NORTHEASTERN INDIANA REGIONAL COORDINATING COUNCIL

AIRPORT EXPRESSWAY / LOWER HUNTINGTON ROAD / INTERSTATE 69 SUBAREA ANALYSIS 2025

For Additional Information Contact NIRCC
200 East Berry Street Suite 230
Fort Wayne, IN 46802
(260) 449-7309

Airport Expressway / Lower Huntington Road / Interstate 69 Subarea Analysis

The study of the Airport Expressway / Lower Huntington Road / Interstate 69 subarea was initiated by NIRCC in FY25 due to the developments within the area. IU Health is currently constructing a hospital just north of the Ernst Road / Lower Huntington Road intersection, which will be an addition to their existing IU Health Primary Care facility. There is additional land available owned by IU Health for more medical offices and some retail/ commercial. Property to the northwest is vacant and has potential for residential development. See figure 1 for the current/preliminary site plan. The potential housing isn't included in this subarea analysis, but shows there is still more room for growth.

Since the IU Health property is located next to Interstate 69 and having access to US 24 using Homestead Road and its close proximatey to the Fort Wayne International Airport, this area is prime location for future developments. Understanding the current roadway network and it's ability to handle existing and the projected traffic volumes, and to determine what potential improvements will be needed to accommodate the additional traffic. The report and subarea analysis is the first steps in evaluating the area. County and State officials can use this information to help guide them in their decision making on future road improvements. As additional development information becomes availible the report will amended as needed.

Introduction:

As stated the main purpose of a subarea analysis is to evaluate traffic impacts of future developments on existing corridors. The subarea analysis estimates the number of new trips from anticipated developments that will be added to an existing facility to examine the changes in level of service (LOS). LOS is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. LOS is based upon the average stopped delay per vehicle for various movements within the intersection. LOS “A” describes operations with very low delays, most vehicles do not stop at all. LOS “C” describes operations with longer delays, stopping vehicles are significant but many still pass without stopping. LOS “F” describes operations with delays unacceptable to most drivers, the intersection is exceeding capacity.

Table 1 and 2 show the LOS and the corresponding delay as given in the Highway Capacity Manual 6th Edition, 2022. When service levels fall below acceptable levels, recommendations are tested to accommodate future traffic and relieve anticipated congestion problems along the corridor. Information provided by a corridor and impact analysis helps in developing a corridor protection plan that can be an efficient tool for mitigating potential congestion. Corridor and impact analysis also identify problem areas and develop recommendations for roadway improvements.

Table 1. Level of Service Criteria for Signalized Intersections

Level of Service	Average Stopped Delay Per Vehicle (sec)
A	≤10.0
B	>10.0 and ≤20.0
C	>20.0 and ≤35.0
D	>35.0 and ≤55.0
E	>55.0 and ≤80.0
F	>80.0

Figure 1

Airport Expressway / Lower Huntington Road / Interstate 69 Development Area

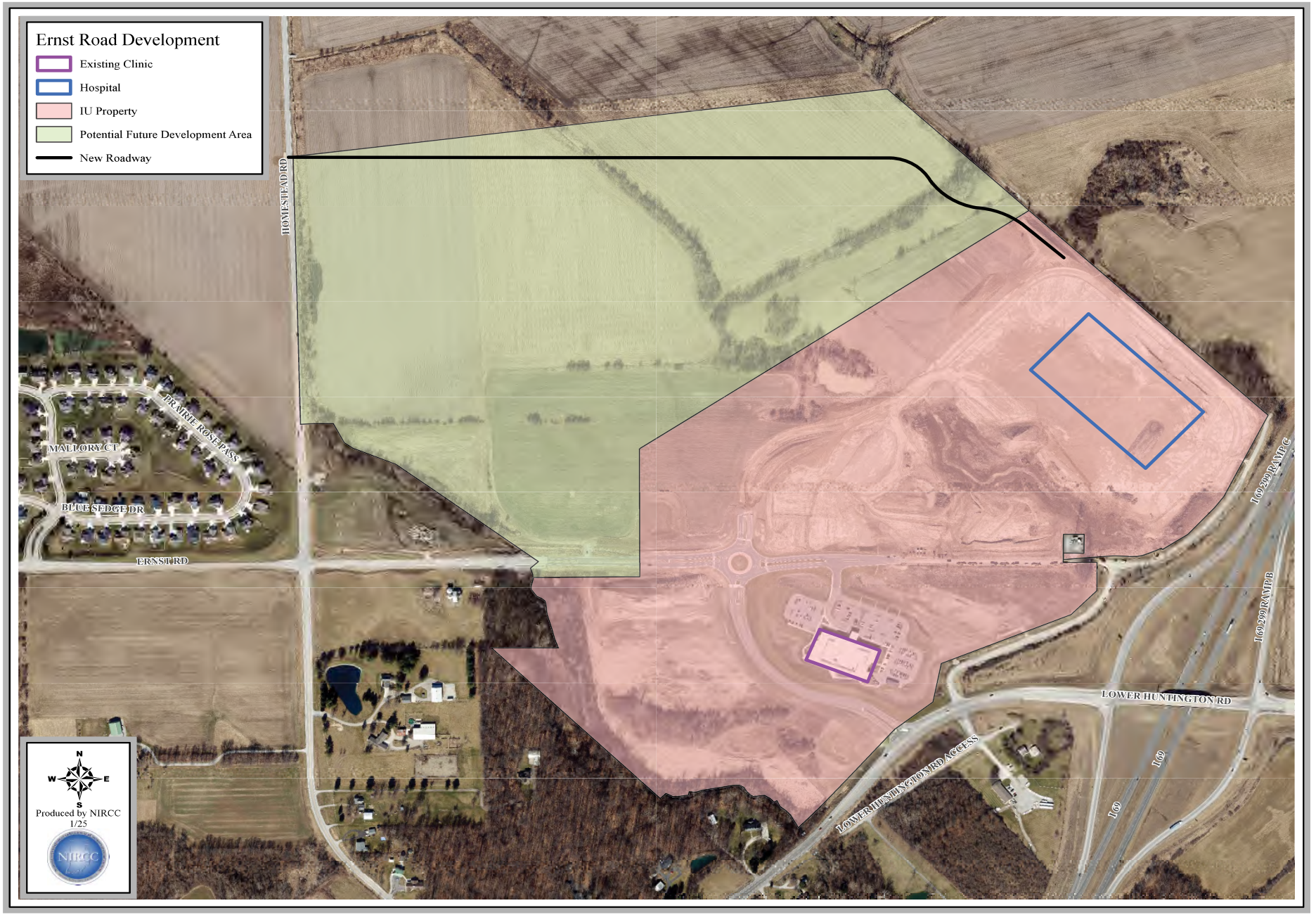


Table 2. Level of Service Criteria for Unsignalized Intersections

Level of Service	Average Stopped Delay Per Vehicle (sec)
A	≤10.0
B	>10.0 and ≤15.0
C	>15.0 and ≤25.0
D	>25.0 and ≤35.0
E	>35.0 and ≤50.0
F	>50.0

Methodology

The intersections were analyzed using Synchro 12. The analyses were performed for three different levels of land use development including existing conditions, phase I developments, and phase II developments. Phase I focuses on approved land use developments and phase II focuses on proposed developments on currently vacant land within the defined study area. Phase I and Phase II have a one to five year horizon.

The future developments are based upon surrounding land uses, current zoning, community desires, and staff knowledge of development activity. Various maps, aerial photos, and field surveys assisted in reviewing the three phases of land use developments. For the phase I and phase II future analyses, projected traffic from future developments was forecasted from the ITE Trip Generation Manual 11th edition. The number of trips was based upon the size and type of each development. After determining the number of trips from each residential or commercial development, the trips were distributed and assigned to the adjacent roads and intersections along the corridor based upon logic and existing travel distribution patterns.

Special attention was paid to the number of trips from multiple commercial developments to exclude internal trips and adjust for pass-by trips, to obtain net new trips. After trip generation, trip distribution and traffic assignment, trips from future developments were added to existing trips. Based upon the distribution patterns, turning volumes for each of the major intersections were established for the phase I scenario. The new traffic volumes were used to perform intersection analyses for the phase I and phase II development schemes. When intersection analyses indicated level-of-service beyond LOS “D”, geometric improvement recommendations were developed or were analyzed using Synchro 12. The program was used to optimize existing traffic signal phasing and to analyze potential signalization of currently unsignalized intersections.

Corridorr Information

Airport Expressway is a Rural Other Principle Arterial, Lower Huntington Road is a Rural Major Collector, and Interstate 69 is a Rural Interstate on the southwest side of Allen County. This study starts at Airport Expressway on the east and ends at Kress Road on the west crossing over Interstate 69. The study also includes the Ernst Road / Homestead Road intersection north of Lower Huntington Road.

This report examines the following scenarios:

- Scenario 1: Existing traffic volumes
- Scenario 2: Existing volumes + traffic generated by the proposed developments (Phase I)
- Scenario 3: Existing volumes + traffic generated by the proposed developments (Phase I) + traffic generated by the areas with a potential for development (Phase II)

Table 3 shows the average annual weekday daily traffic (AAWDT) volumes. The average annual growth rate was estimated to be 3.0% along the corridor for phase I & II. Figures 2 and 3 shows the subarea boundaries and corridors. The study focused on one signalized and five stop controlled intersections along the corridors.

Table 3: Lower Hunting Road Subarea AAWDT Traffic Volumes

Location	2023/24	2018	2015
Lwr Huntington Rd - Interstate 69 to Homestead Rd	7,500	7,350	5,850
Lwr Huntington Rd - Homestead Rd to Kress Rd	5,100		4,850
Homestead Rd - Ernst Rd to Lwr Huntington Rd	4,600	4,000	3,150
Ernst Rd - Homestead Rd to Lwr Huntington Rd	1,400	100	90

Existing Analysis

Figure 4 shows existing average AADT on each link within the subarea analysis boundaries. This data is based upon 48-hour weekday counts averaged for a 24-hour daily volume. Axle correction factors and seasonal adjustment factors are applied to the volume data. The existing analysis is based on 2024 turning movement counts and geometric configurations. The outputs from Synchro 12 for both morning/afternoon peaks for the intersections are listed in Appendix A.

Trip Generation

The distribution of the population within the area, the characteristics of the roadway system, and degree of congestion on the corresponding roadway affect the directional distribution of site-generated traffic. The trip distributions for this study area were determined by examining the existing traffic counts, and by evaluating the major traffic generators in the vicinity of the study area.

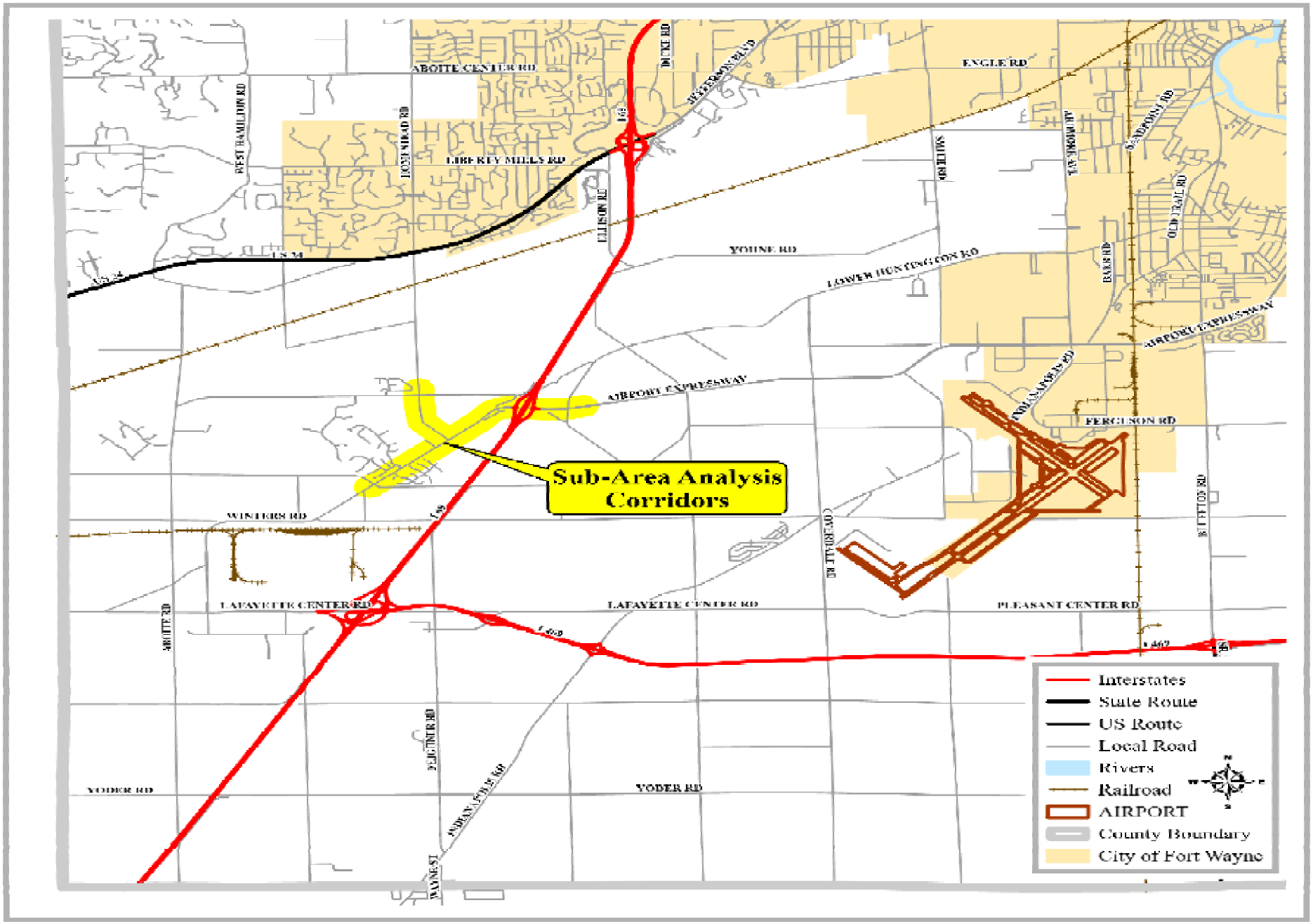
The ITE Trip Generation Manual, 11th edition was used to forecast the number of new trips from phase I and phase II residential and commercial developments. After determining the number of trips from each residential or commercial development, the trips were distributed and assigned to the adjacent roads and intersections along the corridor based upon existing traffic patterns of distribution as described earlier. The new trips were added to the existing traffic volumes to obtain the turning movement distributions for each intersection for the phase I and

Figure 2

Airport Expressway / Lower Huntington Road / Interstate 69 Study Area Boundaries

Figure 3

Airport Expressway / Lower Huntington Road / Interstate 69 Subarea Analysis Corridors



phase II scenarios. The new traffic volumes were used to perform the intersection analysis. The developments are listed in Table 4 and their locations are shown in Figure 5. The outputs from Synchro 12 for both morning/ afternoon peaks for each intersection are listed in Appendix A.

Table 4: New Trips from Phase I Residential/Commercial Development				
	Peak-Enter		**Peak-Exit**	
Site	**AM**	**PM**	**AM**	**PM**
1. IU Hospital	206	89	80	181
2. Residential SF ~ 98 Lots / 56 Acres	19	62	54	36
3. Residential MF ~ 42 Units / 110 Acres	9	24	27	14
New Trips from Phase II Residential/Commercial Development				
4. IU Health Site Multi-Use 41 Acres	1,415	545	405	1,540
5. Gas Station with C-Store	64	74	64	74
6. Residential MF 200 Units / 8.9 Acres	20	67	64	39

Figure 4

Existing Average Daily Traffic Distribution for Airport Expressway / Lower Huntington Road / Interstate 69 subarea

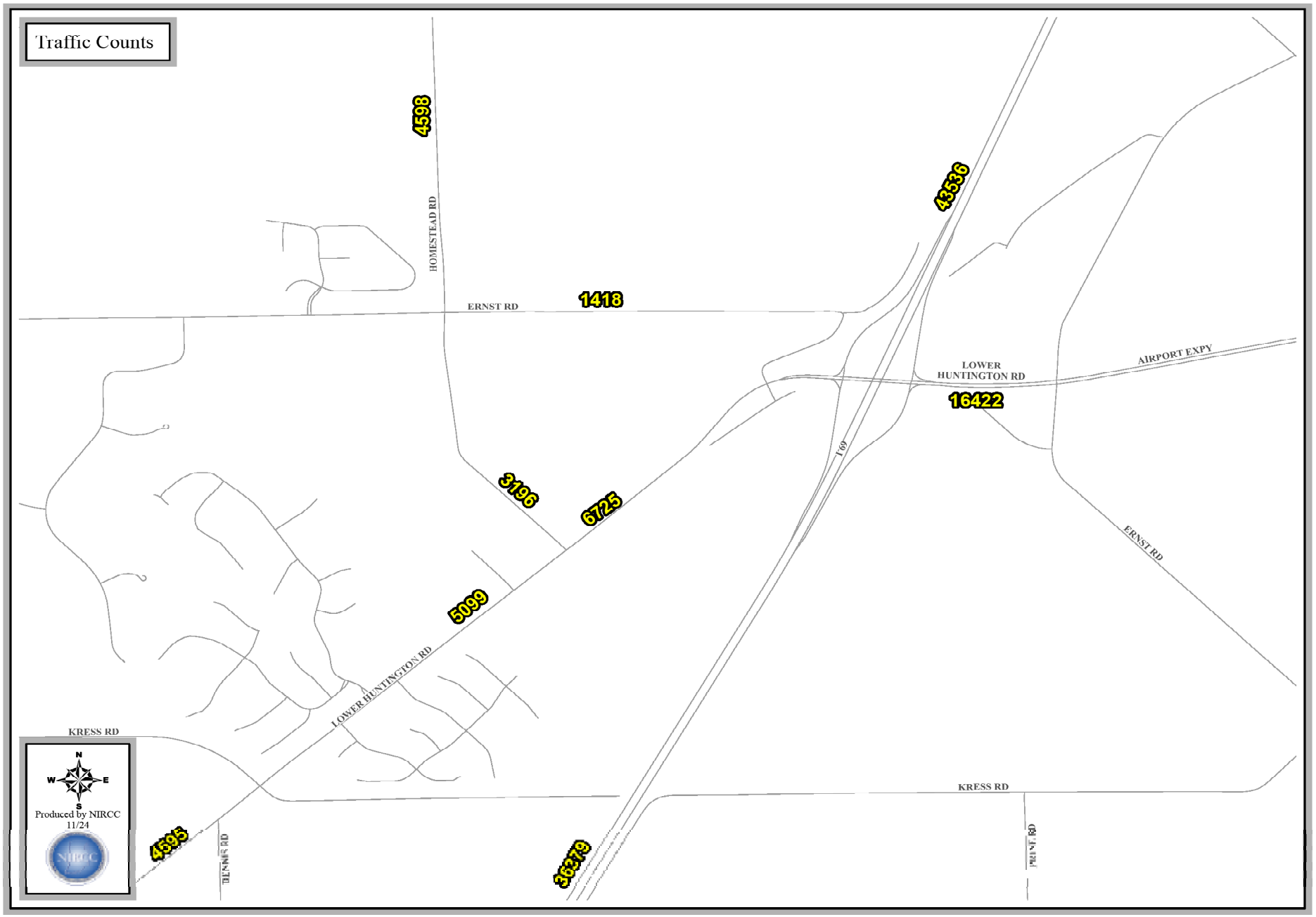
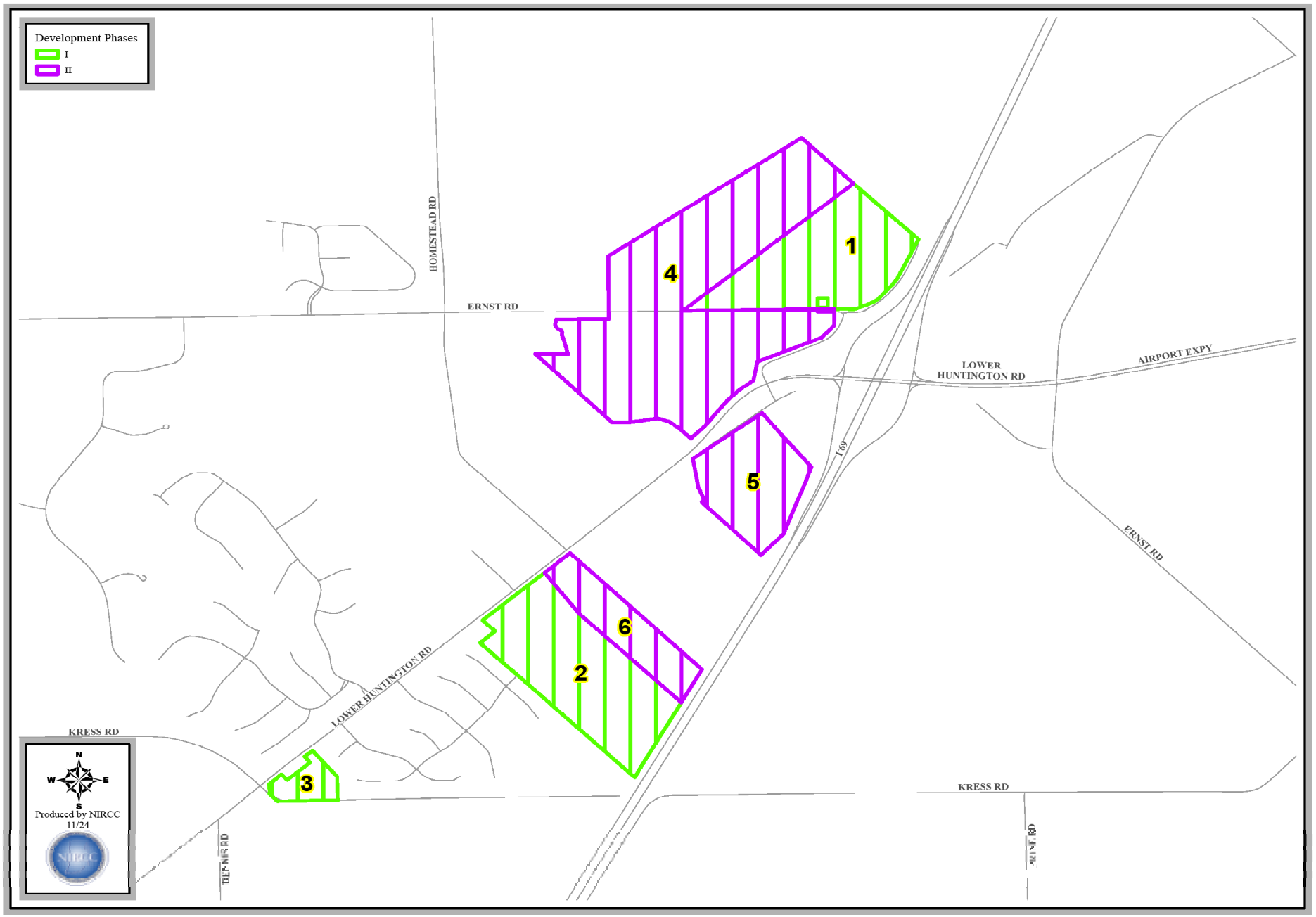


Figure 5

Projected Developments for Airport Expressway / Lower Huntington Road / Interstate 69 subarea



Homestead Road at Ernst Road

Scenario 1: - Existing Conditions

Homestead Road and Ernst Road are 2-lane facilities. The intersection analysis indicates that this intersection is currently operating at a Level of Service (LOS) “A” for morning and afternoon peak hours. See Figure 6 for the morning and afternoon peak volumes, and LOS.

Scenario 2: - Proposed Development Recommendations

The intersection will operate at a LOS “A” for morning and a "B" during the afternoon peak hour with the added trips of phase I. See Figure 7 for the morning and afternoon peak volumes, and LOS.

Scenario 3: - Proposed Development Recommendations

The intersection will operate at a LOS “E” for morning and a "F" during the afternoon peak hour with the added trips of phase II. The intersection can be improved to a LOS “A” for morning and "B" during the afternoon peak hours with signalization. See Figures 8 and 9 for the morning and afternoon peak volumes, and LOS.

Table 5: Shows the LOS & Delay, Table 6 shows Volume, delay, and queue for the critical movements for the existing, proposed phase I & II, and phase II modified.

Table 5: Homestead Rd @ Ernst Rd

Morning Peak	**NB**	**SB**	**EB**	**WB**	**Total**
	LOS	**LOS**	**LOS**	**LOS**	**LOS**
Existing	A	A	A	A	A
Phase I - Existing Lanes	B	A	A	A	A
Phase II - Existing Lanes	C	F	B	B	E
Phase II - Modified - Signalization no added lanes	A	A	B	B	A
Afternoon Peak	**NB**	**SB**	**EB**	**WB**	**Total**
	LOS	**LOS**	**LOS**	**LOS**	**LOS**
Existing	A	A	A	A	A
Phase I - Existing Lanes	B	B	A	B	B
Phase II - Existing Lanes	C	C	C	F	F
Phase II - Modified - Signalization no added lanes	B	B	A	B	B

Table 6: Homestead Rd @ Ernst Rd

Morning Peak	**Existing**	**Phase I**	**Phase II**	**Phase II Mod**
Critical Movement	SB Left	SB Left	SB Left	SB Left
Volume	97	161	488	488
Delay sec/vehicle	9.2	10.6	68.5	8.9
Queue	33	39	106	146
Afternoon Peak	**Existing**	**Phase I**	**Phase II**	**Phase II Mod**
Critical Movement	WB	WB	WB	WB
Volume	155	235	680	680
Delay	8.5	10.2	127.0	17.9
Queue	40	45	249	199

Figure 6

Homestead Rd / Ernst Road Existing Volumes and Lanes (AM/PM Peak)

Figure 7

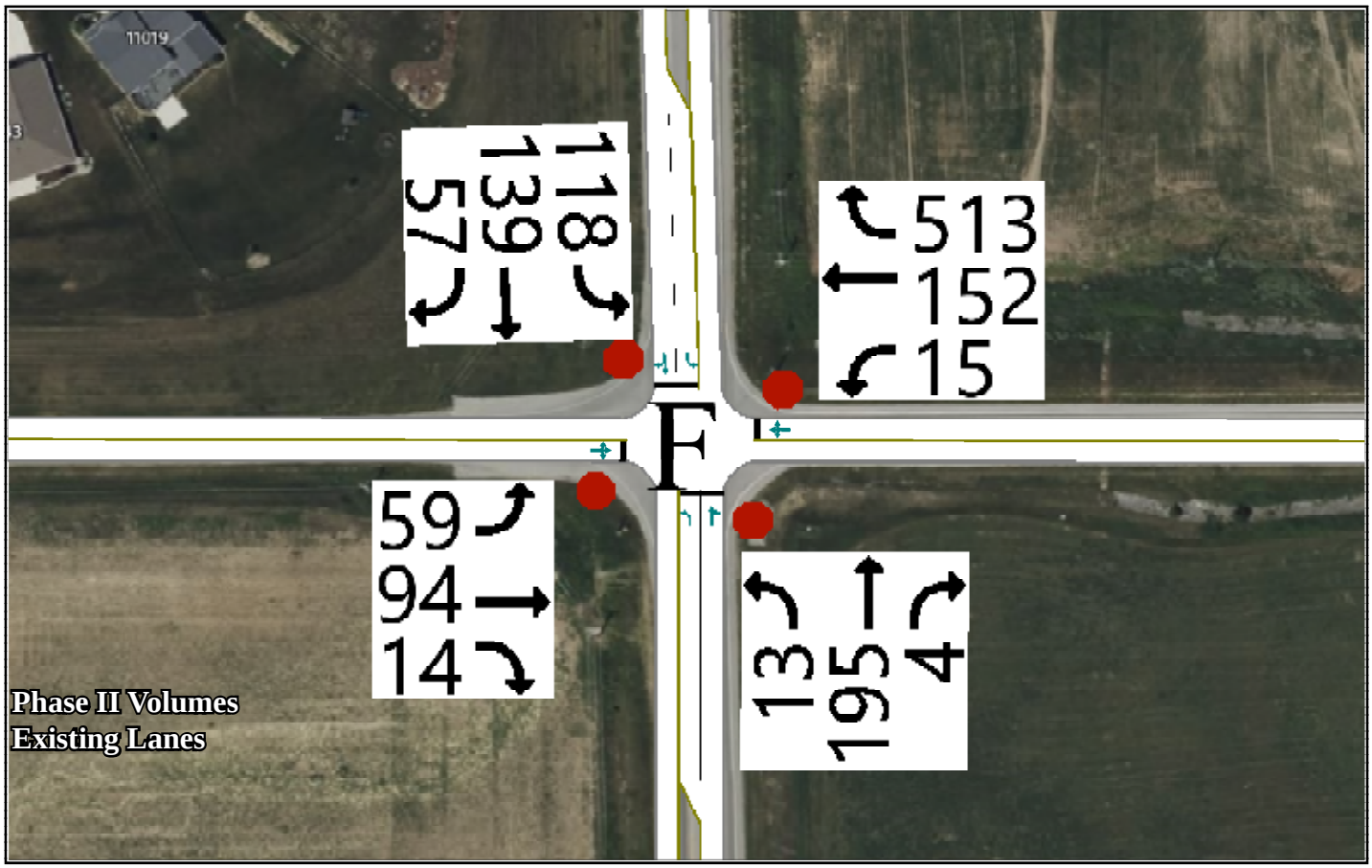
Homestead Rd / Ernst Road Phase I Volumes and Existing Lanes (AM/PM Peak)

Figure 8

Homestead Rd / Ernst Road Phase II Volumes and Existing/Proposed Lanes (AM Peak)

Figure 9

Homestead Rd / Ernst Road Phase II Volumes and Existing/Proposed Lanes (PM Peak)



Lower Huntington Road at Homestead Road

Scenario 1: - Existing Conditions

Lower Huntington Road and Homestead Road are 2-lane facilities. The intersection analysis indicates that this intersection is currently operating at a Level of Service (LOS) “B” for morning and afternoon peak hours for the southeastbound movement. See Figure 10 for the morning and afternoon peak volumes, and LOS.

Scenario 2: - Proposed Development Recommendations

The intersection will operate at a LOS “C” for morning and afternoon peak hours with the added trips of phase I, for the southeastbound movement. See Figure 11 for the morning and afternoon peak volumes, and LOS.

Scenario 3: - Proposed Development Recommendations

The intersection currently has 3 approaches, it will have 4 approaches with the addition of the proposed development on the southside of Lower Huntington Road. It will operate at a LOS “F” for morning and afternoon peak hour with the added trips of phase II, for the southeastbound movement. The intersection can be improved to a LOS “A” for morning and afternoon peak hours with signalization and added turn lanes. See Figures 12 and 13 for the morning and afternoon peak volumes, and LOS.

Table 7: Shows the LOS & Delay, Table 8 shows Volume, delay, and queue for the critical movements for the existing, proposed phase I & II, and phase II modified.

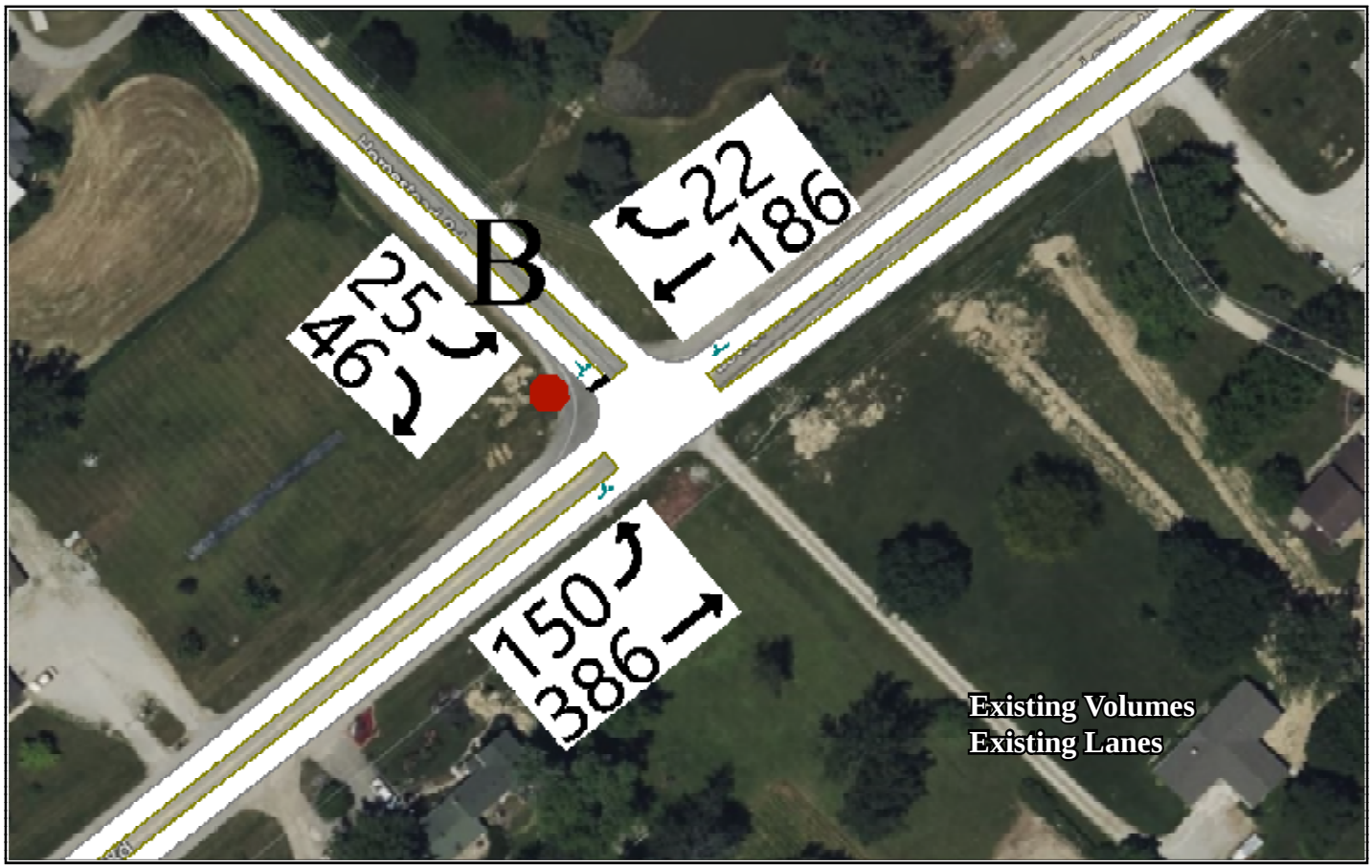
Table 7: Lower Huntington Rd @ Homestead Rd

AM Peak	NWB	SEB	NEB	SWB	Total
	LOS	LOS	LOS	LOS	LOS
Existing		B	A	A	NA
Phase I - Existing Lanes		C	A	A	NA
Phase II - Existing Lanes + NB approach	F	F	A	A	NA
Phase II - Modified - Signalization + turn lanes	B	B	A	A	A
PM Peak	**NWB**	**SEB**	**NEB**	**SWB**	**Total**
	LOS	**LOS**	**LOS**	**LOS**	**LOS**
Existing		B	A	A	NA
Phase I - Existing Lanes		C	A	A	NA
Phase II - Existing Lanes + NB approach	E	F	A	A	NA
Phase II - Modified - Signalization + turn lanes	B	B	A	A	A

Table 8: Lower Huntington Rd @ Homestead Rd				
Morning Peak	**Existing**	**Phase I**	**Phase II**	**Phase II Mod**
Critical Movement	SEB	SEB	SEB	SEB Left
Volume	71	90	110	44
Delay sec/vehicle	14.75	21.52	193.82	12.2
Queue	27	36	65	24
Critical Movement	NWB	NWB	NWB	NWB
Volume			66	66
Delay sec/vehicle			78.11	12.5
Queue			36	27
Afternoon Peak	**Existing**	**Phase I**	**Phase II**	**Phase II Mod**
Critical Movement	SEB	SEB	SEB	SEB Left
Volume	102	129	163	52
Delay	13.31	17.73	114.72	11.6
Queue	33	51	88	19
Critical Movement	NWB	NWB	NWB	NWB
Volume			39	39
Delay			35.63	11.6
Queue			27	28

Figure 10

Lwr Huntington Rd / Homestead Rd Existing Volumes and Lanes (AM/PM Peak)



