Second Creek Meadows

TRAFFIC IMPACT ANALYSIS

December 20, 2022

Prepared For:
Kansas City Properties & Investments, LLC
P.O. Box 475
Smithville, MO 64089

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

December 20, 2022

Mr. Shane Crees
Kansas City Properties & Investments, LLC
P.O. Box 475
Smithville, MO 64089

RE: Second Creek Meadows TIS Proposal – Smithville, MO

Dear Mr. Crees:

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

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

Sincerely,

PRIORITY ENGINEERS, INC.

Jesse Skinner, P.E., PTOE
Senior Transportation Engineer

Priority Engineers, Inc.
PO Box 563
Garden City, MO 64747
816.738.4400

Table of Contents

1) INTRODUCTION

The purpose of this study is to examine the potential traffic impacts associated with the proposed Second Creek Meadows development. This proposed development will consist of 89 units of single-family residential housing. The site is located approximately 1/3 mile west of the signalized intersection of US Route 169 with W Main Street / Second Creek Road.

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

2) EXISTING CONDITIONS

The existing site is undeveloped land. The site is bordered to the west by NW 164th Street / Lowman Road. To the south of the development site is Second Creek Road. The site is bordered to the north and to the east by other parcels of land that are currently underdeveloped. The most common land uses in the immediate vicinity of the proposed development are residential and agricultural. The City of Smithville has a wastewater treatment plant approximately ¼ mile north of the proposed development.

Lowman Road is a two-lane roadway with graded earthen shoulders and an open drainage system. Lowman Road did not have a posted speed limit within the study area. After a jurisdiction change in ownership of the roadway there was a 45 MPH posted speed limit that was observed. Currently there is a 15 MPH advisory speed plaque for the curve that is located to the north of the development site. Lowman Rd / NW 164th Street is classified as a Local Road, by default, by the Mid America Regional Council (MARC). The Smithville Transportation Master Plan (2022) identifies Lowman Road as a Local Road and the plan does not recommend a change in functional classification.

Second Creek Road is a two-lane roadway with graded earthen shoulders and an open drainage system. Second Creek Road has a posted speed limit of 35 MPH within the study area. Second Creek Road has been given a default functional classification of Local Road by MARC. The Smithville Transportation Master Plan (2022) identifies Second Creek Road as currently having a functional classification of Local Road and a recommended future classification of Major Collector.

Peak Hour turning movement counts for the intersection of US Route 169 Road and W Main Street / Second Creek Road and Lowman Road / NW 164th Street and Second Creek Road were collected on November 16th and 17th of this year. The AM Peak Hour was found to be from 7:00 to 8:00 and the PM Peak Hour was found to be from 4:30 to 5:30. The complete traffic counts are shown in Appendix II. The peak hour traffic volumes and existing lane configurations are shown in Figures 3-6. The intersection of Second Creek Road and Lowman Road is STOP controlled on the minor movement. The intersection of US Route 169 and Second Creek Road / W Main Street is signalized.

3) PROPOSED DEVELOPMENT

The proposed residential development will consist of 89 units of single family detached housing. The site development plan includes access onto Second Creek Road and onto Lowman Road from the site's proposed internal roadway network. Both of these proposed intersections will be STOP controlled on the minor movements.

The proposed site plan is shown in Figure 2.

4) TRIP GENERATION

The vehicle trips generated by the proposed development were estimated using the Institute of Transportation Engineers' (ITE) Trip Generation, 11th Edition. The estimated AM and PM peak hour traffic volumes associated with this development are shown in Table 1. Land Use 210, Single Family Detached Housing is the appropriate land use for this development.

Table 1: Trip Generation

			AM Peak Hour			PM Peak Hour		
Land Use	***Intensity***	***Daily***	***Total***	***In***	***Out***	***Total***	***In***	***Out***
Single-Family Detached Housing	89 Units	906	67	17	50	89	56	33

5) TRIP DISTRIBUTION AND ASSIGNMENT

Trips generated by the Second Creek Meadows Development were distributed based on existing traffic flows and a general analysis of the surrounding area. The trips were distributed onto the existing street system approximately as follows:

- 25 percent to and from the north on US Route 169
- 45 percent to and from the south on US Route 169
- 15 percent to and from the west on Second Creek Road
- 15 percent to and from the east on W Main Street

6) LEVEL OF SERVICE AND VOLUME/CAPACITY ANALYSES

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

Table 2: 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 based on 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. The signalized intersection of US Route 169 and W Main Street / Second Creek Road was evaluated using the existing signal timing parameters provided by MoDOT Staff.

Currently, the signalized intersection of US Route 169 and Second Creek Road / W Main Street performs with an overall level of service C with all individual movement groups having an acceptable level of service in both Peak Hours.

The STOP controlled intersection of Lowman Road and Second Creek Road has a level of service A for all individual movements in both Peak Hours.

Existing + Proposed Development Conditions

The levels of service, lane configuration, and queue lengths for the Existing plus Proposed Conditions are shown in Figures 9 and 10 in Appendix I.

The signalized intersection of US Route 169 and Second Creek Road / W Main Street continues to performs with an overall level of service C with all individual movement groups having an acceptable level of service in both peak hours when analyzed with the additional traffic anticipated by the proposed development.

The STOP controlled intersections of Lowman Road and Clayton Drive, Lowman Road and Second Creek Road, and Second Creek Road and Creekside Street all have individual movement groups performing at a level of service B or better in both Peak Hours.

7) FUTURE CONDITIONS

Future traffic volumes were estimated by assuming a 3% annual growth for twenty years. This growth rate represents a total growth of 80.6% in the background traffic traveling through the study intersections. The 3% growth rate was selected based upon MARC 2040 traffic projections.

The Future (2042) AM and PM Peak Hour Volumes are shown in Figures 11 and 12 and the Lane Configurations and Levels of Service are shown in Figures 13 and 14. The signalized intersection of US Route 169 and Second Creek / W Main Street has an acceptable overall level of service D in the AM Peak Hour and an unacceptable overall level of service E in the PM Peak Hour. In both Peak hours there are individual movement groups with unacceptable levels of service lower than the overall level of service.

The Smithville Transportation Master Plan (2022) indicates that this section of US 169 should have an improved five lane cross section in the future.

The STOP controlled study intersections continue to operate with a level of service B or better.

8) SIGHT DISTANCE

Intersection sight distance and stopping sight distance was measured at the approximate locations of the proposed new intersection of Lowman Road and Clayton Drive and the proposed new intersection of Second Creek Roan and Creekside Street. Intersection sight distance represents the distance and time required for the driver to make the decision to turn and to complete the turn without slowing oncoming traffic. Stopping sight distance represents the amount of distance required for a drive to make an unexpected stopping maneuver based upon observing a 2' tall object in the roadway. Table 3 below documents the results of these measurements.

Table 3: Sight Distance

Intersection	AASHTO Stopping Sight Distance Requirement	Measured Stopping Sight Distance Requirement	AASHTO Intersection Sight Distance Requirement	Measured Intersection Sight Distance Requirement
Clayton Drive				
Looking North (30mph Design Speed)	200'	325'	335'	340'
Looking South (30mph Design Speed)	200'	To the intersection	290'	To the Intersection
Creekside Street				
Looking East (40 MPH Design Speed)	305'	>600'	385'	>600'
Looking West (40 MPH Design Speed)	305'	>600'	445'	>600'

The intersection of Creekside Street and Second Creek Road was evaluated based upon a design speed of the posted speed limit + 5 MPH. Both the Stopping Sight Distance and the Intersection Sight Distance exceed AASHTO design requirements.

The intersection of Clayton Drive and Lowman Road does not have a posted speed limit within the study area as discussed in Section Two of this report. Given that this road is a Local Road that connects to another Local Road with a posted speed limit of 35 MPH it was assumed that the speed limit was 25 MPH. The proposed intersection meets stopping sight distance but may or may not meet AASHTO requirements for intersection sight distance based upon the final profile of Clayton drive and the confirmed speed limit of Lowman Road.

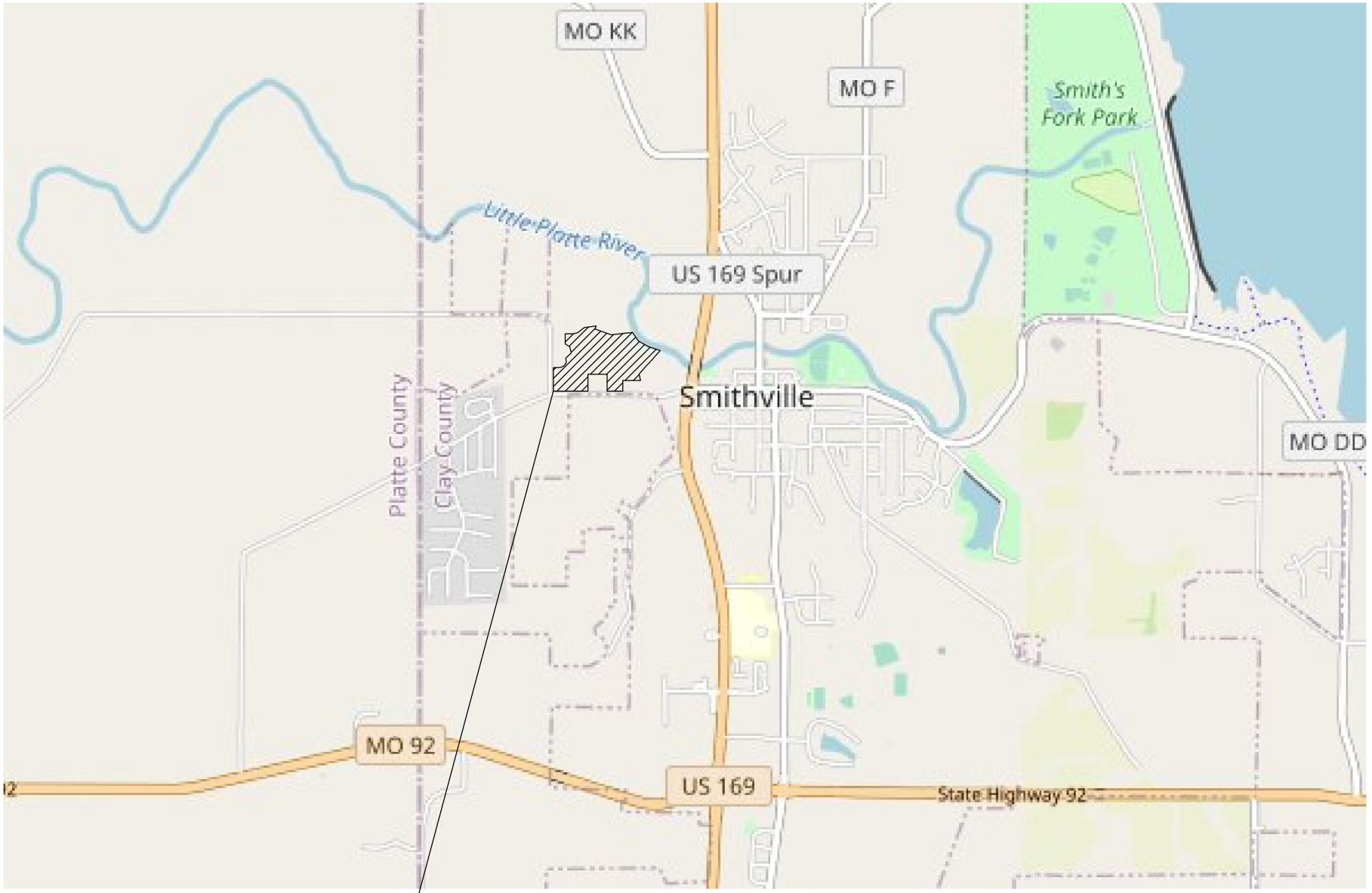
9) RECOMMENDATIONS & CONCLUSIONS

This study documents the traffic impact of the proposed Second Creek Meadows development. The study intersections will continue to perform with acceptable levels of service with the proposed scenario. In the future scenario, the level of service degrades at the intersection of US 169 and Second Creek Road / W Main Street, this is a result of the increase in background traffic growth and is not a result of the proposed development.

