



May 29, 2014

Mr. Mark McMullen
American Environmental Consulting, LLC
6885 S. Marshall Street, Suite 3
Littleton, CO 80128

Re: Waste Management CSI
Traffic Impact Analysis
Adams County, CO
(LSC #140330)

Dear Mr. McMullen:

In response to your request, LSC Transportation Consultants, Inc. has prepared this traffic impact analysis for the proposed Waste Management CSI site. As shown on Figure 1, the site is located south of E. 88th Avenue and west of Schumaker Road in Adams County, Colorado.

REPORT CONTENTS

The report contains the following: the existing roadway and traffic conditions in the vicinity of the site including the lane geometries, traffic controls, posted speed limits, etc.; the existing weekday peak-hour traffic volumes; the existing daily traffic volumes in the area; the typical weekday site-generated traffic volume projections for the site; the assignment of the projected traffic volumes to the area roadways; the projected short-term and long-term background and resulting total traffic volumes on the area roadways; the site's projected traffic impacts; and any recommended roadway improvements to mitigate the site's traffic impacts.

LAND USE AND ACCESS

The site currently includes a waste management facility with full movement access to E. 88th Avenue. The existing access includes a 420-foot eastbound right-turn lane with a 330-foot transition taper on E. 88th Avenue.

ROADWAY AND TRAFFIC CONDITIONS

Area Roadways

The major roadways in the site's vicinity are shown on Figure 1 and are described below.

- **E. 88th Avenue** is an east-west, two-lane minor arterial roadway north of the site. The intersections with N. Imboden Road and SH 79 are stop-sign controlled. The posted speed limit in the vicinity of the site is 55 mph.

- **SH 79** is a north-south, two-lane principal arterial roadway east of the site. The posted speed limit in the vicinity of the site is 65 mph. The highway is classified as rural highway (R-B) by CDOT.
- **N. Imboden Road** is a north-south, two-lane, minor arterial roadway west of the site. The intersection with E. 88th Avenue is stop-sign controlled. The posted speed limit in the vicinity of the site is 55 mph.
- **Schumaker Road** is a north-south, two-lane, section line arterial east of the site. The intersection with E. 88th Avenue is stop-sign controlled.

Existing Traffic Conditions

Figure 2 shows the existing lane geometries, traffic controls, posted speed limits, and traffic volumes in the site's vicinity on a typical weekday. The weekday peak-hour traffic volumes and daily traffic counts are from the attached traffic counts conducted by Counter Measures in May, 2014.

2035 Background Traffic

Figure 3 shows the estimated 2035 background traffic. The 2035 background volumes were developed after reviewing the *SH 79 PEL Study* by CDOT and are based on an annual growth rate of about two percent.

Existing and 2035 Background Levels of Service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A is indicative of little congestion or delay and LOS F is indicative of a high level of congestion or delay. Attached are specific level of service definitions for unsignalized intersections.

The intersections of E. 88th Avenue with SH 79, N. Imboden Road, Schumaker Road, and the Site Access were analyzed to determine the existing and 2035 background levels of service using Synchro Version 8. Table 1 shows the level of service analysis results. The level of service reports are attached.

- **E. 88th Avenue/SH 79:** All movements of this stop-sign controlled intersection currently operate at LOS "A" during both morning and afternoon peak-hours. By 2035, all movements are expected to operate at LOS "B" or better during both morning and afternoon peak-hours.
- **E. 88th Avenue/N. Imboden Road:** All movements of this unsignalized intersection currently operate at LOS "A" during both morning and afternoon peak-hours and are expected to continue to do so through 2035.
- **E. 88th Avenue/Schumaker Road:** All movements of this unsignalized intersection currently operate at LOS "A" during both morning and afternoon peak-hours and are expected to continue to do so through 2035.

- **E. 88th Avenue/Site Access:** All movements of this unsignalized intersection currently operate at LOS “A” during both morning and afternoon peak-hours and are expected to continue to do so through 2035.

TRIP GENERATION

Existing traffic counts show the weekday peak-hour volumes generated by the site. During the weekday morning peak-hour, nine vehicles entered the site and five vehicles exited the site. During the weekday afternoon peak-hour, three vehicles entered the site and seven vehicles exited the site. Data provided by Waste Management shows the site generated an average of 42 trucks per weekday from January 1, 2013 to April 9, 2014. Forty-two truck trips plus additional trips for employees and deliveries result in about 100 vehicle-trips per weekday.

Waste Management expects the site traffic to grow over time but the level of growth is unknown. It was determined the best method to estimate traffic impacts is to analyze two scenarios - Scenario 1 assumes 50 percent growth and Scenario 2 assumes 100 percent growth.

TRIP DISTRIBUTION

The existing trip distribution was documented with existing traffic counts. Any future traffic is expected to have a similar directional distribution as existing site traffic.

TRIP ASSIGNMENT

Figure 4a shows the estimated assignment of site-generated traffic volumes assuming a 50 percent growth in site traffic. Figure 4b shows the estimated assignment of site-generated traffic volumes assuming a 100 percent growth in site traffic.

EXISTING PLUS SITE-GENERATED TRAFFIC AND 2035 TOTAL TRAFFIC

Figure 5a shows the existing plus site-generated traffic assuming a 50 percent growth in site traffic. Figure 5a also shows the recommended lane geometry and traffic control.

Figure 5b shows the existing plus site-generated traffic assuming a 100 percent growth in site traffic. Figure 5b also shows the recommended lane geometry and traffic control.

Figure 6a shows the 2035 total traffic assuming a 50 percent growth in site traffic which is the sum of 2035 background traffic volumes (from Figure 3) and the site-generated traffic volumes (from Figure 5a). Figure 6a also shows the recommended 2035 lane geometry and traffic control.

Figure 6b shows the 2035 total traffic assuming a 100 percent growth in site traffic which is the sum of 2035 background traffic volumes (from Figure 3) and the site-generated traffic volumes (from Figure 5b). Figure 6b also shows the recommended 2035 lane geometry and traffic control.

PROJECTED LEVELS OF SERVICE

The intersections of E. 88th Avenue with SH 79, N. Imboden Road, Schumaker Road, and the Site Access were analyzed to determine the existing plus site-generated and 2035 total levels of service for the scenario that assumes 100 percent growth in site traffic. Table 1 shows the level of service analysis results. The level of service reports are attached.

- **E. 88th Avenue/SH 79:** All movements of this unsignalized intersection are expected to operate at LOS “B” or better during both morning and afternoon peak-hours through 2035.
- **E. 88th Avenue/N. Imboden Road:** All movements of this unsignalized intersection are expected to operate at LOS “A” during both morning and afternoon peak-hours through 2035.
- **E. 88th Avenue/Schumaker Road:** All movements of this unsignalized intersection are expected to operate at LOS “A” during both morning and afternoon peak-hours through 2035.
- **E. 88th Avenue/Site Access:** All movements of this unsignalized intersection are expected to operate at LOS “A” during both morning and afternoon peak-hours through 2035.

AUXILIARY TURN LANE DISCUSSION

The southbound left-turn movement from N. Imboden Road to E. 88th Avenue currently exceeds the 10 vph threshold for a deceleration lane but the opposing northbound approach movements are expected to total well below 100 vph through 2035 so this lane should not be necessary.

The northbound left-turn movement from SH 79 to E. 88th Avenue currently exceeds the 10 vph threshold for a deceleration lane in the afternoon peak-hour. The opposing southbound approach movements are currently less than 100 vph but should exceed 100 vph by 2035. A northbound left-turn deceleration lane will likely be required once an access permit is triggered for the west leg of the SH 79/E. 88th Avenue intersection.

STATE HIGHWAY ACCESS PERMIT DISCUSSION

A state highway access permit will likely be required for the west leg of the SH 79/E. 88th Avenue intersection once the existing peak-hour volumes on the west leg increase by 20 percent.

The existing morning peak-hour volume was counted as 44 vehicles and the afternoon peak-hour volume was counted at 38 vehicles. The baseline condition is the higher of these volumes. The trigger for an access permit application would be 20 percent above 44 vehicles per hour which is 53 vehicles per hour.

The site-generated impact to this leg of the intersection with 100 percent site traffic growth is projected to be seven vehicles in the morning peak-hour and five vehicles in the afternoon peak-hour. These additional trips from the site are not expected to increase existing volumes by 20 percent.

CONCLUSIONS AND RECOMMENDATIONS

Trip Generation

1. Existing traffic counts show the weekday peak-hour volumes generated by the site. During the weekday morning peak-hour, nine vehicles entered the site and five vehicles exited the site. During the weekday afternoon peak-hour, three vehicles entered the site and seven vehicles exited the site. Data provided by Waste Management shows the site generated an average of 42 trucks per weekday from January 1, 2013 to April 9, 2014. Forty-two truck trips plus additional trips for employees and deliveries result in about 100 vehicle-trips per weekday.
2. Waste Management expects the site traffic to grow over time but the level of growth is unknown. It was determined the best method to estimate traffic impacts is to analyze two scenarios - Scenario 1 assumes 50 percent growth and Scenario 2 assumes 100 percent growth.

Projected Levels of Service

3. All movements at the intersections analyzed are expected to operate at LOS “B” or better during both morning and afternoon peak-hours through 2035.

Auxiliary Turn Lane Discussion

4. The southbound left-turn movement from N. Imboden Road to E. 88th Avenue currently exceeds the 10 vph threshold for a deceleration lane but the opposing northbound approach movements are expected to total well below 100 vph through 2035 so this lane should not be necessary.
5. The northbound left-turn movement from SH 79 to E. 88th Avenue currently exceeds the 10 vph threshold for a deceleration lane in the afternoon peak-hour. The opposing southbound approach movements are currently less than 100 vph but should exceed 100 vph by 2035. A northbound left-turn deceleration lane will likely be required once an access permit is triggered for the west leg of the SH 79/E. 88th Avenue intersection.

State Highway Access Permit Discussion

6. A state highway access permit will likely be required for the west leg of the SH 79/E. 88th Avenue intersection once the existing peak-hour volumes on the west leg increase by 20 percent. Additional trips from the site are not expected to increase existing volumes by 20 percent.

Recommendations

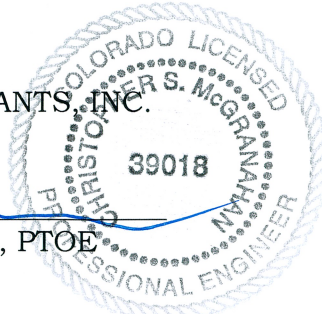
7. The impact of the Waste Management CSI site can be accommodated by the existing roadway network.

We trust our findings will assist you in planning for the Waste Management CSI site. Please contact me if you have any questions or need further assistance.

Sincerely,

LSC TRANSPORTATION CONSULTANTS, INC.

