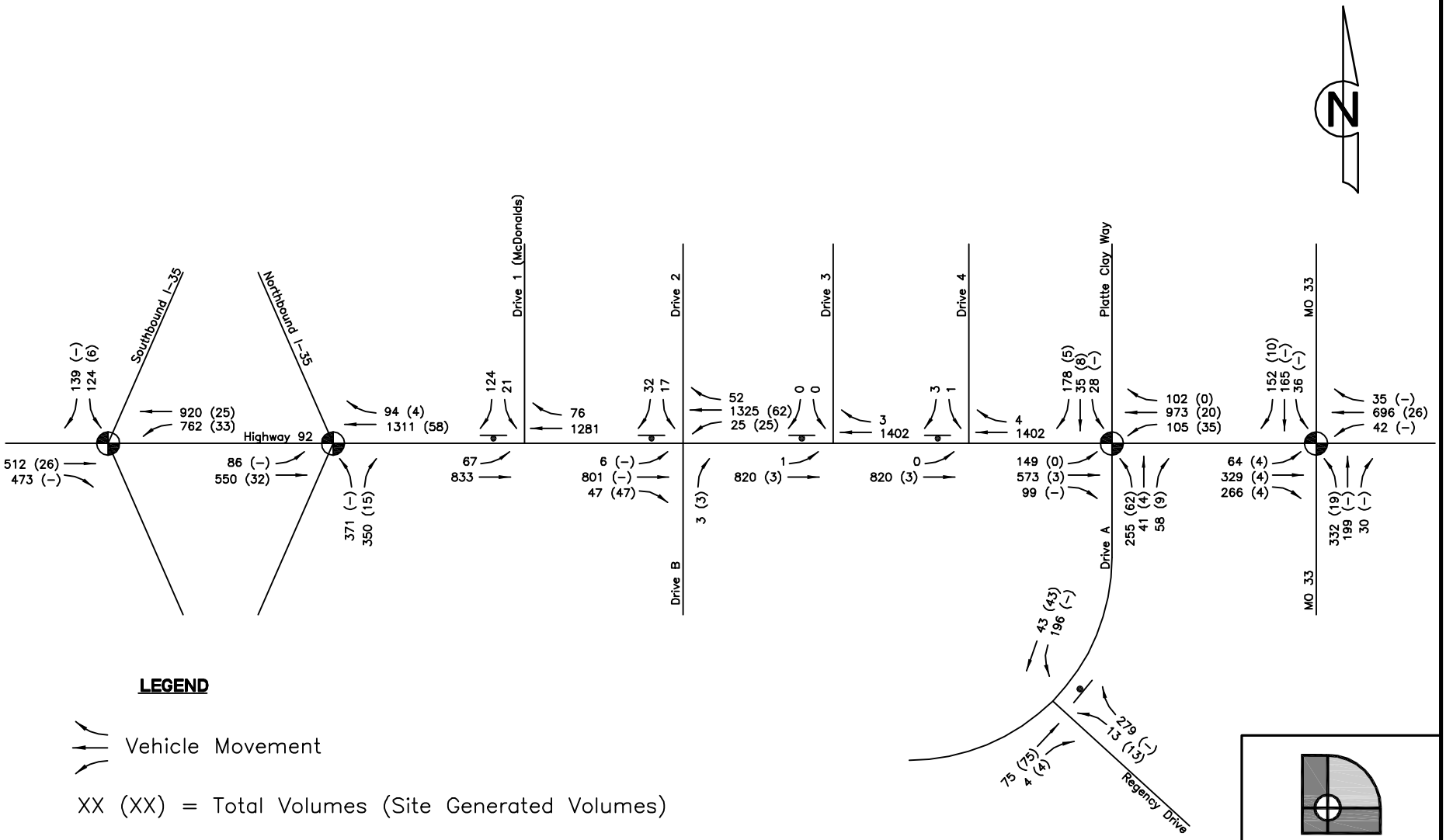

LEGEND

Vehicle Movement

XX (XX) = Total Volumes (Site Generated Volumes)

Stop Sign

2025 AM PEAK HOUR TRAFFIC VOLUMES

I-35 & 92 HWY

KEARNEY, MISSOURI

No Scale

Figure 11

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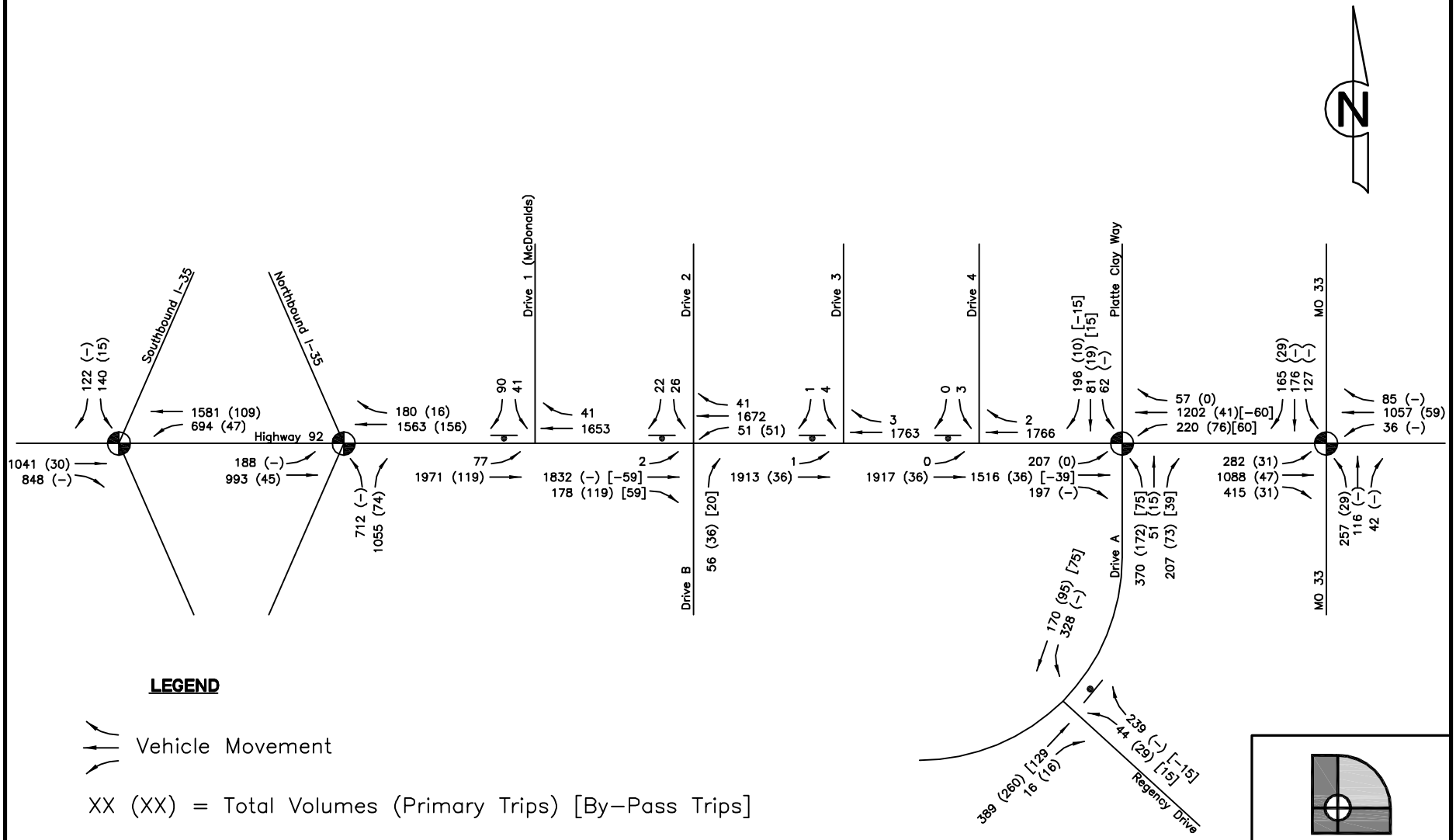

LEGEND

Vehicle Movement

XX (XX) = Total Volumes (Primary Trips) [By–Pass Trips]

Stop Sign

2025 PM PEAK HOUR TRAFFIC VOLUMES

I-35 & 92 HWY
KEARNEY, MISSOURI

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Figure 12

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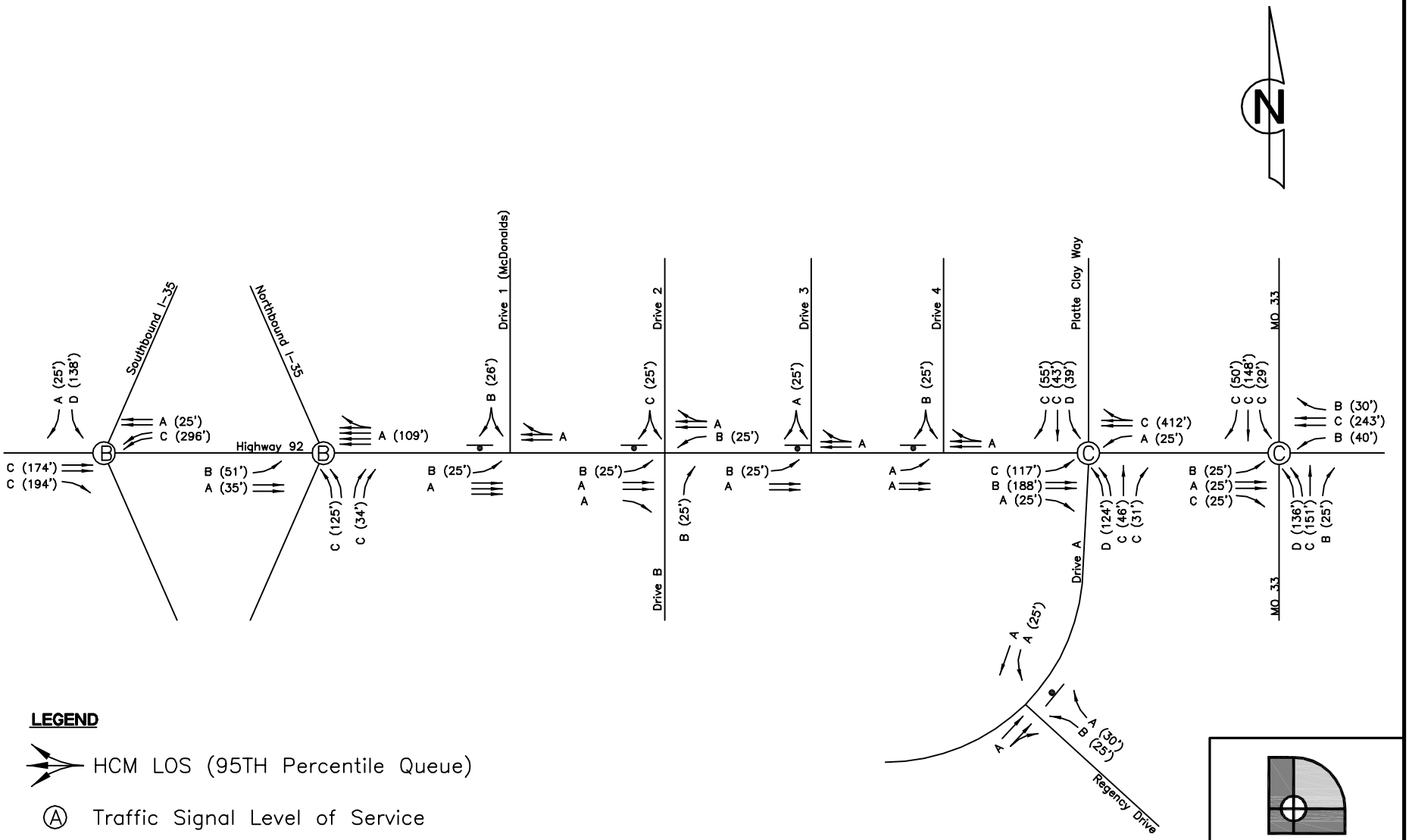

2025 AM PEAK HOUR LANE CONFIGURATION & LEVEL OF SERVICE

I-35 & 92 HWY

KEARNEY, MISSOURI

No Scale

Figure 13

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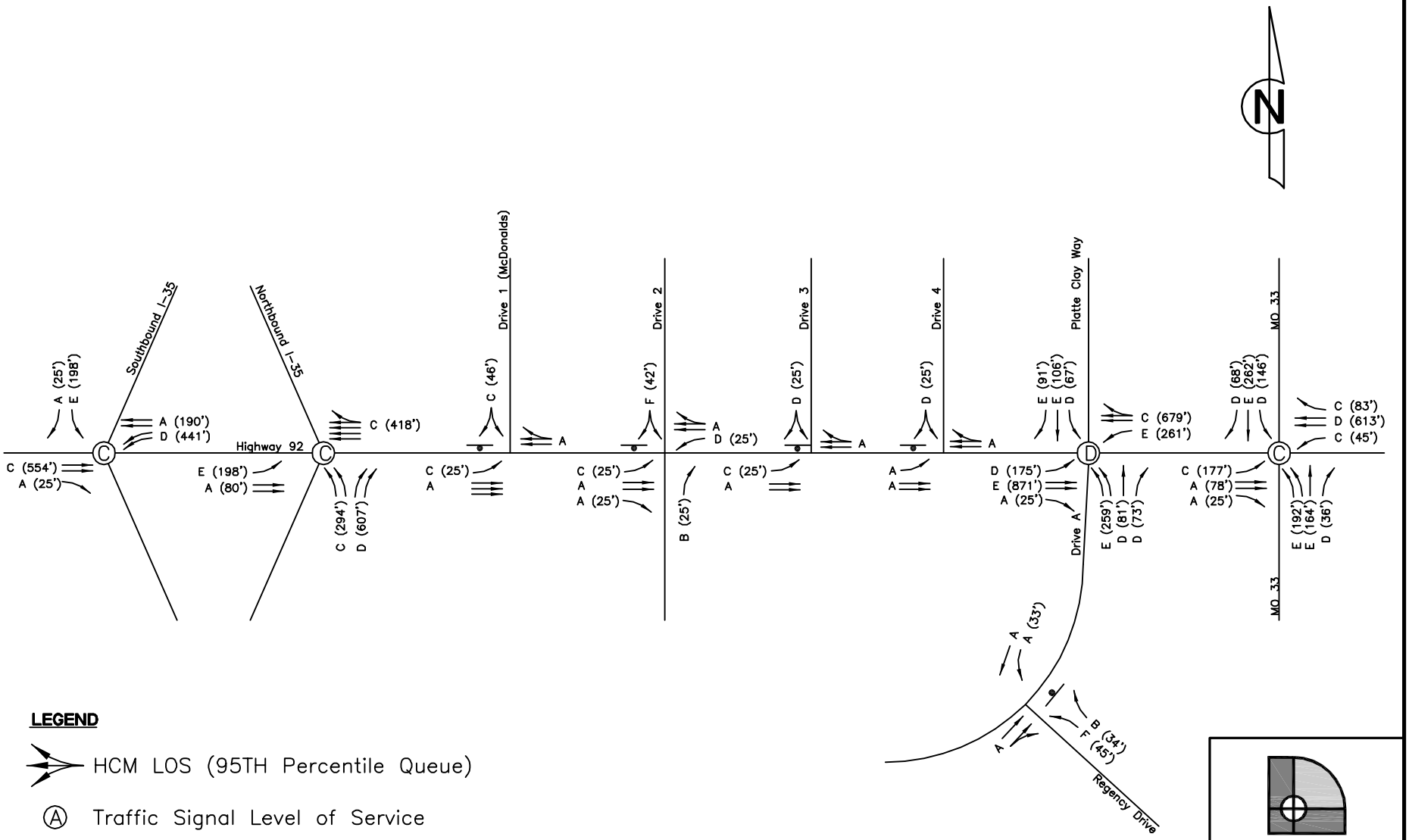