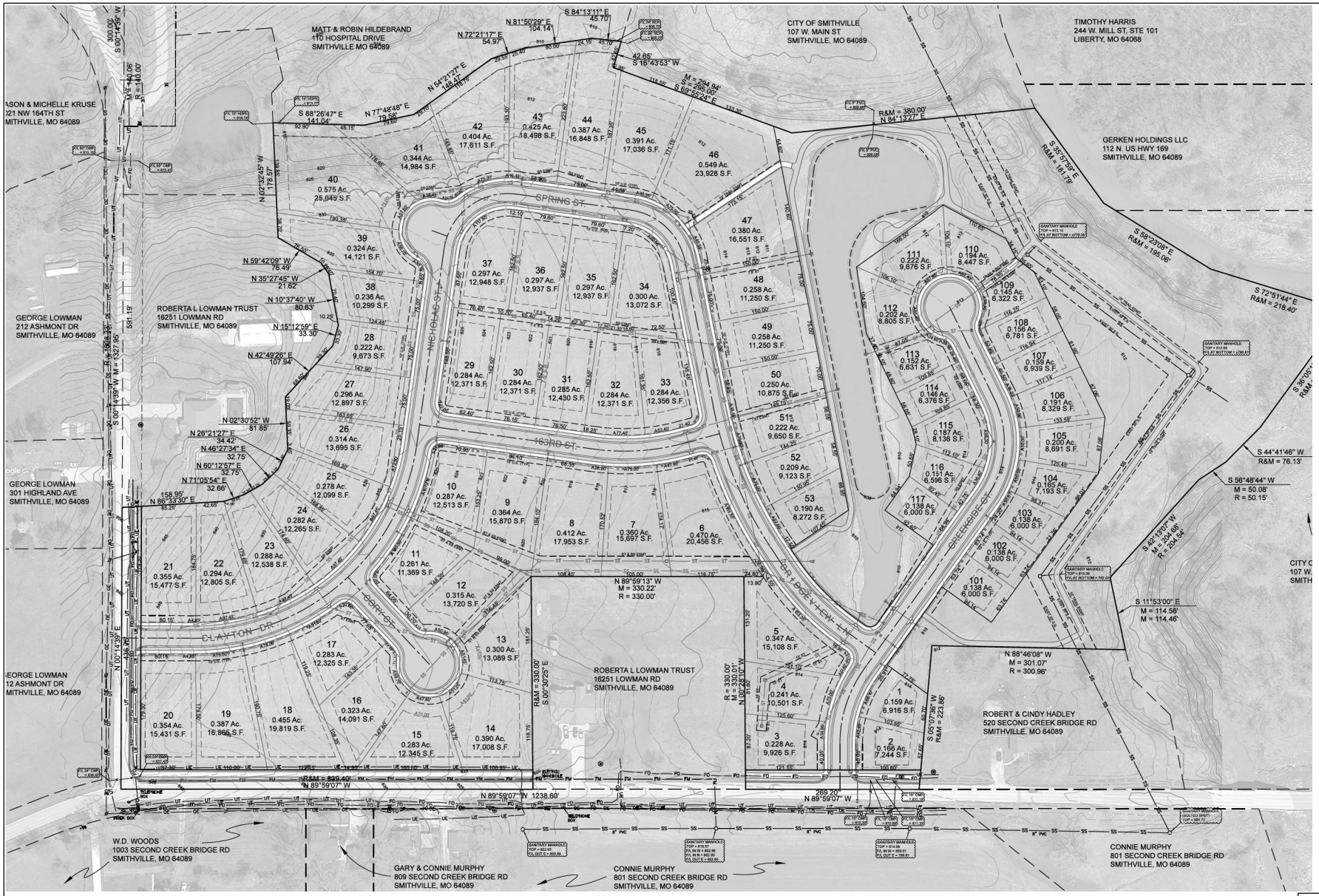
It is recommended that the speed limit of Lowman Road be posted within City Limits to provide further guidance to motorists.

It is also recommended that the site designer review the AASHTO design criteria for the proposed intersection to ensure that the proposed connection onto Lowman Road meets or exceeds AASHTO criteria.

APPENDIX I



Project Location	Second Creek Meadows Smithville, MO	No Scale Figure 1	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



Schulte Engineering & Consulting, LLC
21 Gates Dr.
Platte City, MO 64079
www.schulteengineering.com
admin@schulteengineering.com
PHONE: (816) 260-3328

Site Plan	Second Creek Meadows Smithville, MO	No Scale Figure 2

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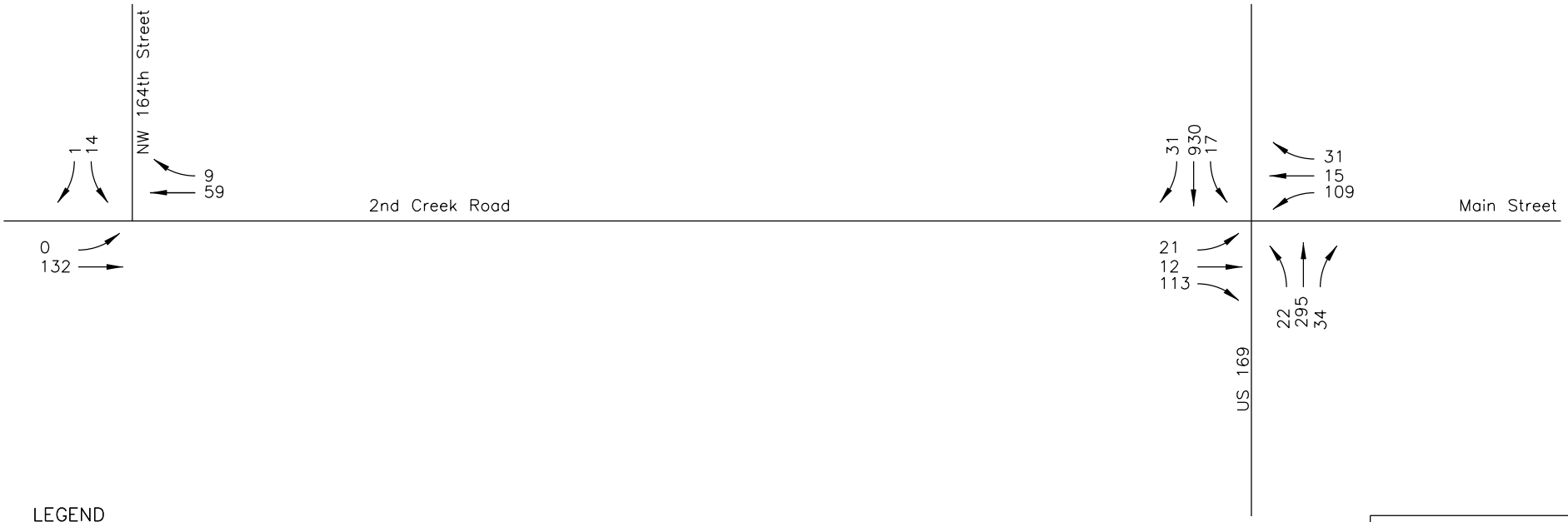
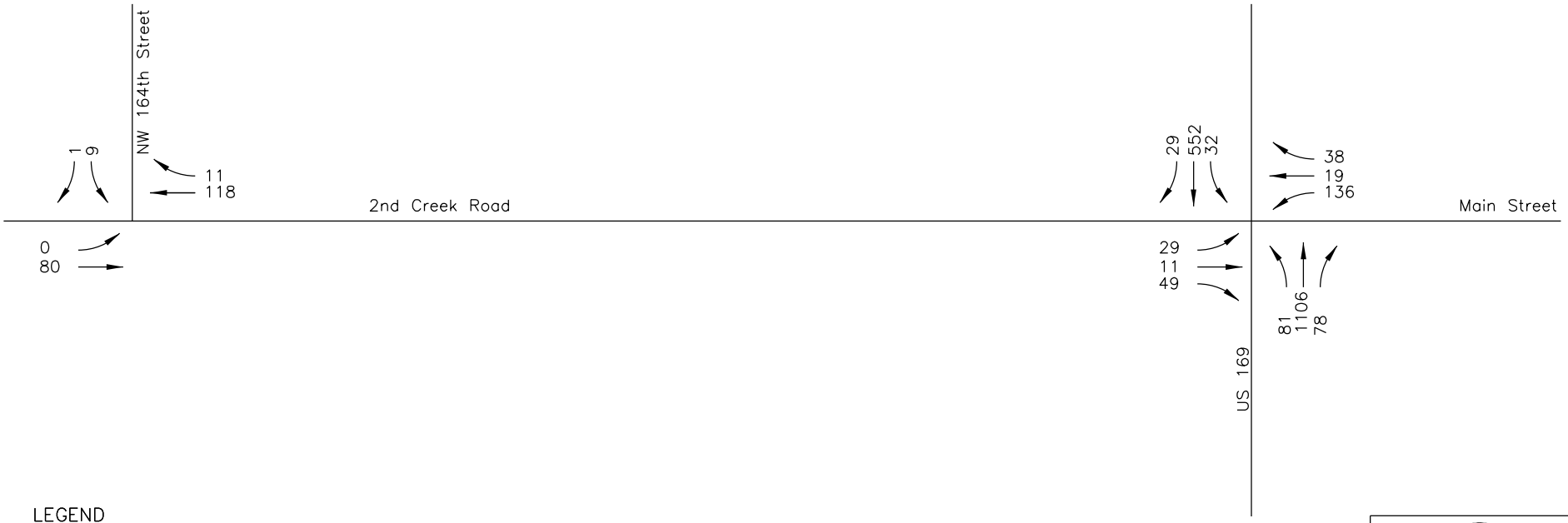


LEGEND

Total Volume

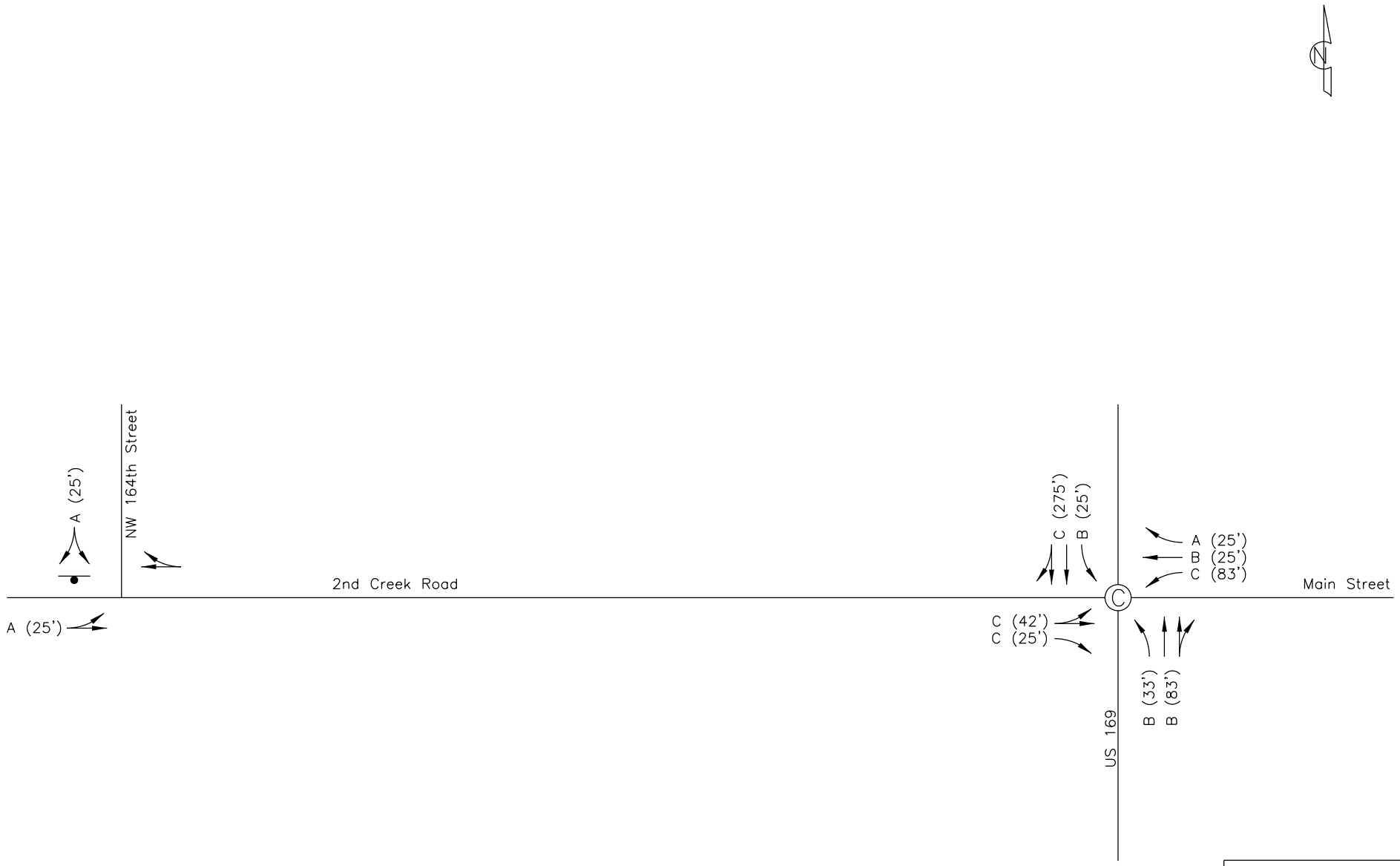
Existing AM Peak Hour Traffic Volumes	Second Creek Meadows Smithville, MO	No Scale Figure 3	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