By 
Christopher S. McGranahan, PE, PTOE
Principal



CSM/wc

5-29-14

- Enclosures: Table 1
Figures 1 - 6b
Traffic Count Reports
Level of Service Definitions
Level of Service Reports

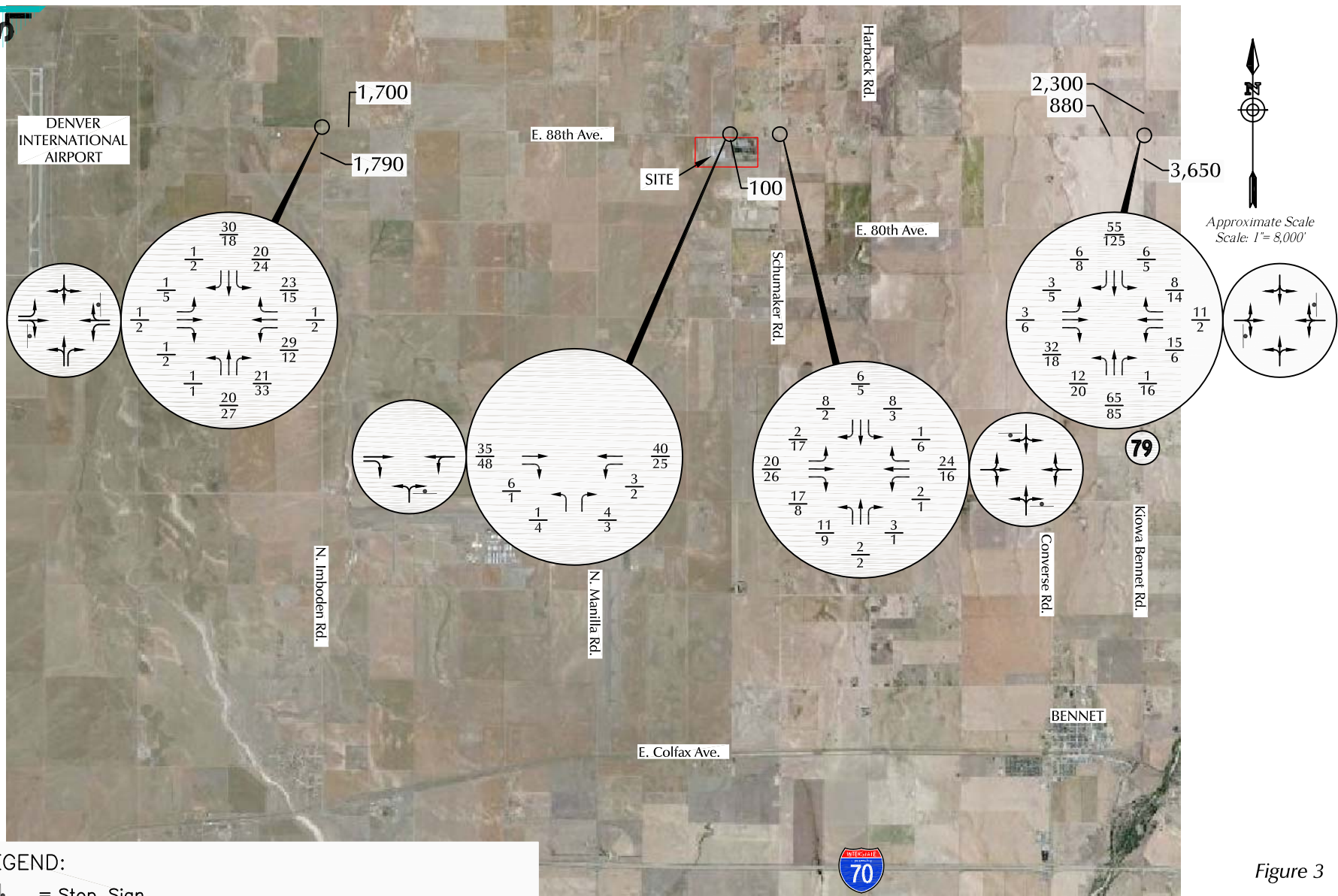
Table 1
Intersection Levels of Service Analysis
Waste Management CSI
Adams County, CO
(LSC #140330; May, 2014)

Intersection Location	Traffic Control	Existing Traffic		Existing Plus 100% Site Growth		2035 Background Traffic		2035 Background Plus 100% Site Growth	
		Level of Service	Level of Service	Level of Service	Level of Service	Level of Service	Level of Service	Level of Service	Level of Service
		AM	PM	AM	PM	AM	PM	AM	PM
<u>E. 88th Avenue/SH 79</u>		TWSC							
	NB Approach	A	A	A	A	A	A	A	A
	EB Approach	A	A	A	A	A	B	A	B
	WB Approach	A	A	A	A	B	A	B	A
	SB Approach	A	A	A	A	A	A	A	A
	Critical Movement Delay	9.5	9.4	9.6	9.4	10.1	10.0	10.2	10.0
<u>E. 88th Avenue/Imboden Road</u>		TWSC							
	NB Left/Through	A	A	A	A	A	A	A	A
	EB Left	A	A	A	A	A	A	A	A
	EB Through/Right	A	A	A	A	A	A	A	A
	WB Left	A	A	A	A	A	A	A	A
	WB Through/Right	A	A	A	A	A	A	A	A
	SB Approach	A	A	A	A	A	A	A	A
	Critical Movement Delay	9.1	9.2	9.1	9.2	9.5	9.6	9.5	9.6
<u>E. 88th Avenue/Schumaker Road</u>		TWSC							
	NB Approach	A	A	A	A	A	A	A	A
	EB Approach	A	A	A	A	A	A	A	A
	WB Approach	A	A	A	A	A	A	A	A
	SB Approach	A	A	A	A	A	A	A	A
	Critical Movement Delay	8.9	9.3	9.0	9.3	9.1	9.5	9.2	9.6
<u>E. 88th Avenue/Site Access</u>		TWSC							
	NB Approach	A	A	A	A	A	A	A	A
	WB Left	A	A	A	A	A	A	A	A
	Critical Movement Delay	8.6	8.8	8.7	8.9	8.8	9.0	8.8	9.1



Approximate Scale
Scale: 1" = 8,000'

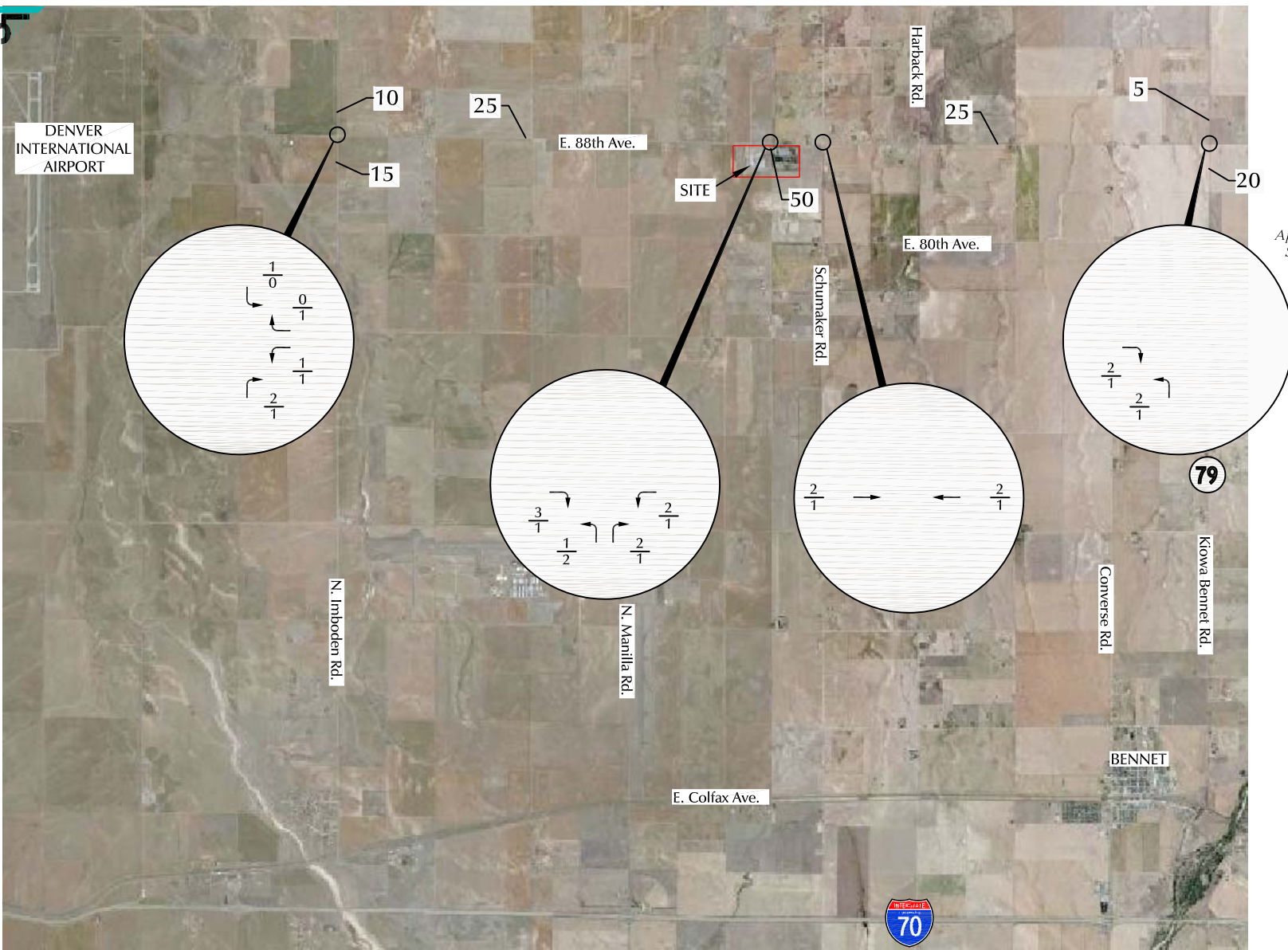
Figure 1
**Vicinity
Map**



LEGEND:

- ⊥ = Stop Sign
- $\frac{26}{35}$ = $\frac{\text{AM Weekday Peak Hour Traffic}}{\text{PM Weekday Peak Hour Traffic}}$
- 3,700 = Average Daily Traffic

Figure 3
**Year 2035 Background Traffic,
Lane Geometry and Traffic Control**



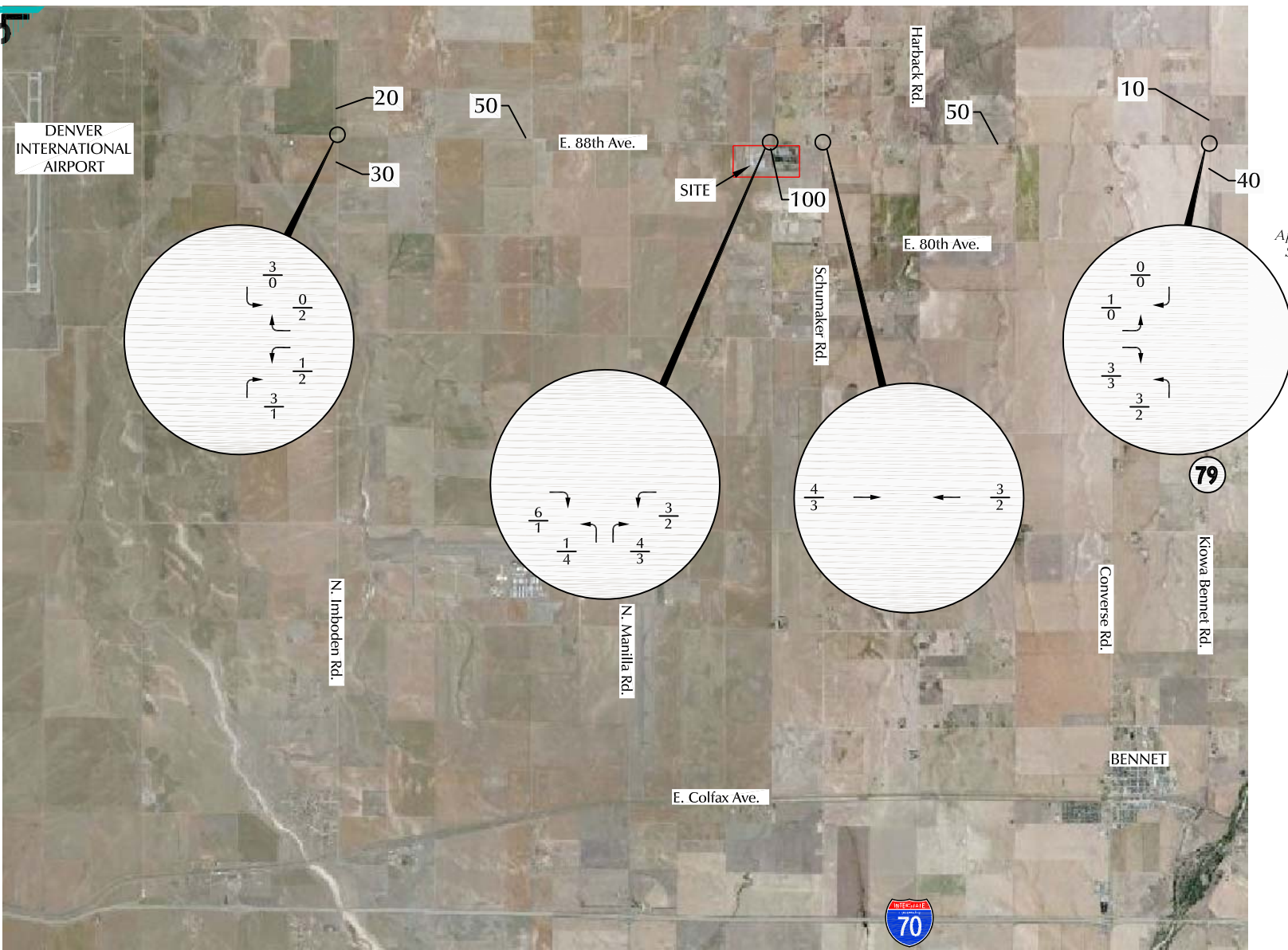
LEGEND:

- $\frac{26}{35}$ = AM Weeekday Peak Hour Traffic
- = PM Weekday Peak Hour Traffic
- 3,700 = Average Daily Traffic

Assignment of Site-Generated Traffic Assuming 50% Site Growth

Waste Management CSI (LSC #140330)

Figure 4a



Approximate Scale
Scale: 1" = 8,000'

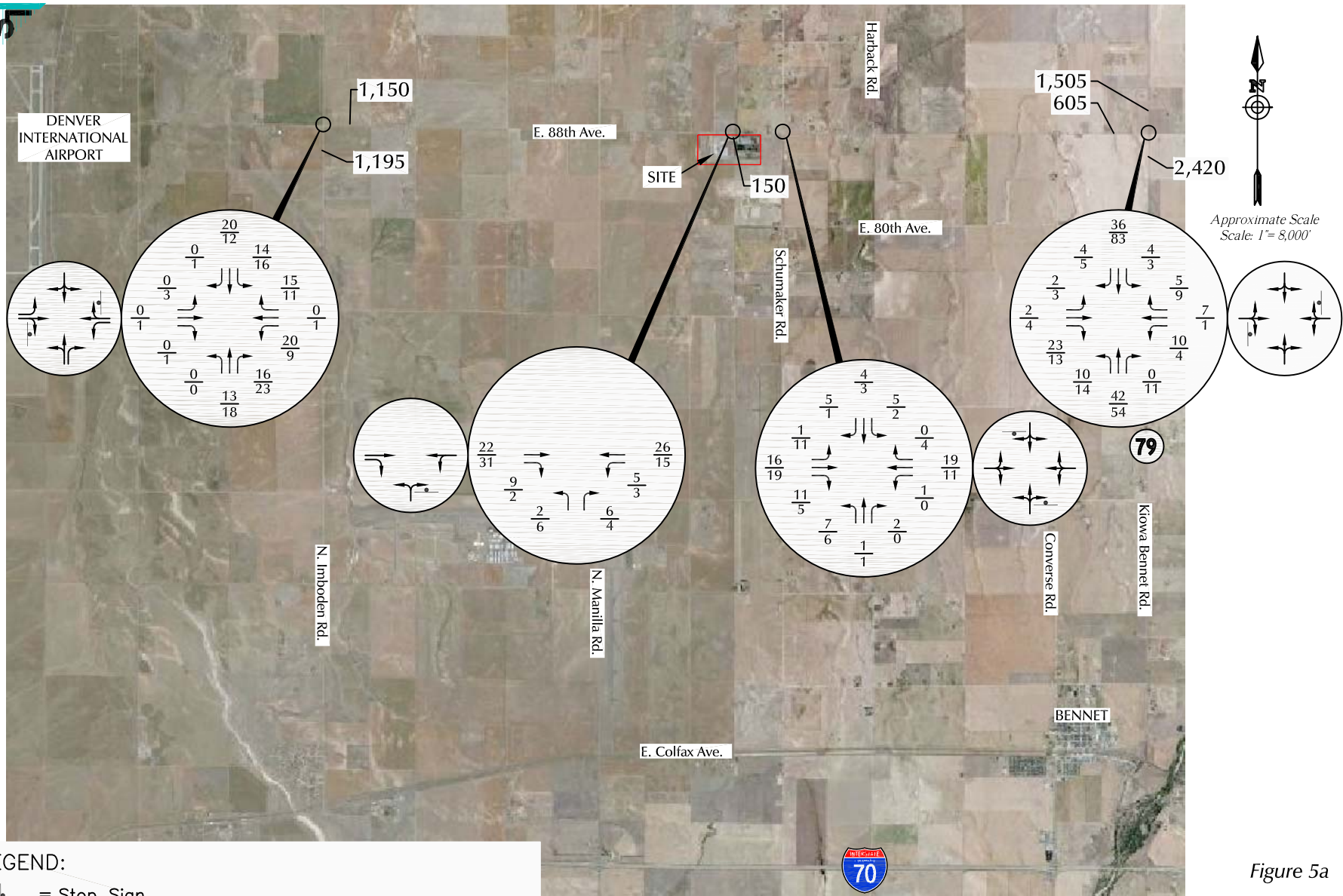
LEGEND:

$\frac{26}{35}$ = $\frac{\text{AM Weekday Peak Hour Traffic}}{\text{PM Weekday Peak Hour Traffic}}$
 3,700 = Average Daily Traffic

**Assignment of Site-Generated Traffic
 Assuming 100% Site Growth**

Waste Management CSI (LSC #140330)

Figure 4b

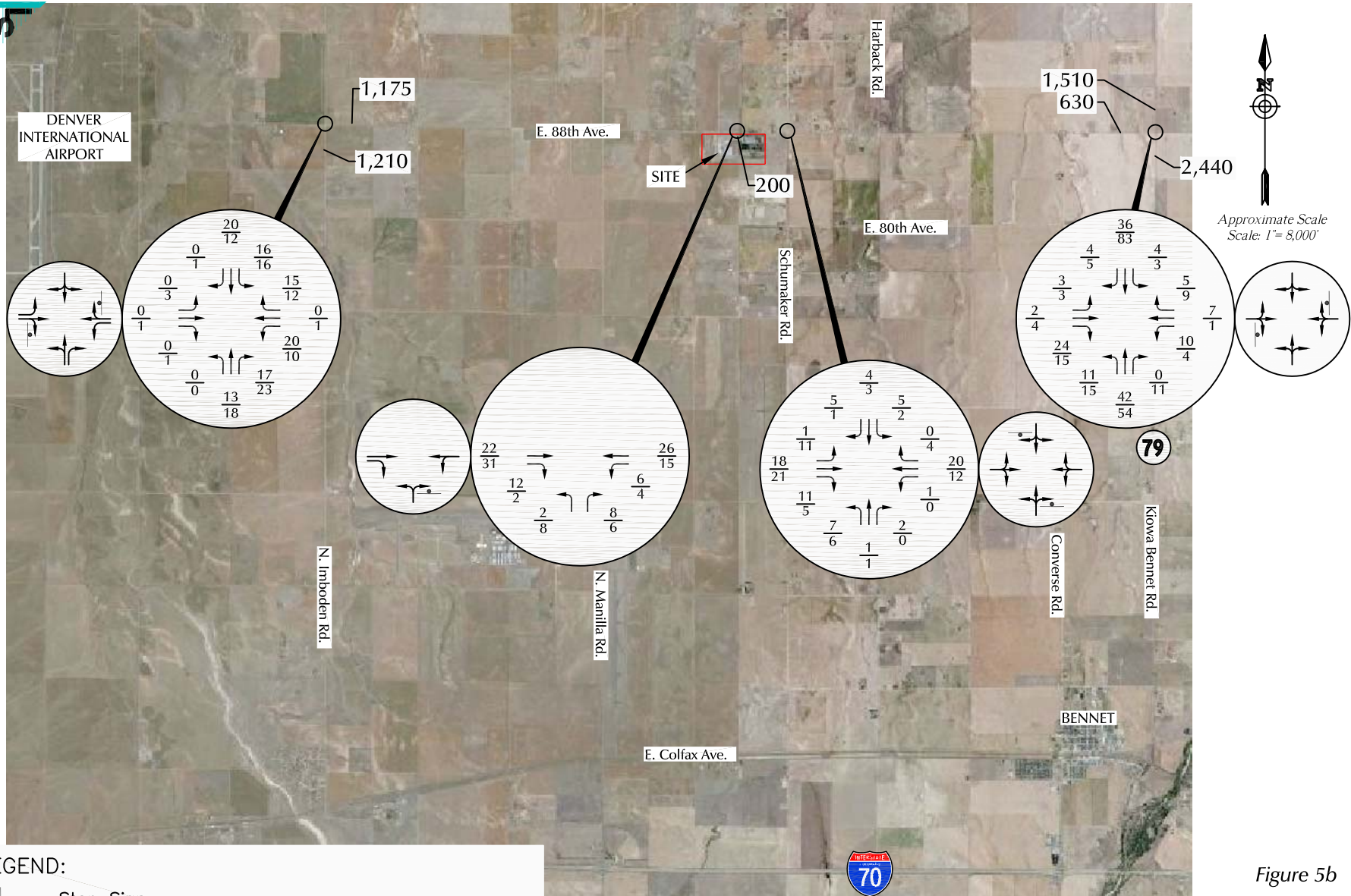


LEGEND:

- ⊥ = Stop Sign
- $\frac{26}{35}$ = $\frac{\text{AM Weekday Peak Hour Traffic}}{\text{PM Weekday Peak Hour Traffic}}$
- 3,700 = Average Daily Traffic

Existing + Site-Generated Traffic, Lane Geometry and Traffic Control- Assuming 50% Site Growth

Figure 5a



LEGEND:

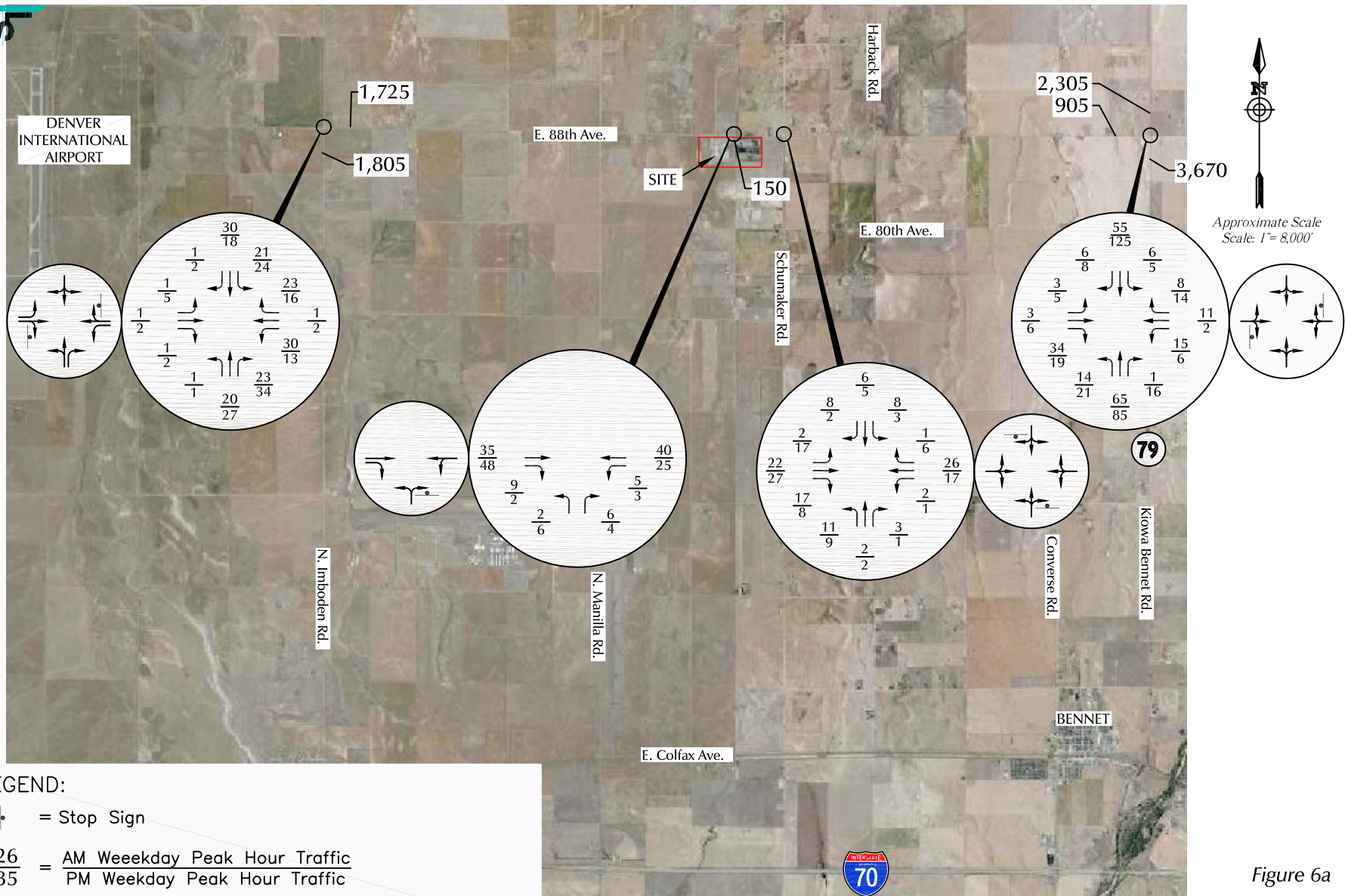
⊥ = Stop Sign

$\frac{26}{35}$ = AM Weekday Peak Hour Traffic
PM Weekday Peak Hour Traffic

3,700 = Average Daily Traffic

Existing + Site-Generated Traffic, Lane Geometry and Traffic Control- Assuming 100% Site Growth