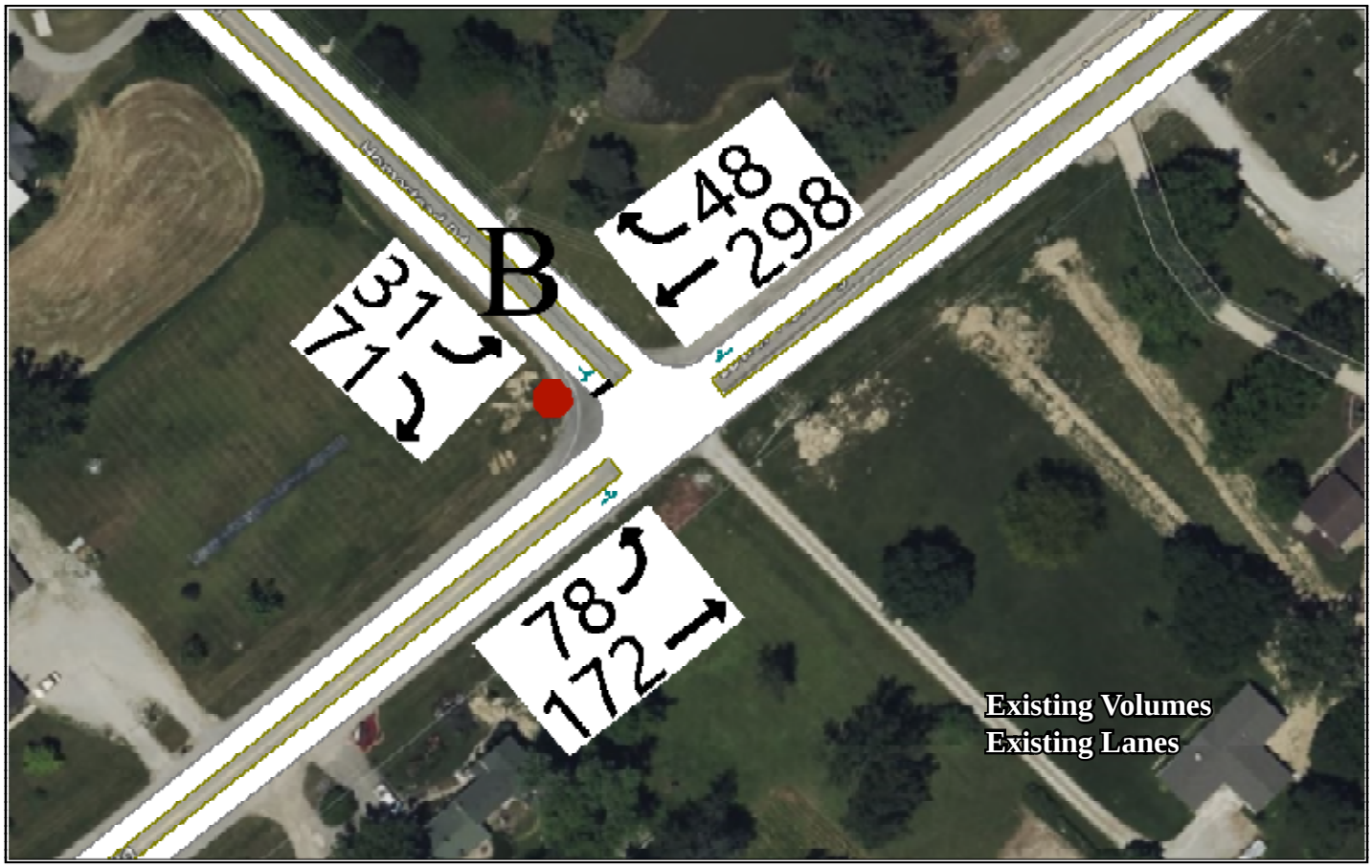
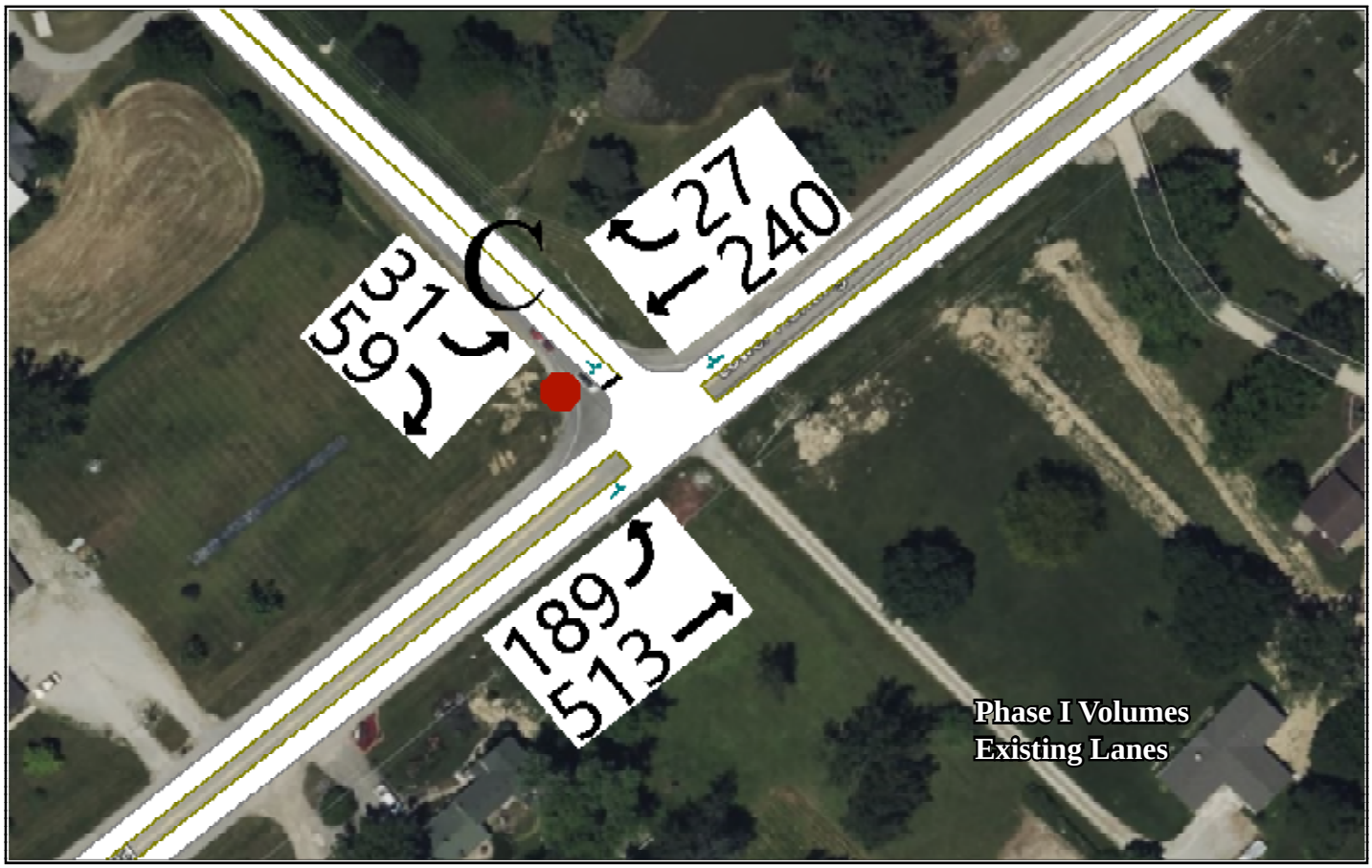


Figure 11

Lwr Huntington Rd / Homestead Rd Phase I Volumes and Existing Lanes (AM/PM Peak)



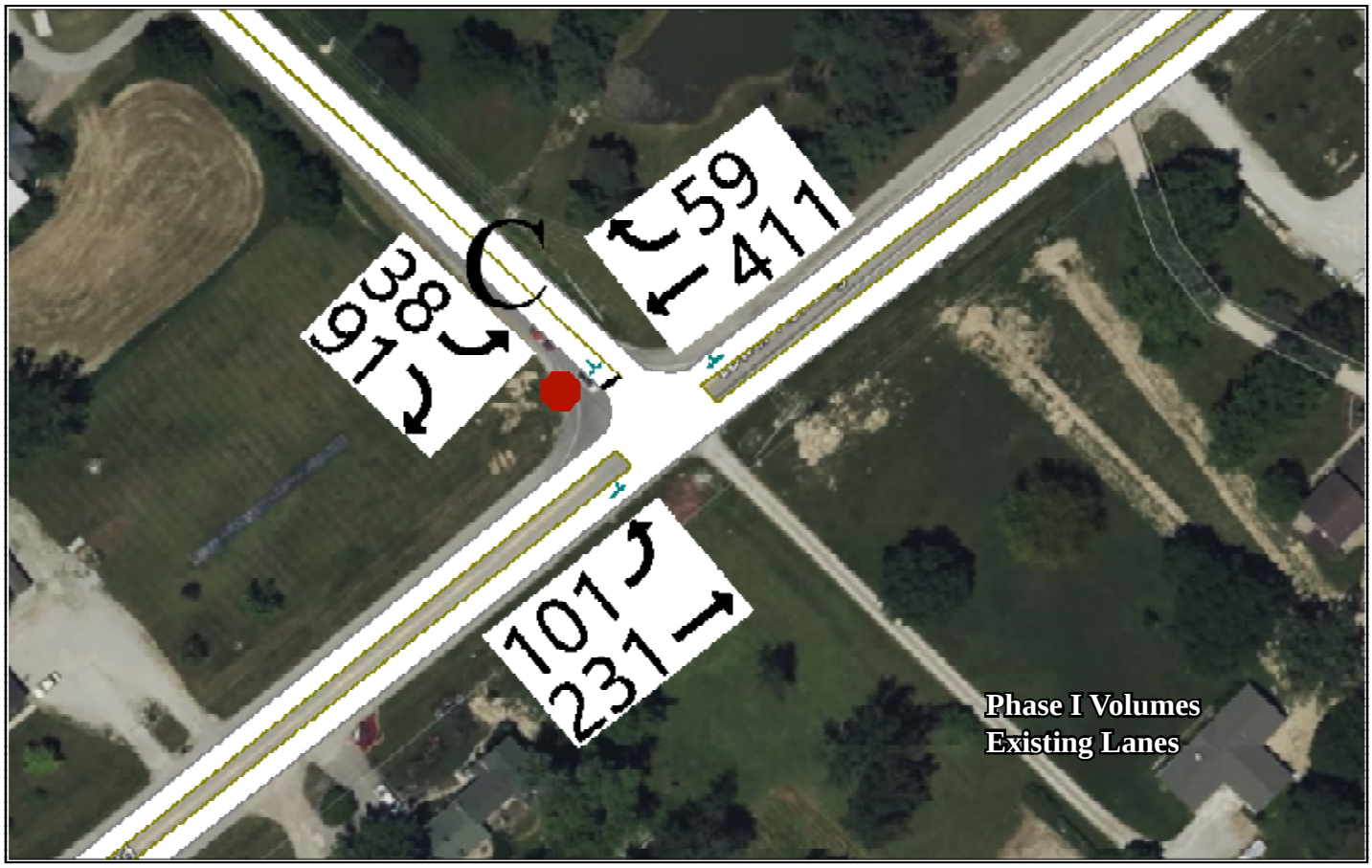
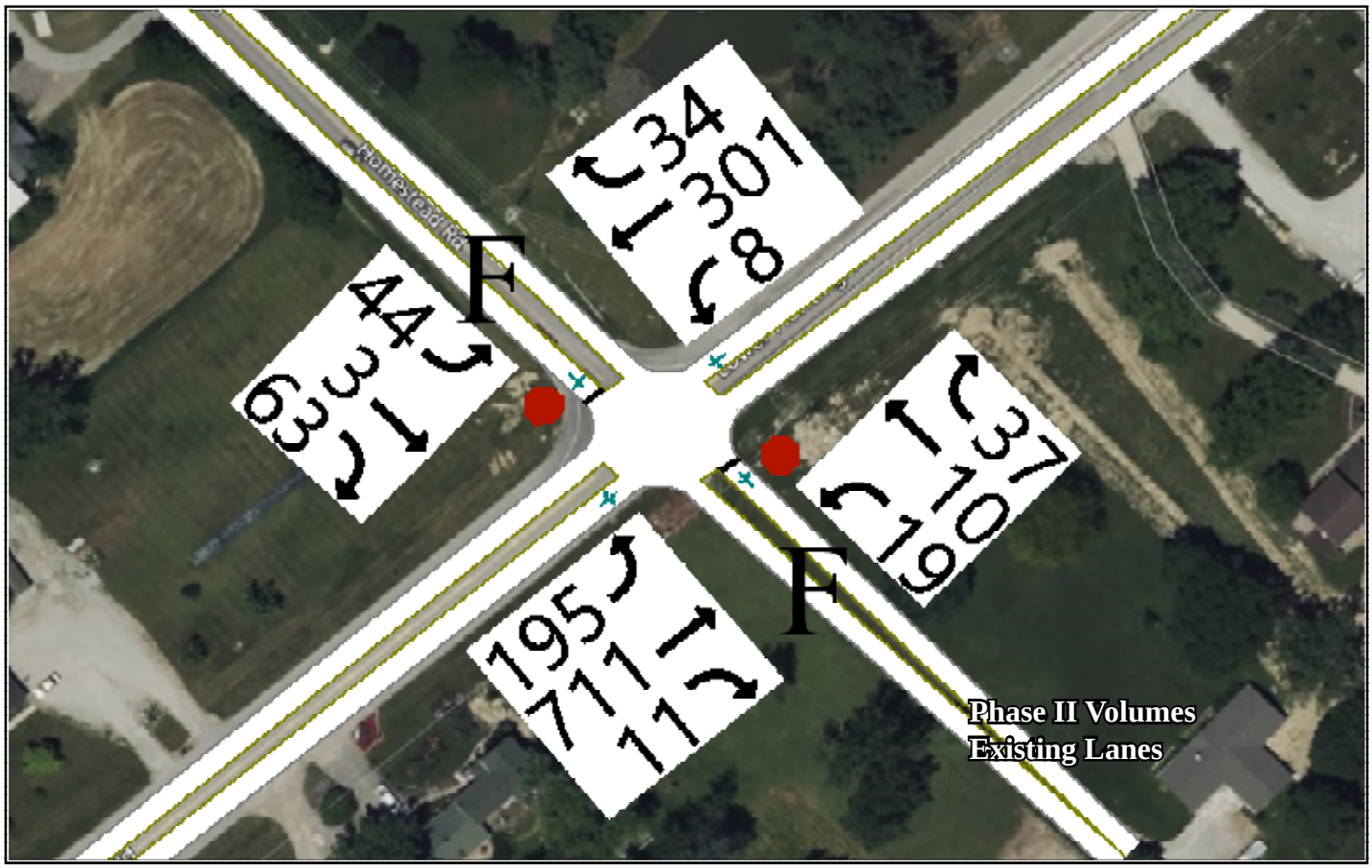


Figure 12

Lwr Huntington Rd / Homestead Rd Phase II Volumes and Existing/Proposed Lanes (AM Peak)



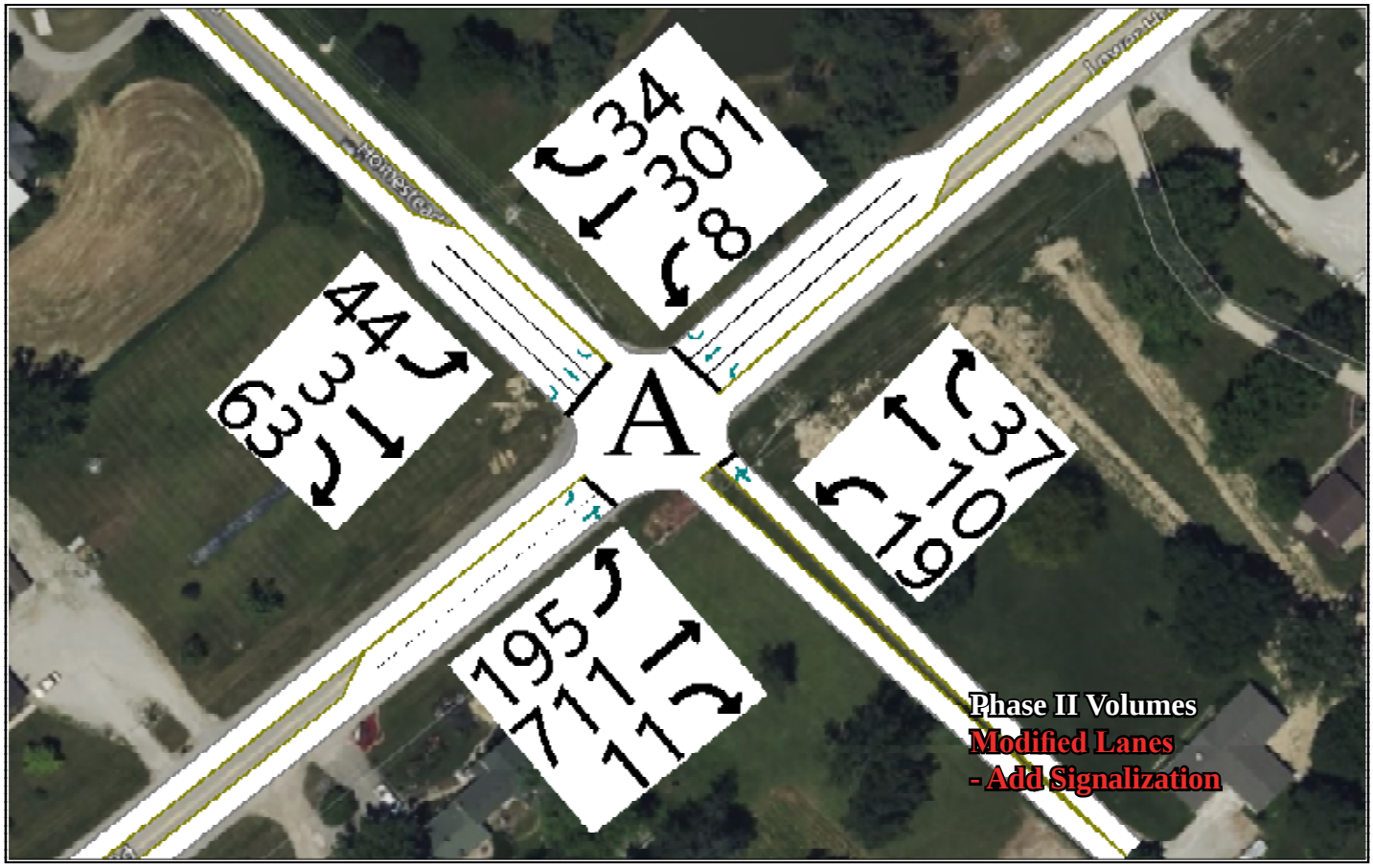
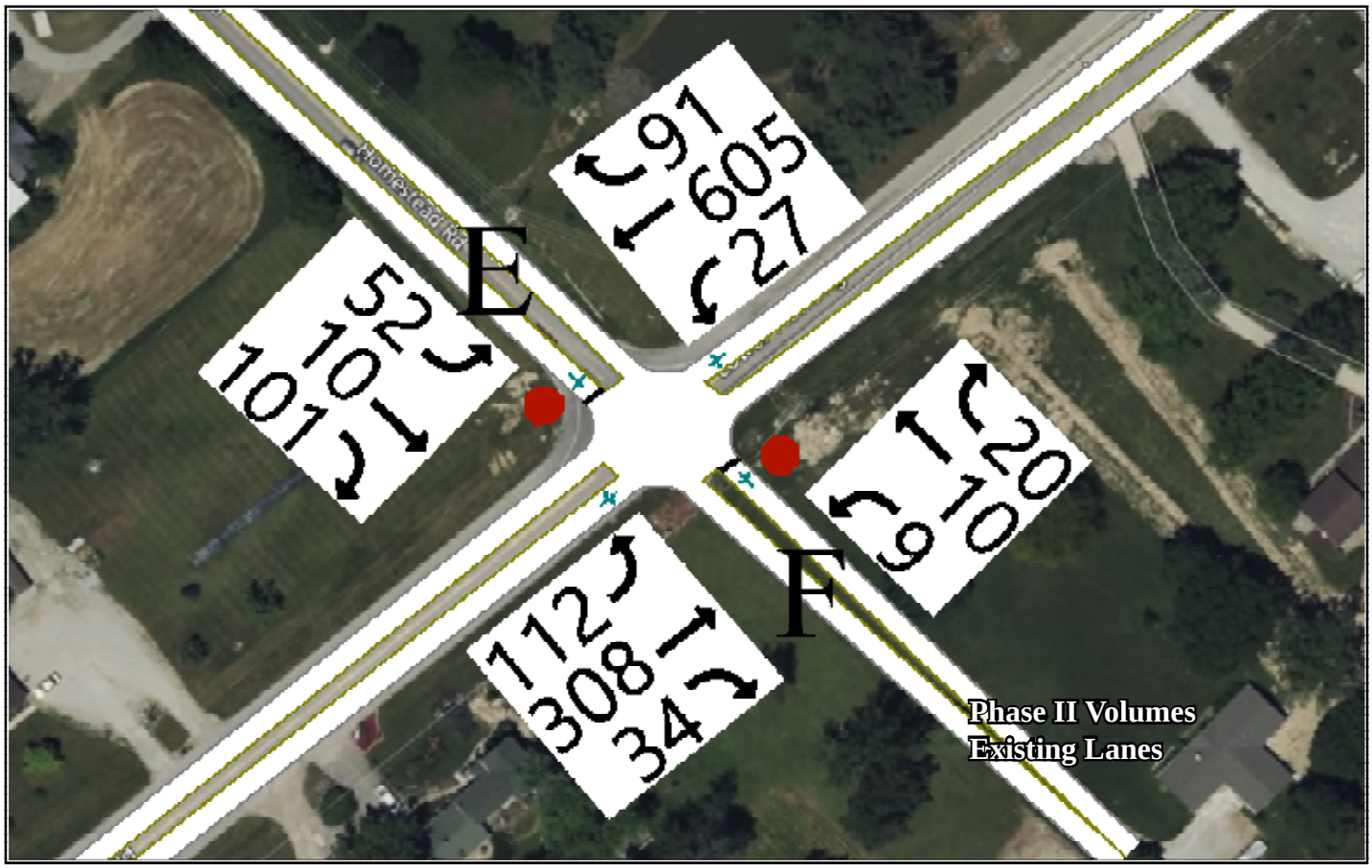
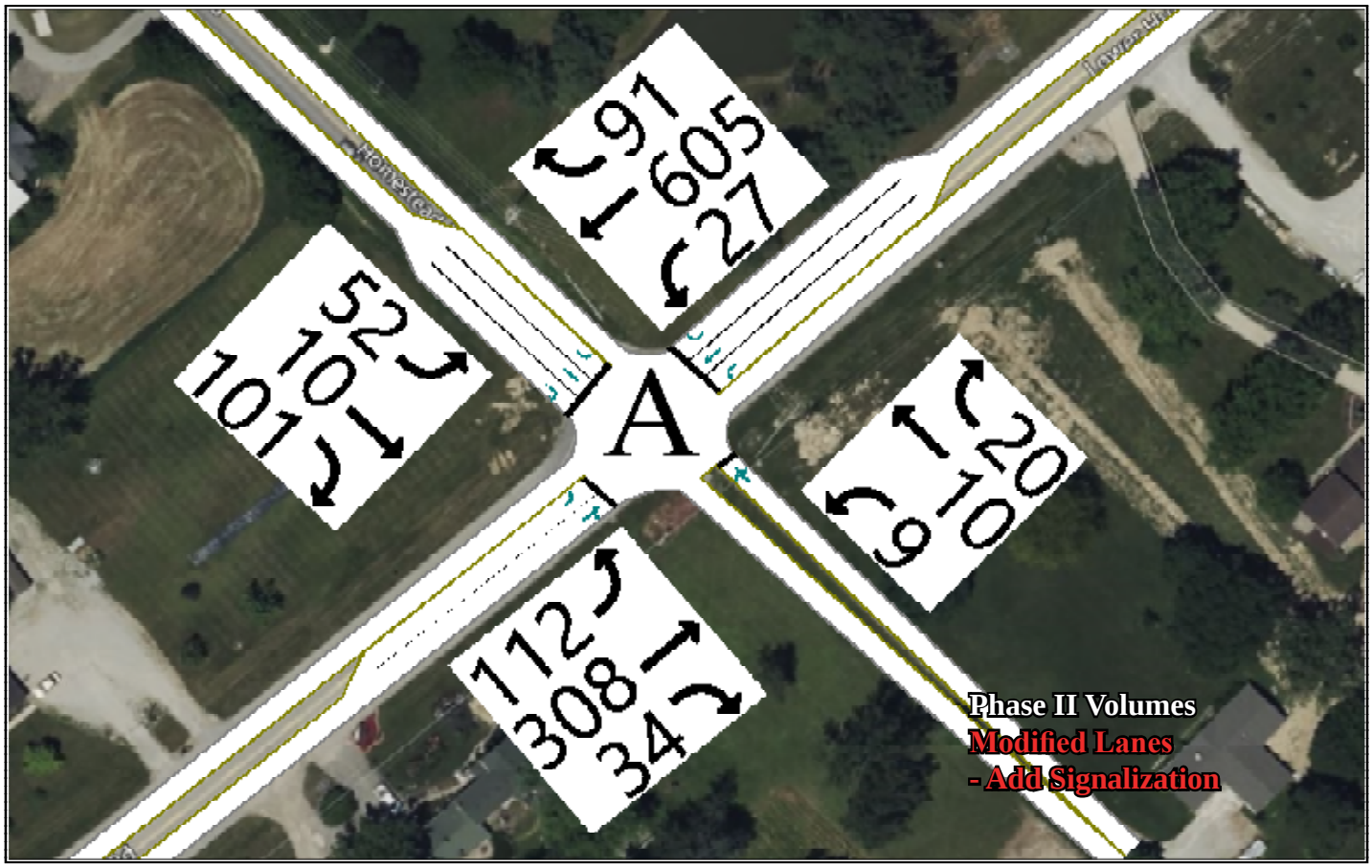


Figure 13

Lwr Huntington Rd / Homestead Rd Phase II Volumes and Existing/Proposed Lanes (PM Peak)





Lower Huntington Road at IU Health access

Scenario 1: - Existing Conditions

Lower Huntington and Ernst Road are all 2-lane facilities. The intersection analysis indicates that it is currently operating at a Level of Service (LOS) “C” during the morning and "B" during the afternoon peak hours for the eastbound movement. See Figure 14 for the morning and afternoon peak volumes, and LOS.

Scenario 2: - Proposed Development Recommendations

The analysis indicates the intersection will operate with the added trips of phase I at a LOS “C” during the morning peak and "C" during the afternoon peak hours for the eastbound movement. See Figure 15 for the morning and afternoon peak volumes, and LOS.

Scenario 3: - Proposed Development Recommendations

The intersection currently has 3 approaches, it will have 4 approaches with the addition of the proposed development on the southside of Lower Huntington Road. The analysis indicates the intersection will operate with the added trips of phase II at a LOS “F” during the morning peak and afternoon peak hours for the eastbound movement. The intersection would operate at a LOS of D for the morning and "F" during the evening peak hours with signalization, if you add an additional eastbound through lane it would still be at an "D" and "F". If you add an additional southbound left turn lane along with the other improvements the intersection would improve to a LOS of "C" and "D". See Figures 16-19 for the morning and afternoon peak volumes, and LOS.

Table 9: Shows the LOS & Delay, Table 10 shows Volume, delay, and queue for the critical movements for the existing, proposed phase I & II, and phase II modified.

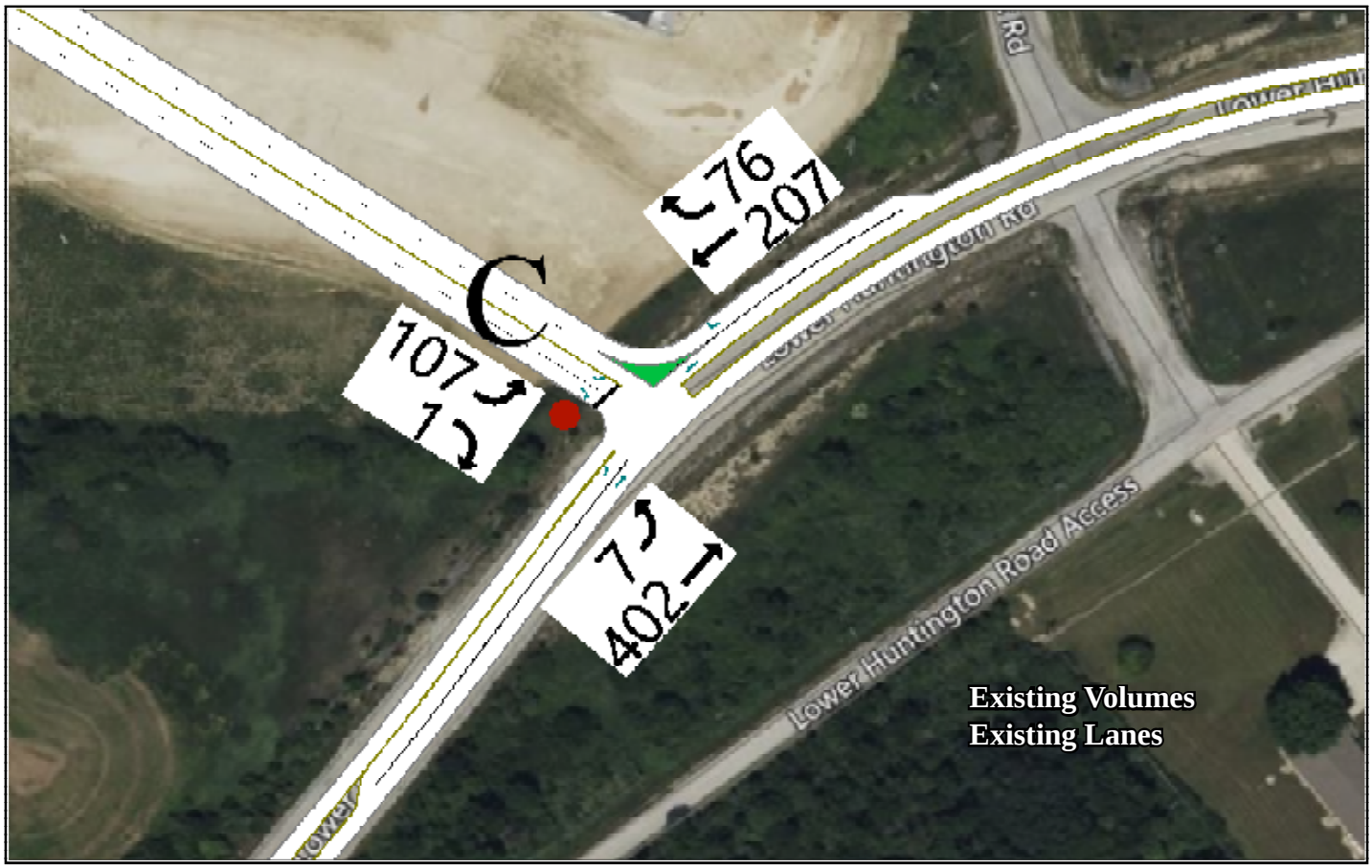
Table 9: Lower Huntington @ IU Health access

AM Peak	WB	EB	NEB	SWB	Total
	LOS	LOS	LOS	LOS	LOS
Existing		C	A	A	NA
Phase I - Existing Lanes		D	A	A	NA
Phase II - Existing Lanes	D	F	A	A	NA
Phase II - Modified 1 - Signalization	C	E	D	C	D
Phase II - Modified 2 - Signalization + NEB Thru Lane	C	E	C	C	D
Phase II - Modified 3 - Signalization + NEB Thru + EB LT lanes	C	C	C	C	C
PM Peak	**WB**	**EB**	**NEB**	**SWB**	**Total**
	LOS	**LOS**	**LOS**	**LOS**	**LOS**
Existing		B	A	A	NA
Phase I - Existing Lanes		C	A	A	NA
Phase II - Existing Lanes	C	F	A	A	NA
Phase II - Modified 1 - Signalization	E	F	E	F	F
Phase II - Modified 2 - Signalization + NEB Thru Lane	E	F	E	F	F
Phase II - Modified 3 - Signalization + NEB Thru + EB LT lanes	D	D	C	E	D

Table 10: Lower Huntington Rd @ IU Health access						
Morning Peak	**Existing**	**Phase I**	**Phase II**	**Phase II Mod 1**	**Phase II Mod 2**	**Phase II Mod 3**
Critical Movement	WB	WB	WB	WB	WB	WB
Volume			64	64	64	64
Delay sec/vehicle			31.2	26.3	26.0	21.3
Queue			33	36	35	40
Critical Movement	EB Left	EB Left	EB Left	EB Left	EB Left	EB Left
Volume	107	169	396	396	396	396
Delay sec/vehicle	16.9	30.6	2,511.9	73.2	70.7	32.1
Avg Queue ft	33	50	568	200	110	110 / 39
Critical Movement	NEB Left	NEB Left	NEB Left	NEB Left	NEB Left	NEB Left
Volume	7	38	238	238	238	238
Delay sec/vehicle	7.7	7.8	8.5	39.4	41.0	36.9
Queue	0	6	33	124	104	76
Critical Movement	SWB Left	SWB Left	SWB Left	SWB Left	SWB Left	SWB Left
Volume			48	48	48	48
Delay sec/vehicle			8.9	40.0	26.3	28.9
Queue			6	8	17	43
Afternoon Peak	**Existing**	**Phase I**	**Phase II**	**Phase II Mod 1**	**Phase II Mod 2**	**Phase II Mod 3**
Critical Movement	WB	WB	WB	WB	WB	WB
Volume			74	74	74	74
Delay			23.1	60.1	60.1	39.1
Queue			52	56	31	40
Critical Movement	EB Left	EB Left	EB Left	EB Left	EB Left	EB Left
Volume	75	189	1052	1052	1052	1052
Delay	14.2	25.5	3,185.0	198.2	198.2	60.3
Queue	23	34	664	662	548	237 / 330
Critical Movement	NEB Left	NEB Left	NEB Left	NEB Left	NEB Left	NEB Left
Volume	1	13	90	90	90	90
Delay	8.0	8.3	8.7	107.8	107.8	38.2
Queue	0	0	18	51	46	43
Critical Movement	SWB Left	SWB Left	SWB Left	SWB Left	SWB Left	SWB Left
Volume			56	56	56	56
Delay			8.0	57.2	47.7	30.7
Queue			11	32	43	20

Figure 14

Lower Huntington Rd / IU Health access Existing Volumes and Lanes (AM/PM Peak)



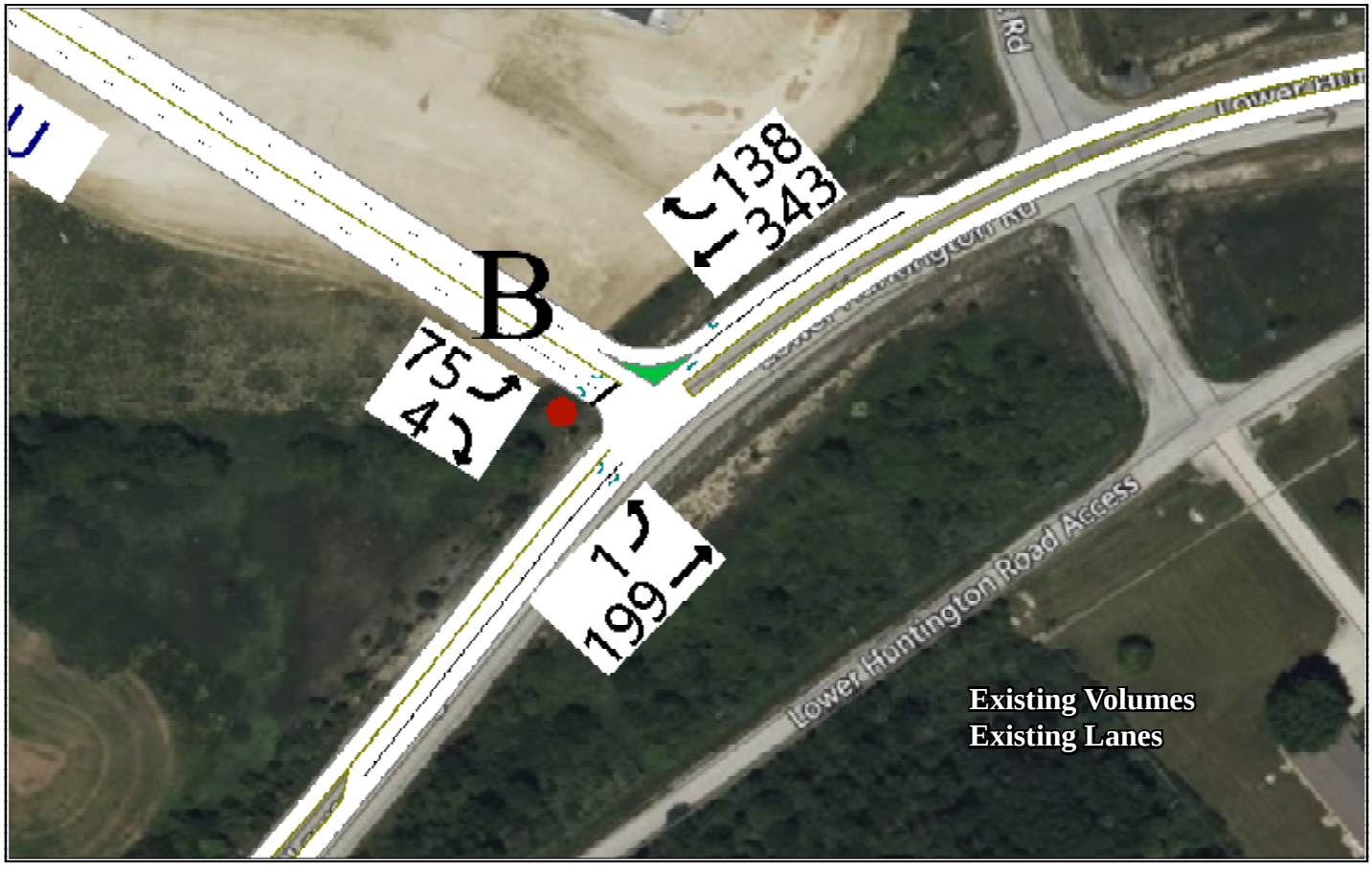
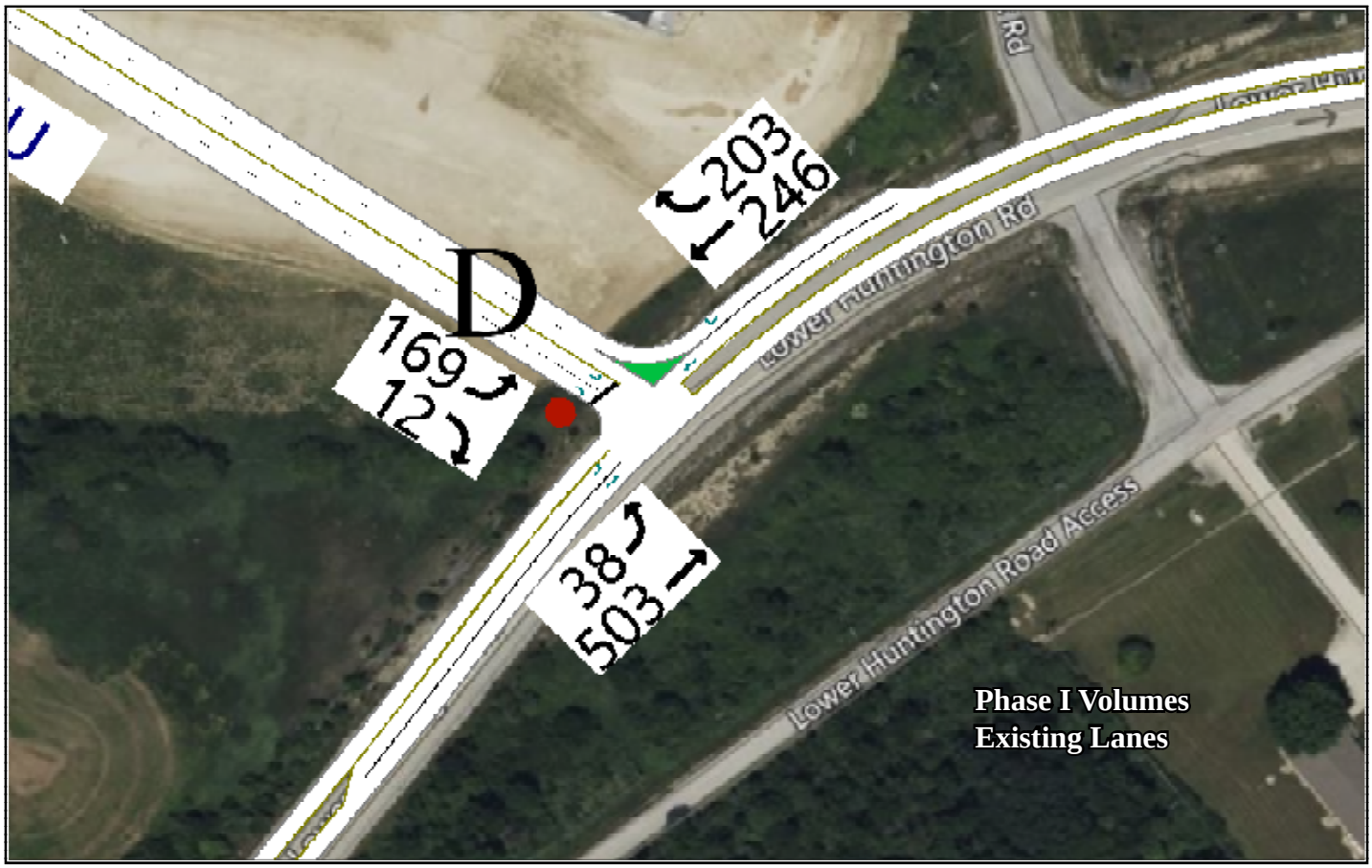


Figure 15

Lower Huntington Rd / IU Health access Phase I Volumes and Existing Lanes (AM/PM Peak)