LEGEND

Total Volume

Existing PM Peak Hour Traffic Volumes	Second Creek Meadows Smithville, MO	No Scale Figure 4	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



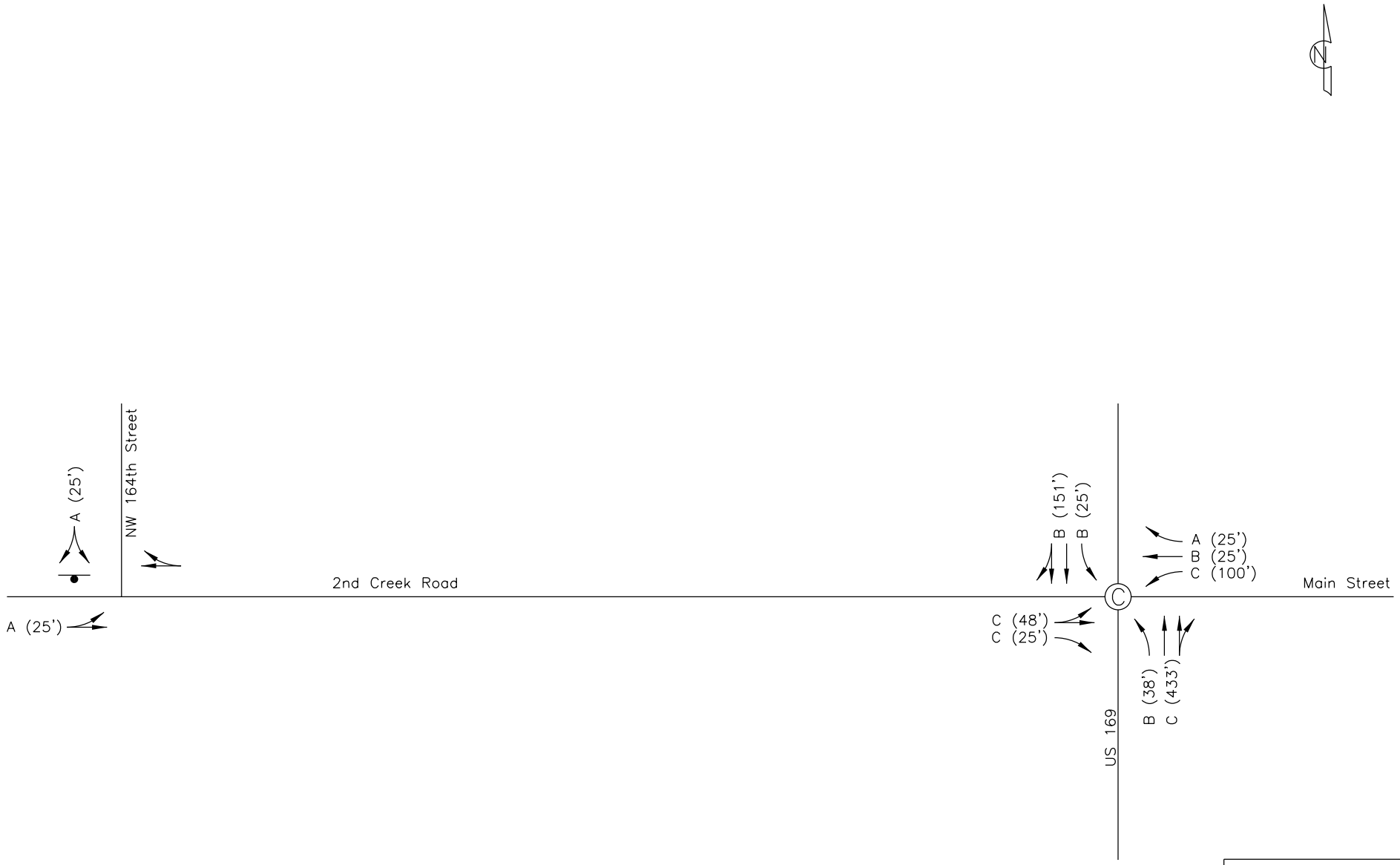
LEGEND

HCM LOS (95th Percentile Queue)

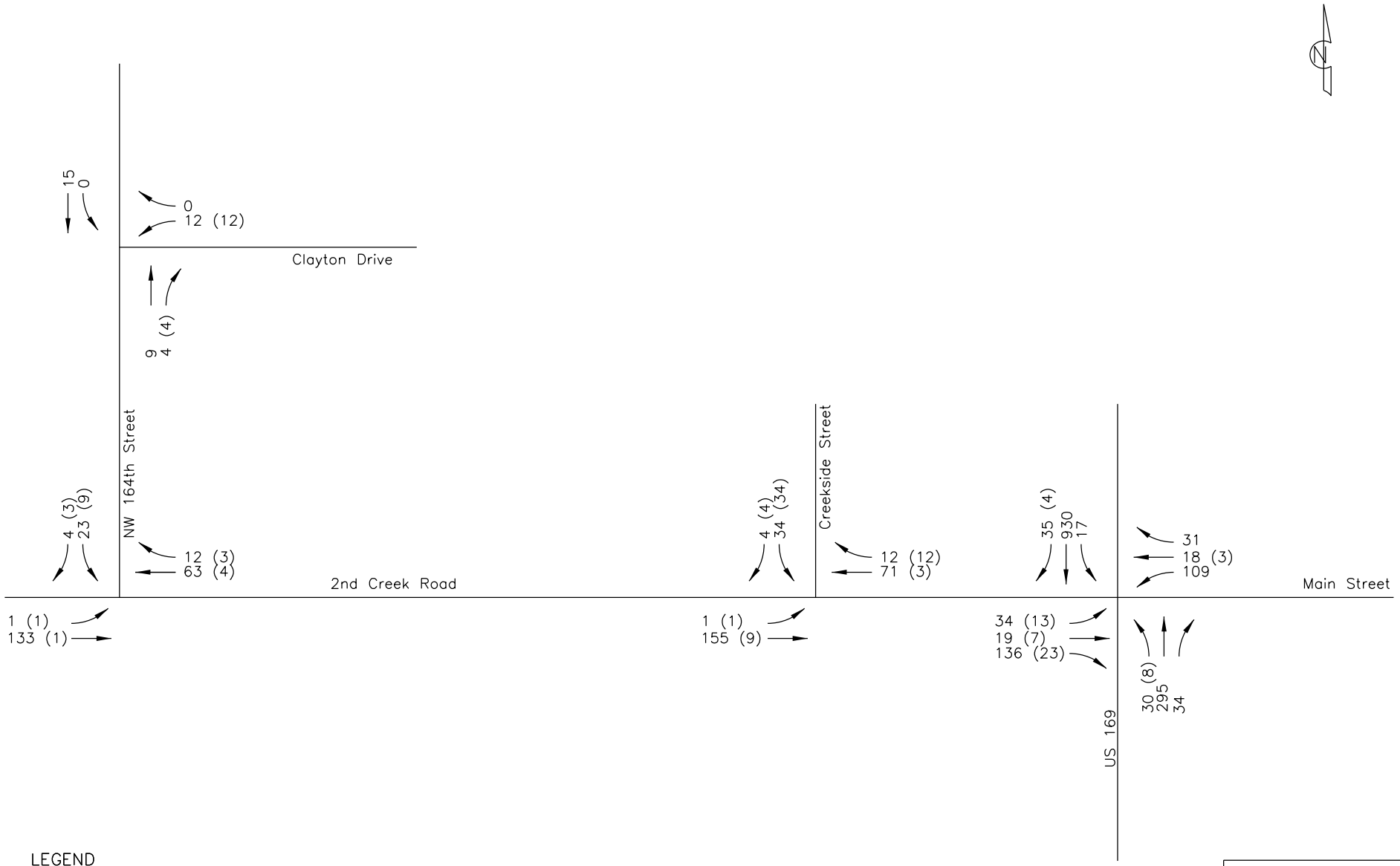
Stop Sign

Ⓐ Traffic Signal LOS

Existing AM Peak Hour Lane Configuration & Levels of Service	Second Creek Meadows Smithville, MO	No Scale Figure 5	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



Existing PM Peak Hour Lane Configuration & Levels of Service	Second Creek Meadows Smithville, MO	No Scale Figure 6	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



Existing + Proposed Development AM Peak Hour Traffic Volumes	Second Creek Meadows Smithville, MO	No Scale Figure 7

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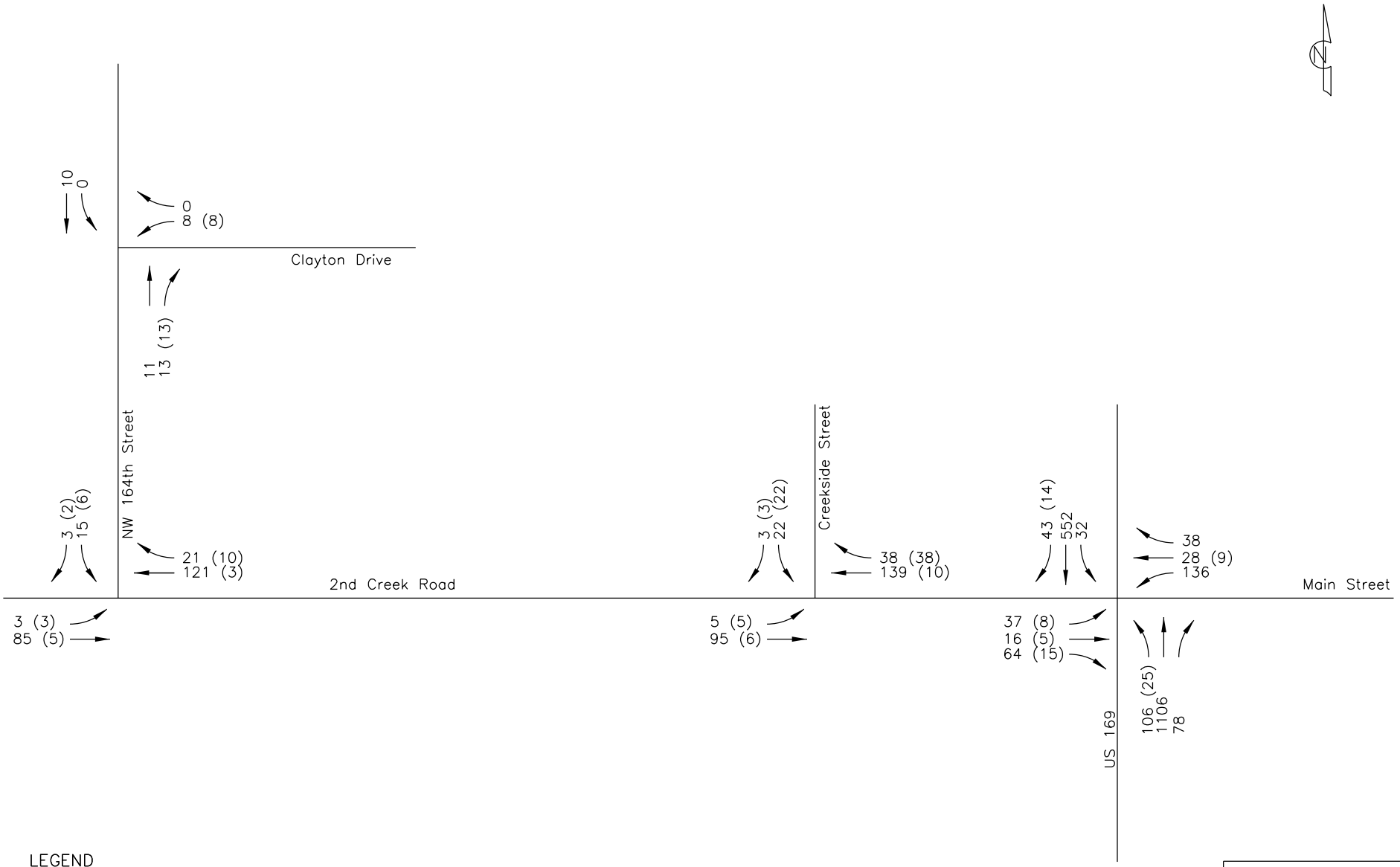