Figure 5b



LEGEND:

= Stop Sign

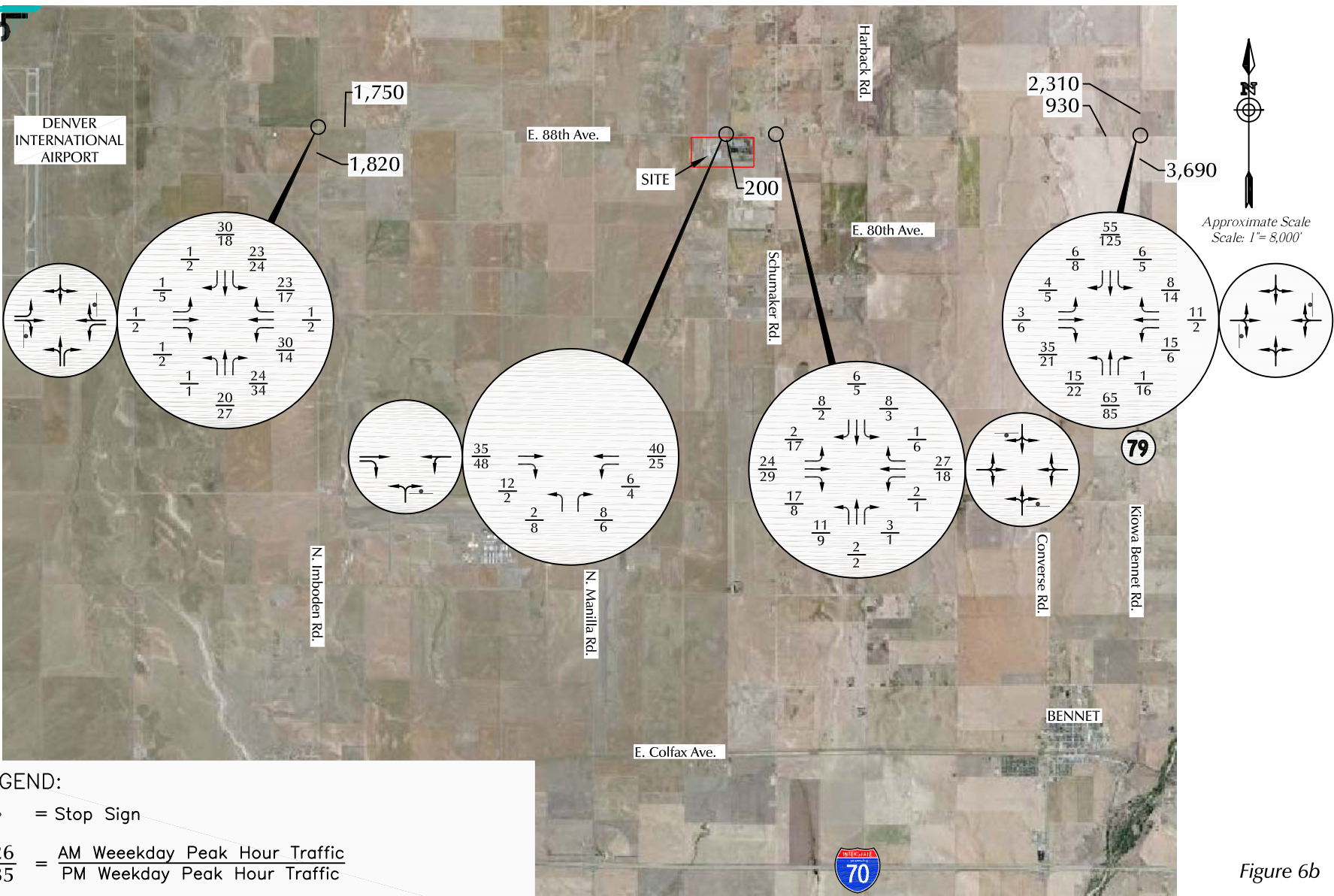
$\frac{26}{35}$ = AM Weeekday Peak Hour Traffic
 = PM Weeekday Peak Hour Traffic

3,700 = Average Daily Traffic


Year 2035 Background Traffic, Lane Geometry and Traffic Control- Plus 50% Site Growth

Waste Management CSI (LSC #140330)

Figure 6a



LEGEND:

-  = Stop Sign
- $\frac{26}{35}$ = AM Weeekday Peak Hour Traffic / PM Weeekday Peak Hour Traffic
- 3,700 = Average Daily Traffic

Year 2035 Background Traffic, Lane Geometry and Traffic Control- Plus 100% Site Growth

Waste Management CSI (LSC #140330)

Figure 6b

COUNTER MEASURES INC.
 1889 YORK STREET
 DENVER, COLORADO 80206
 303-333-7409

N/S STREET: SH-79
 E/W STREET: 88TH AVE
 CITY:
 COUNTY: ADAMS

File Name : SH7988TH
 Site Code : 0000011
 Start Date : 4/22/2014
 Page No : 1

Groups Printed- VEHICLES

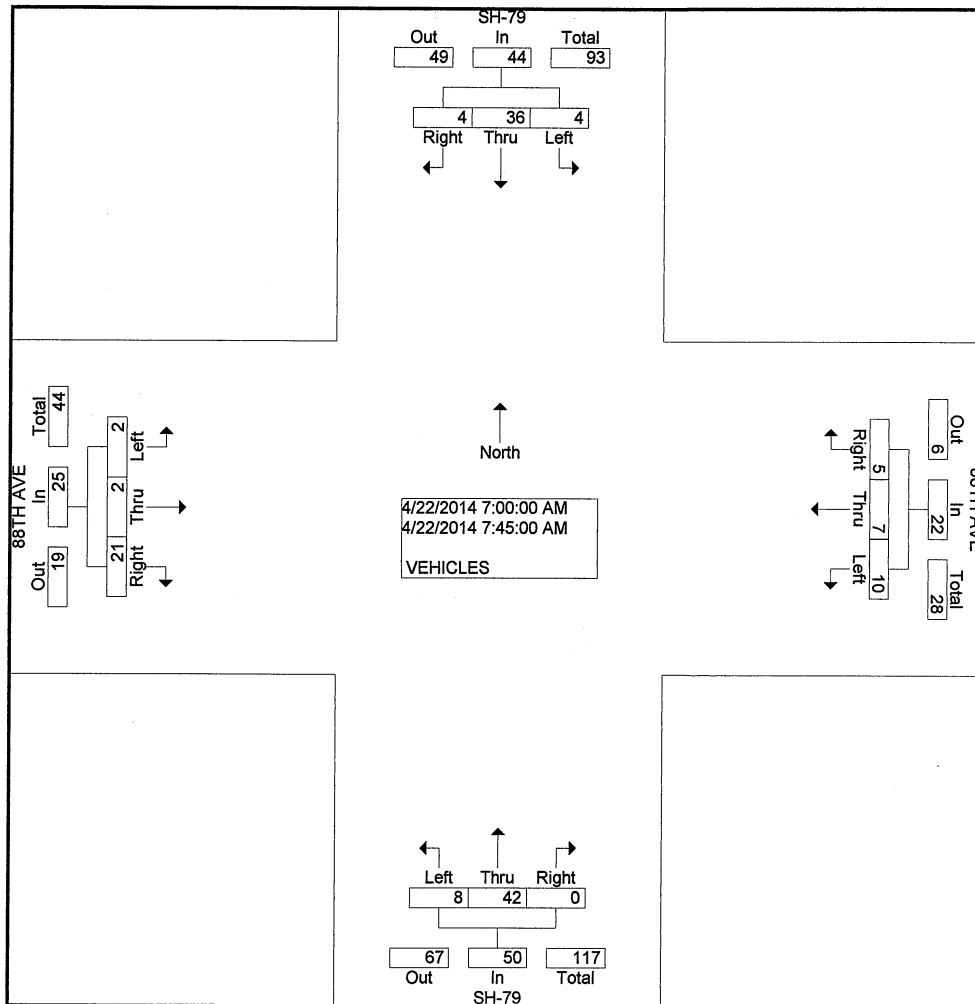
Start Time	SH-79 Southbound			88TH AVE Westbound			SH-79 Northbound			88TH AVE Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	3	10	2	2	2	1	2	10	0	0	0	2	34
06:45 AM	2	10	2	2	1	3	0	10	0	1	3	1	35
Total	5	20	4	4	3	4	2	20	0	1	3	3	69
07:00 AM	1	6	1	3	1	0	2	12	0	0	0	3	29
07:15 AM	1	17	1	1	1	0	1	10	0	0	0	7	39
07:30 AM	0	8	0	2	3	1	4	7	0	0	2	6	33
07:45 AM	2	5	2	4	2	4	1	13	0	2	0	5	40
Total	4	36	4	10	7	5	8	42	0	2	2	21	141
08:00 AM	1	11	0	0	0	0	0	13	1	0	1	0	27
08:15 AM	0	8	2	2	2	0	5	1	3	0	3	1	27
Total	1	19	2	2	2	0	5	14	4	0	4	1	54
04:00 PM	0	10	0	0	0	0	5	8	0	0	1	1	25
04:15 PM	1	19	1	0	1	1	5	11	1	1	1	0	42
04:30 PM	2	10	0	0	1	0	1	16	3	1	2	1	37
04:45 PM	0	18	2	0	1	4	5	14	1	2	1	3	51
Total	3	57	3	0	3	5	16	49	5	4	5	5	155
05:00 PM	1	19	1	1	0	1	3	18	5	0	1	3	53
05:15 PM	0	25	2	1	0	1	2	12	5	0	0	3	51
05:30 PM	2	21	0	2	0	3	3	10	0	1	2	3	47
05:45 PM	2	15	0	1	3	3	3	16	2	1	2	3	51
Total	5	80	3	5	3	8	11	56	12	2	5	12	202
Grand Total	18	212	16	21	18	22	42	181	21	9	19	42	621
Apprch %	7.3	86.2	6.5	34.4	29.5	36.1	17.2	74.2	8.6	12.9	27.1	60.0	
Total %	2.9	34.1	2.6	3.4	2.9	3.5	6.8	29.1	3.4	1.4	3.1	6.8	

COUNTER MEASURES INC.
 1889 YORK STREET
 DENVER, COLORADO 80206
 303-333-7409

N/S STREET: SH-79
 E/W STREET: 88TH AVE
 CITY:
 COUNTY: ADAMS

File Name : SH7988TH
 Site Code : 0000011
 Start Date : 4/22/2014
 Page No : 2

Start Time	SH-79 Southbound				88TH AVE Westbound				SH-79 Northbound				88TH AVE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 06:30 AM to 08:30 AM - Peak 1 of 1																	
Intersection	07:00 AM																
Volume	4	36	4	44	10	7	5	22	8	42	0	50	2	2	21	25	141
Percent	9.1	81.8	9.1		45.5	31.8	22.7		16.0	84.0	0.0		8.0	8.0	84.0		
07:45																	
Volume	2	5	2	9	4	2	4	10	1	13	0	14	2	0	5	7	40
Peak Factor	0.881																
High Int.	07:15 AM																
Volume	1	17	1	19	4	2	4	10	2	12	0	14	0	2	6	8	
Peak Factor	0.579								0.550				0.893				0.781