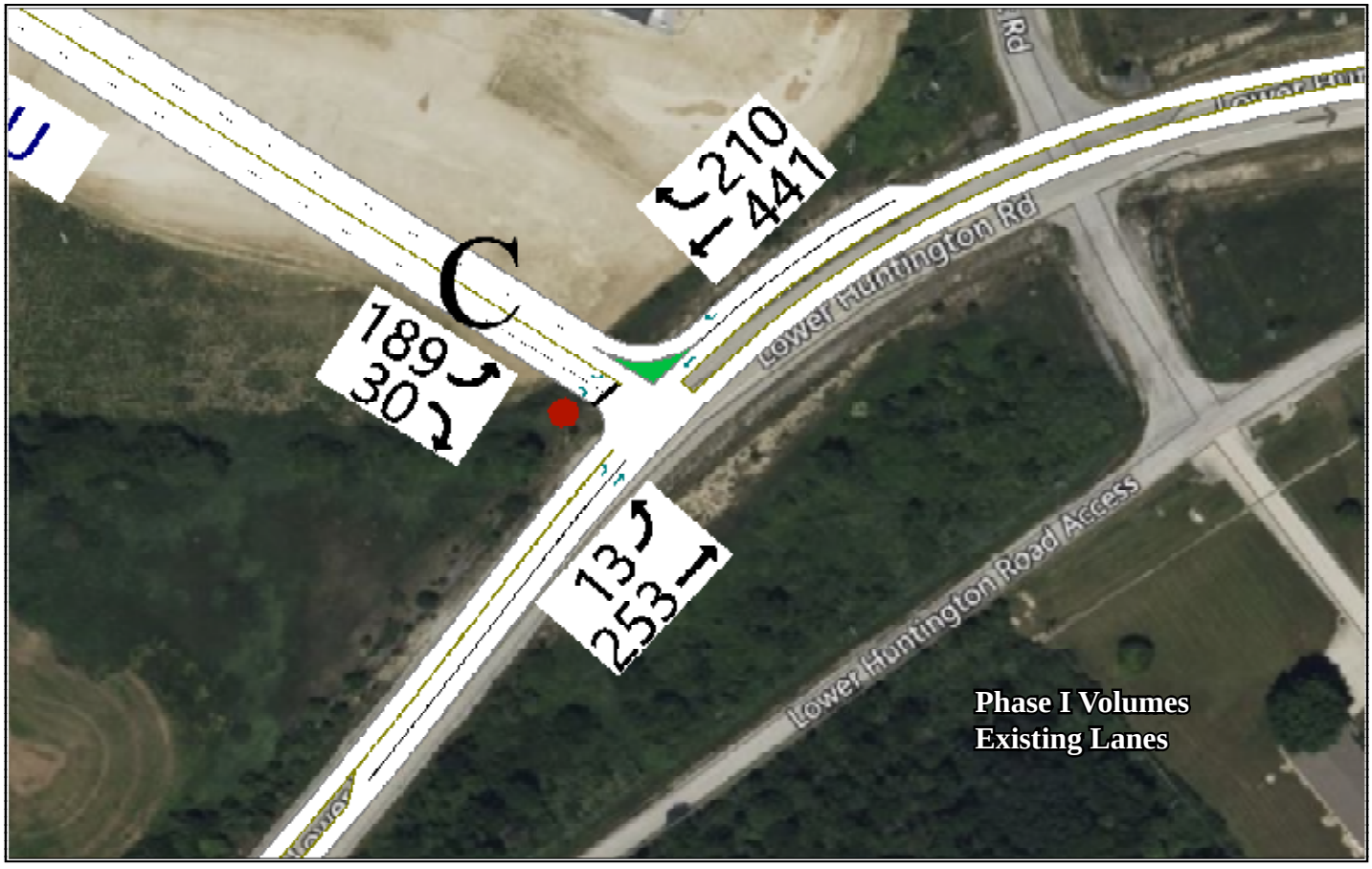
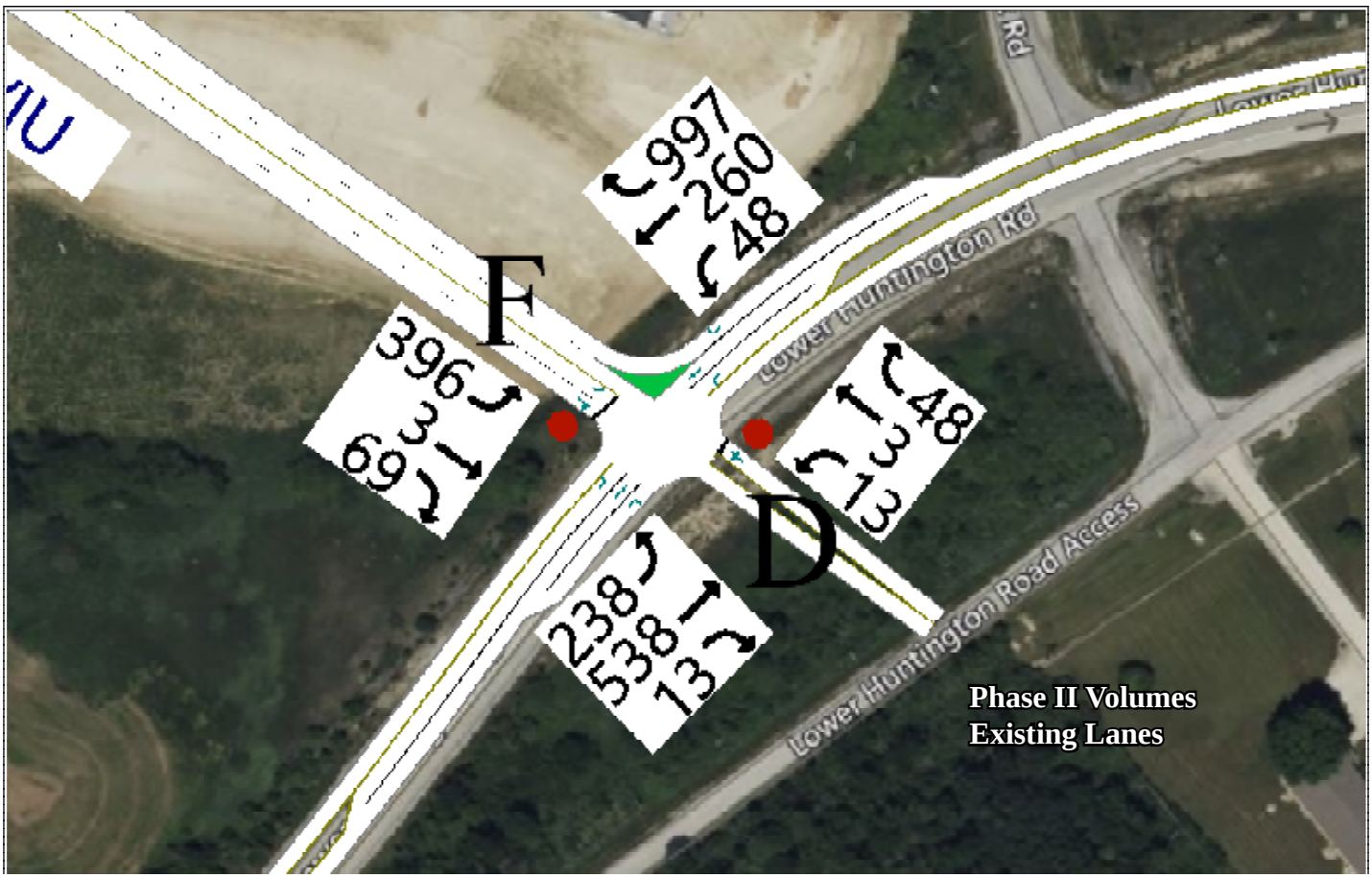


Figure 16

Lower Huntington Rd / IU Health access Phase II Volumes and Existing/Proposed Lanes #1 (AM Peak)



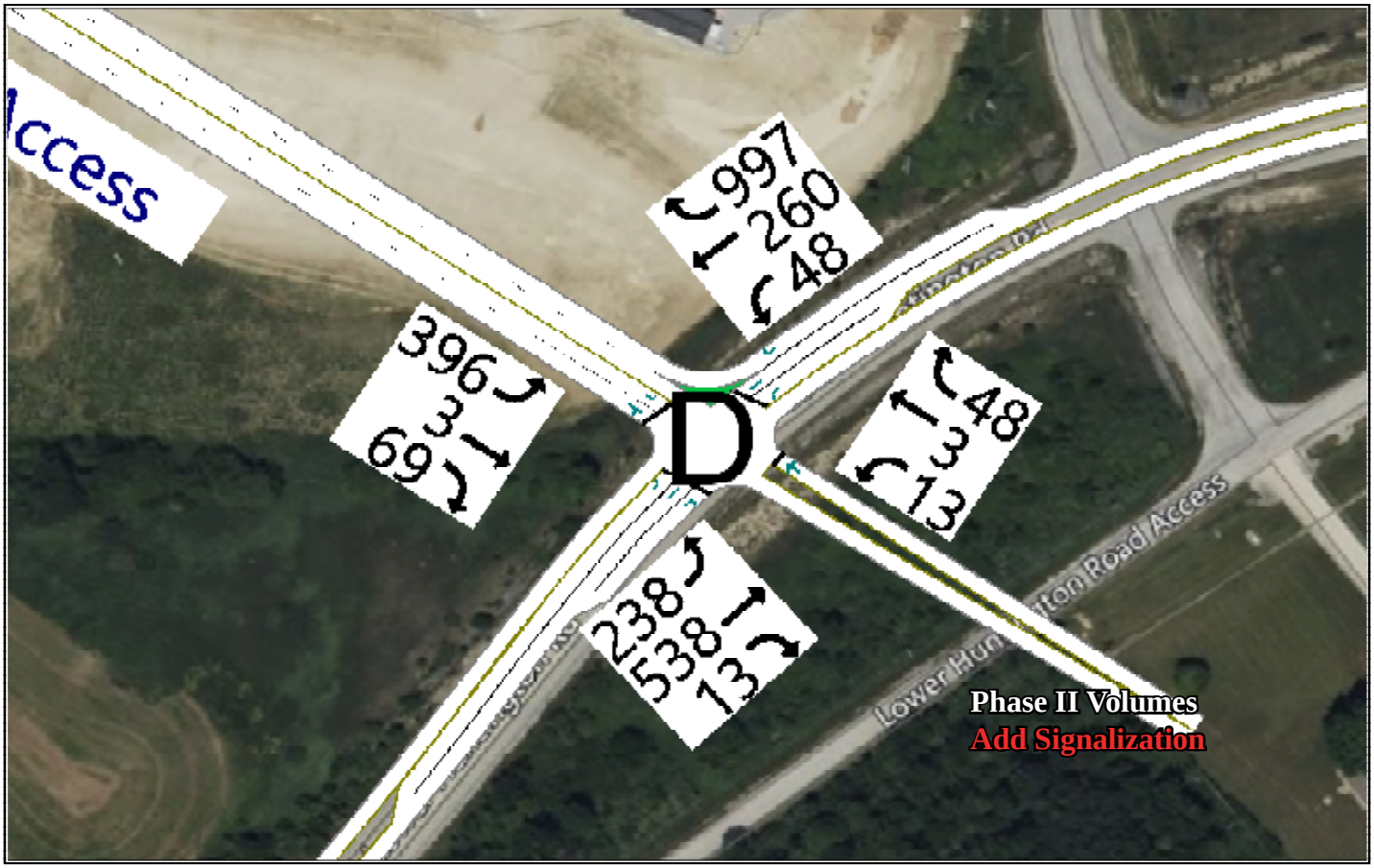
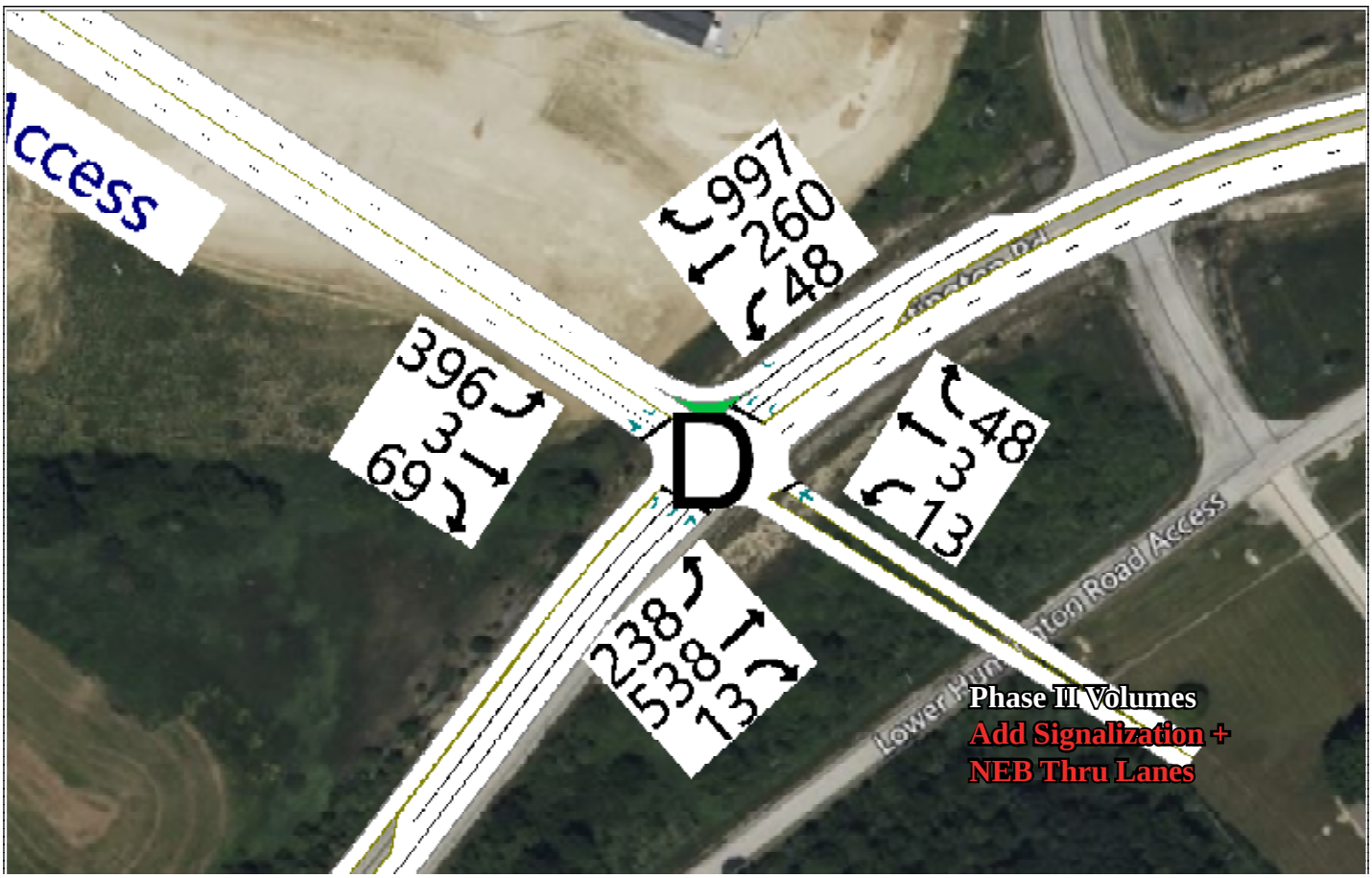


Figure 17

Lower Huntington Rd / IU Health access Phase II Volumes and Proposed Lanes #2/3 (AM Peak)



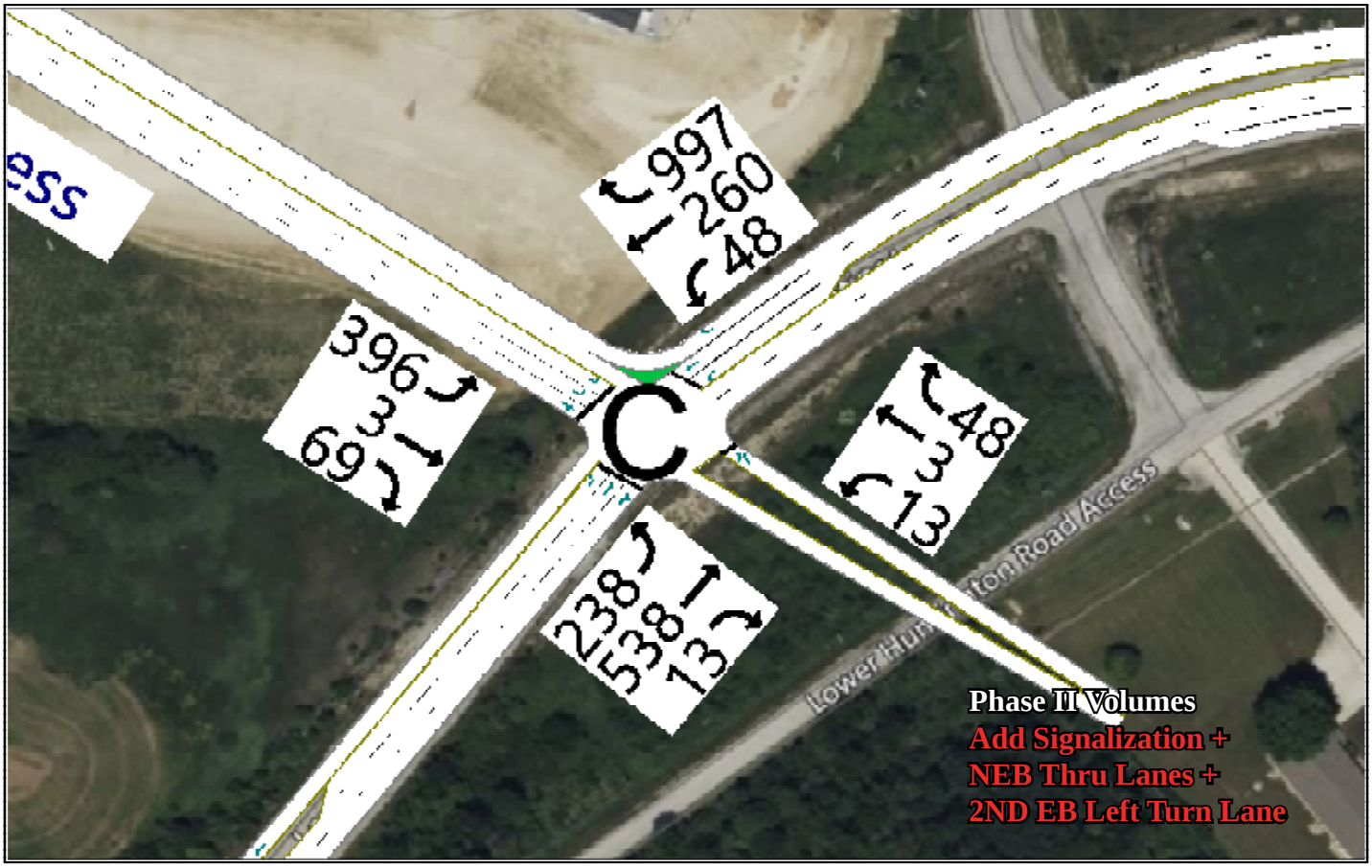
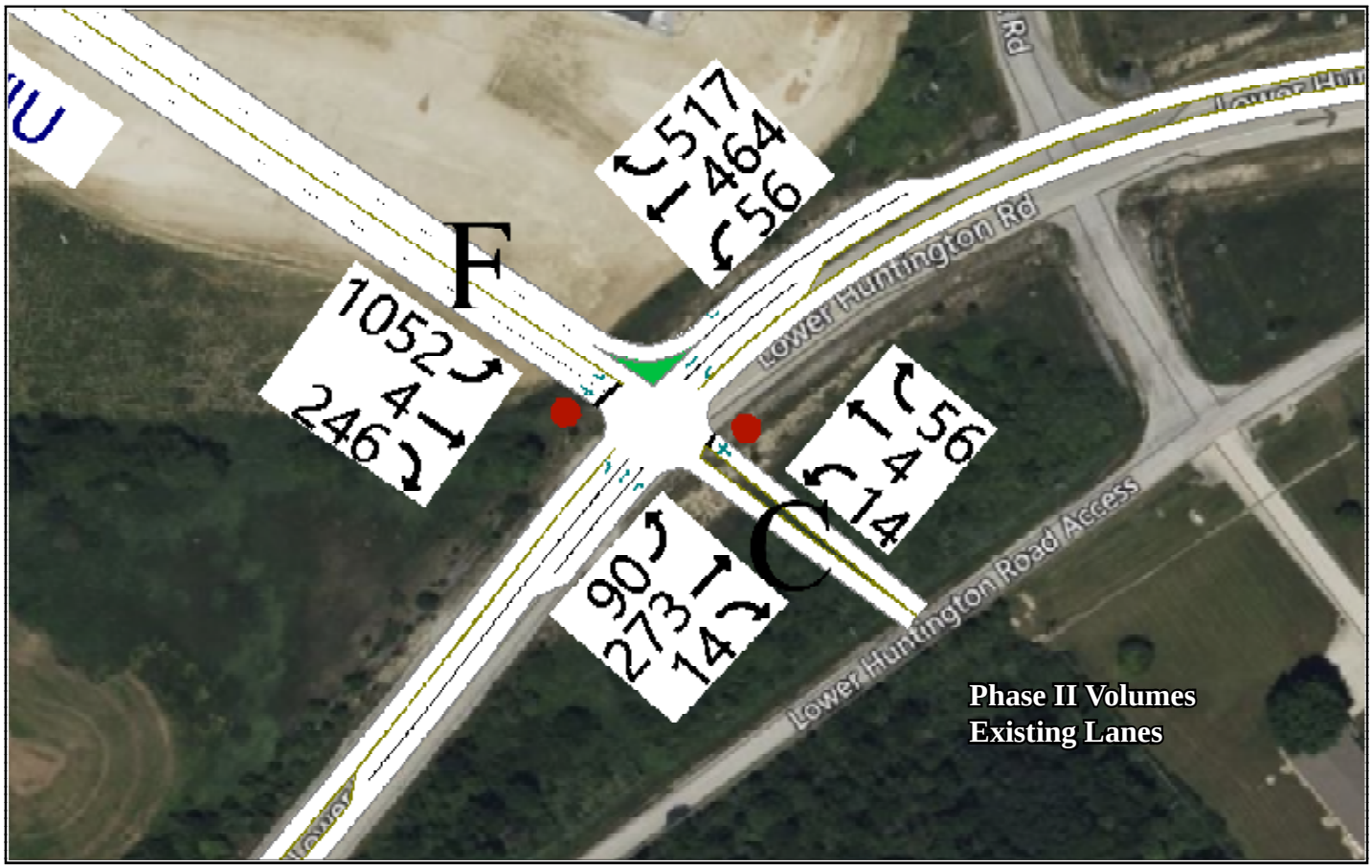


Figure 18

Lower Huntington Rd / IU Health access Phase II Volumes and Existing/Proposed Lanes #1 (PM Peak)



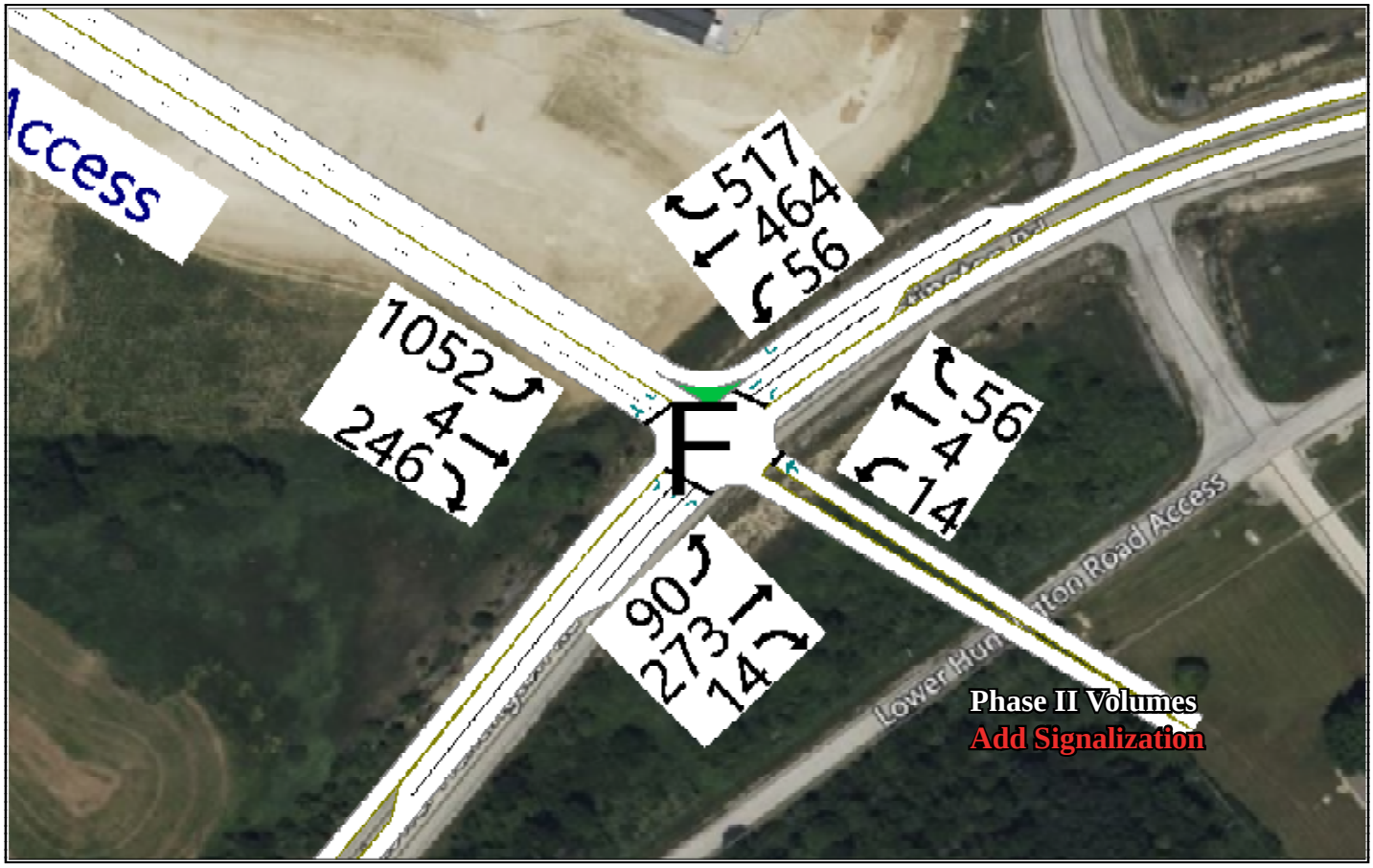
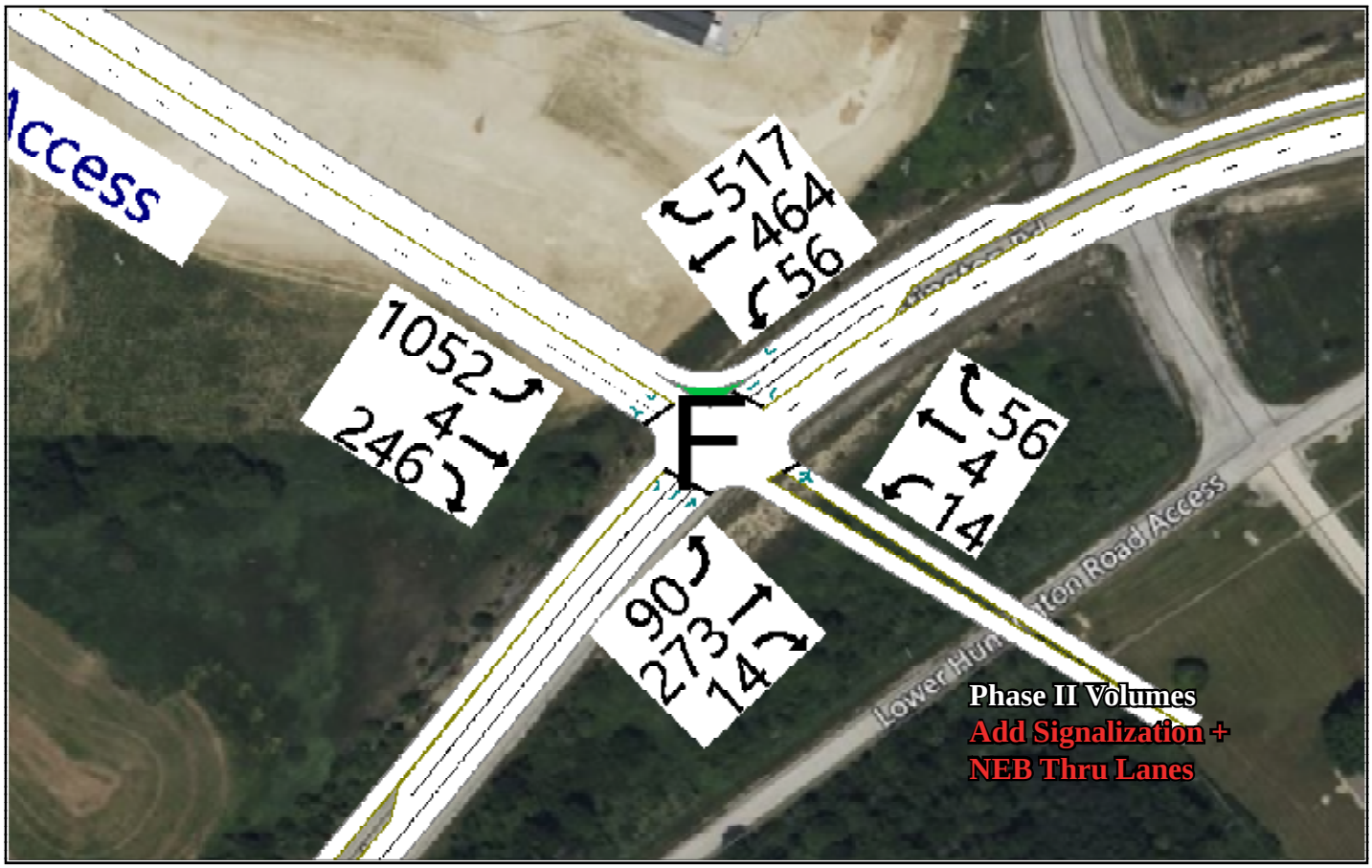
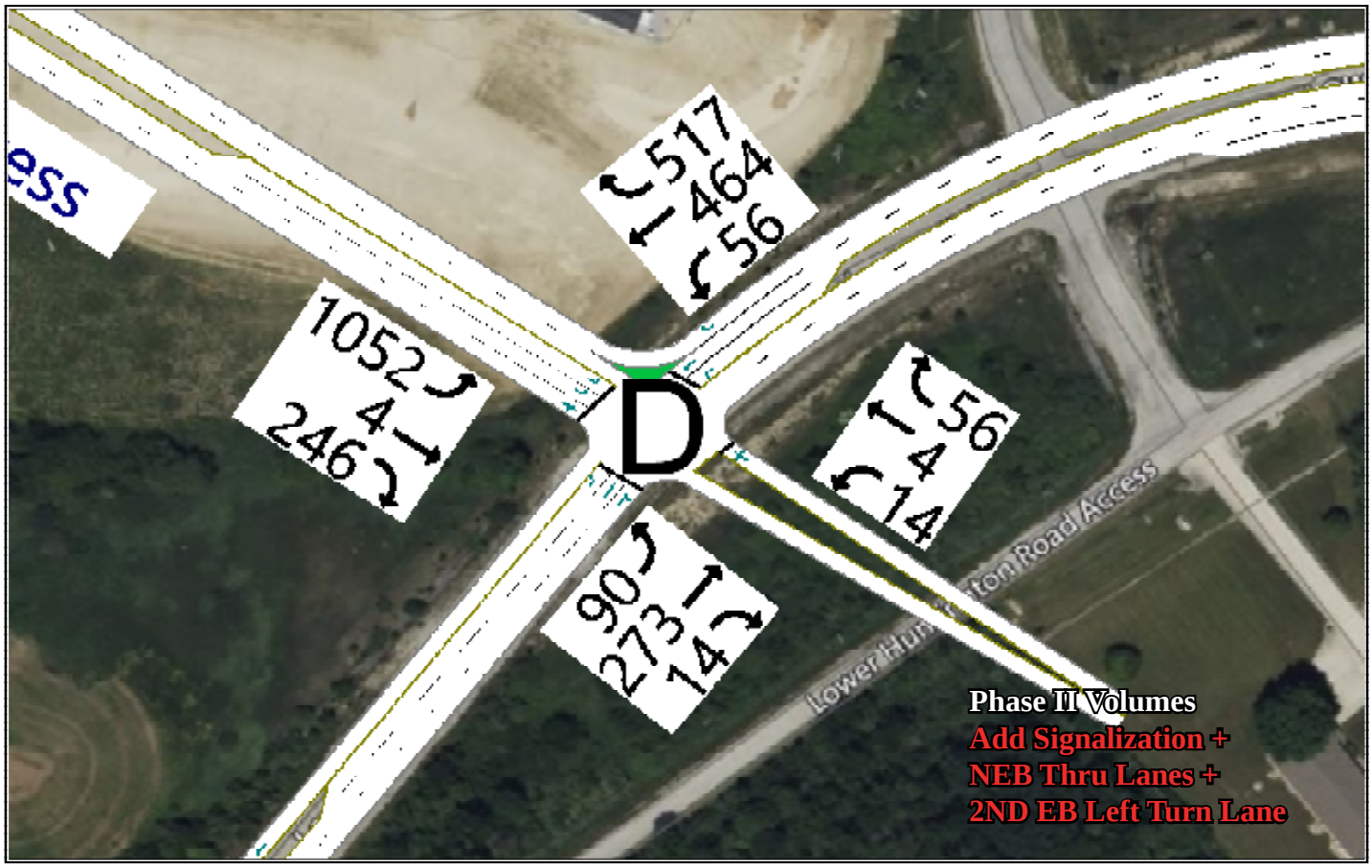


Figure 19

Lower Huntington Rd / IU Health access Phase II Volumes and Proposed Lanes #2/3 (PM Peak)





Lower Huntington Road at Interstate 69 Ramp C/D (SB)

Scenario 1: - Existing Conditions

Lower Huntington is a 4-lane facility and Interstate 69 Ramp C is a 2-lane facility. The intersection analysis indicates that it is currently operating at a Level of Service (LOS) “C” during the morning and "B" during the afternoon peak hours. See Figure 20 for the morning and afternoon peak volumes, and LOS.

Scenario 2: - Proposed Development Recommendations

The analysis indicates the intersection will operate with the added trips of phase I at a LOS “D” during the morning and "B" during the afternoon peak hours. See Figure 21 for the morning and afternoon peak volumes, and LOS.

Scenario 3: - Proposed Development Recommendations

The analysis indicates the intersection will operate with the added trips of phase II at a LOS “E” during the morning peak and "F" during the afternoon peak hours. The intersection can be improved to a LOS “B” for morning and afternoon peak hours with added southbound left turn lane and added lanes on the bridge over Interstate 69. As an alternative the intersection can be improved to a LOS “B” for morning and afternoon peak hours with converting the interchange into a Diverging Diamond interchange. See Figures 22, 23 and 24 for the morning and afternoon peak volumes, and LOS.

Table 11: Shows the LOS & Delay, Table 12 shows Volume, delay, and queue for the critical movements for the existing, proposed phase I & II, and phase II modified.