Existing + Proposed Development PM Peak Hour Traffic Volumes	Second Creek Meadows Smithville, MO	No Scale Figure 8

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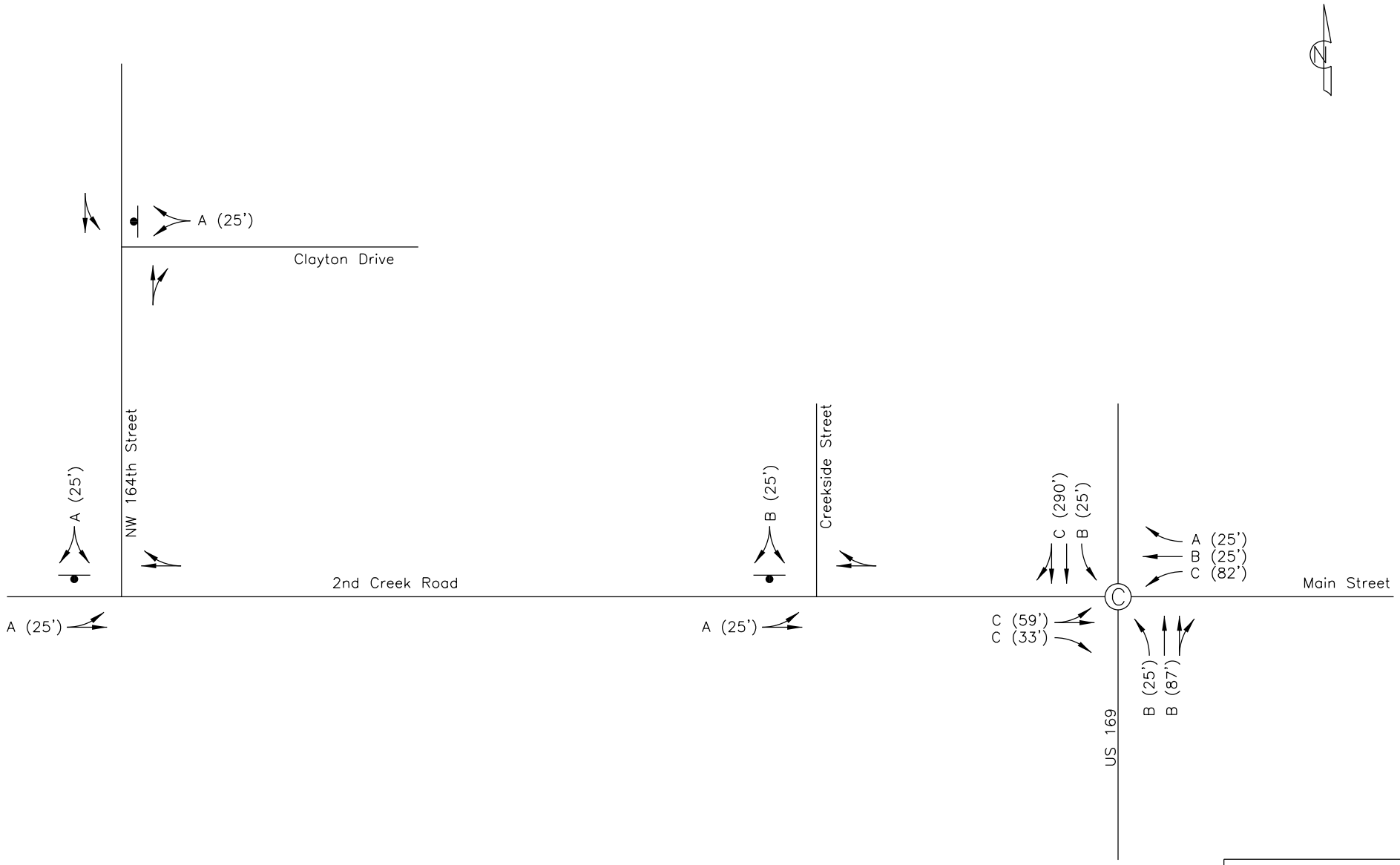


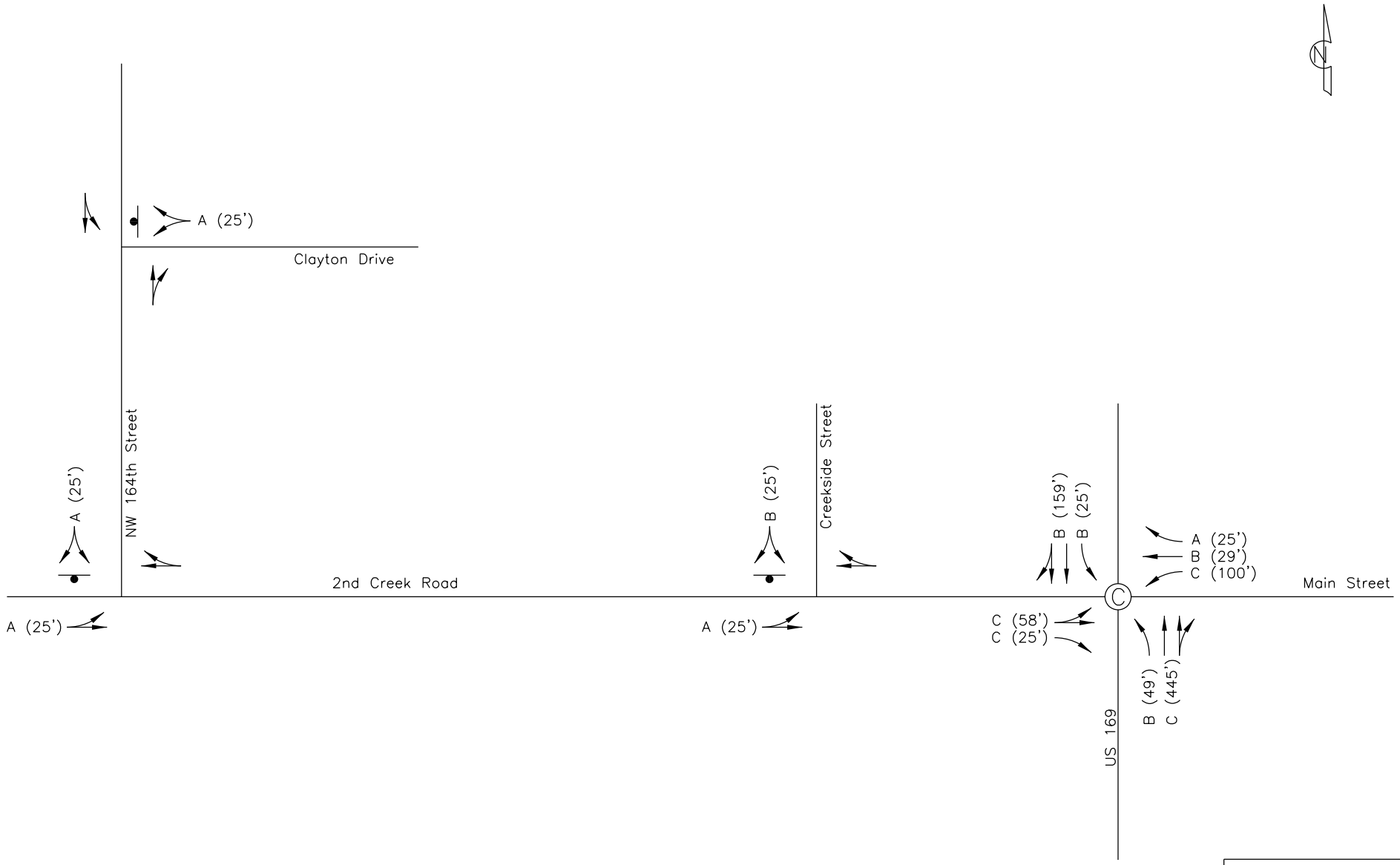
LEGEND

HCM LOS (95th Percentile Queue)

Stop Sign

Ⓐ Traffic Signal LOS

Existing + Approved Development AM Peak Hour Lane Configuration & Levels of Service	Second Creek Meadows Smithville, MO	No Scale Figure 9	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



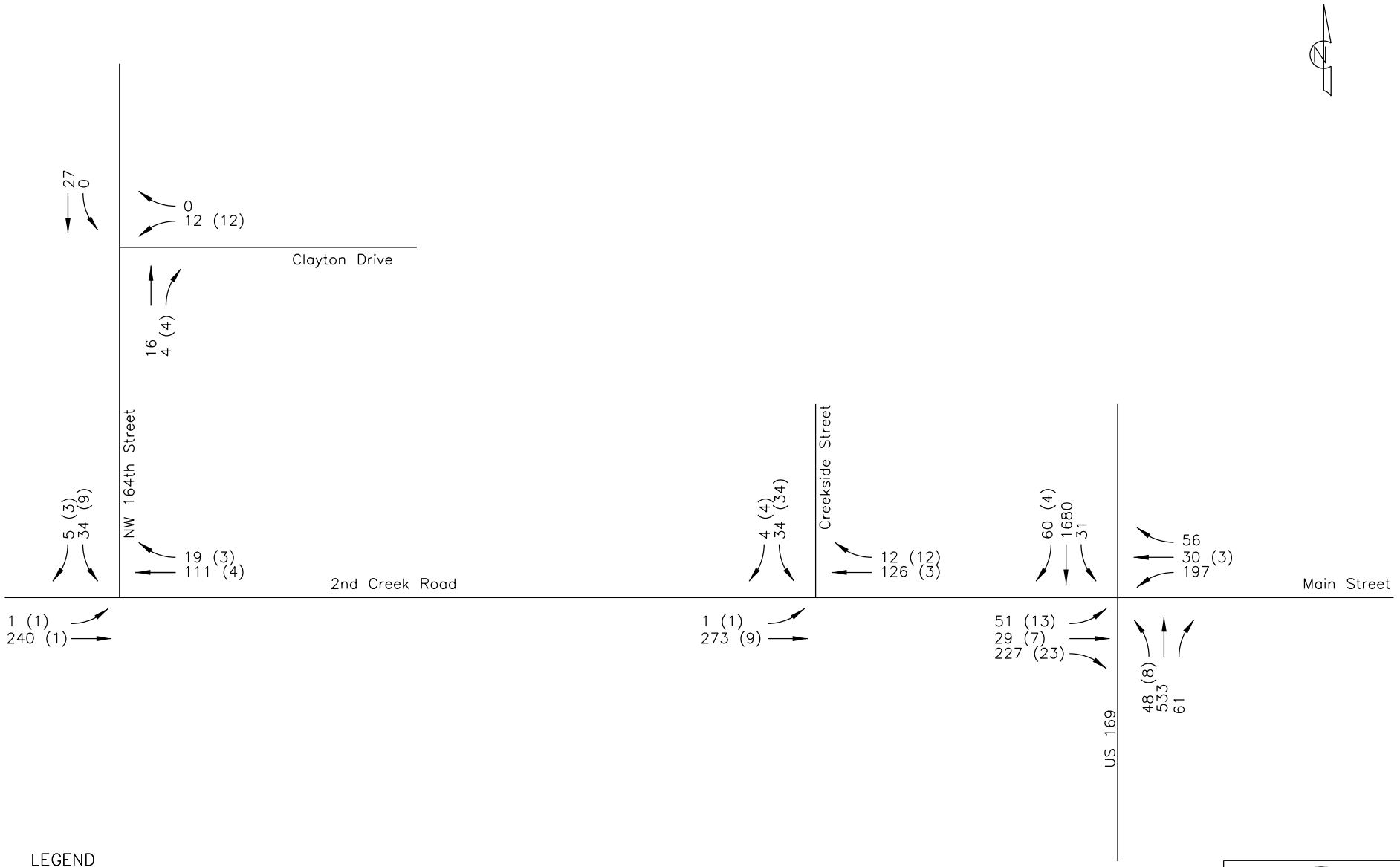
LEGEND

HCM LOS (95th Percentile Queue)