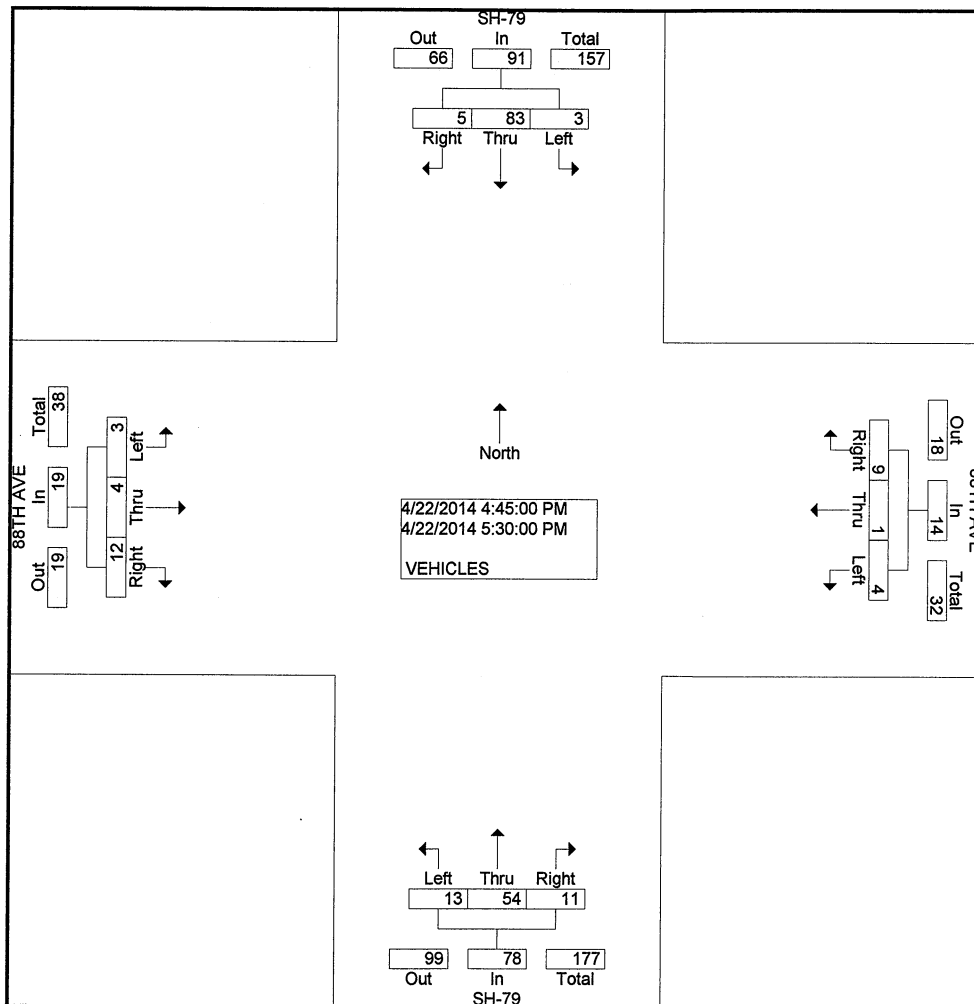


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N/S STREET: SH-79
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File Name : SH7988TH
 Site Code : 00000011
 Start Date : 4/22/2014
 Page No : 2

Start Time	SH-79 Southbound				88TH AVE Westbound				SH-79 Northbound				88TH AVE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	3	83	5	91	4	1	9	14	13	54	11	78	3	4	12	19	202
Percent	3.3	91.2	5.5		28.6	7.1	64.3		16.7	69.2	14.1		15.8	21.1	63.2		
05:00	1	19	1	21	1	0	1	2	3	18	5	26	0	1	3	4	53
Peak Factor	0.953																
High Int.	05:15 PM																
Volume	0	25	2	27	0	1	4	5	3	18	5	26	2	1	3	6	
Peak Factor	0.843				0.700				0.750				0.792				



COUNTER MEASURES INC.

1889 YORK STREET

DENVER, COLORADO 80206

303-333-7409

N/S STREET: SCHUMAKER RD

E/W STREET: 88TH AVE

CITY:

COUNTY: ADAMS

File Name : SCHU88TH

Site Code : 00000002

Start Date : 4/22/2014

Page No : 1

Groups Printed- VEHICLES

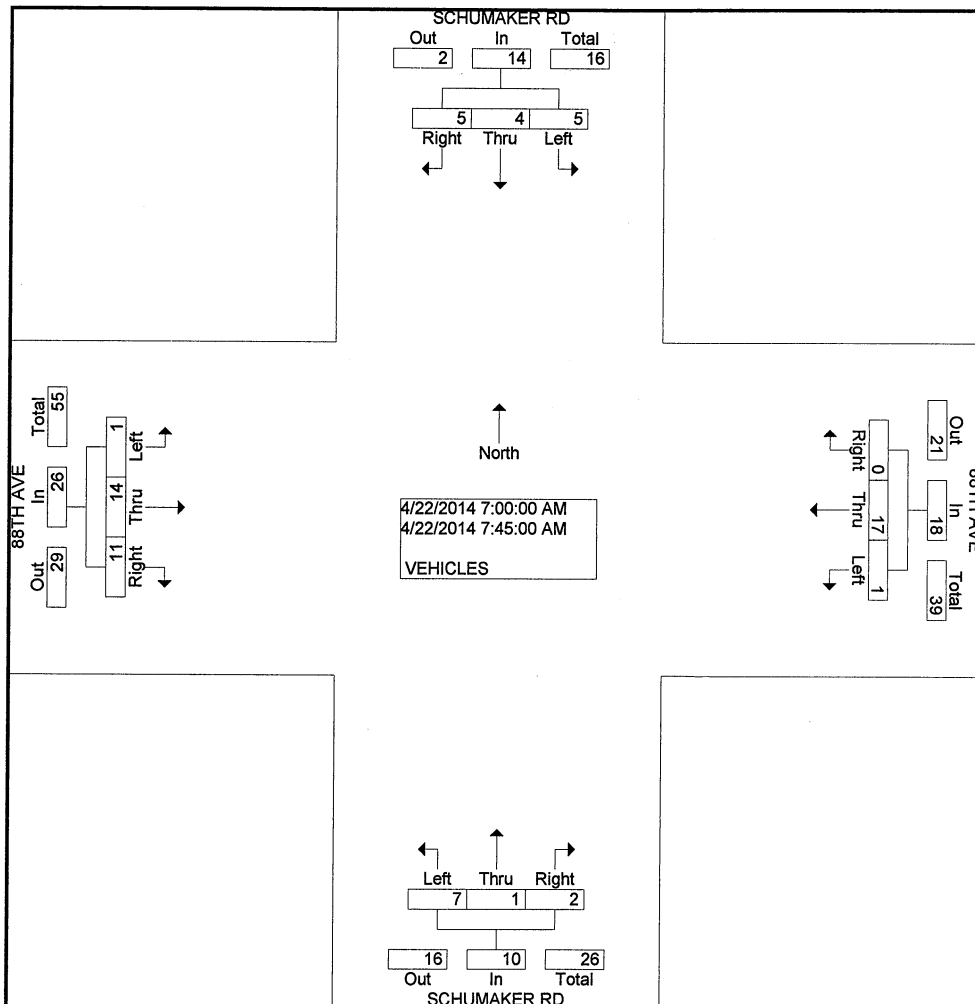
Start Time	SCHUMAKER RD Southbound			88TH AVE Westbound			SCHUMAKER RD Northbound			88TH AVE Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	1	0	3	3	2	0	4	1	0	0	1	2	17
06:45 AM	0	1	4	0	7	0	2	0	2	0	1	2	19
Total	1	1	7	3	9	0	6	1	2	0	2	4	36
07:00 AM	1	1	3	0	3	0	1	0	0	1	2	5	17
07:15 AM	1	0	1	0	5	0	3	0	0	0	5	2	17
07:30 AM	2	1	1	1	5	0	2	1	0	0	4	2	19
07:45 AM	1	2	0	0	4	0	1	0	2	0	3	2	15
Total	5	4	5	1	17	0	7	1	2	1	14	11	68
08:00 AM	0	0	1	0	0	1	2	0	0	0	2	0	6
08:15 AM	1	0	0	1	4	2	1	1	0	0	4	3	17
Total	1	0	1	1	4	3	3	1	0	0	6	3	23
04:00 PM	1	1	0	0	1	0	4	0	0	1	3	1	12
04:15 PM	0	0	0	0	5	3	1	0	0	2	5	2	18
04:30 PM	1	0	0	0	2	0	2	0	1	1	6	2	15
04:45 PM	0	2	1	0	4	0	3	0	0	4	6	1	21
Total	2	3	1	0	12	3	10	0	1	8	20	6	66
05:00 PM	0	1	0	0	1	2	0	0	0	1	3	3	11
05:15 PM	1	0	0	0	4	2	0	1	0	3	4	1	16
05:30 PM	1	0	0	0	1	0	3	0	0	3	5	0	13
05:45 PM	3	0	0	2	3	2	1	0	1	3	2	3	20
Total	5	1	0	2	9	6	4	1	1	10	14	7	60
Grand Total	14	9	14	7	51	12	30	4	6	19	56	31	253
Apprch %	37.8	24.3	37.8	10.0	72.9	17.1	75.0	10.0	15.0	17.9	52.8	29.2	
Total %	5.5	3.6	5.5	2.8	20.2	4.7	11.9	1.6	2.4	7.5	22.1	12.3	

COUNTER MEASURES INC.
 1889 YORK STREET
 DENVER, COLORADO 80206
 303-333-7409

N/S STREET: SCHUMAKER RD
 E/W STREET: 88TH AVE
 CITY:
 COUNTY: ADAMS

File Name : SCHU88TH
 Site Code : 00000002
 Start Date : 4/22/2014
 Page No : 2

Start Time	SCHUMAKER RD Southbound				88TH AVE Westbound				SCHUMAKER RD Northbound				88TH AVE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 07:00 AM to 08:00 AM - Peak 1 of 1																	
Intersection	07:00 AM																
Volume	5	4	5	14	1	17	0	18	7	1	2	10	1	14	11	26	68
Percent	35.7	28.6	35.7		5.6	94.4	0.0		70.0	10.0	20.0		3.8	53.8	42.3		
07:30	2	1	1	4	1	5	0	6	2	1	0	3	0	4	2	6	19
Peak Factor	0.895																
High Int.	07:00 AM																
Volume	1	1	3	5	1	5	0	6	3	0	0	3	1	2	5	8	
Peak Factor	0.700				0.750				0.833				0.813				



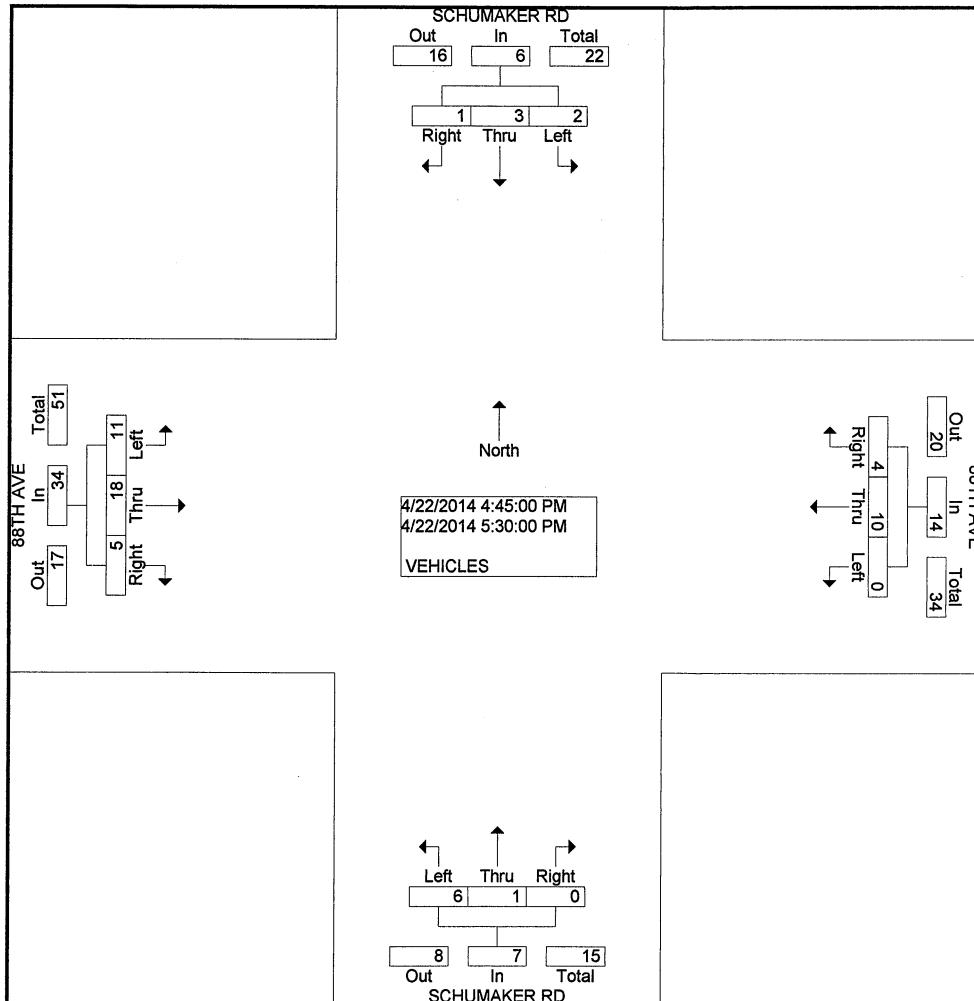
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