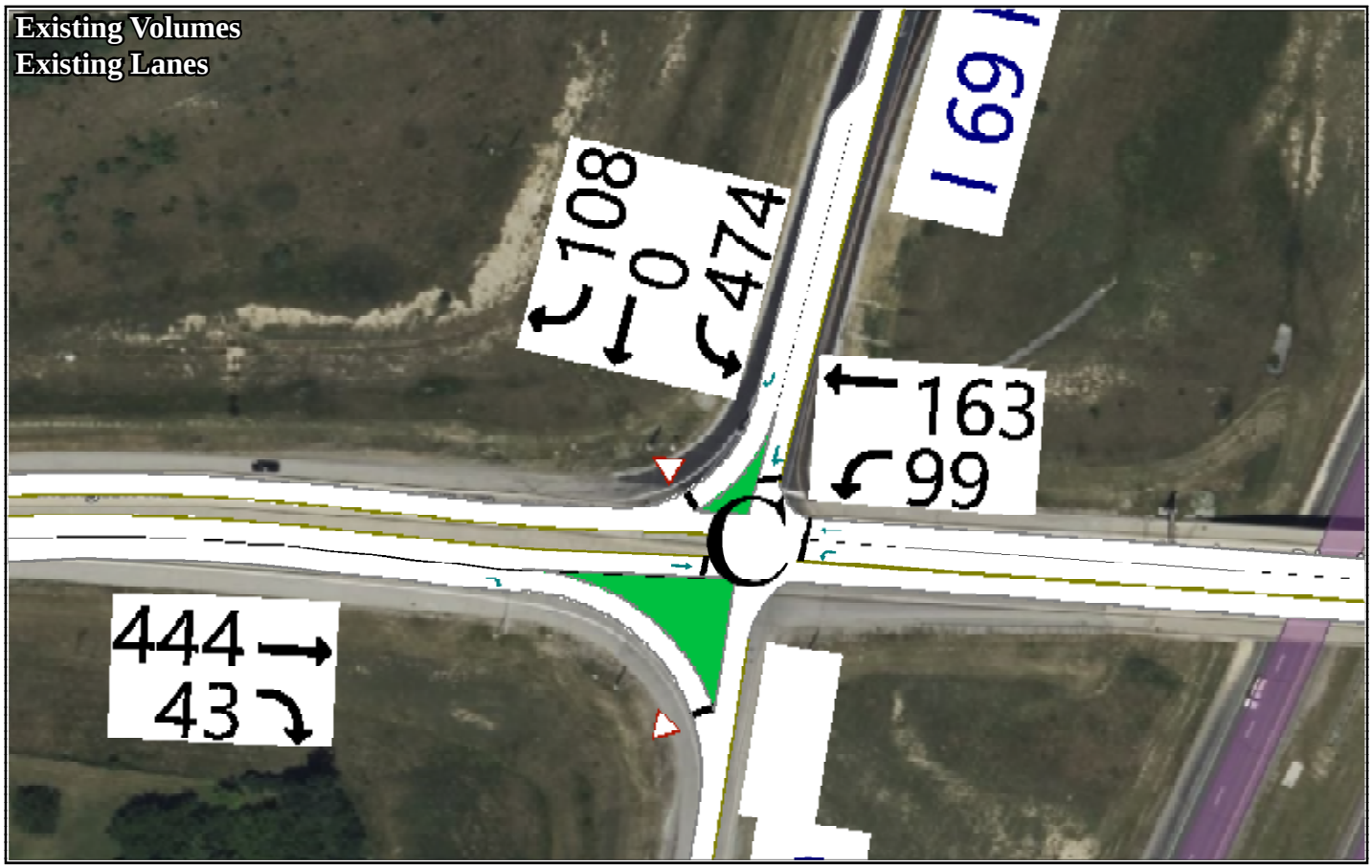
Table 11: Lower Huntington Rd @ I 69 Ramp C/D

AM Peak	SB	EB	WB	Total
	LOS	LOS	LOS	LOS
Existing	C	C	B	C
Phase I - Existing Lanes	D	D	B	D
Phase II - Existing Lanes	E	F	C	E
Phase II - Modified 1: 5 - Lane Bridge + SB LT	D	B	A	B
Phase II - Modified 2: Diverging Diamond Int		B	A	B
PM Peak	**SB**	**EB**	**WB**	**Total**
	LOS	**LOS**	**LOS**	**LOS**
Existing	C	B	A	B
Phase I - Existing Lanes	C	B	A	B
Phase II - Existing Lanes	D	F	B	F
Phase II - Modified 1: 5 - Lane Bridge + SB LT	D	A	A	B
Phase II - Modified 2: Diverging Diamond Int		B	B	B

Table 12: Lower Huntington Rd @ I 69 Ramp C/D					
Morning Peak	**Existing**	**Phase I**	**Phase II**	**Phase II Mod 1**	**Phase II Mod 2**
Critical Movement	SB Left	SB Left	SB Left	SB Left	SB Left
Volume	474	550	550	550	550
Delay sec/vehicle	23.5	47.4	62.9	50.8	24.1
Queue	191	272	324	158 / 249	141
Critical Movement	EB Thru	EB Thru	EB Thru	EB Thru	EB Thru
Volume	444	590	873	873	873
Delay sec/vehicle	23.0	36.3	108.3	12.9	19.0
Queue	130	278	228	86 / 80	238 / 239
Afternoon Peak	**Existing**	**Phase I**	**Phase II**	**Phase II Mod 1**	**Phase II Mod 2**
Critical Movement	SB Left	SB Left	SB Left	SB Left	SB Left
Volume	222	257	257	257	257
Delay	30.8	30.6	52.7	52.4	24.2
Queue	102	127	100	80 / 116	105
Critical Movement	EB Thru	EB Thru	EB Thru	EB Thru	EB Thru
Volume	273	424	1,246	1,246	1,246
Delay	10.8	14.0	148.9	9.4	16.8
Queue	45	90	125	137 / 99	245 / 244

Figure 20

Lower Huntington Rd / I 69 Ramp C/D Existing Volumes and Lanes (AM/PM Peak)



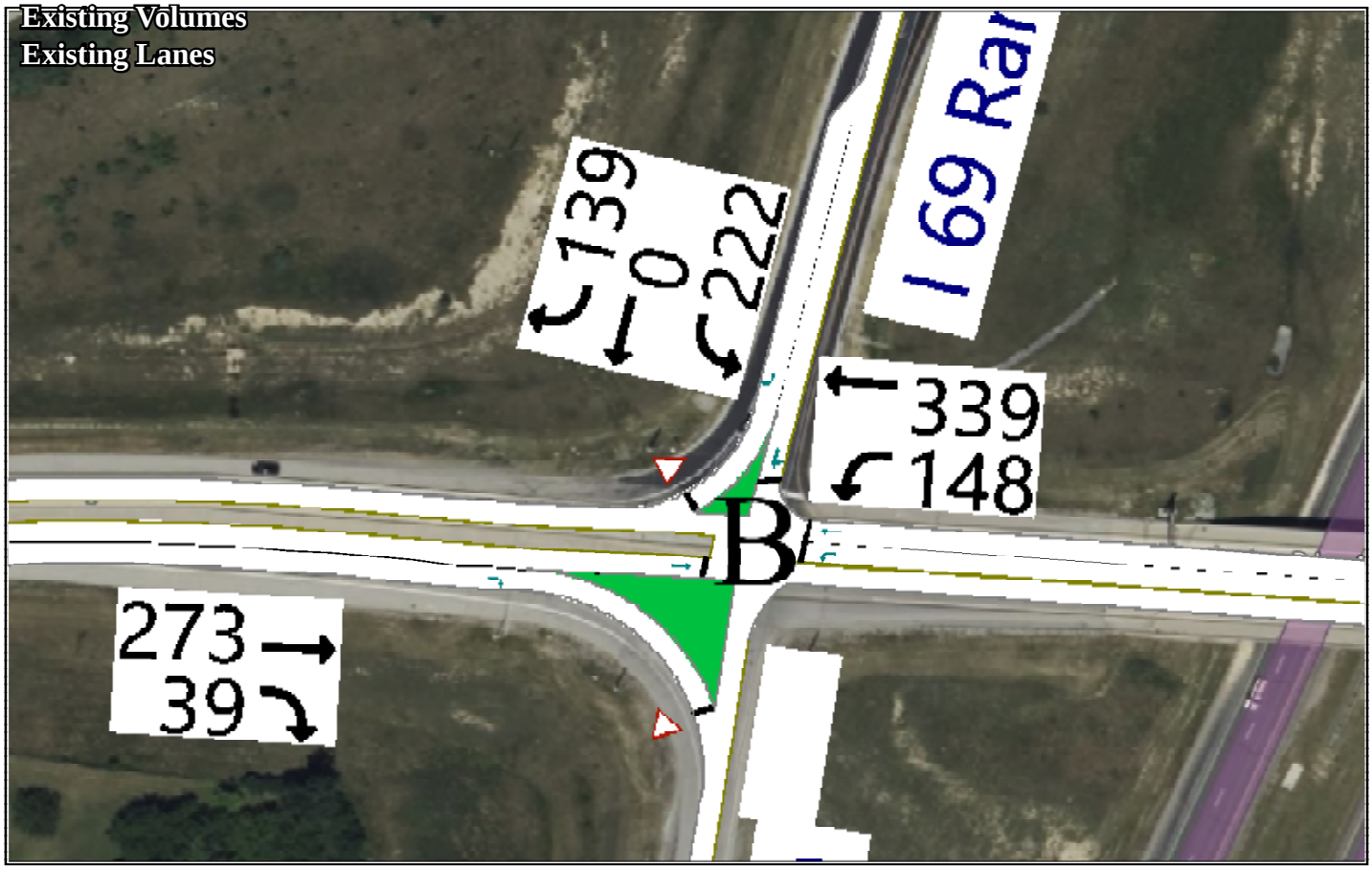
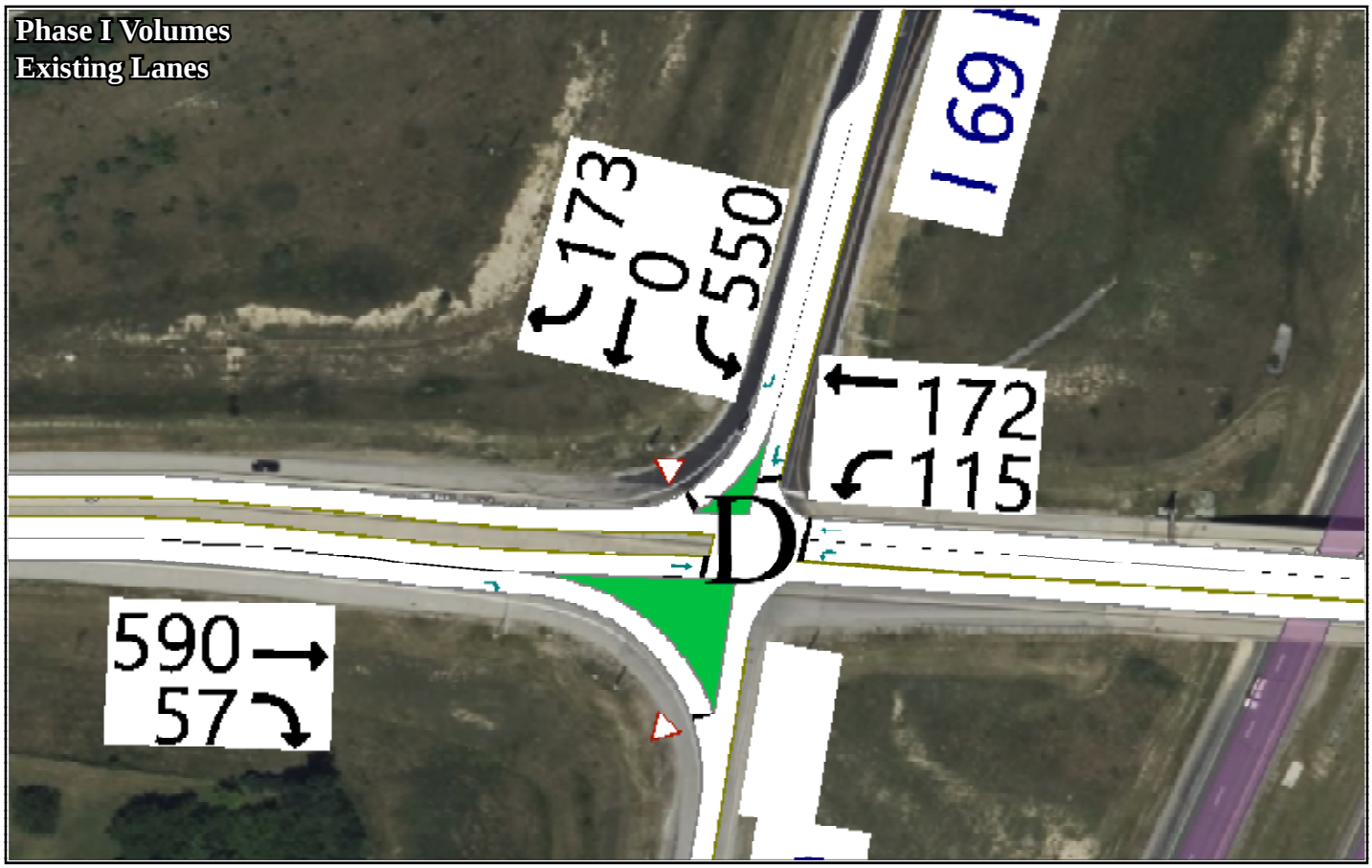


Figure 21

Lower Huntington Rd / I 69 Ramp C/D Phase I Volumes and Existing Lanes (AM/PM Peak)



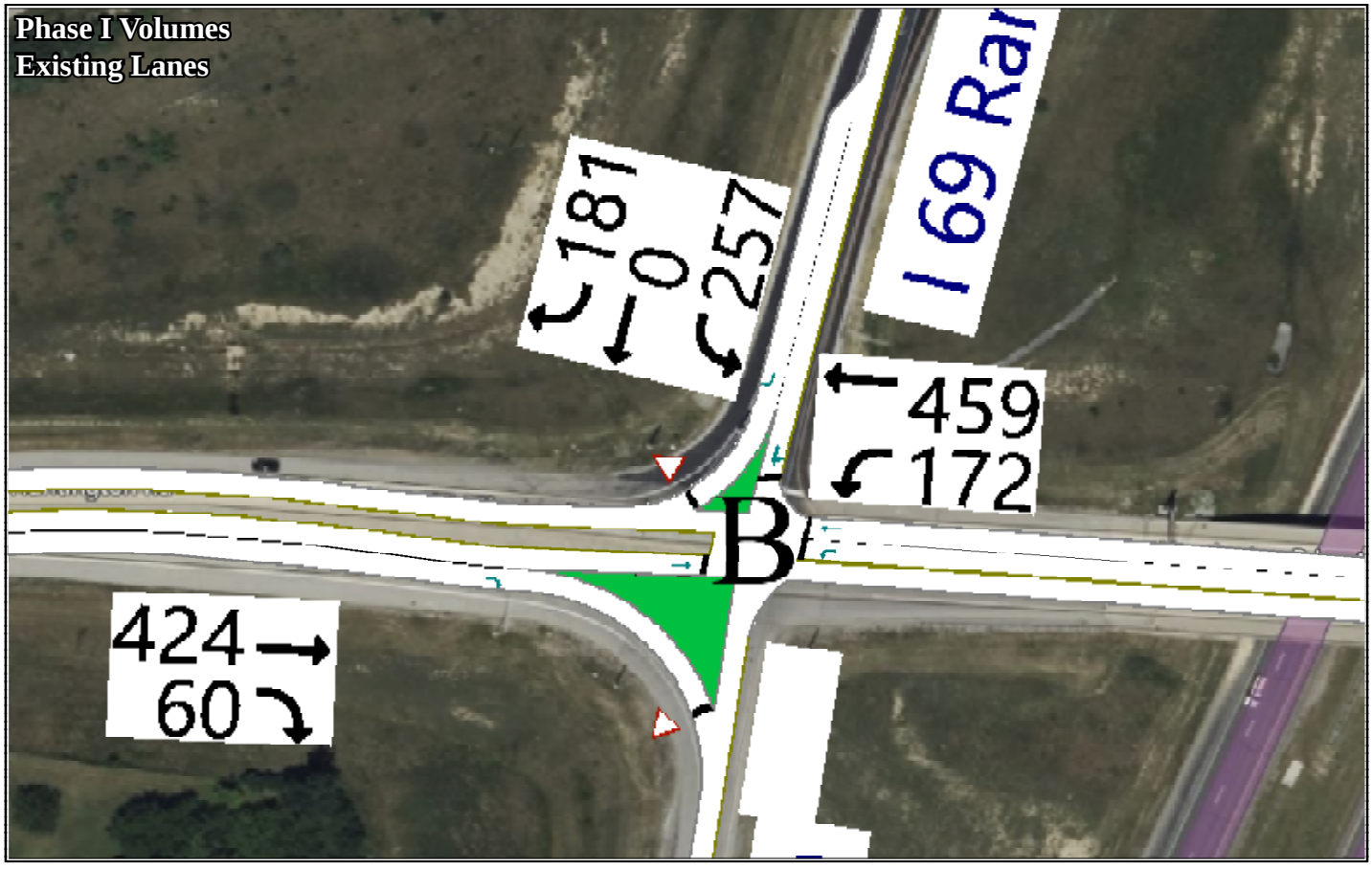
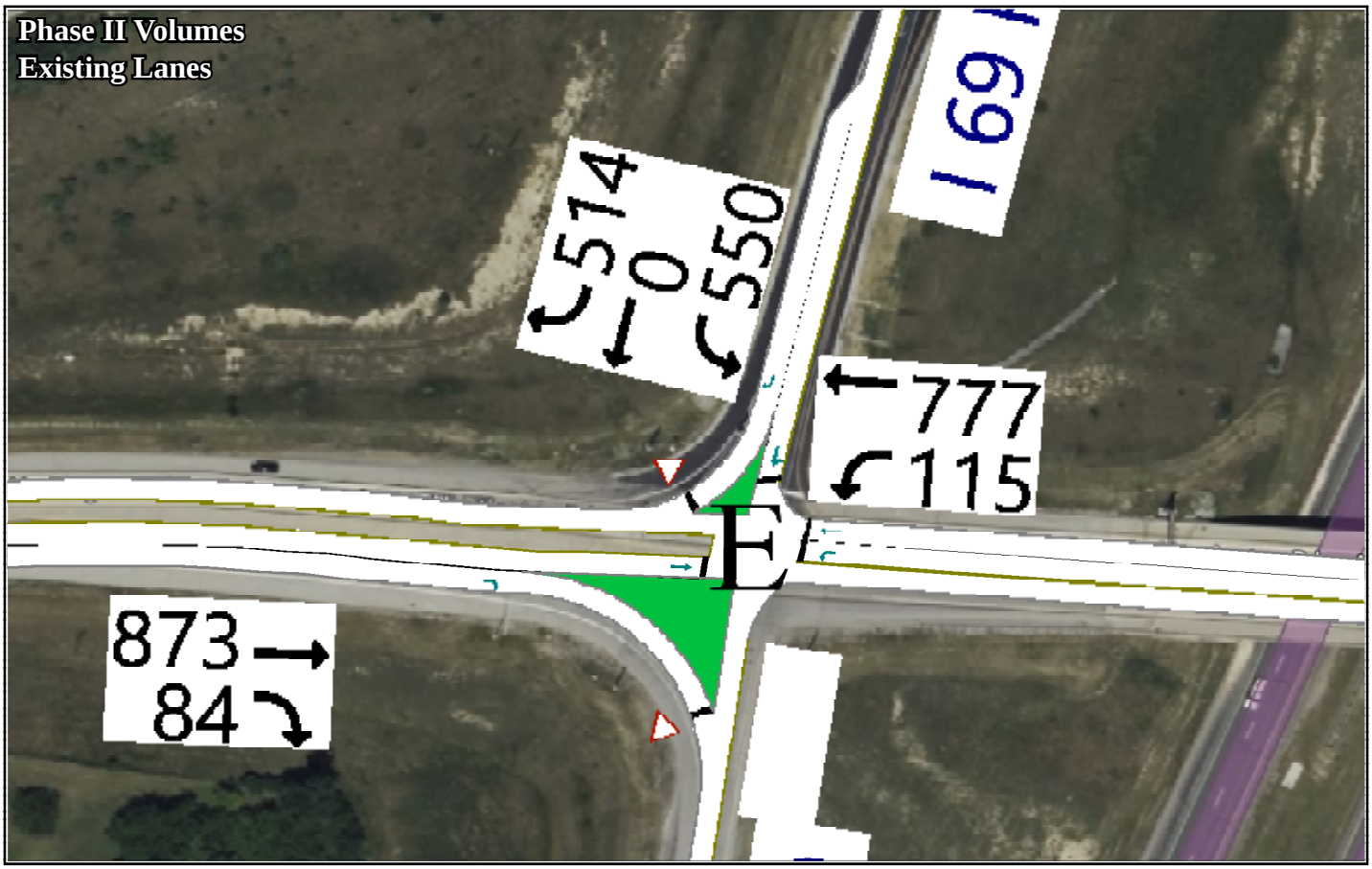


Figure 22

Lower Huntington Rd / I 69 Ramp C/D Phase II Volumes and Existing/Proposed Lanes (AM Peak)



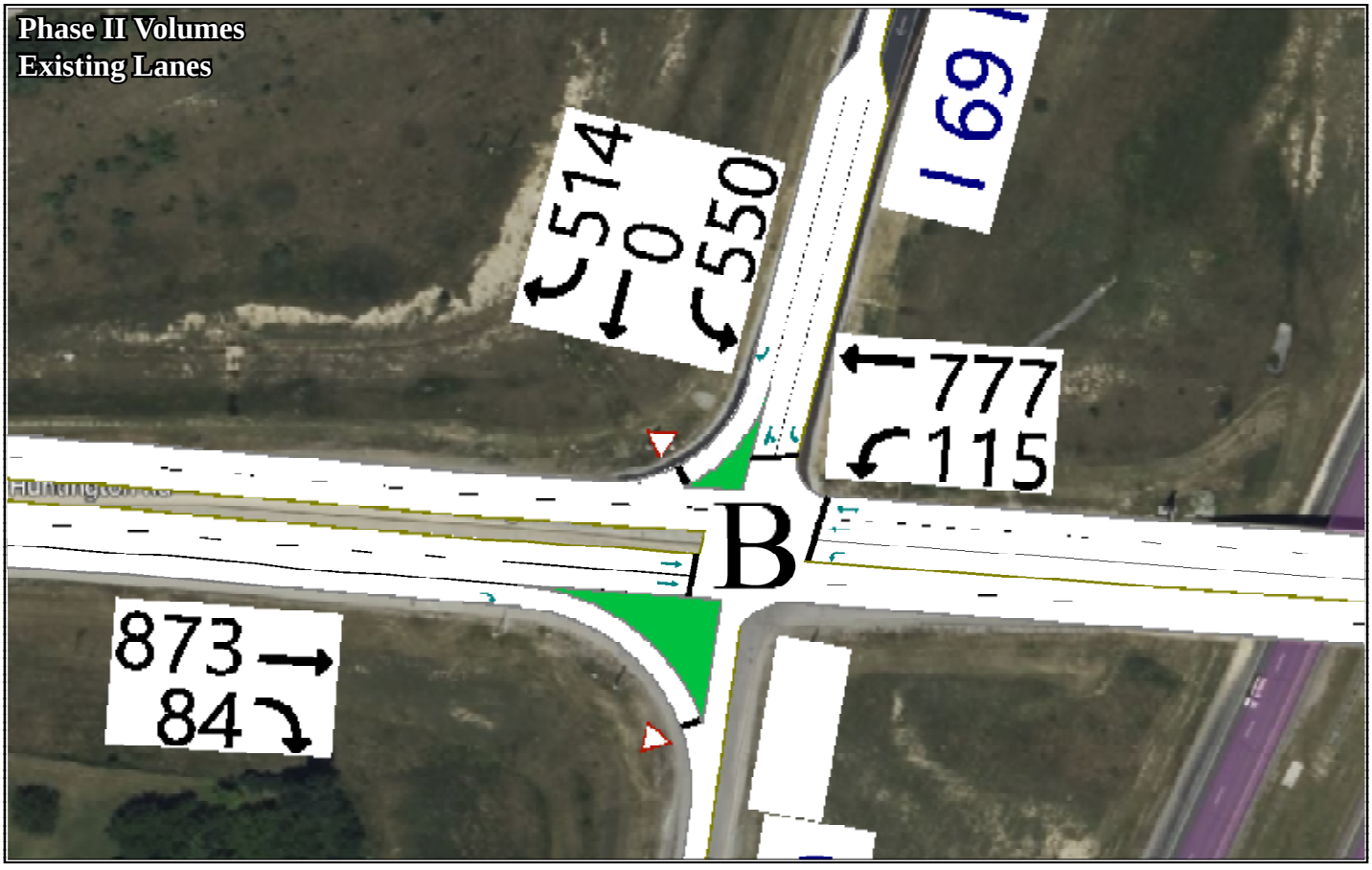
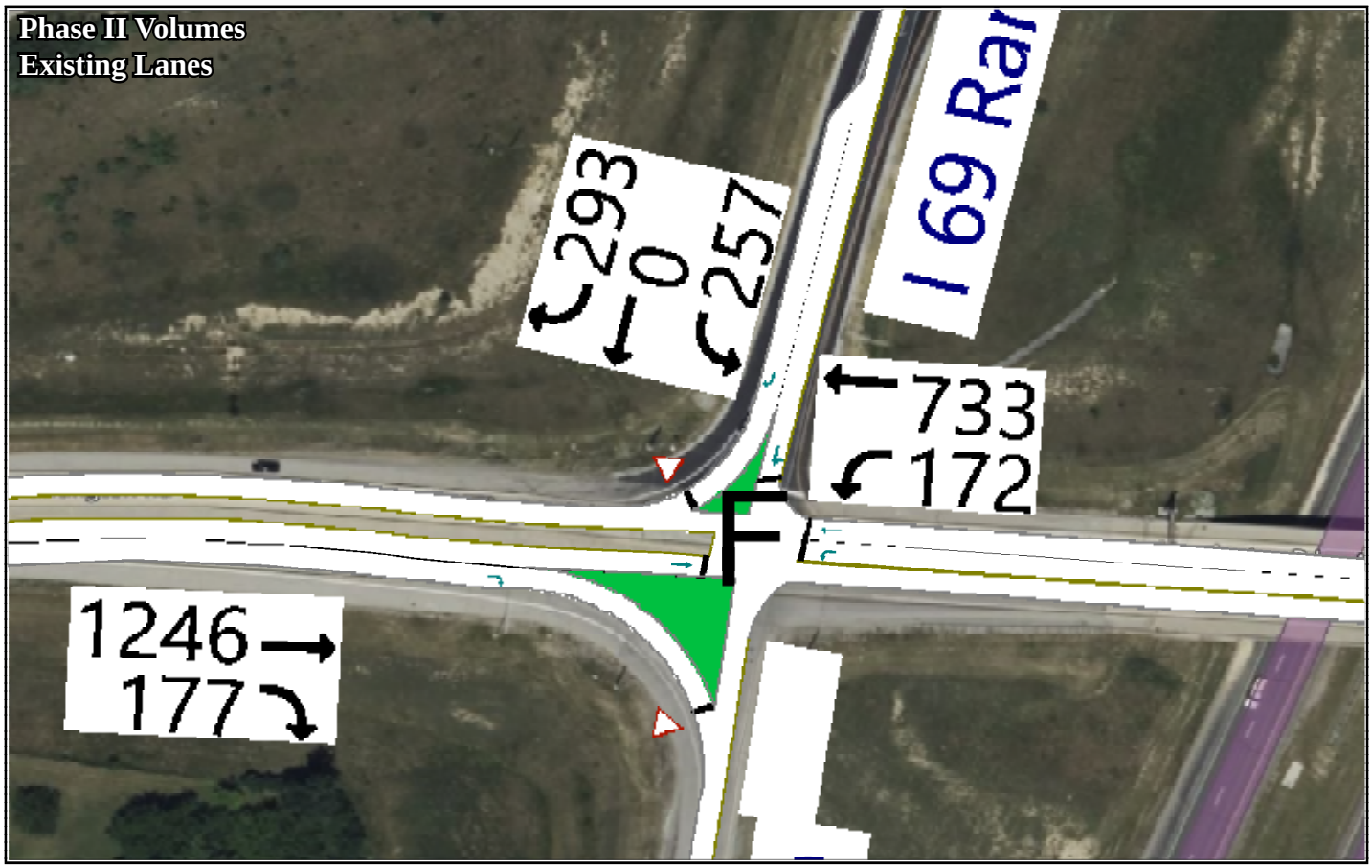


Figure 23

Lower Huntington Rd / I 69 Ramp C/D Phase II Volumes and Existing/Proposed Lanes (PM Peak)



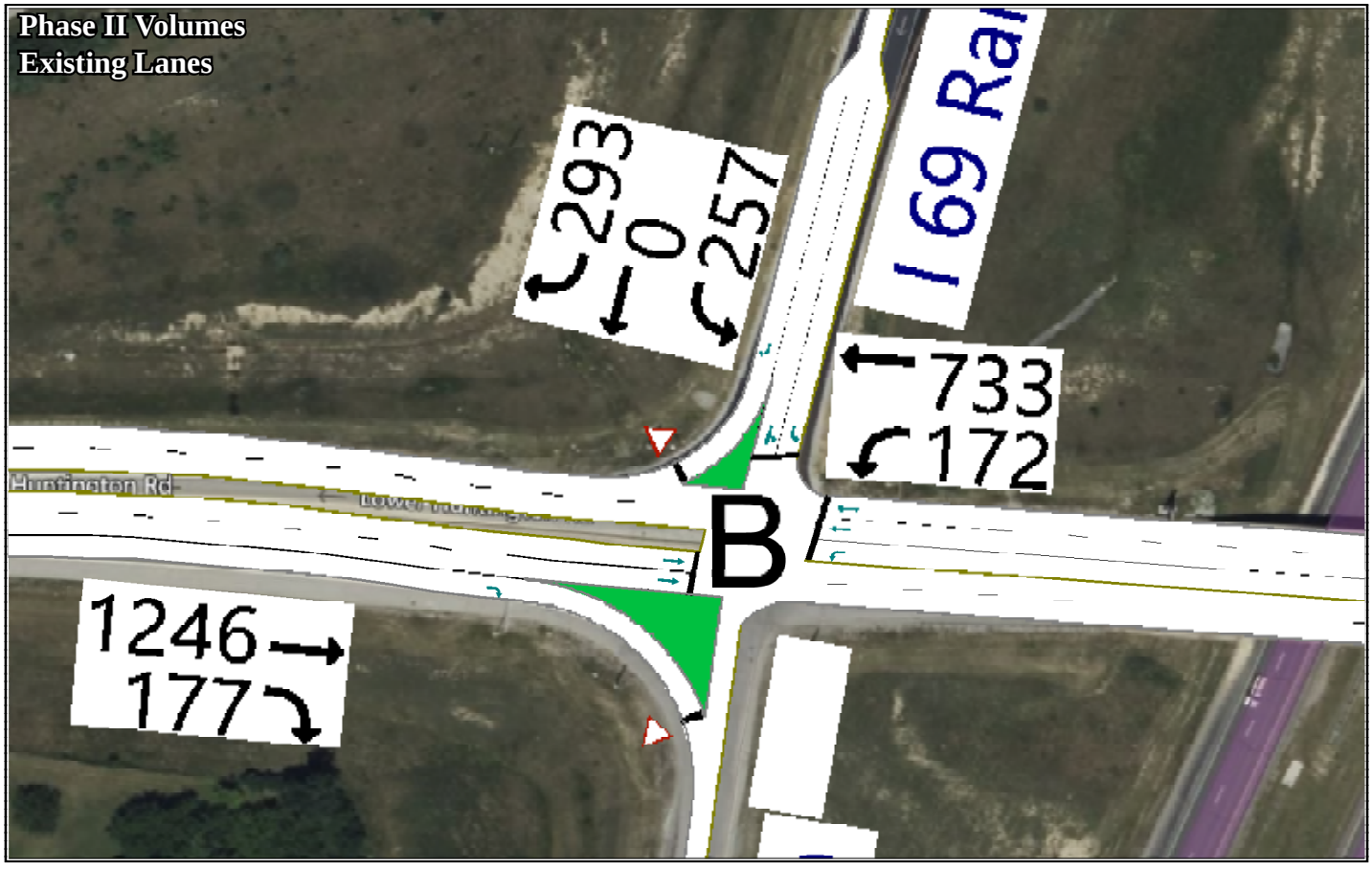
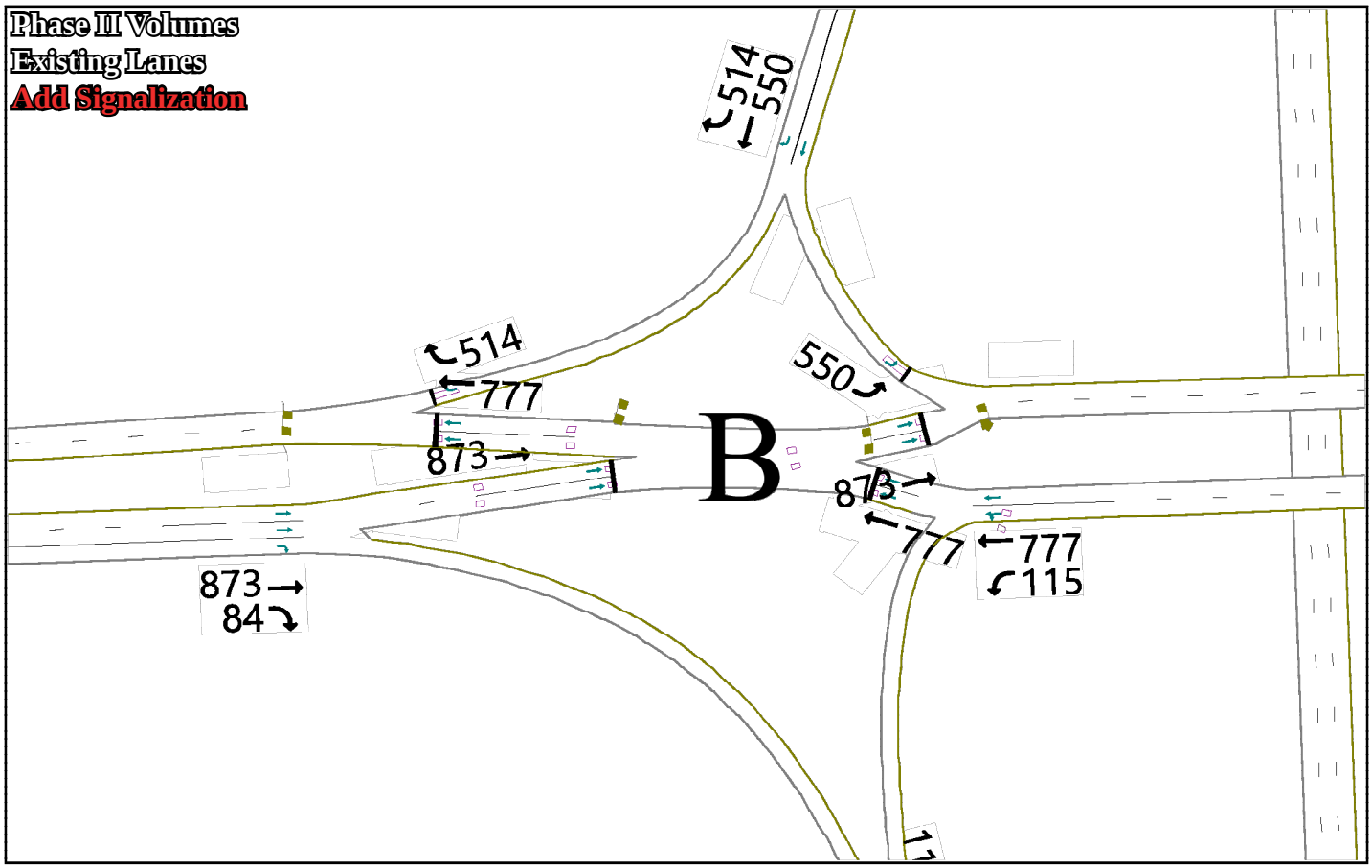
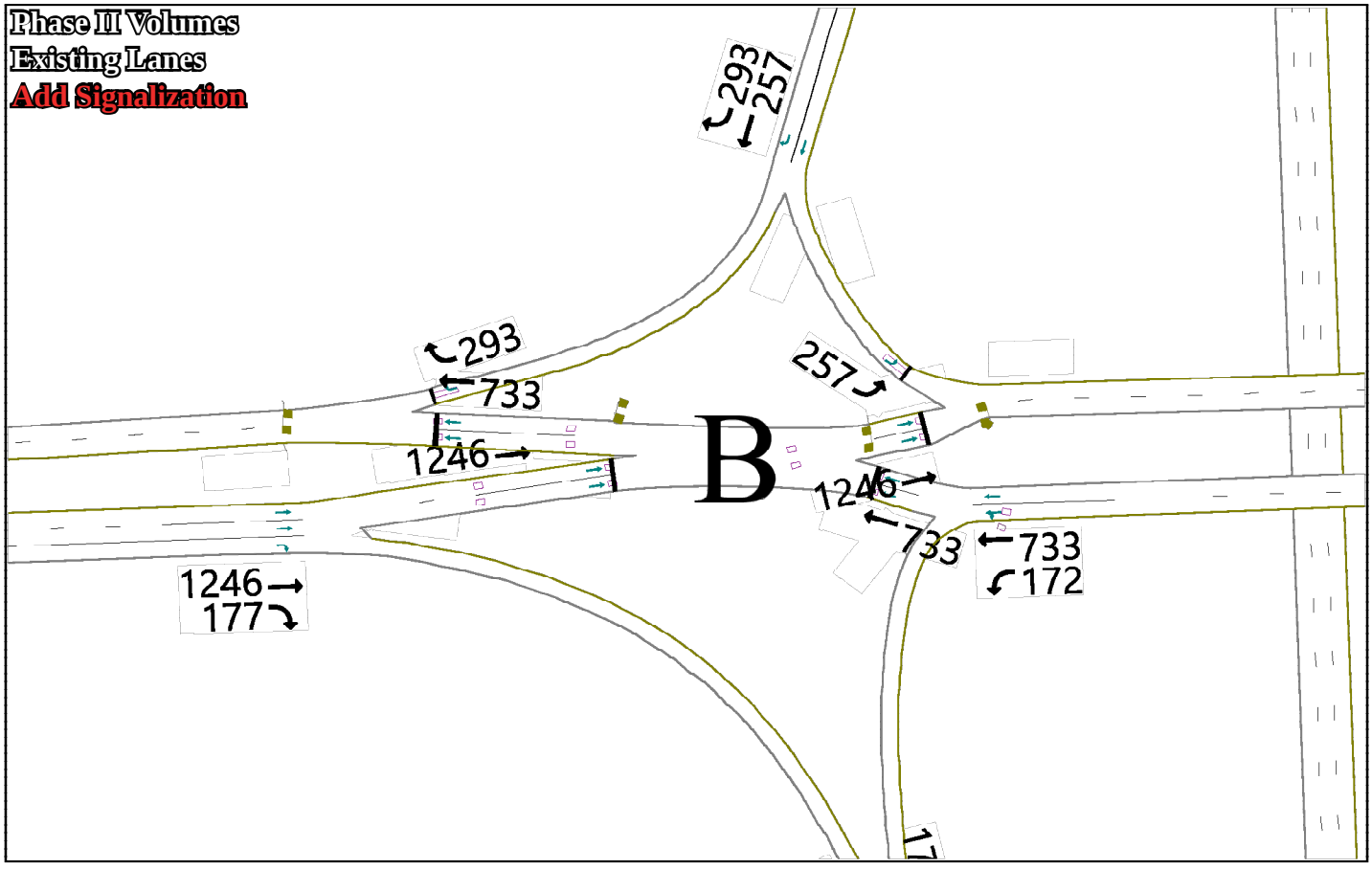


Figure 24

Lwr Huntington Rd/I 69 Ramp C/D Phase II Volumes and Diverging Diamond Interchange (AM/PM Peak)





Lower Huntington Road at Interstate 69 Ramp A/B (NB)

Scenario 1: - Existing Conditions

Lower Huntington is a 4-lane facility and Interstate 69 Ramp A is a 2-lane facility. The intersection analysis indicates that it is currently operating at a Level of Service (LOS) “E” during the morning and "D" during the afternoon peak hours for the northbound movement. See Figure 25 for the morning and afternoon peak volumes, and LOS.

Scenario 2: - Proposed Development Recommendations

The analysis indicates the intersection will operate with the added trips of phase I at a LOS “F” during the morning and afternoon peak hours for the northbound movement. See Figure 26 for the morning and afternoon peak volumes, and LOS.

Scenario 3: - Proposed Development Recommendations

The analysis indicates the intersection will operate with the added trips of phase II at a LOS “F” during the morning peak and afternoon peak hours for the northbound movement. The intersection can be improved to a LOS “B” for morning and "C" during the afternoon peak hours with signalization and added lanes on the bridge over Interstate 69. As an alternative the intersection can be improved to a LOS “B” for morning and afternoon peak hours with converting the interchange into a Diverging Diamond interchange. See Figures 27, 28 and 29 for the morning and afternoon peak volumes, and LOS.

Table 13: Shows the LOS & Delay, Table 14 shows Volume, delay, and queue for the critical movements for the existing, proposed phase I & II, and phase II modified.