Stop Sign

Ⓐ Traffic Signal LOS

Existing + Approved Development PM Peak Hour Lane Configuration & Levels of Service	Second Creek Meadows Smithville, MO	No Scale Figure 10	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



Future (2042) AM Peak Hour Traffic Volumes	Second Creek Meadows Smithville, MO	No Scale Figure 11

priority ENGINEERS
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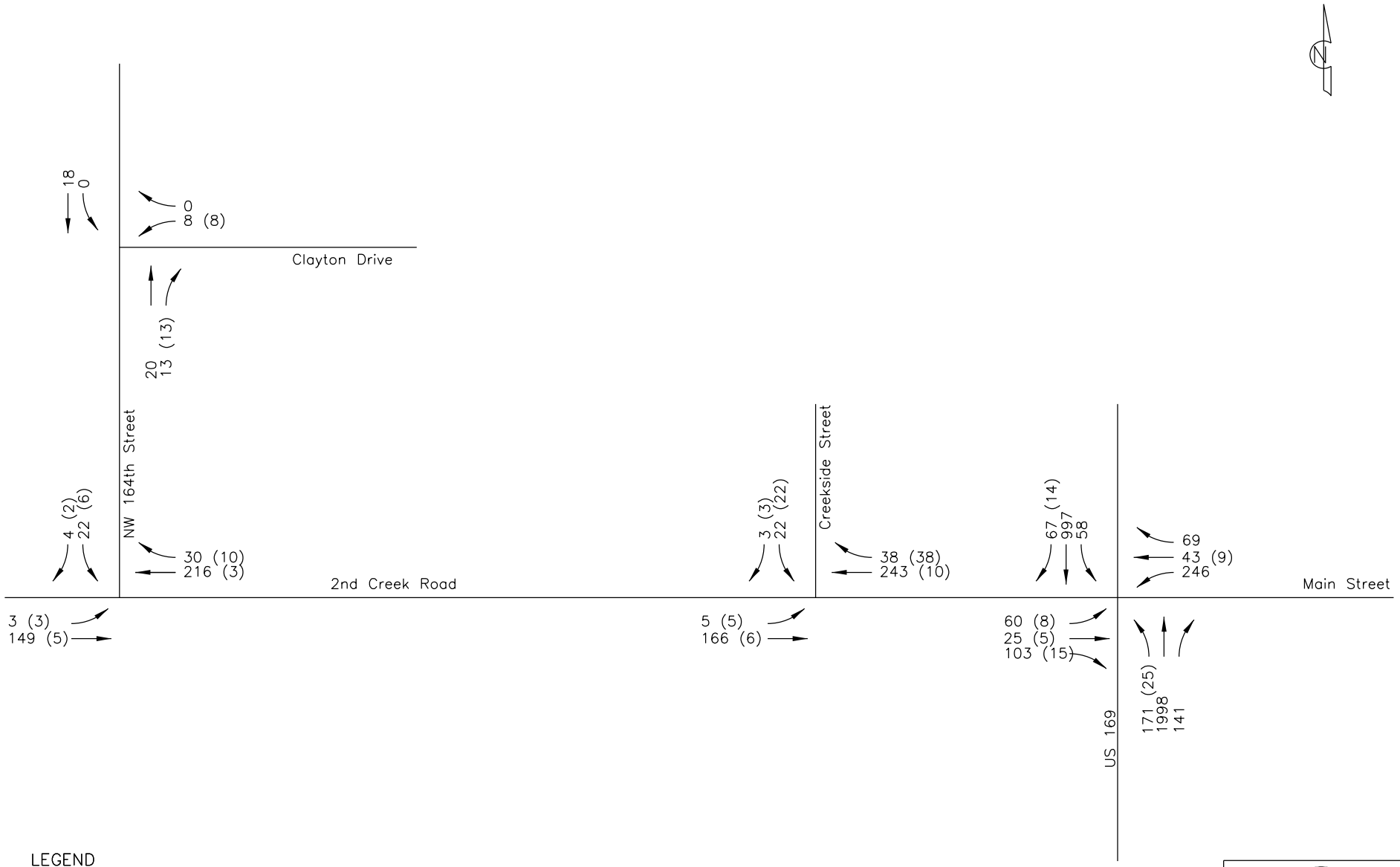
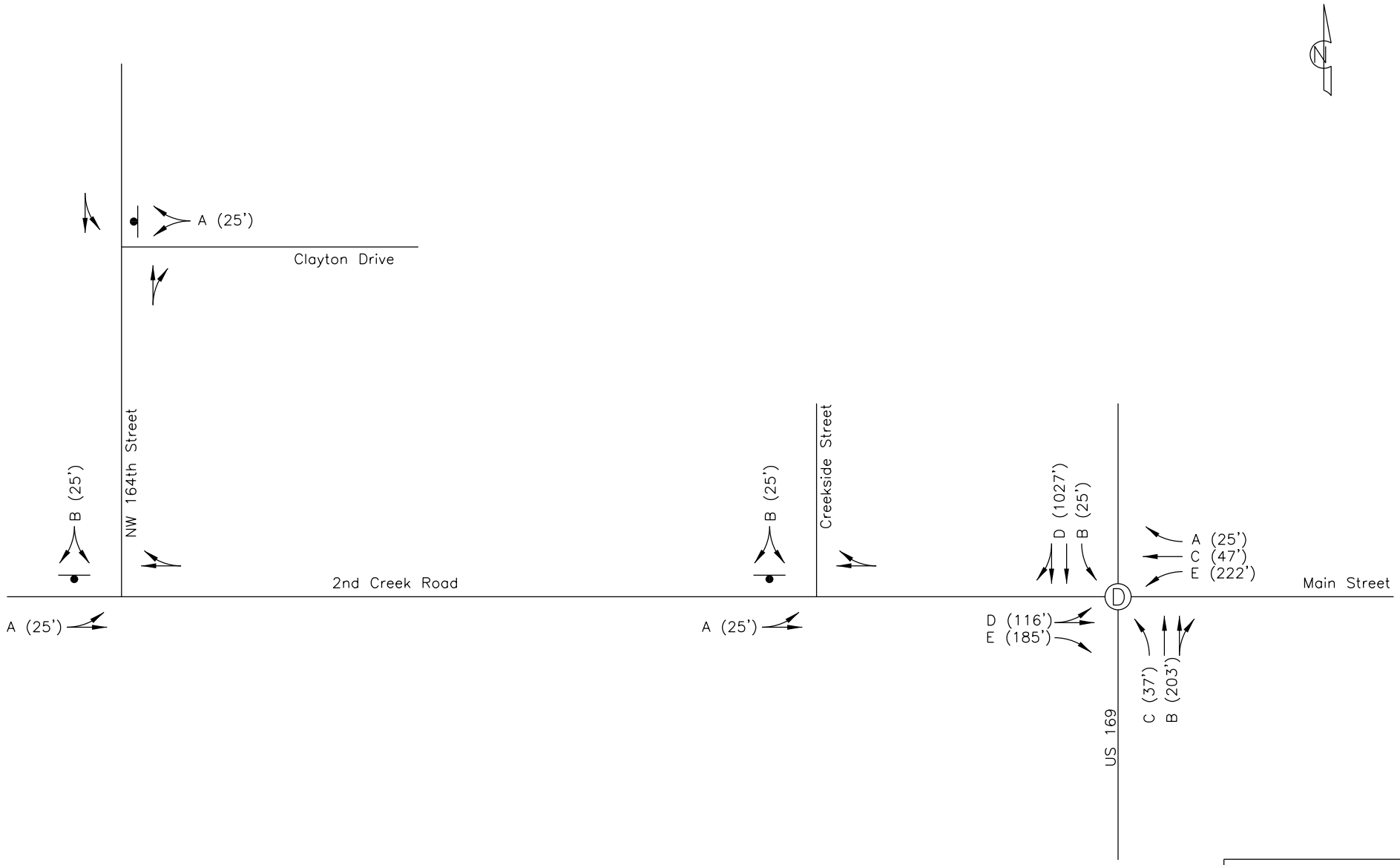


Future (2042) PM Peak Hour Traffic Volumes	Second Creek Meadows Smithville, MO	No Scale Figure 12	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



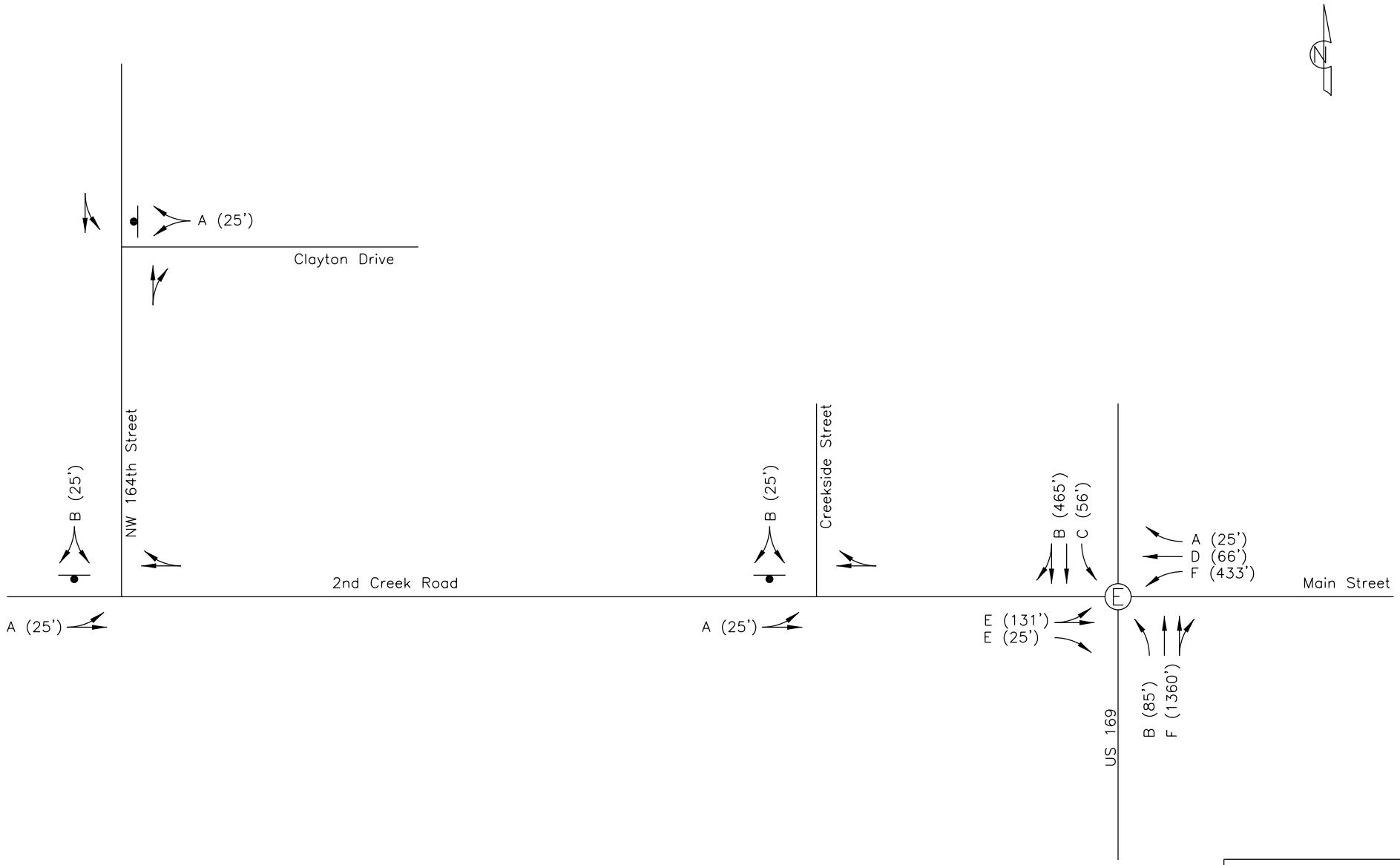
LEGEND

HCM LOS (95th Percentile Queue)