N/S STREET: SCHUMAKER RD
E/W STREET: 88TH AVE
CITY:
COUNTY: ADAMS

File Name : SCHU88TH
Site Code : 00000002
Start Date : 4/22/2014
Page No : 2

Start Time	SCHUMAKER RD Southbound				88TH AVE Westbound				SCHUMAKER RD Northbound				88TH AVE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 04:45 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	2	3	1	6	0	10	4	14	6	1	0	7	11	18	5	34	61
Percent	33.3	50.0	16.7		0.0	71.4	28.6		85.7	14.3	0.0		32.4	52.9	14.7		
04:45 Volume	0	2	1	3	0	4	0	4	3	0	0	3	4	6	1	11	21
Peak Factor	0.726																
High Int.	04:45 PM																
Volume	0	2	1	3	0	4	2	6	3	0	0	3	4	6	1	11	
Peak Factor	0.500				0.583				0.583				0.773				



COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

N/S STREET: IMBODEN RD
E/W STREET: 88TH AVE
CITY:
COUNTY: ADAMS

File Name : IMBO88TH
Site Code : 00000005
Start Date : 4/22/2014
Page No : 1

Groups Printed- VEHICLES

Start Time	IMBODEN RD Southbound			88TH AVE Westbound			IMBODEN RD Northbound			88TH AVE Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
06:30 AM	0	15	0	11	0	4	0	2	3	0	0	0	35
06:45 AM	0	7	0	10	0	6	0	1	3	0	0	0	27
Total	0	22	0	21	0	10	0	3	6	0	0	0	62
07:00 AM	2	7	0	6	0	2	0	4	6	0	0	0	27
07:15 AM	2	3	0	6	0	5	0	4	2	0	0	0	22
07:30 AM	5	4	0	5	0	5	0	5	2	0	0	0	26
07:45 AM	4	6	0	2	0	3	0	0	4	0	0	0	19
Total	13	20	0	19	0	15	0	13	14	0	0	0	94
08:00 AM	3	7	0	3	0	3	0	5	1	0	0	0	22
08:15 AM	6	3	0	3	0	0	0	0	2	2	0	0	16
Total	9	10	0	6	0	3	0	5	3	2	0	0	38
04:00 PM	2	4	0	1	0	3	0	6	2	0	1	0	19
04:15 PM	4	3	0	1	0	2	0	3	12	0	0	0	25
04:30 PM	2	0	0	2	0	3	0	4	6	0	0	1	18
04:45 PM	4	1	0	2	0	4	0	5	7	0	0	1	24
Total	12	8	0	6	0	12	0	18	27	0	1	2	86
05:00 PM	6	4	0	4	0	1	0	6	3	1	0	0	25
05:15 PM	3	6	0	2	0	1	0	6	11	1	0	0	30
05:30 PM	3	1	1	0	1	4	0	1	1	1	1	0	14
05:45 PM	2	1	0	1	0	3	0	3	3	0	0	0	13
Total	14	12	1	7	1	9	0	16	18	3	1	0	82
Grand Total	48	72	1	59	1	49	0	55	68	5	2	2	362
Apprch %	39.7	59.5	0.8	54.1	0.9	45.0	0.0	44.7	55.3	55.6	22.2	22.2	
Total %	13.3	19.9	0.3	16.3	0.3	13.5	0.0	15.2	18.8	1.4	0.6	0.6	

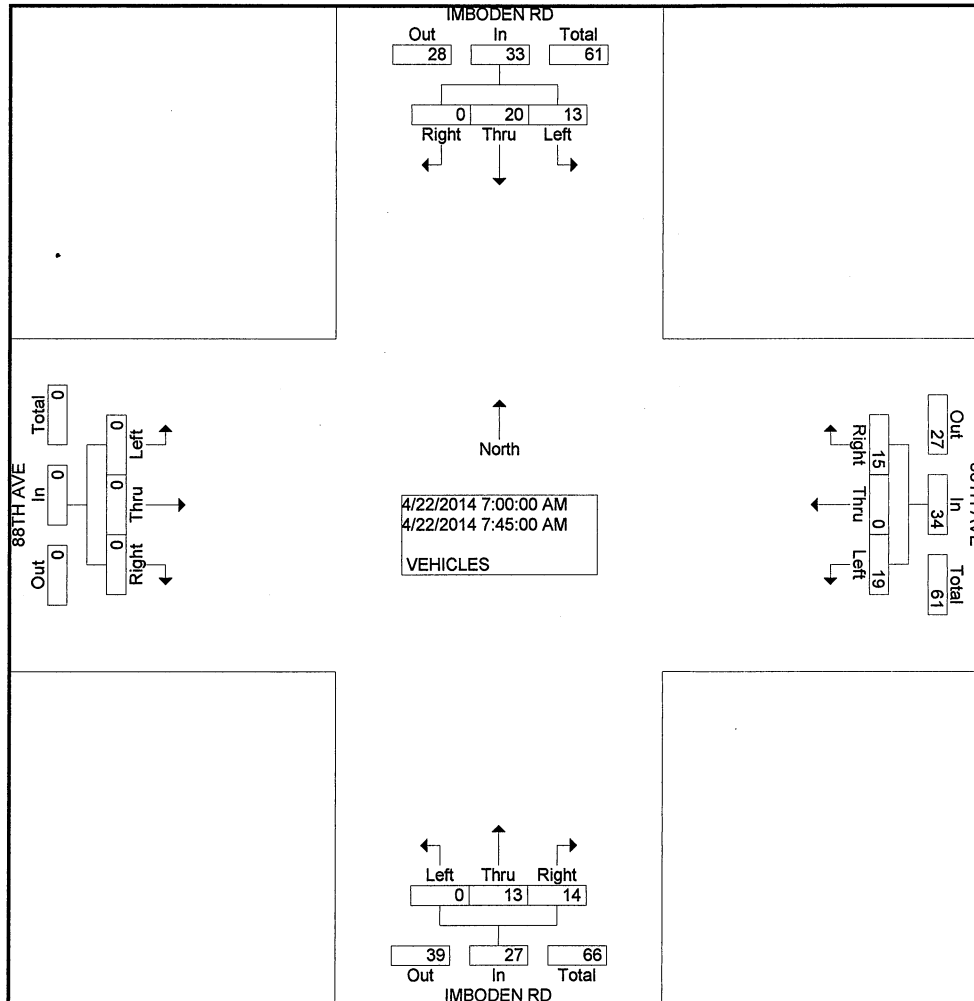
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

N/S STREET: IMBODEN RD
E/W STREET: 88TH AVE
CITY:
COUNTY: ADAMS

File Name : IMBO88TH
Site Code : 00000005
Start Date : 4/22/2014
Page No : 2

Start Time	IMBODEN RD Southbound				88TH AVE Westbound				IMBODEN RD Northbound				88TH AVE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 07:00 AM to 08:00 AM - Peak 1 of 1																	
Intersection	07:00 AM																
Volume	13	20	0	33	19	0	15	34	0	13	14	27	0	0	0	0	94
Percent	39.4	60.6	0.0		55.9	0.0	44.1		0.0	48.1	51.9		0.0	0.0	0.0		
07:00 Volume	2	7	0	9	6	0	2	8	0	4	6	10	0	0	0	0	27
Peak Factor	0.870																
High Int.	07:45 AM																
Volume	4	6	0	10	6	0	5	11	0	4	6	10					
Peak Factor	0.825				0.773				0.675								



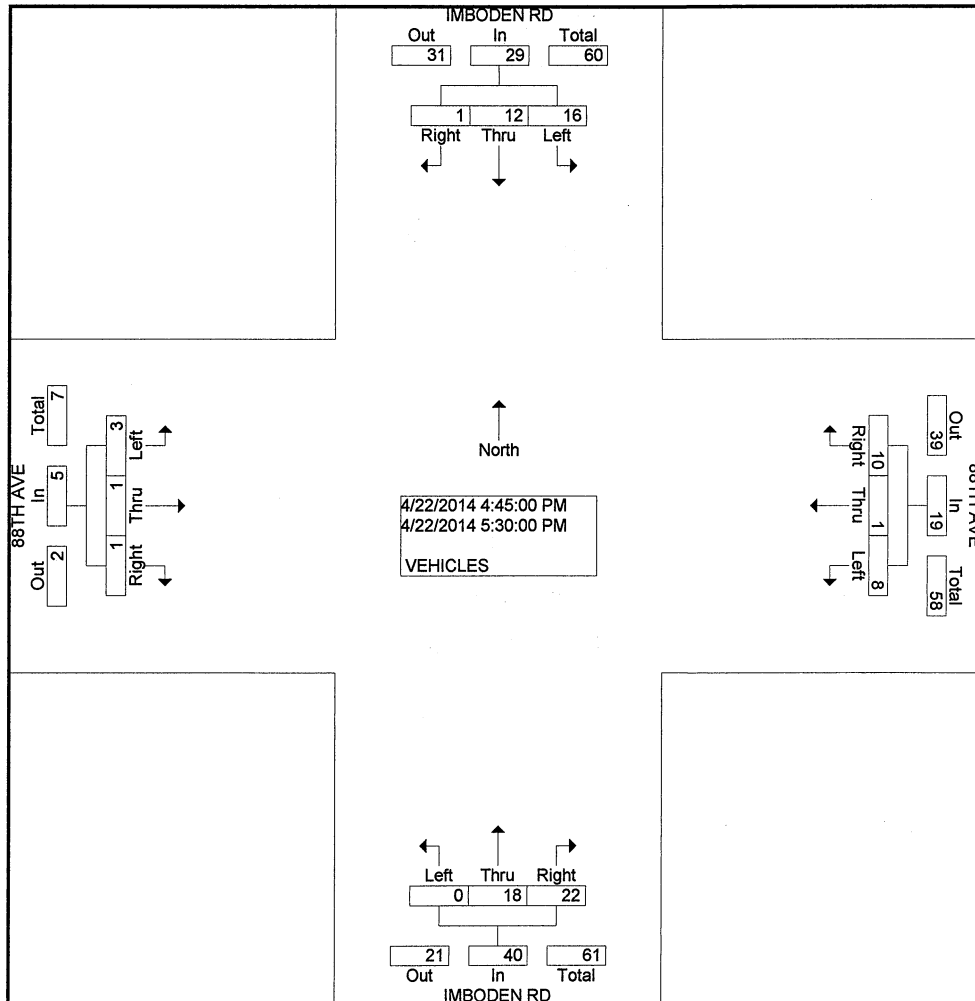
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