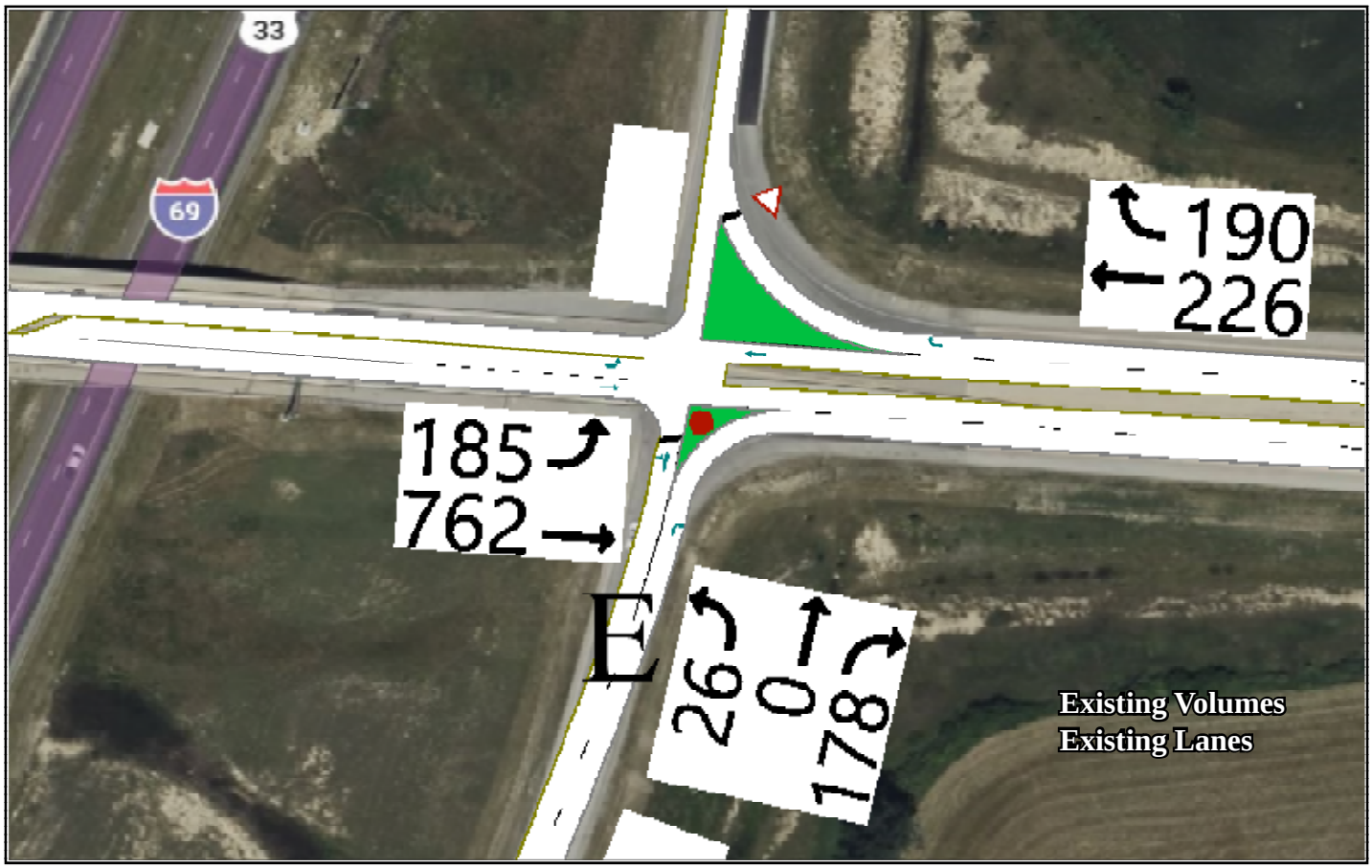
Table 13: Lower Huntington Rd @ I 69 Ramp A/B

AM Peak	NB	EB	WB	Total
	LOS	LOS	LOS	LOS
Existing	E	A	A	NA
Phase I - Existing Lanes	F	A	A	NA
Phase II - Existing Lanes	F	A	A	NA
Phase II - Modified 1: 5 - Lane Bridge + Signal	C	B	A	B
Phase II - Modified 2: Diverging Diamond Int		C	B	B
PM Peak	**NB**	**EB**	**WB**	**Total**
	LOS	**LOS**	**LOS**	**LOS**
Existing	D	A	A	NA
Phase I - Existing Lanes	F	A	A	NA
Phase II - Existing Lanes	F	A	A	NA
Phase II - Modified 1: 5 - Lane Bridge + Signal	C	C	D	C
Phase II - Modified 2: Diverging Diamond Int		C	B	B

Table 14: Lower Huntington Rd @ I 69 Ramp A/B					
Morning Peak	**Existing**	**Phase I**	**Phase II**	**Phase II Mod 1**	**Phase II Mod 2**
Critical Movement	NB Left	NB Left	NB Left	NB Left	NB Left
Volume	26	38	91	91	91
Delay sec/vehicle	44.5	137.4	3431.1	30.4	10.6
Queue	19	21	204	64	26
Afternoon Peak	**Existing**	**Phase I**	**Phase II**	**Phase II Mod 1**	**Phase II Mod 2**
Critical Movement	NB Left	NB Left	NB Left	NB Left	NB Left
Volume	49	58	88	88	88
Delay	30.3	82.3	5998.2	20.9	11.5
Queue	32	27	34	40	43

Figure 25

Lower Huntington Rd / I 69 Ramp A/B Existing Volumes and Lanes (AM/PM Peak)



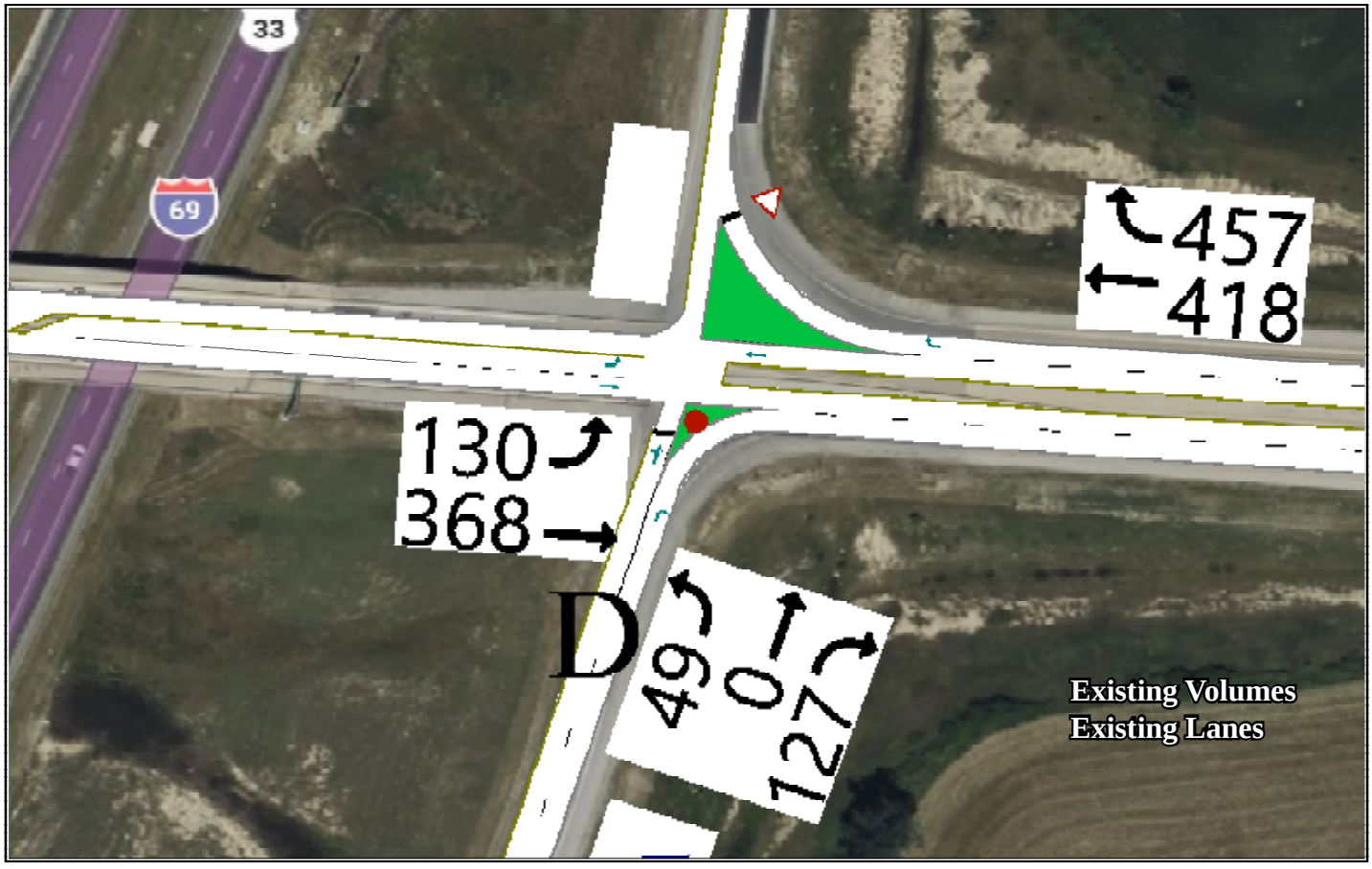
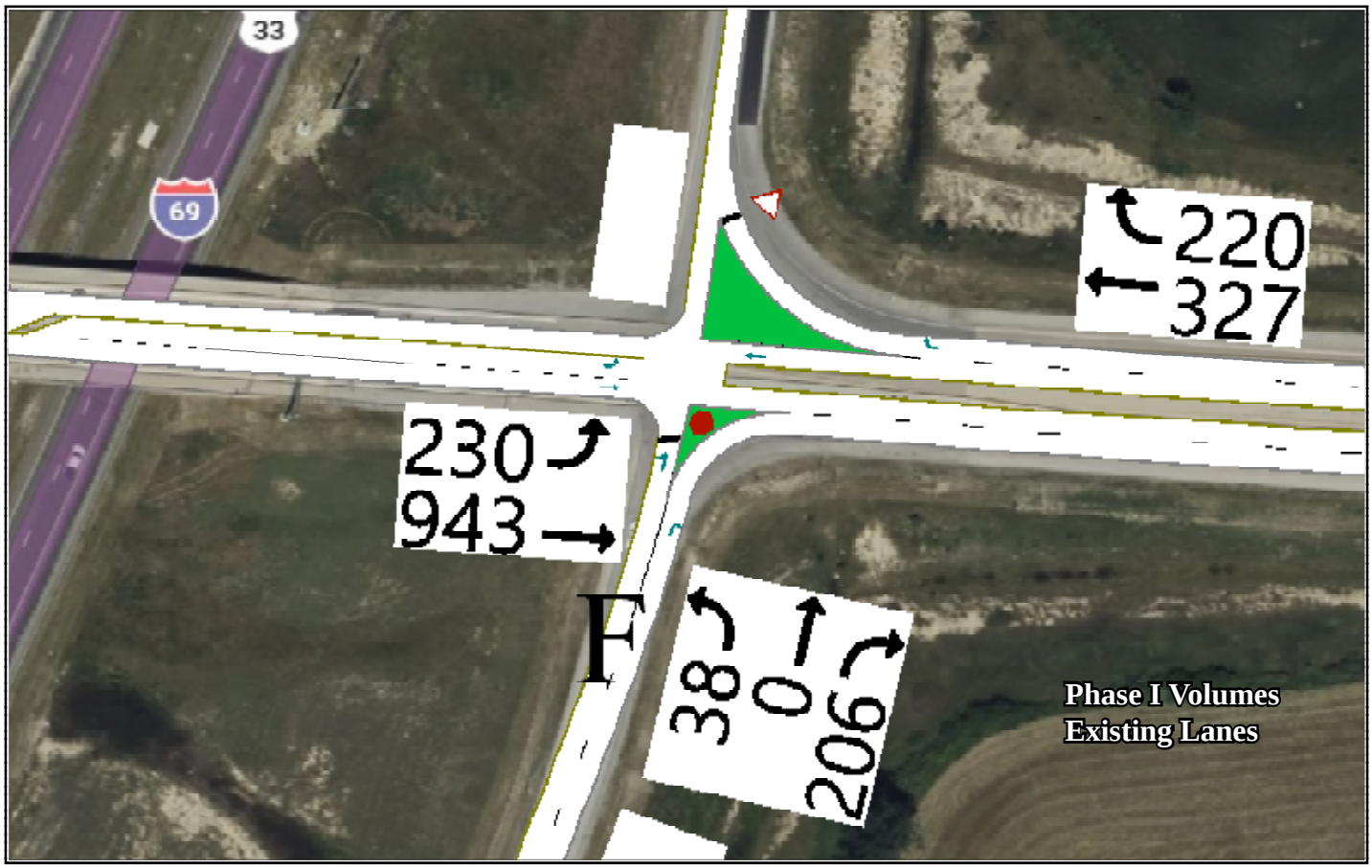


Figure 26

Lower Huntington Rd / I 69 Ramp A/B Phase I Volumes and Existing Lanes (AM/PM Peak)



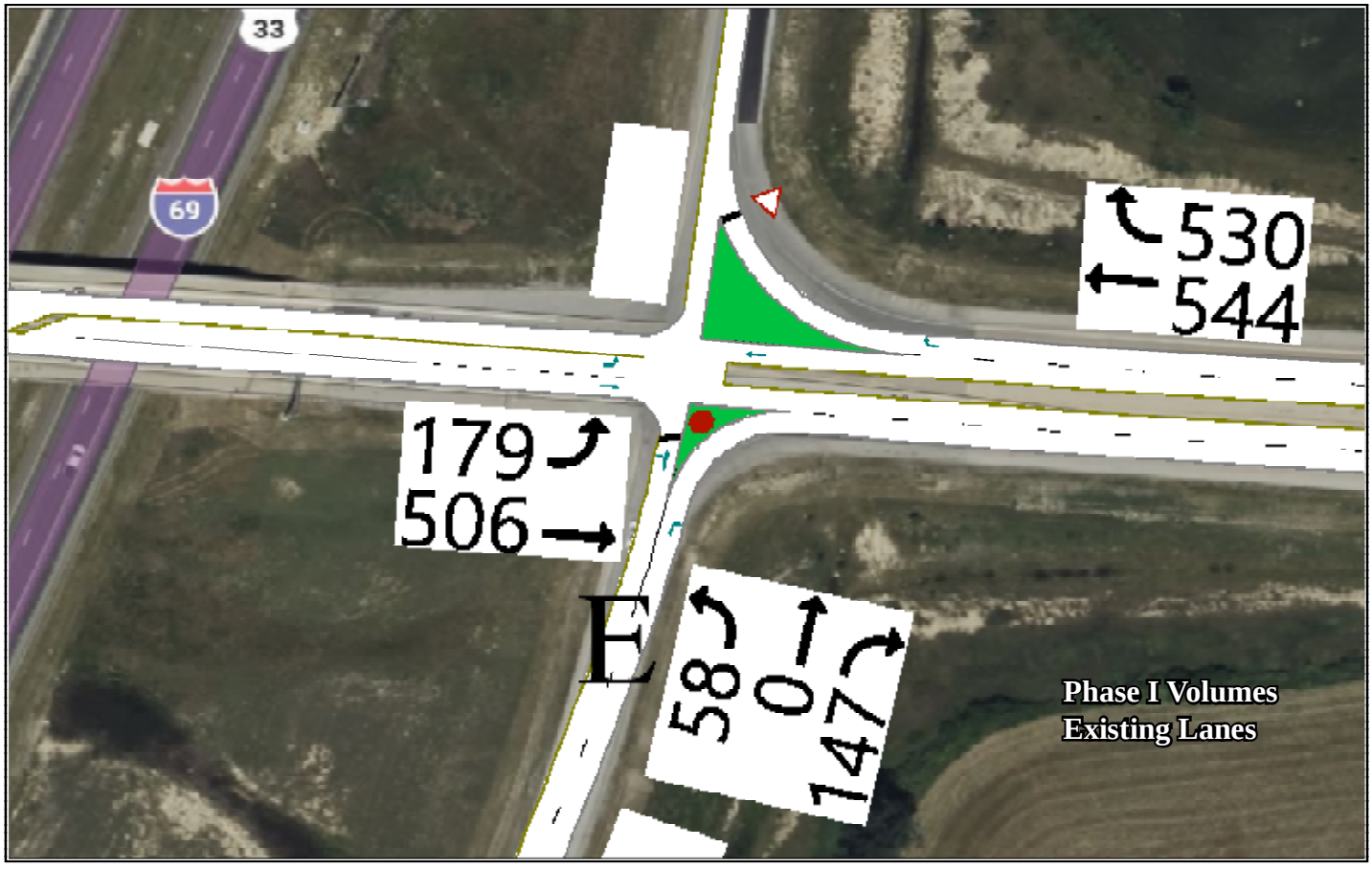
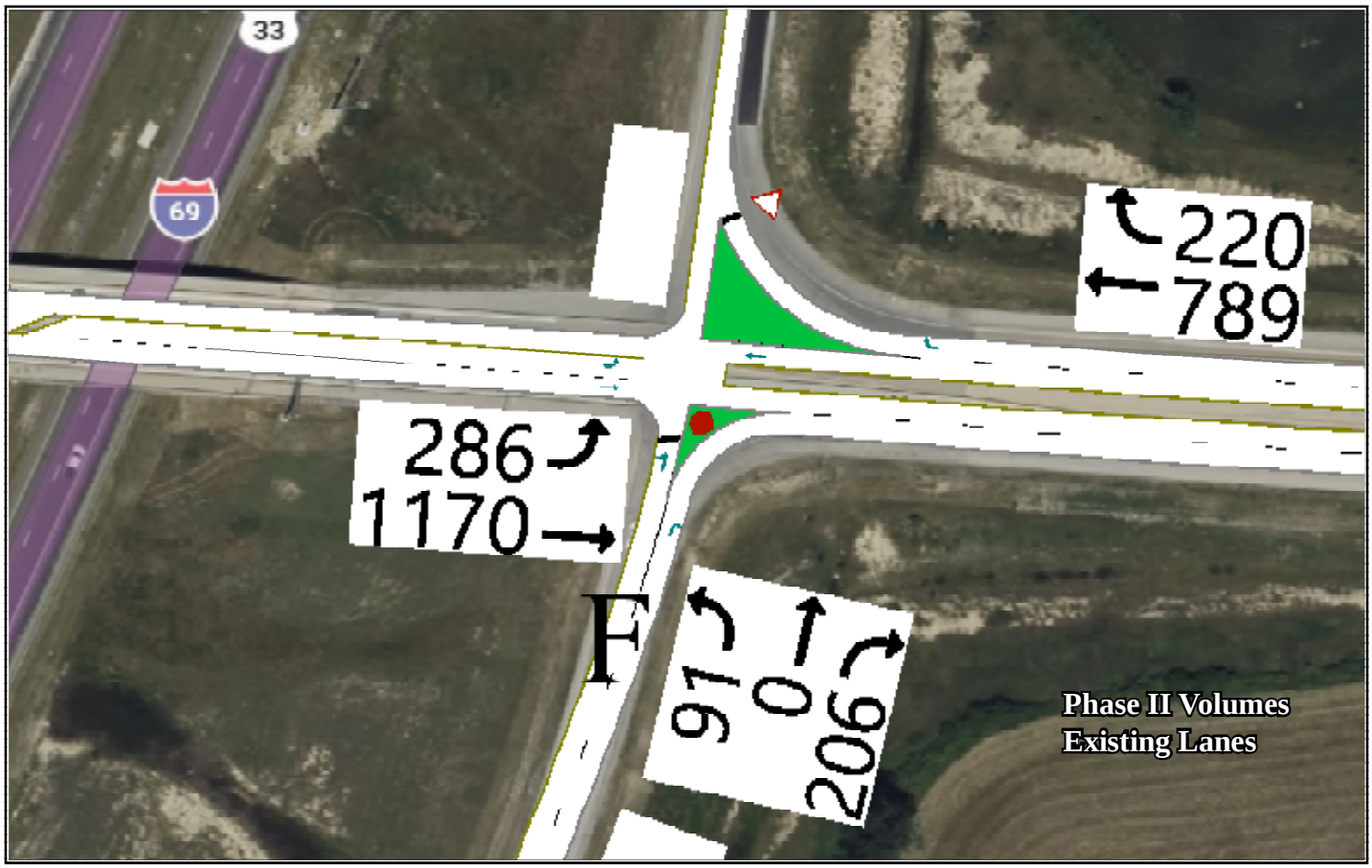


Figure 27

Lower Huntington Rd / I 69 Ramp A/B Phase II Volumes and Existing/Proposed Lanes (AM Peak)



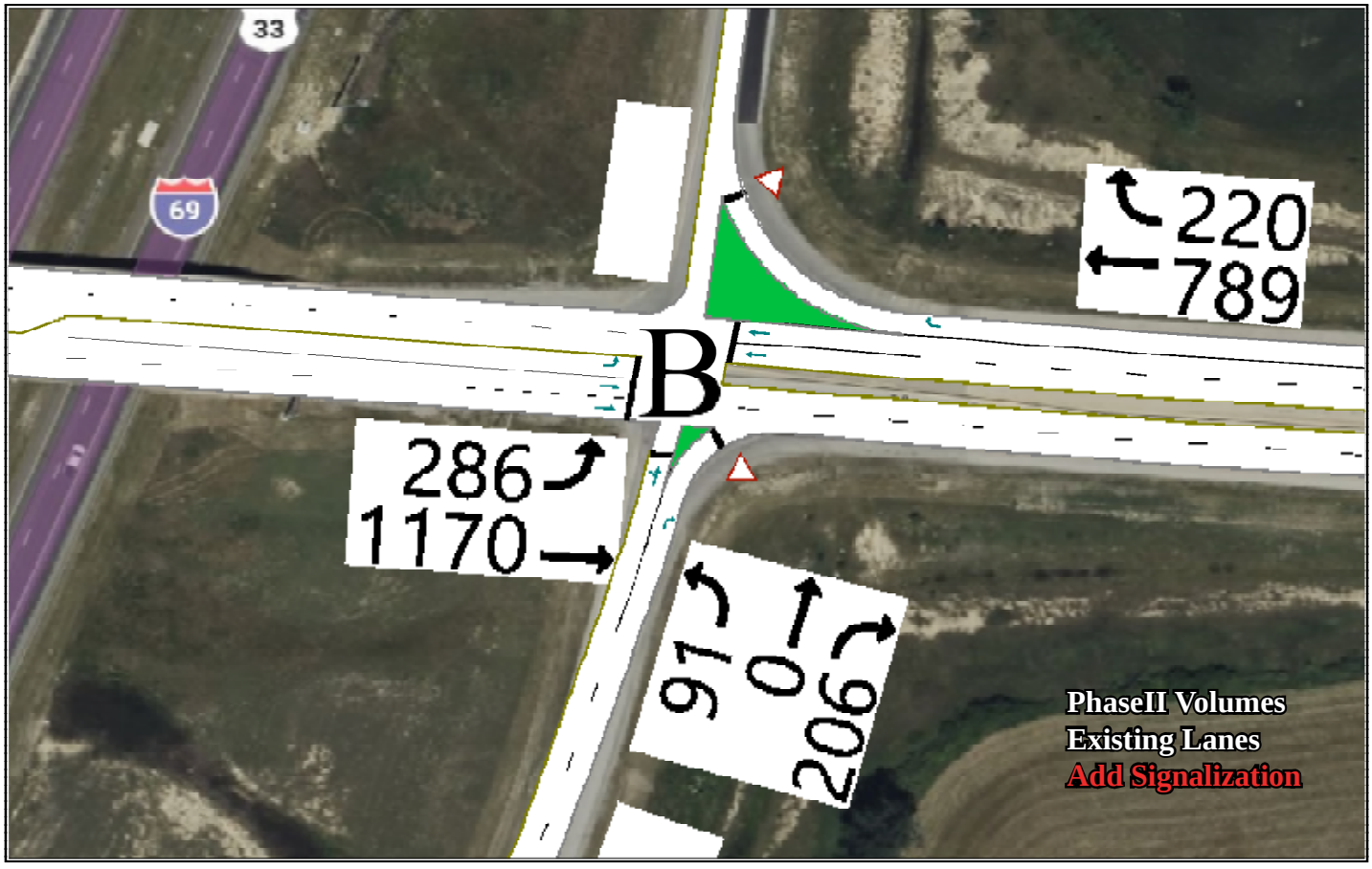
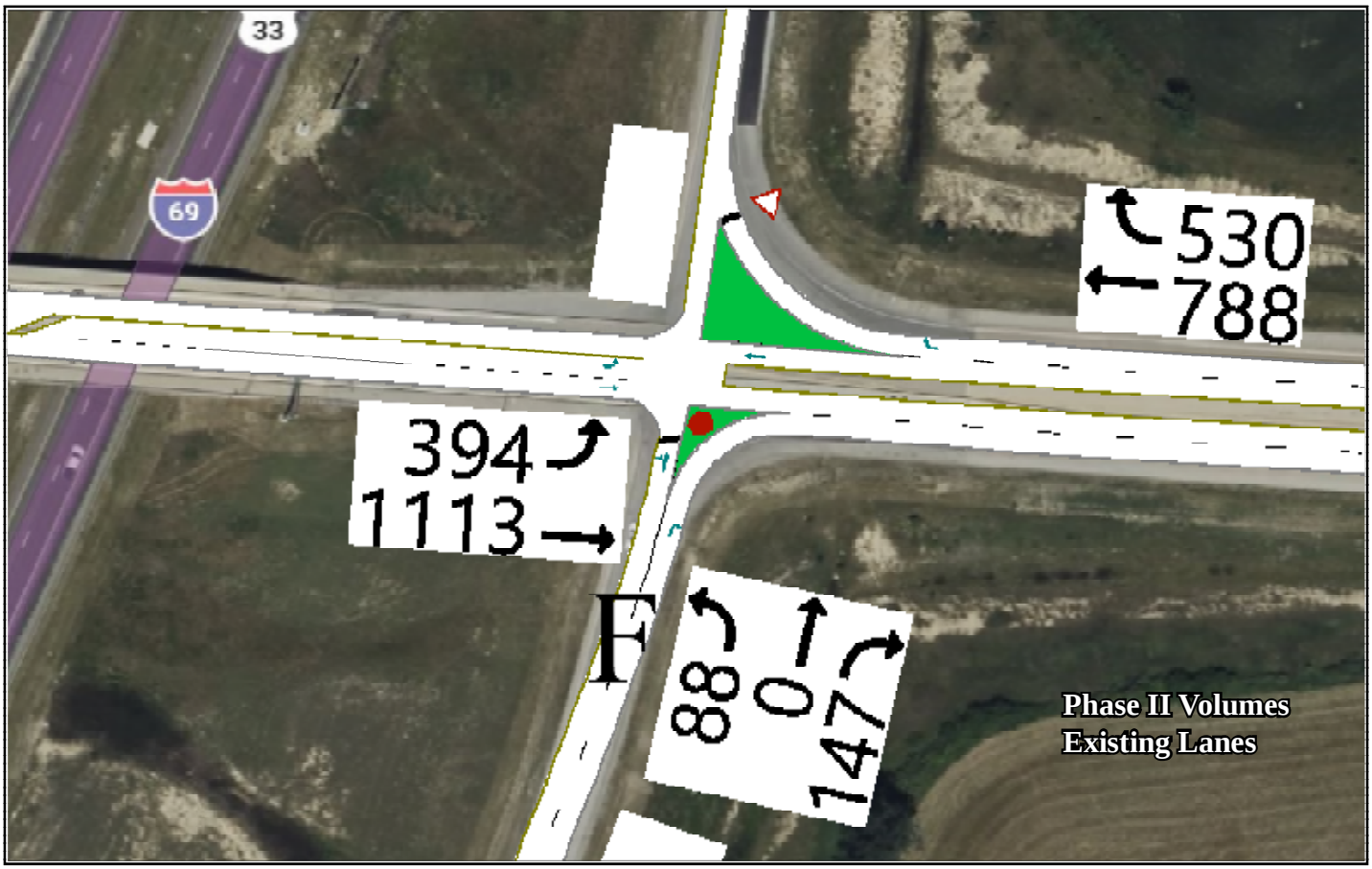


Figure 28

Lower Huntington Rd / I 69 Ramp A/B Phase II Volumes and Existing/Proposed Lanes (PM Peak)



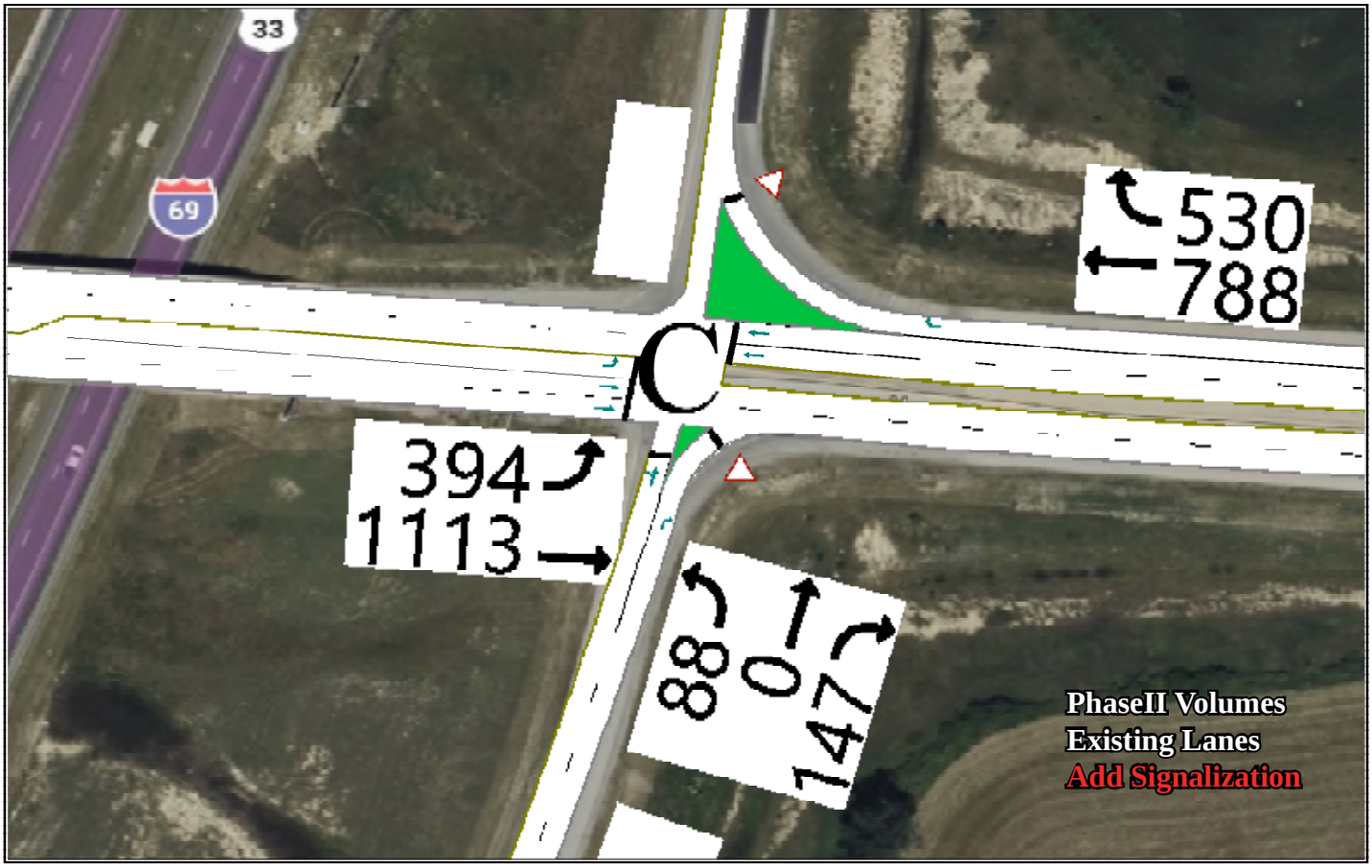
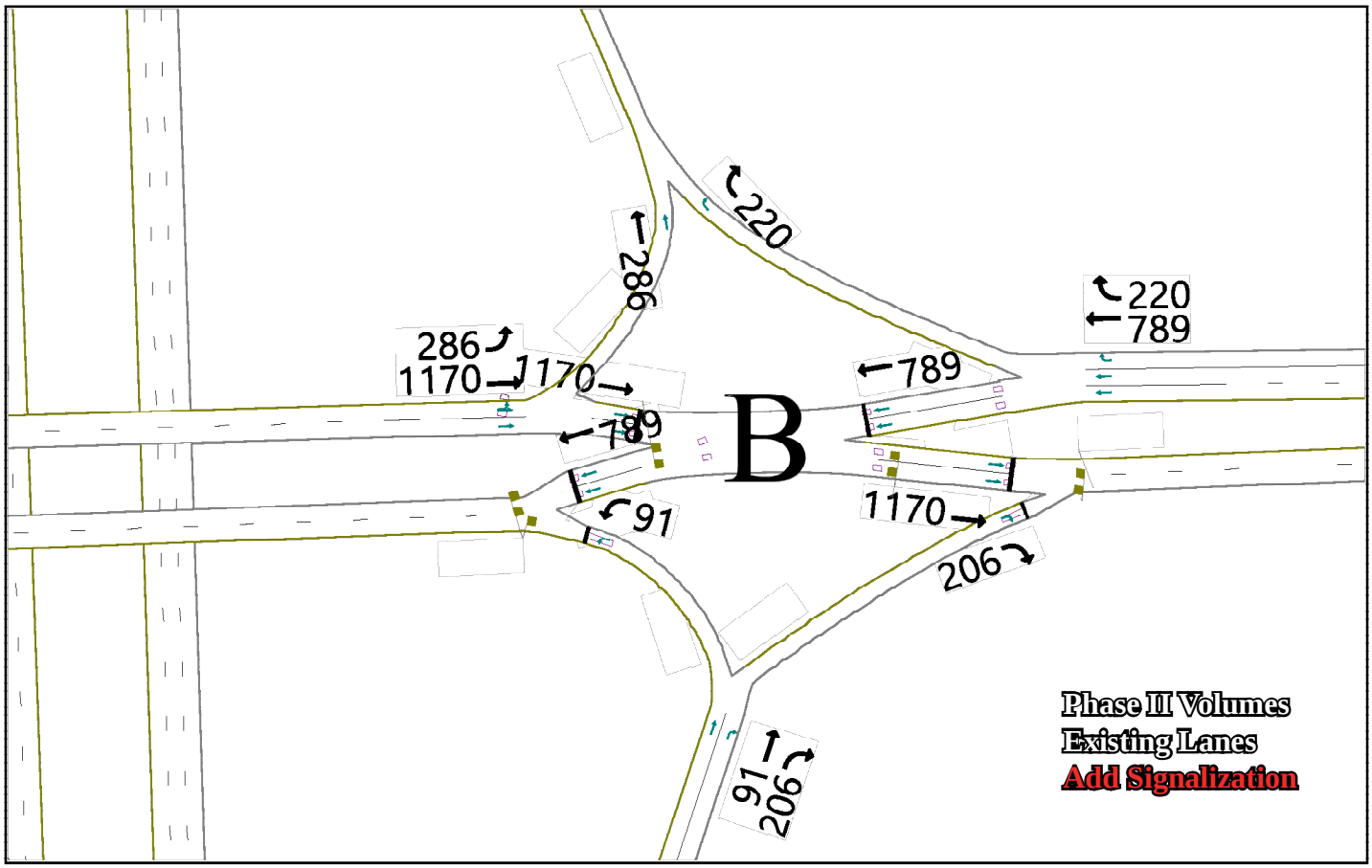
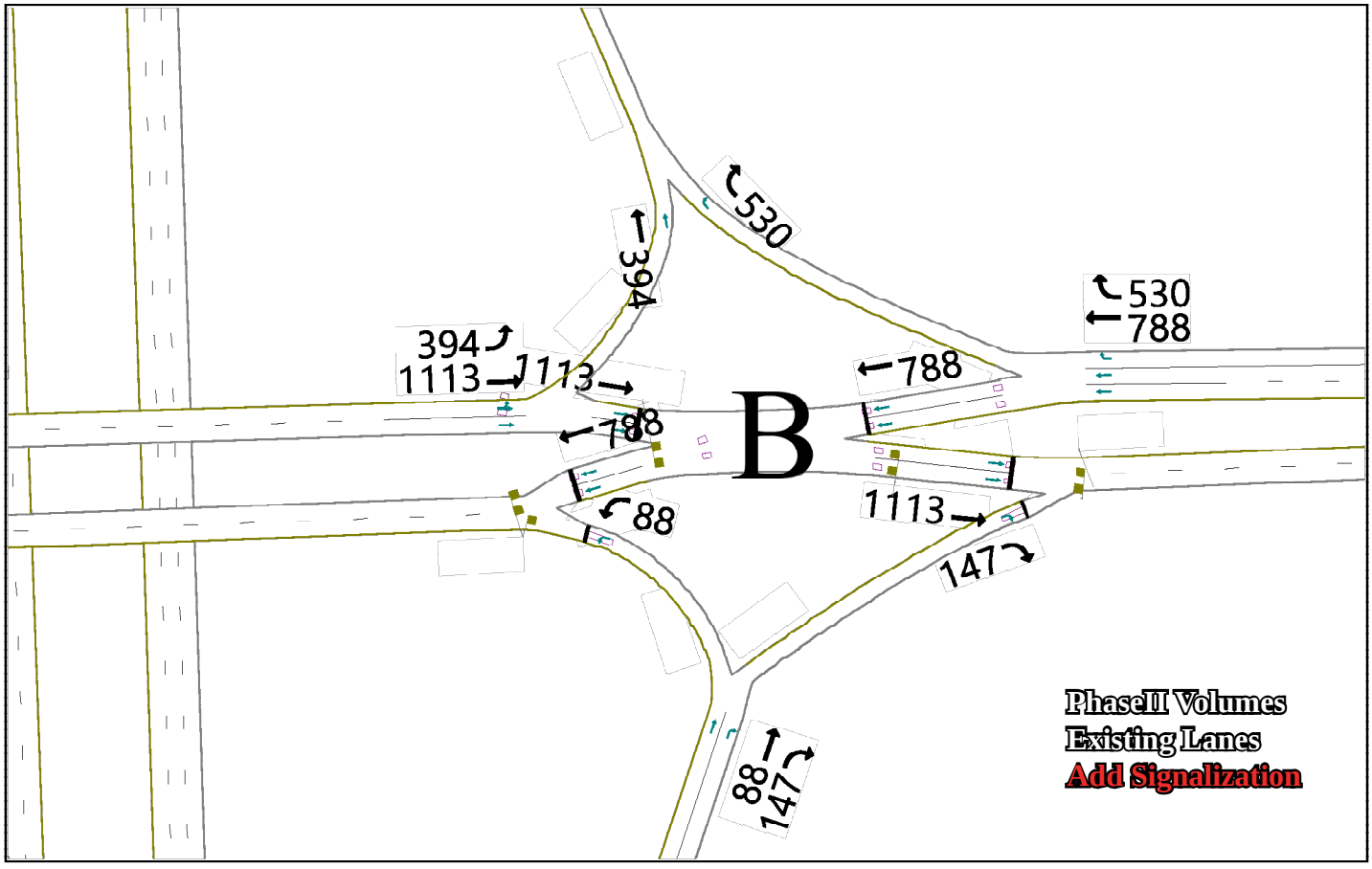


Figure 29

Lwr Huntington Rd/I 69 Ramp A/B Phase II Volumes and Diverging Diamond Interchange (AM/PM Peak)





Lower Huntington Road/ Ernst Road @ Airport Expressway

Scenario 1: - Existing Conditions

Lower Huntington Road / Ernst Road 2-lane facilities, Airport Expressway is a 4-lane facility. The intersection analysis indicates that northbound is currently operating at a LOS “E” during the morning and "D" during the afternoon peak hours. See Figure 30 for the morning and afternoon peak volumes, and LOS.

Scenario 2: - Proposed Development Recommendations

The analysis indicates the intersection will operate with the added trips of phase I at a LOS “F” during the morning and "E" during the afternoon peak hours for the northbound movement. See Figure 31 for the morning and afternoon peak volumes, and LOS.

Scenario 2: - Proposed Development Recommendations

The analysis indicates the intersection will operate with the added trips of phase II at a LOS “F” during the morning and afternoon peak hours for the northbound movement. See Figure 32 for the morning and afternoon peak volumes, and LOS.

Table 15: Shows the LOS & Delay, Table 16 shows Volume, delay, and queue for the critical movements for the existing, proposed phase I & II, and phase II modified.