Stop Sign

Ⓐ Traffic Signal LOS

Future (2042) AM Peak Hour Lane Configuration & Levels of Service	Second Creek Meadows Smithville, MO	No Scale Figure 13	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400



LEGEND

HCM LOS (95th Percentile Queue)

Stop Sign

Ⓐ Traffic Signal LOS

Future (2042) PM Peak Hour Lane Configuration & Levels of Service	Second Creek Meadows Smithville, MO	No Scale Figure 14	priority ENGINEERS PO Box 563 Garden City, MO 64747 816.738.4400

US 169 & 2nd Creek

	Southbound					Westbound					Northbound					Eastbound						
Start Time	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Totals**	
7:00	3	231	13	0		26	1	4			3	54	8			3	3	26	0		**375**	
7:15	5	230	4	0		36	2	12			5	68	7			6	2	50	0		**427**	
7:30	4	288	5	0		24	5	7			8	79	9			4	3	22	0		**458**	
7:45	5	181	9	0		23	7	8			6	94	10			8	4	15	0		**370**	1630
8:00	8	192	4	0		20	0	8			5	88	5			5	5	15	0		**355**	1610
8:15	6	171	6	0		24	0	4			2	84	18			4	13	19	0		**351**	1534
8:30	2	163	12	1		44	4	2			5	102	11			5	7	10	1		**369**	1445
8:45	5	165	10	0		41	9	9			8	98	6			5	0	16	0		**372**	1447
Totals	**17**	**930**	**31**	**0**	**0**	**109**	**15**	**31**	**0**	**0**	**22**	**295**	**34**	**0**	**0**	**21**	**12**	**113**	**0**	**0**	**1630**	
Trucks	1	25	1			1	1	0			0	19	2			0	0	2				
%	6%	3%	3%			1%	7%					6%	6%					2%				

2nd Creek & 164th Street

	Southbound					Westbound					Northbound					Eastbound						
Start Time	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Totals**	
7:00	3		1				13	0								0	29				**46**	
7:15	5		0				12	2								0	48				**67**	
7:30	3		0				14	3								0	25				**45**	
7:45	2		0				15	3								0	25				**45**	203
8:00	2		1				10	1								0	23				**37**	194
8:15	3		0				7	0								0	35				**45**	172
8:30	2		0				18	0								0	14				**34**	161
8:45	6		0				22	6								2	16				**52**	168
Totals	**13**	**0**	**1**	**0**	**0**	**0**	**54**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**127**	**0**	**0**	**0**	**203**	
Trucks	**0**		**1**				**2**	**0**								0	**2**					
%			100%				4%										2%					

US 169 & 2nd Creek

	Southbound					Westbound					Northbound					Eastbound							
Start Time	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Totals**		
16:00	7	129	5			37	5	4			21	224	20	0		8	3	12			**475**		
16:15	9	107	8			31	3	7			20	248	15	0		12	4	13			**477**		
16:30	9	141	11			36	7	11			17	296	18	1		3	3	15			**568**		
16:45	8	137	3			36	1	2			20	258	20	0		7	1	12			**505**	2025	2223
17:00	7	125	8			31	3	14			20	272	19	0		9	5	12			**525**	2075	2278
17:15	8	149	7			33	8	11			24	280	21	0	1	10	2	10			**564**	2162	2372
17:30	15	138	4			23	3	10			21	280	13	0		10	6	18			**541**	2135	2358
17:45	10	127	10			16	3	12			15	234	30	0		8	5	10			**480**	2110	2339
Totals	**32**	**552**	**29**	**0**	**0**	**136**	**19**	**38**	**0**	**0**	**81**	**1106**	**78**	**1**	**1**	**29**	**11**	**49**	**0**	**0**	**2162**		
Trucks	0	10	0			1	0	0			1	18	1			0	0	0					
Truck %		2%				1%					1%	2%	1%										

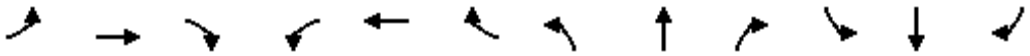
2nd Creek & 164th Street

	Southbound					Westbound					Northbound					Eastbound							
Start Time	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Left**	**Through**	**Right**	**Ped**	**Bike**	**Totals**		
16:00	4		0				20	8								1	19				**52**		
16:15	4		0				25	4								0	21				**54**		
16:30	1		0				33	1								0	16				**51**		
16:45	2		0				19	4								0	16				**41**	198	
17:00	4		0				28	3								0	22				**57**	203	
17:15	1		1				37	3								0	19				**61**	210	
17:30	2		0				25	4								0	33				**64**	223	
17:45	2		0				24	4								0	17				**47**	229	
Totals	**8**	**0**	**1**	**0**	**0**	**0**	**117**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**73**	**0**	**0**	**0**	**210**		
Trucks	0		0				0	0								0	0						
Truck %																							

APPENDIX II

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	36	123	118	16	34	24	358	18	1045
v/c Ratio	0.20	0.35	0.46	0.03	0.07	0.07	0.17	0.03	0.52
Control Delay	31.5	4.8	26.2	19.6	0.3	8.2	9.9	7.8	14.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	4.8	26.2	19.6	0.3	8.2	9.9	7.8	14.5
Queue Length 50th (ft)	13	0	33	4	0	4	35	3	133
Queue Length 95th (ft)	42	18	83	19	0	14	83	12	275
Internal Link Dist (ft)	2285			696			1041		1077
Turn Bay Length (ft)		50	70		50	220		200	
Base Capacity (vph)	714	855	254	1245	1093	321	2051	632	2002
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	0.05	0.14	0.46	0.01	0.03	0.07	0.17	0.03	0.52

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	12	113	109	15	31	22	295	34	17	930	31
Future Volume (veh/h)	21	12	113	109	15	31	22	295	34	17	930	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	13	123	118	16	0	24	321	37	18	1011	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	82	171	353	522		247	1340	153	505	1438	48
Arrive On Green	0.11	0.11	0.11	0.07	0.28	0.00	0.03	0.42	0.42	0.02	0.41	0.41
Sat Flow, veh/h	833	755	1585	1781	1870	1585	1781	3214	368	1781	3508	118
Grp Volume(v), veh/h	36	0	123	118	16	0	24	176	182	18	512	533
Grp Sat Flow(s),veh/h/ln	1588	0	1585	1781	1870	1585	1781	1777	1804	1781	1777	1849
Q Serve(g_s), s	0.1	0.0	5.0	3.8	0.4	0.0	0.5	4.3	4.4	0.4	16.1	16.1
Cycle Q Clear(g_c), s	1.2	0.0	5.0	3.8	0.4	0.0	0.5	4.3	4.4	0.4	16.1	16.1
Prop In Lane	0.64		1.00	1.00		1.00	1.00		0.20	1.00		0.06
Lane Grp Cap(c), veh/h	260	0	171	353	522		247	741	752	505	728	758
V/C Ratio(X)	0.14	0.00	0.72	0.33	0.03		0.10	0.24	0.24	0.04	0.70	0.70
Avail Cap(c_a), veh/h	763	0	691	353	1132		334	796	808	605	819	853
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.3	0.0	29.0	22.4	17.6	0.0	12.8	12.7	12.7	11.1	16.4	16.4
Incr Delay (d2), s/veh	0.2	0.0	5.5	0.6	0.0	0.0	0.2	0.6	0.6	0.0	4.8	4.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	2.1	1.6	0.2	0.0	0.2	1.6	1.7	0.1	6.7	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	0.0	34.5	23.0	17.6	0.0	13.0	13.3	13.3	11.1	21.2	21.0
LnGrp LOS	C	A	C	C	B		B	B	B	B	C	C
Approach Vol, veh/h		159			134	A		382			1063	
Approach Delay, s/veh		32.9			22.3			13.3			20.9	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.2	34.4		25.6	7.7	34.0	11.5	14.1				
Change Period (Y+Rc), s	* 5.8	6.4		* 6.8	5.9	* 6.4	6.5	* 6.8				
Max Green Setting (Gmax), s	* 5.2	30.1		* 41	5.1	* 31	5.0	* 29				
Max Q Clear Time (g_c+I1), s	2.4	6.4		2.4	2.5	18.1	5.8	7.0				
Green Ext Time (p_c), s	0.0	4.8		0.0	0.0	9.5	0.0	0.5				

Intersection Summary			
HCM 6th Ctrl Delay		20.5	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	132	59	9	14	1
Future Vol, veh/h	0	132	59	9	14	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	143	64	10	15	1

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	74	0	-	0	212	69
Stage 1	-	-	-	-	69	-
Stage 2	-	-	-	-	143	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1526	-	-	-	776	994
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1526	-	-	-	776	994
Mov Cap-2 Maneuver	-	-	-	-	776	-
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	884	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1526	-	-	-	788
HCM Lane V/C Ratio	-	-	-	-	0.021
HCM Control Delay (s)	0	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	44	53	148	21	41	88	1287	35	632
v/c Ratio	0.26	0.15	0.57	0.05	0.09	0.21	0.74	0.15	0.41
Control Delay	33.0	0.9	30.1	19.6	0.4	9.5	19.8	9.5	15.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.0	0.9	30.1	19.6	0.4	9.5	19.8	9.5	15.7
Queue Length 50th (ft)	16	0	44	6	0	17	193	6	101
Queue Length 95th (ft)	48	0	100	23	0	38	#433	19	151
Internal Link Dist (ft)	2285			696			1041		1077
Turn Bay Length (ft)		50	70		50	220		200	
Base Capacity (vph)	621	786	259	1118	992	420	1744	231	1769
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	0.07	0.07	0.57	0.02	0.04	0.21	0.74	0.15	0.36

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												
Traffic Volume (veh/h)	29	11	49	136	19	38	81	1106	78	32	552	29
Future Volume (veh/h)	29	11	49	136	19	38	81	1106	78	32	552	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	12	53	148	21	0	88	1202	85	35	600	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	53	145	324	484		430	1442	102	216	1383	74
Arrive On Green	0.09	0.09	0.09	0.07	0.26	0.00	0.06	0.43	0.43	0.04	0.40	0.40
Sat Flow, veh/h	960	580	1585	1781	1870	1585	1781	3367	238	1781	3431	183
Grp Volume(v), veh/h	44	0	53	148	21	0	88	634	653	35	310	322
Grp Sat Flow(s),veh/h/ln	1540	0	1585	1781	1870	1585	1781	1777	1828	1781	1777	1837
Q Serve(g_s), s	1.0	0.0	2.2	5.0	0.6	0.0	1.9	21.7	21.8	0.8	8.7	8.7
Cycle Q Clear(g_c), s	1.7	0.0	2.2	5.0	0.6	0.0	1.9	21.7	21.8	0.8	8.7	8.7
Prop In Lane	0.73		1.00	1.00		1.00	1.00		0.13	1.00		0.10
Lane Grp Cap(c), veh/h	231	0	145	324	484		430	761	783	216	716	741
V/C Ratio(X)	0.19	0.00	0.37	0.46	0.04		0.20	0.83	0.83	0.16	0.43	0.43
Avail Cap(c_a), veh/h	734	0	677	324	1110		457	780	802	287	803	831
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.0	0.0	29.3	24.4	19.0	0.0	11.0	17.4	17.4	14.2	14.8	14.8
Incr Delay (d2), s/veh	0.4	0.0	1.5	1.0	0.0	0.0	0.2	9.6	9.5	0.3	1.5	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.8	2.1	0.2	0.0	0.7	9.7	10.0	0.3	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	0.0	30.8	25.5	19.1	0.0	11.3	27.0	26.9	14.6	16.3	16.3
LnGrp LOS	C	A	C	C	B		B	C	C	B	B	B
Approach Vol, veh/h		97			169	A		1375			667	
Approach Delay, s/veh		30.2			24.7			25.9			16.2	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	35.8		24.6	10.0	34.0	11.5	13.1				
Change Period (Y+Rc), s	* 5.8	6.4		* 6.8	5.9	* 6.4	6.5	* 6.8				
Max Green Setting (Gmax), s	* 5.2	30.1		* 41	5.1	* 31	5.0	* 29				
Max Q Clear Time (g_c+I1), s	2.8	23.8		2.6	3.9	10.7	7.0	4.2				
Green Ext Time (p_c), s	0.0	5.6		0.1	0.0	8.3	0.0	0.3				