LEGEND

HCM LOS (95TH Percentile Queue)

Ⓐ Traffic Signal Level of Service

Stop Sign

2025 PM PEAK HOUR LANE CONFIGURATION & LEVEL OF SERVICE

I-35 & 92 HWY

KEARNEY, MISSOURI

No Scale

Figure 14

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APPENDIX II

Traffic Counts

Synchro Reports

Your Company Name Here

This is your address
Your City, State ZipCode
Your Tagline Here

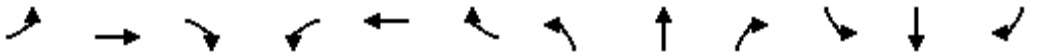
File Name : MO-92 @ Platte Clay Way - April 2009
Site Code : 04292009
Start Date : 4/29/2009
Page No : 1

Groups Printed- All Vehicles

	Platte Clay Way From North					MO-92 From East					Regency Dr From South					MO-92 From West					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:00 AM	15	1	2	0	18	5	134	15	0	154	3	1	31	0	35	4	27	7	0	38	245
06:15 AM	14	0	0	0	14	8	144	10	0	162	4	1	24	0	29	4	34	4	0	42	247
06:30 AM	22	2	1	0	25	5	165	9	0	179	5	4	22	0	31	6	51	9	0	66	301
06:45 AM	17	0	7	0	24	11	138	8	0	157	8	6	29	0	43	6	92	15	0	113	337
Total	68	3	10	0	81	29	581	42	0	652	20	12	106	0	138	20	204	35	0	259	1130
07:00 AM	22	2	10	0	34	13	192	24	0	229	20	7	32	0	59	14	125	24	0	163	485
07:15 AM	26	2	5	0	33	8	220	14	0	242	21	7	34	0	62	13	109	17	0	139	476
07:30 AM	55	3	8	0	66	21	226	17	0	264	9	8	56	0	73	13	83	24	0	120	523
07:45 AM	24	1	3	0	28	23	161	13	0	197	12	11	30	0	53	16	74	32	0	122	400
Total	127	8	26	0	161	65	799	68	0	932	62	33	152	0	247	56	391	97	0	544	1884
08:00 AM	37	4	11	0	52	9	123	14	0	146	15	9	22	0	46	15	81	28	0	124	368
08:15 AM	34	2	8	0	44	24	132	11	0	167	18	2	31	0	51	9	59	29	0	97	359
08:30 AM	32	4	8	0	44	33	153	13	0	199	19	5	25	0	49	14	101	37	0	152	444
08:45 AM	29	6	14	0	49	26	112	13	0	151	11	5	16	0	32	11	83	34	0	128	360
Total	132	16	41	0	189	92	520	51	0	663	63	21	94	0	178	49	324	128	0	501	1531
03:00 PM	36	12	26	0	74	36	99	12	0	147	15	13	18	0	46	22	148	53	0	223	490
03:15 PM	47	14	30	0	91	41	120	12	0	173	22	6	11	0	39	23	159	53	0	235	538
03:30 PM	44	9	34	0	87	31	124	28	0	183	18	11	32	0	61	26	164	48	0	238	569
03:45 PM	36	6	29	0	71	36	128	20	0	184	27	6	20	0	53	23	212	55	0	290	598
Total	163	41	119	0	323	144	471	72	0	687	82	36	81	0	199	94	683	209	0	986	2195
04:00 PM	57	17	29	0	103	30	104	15	0	149	26	16	19	0	61	38	213	34	0	285	598
04:15 PM	21	17	26	0	64	24	131	19	0	174	25	7	24	0	56	25	218	44	0	287	581
04:30 PM	28	9	32	0	69	23	125	29	0	177	14	7	25	0	46	32	175	53	0	260	552
04:45 PM	51	13	25	0	89	22	137	12	0	171	20	12	17	0	49	66	195	52	4	317	626
Total	157	56	112	0	325	99	497	75	0	671	85	42	85	0	212	161	801	183	4	1149	2357
05:00 PM	65	5	38	0	108	25	138	18	0	181	22	11	30	0	63	45	191	56	0	292	644
05:15 PM	37	6	24	0	67	21	125	18	0	164	22	11	27	0	60	44	233	50	0	327	618
05:30 PM	30	10	25	0	65	13	119	15	0	147	30	10	14	0	54	38	212	38	0	288	554
05:45 PM	31	10	18	0	59	18	128	26	0	172	23	9	25	0	57	31	193	32	0	256	544
Total	163	31	105	0	299	77	510	77	0	664	97	41	96	0	234	158	829	176	0	1163	2360
Grand Total	810	155	413	0	1378	506	3378	385	0	4269	409	185	614	0	1208	538	3232	828	4	4602	11457
Apprch %	58.8	11.2	30	0		11.9	79.1	9	0		33.9	15.3	50.8	0		11.7	70.2	18	0.1		
Total %	7.1	1.4	3.6	0	12	4.4	29.5	3.4	0	37.3	3.6	1.6	5.4	0	10.5	4.7	28.2	7.2	0	40.2	

Lane Group	EBT	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	678	724	561	101	96
v/c Ratio	0.47	0.84	0.42	0.63	0.07
Control Delay	20.8	40.7	2.6	62.2	0.1
Queue Delay	0.0	0.0	0.3	0.0	0.0
Total Delay	20.8	40.7	2.9	62.2	0.1
Queue Length 50th (ft)	146	248	16	66	0
Queue Length 95th (ft)	241	328	121	117	0
Internal Link Dist (ft)	146		393		
Turn Bay Length (ft)		140		400	
Base Capacity (vph)	1437	1102	1334	276	1442
Starvation Cap Reductn	0	0	304	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.47	0.66	0.54	0.37	0.07

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	430	180	652	505	0	0	0	0	91	0	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0					6.0		4.0
Lane Util. Factor		0.95		0.97	1.00					1.00		1.00
Frt		0.96		1.00	1.00					1.00		0.85
Flt Protected		1.00		0.95	1.00					0.95		1.00
Satd. Flow (prot)		3081		3127	1696					1612		1442
Flt Permitted		1.00		0.95	1.00					0.95		1.00
Satd. Flow (perm)		3081		3127	1696					1612		1442
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	478	200	724	561	0	0	0	0	101	0	96
RTOR Reduction (vph)	0	34	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	644	0	724	561	0	0	0	0	101	0	96
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type				Prot						Prot		Free
Protected Phases		6		5	2					4		
Permitted Phases												Free
Actuated Green, G (s)		48.8		29.8	83.6					11.4		105.0
Effective Green, g (s)		47.8		28.8	82.6					10.4		105.0
Actuated g/C Ratio		0.46		0.27	0.79					0.10		1.00
Clearance Time (s)		5.0		5.0	5.0					5.0		
Vehicle Extension (s)		2.5		2.5	2.5					2.5		
Lane Grp Cap (vph)		1403		858	1334					160		1442
v/s Ratio Prot		c0.21		c0.23	0.33					c0.06		
v/s Ratio Perm												0.07
v/c Ratio		0.46		0.84	0.42					0.63		0.07
Uniform Delay, d1		19.7		36.0	3.6					45.5		0.0
Progression Factor		1.00		0.89	0.41					1.00		1.00
Incremental Delay, d2		1.1		6.8	0.1					6.9		0.1
Delay (s)		20.8		38.8	1.6					52.4		0.1
Level of Service		C		D	A					D		A
Approach Delay (s)		20.8			22.6			0.0			26.9	
Approach LOS		C			C			A			C	

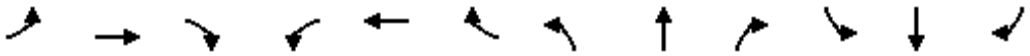
Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	46	486	1149	85	267
v/c Ratio	0.11	0.19	0.53	0.49	0.68
Control Delay	1.4	0.8	12.9	53.0	14.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	1.4	0.8	12.9	53.0	14.6
Queue Length 50th (ft)	1	2	166	55	0
Queue Length 95th (ft)	m5	17	338	99	74
Internal Link Dist (ft)		393	262		
Turn Bay Length (ft)	80			400	
Base Capacity (vph)	456	2511	2149	353	524
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.10	0.19	0.53	0.24	0.51

Intersection Summary

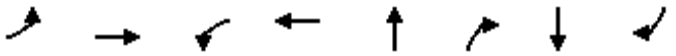
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	476	0	0	1074	52	83	0	262	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0		6.0			
Lane Util. Factor	1.00	0.95			0.95		1.00		1.00			
Frt	1.00	1.00			0.99		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	1612	3223			3201		1612		1442			
Flt Permitted	0.19	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	315	3223			3201		1612		1442			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	46	486	0	0	1096	53	85	0	267	0	0	0
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	239	0	0	0
Lane Group Flow (vph)	46	486	0	0	1147	0	85	0	28	0	0	0
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt						Prot		custom			
Protected Phases	5	2			6		3		3			
Permitted Phases	2											
Actuated Green, G (s)	82.8	82.8			69.4		12.2		12.2			
Effective Green, g (s)	81.8	81.8			68.4		11.2		11.2			
Actuated g/C Ratio	0.78	0.78			0.65		0.11		0.11			
Clearance Time (s)	5.0	5.0			5.0		5.0		5.0			
Vehicle Extension (s)	4.0	4.0			4.0		4.0		4.0			
Lane Grp Cap (vph)	337	2511			2085		172		154			
v/s Ratio Prot	0.01	c0.15			c0.36		c0.05		0.02			
v/s Ratio Perm	0.10											
v/c Ratio	0.14	0.19			0.55		0.49		0.18			
Uniform Delay, d1	4.5	3.0			9.9		44.2		42.7			
Progression Factor	0.26	0.19			1.05		1.00		1.00			
Incremental Delay, d2	0.2	0.2			0.9		3.0		0.8			
Delay (s)	1.4	0.7			11.4		47.3		43.5			
Level of Service	A	A			B		D		D			
Approach Delay (s)		0.8			11.4			44.4			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM Average Control Delay	14.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

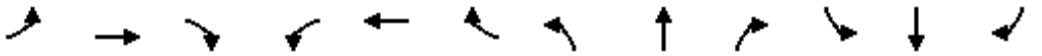
c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	NBT	NBR	SBT	SBR
Lane Group Flow (vph)	157	583	74	882	242	52	57	182
v/c Ratio	0.49	0.35	0.17	0.59	0.72	0.12	0.15	0.34
Control Delay	18.6	15.2	13.3	24.1	46.0	7.3	26.9	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.6	15.2	13.3	24.1	46.0	7.3	26.9	5.5
Queue Length 50th (ft)	28	64	20	184	145	0	29	0
Queue Length 95th (ft)	123	191	m32	360	214	26	55	46
Internal Link Dist (ft)		231		1320	697		711	
Turn Bay Length (ft)	200		200					
Base Capacity (vph)	364	1654	427	1492	431	463	399	555
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.35	0.17	0.59	0.56	0.11	0.14	0.33

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	149	455	99	70	736	102	193	37	49	28	27	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	1.00
Frt	1.00	0.97		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	1.00
Satd. Flow (prot)	1612	3137		1612	3165			1628	1442		1654	1442
Flt Permitted	0.21	1.00		0.43	1.00			0.72	1.00		0.79	1.00
Satd. Flow (perm)	363	3137		733	3165			1223	1442		1346	1442
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	157	479	104	74	775	107	203	39	52	29	28	182
RTOR Reduction (vph)	0	15	0	0	9	0	0	0	38	0	0	132
Lane Group Flow (vph)	157	568	0	74	873	0	0	242	14	0	57	50
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt			pm+pt			pm+pt		custom	Perm		Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2			6			8		4	4		4
Actuated Green, G (s)	64.9	54.9		55.5	50.2			29.8	29.8		29.8	29.8
Effective Green, g (s)	62.9	53.9		53.5	49.2			28.8	28.8		28.8	28.8
Actuated g/C Ratio	0.60	0.51		0.51	0.47			0.27	0.27		0.27	0.27
Clearance Time (s)	5.0	5.0		5.0	5.0			5.0	5.0		5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	325	1610		409	1483			335	396		369	396
v/s Ratio Prot	c0.04	0.18		0.01	c0.28							
v/s Ratio Perm	0.25			0.08				c0.20	0.01		0.04	0.03
v/c Ratio	0.48	0.35		0.18	0.59			0.72	0.04		0.15	0.13
Uniform Delay, d1	11.5	15.2		13.2	20.5			34.5	27.9		28.9	28.6
Progression Factor	1.28	0.92		1.10	1.02			1.00	1.00		1.00	1.00
Incremental Delay, d2	1.1	0.6		0.1	1.1			7.5	0.0		0.2	0.1
Delay (s)	15.9	14.5		14.7	22.1			42.0	28.0		29.1	28.8
Level of Service	B	B		B	C			D	C		C	C
Approach Delay (s)		14.8			21.5			39.5			28.9	
Approach LOS		B			C			D			C	

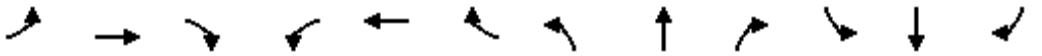
Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	65	228	285	538	38	340	216	33	39	179	154
v/c Ratio	0.29	0.27	0.33	0.79	0.06	0.80	0.39	0.07	0.19	0.76	0.46
Control Delay	26.1	25.9	14.3	38.8	16.9	39.9	30.1	9.1	23.9	64.8	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.1	25.9	14.3	38.8	16.9	39.9	30.1	9.1	23.9	64.8	11.4
Queue Length 50th (ft)	38	146	88	330	12	168	114	0	16	115	0
Queue Length 95th (ft)	73	211	170	#529	33	#268	182	22	37	#207	57
Internal Link Dist (ft)		1320		792			787			1170	
Turn Bay Length (ft)	500				40						
Base Capacity (vph)	225	849	864	678	610	437	556	495	207	258	350
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.27	0.33	0.79	0.06	0.78	0.39	0.07	0.19	0.69	0.44