Table 15: Lower Huntington Rd/ Ernst Rd @ Airport Expressway

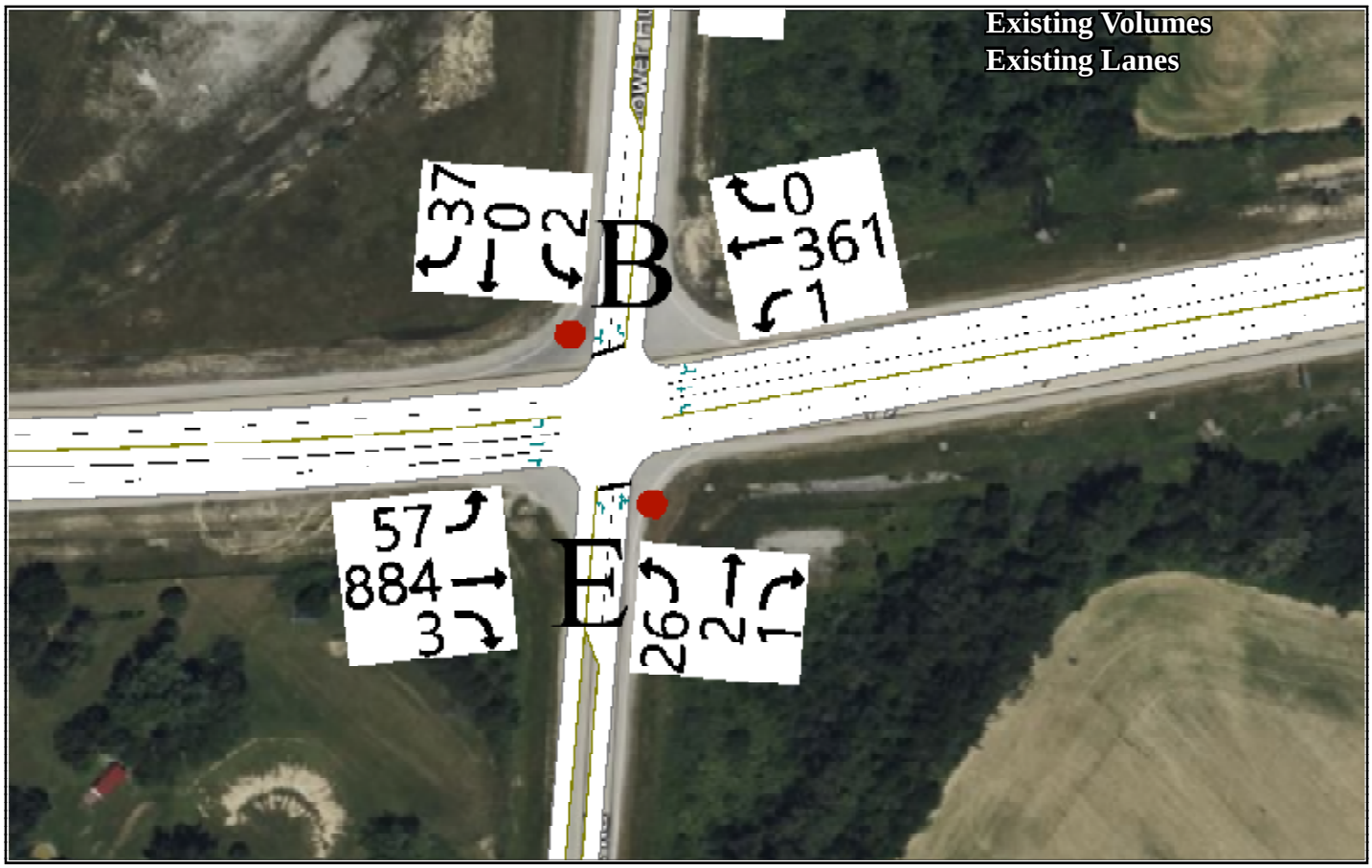
AM Peak	NB	SB	EB	WB	Total
	LOS	LOS	LOS	LOS	LOS
Existing	E	B	A	A	NA
Phase I - Existing Lanes	F	B	A	A	NA
Phase II - Existing Lanes	F	C	A	A	NA
PM Peak	**NB**	**SB**	**EB**	**WB**	**Total**
	LOS	**LOS**	**LOS**	**LOS**	**LOS**
Existing	D	B	A	A	NA
Phase I - Existing Lanes	E	C	A	A	NA
Phase II - Existing Lanes	F	C	A	A	NA

Table 16: Lower Huntington Rd/ Ernst Rd @ Airport Expressway

Morning Peak	Existing	Phase I	Phase II
Critical Movement	NB Left	NB Left	NB Left
Volume	26	34	63
Delay sec/vehicle	48.5	124.7	1242.1
Queue	12	12	89
Afternoon Peak	**Existing**	**Phase I**	**Phase II**
Critical Movement	NB Left	NB Left	NB Left
Volume	7	8	10
Delay	26.7	44.8	373.9
Queue	5	12	NA

Figure 30

Lower Huntington Rd/ Ernst Rd/Airport Expressway Existing Volumes and Lanes (AM/PM Peak)



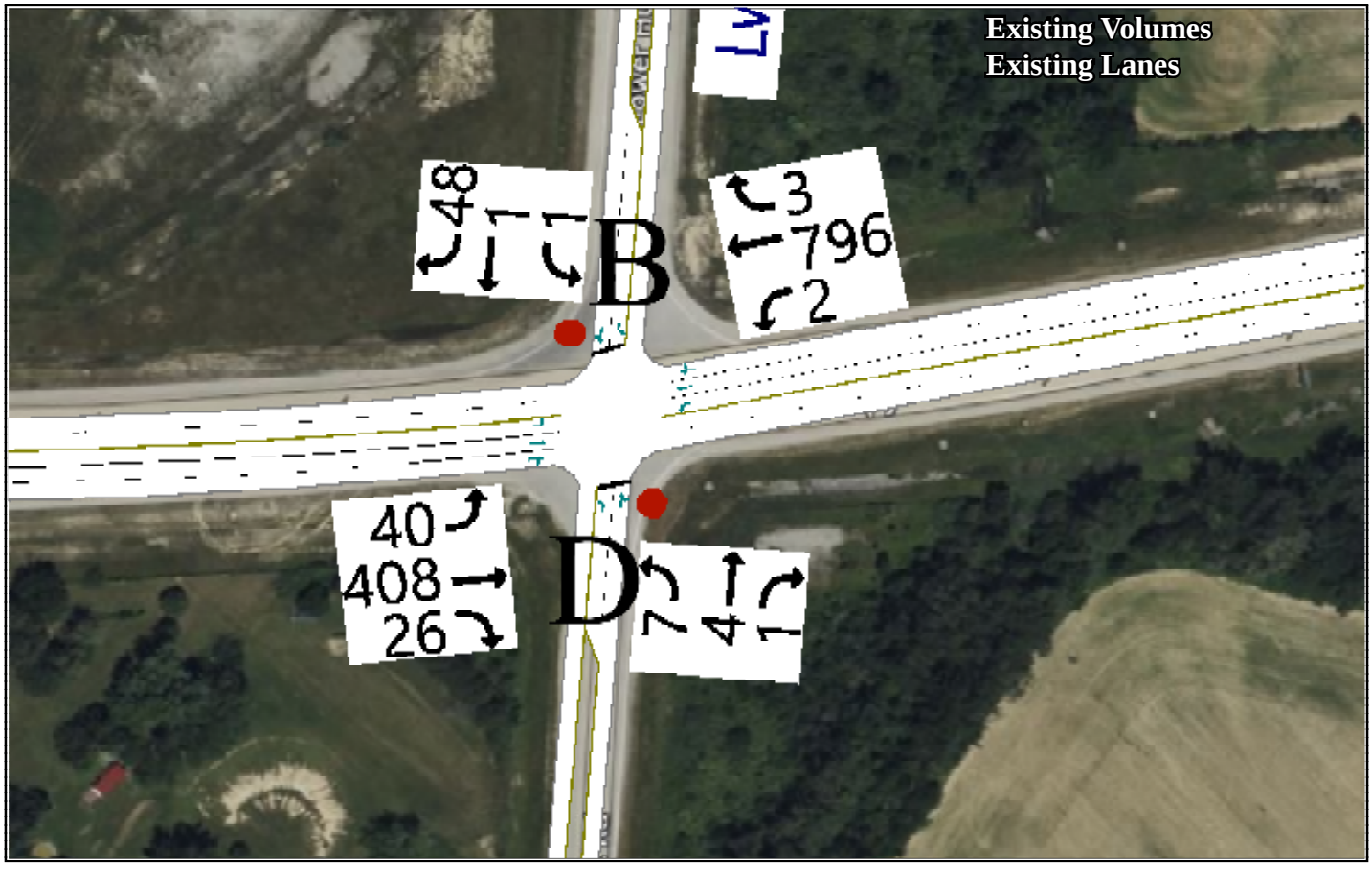
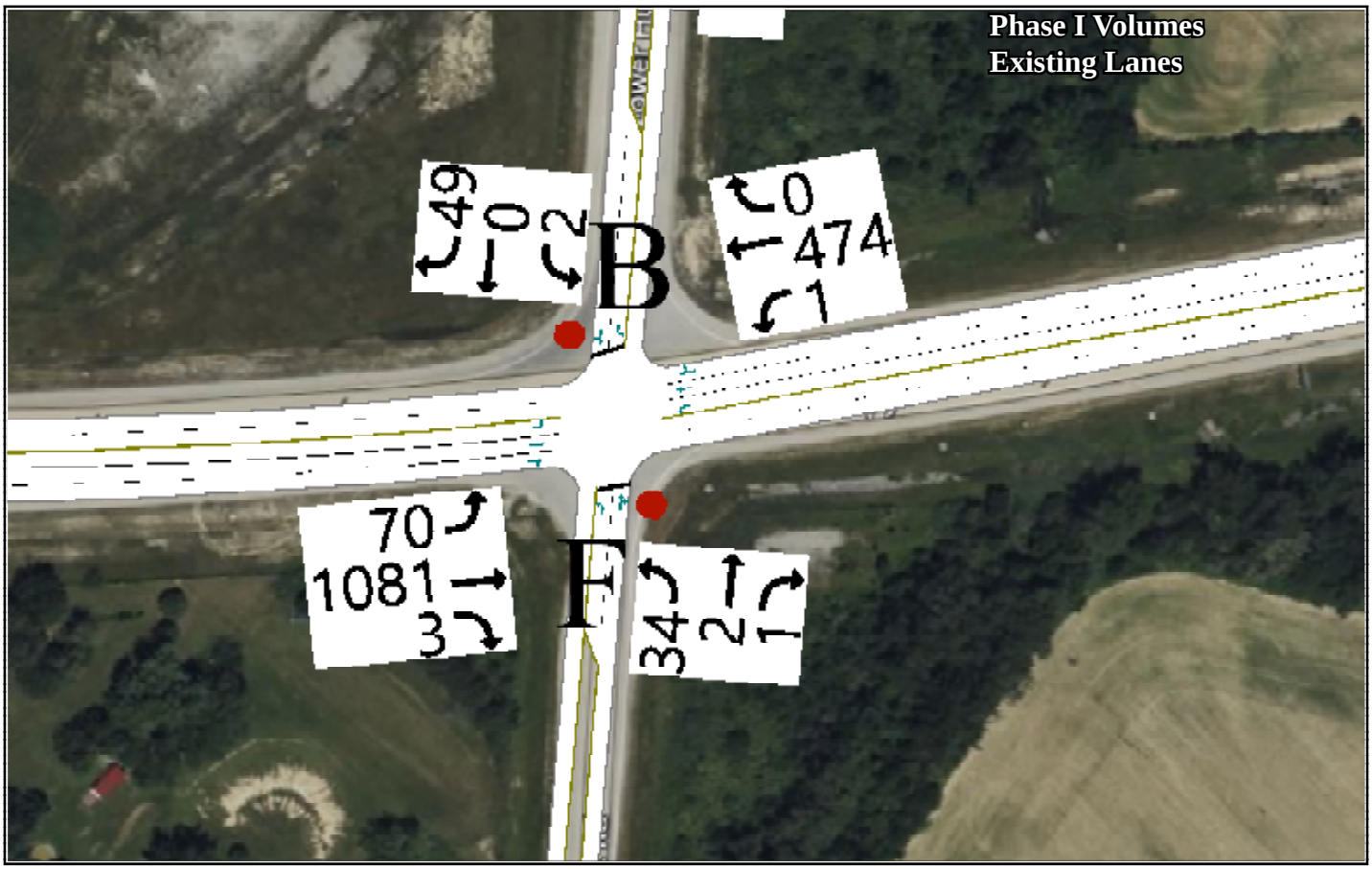


Figure 31

Lower Huntington Rd/ Ernst Rd/Airport Expressway Phase I Volumes and Existing Lanes (AM/PM Peak)



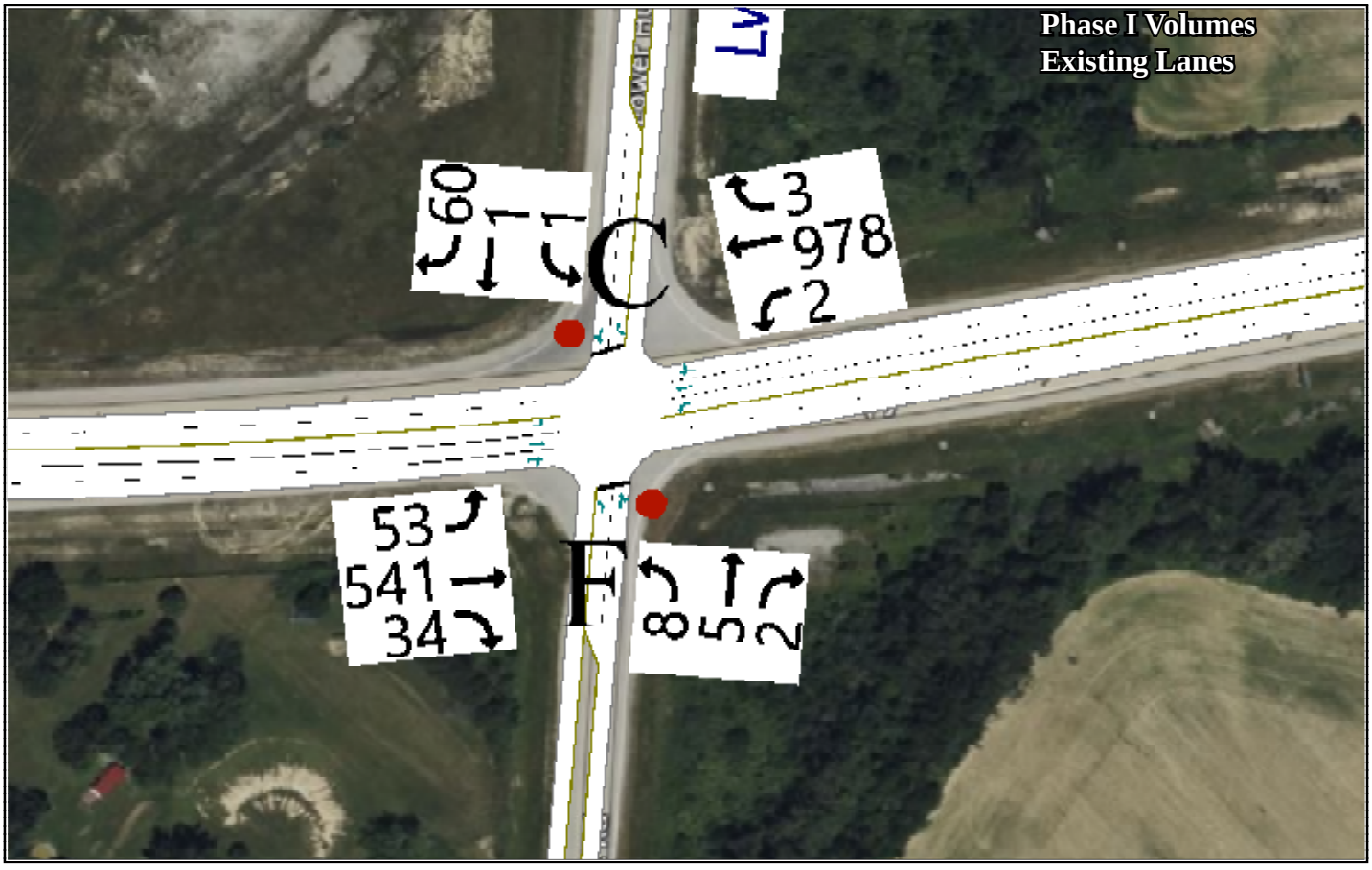
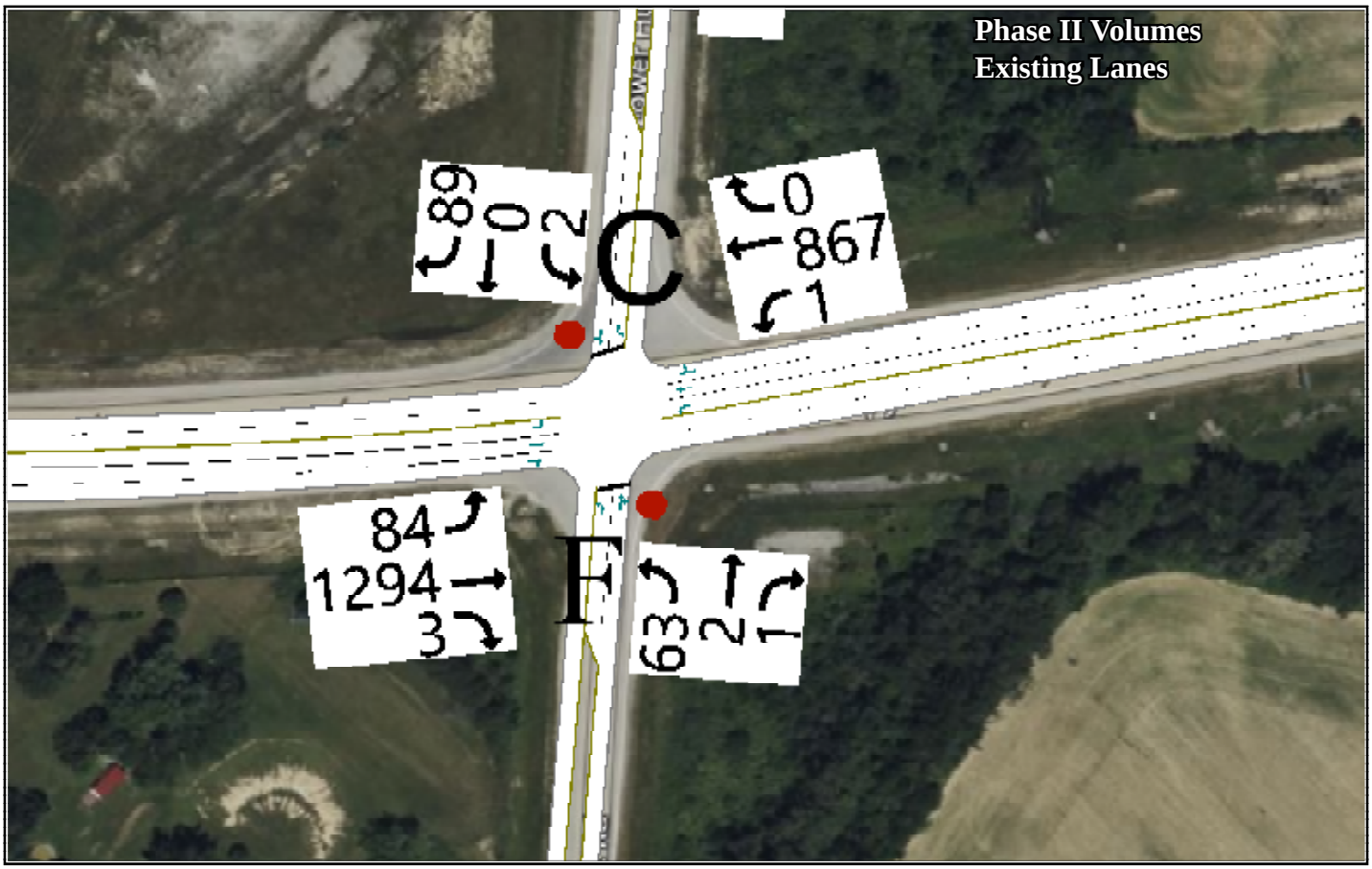
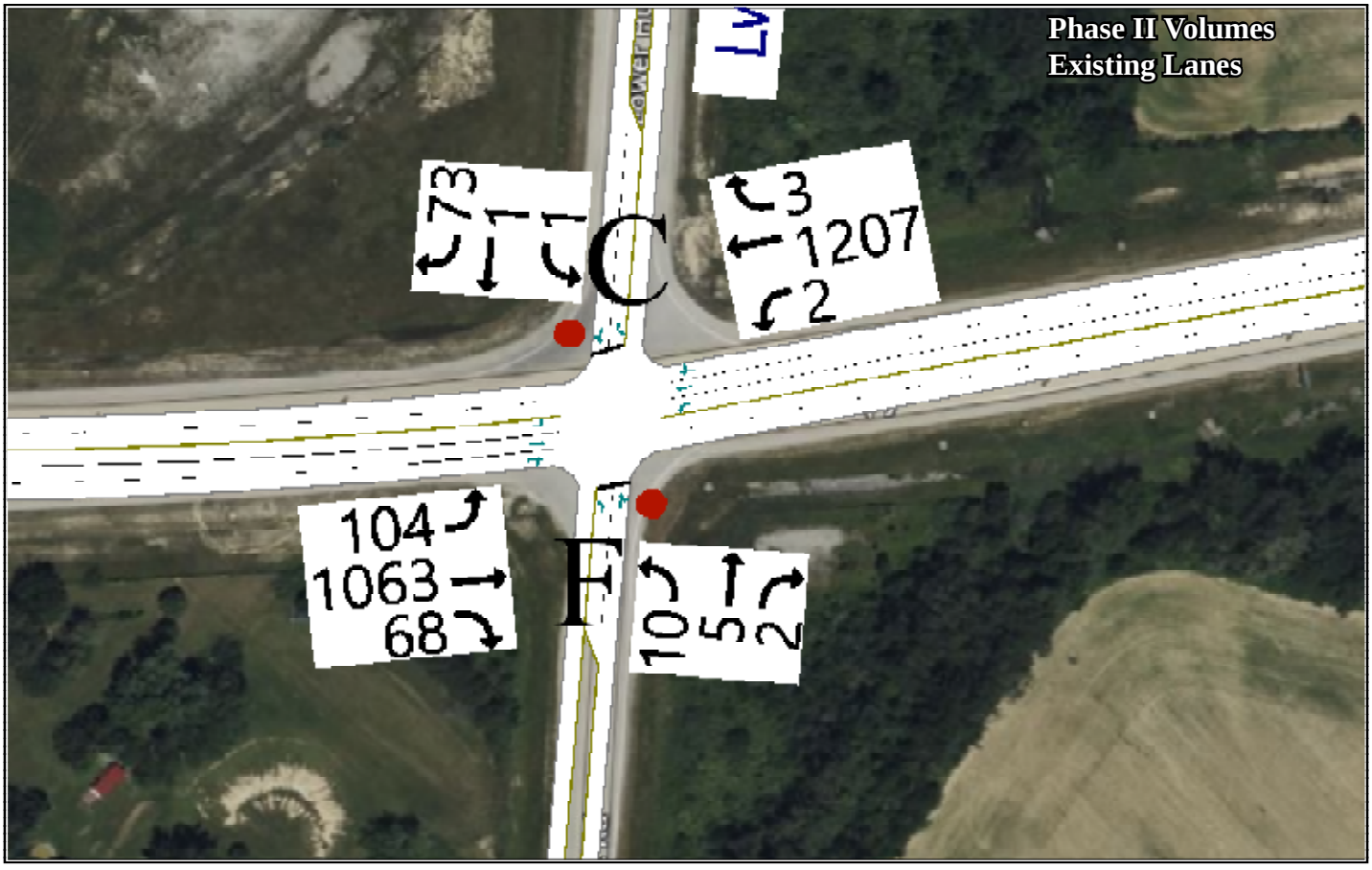


Figure 32

Lower Huntington Rd/ Ernst Rd/Airport Expressway Phase II Volumes and Existing Lanes (AM/PM Peak)





Conclusions:

The study of the Airport Expressway / Lower Huntington Road / Interstate 69 subarea by NIRCC in FY25 due to the developments within the area. The corridor and impact analysis estimates the number of new trips from anticipated developments that will be added to an existing facility to examine the changes in the level of service (LOS). LOS is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. LOS is based upon the average stopped delay per vehicle for various movements within the intersection. LOS "A" describes operations with very low delays, most vehicles do not stop at all. LOS "C" describes operations with longer delays, stopping vehicles are significant but many still pass without stopping. LOS "F" describes operations with delays unacceptable to most drivers, the intersection is exceeding capacity.

Airport Expressway is a Rural Other Principle Arterial, Lower Huntington Road is a Rural Major Collector, and Interstate 69 is a Rural Interstate on the southwest side of Allen County. This study starts at Airport Expressway on the east and ends at Kress Road on the west crossing over Interstate 69. The study also includes the Ernst Road / Homestead Road intersection north of Lower Huntington Road. The intersections were analyzed using Synchro 12. The analyses were performed for two different levels of land use development including existing conditions, and phase I developments. Phase I focuses on proposed/approved land use developments and has a one to five year horizon. The analysis is based on the morning peak from 6:30-7:30am, and afternoon peak from 4:30-5:30pm.

The subarea analysis indicates that the following improvements are recommended to accommodate the increased travel demand from planned and potential developments along the Airport Expressway / Lower Huntington Road / Homestead Road corridors.

The recommended improvements are listed below based on Phase II traffic flow projections:

1. The Ernst Road / Homestead Road intersection improvements; add signalization.
2. The Homestead Road / Lower Huntington Road intersection improvements; add signalization and added turn lanes.
3. The Ernst Road / Lower Huntington Road intersections improvements; add signalization and added lanes.
4. The Lower Huntington Road / Interstate 69 Ramps C/D interchange improvement; 5-Lane Bridge over Interstate 69 + 2nd SB left turn lane , or a 2- Lane Diverging Diamond Interchange.
5. The Lower Huntington Road / Interstate 69 Ramps A/B interchange improvement; 5-Lane Bridge over Interstate 69 + Signalization, or a 2- Lane Diverging Diamond Interchange.
6. The Airport Expressway / Lower Huntington Road / Ernst Road intersection improvement; no recommendations at this time.

Appendix A

Existing, Phase I, and Phase II Synchro 12 outputs

Page Intentionally Left Blank

AM Existing

Page Intentionally Left Blank

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	28	3	0	8	36	9	162	2	97	81	17
Future Vol, veh/h	34	28	3	0	8	36	9	162	2	97	81	17
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
Heavy Vehicles, %	0	0	13	0	0	3	0	6	0	0	5	7
Mvmt Flow	37	30	3	0	9	39	10	176	2	105	88	18
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	8.6	7.8	9.4	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	52%	0%	100%	0%
Vol Thru, %	0%	99%	43%	18%	0%	83%
Vol Right, %	0%	1%	5%	82%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	9	164	65	44	97	98
LT Vol	9	0	34	0	97	0
Through Vol	0	162	28	8	0	81
RT Vol	0	2	3	36	0	17
Lane Flow Rate	10	178	71	48	105	107
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.015	0.252	0.098	0.06	0.16	0.145
Departure Headway (Hd)	5.489	5.08	5.009	4.48	5.456	4.917
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	653	708	715	798	658	730
Service Time	3.218	2.809	3.043	2.515	3.185	2.646
HCM Lane V/C Ratio	0.015	0.251	0.099	0.06	0.16	0.147
HCM Control Delay, s/veh	8.3	9.5	8.6	7.8	9.2	8.5
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0	1	0.3	0.2	0.6	0.5

Intersection	
Int Delay, s/veh	2.8

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	25	46	150	386	186	22
Future Vol, veh/h	25	46	150	386	186	22
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, %	0	2	3	5	11	13
Mvmt Flow	27	50	163	420	202	24

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	960	214	226	0	-	0
Stage 1	214	-	-	-	-	-
Stage 2	746	-	-	-	-	-
Critical Hdwy	6.4	6.22	4.13	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	2.227	-	-	-
Pot Cap-1 Maneuver	287	826	1336	-	-	-
Stage 1	826	-	-	-	-	-
Stage 2	473	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	242	826	1336	-	-	-
Mov Cap-2 Maneuver	242	-	-	-	-	-
Stage 1	695	-	-	-	-	-
Stage 2	473	-	-	-	-	-

Approach	SE	NE	SW
HCM Ctrl Dly, s/v	14.75	2.26	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	504	-	446	-	-
HCM Lane V/C Ratio	0.122	-	0.173	-	-
HCM Ctrl Dly (s/v)	8.1	0	14.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.4	-	0.6	-	-

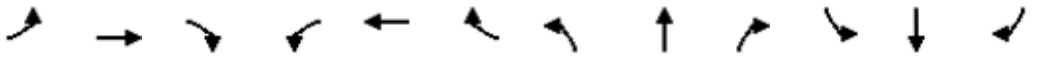
Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	107	1	7	402	207	76
Future Vol, veh/h	107	1	7	402	207	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	0	300	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	5	10	4
Mvmt Flow	116	1	8	437	225	83

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	677	225	225	0	-	0
Stage 1	225	-	-	-	-	-
Stage 2	452	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	421	819	1356	-	-	0
Stage 1	817	-	-	-	-	0
Stage 2	645	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	419	819	1356	-	-	-
Mov Cap-2 Maneuver	419	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	645	-	-	-	-	-

Approach	EB	NE	SW
HCM Ctrl Dly, s/v	16.8	0.13	0
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NET	EBLn1	EBLn2	SWT
Capacity (veh/h)	1356	-	419	819	-
HCM Lane V/C Ratio	0.006	-	0.278	0.001	-
HCM Ctrl Dly (s/v)	7.7	-	16.9	9.4	-
HCM Lane LOS	A	-	C	A	-
HCM 95th %tile Q(veh)	0	-	1.1	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	444	43	99	163	0	0	0	0	474	0	108
Future Volume (veh/h)	0	444	43	99	163	0	0	0	0	474	0	108
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	483	0	108	177	0				515	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	589		293	881	0				606	0	
Arrive On Green	0.00	0.31	0.00	0.06	0.47	0.00				0.34	0.00	0.00
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1781	0	1585
Grp Volume(v), veh/h	0	483	0	108	177	0				515	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1781	0	1585
Q Serve(g_s), s	0.0	15.2	0.0	2.4	3.5	0.0				17.1	0.0	0.0
Cycle Q Clear(g_c), s	0.0	15.2	0.0	2.4	3.5	0.0				17.1	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	589		293	881	0				606	0	
V/C Ratio(X)	0.00	0.82		0.37	0.20	0.00				0.85	0.00	
Avail Cap(c_a), veh/h	0	1324		743	2090	0				981	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	20.1	0.0	14.5	9.8	0.0				19.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.9	0.0	0.8	0.1	0.0				4.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.9	0.0	0.8	1.1	0.0				6.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	23.0	0.0	15.3	9.9	0.0				23.5	0.0	0.0
LnGrp LOS		C		B	A					C		
Approach Vol, veh/h		483			285						515	
Approach Delay, s/veh		23.0			11.9						23.5	
Approach LOS		C			B						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.9	26.0		27.6		35.9
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	20.0	45.0		35.0		71.0
Max Q Clear Time (g_c+I1), s	4.4	17.2		19.1		5.5
Green Ext Time (p_c), s	0.2	2.7		2.6		0.9

Intersection Summary		
HCM 7th Control Delay, s/veh		20.8
HCM 7th LOS		C

Notes

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

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	185	762	0	0	226	190	26	0	178	0	0	0
Future Vol, veh/h	185	762	0	0	226	190	26	0	178	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Free	-	-	None
Storage Length	300	-	-	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	201	828	0	0	246	207	28	0	193	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	246	0	-	-	-	0	1476	1476	-
Stage 1	-	-	-	-	-	-	1230	1230	-
Stage 2	-	-	-	-	-	-	246	246	-
Critical Hdwy	4.12	-	-	-	-	-	6.4	6.52	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	-
Pot Cap-1 Maneuver	1320	-	0	0	-	-	140	126	0
Stage 1	-	-	0	0	-	-	276	250	0
Stage 2	-	-	0	0	-	-	795	703	0
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1320	-	-	-	-	-	119	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	119	0	-
Stage 1	-	-	-	-	-	-	234	0	-
Stage 2	-	-	-	-	-	-	795	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	1.6	0	44.52
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	119	-	1320	-	-	-
HCM Lane V/C Ratio	0.238	-	0.152	-	-	-
HCM Ctrl Dly (s/v)	44.5	0	8.2	-	-	-
HCM Lane LOS	E	A	A	-	-	-
HCM 95th %tile Q(veh)	0.9	-	0.5	-	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	57	884	3	1	361	0	26	2	1	2	0	37
Future Vol, veh/h	57	884	3	1	361	0	26	2	1	2	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	550	-	-	550	-	-	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	18	5	0	0	19	0	0	0	0	0	0	16
Mvmt Flow	62	961	3	1	392	0	28	2	1	2	0	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	392	0	0	964	0	0	1285	1481	482	1000	1483	196
Stage 1	-	-	-	-	-	-	1086	1086	-	395	395	-
Stage 2	-	-	-	-	-	-	198	395	-	605	1088	-
Critical Hdwy	4.46	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	7.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.46
Pot Cap-1 Maneuver	1056	-	-	722	-	-	124	127	536	200	126	770
Stage 1	-	-	-	-	-	-	234	295	-	607	608	-
Stage 2	-	-	-	-	-	-	790	608	-	456	294	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1056	-	-	722	-	-	110	119	536	185	119	770
Mov Cap-2 Maneuver	-	-	-	-	-	-	110	119	-	185	119	-
Stage 1	-	-	-	-	-	-	221	277	-	606	607	-
Stage 2	-	-	-	-	-	-	748	607	-	425	277	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.52	0.03	46.35	10.69
HCM LOS			E	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	110	161	1056	-	-	722	-	-	185	770
HCM Lane V/C Ratio	0.256	0.02	0.059	-	-	0.002	-	-	0.012	0.052
HCM Ctrl Dly (s/v)	48.5	27.9	8.6	-	-	10	-	-	24.7	9.9
HCM Lane LOS	E	D	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.9	0.1	0.2	-	-	0	-	-	0	0.2

PM Existing

Page Intentionally Left Blank

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	51	13	12	2	26	127	11	116	0	33	92	47
Future Vol, veh/h	51	13	12	2	26	127	11	116	0	33	92	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
Heavy Vehicles, %	5	13	17	0	13	1	17	3	0	3	4	10
Mvmt Flow	55	14	13	2	28	138	12	126	0	36	100	51
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	8.8	8.5	9.3	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	67%	1%	100%	0%
Vol Thru, %	0%	100%	17%	17%	0%	66%
Vol Right, %	0%	0%	16%	82%	0%	34%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	11	116	76	155	33	139
LT Vol	11	0	51	2	33	0
Through Vol	0	116	13	26	0	92
RT Vol	0	0	12	127	0	47
Lane Flow Rate	12	126	83	168	36	151
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.02	0.186	0.116	0.203	0.058	0.212
Departure Headway (Hd)	6.066	5.322	5.047	4.342	5.778	5.053
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	588	671	708	824	618	707
Service Time	3.822	3.077	3.095	2.382	3.531	2.806
HCM Lane V/C Ratio	0.02	0.188	0.117	0.204	0.058	0.214
HCM Control Delay, s/veh	8.9	9.3	8.8	8.5	8.9	9.2
HCM Lane LOS	A	A	A	A	A	A
HCM 95th-tile Q	0.1	0.7	0.4	0.8	0.2	0.8

Intersection	
Int Delay, s/veh	2.9

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	31	71	78	172	298	48
Future Vol, veh/h	31	71	78	172	298	48
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, %	3	5	2	4	8	0
Mvmt Flow	34	77	85	187	324	52

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	707	350	376	0	-	0
Stage 1	350	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Critical Hdwy	6.43	6.25	4.12	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.43	-	-	-	-	-
Follow-up Hdwy	3.527	3.345	2.218	-	-	-
Pot Cap-1 Maneuver	400	687	1182	-	-	-
Stage 1	711	-	-	-	-	-
Stage 2	706	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	368	687	1182	-	-	-
Mov Cap-2 Maneuver	368	-	-	-	-	-
Stage 1	654	-	-	-	-	-
Stage 2	706	-	-	-	-	-

Approach	SE	NE	SW
HCM Ctrl Dly, s/v	13.31	2.58	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	562	-	544	-	-
HCM Lane V/C Ratio	0.072	-	0.204	-	-
HCM Ctrl Dly (s/v)	8.3	0	13.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.8	-	-

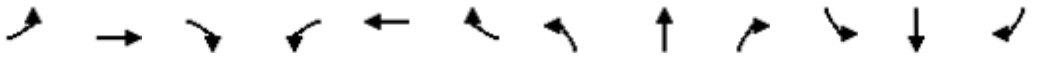
Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	75	4	1	199	343	138
Future Vol, veh/h	75	4	1	199	343	138
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	0	300	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	0	0	10	3	0
Mvmt Flow	82	4	1	216	373	150

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	591	373	373	0	-	0
Stage 1	373	-	-	-	-	-
Stage 2	218	-	-	-	-	-
Critical Hdwy	6.41	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	471	678	1197	-	-	0
Stage 1	699	-	-	-	-	0
Stage 2	820	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	471	678	1197	-	-	-
Mov Cap-2 Maneuver	471	-	-	-	-	-
Stage 1	698	-	-	-	-	-
Stage 2	820	-	-	-	-	-

Approach	EB	NE	SW
HCM Ctrl Dly, s/v	14.05	0.04	0
HCM LOS	B		

Minor Lane/Major Mvmt	NEL	NET	EBLn1	EBLn2	SWT
Capacity (veh/h)	1197	-	471	678	-
HCM Lane V/C Ratio	0.001	-	0.173	0.006	-
HCM Ctrl Dly (s/v)	8	-	14.2	10.3	-
HCM Lane LOS	A	-	B	B	-
HCM 95th %tile Q(veh)	0	-	0.6	0	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	273	39	148	339	0	0	0	0	222	0	139
Future Volume (veh/h)	0	273	39	148	339	0	0	0	0	222	0	139
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	297	0	161	368	0				241	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	916		657	1213	0				315	0	
Arrive On Green	0.00	0.49	0.00	0.07	0.65	0.00				0.18	0.00	0.00
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1781	0	1585
Grp Volume(v), veh/h	0	297	0	161	368	0				241	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1781	0	1585
Q Serve(g_s), s	0.0	6.6	0.0	2.8	5.9	0.0				8.8	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.6	0.0	2.8	5.9	0.0				8.8	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	916		657	1213	0				315	0	
V/C Ratio(X)	0.00	0.32		0.24	0.30	0.00				0.77	0.00	
Avail Cap(c_a), veh/h	0	1226		1050	1935	0				908	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	10.6	0.0	7.0	5.3	0.0				26.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.2	0.1	0.0				3.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.1	0.0	0.7	1.4	0.0				3.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	10.8	0.0	7.2	5.4	0.0				30.8	0.0	0.0
LnGrp LOS		B		A	A					C		
Approach Vol, veh/h		297			529						241	
Approach Delay, s/veh		10.8			6.0						30.8	
Approach LOS		B			A						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.9	39.6		18.1		50.5
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	20.0	45.0		35.0		71.0
Max Q Clear Time (g_c+I1), s	4.8	8.6		10.8		7.9
Green Ext Time (p_c), s	0.3	1.6		1.4		2.1

Intersection Summary		
HCM 7th Control Delay, s/veh		12.9
HCM 7th LOS		B

Notes

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

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	130	368	0	0	418	457	49	0	127	0	0	0
Future Vol, veh/h	130	368	0	0	418	457	49	0	127	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Free	-	-	None
Storage Length	300	-	-	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	141	400	0	0	454	497	53	0	138	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	454	0	-	-	-	0	1137	1137	-
Stage 1	-	-	-	-	-	-	683	683	-
Stage 2	-	-	-	-	-	-	454	454	-
Critical Hdwy	4.12	-	-	-	-	-	6.42	6.52	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	-
Pot Cap-1 Maneuver	1106	-	0	0	-	-	223	202	0
Stage 1	-	-	0	0	-	-	502	449	0
Stage 2	-	-	0	0	-	-	639	569	0
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1106	-	-	-	-	-	195	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	195	0	-
Stage 1	-	-	-	-	-	-	438	0	-
Stage 2	-	-	-	-	-	-	639	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	2.28	0	30.32
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	195	-	1106	-	-	-
HCM Lane V/C Ratio	0.274	-	0.128	-	-	-
HCM Ctrl Dly (s/v)	30.3	0	8.7	-	-	-
HCM Lane LOS	D	A	A	-	-	-
HCM 95th %tile Q(veh)	1.1	-	0.4	-	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	408	26	2	796	3	7	4	1	1	1	48
Future Vol, veh/h	40	408	26	2	796	3	7	4	1	1	1	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	550	-	-	550	-	-	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	18	17	0	0	5	100	0	20	0	0	0	4
Mvmt Flow	43	443	28	2	865	3	8	4	1	1	1	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	868	0	0	472	0	0	982	1417	236	1182	1430	434
Stage 1	-	-	-	-	-	-	545	545	-	871	871	-
Stage 2	-	-	-	-	-	-	437	873	-	311	559	-
Critical Hdwy	4.46	-	-	4.1	-	-	7.5	6.9	6.9	7.5	6.5	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.9	-	6.5	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4.2	3.3	3.5	4	3.34
Pot Cap-1 Maneuver	678	-	-	1101	-	-	206	116	772	147	136	564
Stage 1	-	-	-	-	-	-	496	474	-	316	371	-
Stage 2	-	-	-	-	-	-	573	327	-	680	515	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	678	-	-	1101	-	-	174	108	772	132	127	564
Mov Cap-2 Maneuver	-	-	-	-	-	-	174	108	-	132	127	-
Stage 1	-	-	-	-	-	-	464	444	-	316	370	-
Stage 2	-	-	-	-	-	-	518	326	-	629	482	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.9	0.02	29.63	12.99
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	174	131	678	-	-	1101	-	-	132	527
HCM Lane V/C Ratio	0.044	0.042	0.064	-	-	0.002	-	-	0.008	0.101
HCM Ctrl Dly (s/v)	26.7	33.7	10.7	-	-	8.3	-	-	32.4	12.6
HCM Lane LOS	D	D	B	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.1	0.1	0.2	-	-	0	-	-	0	0.3