Intersection Summary			
HCM 6th Ctrl Delay		23.2	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	80	118	11	9	1
Future Vol, veh/h	0	80	118	11	9	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	87	128	12	10	1

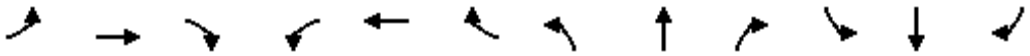
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	140	0	-	0	221	134
Stage 1	-	-	-	-	134	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1443	-	-	-	767	915
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1443	-	-	-	767	915
Mov Cap-2 Maneuver	-	-	-	-	767	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	936	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1443	-	-	-	780
HCM Lane V/C Ratio	-	-	-	-	0.014
HCM Control Delay (s)	0	-	-	-	9.7
HCM Lane LOS	A	-	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	58	148	118	20	34	33	358	18	1049
v/c Ratio	0.31	0.41	0.43	0.04	0.07	0.12	0.21	0.03	0.61
Control Delay	33.2	7.0	24.5	19.2	0.3	9.1	10.7	8.3	16.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.2	7.0	24.5	19.2	0.3	9.1	10.7	8.3	16.3
Queue Length 50th (ft)	20	0	33	5	0	6	37	3	141
Queue Length 95th (ft)	59	33	82	22	0	19	87	12	290
Internal Link Dist (ft)	1103			696			1041		1077
Turn Bay Length (ft)		50	70		50	220		200	
Base Capacity (vph)	661	807	276	1112	1023	282	1714	556	1725
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.18	0.43	0.02	0.03	0.12	0.21	0.03	0.61

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	19	136	109	18	31	30	295	34	17	930	35
Future Volume (veh/h)	34	19	136	109	18	31	30	295	34	17	930	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1811	1870	1870	1811	1811	1811	1856	1856
Adj Flow Rate, veh/h	37	21	148	118	20	0	33	321	37	18	1011	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	6	2	2	6	6	6	3	3
Cap, veh/h	193	92	201	348	528		246	1292	148	484	1390	52
Arrive On Green	0.13	0.13	0.13	0.07	0.29	0.00	0.03	0.42	0.42	0.02	0.40	0.40
Sat Flow, veh/h	855	722	1585	1781	1811	1585	1781	3112	356	1725	3465	130
Grp Volume(v), veh/h	58	0	148	118	20	0	33	176	182	18	514	535
Grp Sat Flow(s),veh/h/ln	1577	0	1585	1781	1811	1585	1781	1721	1747	1725	1763	1832
Q Serve(g_s), s	1.0	0.0	6.3	3.8	0.6	0.0	0.7	4.7	4.7	0.4	17.2	17.2
Cycle Q Clear(g_c), s	2.1	0.0	6.3	3.8	0.6	0.0	0.7	4.7	4.7	0.4	17.2	17.2
Prop In Lane	0.64		1.00	1.00		1.00	1.00		0.20	1.00		0.07
Lane Grp Cap(c), veh/h	285	0	201	348	528		246	714	725	484	707	735
V/C Ratio(X)	0.20	0.00	0.73	0.34	0.04		0.13	0.25	0.25	0.04	0.73	0.73
Avail Cap(c_a), veh/h	733	0	665	348	1055		316	741	753	576	782	813
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	29.4	22.5	17.7	0.0	13.6	13.3	13.3	11.9	17.7	17.7
Incr Delay (d2), s/veh	0.3	0.0	5.1	0.6	0.0	0.0	0.2	0.6	0.7	0.0	5.6	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	2.5	1.6	0.2	0.0	0.3	1.7	1.8	0.2	7.3	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	0.0	34.5	23.0	17.8	0.0	13.9	14.0	14.0	11.9	23.2	23.0
LnGrp LOS	C	A	C	C	B		B	B	B	B	C	C
Approach Vol, veh/h		206			138	A		391			1067	
Approach Delay, s/veh		32.6			22.3			14.0			23.0	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.3	35.4		27.2	8.3	34.4	11.5	15.7				
Change Period (Y+Rc), s	* 5.8	6.4		* 6.8	5.9	* 6.4	6.5	* 6.8				
Max Green Setting (Gmax), s	* 5.2	30.1		* 41	5.1	* 31	5.0	* 29				
Max Q Clear Time (g_c+I1), s	2.4	6.7		2.6	2.7	19.2	5.8	8.3				
Green Ext Time (p_c), s	0.0	4.8		0.1	0.0	8.8	0.0	0.7				

Intersection Summary		
HCM 6th Ctrl Delay		22.1
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	133	63	12	23	4
Future Vol, veh/h	1	133	63	12	23	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	4	2	2	25
Mvmt Flow	1	145	68	13	25	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	81	0	-	0	222	75
Stage 1	-	-	-	-	75	-
Stage 2	-	-	-	-	147	-
Critical Hdwy	4.12	-	-	-	6.42	6.45
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.525
Pot Cap-1 Maneuver	1517	-	-	-	766	926
Stage 1	-	-	-	-	948	-
Stage 2	-	-	-	-	880	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1517	-	-	-	765	926
Mov Cap-2 Maneuver	-	-	-	-	765	-
Stage 1	-	-	-	-	947	-
Stage 2	-	-	-	-	880	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1517	-	-	-	785
HCM Lane V/C Ratio	0.001	-	-	-	0.037
HCM Control Delay (s)	7.4	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	0	9	4	0	15
Future Vol, veh/h	12	0	9	4	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	7
Mvmt Flow	13	0	10	4	0	16

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	28	12	0	0	14	0
Stage 1	12	-	-	-	-	-
Stage 2	16	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	987	1069	-	-	1604	-
Stage 1	1011	-	-	-	-	-
Stage 2	1007	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	987	1069	-	-	1604	-
Mov Cap-2 Maneuver	987	-	-	-	-	-
Stage 1	1011	-	-	-	-	-
Stage 2	1007	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	987	1604	-
HCM Lane V/C Ratio	-	-	0.013	-	-
HCM Control Delay (s)	-	-	8.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	155	71	12	34	4
Future Vol, veh/h	1	155	71	12	34	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	3	2	2	2
Mvmt Flow	1	168	77	13	37	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	90	0	-	0	254	84
Stage 1	-	-	-	-	84	-
Stage 2	-	-	-	-	170	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1505	-	-	-	735	975
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	860	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1505	-	-	-	734	975
Mov Cap-2 Maneuver	-	-	-	-	734	-
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	860	-

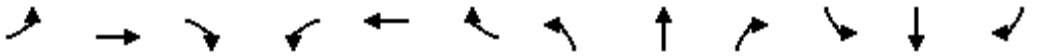
Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1505	-	-	-	754
HCM Lane V/C Ratio	0.001	-	-	-	0.055
HCM Control Delay (s)	7.4	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	57	70	148	30	41	115	1287	35	647
v/c Ratio	0.32	0.20	0.56	0.06	0.08	0.28	0.74	0.15	0.42
Control Delay	34.0	1.2	29.2	19.4	0.3	10.4	20.3	9.8	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.0	1.2	29.2	19.4	0.3	10.4	20.3	9.8	16.0
Queue Length 50th (ft)	21	0	44	8	0	22	197	6	105
Queue Length 95th (ft)	58	0	100	29	0	49	#445	20	159
Internal Link Dist (ft)	1103			696			1041		1077
Turn Bay Length (ft)		50	70		50	220		200	
Base Capacity (vph)	617	783	265	1111	987	410	1733	230	1750
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.09	0.56	0.03	0.04	0.28	0.74	0.15	0.37

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												
Traffic Volume (veh/h)	37	16	64	136	28	38	106	1106	78	32	552	43
Future Volume (veh/h)	37	16	64	136	28	38	106	1106	78	32	552	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	40	17	70	148	30	0	115	1202	85	35	600	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	177	60	153	317	492		425	1435	101	213	1321	103
Arrive On Green	0.10	0.10	0.10	0.07	0.26	0.00	0.06	0.43	0.43	0.04	0.40	0.40
Sat Flow, veh/h	919	625	1585	1781	1870	1585	1781	3367	238	1781	3339	261
Grp Volume(v), veh/h	57	0	70	148	30	0	115	634	653	35	319	328
Grp Sat Flow(s),veh/h/ln	1544	0	1585	1781	1870	1585	1781	1777	1828	1781	1777	1823
Q Serve(g_s), s	1.4	0.0	2.9	5.0	0.8	0.0	2.6	22.0	22.0	0.8	9.1	9.2
Cycle Q Clear(g_c), s	2.3	0.0	2.9	5.0	0.8	0.0	2.6	22.0	22.0	0.8	9.1	9.2
Prop In Lane	0.70		1.00	1.00		1.00	1.00		0.13	1.00		0.14
Lane Grp Cap(c), veh/h	238	0	153	317	492		425	757	779	213	703	721
V/C Ratio(X)	0.24	0.00	0.46	0.47	0.06		0.27	0.84	0.84	0.16	0.45	0.45
Avail Cap(c_a), veh/h	729	0	673	317	1103		442	775	797	284	798	819
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.1	0.0	29.5	24.4	19.0	0.0	11.5	17.7	17.7	14.5	15.4	15.4
Incr Delay (d2), s/veh	0.5	0.0	2.1	1.1	0.1	0.0	0.3	9.9	9.8	0.4	1.7	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.1	2.1	0.4	0.0	0.9	9.8	10.1	0.3	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.6	0.0	31.6	25.4	19.1	0.0	11.8	27.6	27.5	14.9	17.0	17.0
LnGrp LOS	C	A	C	C	B		B	C	C	B	B	B
Approach Vol, veh/h		127			178	A		1402			682	
Approach Delay, s/veh		30.7			24.4			26.2			16.9	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.2	35.8		25.0	10.3	33.7	11.5	13.5				
Change Period (Y+Rc), s	* 5.8	6.4		* 6.8	5.9	* 6.4	6.5	* 6.8				
Max Green Setting (Gmax), s	* 5.2	30.1		* 41	5.1	* 31	5.0	* 29				
Max Q Clear Time (g_c+I1), s	2.8	24.0		2.8	4.6	11.2	7.0	4.9				
Green Ext Time (p_c), s	0.0	5.4		0.1	0.0	8.4	0.0	0.5				

Intersection Summary			
HCM 6th Ctrl Delay		23.7	
HCM 6th LOS		C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	85	121	21	15	3
Future Vol, veh/h	3	85	121	21	15	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	92	132	23	16	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	155	0	-	0	242	144
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	98	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1425	-	-	-	746	903
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	926	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1425	-	-	-	745	903
Mov Cap-2 Maneuver	-	-	-	-	745	-
Stage 1	-	-	-	-	881	-
Stage 2	-	-	-	-	926	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	9.8
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1425	-	-	-	767
HCM Lane V/C Ratio	0.002	-	-	-	0.026
HCM Control Delay (s)	7.5	0	-	-	9.8
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	0	11	13	0	10
Future Vol, veh/h	8	0	11	13	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	0	12	14	0	11