Intersection Summary

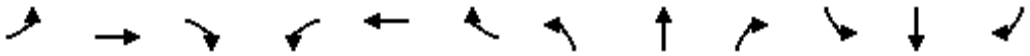
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	210	262	42	453	35	313	199	30	36	165	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1612	1696	1442		1689	1442	1612	1696	1442	1612	1696	1442
Flt Permitted	0.19	1.00	1.00		0.95	1.00	0.36	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	330	1696	1442		1617	1442	618	1696	1442	1057	1696	1442
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	65	228	285	46	492	38	340	216	33	39	179	154
RTOR Reduction (vph)	0	0	148	0	0	6	0	0	22	0	0	130
Lane Group Flow (vph)	65	228	137	0	538	32	340	216	11	39	179	24
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	51.6	51.6	51.6		42.0	42.0	43.4	35.4	35.4	20.5	17.5	17.5
Effective Green, g (s)	50.6	50.6	50.6		41.0	41.0	42.4	34.4	34.4	18.5	16.5	16.5
Actuated g/C Ratio	0.48	0.48	0.48		0.39	0.39	0.40	0.33	0.33	0.18	0.16	0.16
Clearance Time (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	203	817	695		631	563	438	556	472	197	267	227
v/s Ratio Prot	0.01	c0.13					c0.15	0.13		0.00	0.11	
v/s Ratio Perm	0.14		0.10		c0.33	0.02	c0.17		0.01	0.03		0.02
v/c Ratio	0.32	0.28	0.20		0.85	0.06	0.78	0.39	0.02	0.20	0.67	0.11
Uniform Delay, d1	18.5	16.3	15.6		29.2	19.9	24.3	27.2	23.9	36.5	41.7	37.9
Progression Factor	1.52	1.55	6.70		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.2	0.8	0.6		11.2	0.2	8.9	0.6	0.0	0.7	7.0	0.3
Delay (s)	29.5	26.1	104.9		40.4	20.1	33.2	27.8	23.9	37.2	48.7	38.2
Level of Service	C	C	F		D	C	C	C	C	D	D	D
Approach Delay (s)		65.3			39.1			30.7			43.2	
Approach LOS		E			D			C			D	

Intersection Summary			
HCM Average Control Delay	44.6	HCM Level of Service	D
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		

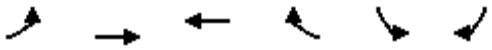
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	67	670	1	0	1002	76	0	0	1	21	0	124
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	71	705	1	0	1055	80	0	0	1	22	0	131
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		342										
pX, platoon unblocked	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol							0	0		0	0	
vC2, stage 2 conf vol							0	0		0	0	
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.3			4.3			7.7	6.7	7.1	7.7	6.7	7.1
tC, 2 stage (s)							0.0	0.0		0.0	0.0	
tF (s)	2.3			2.3			3.6	4.1	3.4	3.6	4.1	3.4
p0 queue free %	0			0			0	0	0	0	0	0
cM capacity (veh/h)	0			0			0	0	0	0	0	0

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	71	470	236	0	703	432	1	153
Volume Left	71	0	0	0	0	0	0	22
Volume Right	0	0	1	0	0	80	1	131
cSH	0	0	0	0	0	0	0	0
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						A	A
Approach Delay (s)	0.0			0.0			0.0	0.0
Approach LOS							A	A

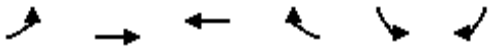
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	59.3%	ICU Level of Service	B	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	6	686	1046	52	17	32
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	6	722	1101	55	18	34
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		475	683			
pX, platoon unblocked	0.82				0.83	0.82
vC, conflicting volume	1156				1502	578
vC1, stage 1 conf vol					1128	
vC2, stage 2 conf vol					374	
vCu, unblocked vol	764				1139	64
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	99				94	96
cM capacity (veh/h)	645				314	789

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	6	361	361	734	422	52
Volume Left	6	0	0	0	0	18
Volume Right	0	0	0	0	55	34
cSH	645	1700	1700	1700	1700	517
Volume to Capacity	0.01	0.21	0.21	0.43	0.25	0.10
Queue Length 95th (ft)	1	0	0	0	0	8
Control Delay (s)	10.6	0.0	0.0	0.0	0.0	12.7
Lane LOS	B					B
Approach Delay (s)	0.1			0.0		12.7
Approach LOS						B

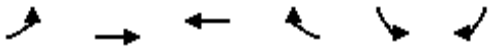
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	40.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	702	1098	3	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	739	1156	3	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		595	563			
pX, platoon unblocked	0.82				0.82	0.82
vC, conflicting volume	1159				1529	579
vC1, stage 1 conf vol					1157	
vC2, stage 2 conf vol					372	
vCu, unblocked vol	754				1203	48
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	647				302	803

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	369	369	771	388	0
Volume Left	1	0	0	0	0	0
Volume Right	0	0	0	0	3	0
cSH	647	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.22	0.22	0.45	0.23	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	10.6	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					A
Approach Delay (s)	0.0			0.0		0.0
Approach LOS						A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	702	1098	4	1	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	739	1156	4	1	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		847	311			
pX, platoon unblocked	0.81				0.81	0.81
vC, conflicting volume	1160				1527	580
vC1, stage 1 conf vol					1158	
vC2, stage 2 conf vol					369	
vCu, unblocked vol	728				1181	12
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	655				308	838

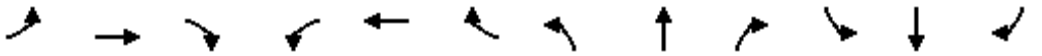
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	0	369	369	771	389	4
Volume Left	0	0	0	0	0	1
Volume Right	0	0	0	0	4	3
cSH	1700	1700	1700	1700	1700	586
Volume to Capacity	0.00	0.22	0.22	0.45	0.23	0.01
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.2
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.2
Approach LOS						B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	40.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	850	408	731	80	89
v/c Ratio	0.48	0.67	0.54	0.43	0.06
Control Delay	13.9	28.7	3.3	43.5	0.1
Queue Delay	0.0	0.0	0.6	0.0	0.0
Total Delay	13.9	28.7	3.8	43.5	0.1
Queue Length 50th (ft)	138	112	28	43	0
Queue Length 95th (ft)	233	m146	m50	84	0
Internal Link Dist (ft)	146		393		
Turn Bay Length (ft)		140		400	
Base Capacity (vph)	1768	869	1351	322	1442
Starvation Cap Reductn	0	0	268	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.48	0.47	0.67	0.25	0.06

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	654	111	367	658	0	0	0	0	72	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0		4.0
Lane Util. Factor		0.95		0.97	1.00					1.00		1.00
Frt		0.98		1.00	1.00					1.00		0.85
Flt Protected		1.00		0.95	1.00					0.95		1.00
Satd. Flow (prot)		3153		3127	1696					1612		1442
Flt Permitted		1.00		0.95	1.00					0.95		1.00
Satd. Flow (perm)		3153		3127	1696					1612		1442
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	727	123	408	731	0	0	0	0	80	0	89
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	839	0	408	731	0	0	0	0	80	0	89
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type				Prot						Prot		Free
Protected Phases		6		5	2					4		
Permitted Phases												Free
Actuated Green, G (s)		49.2		16.5	70.7					9.3		90.0
Effective Green, g (s)		50.2		17.5	71.7					10.3		90.0
Actuated g/C Ratio		0.56		0.19	0.80					0.11		1.00
Clearance Time (s)		5.0		5.0	5.0					5.0		
Vehicle Extension (s)		2.5		2.5	2.5					2.5		
Lane Grp Cap (vph)		1759		608	1351					184		1442
v/s Ratio Prot		0.27		c0.13	c0.43					c0.05		
v/s Ratio Perm												0.06
v/c Ratio		0.48		0.67	0.54					0.43		0.06
Uniform Delay, d1		12.0		33.6	3.3					37.1		0.0
Progression Factor		1.00		0.75	0.56					1.00		1.00
Incremental Delay, d2		0.9		1.8	0.2					1.2		0.1
Delay (s)		12.9		26.8	2.1					38.3		0.1
Level of Service		B		C	A					D		A
Approach Delay (s)		12.9			10.9			0.0			18.2	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	12.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

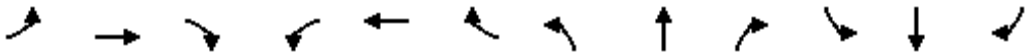
c Critical Lane Group

Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	140	601	869	264	742
v/c Ratio	0.41	0.36	0.90	0.41	1.03
Control Delay	27.1	12.6	42.4	21.8	63.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.1	12.6	42.4	21.8	63.0
Queue Length 50th (ft)	34	42	264	105	~370
Queue Length 95th (ft)	119	161	#374	172	#592
Internal Link Dist (ft)		393	262		
Turn Bay Length (ft)	80			400	
Base Capacity (vph)	360	1647	961	645	718
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.39	0.36	0.90	0.41	1.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

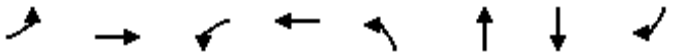
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	137	589	0	0	766	85	259	0	727	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	1.00	0.95			0.95		1.00		1.00			
Frt	1.00	1.00			0.98		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	1612	3223			3175		1612		1442			
Flt Permitted	0.13	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	219	3223			3175		1612		1442			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	140	601	0	0	782	87	264	0	742	0	0	0
RTOR Reduction (vph)	0	0	0	0	9	0	0	0	141	0	0	0
Lane Group Flow (vph)	140	601	0	0	860	0	264	0	601	0	0	0
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt						Prot		custom			
Protected Phases	5	2			6		3		3			
Permitted Phases	2											
Actuated Green, G (s)	45.0	45.0			26.0		35.0		35.0			
Effective Green, g (s)	46.0	46.0			27.0		36.0		36.0			
Actuated g/C Ratio	0.51	0.51			0.30		0.40		0.40			
Clearance Time (s)	5.0	5.0			5.0		5.0		5.0			
Vehicle Extension (s)	4.0	4.0			4.0		4.0		4.0			
Lane Grp Cap (vph)	344	1647			953		645		577			
v/s Ratio Prot	c0.07	0.19			c0.27		0.16		c0.42			
v/s Ratio Perm	0.14											
v/c Ratio	0.41	0.36			0.90		0.41		1.04			
Uniform Delay, d1	15.0	13.2			30.2		19.4		27.0			
Progression Factor	1.90	0.90			0.95		1.00		1.00			
Incremental Delay, d2	1.0	0.6			12.8		0.6		48.7			
Delay (s)	29.4	12.5			41.7		20.0		75.7			
Level of Service	C	B			D		B		E			
Approach Delay (s)		15.7			41.7			61.1			0.0	
Approach LOS		B			D			E			A	

Intersection Summary			
HCM Average Control Delay	41.8	HCM Level of Service	D
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

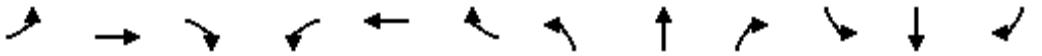
c Critical Lane Group



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	218	1161	88	585	129	138	114	212
v/c Ratio	0.43	0.68	0.32	0.38	0.48	0.29	0.59	0.53
Control Delay	8.9	16.3	11.2	15.6	32.0	10.1	47.2	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	16.3	11.2	15.6	32.0	10.1	47.2	9.9
Queue Length 50th (ft)	46	209	18	68	58	16	61	0
Queue Length 95th (ft)	m59	m280	m36	135	100	57	111	57
Internal Link Dist (ft)		231		1320		697	711	
Turn Bay Length (ft)	200		200		150			150
Base Capacity (vph)	526	1706	285	1528	269	539	254	458
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.68	0.31	0.38	0.48	0.26	0.45	0.46

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	207	906	197	84	499	57	123	36	95	62	47	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0			4.0	4.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	1.00
Frt	1.00	0.97		1.00	0.98		1.00	0.89			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1612	3137		1612	3174		1612	1512			1649	1442
Flt Permitted	0.34	1.00		0.17	1.00		0.48	1.00			0.75	1.00
Satd. Flow (perm)	581	3137		285	3174		822	1512			1268	1442
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	218	954	207	88	525	60	129	38	100	65	49	212
RTOR Reduction (vph)	0	18	0	0	8	0	0	74	0	0	0	180
Lane Group Flow (vph)	218	1143	0	88	577	0	129	64	0	0	114	32
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt			pm+pt			pm+pt			Perm		Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	56.7	46.5		47.9	42.1		22.7	22.7			12.7	12.7
Effective Green, g (s)	58.3	47.5		49.9	43.1		23.7	23.7			13.7	13.7
Actuated g/C Ratio	0.65	0.53		0.55	0.48		0.26	0.26			0.15	0.15
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	505	1656		258	1520		269	398			193	220
v/s Ratio Prot	c0.05	c0.36		0.03	0.18		c0.03	0.04				
v/s Ratio Perm	0.23			0.16			0.09				c0.09	0.02
v/c Ratio	0.43	0.69		0.34	0.38		0.48	0.16			0.59	0.15
Uniform Delay, d1	7.2	15.8		10.7	14.9		26.7	25.5			35.5	33.1
Progression Factor	0.95	0.88		1.17	0.95		1.00	1.00			1.00	1.00
Incremental Delay, d2	0.4	1.8		0.6	0.6		1.3	0.2			4.8	0.3
Delay (s)	7.3	15.7		13.2	14.7		28.1	25.7			40.3	33.4
Level of Service	A	B		B	B		C	C			D	C
Approach Delay (s)		14.4			14.5			26.8			35.8	
Approach LOS		B			B			C			D	

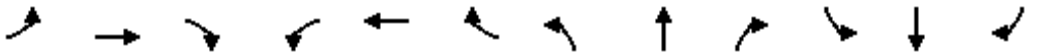
Intersection Summary			
HCM Average Control Delay	18.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	273	465	417	339	92	248	126	46	138	191	148
v/c Ratio	0.67	0.54	0.44	0.67	0.18	0.71	0.33	0.13	0.48	0.71	0.42
Control Delay	23.6	19.4	8.1	34.4	14.8	33.6	30.9	9.1	27.6	50.3	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.6	19.4	8.1	34.4	14.8	33.6	30.9	9.1	27.6	50.3	9.6
Queue Length 50th (ft)	120	224	96	169	21	103	59	0	53	103	0
Queue Length 95th (ft)	#221	349	219	270	57	#166	107	26	93	171	50
Internal Link Dist (ft)		1320		792			787			1170	
Turn Bay Length (ft)	500				40						
Base Capacity (vph)	407	861	938	508	503	351	433	403	290	320	392
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.67	0.54	0.44	0.67	0.18	0.71	0.29	0.11	0.48	0.60	0.38