N/S STREET: IMBODEN RD
E/W STREET: 88TH AVE
CITY:
COUNTY: ADAMS

File Name : IMBO88TH
Site Code : 00000005
Start Date : 4/22/2014
Page No : 2

Start Time	IMBODEN RD Southbound				88TH AVE Westbound				IMBODEN RD Northbound				88TH AVE Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 04:45 PM to 05:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	16	12	1	29	8	1	10	19	0	18	22	40	3	1	1	5	93
Percent	55.2	41.4	3.4		42.1	5.3	52.6		0.0	45.0	55.0		60.0	20.0	20.0		
05:15 Volume	3	6	0	9	2	0	1	3	0	6	11	17	1	0	0	1	30
Peak Factor	0.775																
High Int.	05:00 PM																
Volume	6	4	0	10	2	0	4	6	0	6	11	17	1	1	0	2	
Peak Factor	0.725				0.792				0.588				0.625				



COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

N/S STREET: WASTE MANAGEMENT ACCESS
E/W STREET: 88TH AVE
CITY:
COUNTY: ADAMS

File Name : WAST88TH
Site Code : 00000005
Start Date : 5/13/2014
Page No : 1

Groups Printed- VEHICLES

Start Time Factor	Southbound			Westbound			Northbound			Eastbound			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
06:45 AM	0	0	0	3	0	0	0	0	0	0	0	2	5
Total	0	0	0	3	0	0	0	0	0	0	0	2	5
07:00 AM	0	0	0	1	0	0	0	0	1	0	0	2	4
07:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	1	0	0	1	0	1	0	0	3	6
07:45 AM	0	0	0	0	0	0	0	0	2	0	0	1	3
Total	0	0	0	3	0	0	1	0	4	0	0	6	14
08:00 AM	0	0	0	2	0	0	0	0	0	0	0	2	4
08:15 AM	0	0	0	0	0	0	1	0	0	0	0	1	2
Total	0	0	0	2	0	0	1	0	0	0	0	3	6
04:00 PM	0	0	0	0	0	0	2	0	2	0	0	2	6
04:15 PM	0	0	0	0	0	0	2	0	1	0	0	1	4
04:30 PM	0	0	0	1	0	0	1	0	1	0	0	0	3
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
Total	0	0	0	1	0	0	5	0	5	0	0	3	14
05:00 PM	0	0	0	2	0	0	1	0	0	0	0	0	3
05:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	1	0	2	0	0	0	3
Total	0	0	0	2	0	0	4	0	2	0	0	0	8
Grand Total	0	0	0	11	0	0	11	0	11	0	0	14	47
Aprch %	0.0	0.0	0.0	100.0	0.0	0.0	50.0	0.0	50.0	0.0	0.0	100.0	
Total %	0.0	0.0	0.0	23.4	0.0	0.0	23.4	0.0	23.4	0.0	0.0	29.8	

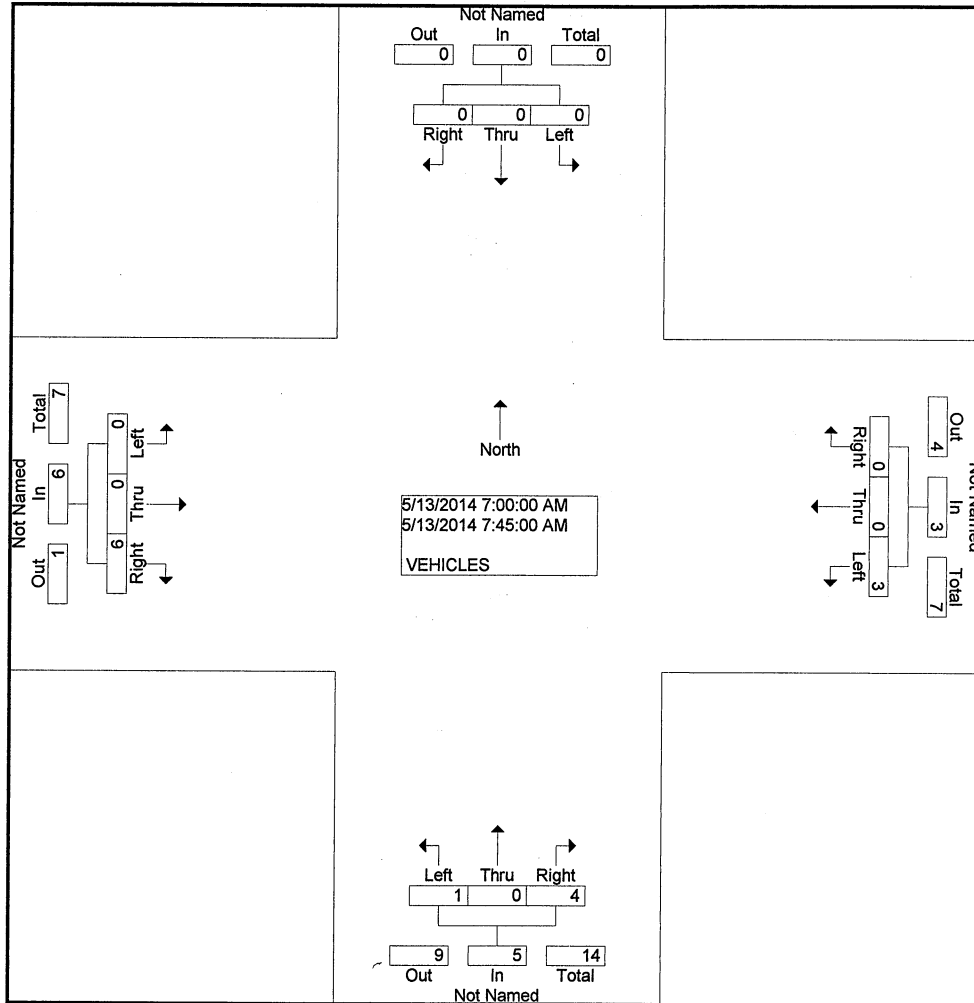
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

N/S STREET: WASTE MANAGEMENT ACCESS
E/W STREET: 88TH AVE
CITY:
COUNTY: ADAMS

File Name : WAST88TH
Site Code : 00000005
Start Date : 5/13/2014
Page No : 2

Start Time	Southbound				Westbound				Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 07:00 AM to 08:00 AM - Peak 1 of 1																	
Intersection	07:00 AM																
Volume	0	0	0	0	3	0	0	3	1	0	4	5	0	0	6	6	14
Percent	0.0	0.0	0.0		100.0	0.0	0.0		20.0	0.0	80.0		0.0	0.0	100.0		
07:30 Volume	0	0	0	0	1	0	0	1	1	0	1	2	0	0	3	3	6
Peak Factor	0.583																
High Int. Volume					07:00 AM				07:30 AM				07:30 AM				
Peak Factor					0.750				0.625				0.500				



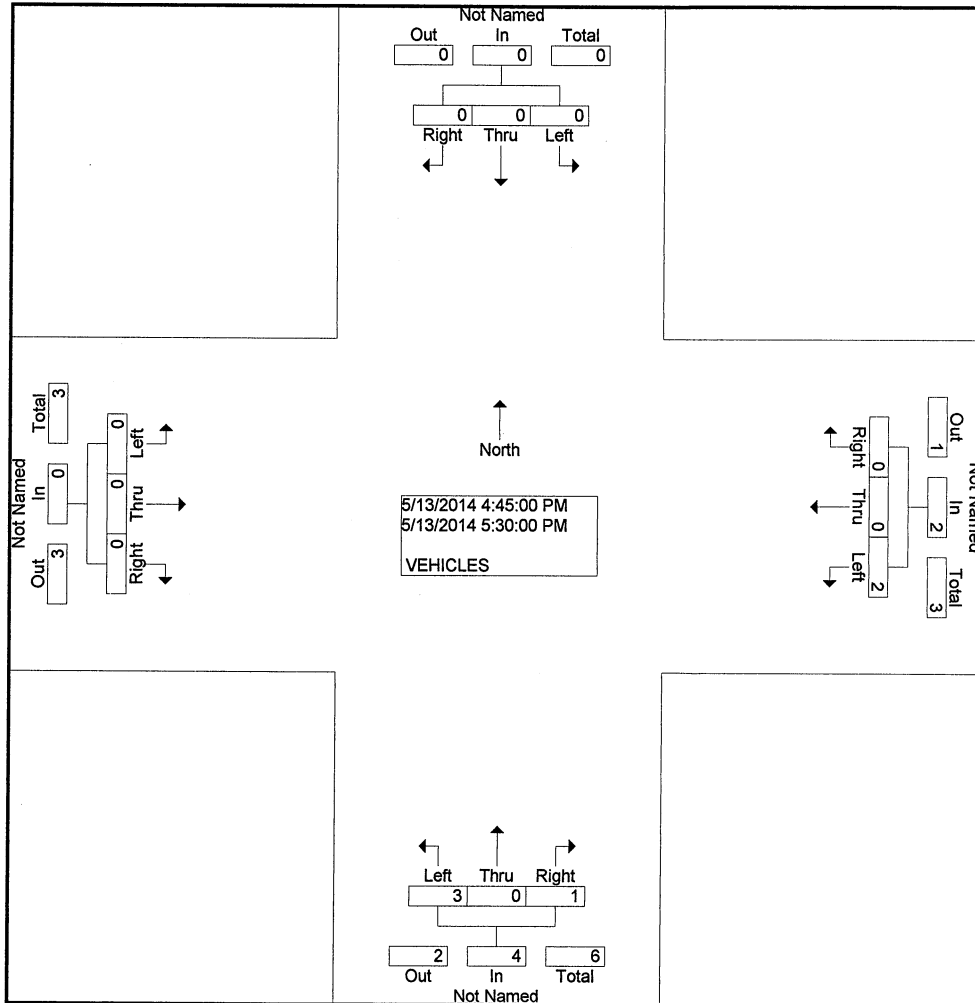
COUNTER MEASURES INC.

1889 YORK STREET
DENVER, COLORADO 80206
303-333-7409

N/S STREET: WASTE MANAGEMENT ACCESS
E/W STREET: 88TH AVE
CITY:
COUNTY: ADAMS

File Name : WAST88TH
Site Code : 00000005
Start Date : 5/13/2014
Page No : 2

Start Time	Southbound				Westbound				Northbound				Eastbound				Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
Peak Hour From 04:45 PM to 05:30 PM - Peak 1 of 1																	
Intersection 04:45 PM																	
Volume	0	0	0	0	2	0	0	2	3	0	1	4	0	0	0	0	6
Percent	0.0	0.0	0.0		100.0	0.0	0.0		75.0	0.0	25.0		0.0	0.0	0.0		
05:00																	
Volume	0	0	0	0	2	0	0	2	1	0	0	1	0	0	0	0	3
Peak Factor																	0.500
High Int.																	
Volume	0	0	0	0	05:00 PM				05:15 PM								
Peak Factor																	
					0.250				0.500								



COUNTER MEASURES INC.

Location: SH-79 S/O 88TH AVE
 City:
 County: ADAMS
 Direction: NORTHBOUND-SOUTHBOUND

1889 YORK STREET
 DENVER, COLORADO 80206
 303-333-7409

Site Code: 042005

Start Time	22-Apr-14 Tue	NB	SB							Total
12:00 AM		8	4							12
01:00		4	6							10
02:00		0	2							2
03:00		12	5							17
04:00		13	10							23
05:00		36	30							66
06:00		62	54							116
07:00		60	85							145
08:00		56	66							122
09:00		48	56							104
10:00		70	72							142
11:00		50	85							135
12:00 PM		72	45							117
01:00		68	62							130
02:00		100	60							160
03:00		87	69							156
04:00		91	78							169
05:00		102	125							227
06:00		66	68							134
07:00		40	36							76
08:00		32	25							57
09:00		28	22							50
10:00		34	8							42
11:00		8	5							13
Total		1147	1078							2225
Percent		51.6%	48.4%							
AM Peak	-	10:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	70	85	-	-	-	-	-	-	145
PM Peak	-	17:00	17:00	-	-	-	-	-	-	17:00
Vol.	-	102	125	-	-	-	-	-	-	227
Grand Total		1147	1078							2225
Percent		51.6%	48.4%							
ADT		ADT 2,264	AADT 2,264							

COUNTER MEASURES INC.