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	30	19	0	0	26	0
Stage 1	19	-	-	-	-	-
Stage 2	11	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	984	1059	-	-	1588	-
Stage 1	1004	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	984	1059	-	-	1588	-
Mov Cap-2 Maneuver	984	-	-	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	1012	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	984	1588	-
HCM Lane V/C Ratio	-	-	0.009	-	-
HCM Control Delay (s)	-	-	8.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	95	139	38	22	3
Future Vol, veh/h	5	95	139	38	22	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	103	151	41	24	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	192	0	-	0	285	172
Stage 1	-	-	-	-	172	-
Stage 2	-	-	-	-	113	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1381	-	-	-	705	872
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	912	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1381	-	-	-	702	872
Mov Cap-2 Maneuver	-	-	-	-	702	-
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	912	-

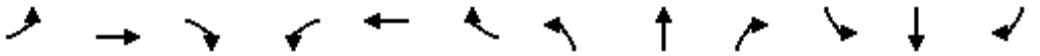
Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	10.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1381	-	-	-	719
HCM Lane V/C Ratio	0.004	-	-	-	0.038
HCM Control Delay (s)	7.6	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	87	247	214	33	61	52	645	34	1891
v/c Ratio	0.47	0.79	0.82	0.08	0.14	0.38	0.32	0.07	0.92
Control Delay	56.3	42.0	66.3	35.7	6.1	18.2	13.5	8.9	32.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	42.0	66.3	35.7	6.1	18.2	13.5	8.9	32.1
Queue Length 50th (ft)	64	91	146	20	0	13	131	8	678
Queue Length 95th (ft)	116	185	222	47	25	37	203	24	#1027
Internal Link Dist (ft)	1103			696			1041		1077
Turn Bay Length (ft)		50	70		50	220		200	
Base Capacity (vph)	368	493	261	641	614	137	2020	471	2057
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	0.24	0.50	0.82	0.05	0.10	0.38	0.32	0.07	0.92

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												
Traffic Volume (veh/h)	51	29	227	197	30	56	48	533	61	31	1680	60
Future Volume (veh/h)	51	29	227	197	30	56	48	533	61	31	1680	60
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1811	1870	1870	1811	1811	1811	1856	1856
Adj Flow Rate, veh/h	55	32	247	214	33	0	52	579	66	34	1826	65
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	6	2	2	6	6	6	3	3
Cap, veh/h	205	110	277	282	496		123	1713	195	444	1888	67
Arrive On Green	0.17	0.17	0.17	0.05	0.27	0.00	0.03	0.55	0.55	0.03	0.54	0.54
Sat Flow, veh/h	913	629	1585	1781	1811	1585	1781	3114	354	1725	3473	123
Grp Volume(v), veh/h	87	0	247	214	33	0	52	319	326	34	922	969
Grp Sat Flow(s),veh/h/ln	1542	0	1585	1781	1811	1585	1781	1721	1747	1725	1763	1833
Q Serve(g_s), s	4.9	0.0	19.5	6.2	1.7	0.0	1.6	13.1	13.2	1.1	63.9	65.4
Cycle Q Clear(g_c), s	6.1	0.0	19.5	6.2	1.7	0.0	1.6	13.1	13.2	1.1	63.9	65.4
Prop In Lane	0.63		1.00	1.00		1.00	1.00		0.20	1.00		0.07
Lane Grp Cap(c), veh/h	315	0	277	282	496		123	946	961	444	958	997
V/C Ratio(X)	0.28	0.00	0.89	0.76	0.07		0.42	0.34	0.34	0.08	0.96	0.97
Avail Cap(c_a), veh/h	402	0	367	282	598		135	946	961	466	959	997
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.0	0.0	51.6	47.6	34.3	0.0	30.4	15.9	15.9	12.6	27.9	28.2
Incr Delay (d2), s/veh	0.5	0.0	19.0	11.3	0.1	0.0	2.3	0.8	0.8	0.1	21.0	22.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	9.1	4.6	0.8	0.0	0.9	5.2	5.3	0.4	30.9	33.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.4	0.0	70.6	58.9	34.4	0.0	32.7	16.6	16.7	12.7	48.8	50.6
LnGrp LOS	D	A	E	E	C		C	B	B	B	D	D
Approach Vol, veh/h		334			247	A		697			1925	
Approach Delay, s/veh		64.3			55.6			17.8			49.1	
Approach LOS		E			E			B			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.3	76.7		41.8	10.1	75.9	12.7	29.1				
Change Period (Y+Rc), s	* 5.8	6.4		* 6.8	5.9	* 6.4	6.5	* 6.8				
Max Green Setting (Gmax), s	* 5.2	68.6		* 42	5.1	* 70	6.2	* 30				
Max Q Clear Time (g_c+I1), s	3.1	15.2		3.7	3.6	67.4	8.2	21.5				
Green Ext Time (p_c), s	0.0	12.6		0.1	0.0	2.1	0.0	0.8				

Intersection Summary			
HCM 6th Ctrl Delay		44.4	
HCM 6th LOS		D	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	240	111	19	34	5
Future Vol, veh/h	1	240	111	19	34	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	4	2	2	25
Mvmt Flow	1	261	121	21	37	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	142	0	-	0	395	132
Stage 1	-	-	-	-	132	-
Stage 2	-	-	-	-	263	-
Critical Hdwy	4.12	-	-	-	6.42	6.45
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.525
Pot Cap-1 Maneuver	1441	-	-	-	610	859
Stage 1	-	-	-	-	894	-
Stage 2	-	-	-	-	781	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1441	-	-	-	609	859
Mov Cap-2 Maneuver	-	-	-	-	609	-
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1441	-	-	-	633
HCM Lane V/C Ratio	0.001	-	-	-	0.067
HCM Control Delay (s)	7.5	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Intersection	
Int Delay, s/veh	1.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	12	0	16	4	0	27
Future Vol, veh/h	12	0	16	4	0	27
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	7
Mvmt Flow	13	0	17	4	0	29

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	48	19	0	0	21	0
Stage 1	19	-	-	-	-	-
Stage 2	29	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	962	1059	-	-	1595	-
Stage 1	1004	-	-	-	-	-
Stage 2	994	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	962	1059	-	-	1595	-
Mov Cap-2 Maneuver	962	-	-	-	-	-
Stage 1	1004	-	-	-	-	-
Stage 2	994	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	962	1595	-
HCM Lane V/C Ratio	-	-	0.014	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	273	126	12	34	4
Future Vol, veh/h	1	273	126	12	34	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	3	2	2	2
Mvmt Flow	1	297	137	13	37	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	150	0	-	0	443	144
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	299	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1431	-	-	-	572	903
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	752	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1431	-	-	-	571	903
Mov Cap-2 Maneuver	-	-	-	-	571	-
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	752	-

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

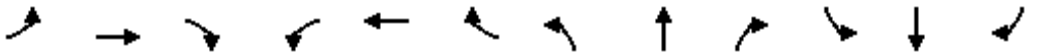
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1431	-	-	-	594
HCM Lane V/C Ratio	0.001	-	-	-	0.07
HCM Control Delay (s)	7.5	0	-	-	11.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	92	112	267	47	75	186	2325	63	1157
v/c Ratio	0.61	0.36	1.22	0.12	0.18	0.56	1.07	0.47	0.59
Control Delay	70.2	4.9	172.8	41.6	3.0	13.7	65.6	27.5	20.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.2	4.9	172.8	41.6	3.0	13.7	65.6	27.5	20.8
Queue Length 50th (ft)	73	0	~255	32	0	46	~1127	15	301
Queue Length 95th (ft)	131	15	#433	66	13	85	#1360	56	465
Internal Link Dist (ft)	1103			696			1041		1077
Turn Bay Length (ft)		50	70		50	220		200	
Base Capacity (vph)	370	534	219	666	639	426	2175	133	1952
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	0.25	0.21	1.22	0.07	0.12	0.44	1.07	0.47	0.59

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												
Traffic Volume (veh/h)	60	25	103	246	43	69	171	1998	141	58	997	67
Future Volume (veh/h)	60	25	103	246	43	69	171	1998	141	58	997	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	27	112	267	47	0	186	2172	153	63	1084	73
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	44	145	178	353		361	2093	146	122	2017	136
Arrive On Green	0.09	0.09	0.09	0.04	0.19	0.00	0.06	0.62	0.62	0.04	0.60	0.60
Sat Flow, veh/h	1010	479	1585	1781	1870	1585	1781	3370	235	1781	3379	227
Grp Volume(v), veh/h	92	0	112	267	47	0	186	1133	1192	63	570	587
Grp Sat Flow(s),veh/h/ln	1490	0	1585	1781	1870	1585	1781	1777	1828	1781	1777	1829
Q Serve(g_s), s	7.0	0.0	8.5	5.5	2.6	0.0	4.9	76.6	76.6	1.7	23.5	23.5
Cycle Q Clear(g_c), s	7.3	0.0	8.5	5.5	2.6	0.0	4.9	76.6	76.6	1.7	23.5	23.5
Prop In Lane	0.71		1.00	1.00		1.00	1.00		0.13	1.00		0.12
Lane Grp Cap(c), veh/h	186	0	145	178	353		361	1104	1136	122	1061	1092
V/C Ratio(X)	0.49	0.00	0.77	1.50	0.13		0.51	1.03	1.05	0.52	0.54	0.54
Avail Cap(c_a), veh/h	438	0	415	178	670		532	1104	1136	133	1061	1092
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	0.0	54.7	54.0	41.6	0.0	11.8	23.4	23.4	30.6	14.7	14.8
Incr Delay (d2), s/veh	2.0	0.0	8.4	252.2	0.2	0.0	1.1	34.0	40.8	3.3	1.6	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	3.7	15.4	1.2	0.0	1.9	39.2	42.5	1.2	9.5	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.2	0.0	63.1	306.2	41.8	0.0	12.9	57.4	64.2	33.9	16.3	16.3
LnGrp LOS	E	A	E	F	D		B	F	F	C	B	B
Approach Vol, veh/h		204			314	A		2511			1220	
Approach Delay, s/veh		60.0			266.6			57.3			17.2	
Approach LOS		E			F			E			B	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.2	83.0		30.1	13.2	80.0	12.0	18.1				
Change Period (Y+Rc), s	* 5.8	6.4		* 6.8	5.9	* 6.4	6.5	* 6.8				
Max Green Setting (Gmax), s	* 5.2	76.6		* 44	19.1	* 64	5.5	* 32				
Max Q Clear Time (g_c+I1), s	3.7	78.6		4.6	6.9	25.5	7.5	10.5				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.4	23.3	0.0	0.8				

Intersection Summary		
HCM 6th Ctrl Delay		61.4
HCM 6th LOS		E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	149	216	30	22	4
Future Vol, veh/h	3	149	216	30	22	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	3	162	235	33	24	4

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	268	0	-	0	420	252
Stage 1	-	-	-	-	252	-
Stage 2	-	-	-	-	168	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1296	-	-	-	590	787
Stage 1	-	-	-	-	790	-
Stage 2	-	-	-	-	862	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1296	-	-	-	588	787
Mov Cap-2 Maneuver	-	-	-	-	588	-
Stage 1	-	-	-	-	788	-
Stage 2	-	-	-	-	862	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1296	-	-	-	612
HCM Lane V/C Ratio	0.003	-	-	-	0.046
HCM Control Delay (s)	7.8	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	1.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	0	20	13	0	18
Future Vol, veh/h	8	0	20	13	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	0	22	14	0	20

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	49	29	0	0	36	0
Stage 1	29	-	-	-	-	-
Stage 2	20	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	960	1046	-	-	1575	-
Stage 1	994	-	-	-	-	-
Stage 2	1003	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	960	1046	-	-	1575	-
Mov Cap-2 Maneuver	960	-	-	-	-	-
Stage 1	994	-	-	-	-	-
Stage 2	1003	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	960	1575	-
HCM Lane V/C Ratio	-	-	0.009	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	166	243	38	22	3
Future Vol, veh/h	5	166	243	38	22	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	5	180	264	41	24	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	305	0	-	0	475	285
Stage 1	-	-	-	-	285	-
Stage 2	-	-	-	-	190	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1256	-	-	-	548	754
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	842	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1256	-	-	-	546	754
Mov Cap-2 Maneuver	-	-	-	-	546	-
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	842	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1256	-	-	-	565
HCM Lane V/C Ratio	0.004	-	-	-	0.048
HCM Control Delay (s)	7.9	0	-	-	11.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2