Intersection Summary

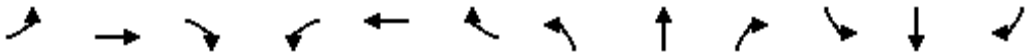
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	251	428	384	36	276	85	228	116	42	127	176	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85		1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1612	1696	1442		1687	1442	1612	1696	1442	1612	1696	1442
Flt Permitted	0.34	1.00	1.00		0.91	1.00	0.36	1.00	1.00	0.68	1.00	1.00
Satd. Flow (perm)	574	1696	1442		1538	1442	603	1696	1442	1147	1696	1442
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	273	465	417	39	300	92	248	126	46	138	191	148
RTOR Reduction (vph)	0	0	205	0	0	27	0	0	36	0	0	124
Lane Group Flow (vph)	273	465	212	0	339	65	248	126	10	138	191	24
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	46.7	46.7	46.7		30.7	30.7	33.3	21.3	21.3	22.3	15.3	15.3
Effective Green, g (s)	45.7	45.7	45.7		29.7	29.7	32.3	20.3	20.3	20.3	14.3	14.3
Actuated g/C Ratio	0.51	0.51	0.51		0.33	0.33	0.36	0.23	0.23	0.23	0.16	0.16
Clearance Time (s)	5.0	5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	407	861	732		508	476	351	383	325	290	269	229
v/s Ratio Prot	c0.07	0.27					c0.09	0.07		0.03	0.11	
v/s Ratio Perm	c0.27		0.15		0.22	0.04	c0.16		0.01	0.08		0.02
v/c Ratio	0.67	0.54	0.29		0.67	0.14	0.71	0.33	0.03	0.48	0.71	0.10
Uniform Delay, d1	14.7	15.0	12.8		25.9	21.1	22.4	29.2	27.2	29.5	35.9	32.4
Progression Factor	1.06	1.08	4.33		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.8	1.9	0.8		3.6	0.6	6.8	0.7	0.1	1.7	9.1	0.3
Delay (s)	19.2	18.1	56.2		29.5	21.7	29.3	29.8	27.2	31.2	45.0	32.6
Level of Service	B	B	E		C	C	C	C	C	C	D	C
Approach Delay (s)		32.1			27.9			29.2			37.2	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM Average Control Delay	31.9	HCM Level of Service	C
HCM Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		

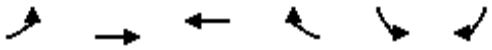
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	77	1237	2	1	760	41	0	0	2	41	0	91
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	81	1302	2	1	800	43	0	0	2	43	0	96
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		342										
pX, platoon unblocked	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
vC, conflicting volume	0			0			0	0	0	0	0	0
vC1, stage 1 conf vol							0	0		0	0	
vC2, stage 2 conf vol							0	0		0	0	
vCu, unblocked vol	0			0			0	0	0	0	0	0
tC, single (s)	4.3			4.3			7.7	6.7	7.1	7.7	6.7	7.1
tC, 2 stage (s)							0.0	0.0		0.0	0.0	
tF (s)	2.3			2.3			3.6	4.1	3.4	3.6	4.1	3.4
p0 queue free %	0			0			0	0	0	0	0	0
cM capacity (veh/h)	0			0			0	0	0	0	0	0

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	81	868	436	1	533	310	2	139
Volume Left	81	0	0	1	0	0	0	43
Volume Right	0	0	2	0	0	43	2	96
cSH	0	0	0	0	0	0	0	0
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A			A			A	A
Approach Delay (s)	0.0			0.0			0.0	0.0
Approach LOS							A	A

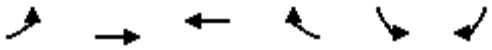
Intersection Summary				
Average Delay	0.0			
Intersection Capacity Utilization	62.1%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	2	1278	780	41	26	22
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	1345	821	43	27	23
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		475	683			
pX, platoon unblocked	0.92				0.95	0.92
vC, conflicting volume	864				1519	432
vC1, stage 1 conf vol					843	
vC2, stage 2 conf vol					677	
vCu, unblocked vol	677				1054	208
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	100				92	97
cM capacity (veh/h)	778				362	707

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	2	673	673	547	317	51
Volume Left	2	0	0	0	0	27
Volume Right	0	0	0	0	43	23
cSH	778	1700	1700	1700	1700	466
Volume to Capacity	0.00	0.40	0.40	0.32	0.19	0.11
Queue Length 95th (ft)	0	0	0	0	0	9
Control Delay (s)	9.6	0.0	0.0	0.0	0.0	13.7
Lane LOS	A					B
Approach Delay (s)	0.0			0.0		13.7
Approach LOS						B

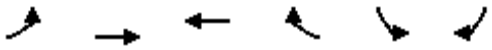
Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	45.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	1303	820	1	4	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	1372	863	1	4	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		595	563			
pX, platoon unblocked	0.91				0.96	0.91
vC, conflicting volume	864				1552	432
vC1, stage 1 conf vol					864	
vC2, stage 2 conf vol					688	
vCu, unblocked vol	659				1072	186
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	100				99	100
cM capacity (veh/h)	785				356	725

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	686	686	575	289	5
Volume Left	1	0	0	0	0	4
Volume Right	0	0	0	0	1	1
cSH	785	1700	1700	1700	1700	396
Volume to Capacity	0.00	0.40	0.40	0.34	0.17	0.01
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	9.6	0.0	0.0	0.0	0.0	14.2
Lane LOS	A					B
Approach Delay (s)	0.0			0.0		14.2
Approach LOS						B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		



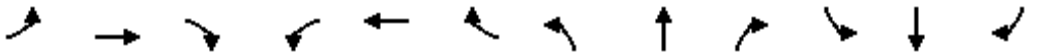
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1307	821	2	3	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1376	864	2	3	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		847	311			
pX, platoon unblocked	0.90				0.94	0.90
vC, conflicting volume	866				1553	433
vC1, stage 1 conf vol					865	
vC2, stage 2 conf vol					688	
vCu, unblocked vol	628				1097	147
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	100				99	100
cM capacity (veh/h)	796				355	758

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	0	688	688	576	290	3
Volume Left	0	0	0	0	0	3
Volume Right	0	0	0	0	2	0
cSH	1700	1700	1700	1700	1700	355
Volume to Capacity	0.00	0.40	0.40	0.34	0.17	0.01
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	15.2
Lane LOS						C
Approach Delay (s)	0.0			0.0		15.2
Approach LOS						C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	707	761	589	108	96
v/c Ratio	0.55	0.85	0.46	0.63	0.07
Control Delay	21.7	31.1	4.9	54.4	0.1
Queue Delay	0.0	0.0	0.2	0.0	0.0
Total Delay	21.7	31.1	5.1	54.4	0.1
Queue Length 50th (ft)	144	118	73	60	0
Queue Length 95th (ft)	232	210	95	109	0
Internal Link Dist (ft)	146		393		
Turn Bay Length (ft)		200		400	
Base Capacity (vph)	1297	1077	1290	233	1442
Starvation Cap Reductn	0	0	181	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.55	0.71	0.53	0.46	0.07

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	456	180	685	530	0	0	0	0	97	0	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0		6.0	6.0					6.0		4.0
Lane Util. Factor		0.95		0.97	1.00					1.00		1.00
Frt		0.96		1.00	1.00					1.00		0.85
Flt Protected		1.00		0.95	1.00					0.95		1.00
Satd. Flow (prot)		3086		3127	1696					1612		1442
Flt Permitted		1.00		0.95	1.00					0.95		1.00
Satd. Flow (perm)		3086		3127	1696					1612		1442
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	507	200	761	589	0	0	0	0	108	0	96
RTOR Reduction (vph)	0	40	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	667	0	761	589	0	0	0	0	108	0	96
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type				Prot						Prot		Free
Protected Phases		6		5	2					4		
Permitted Phases												Free
Actuated Green, G (s)		37.6		26.9	69.5					10.5		90.0
Effective Green, g (s)		36.6		25.9	68.5					9.5		90.0
Actuated g/C Ratio		0.41		0.29	0.76					0.11		1.00
Clearance Time (s)		5.0		5.0	5.0					5.0		
Vehicle Extension (s)		2.5		2.5	2.5					2.5		
Lane Grp Cap (vph)		1255		900	1291					170		1442
v/s Ratio Prot		c0.22		c0.24	0.35					c0.07		
v/s Ratio Perm												0.07
v/c Ratio		0.53		0.85	0.46					0.64		0.07
Uniform Delay, d1		20.2		30.2	3.9					38.6		0.0
Progression Factor		1.00		0.76	0.86					1.00		1.00
Incremental Delay, d2		1.6		6.3	0.2					6.6		0.1
Delay (s)		21.8		29.1	3.5					45.2		0.1
Level of Service		C		C	A					D		A
Approach Delay (s)		21.8			18.0			0.0			24.0	
Approach LOS		C			B			A			C	

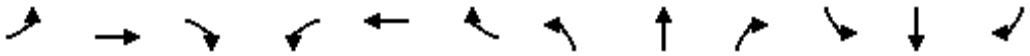
Intersection Summary			
HCM Average Control Delay	19.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	46	518	1212	85	283
v/c Ratio	0.11	0.21	0.59	0.51	0.55
Control Delay	1.9	3.0	11.3	48.9	9.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	1.9	3.0	11.3	48.9	9.1
Queue Length 50th (ft)	5	32	176	46	0
Queue Length 95th (ft)	m1	2	236	92	39
Internal Link Dist (ft)		393	75		
Turn Bay Length (ft)	140				400
Base Capacity (vph)	415	2461	2042	197	559
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.11	0.21	0.59	0.43	0.51

Intersection Summary

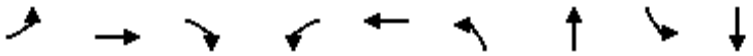
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	45	508	0	0	1132	56	83	0	277	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0		6.0		6.0			
Lane Util. Factor	1.00	0.95			0.95		1.00		0.88			
Frt	1.00	1.00			0.99		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	1612	3223			3200		1612		2538			
Flt Permitted	0.16	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	271	3223			3200		1612		2538			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	46	518	0	0	1155	57	85	0	283	0	0	0
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	254	0	0	0
Lane Group Flow (vph)	46	518	0	0	1209	0	85	0	29	0	0	0
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt						Prot		custom			
Protected Phases	5	2			6		3		3			
Permitted Phases	2											
Actuated Green, G (s)	69.7	69.7			56.3		10.3		10.3			
Effective Green, g (s)	68.7	68.7			55.3		9.3		9.3			
Actuated g/C Ratio	0.76	0.76			0.61		0.10		0.10			
Clearance Time (s)	5.0	5.0			5.0		5.0		5.0			
Vehicle Extension (s)	4.0	4.0			4.0		4.0		4.0			
Lane Grp Cap (vph)	317	2460			1966		167		262			
v/s Ratio Prot	0.01	c0.16			c0.38		c0.05		0.01			
v/s Ratio Perm	0.10											
v/c Ratio	0.15	0.21			0.61		0.51		0.11			
Uniform Delay, d1	4.9	3.0			10.8		38.2		36.6			
Progression Factor	0.47	0.88			0.85		1.00		1.00			
Incremental Delay, d2	0.2	0.2			1.3		3.3		0.3			
Delay (s)	2.5	2.8			10.3		41.5		36.9			
Level of Service	A	A			B		D		D			
Approach Delay (s)		2.8			10.3			37.9			0.0	
Approach LOS		A			B			D			A	

Intersection Summary			
HCM Average Control Delay	13.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

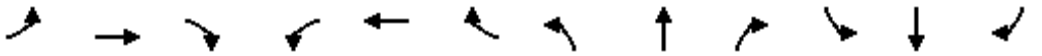
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	157	482	104	111	903	268	104	29	224
v/c Ratio	0.46	0.28	0.13	0.22	0.58	0.63	0.27	0.22	0.74
Control Delay	11.3	8.0	1.6	5.8	13.8	34.6	14.7	38.8	24.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	8.0	1.6	5.8	13.8	34.6	14.7	38.8	24.7
Queue Length 50th (ft)	14	33	0	7	143	65	20	16	20
Queue Length 95th (ft)	58	89	7	m18	m252	92	57	40	89
Internal Link Dist (ft)		231			440		270		711
Turn Bay Length (ft)	200			200					
Base Capacity (vph)	390	1715	831	512	1555	424	474	195	374
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	0.40	0.28	0.13	0.22	0.58	0.63	0.22	0.15	0.60

Intersection Summary

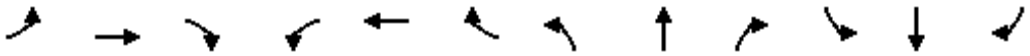
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	149	458	99	105	756	102	255	41	58	28	35	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	5.0	6.0	6.0		4.0	6.0		4.0	6.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.91		1.00	0.87	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1612	3223	1442	1612	3166		3127	1547		1612	1484	
Flt Permitted	0.22	1.00	1.00	0.48	1.00		0.29	1.00		0.69	1.00	
Satd. Flow (perm)	381	3223	1442	809	3166		940	1547		1170	1484	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	157	482	104	111	796	107	268	43	61	29	37	187
RTOR Reduction (vph)	0	0	49	0	10	0	0	47	0	0	170	0
Lane Group Flow (vph)	157	482	55	111	893	0	268	57	0	29	54	0
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt		Perm	pm+pt			pm+pt			Perm		
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	57.0	47.9	47.9	51.0	44.9		21.0	21.0		9.0	9.0	
Effective Green, g (s)	55.0	46.9	47.9	49.0	43.9		22.0	20.0		10.0	8.0	
Actuated g/C Ratio	0.61	0.52	0.53	0.54	0.49		0.24	0.22		0.11	0.09	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	344	1680	767	486	1544		424	344		130	132	
v/s Ratio Prot	c0.04	0.15		0.01	c0.28		c0.06	0.04			0.04	
v/s Ratio Perm	c0.24		0.04	0.11			c0.10			0.02		
v/c Ratio	0.46	0.29	0.07	0.23	0.58		0.63	0.16		0.22	0.41	
Uniform Delay, d1	9.0	12.1	10.2	10.0	16.4		28.7	28.3		36.5	38.8	
Progression Factor	0.96	0.58	0.42	0.69	0.73		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.4	0.2	0.2	1.0		3.1	0.2		0.9	2.0	
Delay (s)	9.6	7.5	4.5	7.1	13.1		31.7	28.5		37.3	40.8	
Level of Service	A	A	A	A	B		C	C		D	D	
Approach Delay (s)		7.5			12.4			30.8			40.4	
Approach LOS		A			B			C			D	

Intersection Summary			
HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	70.8%	ICU Level of Service	C
Analysis Period (min)	15		

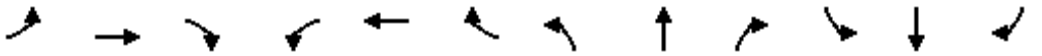
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	70	233	289	46	521	38	361	216	33	39	179	165
v/c Ratio	0.43	0.32	0.37	0.10	0.77	0.07	0.89	0.41	0.07	0.18	0.74	0.48
Control Delay	16.7	11.5	4.1	19.9	34.3	16.1	49.0	28.6	9.2	21.0	56.1	10.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	11.5	4.1	19.9	34.3	16.1	49.0	28.6	9.2	21.0	56.1	10.8
Queue Length 50th (ft)	16	74	0	17	266	11	158	101	0	14	97	0
Queue Length 95th (ft)	#41	141	105	40	#443	32	#263	169	22	34	#184	55
Internal Link Dist (ft)		800			792			787			1170	
Turn Bay Length (ft)	500					20						
Base Capacity (vph)	164	720	779	441	677	580	406	524	468	222	264	364
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.32	0.37	0.10	0.77	0.07	0.89	0.41	0.07	0.18	0.68	0.45