AM Phase I

Page Intentionally Left Blank

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	45	3	2	14	60	10	203	2	161	100	20
Future Vol, veh/h	39	45	3	2	14	60	10	203	2	161	100	20
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
Heavy Vehicles, %	0	0	13	0	0	3	0	6	0	0	5	7
Mvmt Flow	42	49	3	2	15	65	11	221	2	175	109	22
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	9.4	8.6	10.7	10
HCM LOS	A	A	B	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	45%	3%	100%	0%
Vol Thru, %	0%	99%	52%	18%	0%	83%
Vol Right, %	0%	1%	3%	79%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	205	87	76	161	120
LT Vol	10	0	39	2	161	0
Through Vol	0	203	45	14	0	100
RT Vol	0	2	3	60	0	20
Lane Flow Rate	11	223	95	83	175	130
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.017	0.332	0.142	0.112	0.276	0.186
Departure Headway (Hd)	5.772	5.364	5.4	4.895	5.683	5.147
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	617	666	659	726	628	693
Service Time	3.541	3.133	3.472	2.968	3.449	2.913
HCM Lane V/C Ratio	0.018	0.335	0.144	0.114	0.279	0.188
HCM Control Delay, s/veh	8.6	10.8	9.4	8.6	10.6	9.1
HCM Lane LOS	A	B	A	A	B	A
HCM 95th-tile Q	0.1	1.5	0.5	0.4	1.1	0.7

Intersection	
Int Delay, s/veh	3.3

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	31	59	189	513	240	27
Future Vol, veh/h	31	59	189	513	240	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, %	0	2	3	5	11	13
Mvmt Flow	34	64	205	558	261	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1244	276	290	0	-	0
Stage 1	276	-	-	-	-	-
Stage 2	968	-	-	-	-	-
Critical Hdwy	6.4	6.22	4.13	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.318	2.227	-	-	-
Pot Cap-1 Maneuver	194	763	1266	-	-	-
Stage 1	776	-	-	-	-	-
Stage 2	371	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	149	763	1266	-	-	-
Mov Cap-2 Maneuver	149	-	-	-	-	-
Stage 1	593	-	-	-	-	-
Stage 2	371	-	-	-	-	-

Approach	SE	NE	SW
HCM Ctrl Dly, s/v	21.52	2.26	0
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	485	-	315	-	-
HCM Lane V/C Ratio	0.162	-	0.311	-	-
HCM Ctrl Dly (s/v)	8.4	0	21.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.6	-	1.3	-	-

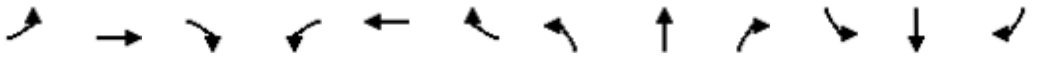
Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	169	12	38	503	246	203
Future Vol, veh/h	169	12	38	503	246	203
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	0	300	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	5	10	4
Mvmt Flow	184	13	41	547	267	221

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	897	267	267	0	-	0
Stage 1	267	-	-	-	-	-
Stage 2	629	-	-	-	-	-
Critical Hdwy	6.2	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	329	776	1308	-	-	0
Stage 1	782	-	-	-	-	0
Stage 2	535	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	319	776	1308	-	-	-
Mov Cap-2 Maneuver	319	-	-	-	-	-
Stage 1	757	-	-	-	-	-
Stage 2	535	-	-	-	-	-

Approach	EB	NE	SW
HCM Ctrl Dly, s/v	29.23	0.55	0
HCM LOS	D		

Minor Lane/Major Mvmt	NEL	NET	EBLn1	EBLn2	SWT
Capacity (veh/h)	1308	-	319	776	-
HCM Lane V/C Ratio	0.032	-	0.577	0.017	-
HCM Ctrl Dly (s/v)	7.8	-	30.6	9.7	-
HCM Lane LOS	A	-	D	A	-
HCM 95th %tile Q(veh)	0.1	-	3.4	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	590	57	115	172	0	0	0	0	550	0	173
Future Volume (veh/h)	0	590	57	115	172	0	0	0	0	550	0	173
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	641	0	125	187	0				598	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	711		235	951	0				640	0	
Arrive On Green	0.00	0.38	0.00	0.06	0.51	0.00				0.36	0.00	0.00
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1781	0	1585
Grp Volume(v), veh/h	0	641	0	125	187	0				598	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1781	0	1585
Q Serve(g_s), s	0.0	29.3	0.0	3.7	5.0	0.0				29.4	0.0	0.0
Cycle Q Clear(g_c), s	0.0	29.3	0.0	3.7	5.0	0.0				29.4	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	711		235	951	0				640	0	
V/C Ratio(X)	0.00	0.90		0.53	0.20	0.00				0.93	0.00	
Avail Cap(c_a), veh/h	0	928		517	1464	0				687	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	26.5	0.0	20.4	12.2	0.0				28.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	9.8	0.0	1.9	0.1	0.0				19.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	13.5	0.0	1.4	1.8	0.0				14.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	36.3	0.0	22.3	12.3	0.0				47.4	0.0	0.0
LnGrp LOS		D		C	B					D		
Approach Vol, veh/h		641			312						598	
Approach Delay, s/veh		36.3			16.3						47.4	
Approach LOS		D			B						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.6	40.5		38.6		52.1
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	20.0	45.0		35.0		71.0
Max Q Clear Time (g_c+I1), s	5.7	31.3		31.4		7.0
Green Ext Time (p_c), s	0.2	3.2		1.2		1.0

Intersection Summary		
HCM 7th Control Delay, s/veh		36.5
HCM 7th LOS		D

Notes

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

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	230	943	0	0	327	220	38	0	206	0	0	0
Future Vol, veh/h	230	943	0	0	327	220	38	0	206	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Free	-	-	None
Storage Length	300	-	-	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	250	1025	0	0	355	239	41	0	224	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	355	0	-	-	-	0	1880	1880	-
Stage 1	-	-	-	-	-	-	1525	1525	-
Stage 2	-	-	-	-	-	-	355	355	-
Critical Hdwy	4.12	-	-	-	-	-	6.4	6.52	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	-
Pot Cap-1 Maneuver	1203	-	0	0	-	-	79	71	0
Stage 1	-	-	0	0	-	-	198	180	0
Stage 2	-	-	0	0	-	-	709	629	0
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	1203	-	-	-	-	-	63	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	63	0	-
Stage 1	-	-	-	-	-	-	157	0	-
Stage 2	-	-	-	-	-	-	709	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	1.72	0	137.41
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	63	-	1203	-	-	-
HCM Lane V/C Ratio	0.66	-	0.208	-	-	-
HCM Ctrl Dly (s/v)	137.4	0	8.8	-	-	-
HCM Lane LOS	F	A	A	-	-	-
HCM 95th %tile Q(veh)	2.8	-	0.8	-	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	1081	3	1	474	0	34	2	1	2	0	49
Future Vol, veh/h	70	1081	3	1	474	0	34	2	1	2	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	550	-	-	550	-	-	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	18	5	0	0	19	0	0	0	0	0	0	16
Mvmt Flow	76	1175	3	1	515	0	37	2	1	2	0	53

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	515	0	0	1178	0	0	1589	1846	589	1258	1848	258
Stage 1	-	-	-	-	-	-	1329	1329	-	517	517	-
Stage 2	-	-	-	-	-	-	260	517	-	741	1330	-
Critical Hdwy	4.46	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	7.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.46
Pot Cap-1 Maneuver	943	-	-	600	-	-	74	76	456	130	75	701
Stage 1	-	-	-	-	-	-	166	226	-	514	537	-
Stage 2	-	-	-	-	-	-	728	537	-	379	226	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	943	-	-	600	-	-	63	69	456	115	69	701
Mov Cap-2 Maneuver	-	-	-	-	-	-	63	69	-	115	69	-
Stage 1	-	-	-	-	-	-	153	208	-	513	536	-
Stage 2	-	-	-	-	-	-	672	536	-	344	208	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.56	0.02	118.09	11.59
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	63	97	943	-	-	600	-	-	115	701
HCM Lane V/C Ratio	0.591	0.034	0.081	-	-	0.002	-	-	0.019	0.076
HCM Ctrl Dly (s/v)	124.7	43.5	9.2	-	-	11	-	-	36.8	10.6
HCM Lane LOS	F	E	A	-	-	B	-	-	E	B
HCM 95th %tile Q(veh)	2.5	0.1	0.3	-	-	0	-	-	0.1	0.2

PM Phase I

Page Intentionally Left Blank

Intersection	
Intersection Delay, s/veh	10.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	28	14	5	43	187	13	145	1	51	115	54
Future Vol, veh/h	59	28	14	5	43	187	13	145	1	51	115	54
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
Heavy Vehicles, %	5	13	17	0	13	1	17	3	0	3	4	10
Mvmt Flow	64	30	15	5	47	203	14	158	1	55	125	59
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	9.7	10.2	10.5	10.2
HCM LOS	A	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	58%	2%	100%	0%
Vol Thru, %	0%	99%	28%	18%	0%	68%
Vol Right, %	0%	1%	14%	80%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	146	101	235	51	169
LT Vol	13	0	59	5	51	0
Through Vol	0	145	28	43	0	115
RT Vol	0	1	14	187	0	54
Lane Flow Rate	14	159	110	255	55	184
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.026	0.257	0.169	0.338	0.096	0.282
Departure Headway (Hd)	6.577	5.825	5.537	4.767	6.252	5.536
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	545	617	648	759	574	650
Service Time	4.308	3.555	3.57	2.767	3.983	3.267
HCM Lane V/C Ratio	0.026	0.258	0.17	0.336	0.096	0.283
HCM Control Delay, s/veh	9.5	10.6	9.7	10.2	9.6	10.4
HCM Lane LOS	A	B	A	B	A	B
HCM 95th-tile Q	0.1	1	0.6	1.5	0.3	1.2

Intersection	
Int Delay, s/veh	3.4

Movement	SEL	SER	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	38	91	101	231	411	59
Future Vol, veh/h	38	91	101	231	411	59
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, %	3	5	2	4	8	0
Mvmt Flow	41	99	110	251	447	64

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	949	479	511	0	-	0
Stage 1	479	-	-	-	-	-
Stage 2	471	-	-	-	-	-
Critical Hdwy	6.4	6.25	4.12	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.527	3.345	2.218	-	-	-
Pot Cap-1 Maneuver	290	581	1054	-	-	-
Stage 1	624	-	-	-	-	-
Stage 2	629	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	255	581	1054	-	-	-
Mov Cap-2 Maneuver	255	-	-	-	-	-
Stage 1	548	-	-	-	-	-
Stage 2	629	-	-	-	-	-

Approach	SE	NE	SW
HCM Ctrl Dly, s/v	17.73	2.68	0
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NET	SELn1	SWT	SWR
Capacity (veh/h)	548	-	422	-	-
HCM Lane V/C Ratio	0.104	-	0.332	-	-
HCM Ctrl Dly (s/v)	8.8	0	17.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.3	-	1.4	-	-

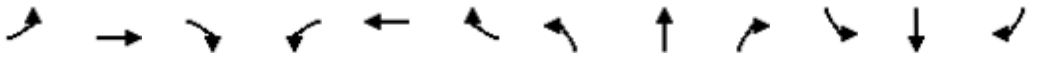
Intersection	
Int Delay, s/veh	5.7

Movement	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Vol, veh/h	189	30	13	253	441	210
Future Vol, veh/h	189	30	13	253	441	210
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	Free
Storage Length	0	0	300	-	-	200
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	0	0	10	3	0
Mvmt Flow	205	33	14	275	479	228

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	783	479	479	0	-	0
Stage 1	479	-	-	-	-	-
Stage 2	303	-	-	-	-	-
Critical Hdwy	6.2	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	381	590	1094	-	-	0
Stage 1	625	-	-	-	-	0
Stage 2	751	-	-	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	376	590	1094	-	-	-
Mov Cap-2 Maneuver	376	-	-	-	-	-
Stage 1	617	-	-	-	-	-
Stage 2	751	-	-	-	-	-

Approach	EB	NE	SW
HCM Ctrl Dly, s/v	23.58	0.41	0
HCM LOS	C		

Minor Lane/Major Mvmt	NEL	NET	EBLn1	EBLn2	SWT
Capacity (veh/h)	1094	-	376	590	-
HCM Lane V/C Ratio	0.013	-	0.546	0.055	-
HCM Ctrl Dly (s/v)	8.3	-	25.5	11.5	-
HCM Lane LOS	A	-	D	B	-
HCM 95th %tile Q(veh)	0	-	3.1	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	424	60	172	459	0	0	0	0	257	0	181
Future Volume (veh/h)	0	424	60	172	459	0	0	0	0	257	0	181
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	461	0	187	499	0				279	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	867		516	1179	0				356	0	
Arrive On Green	0.00	0.46	0.00	0.08	0.63	0.00				0.20	0.00	0.00
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1781	0	1585
Grp Volume(v), veh/h	0	461	0	187	499	0				279	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1781	0	1585
Q Serve(g_s), s	0.0	12.4	0.0	3.5	9.5	0.0				10.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.4	0.0	3.5	9.5	0.0				10.5	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	867		516	1179	0				356	0	
V/C Ratio(X)	0.00	0.53		0.36	0.42	0.00				0.78	0.00	
Avail Cap(c_a), veh/h	0	1192		875	1881	0				883	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	13.5	0.0	9.0	6.6	0.0				26.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.4	0.2	0.0				3.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.2	0.0	1.0	2.4	0.0				4.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	14.0	0.0	9.4	6.8	0.0				30.6	0.0	0.0
LnGrp LOS		B		A	A					C		
Approach Vol, veh/h		461			686						279	
Approach Delay, s/veh		14.0			7.5						30.6	
Approach LOS		B			A						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.8	38.7		20.1		50.5
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	20.0	45.0		35.0		71.0
Max Q Clear Time (g_c+I1), s	5.5	14.4		12.5		11.5
Green Ext Time (p_c), s	0.4	2.6		1.7		3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	14.1
HCM 7th LOS	B

Notes

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

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	179	506	0	0	544	530	58	0	147	0	0	0
Future Vol, veh/h	179	506	0	0	544	530	58	0	147	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Free	-	-	None
Storage Length	300	-	-	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	195	550	0	0	591	576	63	0	160	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	591	0	-	-	-	0	1530	1530	-
Stage 1	-	-	-	-	-	-	939	939	-
Stage 2	-	-	-	-	-	-	591	591	-
Critical Hdwy	4.12	-	-	-	-	-	6.4	6.52	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.518	4.018	-
Pot Cap-1 Maneuver	984	-	0	0	-	-	130	117	0
Stage 1	-	-	0	0	-	-	380	343	0
Stage 2	-	-	0	0	-	-	553	494	0
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	984	-	-	-	-	-	104	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	104	0	-
Stage 1	-	-	-	-	-	-	305	0	-
Stage 2	-	-	-	-	-	-	553	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	2.5	0	82.26
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	104	-	984	-	-	-
HCM Lane V/C Ratio	0.605	-	0.198	-	-	-
HCM Ctrl Dly (s/v)	82.3	0	9.6	-	-	-
HCM Lane LOS	F	A	A	-	-	-
HCM 95th %tile Q(veh)	2.9	-	0.7	-	-	-

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	541	34	2	978	3	8	5	2	1	1	60
Future Vol, veh/h	53	541	34	2	978	3	8	5	2	1	1	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	550	-	-	550	-	-	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	18	17	0	0	5	100	0	20	0	0	0	4
Mvmt Flow	58	588	37	2	1063	3	9	5	2	1	1	65

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1066	0	0	625	0	0	1258	1792	312	1481	1809	533
Stage 1	-	-	-	-	-	-	722	722	-	1069	1069	-
Stage 2	-	-	-	-	-	-	536	1071	-	412	740	-
Critical Hdwy	4.46	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.9	-	6.5	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4.2	3.3	3.5	4	3.34
Pot Cap-1 Maneuver	563	-	-	966	-	-	130	80	689	89	80	486
Stage 1	-	-	-	-	-	-	389	389	-	240	300	-
Stage 2	-	-	-	-	-	-	501	260	-	593	426	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	563	-	-	966	-	-	99	72	689	74	71	486
Mov Cap-2 Maneuver	-	-	-	-	-	-	99	72	-	74	71	-
Stage 1	-	-	-	-	-	-	349	349	-	239	300	-
Stage 2	-	-	-	-	-	-	431	259	-	523	382	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.02	0.02	45.05	15.18
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	99	97	563	-	-	966	-	-	74	444
HCM Lane V/C Ratio	0.088	0.079	0.102	-	-	0.002	-	-	0.015	0.149
HCM Ctrl Dly (s/v)	44.8	45.4	12.1	-	-	8.7	-	-	54.5	14.5
HCM Lane LOS	E	E	B	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.3	0.3	0.3	-	-	0	-	-	0	0.5

AM Phase II

Page Intentionally Left Blank

Intersection	
Intersection Delay, s/veh	36.1
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	39	131	3	6	32	135	10	223	5	488	116	23
Future Vol, veh/h	39	131	3	6	32	135	10	223	5	488	116	23
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
Heavy Vehicles, %	0	0	13	0	0	3	0	6	0	0	5	7
Mvmt Flow	42	142	3	7	35	147	11	242	5	530	126	25
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	14.5	13.4	16.3	55.8
HCM LOS	B	B	C	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	23%	3%	100%	0%
Vol Thru, %	0%	98%	76%	18%	0%	83%
Vol Right, %	0%	2%	2%	78%	0%	17%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	10	228	173	173	488	139
LT Vol	10	0	39	6	488	0
Through Vol	0	223	131	32	0	116
RT Vol	0	5	3	135	0	23
Lane Flow Rate	11	248	188	188	530	151
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.023	0.491	0.374	0.35	1.012	0.265
Departure Headway (Hd)	7.561	7.137	7.163	6.701	6.867	6.325
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	473	503	502	536	530	568
Service Time	5.317	4.893	5.218	4.757	4.612	4.07
HCM Lane V/C Ratio	0.023	0.493	0.375	0.351	1	0.266
HCM Control Delay, s/veh	10.5	16.6	14.5	13.4	68.5	11.4
HCM Lane LOS	B	C	B	B	F	B
HCM 95th-tile Q	0.1	2.7	1.7	1.6	14.5	1.1

Intersection	
Int Delay, s/veh	19.7

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	44	3	63	19	10	37	195	711	11	8	301	34
Future Vol, veh/h	44	3	63	19	10	37	195	711	11	8	301	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	2	2	2	2	3	5	2	2	11	13
Mvmt Flow	48	3	68	21	11	40	212	773	12	9	327	37

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1565	1572	346	1549	1584	779	364	0	0	785	0	0
Stage 1	363	363	-	1203	1203	-	-	-	-	-	-	-
Stage 2	1202	1209	-	346	382	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.52	6.22	7.1	6.52	6.22	4.13	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.318	3.518	4.018	3.318	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	91	110	697	94	108	396	1189	-	-	834	-	-
Stage 1	660	625	-	225	257	-	-	-	-	-	-	-
Stage 2	227	256	-	670	613	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	50	74	697	55	73	396	1189	-	-	834	-	-
Mov Cap-2 Maneuver	50	74	-	55	73	-	-	-	-	-	-	-
Stage 1	651	616	-	154	176	-	-	-	-	-	-	-
Stage 2	131	175	-	593	605	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Ctrl Dly, s/v	193.82	78.11	1.85	0.22
HCM LOS	F	F		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	382	-	-	115	108	41	-	-
HCM Lane V/C Ratio	0.178	-	-	0.624	1.108	0.01	-	-
HCM Ctrl Dly (s/v)	8.7	0	-	78.1	193.8	9.4	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.6	-	-	3.1	7.5	0	-	-

Intersection	
Int Delay, s/veh	613.9

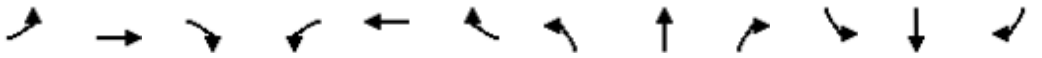
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	396	3	69	13	3	48	238	538	13	48	260	997
Future Vol, veh/h	396	3	69	13	3	48	238	538	13	48	260	997
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	0	-	-	-	-	-	300	-	100	100	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	0	2	0	2	2	2	0	5	2	2	10	4
Mvmt Flow	430	3	75	14	3	52	259	585	14	52	283	1084

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1491	1503	283	1491	1489	585	283	0	0	599	0	0
Stage 1	387	387	-	1102	1102	-	-	-	-	-	-	-
Stage 2	1104	1116	-	389	387	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.52	6.2	7.1	6.52	6.22	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.3	3.3	4.018	3.318	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 103	121	761	106	124	511	1291	-	-	978	-	0
Stage 1	641	610	-	266	287	-	-	-	-	-	-	0
Stage 2	~ 258	283	-	670	610	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 68	92	761	70	94	511	1291	-	-	978	-	-
Mov Cap-2 Maneuver	~ 68	92	-	70	94	-	-	-	-	-	-	-
Stage 1	606	577	-	213	230	-	-	-	-	-	-	-
Stage 2	~ 183	226	-	568	577	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Ctrl Dly, s/v	$ 2127.33	31.18	2.56	1.39
HCM LOS	F	D		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SELn2	SWL	SWT
Capacity (veh/h)	1291	-	-	206	68	584	978	-
HCM Lane V/C Ratio	0.2	-	-	0.338	6.317	0.134	0.053	-
HCM Ctrl Dly (s/v)	8.5	-	-	31.8	$ 2511.9	12.1	8.9	-
HCM Lane LOS	A	-	-	D	F	B	A	-
HCM 95th %tile Q(veh)	0.7	-	-	1.4	48.6	0.5	0.2	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	873	84	115	777	0	0	0	0	550	0	514
Future Volume (veh/h)	0	873	84	115	777	0	0	0	0	550	0	514
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	949	0	125	845	0				598	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	838		154	1030	0				626	0	
Arrive On Green	0.00	0.45	0.00	0.05	0.55	0.00				0.35	0.00	0.00
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1781	0	1585
Grp Volume(v), veh/h	0	949	0	125	845	0				598	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1781	0	1585
Q Serve(g_s), s	0.0	55.0	0.0	4.5	45.5	0.0				40.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	55.0	0.0	4.5	45.5	0.0				40.2	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	838		154	1030	0				626	0	
V/C Ratio(X)	0.00	1.13		0.81	0.82	0.00				0.95	0.00	
Avail Cap(c_a), veh/h	0	838		349	1234	0				653	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	33.9	0.0	28.6	22.6	0.0				38.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	74.4	0.0	9.7	3.9	0.0				24.1	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	40.1	0.0	2.1	18.9	0.0				20.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	108.3	0.0	38.2	26.5	0.0				62.9	0.0	0.0
LnGrp LOS		F		D	C					E		
Approach Vol, veh/h		949			970						598	
Approach Delay, s/veh		108.3			28.0						62.9	
Approach LOS		F			C						E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	12.6	61.0		49.2		73.6
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	20.0	55.0		45.0		81.0
Max Q Clear Time (g_c+I1), s	6.5	57.0		42.2		47.5
Green Ext Time (p_c), s	0.2	0.0		1.0		6.3

Intersection Summary	
HCM 7th Control Delay, s/veh	66.6
HCM 7th LOS	E

Notes

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

Intersection	
Int Delay, s/veh	123.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	286	1170	0	0	789	220	91	0	206	0	0	0
Future Vol, veh/h	286	1170	0	0	789	220	91	0	206	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Free	-	-	None
Storage Length	300	-	-	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	311	1272	0	0	858	239	99	0	224	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	858	0	-	-	-	0	2751	2751	-
Stage 1	-	-	-	-	-	-	1893	1893	-
Stage 2	-	-	-	-	-	-	858	858	-
Critical Hdwy	4.12	-	-	-	-	-	6.4	6.52	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.5	4.018	-
Pot Cap-1 Maneuver	783	-	0	0	-	-	~ 22	20	0
Stage 1	-	-	0	0	-	-	130	118	0
Stage 2	-	-	0	0	-	-	417	374	0
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	783	-	-	-	-	-	~ 13	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 13	0	-
Stage 1	-	-	-	-	-	-	~ 78	0	-
Stage 2	-	-	-	-	-	-	417	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	2.47	0	$ 3431.12
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	13	-	783	-	-	-
HCM Lane V/C Ratio	7.387	-	0.397	-	-	-
HCM Ctrl Dly (s/v)	$ 3431.1	0	12.6	-	-	-
HCM Lane LOS	F	A	B	-	-	-
HCM 95th %tile Q(veh)	13.4	-	1.9	-	-	-

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

Intersection	
Int Delay, s/veh	35.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	84	1294	3	1	867	0	63	2	1	2	0	89
Future Vol, veh/h	84	1294	3	1	867	0	63	2	1	2	0	89
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	550	-	-	550	-	-	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	18	5	0	0	19	0	0	0	0	0	0	16
Mvmt Flow	91	1407	3	1	942	0	68	2	1	2	0	97

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	942	0	0	1410	0	0	2064	2535	705	1832	2537	471
Stage 1	-	-	-	-	-	-	1591	1591	-	945	945	-
Stage 2	-	-	-	-	-	-	473	945	-	887	1592	-
Critical Hdwy	4.46	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	7.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.46
Pot Cap-1 Maneuver	632	-	-	490	-	-	~ 32	28	384	49	28	503
Stage 1	-	-	-	-	-	-	114	169	-	286	343	-
Stage 2	-	-	-	-	-	-	546	343	-	309	169	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	632	-	-	490	-	-	~ 22	24	384	38	24	503
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 22	24	-	38	24	-
Stage 1	-	-	-	-	-	-	98	144	-	285	343	-
Stage 2	-	-	-	-	-	-	440	343	-	260	144	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.71	0.01	$ 1242.14	15.87
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	22	34	632	-	-	490	-	-	38	503
HCM Lane V/C Ratio	3.07	0.095	0.144	-	-	0.002	-	-	0.057	0.192
HCM Ctrl Dly (s/v)	$ 1295.6	120.2	11.7	-	-	12.4	-	-	105.4	13.9
HCM Lane LOS	F	F	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	8.7	0.3	0.5	-	-	0	-	-	0.2	0.7

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

Page Intentionally Left Blank

AM Phase II Modified

Page Intentionally Left Blank

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	131	3	6	32	135	10	223	5	488	116	23
Future Volume (veh/h)	9	131	3	6	32	135	10	223	5	488	116	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1900	1900	1707	1900	1900	1856	1900	1811	1900	1900	1826	1796
Adj Flow Rate, veh/h	10	142	3	7	35	147	11	242	5	530	126	25
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, %	0	0	13	0	0	3	0	6	0	0	5	7
Cap, veh/h	109	306	6	101	59	222	885	1051	22	796	879	174
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.59	0.59	0.59	0.59	0.59	0.59
Sat Flow, veh/h	58	1774	36	28	340	1287	1256	1768	37	1151	1480	294
Grp Volume(v), veh/h	155	0	0	189	0	0	11	0	247	530	0	151
Grp Sat Flow(s),veh/h/ln	1868	0	0	1654	0	0	1256	0	1805	1151	0	1773
Q Serve(g_s), s	0.0	0.0	0.0	0.5	0.0	0.0	0.2	0.0	2.5	15.5	0.0	1.5
Cycle Q Clear(g_c), s	2.8	0.0	0.0	4.1	0.0	0.0	1.6	0.0	2.5	18.0	0.0	1.5
Prop In Lane	0.06		0.02	0.04		0.78	1.00		0.02	1.00		0.17
Lane Grp Cap(c), veh/h	422	0	0	382	0	0	885	0	1072	796	0	1054
V/C Ratio(X)	0.37	0.00	0.00	0.49	0.00	0.00	0.01	0.00	0.23	0.67	0.00	0.14
Avail Cap(c_a), veh/h	958	0	0	864	0	0	1375	0	1776	1245	0	1745
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.4	0.0	0.0	14.9	0.0	0.0	3.8	0.0	3.7	7.9	0.0	3.5
Incr Delay (d2), s/veh	0.5	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.1	1.0	0.0	0.1
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	1.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.3	1.9	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	14.9	0.0	0.0	15.9	0.0	0.0	3.8	0.0	3.8	8.9	0.0	3.5
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h		155			189			258			681	
Approach Delay, s/veh		14.9			15.9			3.8			7.7	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	27.4	11.2	27.4	11.2
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	38.0	18.0	38.0	18.0
Max Q Clear Time (g_c+I1), s	4.5	4.8	20.0	6.1
Green Ext Time (p_c), s	1.4	0.6	3.0	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	9.0
HCM 7th LOS	A

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	44	3	63	19	10	37	195	711	11	8	301	34
Future Volume (veh/h)	44	3	63	19	10	37	195	711	11	8	301	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1900	1870	1870	1870	1870	1870	1856	1826	1870	1870	1737	1707
Adj Flow Rate, veh/h	48	3	68	21	11	40	212	773	12	9	327	37
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, %	0	2	2	2	2	2	3	5	2	2	11	13
Cap, veh/h	428	243	206	193	47	114	719	1040	16	412	1008	839
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.58	0.58	0.58	0.58	0.58	0.58
Sat Flow, veh/h	1375	1870	1585	336	365	876	1010	1793	28	689	1737	1447
Grp Volume(v), veh/h	48	3	68	72	0	0	212	0	785	9	327	37
Grp Sat Flow(s),veh/h/ln	1375	1870	1585	1576	0	0	1010	0	1821	689	1737	1447
Q Serve(g_s), s	0.0	0.0	1.2	0.2	0.0	0.0	4.3	0.0	9.9	0.3	3.0	0.3
Cycle Q Clear(g_c), s	0.7	0.0	1.2	1.2	0.0	0.0	7.3	0.0	9.9	10.2	3.0	0.3
Prop In Lane	1.00		1.00	0.29		0.56	1.00		0.02	1.00		1.00
Lane Grp Cap(c), veh/h	428	243	206	355	0	0	719	0	1056	412	1008	839
V/C Ratio(X)	0.11	0.01	0.33	0.20	0.00	0.00	0.29	0.00	0.74	0.02	0.32	0.04
Avail Cap(c_a), veh/h	1051	1090	924	1050	0	0	1204	0	1929	743	1841	1533
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.1	11.8	12.3	12.3	0.0	0.0	5.3	0.0	4.8	8.6	3.4	2.8
Incr Delay (d2), s/veh	0.1	0.0	0.9	0.3	0.0	0.0	0.2	0.0	1.1	0.0	0.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.3	0.4	0.0	0.0	0.2	0.0	0.3	0.0	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	12.2	11.8	13.2	12.5	0.0	0.0	5.5	0.0	5.9	8.6	3.6	2.8
LnGrp LOS	B	B	B	B			A		A	A	A	A
Approach Vol, veh/h		119			72			997			373	
Approach Delay, s/veh		12.8			12.5			5.8			3.6	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	22.5	8.5	22.5	8.5
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	32.9	18.1	32.9	18.1
Max Q Clear Time (g_c+I1), s	11.9	3.2	12.2	3.2
Green Ext Time (p_c), s	6.1	0.2	1.8	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	6.1
HCM 7th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	396	3	69	13	3	48	238	538	13	48	260	997
Future Volume (veh/h)	396	3	69	13	3	48	238	538	13	48	260	997
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1900	1870	1900	1870	1870	1870	1900	1826	1870	1870	1752	1841
Adj Flow Rate, veh/h	430	3	75	14	3	52	259	585	14	52	283	0
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, %	0	2	0	2	2	2	0	5	2	2	10	4
Cap, veh/h	433	32	801	97	43	272	328	677	588	146	428	
Arrive On Green	0.24	0.52	0.52	0.23	0.23	0.23	0.07	0.37	0.37	0.24	0.24	0.00
Sat Flow, veh/h	1810	61	1533	199	189	1186	1810	1826	1585	820	1752	1560
Grp Volume(v), veh/h	430	0	78	69	0	0	259	585	14	52	283	0
Grp Sat Flow(s),veh/h/ln	1810	0	1594	1574	0	0	1810	1826	1585	820	1752	1560
Q Serve(g_s), s	20.0	0.0	2.1	0.0	0.0	0.0	6.2	25.0	0.5	5.3	12.3	0.0
Cycle Q Clear(g_c), s	20.0	0.0	2.1	2.8	0.0	0.0	6.2	25.0	0.5	19.6	12.3	0.0
Prop In Lane	1.00		0.96	0.20		0.75	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	433	0	833	413	0	0	328	677	588	146	428	
V/C Ratio(X)	0.99	0.00	0.09	0.17	0.00	0.00	0.79	0.86	0.02	0.36	0.66	
Avail Cap(c_a), veh/h	433	0	845	424	0	0	328	677	588	146	428	
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.0	0.0	10.1	26.1	0.0	0.0	27.2	24.6	16.8	38.6	28.7	0.0
Incr Delay (d2), s/veh	41.1	0.0	0.0	0.2	0.0	0.0	12.2	11.2	0.0	1.5	3.8	0.0
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	13.3	0.0	0.7	1.1	0.0	0.0	2.9	11.5	0.2	1.1	5.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	73.2	0.0	10.2	26.3	0.0	0.0	39.4	35.7	16.9	40.0	32.5	0.0
LnGrp LOS	E		B	C			D	D	B	D	C	
Approach Vol, veh/h		508			69			858			335	
Approach Delay, s/veh		63.5			26.3			36.5			33.7	
Approach LOS		E			C			D			C	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	10.7	25.1		48.6		35.8	24.7	23.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.2	20.6		44.7		31.3	20.2	20.0				
Max Q Clear Time (g_c+I1), s	8.2	21.6		4.1		27.0	22.0	4.8				
Green Ext Time (p_c), s	0.0	0.0		0.5		1.4	0.0	0.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	43.3
HCM 7th LOS	D

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	396	3	69	13	3	48	238	538	13	48	260	997
Future Volume (veh/h)	396	3	69	13	3	48	238	538	13	48	260	997
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1900	1870	1900	1870	1870	1870	1900	1826	1870	1870	1752	1841
Adj Flow Rate, veh/h	430	3	75	14	3	52	259	585	14	52	283	0
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, %	0	2	0	2	2	2	0	5	2	2	10	4
Cap, veh/h	436	32	806	98	44	274	323	1269	30	281	418	
Arrive On Green	0.24	0.53	0.53	0.23	0.23	0.23	0.07	0.37	0.37	0.24	0.24	0.00
Sat Flow, veh/h	1810	61	1533	199	189	1186	1810	3463	83	820	1752	1560
Grp Volume(v), veh/h	430	0	78	69	0	0	259	293	306	52	283	0
Grp Sat Flow(s),veh/h/ln	1810	0	1594	1574	0	0	1810	1735	1811	820	1752	1560
Q Serve(g_s), s	19.8	0.0	2.0	0.0	0.0	0.0	6.2	10.8	10.8	4.3	12.3	0.0
Cycle Q Clear(g_c), s	19.8	0.0	2.0	2.8	0.0	0.0	6.2	10.8	10.8	4.4	12.3	0.0
Prop In Lane	1.00		0.96	0.20		0.75	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	436	0	839	415	0	0	323	636	664	281	418	
V/C Ratio(X)	0.99	0.00	0.09	0.17	0.00	0.00	0.80	0.46	0.46	0.19	0.68	
Avail Cap(c_a), veh/h	436	0	851	427	0	0	323	648	677	287	431	
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	31.6	0.0	9.9	25.8	0.0	0.0	27.4	20.2	20.2	26.0	28.9	0.0
Incr Delay (d2), s/veh	39.1	0.0	0.0	0.2	0.0	0.0	13.6	0.5	0.5	0.3	4.0	0.0
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	12.9	0.0	0.7	1.1	0.0	0.0	3.0	3.9	4.1	0.8	5.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	70.7	0.0	9.9	26.0	0.0	0.0	41.0	20.7	20.7	26.3	33.0	0.0
LnGrp LOS	E		A	C			D	C	C	C	C	
Approach Vol, veh/h		508			69			858			335	
Approach Delay, s/veh		61.4			26.0			26.8			31.9	
Approach LOS		E			C			C			C	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	10.7	24.5		48.5		35.2	24.7	23.8				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	6.2	20.6		44.7		31.3	20.2	20.0				
Max Q Clear Time (g_c+I1), s	8.2	14.3		4.0		12.8	21.8	4.8				
Green Ext Time (p_c), s	0.0	0.9		0.5		3.0	0.0	0.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	37.7	
HCM 7th LOS	D	

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	396	3	69	13	3	48	238	538	13	48	260	997
Future Volume (veh/h)	396	3	69	13	3	48	238	538	13	48	260	997
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1900	1870	1900	1870	1870	1870	1900	1826	1870	1870	1752	1841
Adj Flow Rate, veh/h	430	3	75	14	3	52	259	585	14	52	283	0
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, %	0	2	0	2	2	2	0	5	2	2	10	4
Cap, veh/h	554	29	732	110	49	307	336	1387	33	221	476	
Arrive On Green	0.16	0.48	0.48	0.26	0.26	0.26	0.07	0.40	0.40	0.27	0.27	0.00
Sat Flow, veh/h	3510	61	1533	197	191	1187	1810	3463	83	820	1752	1560
Grp Volume(v), veh/h	430	0	78	69	0	0	259	293	306	52	283	0
Grp Sat Flow(s),veh/h/ln	1755	0	1594	1575	0	0	1810	1735	1811	820	1752	1560
Q Serve(g_s), s	8.7	0.0	2.0	0.0	0.0	0.0	1.3	9.0	9.0	4.2	10.3	0.0
Cycle Q Clear(g_c), s	8.7	0.0	2.0	2.4	0.0	0.0	1.3	9.0	9.0	13.2	10.3	0.0
Prop In Lane	1.00		0.96	0.20		0.75	1.00		0.05	1.00		1.00
Lane Grp Cap(c), veh/h	554	0	761	466	0	0	336	695	725	221	476	
V/C Ratio(X)	0.78	0.00	0.10	0.15	0.00	0.00	0.77	0.42	0.42	0.24	0.59	
Avail Cap(c_a), veh/h	859	0	921	486	0	0	423	790	824	226	488	
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	29.7	0.0	10.6	21.1	0.0	0.0	30.3	15.9	15.9	28.4	23.3	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.1	0.1	0.0	0.0	6.6	0.4	0.4	0.5	1.9	0.0
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	3.6	0.0	0.6	0.9	0.0	0.0	4.6	3.1	3.2	0.8	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	32.1	0.0	10.6	21.3	0.0	0.0	36.9	16.3	16.3	28.9	25.1	0.0
LnGrp LOS	C		B	C			D	B	B	C	C	
Approach Vol, veh/h		508			69			858			335	
Approach Delay, s/veh		28.8			21.3			22.5			25.7	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2		4		6	7	8
Phs Duration (G+Y+Rc), s	9.5	24.5		39.6		34.0	16.1	23.5
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	20.5		42.5		33.5	18.0	20.0
Max Q Clear Time (g_c+I1), s	3.3	15.2		4.0		11.0	10.7	4.4
Green Ext Time (p_c), s	0.3	0.8		0.4		3.1	1.0	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	24.9
HCM 7th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	873	84	115	777	0	0	0	0	550	0	514
Future Volume (veh/h)	0	873	84	115	777	0	0	0	0	550	0	514
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	949	0	125	845	0				598	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2166		414	2500	0				694	0	
Arrive On Green	0.00	0.61	0.00	0.04	0.70	0.00				0.19	0.00	0.00
Sat Flow, veh/h	0	3647	1585	1781	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	949	0	125	845	0				598	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	16.8	0.0	2.9	10.9	0.0				19.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	16.8	0.0	2.9	10.9	0.0				19.2	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2166		414	2500	0				694	0	
V/C Ratio(X)	0.00	0.44		0.30	0.34	0.00				0.86	0.00	
Avail Cap(c_a), veh/h	0	2166		639	2500	0				1057	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.90	0.00	0.94	0.94	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	12.3	0.0	8.8	6.8	0.0				46.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.4	0.1	0.0				4.8	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.0	0.0	1.0	3.3	0.0				8.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	12.9	0.0	9.2	6.9	0.0				50.8	0.0	0.0
LnGrp LOS		B		A	A					D		
Approach Vol, veh/h		949			970						598	
Approach Delay, s/veh		12.9			7.2						50.8	
Approach LOS		B			A						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.1	77.9		29.0		89.0
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	20.0	45.0		35.0		71.0
Max Q Clear Time (g_c+I1), s	4.9	18.8		21.2		12.9
Green Ext Time (p_c), s	0.2	6.5		1.8		6.1