Intersection Summary

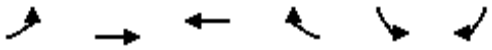
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	64	214	266	42	479	35	332	199	30	36	165	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1612	1696	1442	1612	1696	1442	1612	1696	1442	1612	1696	1442
Flt Permitted	0.13	1.00	1.00	0.61	1.00	1.00	0.39	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	220	1696	1442	1041	1696	1442	657	1696	1442	1057	1696	1442
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	233	289	46	521	38	361	216	33	39	179	165
RTOR Reduction (vph)	0	0	179	0	0	5	0	0	23	0	0	138
Lane Group Flow (vph)	70	233	110	46	521	33	361	216	10	39	179	27
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	35.2	35.2	35.2	33.9	33.9	33.9	36.8	28.8	28.8	18.8	15.8	15.8
Effective Green, g (s)	34.2	34.2	34.2	32.9	32.9	32.9	35.8	27.8	27.8	16.8	14.8	14.8
Actuated g/C Ratio	0.38	0.38	0.38	0.37	0.37	0.37	0.40	0.31	0.31	0.19	0.16	0.16
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	135	644	548	393	620	527	421	524	445	210	279	237
v/s Ratio Prot	0.02	c0.14		0.00	c0.31		c0.14	0.13		0.00	0.11	
v/s Ratio Perm	0.18		0.08	0.04		0.02	c0.20		0.01	0.03		0.02
v/c Ratio	0.52	0.36	0.20	0.12	0.84	0.06	0.86	0.41	0.02	0.19	0.64	0.11
Uniform Delay, d1	21.3	20.1	18.7	19.0	26.1	18.5	21.9	24.6	21.6	30.5	35.1	32.0
Progression Factor	0.47	0.53	1.03	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.3	1.5	0.8	0.2	12.9	0.2	16.2	0.7	0.0	0.6	5.5	0.3
Delay (s)	14.3	12.2	20.0	19.1	39.1	18.8	38.1	25.4	21.7	31.1	40.7	32.3
Level of Service	B	B	C	B	D	B	D	C	C	C	D	C
Approach Delay (s)		16.3			36.3			32.7			36.1	
Approach LOS		B			D			C			D	

Intersection Summary			
HCM Average Control Delay	29.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		

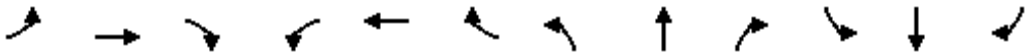
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	67	718	1064	76	21	124
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	71	756	1120	80	22	131
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		342				
pX, platoon unblocked	0.00	0.00	0.00	0.00	0.00	0.00
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol					0	
vC2, stage 2 conf vol					0	
vCu, unblocked vol	0				0	0
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					0.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	0				0	0
cM capacity (veh/h)	0				0	0

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	71	252	252	252	747	453	153
Volume Left	71	0	0	0	0	0	22
Volume Right	0	0	0	0	0	80	131
cSH	0	0	0	0	0	0	0
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						A
Approach Delay (s)	0.0				0.0		0.0
Approach LOS							A

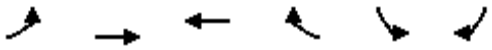
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	54.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	686	47	25	1108	52	0	0	3	17	0	32
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	6	722	49	26	1166	55	0	0	3	18	0	34
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		475			683							
pX, platoon unblocked	0.80			0.99			0.80	0.80	0.99	0.80	0.80	0.80
vC, conflicting volume	1221			772			1404	2008	361	1623	2031	611
vC1, stage 1 conf vol							735	735		1246	1246	
vC2, stage 2 conf vol							669	1274		377	784	
vCu, unblocked vol	776			760			983	1736	347	1256	1763	13
tC, single (s)	4.3			4.3			7.7	6.7	7.1	7.7	6.7	7.1
tC, 2 stage (s)							6.7	5.7		6.7	5.7	
tF (s)	2.3			2.3			3.6	4.1	3.4	3.6	4.1	3.4
p0 queue free %	99			97			100	100	99	92	100	96
cM capacity (veh/h)	619			781			324	224	617	230	222	825

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	6	361	361	49	26	778	444	3	52
Volume Left	6	0	0	0	26	0	0	0	18
Volume Right	0	0	0	49	0	0	55	3	34
cSH	619	1700	1700	1700	781	1700	1700	617	435
Volume to Capacity	0.01	0.21	0.21	0.03	0.03	0.46	0.26	0.01	0.12
Queue Length 95th (ft)	1	0	0	0	3	0	0	0	10
Control Delay (s)	10.9	0.0	0.0	0.0	9.8	0.0	0.0	10.9	14.4
Lane LOS	B				A			B	B
Approach Delay (s)	0.1				0.2			10.9	14.4
Approach LOS								B	B

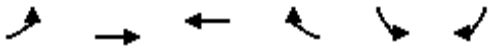
Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	42.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	705	1185	3	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	742	1247	3	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		595	563			
pX, platoon unblocked	0.78				0.78	0.78
vC, conflicting volume	1251				1622	625
vC1, stage 1 conf vol					1249	
vC2, stage 2 conf vol					373	
vCu, unblocked vol	755				1232	0
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	614				288	820

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	371	371	832	419	0
Volume Left	1	0	0	0	0	0
Volume Right	0	0	0	0	3	0
cSH	614	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.22	0.22	0.49	0.25	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	10.9	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					A
Approach Delay (s)	0.0			0.0		0.0
Approach LOS						A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	36.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	705	1185	4	1	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	742	1247	4	1	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		847	311			
pX, platoon unblocked	0.75				0.75	0.75
vC, conflicting volume	1252				1621	626
vC1, stage 1 conf vol					1249	
vC2, stage 2 conf vol					371	
vCu, unblocked vol	684				1172	0
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	635				303	794

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	0	371	371	832	420	4
Volume Left	0	0	0	0	0	1
Volume Right	0	0	0	0	4	3
cSH	1700	1700	1700	1700	1700	565
Volume to Capacity	0.00	0.22	0.22	0.49	0.25	0.01
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	11.4
Lane LOS						B
Approach Delay (s)	0.0			0.0		11.4
Approach LOS						B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	42.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	13	279	75	4	196	43
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	14	294	79	4	206	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						307
pX, platoon unblocked						
vC, conflicting volume	539	42			83	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	539	42			83	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	71			86	
cM capacity (veh/h)	408	1020			1512	

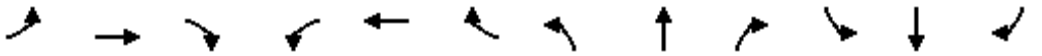
Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	14	294	53	31	206	45
Volume Left	14	0	0	0	206	0
Volume Right	0	294	0	4	0	0
cSH	408	1020	1700	1700	1512	1700
Volume to Capacity	0.03	0.29	0.03	0.02	0.14	0.03
Queue Length 95th (ft)	3	30	0	0	12	0
Control Delay (s)	14.1	9.9	0.0	0.0	7.8	0.0
Lane LOS	B	A			A	
Approach Delay (s)	10.1		0.0		6.4	
Approach LOS	B					

Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	883	460	852	97	89
v/c Ratio	0.54	0.68	0.64	0.50	0.06
Control Delay	15.1	24.8	5.7	41.7	0.1
Queue Delay	0.0	0.0	0.1	0.0	0.0
Total Delay	15.1	24.8	5.8	41.7	0.1
Queue Length 50th (ft)	145	93	103	45	0
Queue Length 95th (ft)	221	m147	59	93	0
Internal Link Dist (ft)	146		393		
Turn Bay Length (ft)		200		400	
Base Capacity (vph)	1690	742	1334	214	1442
Starvation Cap Reductn	0	0	62	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.52	0.62	0.67	0.45	0.06

Intersection Summary

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



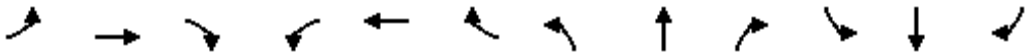
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	684	111	414	767	0	0	0	0	87	0	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0					4.0		4.0
Lane Util. Factor		0.95		0.97	1.00					1.00		1.00
Frt		0.98		1.00	1.00					1.00		0.85
Flt Protected		1.00		0.95	1.00					0.95		1.00
Satd. Flow (prot)		3156		3127	1696					1612		1442
Flt Permitted		1.00		0.95	1.00					0.95		1.00
Satd. Flow (perm)		3156		3127	1696					1612		1442
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	760	123	460	852	0	0	0	0	97	0	89
RTOR Reduction (vph)	0	16	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	867	0	460	852	0	0	0	0	97	0	89
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type				Prot						Prot		Free
Protected Phases		6		5	2					4		
Permitted Phases												Free
Actuated Green, G (s)		40.0		16.3	61.3					8.7		80.0
Effective Green, g (s)		41.0		17.3	62.3					9.7		80.0
Actuated g/C Ratio		0.51		0.22	0.78					0.12		1.00
Clearance Time (s)		5.0		5.0	5.0					5.0		
Vehicle Extension (s)		2.5		2.5	2.5					2.5		
Lane Grp Cap (vph)		1617		676	1321					195		1442
v/s Ratio Prot		0.27		0.15	c0.50					c0.06		
v/s Ratio Perm												0.06
v/c Ratio		0.54		0.68	0.64					0.50		0.06
Uniform Delay, d1		13.1		28.8	3.9					32.9		0.0
Progression Factor		1.00		0.73	0.87					1.00		1.00
Incremental Delay, d2		1.3		1.9	0.7					1.5		0.1
Delay (s)		14.4		23.0	4.1					34.3		0.1
Level of Service		B		C	A					C		A
Approach Delay (s)		14.4			10.8			0.0			17.9	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM Average Control Delay	12.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	140	647	1044	264	817
v/c Ratio	0.35	0.31	0.78	0.67	0.81
Control Delay	17.5	2.2	17.0	36.1	17.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.5	2.2	17.0	36.1	17.3
Queue Length 50th (ft)	8	1	190	116	75
Queue Length 95th (ft)	84	33	236	195	156
Internal Link Dist (ft)		393	102		
Turn Bay Length (ft)	140				400
Base Capacity (vph)	418	2111	1335	423	1045
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.33	0.31	0.78	0.62	0.78

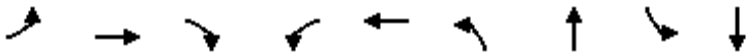
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	137	634	0	0	922	101	259	0	801	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0		4.0		4.0			
Lane Util. Factor	1.00	0.95			0.95		1.00		0.88			
Frt	1.00	1.00			0.99		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	1612	3223			3176		1612		2538			
Flt Permitted	0.12	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	211	3223			3176		1612		2538			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	140	647	0	0	941	103	264	0	817	0	0	0
RTOR Reduction (vph)	0	0	0	0	10	0	0	0	388	0	0	0
Lane Group Flow (vph)	140	647	0	0	1034	0	264	0	429	0	0	0
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt						Prot		custom			
Protected Phases	5	2			6		3		3			
Permitted Phases	2											
Actuated Green, G (s)	51.4	51.4			32.4		18.6		18.6			
Effective Green, g (s)	52.4	52.4			33.4		19.6		19.6			
Actuated g/C Ratio	0.65	0.65			0.42		0.25		0.25			
Clearance Time (s)	5.0	5.0			5.0		5.0		5.0			
Vehicle Extension (s)	4.0	4.0			4.0		4.0		4.0			
Lane Grp Cap (vph)	401	2111			1326		395		622			
v/s Ratio Prot	c0.07	0.20			c0.33		0.16		c0.17			
v/s Ratio Perm	0.16											
v/c Ratio	0.35	0.31			0.78		0.67		0.69			
Uniform Delay, d1	9.0	6.0			20.1		27.3		27.4			
Progression Factor	2.26	0.30			0.62		1.00		1.00			
Incremental Delay, d2	0.6	0.3			3.9		4.7		3.5			
Delay (s)	20.9	2.1			16.4		31.9		30.9			
Level of Service	C	A			B		C		C			
Approach Delay (s)		5.4			16.4			31.2			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM Average Control Delay	18.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

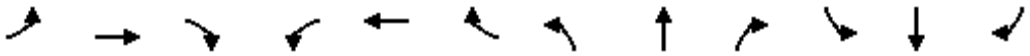


Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	218	951	207	232	565	389	272	65	291
v/c Ratio	0.56	0.92	0.35	0.79	0.57	0.64	0.48	0.20	0.85
Control Delay	17.0	40.6	5.2	31.0	20.6	34.4	10.0	16.5	42.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	40.6	5.2	31.0	20.6	34.4	10.0	16.5	42.1
Queue Length 50th (ft)	65	217	9	42	113	92	22	19	78
Queue Length 95th (ft)	m76	#374	m22	m#130	m166	132	90	42	#220
Internal Link Dist (ft)		231			437		227		711
Turn Bay Length (ft)	200			200					
Base Capacity (vph)	404	1035	588	295	995	704	561	513	352
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	0.54	0.92	0.35	0.79	0.57	0.55	0.48	0.13	0.83

Intersection Summary

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

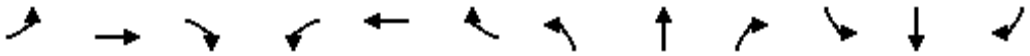
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	207	903	197	220	480	57	370	51	207	62	81	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	5.0	4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		*0.97	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.88		1.00	0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1612	3223	1442	1612	3172		3127	1492		1612	1516	
Flt Permitted	0.30	1.00	1.00	0.17	1.00		0.95	1.00		0.59	1.00	
Satd. Flow (perm)	504	3223	1442	285	3172		3127	1492		1004	1516	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	218	951	207	232	505	60	389	54	218	65	85	206
RTOR Reduction (vph)	0	0	146	0	11	0	0	156	0	0	106	0
Lane Group Flow (vph)	218	951	61	232	554	0	389	116	0	65	185	0
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt		Perm	pm+pt			Prot			pm+pt		
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6						4		
Actuated Green, G (s)	33.8	23.7	23.7	32.0	22.8		14.6	20.7		18.9	12.5	
Effective Green, g (s)	35.8	24.7	23.7	34.0	23.8		15.6	21.7		20.9	13.5	
Actuated g/C Ratio	0.45	0.31	0.30	0.42	0.30		0.19	0.27		0.26	0.17	
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0		5.0	5.0		5.0	5.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	379	995	427	290	944		610	405		319	256	
v/s Ratio Prot	0.08	c0.30		c0.10	0.17		c0.12	0.08		0.02	c0.12	
v/s Ratio Perm	0.18		0.04	0.24						0.03		
v/c Ratio	0.58	0.96	0.14	0.80	0.59		0.64	0.29		0.20	0.72	
Uniform Delay, d1	14.7	27.1	20.7	17.7	23.9		29.6	23.0		22.7	31.5	
Progression Factor	0.93	0.97	1.00	0.89	0.80		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.9	18.0	0.6	10.4	1.8		2.2	0.4		0.3	9.6	
Delay (s)	15.5	44.3	21.3	26.1	21.0		31.8	23.4		23.1	41.1	
Level of Service	B	D	C	C	C		C	C		C	D	
Approach Delay (s)		36.3			22.5			28.4			37.8	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM Average Control Delay	31.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	77.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

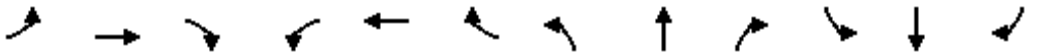


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	307	516	451	39	364	92	279	126	46	138	191	179
v/c Ratio	0.83	0.70	0.51	0.14	0.76	0.21	0.82	0.36	0.14	0.39	0.72	0.47
Control Delay	37.9	12.0	1.7	13.1	38.5	17.8	42.4	31.9	10.1	21.5	47.6	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.9	12.0	1.7	13.1	38.5	17.8	42.4	31.9	10.1	21.5	47.6	9.6
Queue Length 50th (ft)	80	51	0	10	168	24	103	56	0	46	90	0
Queue Length 95th (ft)	m#118	m67	m0	25	#301	60	#180	106	27	87	#171	52
Internal Link Dist (ft)		803			792			787			1170	
Turn Bay Length (ft)	500					20						
Base Capacity (vph)	370	734	880	279	482	430	341	360	342	361	297	400
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.70	0.51	0.14	0.76	0.21	0.82	0.35	0.13	0.38	0.64	0.45

Intersection Summary

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

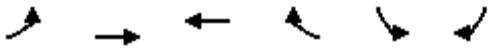
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	282	475	415	36	335	85	257	116	42	127	176	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	5.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1612	1696	1442	1612	1696	1442	1612	1696	1442	1612	1696	1442
Flt Permitted	0.25	1.00	1.00	0.41	1.00	1.00	0.45	1.00	1.00	0.68	1.00	1.00
Satd. Flow (perm)	431	1696	1442	692	1696	1442	763	1696	1442	1147	1696	1442
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	307	516	451	39	364	92	279	126	46	138	191	179
RTOR Reduction (vph)	0	0	271	0	0	20	0	0	36	0	0	149
Lane Group Flow (vph)	307	516	180	39	364	72	279	126	10	138	191	30
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm	pm+pt		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2	8		8	4		4
Actuated Green, G (s)	39.4	33.0	33.0	25.1	22.7	22.7	28.6	17.6	17.6	22.6	14.6	14.6
Effective Green, g (s)	38.4	32.0	32.0	23.1	21.7	21.7	26.6	16.6	16.6	20.6	13.6	13.6
Actuated g/C Ratio	0.48	0.40	0.40	0.29	0.27	0.27	0.33	0.21	0.21	0.26	0.17	0.17
Clearance Time (s)	5.0	5.0	5.0	4.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	4.0	3.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	365	678	577	216	460	391	360	352	299	336	288	245
v/s Ratio Prot	c0.11	0.30		0.00	0.21		c0.10	0.07		0.04	0.11	
v/s Ratio Perm	c0.29		0.13	0.05		0.05	c0.16		0.01	0.07		0.02
v/c Ratio	0.84	0.76	0.31	0.18	0.79	0.18	0.78	0.36	0.03	0.41	0.66	0.12
Uniform Delay, d1	15.4	20.7	16.5	20.8	27.0	22.4	22.2	27.1	25.3	24.1	31.1	28.2
Progression Factor	1.67	0.34	0.19	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.7	4.9	0.9	0.4	13.0	1.0	10.6	0.9	0.1	1.1	6.2	0.3
Delay (s)	36.4	12.0	4.0	21.2	40.1	23.4	32.8	28.0	25.3	25.2	37.3	28.5
Level of Service	D	B	A	C	D	C	C	C	C	C	D	C
Approach Delay (s)		15.1			35.5			30.7			30.9	
Approach LOS		B			D			C			C	

Intersection Summary			
HCM Average Control Delay	24.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		

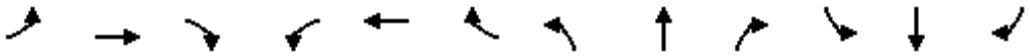
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	77	1358	933	41	41	90
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	81	1429	982	43	43	95
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		342				
pX, platoon unblocked	0.00	0.00	0.00	0.00	0.00	0.00
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol					0	
vC2, stage 2 conf vol					0	
vCu, unblocked vol	0				0	0
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					0.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	0				0	0
cM capacity (veh/h)	0				0	0

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	81	476	476	476	655	371	138
Volume Left	81	0	0	0	0	0	43
Volume Right	0	0	0	0	0	43	95
cSH	0	0	0	0	0	0	0
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						A
Approach Delay (s)	0.0				0.0		0.0
Approach LOS							A

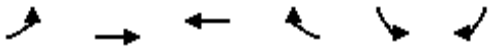
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	49.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	1219	178	51	952	41	0	0	56	26	0	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	1283	187	54	1002	43	0	0	59	27	0	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		475			683							
pX, platoon unblocked	0.90			0.95			0.92	0.92	0.95	0.92	0.92	0.90
vC, conflicting volume	1045			1471			1919	2440	642	1836	2606	523
vC1, stage 1 conf vol							1287	1287		1131	1131	
vC2, stage 2 conf vol							632	1153		705	1475	
vCu, unblocked vol	826			1397			1603	2169	528	1513	2348	244
tC, single (s)	4.3			4.3			7.7	6.7	7.1	7.7	6.7	7.1
tC, 2 stage (s)							6.7	5.7		6.7	5.7	
tF (s)	2.3			2.3			3.6	4.1	3.4	3.6	4.1	3.4
p0 queue free %	100			87			100	100	87	85	100	96
cM capacity (veh/h)	665			417			159	163	448	177	111	653

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	2	642	642	187	54	668	377	59	51
Volume Left	2	0	0	0	54	0	0	0	27
Volume Right	0	0	0	187	0	0	43	59	23
cSH	665	1700	1700	1700	417	1700	1700	448	266
Volume to Capacity	0.00	0.38	0.38	0.11	0.13	0.39	0.22	0.13	0.19
Queue Length 95th (ft)	0	0	0	0	11	0	0	11	17
Control Delay (s)	10.4	0.0	0.0	0.0	14.9	0.0	0.0	14.2	21.7
Lane LOS	B				B			B	C
Approach Delay (s)	0.0				0.7			14.2	21.7
Approach LOS								B	C

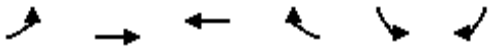
Intersection Summary				
Average Delay	1.0			
Intersection Capacity Utilization	50.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	1300	1043	1	4	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	1368	1098	1	4	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		595	563			
pX, platoon unblocked	0.88				0.90	0.88
vC, conflicting volume	1099				1785	549
vC1, stage 1 conf vol					1098	
vC2, stage 2 conf vol					686	
vCu, unblocked vol	844				1477	221
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	100				98	100
cM capacity (veh/h)	641				269	664

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	684	684	732	367	5
Volume Left	1	0	0	0	0	4
Volume Right	0	0	0	0	1	1
cSH	641	1700	1700	1700	1700	305
Volume to Capacity	0.00	0.40	0.40	0.43	0.22	0.02
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	10.6	0.0	0.0	0.0	0.0	17.0
Lane LOS	B					C
Approach Delay (s)	0.0			0.0		17.0
Approach LOS						C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1304	1044	2	3	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	1373	1099	2	3	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		847	311			
pX, platoon unblocked	0.87				0.87	0.87
vC, conflicting volume	1101				1786	551
vC1, stage 1 conf vol					1100	
vC2, stage 2 conf vol					686	
vCu, unblocked vol	811				1577	177
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	100				99	100
cM capacity (veh/h)	650				265	699

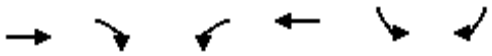
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	0	686	686	733	368	3
Volume Left	0	0	0	0	0	3
Volume Right	0	0	0	0	2	0
cSH	1700	1700	1700	1700	1700	265
Volume to Capacity	0.00	0.40	0.40	0.43	0.22	0.01
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	18.8
Lane LOS						C
Approach Delay (s)	0.0			0.0		18.8
Approach LOS						C

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	44	239	389	16	328	170
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	46	252	409	17	345	179
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						307
pX, platoon unblocked						
vC, conflicting volume	1198	213			426	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1198	213			426	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	63	68			69	
cM capacity (veh/h)	124	792			1129	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	46	252	273	153	405	119
Volume Left	46	0	0	0	345	0
Volume Right	0	252	0	17	0	0
cSH	124	792	1700	1700	1129	1700
Volume to Capacity	0.37	0.32	0.16	0.09	0.31	0.07
Queue Length 95th (ft)	39	34	0	0	33	0
Control Delay (s)	50.5	11.6	0.0	0.0	8.6	0.0
Lane LOS	F	B			A	
Approach Delay (s)	17.7		0.0		6.7	
Approach LOS	C					

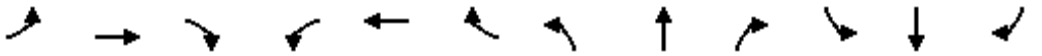
Intersection Summary			
Average Delay	7.0		
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	569	526	847	1022	138	154
v/c Ratio	0.50	0.70	0.89	0.43	0.72	0.11
Control Delay	23.4	13.5	36.2	2.4	55.2	0.2
Queue Delay	0.0	0.0	0.0	0.2	0.0	0.0
Total Delay	23.4	13.5	36.2	2.6	55.2	0.2
Queue Length 50th (ft)	123	65	199	20	66	0
Queue Length 95th (ft)	174	194	#296	12	#138	0
Internal Link Dist (ft)	146			393		
Turn Bay Length (ft)					400	
Base Capacity (vph)	1134	753	1022	2357	222	1442
Starvation Cap Reductn	0	0	0	452	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.70	0.83	0.54	0.62	0.11

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	512	473	762	920	0	0	0	0	124	0	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	5.0	6.0	6.0					6.0		4.0
Lane Util. Factor		0.95	1.00	0.97	0.95					1.00		1.00
Frt		1.00	0.85	1.00	1.00					1.00		0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (prot)		3223	1442	3127	3223					1612		1442
Flt Permitted		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (perm)		3223	1442	3127	3223					1612		1442
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	569	526	847	1022	0	0	0	0	138	0	154
RTOR Reduction (vph)	0	0	228	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	569	298	847	1022	0	0	0	0	138	0	154
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type			Perm	Prot						Prot		Free
Protected Phases		6		5	2					4		
Permitted Phases			6									Free
Actuated Green, G (s)		29.0	29.0	25.5	59.5					10.5		80.0
Effective Green, g (s)		28.0	29.0	24.5	58.5					9.5		80.0
Actuated g/C Ratio		0.35	0.36	0.31	0.73					0.12		1.00
Clearance Time (s)		5.0	5.0	5.0	5.0					5.0		
Vehicle Extension (s)		2.5	2.5	2.5	2.5					2.5		
Lane Grp Cap (vph)		1128	523	958	2357					191		1442
v/s Ratio Prot		0.18		c0.27	0.32					c0.09		
v/s Ratio Perm			c0.21									0.11
v/c Ratio		0.50	0.57	0.88	0.43					0.72		0.11
Uniform Delay, d1		20.5	20.5	26.4	4.2					34.0		0.0
Progression Factor		1.00	1.00	0.94	0.41					1.00		1.00
Incremental Delay, d2		1.6	4.4	9.1	0.1					11.9		0.1
Delay (s)		22.1	24.9	33.8	1.8					45.9		0.1
Level of Service		C	C	C	A					D		A
Approach Delay (s)		23.5			16.3			0.0			21.8	
Approach LOS		C			B			A			C	

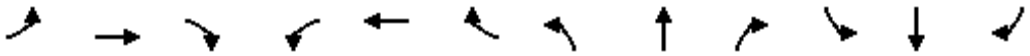
Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	88	561	1434	379	357
v/c Ratio	0.35	0.26	0.45	0.65	0.45
Control Delay	17.4	2.3	4.7	35.1	5.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	17.4	2.3	4.7	35.1	5.0
Queue Length 50th (ft)	8	4	49	91	0
Queue Length 95th (ft)	m51	35	109	125	34
Internal Link Dist (ft)		393	85		
Turn Bay Length (ft)					400
Base Capacity (vph)	302	2138	3179	782	930
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.29	0.26	0.45	0.48	0.38

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	86	550	0	0	1311	94	371	0	350	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0			6.0		6.0		5.0			
Lane Util. Factor	1.00	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.99		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	1612	3223			5777		3127		2538			
Flt Permitted	0.13	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	213	3223			5777		3127		2538			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	88	561	0	0	1338	96	379	0	357	0	0	0
RTOR Reduction (vph)	0	0	0	0	11	0	0	0	286	0	0	0
Lane Group Flow (vph)	88	561	0	0	1423	0	379	0	71	0	0	0
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt						Prot		custom			
Protected Phases	5	2			6		3					
Permitted Phases	2								8			
Actuated Green, G (s)	54.1	54.1			44.1		15.9		16.9			
Effective Green, g (s)	53.1	53.1			43.1		14.9		15.9			
Actuated g/C Ratio	0.66	0.66			0.54		0.19		0.20			
Clearance Time (s)	4.0	5.0			5.0		5.0		4.0			
Vehicle Extension (s)	3.0	4.0			4.0		4.0		3.0			
Lane Grp Cap (vph)	229	2139			3112		582		504			
v/s Ratio Prot	c0.02	0.17			c0.25		c0.12					
v/s Ratio Perm	0.23								0.03			
v/c Ratio	0.38	0.26			0.46		0.65		0.14			
Uniform Delay, d1	5.7	5.5			11.3		30.1		26.4			
Progression Factor	2.65	0.34			0.36		1.00		1.00			
Incremental Delay, d2	0.9	0.3			0.3		2.9		0.1			
Delay (s)	16.1	2.1			4.5		33.0		26.5			
Level of Service	B	A			A		C		C			
Approach Delay (s)		4.0			4.5			29.9			0.0	
Approach LOS		A			A			C			A	

Intersection Summary			
HCM Average Control Delay	11.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

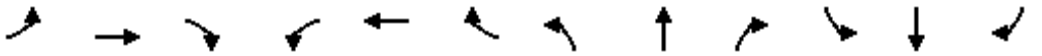
c Critical Lane Group

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	157	603	104	111	1131	268	43	61	29	37	187
v/c Ratio	0.61	0.40	0.07	0.26	0.84	0.76	0.13	0.18	0.24	0.25	0.63
Control Delay	28.9	14.5	0.1	4.7	16.9	50.1	28.8	10.0	40.0	36.9	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	14.5	0.1	4.7	16.9	50.1	28.8	10.0	40.0	36.9	15.6
Queue Length 50th (ft)	23	136	0	4	214	68	17	0	14	18	0
Queue Length 95th (ft)	#117	188	0	m12	#412	#124	46	31	39	43	55
Internal Link Dist (ft)		231			440		227			711	
Turn Bay Length (ft)	200		250	200				150	150		150
Base Capacity (vph)	257	1511	1442	431	1352	352	376	367	121	297	407
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.40	0.07	0.26	0.84	0.76	0.11	0.17	0.24	0.12	0.46