Intersection Summary	
HCM 7th Control Delay, s/veh	19.7
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	777	0	0	873	0	0	0	0
Future Volume (vph)	0	0	0	0	777	0	0	873	0	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				
Lane Util. Factor					0.95			0.95				
Frt					1.00			1.00				
Flt Protected					1.00			1.00				
Satd. Flow (prot)					3539			3539				
Flt Permitted					1.00			1.00				
Satd. Flow (perm)					3539			3539				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	845	0	0	949	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	845	0	0	949	0	0	0	0
Turn Type					NA			NA				
Protected Phases					8			2				
Permitted Phases												
Actuated Green, G (s)					43.0			49.0				
Effective Green, g (s)					43.0			49.0				
Actuated g/C Ratio					0.43			0.49				
Clearance Time (s)					4.0			4.0				
Vehicle Extension (s)					3.0			3.0				
Lane Grp Cap (vph)					1521			1734				
v/s Ratio Prot					c0.24			c0.27				
v/s Ratio Perm												
v/c Ratio					0.56			0.55				
Uniform Delay, d1					21.3			17.8				
Progression Factor					0.13			1.00				
Incremental Delay, d2					0.4			1.2				
Delay (s)					3.3			19.0				
Level of Service					A			B				
Approach Delay (s/veh)		0.0			3.3			19.0			0.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	286	1170	0	0	789	220	91	0	206	0	0	0
Future Volume (veh/h)	286	1170	0	0	789	220	91	0	206	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	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			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	311	1272	0	0	858	0	99	0	0			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	422	2324	0	0	2324		456	0				
Arrive On Green	0.65	0.65	0.00	0.00	0.65	0.00	0.26	0.00	0.00			
Sat Flow, veh/h	644	3647	0	0	3647	1585	1781	0	1585			
Grp Volume(v), veh/h	311	1272	0	0	858	0	99	0	0			
Grp Sat Flow(s),veh/h/ln	644	1777	0	0	1777	1585	1781	0	1585			
Q Serve(g_s), s	42.6	19.3	0.0	0.0	11.0	0.0	4.4	0.0	0.0			
Cycle Q Clear(g_c), s	53.7	19.3	0.0	0.0	11.0	0.0	4.4	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	422	2324	0	0	2324		456	0				
V/C Ratio(X)	0.74	0.55	0.00	0.00	0.37		0.22	0.00				
Avail Cap(c_a), veh/h	461	2541	0	0	2541		456	0				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.72	0.72	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	20.1	9.3	0.0	0.0	7.9	0.0	29.3	0.0	0.0			
Incr Delay (d2), s/veh	4.1	0.1	0.0	0.0	0.1	0.0	1.1	0.0	0.0			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	5.8	5.8	0.0	0.0	3.3	0.0	1.9	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.2	9.5	0.0	0.0	8.0	0.0	30.4	0.0	0.0			
LnGrp LOS	C	A			A		C					
Approach Vol, veh/h		1583			858			99				
Approach Delay, s/veh		12.4			8.0			30.4				
Approach LOS		B			A			C				

Timer - Assigned Phs	2	4			8	
Phs Duration (G+Y+Rc), s	30.1	69.9			69.9	
Change Period (Y+Rc), s	4.5	4.5			4.5	
Max Green Setting (Gmax), s	19.5	71.5			71.5	
Max Q Clear Time (g_c+I1), s	6.4	55.7			13.0	
Green Ext Time (p_c), s	0.3	9.7			6.3	

Intersection Summary		
HCM 7th Control Delay, s/veh	11.6	
HCM 7th LOS	B	

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	1170	0	0	0	0	0	0	0	0	789	0
Future Volume (vph)	0	1170	0	0	0	0	0	0	0	0	789	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0									4.0	
Lane Util. Factor		0.95									0.95	
Frt		1.00									1.00	
Flt Protected		1.00									1.00	
Satd. Flow (prot)		3539									3539	
Flt Permitted		1.00									1.00	
Satd. Flow (perm)		3539									3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1272	0	0	0	0	0	0	0	0	858	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1272	0	0	0	0	0	0	0	0	858	0
Turn Type		NA									NA	
Protected Phases		2									4	
Permitted Phases												
Actuated Green, G (s)		55.0									37.0	
Effective Green, g (s)		55.0									37.0	
Actuated g/C Ratio		0.55									0.37	
Clearance Time (s)		4.0									4.0	
Lane Grp Cap (vph)		1946									1309	
v/s Ratio Prot		c0.36									c0.24	
v/s Ratio Perm												
v/c Ratio		0.65									0.66	
Uniform Delay, d1		15.8									26.2	
Progression Factor		0.73									1.00	
Incremental Delay, d2		1.6									2.6	
Delay (s)		13.1									28.8	
Level of Service		B									C	
Approach Delay (s/veh)		13.1			0.0			0.0			28.8	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	19.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	35.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	84	1294	3	1	867	0	63	2	1	2	0	89
Future Vol, veh/h	84	1294	3	1	867	0	63	2	1	2	0	89
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	550	-	-	550	-	-	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	18	5	0	0	19	0	0	0	0	0	0	16
Mvmt Flow	91	1407	3	1	942	0	68	2	1	2	0	97

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	942	0	0	1410	0	0	2064	2535	705	1832	2537	471
Stage 1	-	-	-	-	-	-	1591	1591	-	945	945	-
Stage 2	-	-	-	-	-	-	473	945	-	887	1592	-
Critical Hdwy	4.46	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	7.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.5	-	6.5	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4	3.3	3.5	4	3.46
Pot Cap-1 Maneuver	632	-	-	490	-	-	~ 32	28	384	49	28	503
Stage 1	-	-	-	-	-	-	114	169	-	286	343	-
Stage 2	-	-	-	-	-	-	546	343	-	309	169	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	632	-	-	490	-	-	~ 22	24	384	38	24	503
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 22	24	-	38	24	-
Stage 1	-	-	-	-	-	-	98	144	-	285	343	-
Stage 2	-	-	-	-	-	-	440	343	-	260	144	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.71	0.01	$ 1242.14	15.87
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	22	34	632	-	-	490	-	-	38	503
HCM Lane V/C Ratio	3.07	0.095	0.144	-	-	0.002	-	-	0.057	0.192
HCM Ctrl Dly (s/v)	$ 1295.6	120.2	11.7	-	-	12.4	-	-	105.4	13.9
HCM Lane LOS	F	F	B	-	-	B	-	-	F	B
HCM 95th %tile Q(veh)	8.7	0.3	0.5	-	-	0	-	-	0.2	0.7

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

Page Intentionally Left Blank

PM Phase II

Page Intentionally Left Blank

Intersection	
Intersection Delay, s/veh	71.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	59	94	14	15	152	513	13	195	4	118	139	57
Future Vol, veh/h	59	94	14	15	152	513	13	195	4	118	139	57
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
Heavy Vehicles, %	5	13	17	0	13	1	17	3	0	3	4	10
Mvmt Flow	64	102	15	16	165	558	14	212	4	128	151	62
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay, s/veh	15.3	127	17.8	16.1
HCM LOS	C	F	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	35%	2%	100%	0%
Vol Thru, %	0%	98%	56%	22%	0%	71%
Vol Right, %	0%	2%	8%	75%	0%	29%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	13	199	167	680	118	196
LT Vol	13	0	59	15	118	0
Through Vol	0	195	94	152	0	139
RT Vol	0	4	14	513	0	57
Lane Flow Rate	14	216	182	739	128	213
Geometry Grp	5	5	2	2	5	5
Degree of Util (X)	0.033	0.466	0.369	1.202	0.288	0.438
Departure Headway (Hd)	9.198	8.414	7.837	5.855	8.743	8.029
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	392	430	463	621	414	452
Service Time	6.898	6.114	5.837	3.93	6.443	5.729
HCM Lane V/C Ratio	0.036	0.502	0.393	1.19	0.309	0.471
HCM Control Delay, s/veh	12.2	18.2	15.3	127	14.9	16.8
HCM Lane LOS	B	C	C	F	B	C
HCM 95th-tile Q	0.1	2.4	1.7	25.9	1.2	2.2

Intersection	
Int Delay, s/veh	15.5

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	52	10	101	9	10	20	112	308	34	27	605	91
Future Vol, veh/h	52	10	101	9	10	20	112	308	34	27	605	91
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	2	5	2	2	2	2	4	2	2	8	0
Mvmt Flow	57	11	110	10	11	22	122	335	37	29	658	99

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1349	1381	707	1318	1412	353	757	0	0	372	0	0
Stage 1	766	766	-	597	597	-	-	-	-	-	-	-
Stage 2	584	615	-	722	815	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.52	6.25	7.1	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.018	3.345	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	129	144	430	135	138	690	854	-	-	1187	-	-
Stage 1	396	412	-	490	492	-	-	-	-	-	-	-
Stage 2	498	482	-	418	391	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	90	113	430	73	108	690	854	-	-	1187	-	-
Mov Cap-2 Maneuver	90	113	-	73	108	-	-	-	-	-	-	-
Stage 1	379	394	-	401	403	-	-	-	-	-	-	-
Stage 2	385	395	-	290	374	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Ctrl Dly, s/v	114.72	35.63	2.45	0.3
HCM LOS	F	E		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SWL	SWT	SWR
Capacity (veh/h)	435	-	-	159	181	66	-	-
HCM Lane V/C Ratio	0.142	-	-	0.266	0.981	0.025	-	-
HCM Ctrl Dly (s/v)	9.9	0	-	35.6	114.7	8.1	0	-
HCM Lane LOS	A	A	-	E	F	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	1	7.9	0.1	-	-

Intersection	
Int Delay, s/veh	1477.3

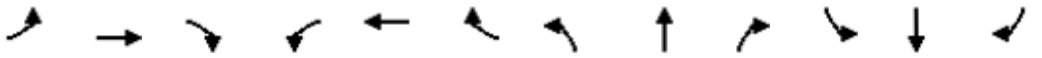
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1052	4	246	14	4	56	90	273	14	56	464	517
Future Vol, veh/h	1052	4	246	14	4	56	90	273	14	56	464	517
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	Free
Storage Length	0	-	-	-	-	-	300	-	100	100	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	2	0	2	2	2	0	10	2	2	3	0
Mvmt Flow	1143	4	267	15	4	61	98	297	15	61	504	562

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1121	1134	504	1121	1118	297	504	0	0	312	0	0
Stage 1	626	626	-	492	492	-	-	-	-	-	-	-
Stage 2	495	508	-	628	626	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.52	6.2	7.1	6.52	6.22	4.1	-	-	4.12	-	-
Critical Hdwy Stg 1	6.11	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4.018	3.3	3.5	4.018	3.318	2.2	-	-	2.218	-	-
Pot Cap-1 Maneuver	~ 185	203	572	185	207	743	1071	-	-	1248	-	0
Stage 1	~ 475	477	-	560	547	-	-	-	-	-	-	0
Stage 2	~ 560	539	-	472	477	-	-	-	-	-	-	0
Platoon blocked, %								-	-		-	
Mov Cap-1 Maneuver	~ 144	175	572	83	179	743	1071	-	-	1248	-	-
Mov Cap-2 Maneuver	~ 144	175	-	83	179	-	-	-	-	-	-	-
Stage 1	~ 451	454	-	509	497	-	-	-	-	-	-	-
Stage 2	~ 463	490	-	237	454	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Ctrl Dly, s/v	$ 2576.85	23.09	2.08	0.86
HCM LOS	F	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWLn1	SELn1	SELn2	SWL	SWT
Capacity (veh/h)	1071	-	-	279	144	552	1248	-
HCM Lane V/C Ratio	0.091	-	-	0.289	7.948	0.493	0.049	-
HCM Ctrl Dly (s/v)	8.7	-	-	23.1	$ 3185	17.7	8	-
HCM Lane LOS	A	-	-	C	F	C	A	-
HCM 95th %tile Q(veh)	0.3	-	-	1.2	128.3	2.7	0.2	-

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1246	177	172	733	0	0	0	0	257	0	293
Future Volume (veh/h)	0	1246	177	172	733	0	0	0	0	257	0	293
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1354	0	187	797	0				279	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	1076		218	1336	0				325	0	
Arrive On Green	0.00	0.58	0.00	0.09	0.71	0.00				0.18	0.00	0.00
Sat Flow, veh/h	0	1870	1585	1781	1870	0				1781	0	1585
Grp Volume(v), veh/h	0	1354	0	187	797	0				279	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	1585	1781	1870	0				1781	0	1585
Q Serve(g_s), s	0.0	67.0	0.0	7.9	24.7	0.0				17.7	0.0	0.0
Cycle Q Clear(g_c), s	0.0	67.0	0.0	7.9	24.7	0.0				17.7	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	1076		218	1336	0				325	0	
V/C Ratio(X)	0.00	1.26		0.86	0.60	0.00				0.86	0.00	
Avail Cap(c_a), veh/h	0	1076		368	1493	0				596	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	1.00	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	24.8	0.0	38.5	8.3	0.0				46.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	124.1	0.0	9.8	0.5	0.0				6.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	62.4	0.0	5.7	7.8	0.0				8.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	148.9	0.0	48.2	8.8	0.0				52.7	0.0	0.0
LnGrp LOS		F		D	A					D		
Approach Vol, veh/h		1354			984						279	
Approach Delay, s/veh		148.9			16.3						52.7	
Approach LOS		F			B						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	16.2	73.0		27.3		89.2
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	20.0	67.0		39.0		93.0
Max Q Clear Time (g_c+I1), s	9.9	69.0		19.7		26.7
Green Ext Time (p_c), s	0.3	0.0		1.6		6.0

Intersection Summary		
HCM 7th Control Delay, s/veh		88.8
HCM 7th LOS		F

Notes

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

Intersection	
Int Delay, s/veh	183.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	394	1113	0	0	788	530	88	0	147	0	0	0
Future Vol, veh/h	394	1113	0	0	788	530	88	0	147	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Yield	-	-	Free	-	-	None
Storage Length	300	-	-	-	-	0	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	428	1210	0	0	857	576	96	0	160	0	0	0

Major/Minor	Major1			Major2			Minor1		
Conflicting Flow All	857	0	-	-	-	0	2923	2923	-
Stage 1	-	-	-	-	-	-	2066	2066	-
Stage 2	-	-	-	-	-	-	857	857	-
Critical Hdwy	4.12	-	-	-	-	-	6.4	6.52	-
Critical Hdwy Stg 1	-	-	-	-	-	-	5.42	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	5.42	5.52	-
Follow-up Hdwy	2.218	-	-	-	-	-	3.5	4.018	-
Pot Cap-1 Maneuver	784	-	0	0	-	-	~ 17	15	0
Stage 1	-	-	0	0	-	-	106	97	0
Stage 2	-	-	0	0	-	-	417	374	0
Platoon blocked, %		-			-	-			
Mov Cap-1 Maneuver	784	-	-	-	-	-	~ 8	0	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 8	0	-
Stage 1	-	-	-	-	-	-	~ 48	0	-
Stage 2	-	-	-	-	-	-	417	0	-

Approach	EB	WB	NB
HCM Ctrl Dly, s/v	3.92	0	$ 5998.21
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	WBT	WBR
Capacity (veh/h)	8	-	784	-	-	-
HCM Lane V/C Ratio	12.268	-	0.546	-	-	-
HCM Ctrl Dly (s/v)	$ 5998.2	0	15	-	-	-
HCM Lane LOS	F	A	B	-	-	-
HCM 95th %tile Q(veh)	13.6	-	3.4	-	-	-

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

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	1063	68	2	1207	3	10	5	2	1	1	73
Future Vol, veh/h	104	1063	68	2	1207	3	10	5	2	1	1	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	550	-	-	550	-	-	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	18	17	0	0	5	100	0	20	0	0	0	4
Mvmt Flow	113	1155	74	2	1312	3	11	5	2	1	1	79

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1315	0	0	1229	0	0	2079	2738	615	2124	2773	658
Stage 1	-	-	-	-	-	-	1418	1418	-	1318	1318	-
Stage 2	-	-	-	-	-	-	661	1320	-	807	1455	-
Critical Hdwy	4.46	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.9	-	6.5	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4.2	3.3	3.5	4	3.34
Pot Cap-1 Maneuver	444	-	-	574	-	-	31	20	439	29	19	402
Stage 1	-	-	-	-	-	-	146	172	-	169	229	-
Stage 2	-	-	-	-	-	-	423	193	-	346	197	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	444	-	-	574	-	-	18	15	439	15	14	402
Mov Cap-2 Maneuver	-	-	-	-	-	-	18	15	-	15	14	-
Stage 1	-	-	-	-	-	-	109	128	-	168	228	-
Stage 2	-	-	-	-	-	-	336	192	-	246	146	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.34	0.02	$ 325.07	24.88
HCM LOS			F	C

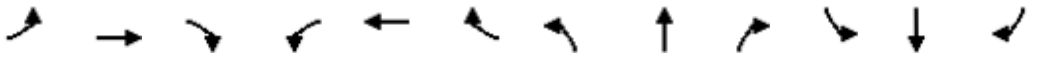
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	18	21	444	-	-	574	-	-	15	295
HCM Lane V/C Ratio	0.614	0.365	0.255	-	-	0.004	-	-	0.072	0.273
HCM Ctrl Dly (s/v)	$ 373.9	255.3	15.9	-	-	11.3	-	-	259.8	21.7
HCM Lane LOS	F	F	C	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	1.6	1.1	1	-	-	0	-	-	0.2	1.1

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

Page Intentionally Left Blank

PM Phase II Modified

Page Intentionally Left Blank



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	94	14	15	152	513	13	195	4	118	139	57
Future Volume (veh/h)	59	94	14	15	152	513	13	195	4	118	139	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1826	1707	1648	1900	1707	1885	1648	1856	1900	1856	1841	1752
Adj Flow Rate, veh/h	64	102	15	16	165	558	14	212	4	128	151	62
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, %	5	13	17	0	13	1	17	3	0	3	4	10
Cap, veh/h	240	331	41	92	185	588	342	489	9	368	334	137
Arrive On Green	0.52	0.52	0.52	0.52	0.52	0.52	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	242	637	79	11	356	1131	1030	1815	34	1156	1240	509
Grp Volume(v), veh/h	181	0	0	739	0	0	14	0	216	128	0	213
Grp Sat Flow(s),veh/h/ln	959	0	0	1498	0	0	1030	0	1849	1156	0	1749
Q Serve(g_s), s	0.0	0.0	0.0	5.5	0.0	0.0	0.5	0.0	4.1	4.4	0.0	4.3
Cycle Q Clear(g_c), s	2.5	0.0	0.0	20.0	0.0	0.0	4.8	0.0	4.1	8.5	0.0	4.3
Prop In Lane	0.35		0.08	0.02		0.76	1.00		0.02	1.00		0.29
Lane Grp Cap(c), veh/h	612	0	0	865	0	0	342	0	499	368	0	472
V/C Ratio(X)	0.30	0.00	0.00	0.85	0.00	0.00	0.04	0.00	0.43	0.35	0.00	0.45
Avail Cap(c_a), veh/h	619	0	0	874	0	0	509	0	800	556	0	756
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	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	5.5	0.0	0.0	9.7	0.0	0.0	15.0	0.0	12.9	16.5	0.0	13.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	8.2	0.0	0.0	0.0	0.0	0.6	0.6	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	5.4	0.0	0.0	0.1	0.0	1.4	1.0	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	5.8	0.0	0.0	17.9	0.0	0.0	15.0	0.0	13.5	17.0	0.0	13.7
LnGrp LOS	A			B			B		B	B		B
Approach Vol, veh/h		181			739			230			341	
Approach Delay, s/veh		5.8			17.9			13.6			14.9	
Approach LOS		A			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.0		26.8		16.0		26.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		22.5		18.5		22.5				
Max Q Clear Time (g_c+I1), s		6.8		4.5		10.5		22.0				
Green Ext Time (p_c), s		0.8		1.1		1.0		0.3				

Intersection Summary												
HCM 7th Control Delay, s/veh			15.1									
HCM 7th LOS			B									

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	52	10	101	9	10	20	112	308	34	27	605	91
Future Volume (veh/h)	52	10	101	9	10	20	112	308	34	27	605	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1856	1870	1826	1870	1870	1870	1870	1841	1870	1870	1781	1900
Adj Flow Rate, veh/h	57	11	110	10	11	22	122	335	37	29	658	99
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, %	3	2	5	2	2	2	2	4	2	2	8	0
Cap, veh/h	439	262	217	180	78	115	454	914	101	691	999	903
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	1365	1870	1547	232	556	825	708	1628	180	1010	1781	1610
Grp Volume(v), veh/h	57	11	110	43	0	0	122	0	372	29	658	99
Grp Sat Flow(s),veh/h/ln	1365	1870	1547	1612	0	0	708	0	1808	1010	1781	1610
Q Serve(g_s), s	0.3	0.2	2.0	0.0	0.0	0.0	4.4	0.0	3.4	0.5	7.7	0.9
Cycle Q Clear(g_c), s	0.9	0.2	2.0	0.7	0.0	0.0	12.1	0.0	3.4	3.9	7.7	0.9
Prop In Lane	1.00		1.00	0.23		0.51	1.00		0.10	1.00		1.00
Lane Grp Cap(c), veh/h	439	262	217	373	0	0	454	0	1015	691	999	903
V/C Ratio(X)	0.13	0.04	0.51	0.12	0.00	0.00	0.27	0.00	0.37	0.04	0.66	0.11
Avail Cap(c_a), veh/h	1065	1119	925	1086	0	0	833	0	1983	1232	1953	1766
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.5	11.2	12.0	11.4	0.0	0.0	8.8	0.0	3.7	4.7	4.6	3.1
Incr Delay (d2), s/veh	0.1	0.1	1.8	0.1	0.0	0.0	0.3	0.0	0.2	0.0	0.7	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.6	0.2	0.0	0.0	0.3	0.0	0.1	0.0	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	11.6	11.3	13.8	11.6	0.0	0.0	9.1	0.0	3.9	4.8	5.3	3.1
LnGrp LOS	B	B	B	B			A		A	A	A	A
Approach Vol, veh/h		178			43			494			786	
Approach Delay, s/veh		13.0			11.6			5.2			5.0	
Approach LOS		B			B			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	21.4	8.7	21.4	8.7
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5
Max Green Setting (Gmax), s	33.0	18.0	33.0	18.0
Max Q Clear Time (g_c+I1), s	14.1	4.0	9.7	2.7
Green Ext Time (p_c), s	2.8	0.4	4.5	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	6.2
HCM 7th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	1052	4	246	14	4	56	90	273	14	56	464	517
Future Volume (veh/h)	1052	4	246	14	4	56	90	273	14	56	464	517
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1885	1870	1900	1870	1870	1870	1900	1752	1870	1870	1856	1900
Adj Flow Rate, veh/h	1143	4	267	15	4	61	98	297	15	61	504	0
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, %	1	2	0	2	2	2	0	10	2	2	3	0
Cap, veh/h	856	15	1002	51	26	157	108	526	476	216	439	
Arrive On Green	0.48	0.64	0.64	0.13	0.13	0.13	0.03	0.30	0.30	0.24	0.24	0.00
Sat Flow, veh/h	1795	23	1565	172	194	1175	1810	1752	1585	1067	1856	1610
Grp Volume(v), veh/h	1143	0	271	80	0	0	98	297	15	61	504	0
Grp Sat Flow(s),veh/h/ln	1795	0	1589	1541	0	0	1810	1752	1585	1067	1856	1610
Q Serve(g_s), s	71.5	0.0	11.1	0.0	0.0	0.0	5.0	21.4	1.0	7.7	35.5	0.0
Cycle Q Clear(g_c), s	71.5	0.0	11.1	6.6	0.0	0.0	5.0	21.4	1.0	19.6	35.5	0.0
Prop In Lane	1.00		0.99	0.19		0.76	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	856	0	1017	234	0	0	108	526	476	216	439	
V/C Ratio(X)	1.34	0.00	0.27	0.34	0.00	0.00	0.90	0.57	0.03	0.28	1.15	
Avail Cap(c_a), veh/h	856	0	1017	234	0	0	108	526	476	216	439	
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.3	0.0	11.7	59.2	0.0	0.0	50.4	44.3	37.1	56.5	57.2	0.0
Incr Delay (d2), s/veh	159.0	0.0	0.1	0.9	0.0	0.0	57.4	1.4	0.0	0.7	90.0	0.0
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	68.3	0.0	3.9	2.8	0.0	0.0	2.9	9.3	0.4	2.1	27.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	198.2	0.0	11.9	60.1	0.0	0.0	107.8	45.7	37.1	57.2	147.2	0.0
LnGrp LOS	F		B	E			F	D	D	E	F	
Approach Vol, veh/h		1414			80			410			565	
Approach Delay, s/veh		162.5			60.1			60.2			137.5	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	9.5	40.0		100.5		49.5	76.0	24.5				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	35.5		96.0		45.0	71.5	20.0				
Max Q Clear Time (g_c+I1), s	7.0	37.5		13.1		23.4	73.5	8.6				
Green Ext Time (p_c), s	0.0	0.0		2.0		1.5	0.0	0.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	136.5
HCM 7th LOS	F

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	1052	4	246	14	4	56	90	273	14	56	464	517
Future Volume (veh/h)	1052	4	246	14	4	56	90	273	14	56	464	517
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1885	1870	1900	1870	1870	1870	1900	1752	1870	1870	1856	1900
Adj Flow Rate, veh/h	1143	4	267	15	4	61	98	297	15	61	504	0
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, %	1	2	0	2	2	2	0	10	2	2	3	0
Cap, veh/h	856	15	1002	51	26	157	108	967	49	292	439	
Arrive On Green	0.48	0.64	0.64	0.13	0.13	0.13	0.03	0.30	0.30	0.24	0.24	0.00
Sat Flow, veh/h	1795	23	1565	172	194	1175	1810	3225	162	1067	1856	1610
Grp Volume(v), veh/h	1143	0	271	80	0	0	98	153	159	61	504	0
Grp Sat Flow(s),veh/h/ln	1795	0	1589	1541	0	0	1810	1664	1723	1067	1856	1610
Q Serve(g_s), s	71.5	0.0	11.1	0.0	0.0	0.0	5.0	10.6	10.7	7.0	35.5	0.0
Cycle Q Clear(g_c), s	71.5	0.0	11.1	6.6	0.0	0.0	5.0	10.6	10.7	8.2	35.5	0.0
Prop In Lane	1.00		0.99	0.19		0.76	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	856	0	1017	234	0	0	108	499	517	292	439	
V/C Ratio(X)	1.34	0.00	0.27	0.34	0.00	0.00	0.90	0.31	0.31	0.21	1.15	
Avail Cap(c_a), veh/h	856	0	1017	234	0	0	108	499	517	292	439	
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.3	0.0	11.7	59.2	0.0	0.0	50.4	40.5	40.5	47.3	57.2	0.0
Incr Delay (d2), s/veh	159.0	0.0	0.1	0.9	0.0	0.0	57.4	0.3	0.3	0.4	90.0	0.0
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	68.3	0.0	3.9	2.8	0.0	0.0	2.9	4.3	4.5	1.9	27.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	198.2	0.0	11.9	60.1	0.0	0.0	107.8	40.8	40.8	47.7	147.2	0.0
LnGrp LOS	F		B	E			F	D	D	D	F	
Approach Vol, veh/h		1414			80			410			565	
Approach Delay, s/veh		162.5			60.1			56.8			136.5	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2		4		6	7	8				
Phs Duration (G+Y+Rc), s	9.5	40.0		100.5		49.5	76.0	24.5				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.0	35.5		96.0		45.0	71.5	20.0				
Max Q Clear Time (g_c+I1), s	7.0	37.5		13.1		12.7	73.5	8.6				
Green Ext Time (p_c), s	0.0	0.0		2.0		1.6	0.0	0.2				

Intersection Summary		
HCM 7th Control Delay, s/veh	135.7	
HCM 7th LOS	F	

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (veh/h)	1052	4	246	14	4	56	90	273	14	56	464	517
Future Volume (veh/h)	1052	4	246	14	4	56	90	273	14	56	464	517
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width 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
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	1885	1870	1900	1870	1870	1870	1900	1752	1870	1870	1856	1900
Adj Flow Rate, veh/h	1143	4	267	15	4	61	98	297	15	61	504	0
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, %	1	2	0	2	2	2	0	10	2	2	3	0
Cap, veh/h	1156	13	868	70	35	214	155	1173	59	361	514	
Arrive On Green	0.33	0.55	0.55	0.18	0.18	0.18	0.05	0.36	0.36	0.28	0.28	0.00
Sat Flow, veh/h	3483	23	1565	172	194	1175	1810	3225	162	1067	1856	1610
Grp Volume(v), veh/h	1143	0	271	80	0	0	98	153	159	61	504	0
Grp Sat Flow(s),veh/h/ln	1742	0	1589	1541	0	0	1810	1664	1723	1067	1856	1610
Q Serve(g_s), s	35.9	0.0	10.1	0.0	0.0	0.0	4.2	7.1	7.1	4.8	29.6	0.0
Cycle Q Clear(g_c), s	35.9	0.0	10.1	4.6	0.0	0.0	4.2	7.1	7.1	4.8	29.6	0.0
Prop In Lane	1.00		0.99	0.19		0.76	1.00		0.09	1.00		1.00
Lane Grp Cap(c), veh/h	1156	0	881	319	0	0	155	605	626	361	514	
V/C Ratio(X)	0.99	0.00	0.31	0.25	0.00	0.00	0.63	0.25	0.25	0.17	0.98	
Avail Cap(c_a), veh/h	1156	0	881	319	0	0	155	605	626	361	514	
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	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.5	0.0	13.2	38.7	0.0	0.0	30.0	24.5	24.5	30.5	39.4	0.0
Incr Delay (d2), s/veh	23.7	0.0	0.2	0.4	0.0	0.0	8.1	0.2	0.2	0.2	34.3	0.0
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	18.5	0.0	3.5	1.9	0.0	0.0	2.0	2.7	2.8	1.2	17.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.3	0.0	13.4	39.1	0.0	0.0	38.2	24.7	24.8	30.7	73.8	0.0
LnGrp LOS	E		B	D			D	C	C	C	E	
Approach Vol, veh/h		1414			80			410			565	
Approach Delay, s/veh		51.3			39.1			28.0			69.1	
Approach LOS		D			D			C			E	

Timer - Assigned Phs	1	2		4		6	7	8
Phs Duration (G+Y+Rc), s	9.5	35.0		65.5		44.5	41.0	24.5
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s	5.0	30.5		61.0		40.0	36.5	20.0
Max Q Clear Time (g_c+I1), s	6.2	31.6		12.1		9.1	37.9	6.6
Green Ext Time (p_c), s	0.0	0.0		1.9		1.6	0.0	0.3

Intersection Summary		
HCM 7th Control Delay, s/veh	51.1	
HCM 7th LOS	D	

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	1246	177	172	733	0	0	0	0	257	0	293
Future Volume (veh/h)	0	1246	177	172	733	0	0	0	0	257	0	293
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	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
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1870	1870	1870
Adj Flow Rate, veh/h	0	1354	0	187	797	0				279	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	2442		352	2810	0				364	0	
Arrive On Green	0.00	0.69	0.00	0.05	0.79	0.00				0.10	0.00	0.00
Sat Flow, veh/h	0	3647	1585	1781	3647	0				3563	0	1585
Grp Volume(v), veh/h	0	1354	0	187	797	0				279	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1585	1781	1777	0				1781	0	1585
Q Serve(g_s), s	0.0	21.6	0.0	3.2	6.8	0.0				8.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	21.6	0.0	3.2	6.8	0.0				8.5	0.0	0.0
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	2442		352	2810	0				364	0	
V/C Ratio(X)	0.00	0.55		0.53	0.28	0.00				0.77	0.00	
Avail Cap(c_a), veh/h	0	2442		582	2810	0				922	0	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.60	0.00	0.58	0.58	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	8.8	0.0	8.4	3.2	0.0				49.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.7	0.1	0.0				3.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.7	0.0	1.0	1.5	0.0				4.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	9.4	0.0	9.1	3.3	0.0				52.4	0.0	0.0
LnGrp LOS		A		A	A					D		
Approach Vol, veh/h		1354			984						279	
Approach Delay, s/veh		9.4			4.4						52.4	
Approach LOS		A			A						D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	11.6	83.0		17.4		94.6
Change Period (Y+Rc), s	6.0	6.0		6.0		6.0
Max Green Setting (Gmax), s	20.0	45.0		29.0		71.0
Max Q Clear Time (g_c+I1), s	15.2	23.6		10.5		8.8
Green Ext Time (p_c), s	0.4	9.5		0.9		5.7

Intersection Summary	
HCM 7th Control Delay, s/veh	12.1
HCM 7th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	733	0	0	1246	0	0	0	0
Future Volume (vph)	0	0	0	0	733	0	0	1246	0	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				
Lane Util. Factor					0.95			0.95				
Frt					1.00			1.00				
Flt Protected					1.00			1.00				
Satd. Flow (prot)					3539			3539				
Flt Permitted					1.00			1.00				
Satd. Flow (perm)					3539			3539				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	797	0	0	1354	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	797	0	0	1354	0	0	0	0
Turn Type					NA			NA				
Protected Phases					8			2				
Permitted Phases												
Actuated Green, G (s)					35.0			57.0				
Effective Green, g (s)					35.0			57.0				
Actuated g/C Ratio					0.35			0.57				
Clearance Time (s)					4.0			4.0				
Vehicle Extension (s)					3.0			3.0				
Lane Grp Cap (vph)					1238			2017				
v/s Ratio Prot					c0.23			c0.38				
v/s Ratio Perm												
v/c Ratio					0.64			0.67				
Uniform Delay, d1					27.3			15.0				
Progression Factor					0.33			1.00				
Incremental Delay, d2					1.1			1.8				
Delay (s)					10.3			16.8				
Level of Service					B			B				
Approach Delay (s/veh)		0.0			10.3			16.8			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	394	1113	0	0	788	530	88	0	147	0	0	0
Future Volume (veh/h)	394	1113	0	0	788	530	88	0	147	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Ped-Bike Adj(A_pbT)	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			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	428	1210	0	0	857	0	96	0	0			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2			
Cap, veh/h	469	1892	0	0	1016		673	0				
Arrive On Green	0.20	0.53	0.00	0.00	0.29	0.00	0.38	0.00	0.00			
Sat Flow, veh/h	1781	3647	0	0	3647	1585	1781	0	1585			
Grp Volume(v), veh/h	428	1210	0	0	857	0	96	0	0			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1585	1781	0	1585			
Q Serve(g_s), s	17.1	24.1	0.0	0.0	22.7	0.0	3.5	0.0	0.0			
Cycle Q Clear(g_c), s	17.1	24.1	0.0	0.0	22.7	0.0	3.5	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		1.00	1.00		1.00			
Lane Grp Cap(c), veh/h	469	1892	0	0	1016		673	0				
V/C Ratio(X)	0.91	0.64	0.00	0.00	0.84		0.14	0.00				
Avail Cap(c_a), veh/h	653	2505	0	0	1262		673	0				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.71	0.71	0.00	0.00	1.00	0.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	23.6	16.6	0.0	0.0	33.6	0.0	20.5	0.0	0.0			
Incr Delay (d2), s/veh	10.4	0.3	0.0	0.0	4.5	0.0	0.4	0.0	0.0			
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	7.7	8.5	0.0	0.0	9.7	0.0	1.5	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.0	16.8	0.0	0.0	38.1	0.0	20.9	0.0	0.0			
LnGrp LOS	C	B			D		C					
Approach Vol, veh/h		1638			857			96				
Approach Delay, s/veh		21.3			38.1			20.9				
Approach LOS		C			D			C				

Timer - Assigned Phs	2	4		7	8
Phs Duration (G+Y+Rc), s	42.3	57.7		24.6	33.1
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5
Max Green Setting (Gmax), s	20.5	70.5		30.5	35.5
Max Q Clear Time (g_c+I1), s	5.5	26.1		19.1	24.7
Green Ext Time (p_c), s	0.3	10.2		1.0	3.9

Intersection Summary	
HCM 7th Control Delay, s/veh	26.8
HCM 7th LOS	C

Notes

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	0	1113	0	0	0	0	0	0	0	0	788	0
Future Volume (vph)	0	1113	0	0	0	0	0	0	0	0	788	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0									4.0	
Lane Util. Factor		0.95									0.95	
Frt		1.00									1.00	
Flt Protected		1.00									1.00	
Satd. Flow (prot)		3539									3539	
Flt Permitted		1.00									1.00	
Satd. Flow (perm)		3539									3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1210	0	0	0	0	0	0	0	0	857	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1210	0	0	0	0	0	0	0	0	857	0
Turn Type		NA									NA	
Protected Phases		2									4	
Permitted Phases												
Actuated Green, G (s)		53.0									39.0	
Effective Green, g (s)		53.0									39.0	
Actuated g/C Ratio		0.53									0.39	
Clearance Time (s)		4.0									4.0	
Lane Grp Cap (vph)		1875									1380	
v/s Ratio Prot		c0.34									c0.24	
v/s Ratio Perm												
v/c Ratio		0.65									0.62	
Uniform Delay, d1		16.8									24.6	
Progression Factor		0.66									1.00	
Incremental Delay, d2		1.6									2.1	
Delay (s)		12.7									26.7	
Level of Service		B									C	
Approach Delay (s/veh)		12.7			0.0			0.0			26.7	
Approach LOS		B			A			A			C	

Intersection Summary			
HCM 2000 Control Delay (s/veh)	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	59.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	104	1063	68	2	1207	3	10	5	2	1	1	73
Future Vol, veh/h	104	1063	68	2	1207	3	10	5	2	1	1	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	550	-	-	550	-	-	100	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	18	17	0	0	5	100	0	20	0	0	0	4
Mvmt Flow	113	1155	74	2	1312	3	11	5	2	1	1	79

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1315	0	0	1229	0	0	2079	2738	615	2124	2773	658
Stage 1	-	-	-	-	-	-	1418	1418	-	1318	1318	-
Stage 2	-	-	-	-	-	-	661	1320	-	807	1455	-
Critical Hdwy	4.46	-	-	4.1	-	-	7.5	6.5	6.9	7.5	6.5	6.98
Critical Hdwy Stg 1	-	-	-	-	-	-	6.5	5.9	-	6.5	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.5	5.9	-	6.5	5.5	-
Follow-up Hdwy	2.38	-	-	2.2	-	-	3.5	4.2	3.3	3.5	4	3.34
Pot Cap-1 Maneuver	444	-	-	574	-	-	31	20	439	29	19	402
Stage 1	-	-	-	-	-	-	146	172	-	169	229	-
Stage 2	-	-	-	-	-	-	423	193	-	346	197	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	444	-	-	574	-	-	18	15	439	15	14	402
Mov Cap-2 Maneuver	-	-	-	-	-	-	18	15	-	15	14	-
Stage 1	-	-	-	-	-	-	109	128	-	168	228	-
Stage 2	-	-	-	-	-	-	336	192	-	246	146	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.34	0.02	$ 325.07	24.88
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	18	21	444	-	-	574	-	-	15	295
HCM Lane V/C Ratio	0.614	0.365	0.255	-	-	0.004	-	-	0.072	0.273
HCM Ctrl Dly (s/v)	$ 373.9	255.3	15.9	-	-	11.3	-	-	259.8	21.7
HCM Lane LOS	F	F	C	-	-	B	-	-	F	C
HCM 95th %tile Q(veh)	1.6	1.1	1	-	-	0	-	-	0.2	1.1

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