Intersection Summary

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

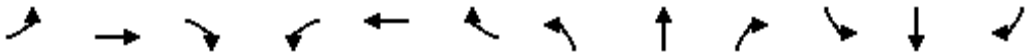
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	149	573	99	105	973	102	255	41	58	28	35	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0		4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1612	3223	1442	1612	3177		3127	1696	1442	1612	1696	1442
Flt Permitted	0.12	1.00	1.00	0.41	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	203	3223	1442	690	3177		3127	1696	1442	1612	1696	1442
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	157	603	104	111	1024	107	268	43	61	29	37	187
RTOR Reduction (vph)	0	0	0	0	9	0	0	0	49	0	0	164
Lane Group Flow (vph)	157	603	104	111	1122	0	268	43	12	29	37	23
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt		Free	pm+pt			Prot		Perm	Prot		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6					8			4
Actuated Green, G (s)	43.7	34.5	80.0	38.3	31.8		8.0	17.0	17.0	2.0	11.0	11.0
Effective Green, g (s)	41.7	33.5	80.0	36.3	30.8		9.0	16.0	16.0	3.0	10.0	10.0
Actuated g/C Ratio	0.52	0.42	1.00	0.45	0.39		0.11	0.20	0.20	0.04	0.12	0.12
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	250	1350	1442	376	1223		352	339	288	60	212	180
v/s Ratio Prot	c0.06	0.19		0.02	c0.35		c0.09	0.03		0.02	c0.02	
v/s Ratio Perm	0.26		c0.07	0.11					0.01			0.02
v/c Ratio	0.63	0.45	0.07	0.30	0.92		0.76	0.13	0.04	0.48	0.17	0.13
Uniform Delay, d1	14.0	16.6	0.0	12.8	23.4		34.5	26.3	25.8	37.7	31.3	31.1
Progression Factor	1.49	0.87	1.00	0.44	0.47		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7	1.0	0.1	0.3	9.9		9.4	0.2	0.1	6.0	0.4	0.3
Delay (s)	25.7	15.6	0.1	6.0	20.9		43.8	26.4	25.9	43.8	31.7	31.5
Level of Service	C	B	A	A	C		D	C	C	D	C	C
Approach Delay (s)		15.6			19.6			38.9			32.9	
Approach LOS		B			B			D			C	

Intersection Summary			
HCM Average Control Delay	22.2	HCM Level of Service	C
HCM Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

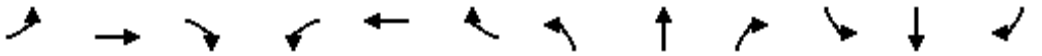
c Critical Lane Group



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	70	358	289	46	757	38	361	216	33	39	179	165
v/c Ratio	0.36	0.28	0.39	0.13	0.65	0.07	0.74	0.41	0.07	0.16	0.69	0.46
Control Delay	13.2	8.5	5.3	21.3	26.3	15.7	42.5	25.4	8.3	17.5	46.0	9.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.2	8.5	5.3	21.3	26.3	15.7	42.5	25.4	8.3	17.5	46.0	9.7
Queue Length 50th (ft)	15	67	101	16	177	9	89	88	0	12	84	0
Queue Length 95th (ft)	16	20	0	40	243	30	#136	151	20	29	148	50
Internal Link Dist (ft)		800			792			787			1170	
Turn Bay Length (ft)	500		100	350		20	400			250		350
Base Capacity (vph)	194	1262	741	363	1158	525	508	525	469	242	297	388
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.28	0.39	0.13	0.65	0.07	0.71	0.41	0.07	0.16	0.60	0.43

Intersection Summary

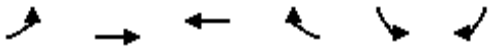
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	64	329	266	42	696	35	332	199	30	36	165	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1612	3223	1442	1612	3223	1442	3127	1696	1442	1612	1696	1442
Flt Permitted	0.17	1.00	1.00	0.54	1.00	1.00	0.95	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	286	3223	1442	912	3223	1442	3127	1696	1442	1057	1696	1442
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	70	358	289	46	757	38	361	216	33	39	179	165
RTOR Reduction (vph)	0	0	190	0	0	7	0	0	23	0	0	136
Lane Group Flow (vph)	70	358	99	46	757	31	361	216	10	39	179	29
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot		Perm	pm+pt		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8	4		4
Actuated Green, G (s)	28.3	28.3	28.3	26.7	26.7	26.7	13.4	25.7	25.7	18.3	15.3	15.3
Effective Green, g (s)	27.3	27.3	27.3	25.7	25.7	25.7	12.4	24.7	24.7	16.3	14.3	14.3
Actuated g/C Ratio	0.34	0.34	0.34	0.32	0.32	0.32	0.16	0.31	0.31	0.20	0.18	0.18
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	157	1100	492	310	1035	463	485	524	445	229	303	258
v/s Ratio Prot	0.02	c0.11		0.00	c0.23		c0.12	0.13		0.00	c0.11	
v/s Ratio Perm	0.13		0.07	0.04		0.02			0.01	0.03		0.02
v/c Ratio	0.45	0.33	0.20	0.15	0.73	0.07	0.74	0.41	0.02	0.17	0.59	0.11
Uniform Delay, d1	19.8	19.5	18.6	19.4	24.1	18.8	32.3	21.9	19.2	26.0	30.2	27.5
Progression Factor	0.42	0.42	1.27	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.6	0.7	0.9	0.3	4.6	0.3	6.5	0.7	0.0	0.5	3.6	0.3
Delay (s)	11.0	9.0	24.5	19.7	28.7	19.1	38.8	22.6	19.3	26.5	33.7	27.8
Level of Service	B	A	C	B	C	B	D	C	B	C	C	C
Approach Delay (s)		15.5			27.7			32.0			30.4	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM Average Control Delay	25.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		

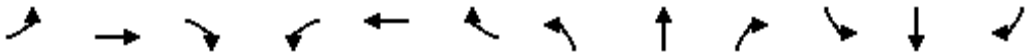
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	67	833	1281	76	21	124
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	71	877	1348	80	22	131
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		342				
pX, platoon unblocked	0.00	0.00	0.00	0.00	0.00	0.00
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol					0	
vC2, stage 2 conf vol					0	
vCu, unblocked vol	0				0	0
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					0.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	0				0	0
cM capacity (veh/h)	0				0	0

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	71	292	292	292	899	529	153
Volume Left	71	0	0	0	0	0	22
Volume Right	0	0	0	0	0	80	131
cSH	0	0	0	0	0	0	0
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						A
Approach Delay (s)	0.0				0.0		0.0
Approach LOS							A

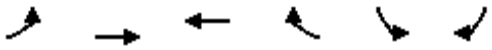
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	60.4%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	6	801	47	25	1325	52	0	0	3	17	0	32
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	6	843	49	26	1395	55	0	0	3	18	0	34
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		475			683							
pX, platoon unblocked	0.69			0.97			0.71	0.71	0.97	0.71	0.71	0.69
vC, conflicting volume	1449			893			1639	2358	422	1912	2380	725
vC1, stage 1 conf vol							856	856		1475	1475	
vC2, stage 2 conf vol							784	1502		437	905	
vCu, unblocked vol	759			817			862	1875	329	1247	1906	0
tC, single (s)	4.3			4.3			7.7	6.7	7.1	7.7	6.7	7.1
tC, 2 stage (s)							6.7	5.7		6.7	5.7	
tF (s)	2.3			2.3			3.6	4.1	3.4	3.6	4.1	3.4
p0 queue free %	99			96			100	100	99	91	100	95
cM capacity (veh/h)	544			720			297	194	616	204	194	728

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	6	422	422	49	26	930	520	3	52
Volume Left	6	0	0	0	26	0	0	0	18
Volume Right	0	0	0	49	0	0	55	3	34
cSH	544	1700	1700	1700	720	1700	1700	616	385
Volume to Capacity	0.01	0.25	0.25	0.03	0.04	0.55	0.31	0.01	0.13
Queue Length 95th (ft)	1	0	0	0	3	0	0	0	11
Control Delay (s)	11.7	0.0	0.0	0.0	10.2	0.0	0.0	10.9	15.8
Lane LOS	B				B			B	C
Approach Delay (s)	0.1				0.2			10.9	15.8
Approach LOS								B	C

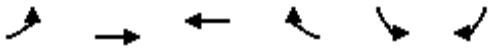
Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	48.3%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	820	1402	3	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	863	1476	3	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		595	563			
pX, platoon unblocked	0.68				0.69	0.68
vC, conflicting volume	1479				1911	739
vC1, stage 1 conf vol					1477	
vC2, stage 2 conf vol					434	
vCu, unblocked vol	774				1284	0
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	530				249	719

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	432	432	984	495	0
Volume Left	1	0	0	0	0	0
Volume Right	0	0	0	0	3	0
cSH	530	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.25	0.25	0.58	0.29	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	11.8	0.0	0.0	0.0	0.0	0.0
Lane LOS	B					A
Approach Delay (s)	0.0			0.0		0.0
Approach LOS						A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	42.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	820	1402	4	1	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	863	1476	4	1	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		847	311			
pX, platoon unblocked	0.67				0.67	0.67
vC, conflicting volume	1480				1909	740
vC1, stage 1 conf vol					1478	
vC2, stage 2 conf vol					432	
vCu, unblocked vol	745				1382	0
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	100				100	100
cM capacity (veh/h)	536				250	710

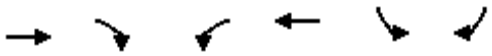
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	0	432	432	984	496	4
Volume Left	0	0	0	0	0	1
Volume Right	0	0	0	0	4	3
cSH	1700	1700	1700	1700	1700	486
Volume to Capacity	0.00	0.25	0.25	0.58	0.29	0.01
Queue Length 95th (ft)	0	0	0	0	0	1
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	12.5
Lane LOS						B
Approach Delay (s)	0.0			0.0		12.5
Approach LOS						B

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	13	279	75	4	196	43
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	14	294	79	4	206	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						307
pX, platoon unblocked						
vC, conflicting volume	539	42			83	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	539	42			83	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	71			86	
cM capacity (veh/h)	408	1020			1512	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	14	294	53	31	206	45
Volume Left	14	0	0	0	206	0
Volume Right	0	294	0	4	0	0
cSH	408	1020	1700	1700	1512	1700
Volume to Capacity	0.03	0.29	0.03	0.02	0.14	0.03
Queue Length 95th (ft)	3	30	0	0	12	0
Control Delay (s)	14.1	9.9	0.0	0.0	7.8	0.0
Lane LOS	B	A			A	
Approach Delay (s)	10.1		0.0		6.4	
Approach LOS	B					

Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	27.5%	ICU Level of Service	A
Analysis Period (min)	15		

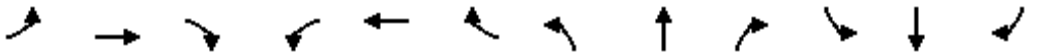


Lane Group	EBT	EBR	WBL	WBT	SBL	SBR
Lane Group Flow (vph)	1157	942	771	1757	156	136
v/c Ratio	0.76	0.65	0.92	0.70	0.78	0.09
Control Delay	33.8	2.3	49.5	7.9	79.6	0.1
Queue Delay	0.0	0.0	2.4	0.5	0.0	0.0
Total Delay	33.8	2.3	51.9	8.4	79.6	0.1
Queue Length 50th (ft)	434	0	319	162	129	0
Queue Length 95th (ft)	554	0	m#434	183	198	0
Internal Link Dist (ft)	146			393		
Turn Bay Length (ft)					400	
Base Capacity (vph)	1516	1442	860	2525	273	1442
Starvation Cap Reductn	0	0	34	349	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.76	0.65	0.93	0.81	0.57	0.09

Intersection Summary

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1041	848	694	1581	0	0	0	0	140	0	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	4.0	6.0	6.0					6.0		4.0
Lane Util. Factor		0.95	1.00	0.97	0.95					1.00		1.00
Frt		1.00	0.85	1.00	1.00					1.00		0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (prot)		3223	1442	3127	3223					1612		1442
Flt Permitted		1.00	1.00	0.95	1.00					0.95		1.00
Satd. Flow (perm)		3223	1442	3127	3223					1612		1442
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	1157	942	771	1757	0	0	0	0	156	0	136
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1157	942	771	1757	0	0	0	0	156	0	136
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type			Free	Prot						Prot		Free
Protected Phases		6		5	2					4		
Permitted Phases			Free									Free
Actuated Green, G (s)		62.1	130.0	35.7	102.8					17.2		130.0
Effective Green, g (s)		61.1	130.0	34.7	101.8					16.2		130.0
Actuated g/C Ratio		0.47	1.00	0.27	0.78					0.12		1.00
Clearance Time (s)		5.0		5.0	5.0					5.0		
Vehicle Extension (s)		2.5		2.5	2.5					2.5		
Lane Grp Cap (vph)		1515	1442	835	2524					201		1442
v/s Ratio Prot		c0.36		c0.25	0.55					0.10		
v/s Ratio Perm			c0.65									0.09
v/c Ratio		0.76	0.65	0.92	0.70					0.78		0.09
Uniform Delay, d1		28.5	0.0	46.4	6.7					55.1		0.0
Progression Factor		1.00	1.00	0.77	0.89					1.00		1.00
Incremental Delay, d2		3.7	2.3	11.8	0.6					16.3		0.1
Delay (s)		32.2	2.3	47.6	6.5					71.5		0.1
Level of Service		C	A	D	A					E		A
Approach Delay (s)		18.8			19.1			0.0			38.3	
Approach LOS		B			B			A			D	

Intersection Summary			
HCM Average Control Delay	20.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

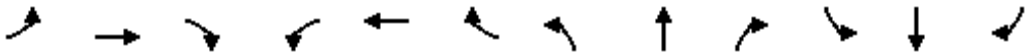
c Critical Lane Group

Lane Group	EBL	EBT	WBT	NBL	NBR
Lane Group Flow (vph)	192	1013	1779	727	1077
v/c Ratio	0.89	0.63	0.86	0.57	0.95
Control Delay	70.1	9.3	26.1	31.3	50.5
Queue Delay	0.0	0.5	0.0	0.1	0.0
Total Delay	70.1	9.8	26.1	31.4	50.5
Queue Length 50th (ft)	88	57	360	234	442
Queue Length 95th (ft)	m#197	80	418	294	#607
Internal Link Dist (ft)		393	75		
Turn Bay Length (ft)					400
Base Capacity (vph)	226	1605	2072	1323	1160
Starvation Cap Reductn	0	234	0	0	0
Spillback Cap Reductn	0	0	2	59	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.85	0.74	0.86	0.58	0.93

Intersection Summary

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	188	993	0	0	1563	180	712	0	1055	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	6.0			6.0		6.0		5.0			
Lane Util. Factor	1.00	0.95			0.86		0.97		0.88			
Frt	1.00	1.00			0.98		1.00		0.85			
Flt Protected	0.95	1.00			1.00		0.95		1.00			
Satd. Flow (prot)	1612	3223			5745		3127		2538			
Flt Permitted	0.08	1.00			1.00		0.95		1.00			
Satd. Flow (perm)	132	3223			5745		3127		2538			
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	192	1013	0	0	1595	184	727	0	1077	0	0	0
RTOR Reduction (vph)	0	0	0	0	15	0	0	0	69	0	0	0
Lane Group Flow (vph)	192	1013	0	0	1764	0	727	0	1008	0	0	0
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt						Prot		custom			
Protected Phases	5	2			6		3					
Permitted Phases	2								8			
Actuated Green, G (s)	65.7	65.7			47.6		54.3		55.3			
Effective Green, g (s)	64.7	64.7			46.6		53.3		54.3			
Actuated g/C Ratio	0.50	0.50			0.36		0.41		0.42			
Clearance Time (s)	4.0	5.0			5.0		5.0		4.0			
Vehicle Extension (s)	3.0	4.0			4.0		4.0		3.0			
Lane Grp Cap (vph)	215	1604			2059		1282		1060			
v/s Ratio Prot	c0.09	0.31			0.31		0.23					
v/s Ratio Perm	c0.36								c0.40			
v/c Ratio	0.89	0.63			0.86		0.57		0.95			
Uniform Delay, d1	35.7	23.9			38.6		29.5		36.6			
Progression Factor	1.35	0.33			0.59		1.00		1.00			
Incremental Delay, d2	24.8	1.2			3.0		0.7		17.1			
Delay (s)	73.0	9.0			25.6		30.2		53.7			
Level of Service	E	A			C		C		D			
Approach Delay (s)		19.2			25.6			44.2			0.0	
Approach LOS		B			C			D			A	

Intersection Summary			
HCM Average Control Delay	31.0	HCM Level of Service	C
HCM Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

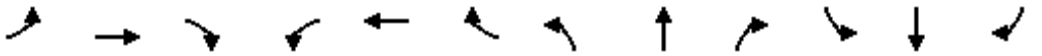
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	218	1596	207	232	1325	389	54	218	65	85	206
v/c Ratio	0.80	1.02	0.14	0.91	0.85	0.90	0.20	0.52	0.27	0.62	0.69
Control Delay	44.9	59.7	0.1	69.5	28.6	79.3	50.5	11.0	39.2	76.2	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	44.9	59.7	0.1	69.5	28.6	79.3	50.5	11.0	39.2	76.2	20.8
Queue Length 50th (ft)	129	~763	0	170	253	168	41	0	42	70	6
Queue Length 95th (ft)	m170	m#881	m0	m#262	#678	#259	81	73	79	125	84
Internal Link Dist (ft)		231			440		227			711	
Turn Bay Length (ft)	200		250	200				150	150		150
Base Capacity (vph)	297	1562	1442	256	1559	433	293	430	255	183	333
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	1.02	0.14	0.91	0.85	0.90	0.18	0.51	0.25	0.46	0.62

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

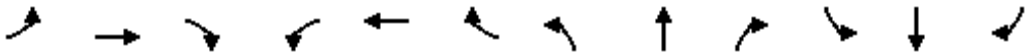
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	207	1516	197	220	1202	57	370	51	207	62	81	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	4.0	6.0	6.0		4.0	6.0	6.0	4.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1612	3223	1442	1612	3201		3127	1696	1442	1612	1696	1442
Flt Permitted	0.09	1.00	1.00	0.06	1.00		0.95	1.00	1.00	0.72	1.00	1.00
Satd. Flow (perm)	144	3223	1442	109	3201		3127	1696	1442	1224	1696	1442
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	218	1596	207	232	1265	60	389	54	218	65	85	206
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	183	0	0	181
Lane Group Flow (vph)	218	1596	207	232	1322	0	389	54	35	65	85	25
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt		Free	pm+pt			Prot		Perm	pm+pt		Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		Free	6					8	4		4
Actuated Green, G (s)	80.2	63.0	130.0	80.8	63.3		17.0	22.0	22.0	20.0	12.5	12.5
Effective Green, g (s)	78.2	62.0	130.0	78.8	62.3		18.0	21.0	21.0	22.0	11.5	11.5
Actuated g/C Ratio	0.60	0.48	1.00	0.61	0.48		0.14	0.16	0.16	0.17	0.09	0.09
Clearance Time (s)	5.0	5.0		5.0	5.0		5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	270	1537	1442	257	1534		433	274	233	233	150	128
v/s Ratio Prot	0.10	c0.50		c0.11	0.41		c0.12	0.03		0.02	c0.05	
v/s Ratio Perm	0.38		c0.14	0.43					0.02	0.03		0.02
v/c Ratio	0.81	1.04	0.14	0.90	0.86		0.90	0.20	0.15	0.28	0.57	0.19
Uniform Delay, d1	32.6	34.0	0.0	41.7	30.0		55.1	47.2	46.8	46.7	56.9	54.9
Progression Factor	1.02	1.06	1.00	1.30	0.81		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.6	29.9	0.1	20.2	3.7		20.8	0.4	0.3	0.7	4.8	0.7
Delay (s)	44.8	65.8	0.1	74.2	28.2		75.9	47.6	47.1	47.4	61.7	55.7
Level of Service	D	E	A	E	C		E	D	D	D	E	E
Approach Delay (s)		56.8			35.1			64.1			55.6	
Approach LOS		E			D			E			E	

Intersection Summary			
HCM Average Control Delay	50.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	86.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

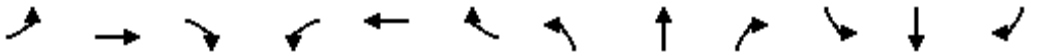


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	307	1183	451	39	1149	92	279	126	46	138	191	179
v/c Ratio	0.90	0.68	0.52	0.31	0.88	0.15	0.83	0.65	0.22	0.39	0.81	0.50
Control Delay	37.2	6.1	1.1	31.1	44.9	22.8	77.2	70.0	16.1	41.7	79.1	12.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.2	6.1	1.1	31.1	44.9	22.8	77.2	70.0	16.1	41.7	79.1	12.1
Queue Length 50th (ft)	160	67	1	20	476	43	120	103	0	88	155	0
Queue Length 95th (ft)	m177	m78	m1	45	#613	83	#192	164	36	146	#262	68
Internal Link Dist (ft)		800			792			787			1170	
Turn Bay Length (ft)	500		100	350		20	400			250		350
Base Capacity (vph)	342	1740	873	127	1311	594	344	300	293	350	261	373
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.90	0.68	0.52	0.31	0.88	0.15	0.81	0.42	0.16	0.39	0.73	0.48

Intersection Summary

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

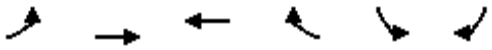
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	282	1088	415	36	1057	85	257	116	42	127	176	165
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1612	3223	1442	1612	3223	1442	3127	1696	1442	1612	1696	1442
Flt Permitted	0.13	1.00	1.00	0.08	1.00	1.00	0.95	1.00	1.00	0.58	1.00	1.00
Satd. Flow (perm)	216	3223	1442	144	3223	1442	3127	1696	1442	978	1696	1442
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	307	1183	451	39	1149	92	279	126	46	138	191	179
RTOR Reduction (vph)	0	0	96	0	0	7	0	0	41	0	0	154
Lane Group Flow (vph)	307	1183	355	39	1149	85	279	126	5	138	191	25
Heavy Vehicles (%)	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%	12%
Turn Type	pm+pt		Perm	pm+pt		Perm	Prot		Perm	pm+pt		Perm
Protected Phases	1	6		5	2		3	8		7	4	
Permitted Phases	6		6	2		2			8	4		4
Actuated Green, G (s)	70.1	70.1	70.1	52.8	52.8	52.8	15.1	15.9	15.9	37.4	19.1	19.1
Effective Green, g (s)	69.1	69.1	69.1	51.8	51.8	51.8	14.1	14.9	14.9	35.4	18.1	18.1
Actuated g/C Ratio	0.53	0.53	0.53	0.40	0.40	0.40	0.11	0.11	0.11	0.27	0.14	0.14
Clearance Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lane Grp Cap (vph)	351	1713	766	110	1284	575	339	194	165	351	236	201
v/s Ratio Prot	c0.15	0.37		0.01	c0.36		c0.09	0.07		c0.05	c0.11	
v/s Ratio Perm	0.32		0.25	0.13		0.06			0.00	0.05		0.02
v/c Ratio	0.87	0.69	0.46	0.35	0.89	0.15	0.82	0.65	0.03	0.39	0.81	0.12
Uniform Delay, d1	40.0	22.5	18.9	28.5	36.6	25.0	56.7	55.1	51.1	41.4	54.3	49.0
Progression Factor	0.46	0.22	0.02	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.0	0.9	0.8	2.7	9.9	0.5	15.5	8.1	0.1	1.0	19.1	0.4
Delay (s)	28.4	6.0	1.2	31.1	46.4	25.5	72.2	63.2	51.2	42.4	73.3	49.4
Level of Service	C	A	A	C	D	C	E	E	D	D	E	D
Approach Delay (s)		8.4			44.5			67.5			56.5	
Approach LOS		A			D			E			E	

Intersection Summary			
HCM Average Control Delay	31.7	HCM Level of Service	C
HCM Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	24.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

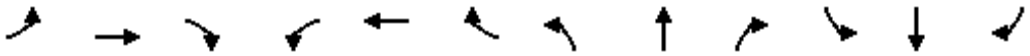
c Critical Lane Group



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	77	1971	1653	41	41	90
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	81	2075	1740	43	43	95
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		342				
pX, platoon unblocked	0.00	0.00	0.00	0.00	0.00	0.00
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol					0	
vC2, stage 2 conf vol					0	
vCu, unblocked vol	0				0	0
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					0.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	0				0	0
cM capacity (veh/h)	0				0	0

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	SB 1
Volume Total	81	692	692	692	1160	623	138
Volume Left	81	0	0	0	0	0	43
Volume Right	0	0	0	0	0	43	95
cSH	0	0	0	0	0	0	0
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A						A
Approach Delay (s)	0.0				0.0		0.0
Approach LOS							A

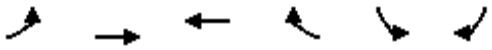
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	69.1%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	2	1832	178	51	1672	41	0	0	56	26	0	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	2	1928	187	54	1760	43	0	0	59	27	0	23
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (ft)		475			683							
pX, platoon unblocked	0.64			0.78			0.75	0.75	0.78	0.75	0.75	0.64
vC, conflicting volume	1803			2116			2943	3843	964	2916	4009	902
vC1, stage 1 conf vol							1933	1933		1889	1889	
vC2, stage 2 conf vol							1011	1911		1027	2120	
vCu, unblocked vol	1135			1873			1631	2832	405	1596	3053	0
tC, single (s)	4.3			4.3			7.7	6.7	7.1	7.7	6.7	7.1
tC, 2 stage (s)							6.7	5.7		6.7	5.7	
tF (s)	2.3			2.3			3.6	4.1	3.4	3.6	4.1	3.4
p0 queue free %	99			76			100	100	87	64	100	97
cM capacity (veh/h)	357			219			72	71	445	76	28	676

Direction, Lane #	EB 1	EB 2	EB 3	EB 4	WB 1	WB 2	WB 3	NB 1	SB 1
Volume Total	2	964	964	187	54	1173	630	59	51
Volume Left	2	0	0	0	54	0	0	0	27
Volume Right	0	0	0	187	0	0	43	59	23
cSH	357	1700	1700	1700	219	1700	1700	445	128
Volume to Capacity	0.01	0.57	0.57	0.11	0.24	0.69	0.37	0.13	0.39
Queue Length 95th (ft)	0	0	0	0	23	0	0	11	42
Control Delay (s)	15.1	0.0	0.0	0.0	26.7	0.0	0.0	14.3	50.1
Lane LOS	C				D			B	F
Approach Delay (s)	0.0				0.8			14.3	50.1
Approach LOS								B	F

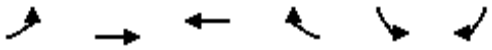
Intersection Summary			
Average Delay	1.2		
Intersection Capacity Utilization	67.4%	ICU Level of Service	C
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	1	1913	1763	3	4	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	1	2014	1856	3	4	1
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		595	563			
pX, platoon unblocked	0.64				0.74	0.64
vC, conflicting volume	1859				2866	929
vC1, stage 1 conf vol					1857	
vC2, stage 2 conf vol					1009	
vCu, unblocked vol	1208				1535	0
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	100				97	100
cM capacity (veh/h)	331				139	670

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	1	1007	1007	1237	622	5
Volume Left	1	0	0	0	0	4
Volume Right	0	0	0	0	3	1
cSH	331	1700	1700	1700	1700	165
Volume to Capacity	0.00	0.59	0.59	0.73	0.37	0.03
Queue Length 95th (ft)	0	0	0	0	0	2
Control Delay (s)	15.9	0.0	0.0	0.0	0.0	27.5
Lane LOS	C					D
Approach Delay (s)	0.0			0.0		27.5
Approach LOS						D

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	1917	1766	2	3	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	2018	1859	2	3	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	TWLTL			
Median storage veh)		2	2			
Upstream signal (ft)		847	311			
pX, platoon unblocked	0.63				0.74	0.63
vC, conflicting volume	1861				2869	931
vC1, stage 1 conf vol					1860	
vC2, stage 2 conf vol					1009	
vCu, unblocked vol	1206				1569	0
tC, single (s)	4.3				7.0	7.1
tC, 2 stage (s)					6.0	
tF (s)	2.3				3.6	3.4
p0 queue free %	100				98	100
cM capacity (veh/h)	331				138	668

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	SB 1
Volume Total	0	1009	1009	1239	622	3
Volume Left	0	0	0	0	0	3
Volume Right	0	0	0	0	2	0
cSH	1700	1700	1700	1700	1700	138
Volume to Capacity	0.00	0.59	0.59	0.73	0.37	0.02
Queue Length 95th (ft)	0	0	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	31.6
Lane LOS						D
Approach Delay (s)	0.0			0.0		31.6
Approach LOS						D

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	44	239	389	16	328	170
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	46	252	409	17	345	179
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						311
pX, platoon unblocked						
vC, conflicting volume	1287	213			426	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1287	213			426	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	57	68			69	
cM capacity (veh/h)	108	792			1129	

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	46	252	273	153	345	179
Volume Left	46	0	0	0	345	0
Volume Right	0	252	0	17	0	0
cSH	108	792	1700	1700	1129	1700
Volume to Capacity	0.43	0.32	0.16	0.09	0.31	0.11
Queue Length 95th (ft)	45	34	0	0	33	0
Control Delay (s)	61.2	11.6	0.0	0.0	9.6	0.0
Lane LOS	F	B			A	
Approach Delay (s)	19.3		0.0		6.3	
Approach LOS	C					

Intersection Summary			
Average Delay	7.3		
Intersection Capacity Utilization	42.8%	ICU Level of Service	A
Analysis Period (min)	15		