Location: 88TH AVE W/O SH-79
 City:
 County: ADAMS
 Direction: EASTBOUND-WESTBOUND

1889 YORK STREET
 DENVER, COLORADO 80206
 303-333-7409

Site Code: 042004

Start Time	22-Apr-14 Tue	EB	WB							Total
12:00 AM		3	0							3
01:00		0	0							0
02:00		2	2							4
03:00		0	0							0
04:00		0	3							3
05:00		2	8							10
06:00		12	24							36
07:00		30	22							52
08:00		24	21							45
09:00		22	20							42
10:00		21	12							33
11:00		18	14							32
12:00 PM		10	15							25
01:00		18	14							32
02:00		14	18							32
03:00		30	22							52
04:00		19	20							39
05:00		26	21							47
06:00		11	20							31
07:00		8	17							25
08:00		7	8							15
09:00		8	6							14
10:00		1	5							6
11:00		3	0							3
Total		289	292							581
Percent		49.7%	50.3%							
AM Peak	-	07:00	06:00	-	-	-	-	-	-	07:00
Vol.	-	30	24	-	-	-	-	-	-	52
PM Peak	-	15:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	30	22	-	-	-	-	-	-	52
Grand Total		289	292							581
Percent		49.7%	50.3%							
ADT		ADT 588	AADT 588							

COUNTER MEASURES INC.

Location: 88TH AVE E/O IMBODEN RD
 City:
 County: ADAMS
 Direction: EASTBOUND-WESTBOUND

1889 YORK STREET
 DENVER, COLORADO 80206
 303-333-7409

Site Code: 042007

Start Time	22-Apr-14 Tue	EB	WB						Total	
12:00 AM		4	0						4	
01:00		2	0						2	
02:00		1	2						3	
03:00		0	2						2	
04:00		0	10						10	
05:00		11	24						35	
06:00		22	52						74	
07:00		36	37						73	
08:00		45	52						97	
09:00		34	43						77	
10:00		58	53						111	
11:00		28	40						68	
12:00 PM		42	48						90	
01:00		32	26						58	
02:00		36	37						73	
03:00		52	60						112	
04:00		43	37						80	
05:00		32	26						58	
06:00		17	12						29	
07:00		16	10						26	
08:00		8	9						17	
09:00		10	8						18	
10:00		2	4						6	
11:00		3	1						4	
Total		534	593						1127	
Percent		47.4%	52.6%							
AM Peak	-	10:00	10:00	-	-	-	-	-	-	10:00
Vol.	-	58	53	-	-	-	-	-	-	111
PM Peak	-	15:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	52	60	-	-	-	-	-	-	112
Grand Total		534	593						1127	
Percent		47.4%	52.6%							
ADT		ADT 1,050	AADT 1,050							

COUNTER MEASURES INC.

Location: IMBODEN RD S/O 88TH AVE
 City:
 County: ADAMS
 Direction: NORTHBOUND-SOUTHBOUND

1889 YORK STREET
 DENVER, COLORADO 80206
 303-333-7409

Site Code: 042015

Start Time	22-Apr-14 Tue	NB	SB							Total
12:00 AM		6	1							7
01:00		2	0							2
02:00		7	4							11
03:00		1	4							5
04:00		6	6							12
05:00		16	29							45
06:00		26	88							114
07:00		35	44							79
08:00		23	62							85
09:00		40	46							86
10:00		38	30							68
11:00		16	26							42
12:00 PM		30	36							66
01:00		36	34							70
02:00		46	26							72
03:00		46	42							88
04:00		46	34							80
05:00		49	26							75
06:00		40	24							64
07:00		21	18							39
08:00		14	9							23
09:00		10	6							16
10:00		8	9							17
11:00		8	4							12
Total		570	608							1178
Percent		48.4%	51.6%							
AM Peak	-	09:00	06:00	-	-	-	-	-	-	06:00
Vol.	-	40	88	-	-	-	-	-	-	114
PM Peak	-	17:00	15:00	-	-	-	-	-	-	15:00
Vol.	-	49	42	-	-	-	-	-	-	88
Grand Total		570	608							1178
Percent		48.4%	51.6%							
ADT		ADT 1,178	AADT 1,178							

LEVEL OF SERVICE DEFINITIONS

From *Highway Capacity Manual*, Transportation Research Board, 2010

UNSIGNALIZED INTERSECTION LEVEL OF SERVICE (LOS)

Applicable to Two-Way Stop Control, All-Way Stop Control, and Roundabouts

LOS	Average Vehicle Control Delay	<u>Operational Characteristics</u>
A	<10 seconds	Normally, vehicles on the stop-controlled approach only have to wait up to 10 seconds before being able to clear the intersection. Left-turning vehicles on the uncontrolled street do not have to wait to make their turn.
B	10 to 15 seconds	Vehicles on the stop-controlled approach will experience delays before being able to clear the intersection. <u>The delay could be up to 20 seconds.</u> Left-turning vehicles on the uncontrolled street may have to wait to make their turn.
C	15 to 25 seconds	Vehicles on the stop-controlled approach can expect delays in the range of 30 to 40 seconds before clearing the intersection. Motorists may begin to take chances due to the long delays, thereby posing a safety risk to through traffic. <u>Left-turning vehicles on the uncontrolled street will now be required to wait to make their turn causing a queue to be created in the turn lane.</u>
D	25 to 35 seconds	<u>This is the point at which a traffic signal may be warranted for this intersection.</u> The delays for the stop-controlled intersection are not considered to be excessive, exceeding 35 seconds on a regular basis. The length of the queue may begin to block other public and private access points.
E	35 to 50 seconds	The delays for all critical traffic movements are considered to be unacceptable. The length of the queues for the stop-controlled approaches as well as the left-turn movements are extremely long. <u>There is a high probability that this intersection will meet traffic signal warrants.</u> The ability to install a traffic signal is affected by the location of other existing traffic signals. Consideration may be given to restricting the accesses by eliminating the left-turn movements from and to the stop-controlled approach.
F	>50 seconds	The delay for the critical traffic movements are probably in excess of 100 seconds. The length of the queues are extremely long. Motorists are selecting alternative routes due to the long delays. <u>The only remedy for these long delays is installing a traffic signal or restricting the accesses.</u> The potential for accidents at this intersection are extremely high due to motorist taking more risky chances. If the median permits, motorists begin making two-stage left-turns.

HCM 2010 TWSC
3: Imboden Road & E. 88th Avenue

Existing
AM Peak

Intersection												
Intersection Delay, s/veh	4.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	19	0	15	0	13	14	13	20	0
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	200	-	-	200	-	-	-	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	0	0	0	22	0	17	0	15	16	15	23	0
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	77	68	23	68	68	15	23	0	0	15	0	0
Stage 1	53	53	-	15	15	-	-	-	-	-	-	-
Stage 2	24	15	-	53	53	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	893	807	1031	905	807	1042	1542	-	-	1552	-	-
Stage 1	940	835	-	985	867	-	-	-	-	-	-	-
Stage 2	974	867	-	940	835	-	-	-	-	-	-	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	872	799	1031	898	799	1042	1542	-	-	1552	-	-
Mov Capacity-2 Maneuver	872	799	-	898	799	-	-	-	-	-	-	-
Stage 1	940	827	-	985	867	-	-	-	-	-	-	-
Stage 2	958	867	-	931	827	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			8.8			0			2.9		
HCM LOS	A			A								
Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR		
Capacity (veh/h)	1542	-	-	0	0	898	995	1552	-	-		
HCM Lane V/C Ratio	-	-	-	+	+	0.016	0.025	0.01	-	-		
HCM Control Delay (s)	0	-	-	0	0	9.1	8.7	7.342	0	-		
HCM Lane LOS	A	-	-	A	A	A	A	A	A	-		
HCM 95th %tile Q(veh)	0	-	-	+	+	0.049	0.076	0.029	-	-		
Notes												
~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined												

Intersection

Intersection Delay, s/veh 3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	2	21	10	7	5	8	42	0	4	36	4
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	2	2	24	11	8	6	9	48	0	5	41	5

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	125	118	43	131	121	48	45	0	0	48	0	0
Stage 1	52	52	-	66	66	-	-	-	-	-	-	-
Stage 2	73	66	-	65	55	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	831	758	1005	823	755	999	1513	-	-	1509	-	-
Stage 1	941	836	-	925	824	-	-	-	-	-	-	-
Stage 2	917	824	-	926	834	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-	-	-	-
Mov Capacity-1 Maneuver	814	751	1005	796	748	999	1513	-	-	1509	-	-
Mov Capacity-2 Maneuver	814	751	-	796	748	-	-	-	-	-	-	-
Stage 1	935	833	-	919	819	-	-	-	-	-	-	-
Stage 2	898	819	-	899	831	-	-	-	-	-	-	-

Approach	EB		WB			NB			SB		
HCM Control Delay, s	8.9		9.5			1.2			0.7		
HCM LOS	A		A								

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1513	-	-	961	817	1509	-	-
HCM Lane V/C Ratio	0.006	-	-	0.03	0.031	0.003	-	-
HCM Control Delay (s)	7.394	0	-	8.9	9.5	7.393	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0.018	-	-	0.091	0.095	0.009	-	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

HCM 2010 TWSC
9: Schumaker Road & E. 88th Avenue

Existing
AM Peak

Intersection

Intersection Delay, s/veh 3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	14	11	1	17	0	7	1	2	5	4	5
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	16	12	1	19	0	8	1	2	6	4	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	19	0	0	28	0	0	50	45	22	47	51	19
Stage 1	-	-	-	-	-	-	24	24	-	21	21	-
Stage 2	-	-	-	-	-	-	26	21	-	26	30	-
Follow-up Headway	2.29	-	-	2.29	-	-	3.59	4.09	3.39	3.59	4.09	3.39
Pot Capacity-1 Maneuver	1547	-	-	1535	-	-	930	831	1032	934	825	1036
Stage 1	-	-	-	-	-	-	974	860	-	977	862	-
Stage 2	-	-	-	-	-	-	971	862	-	971	854	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	1547	-	-	1535	-	-	920	829	1032	930	823	1036
Mov Capacity-2 Maneuver	-	-	-	-	-	-	920	829	-	930	823	-
Stage 1	-	-	-	-	-	-	973	859	-	976	861	-
Stage 2	-	-	-	-	-	-	960	861	-	967	853	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.3			0.4			8.9			8.9		
HCM LOS							A			A		

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	930	1547	-	-	1535	-	-	929
HCM Lane V/C Ratio	0.012	0.001	-	-	0.001	-	-	0.017
HCM Control Delay (s)	8.9	7.329	0	-	7.347	0	-	8.9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.036	0.002	-	-	0.002	-	-	0.051

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	22	6	3	26	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	31	9	4	37	1	6

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	31
Stage 1	-	-	-
Stage 2	-	-	-
Follow-up Headway	-	-	2.29
Pot Capacity-1 Maneuver	-	-	1531
Stage 1	-	-	-
Stage 2	-	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	-	-	1531
Mov Capacity-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	8.6
HCM LOS			A

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	995	-	-	1531	-
HCM Lane V/C Ratio	0.007	-	-	0.003	-
HCM Control Delay (s)	8.6	-	-	7.358	0
HCM Lane LOS	A			A	A
HCM 95th %tile Q(veh)	0.022	-	-	0.008	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	1	1	8	1	10	0	18	22	16	12	1
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	200	-	-	200	-	-	-	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	4	1	1	10	1	13	0	23	28	21	15	1

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	87	80	16	81	81	23	17	0	0	23	0	0
Stage 1	57	57	-	23	23	-	-	-	-	-	-	-
Stage 2	30	23	-	58	58	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	880	795	1040	888	794	1031	1550	-	-	1542	-	-
Stage 1	935	832	-	975	860	-	-	-	-	-	-	-
Stage 2	967	860	-	934	831	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-	-	-	-
Mov Capacity-1 Maneuver	859	784	1040	876	783	1031	1550	-	-	1542	-	-
Mov Capacity-2 Maneuver	859	784	-	876	783	-	-	-	-	-	-	-
Stage 1	935	820	-	975	860	-	-	-	-	-	-	-
Stage 2	954	860	-	918	819	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	9.1		8.9		0		4.1	
HCM LOS	A		A					

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1550	-	-	859	882	876	975	1542	-	-
HCM Lane V/C Ratio	-	-	-	0.003	0.004	0.008	0.018	0.013	-	-
HCM Control Delay (s)	0	-	-	9.2	9.1	9.1	8.8	7.366	0	-
HCM Lane LOS	A			A	A	A	A	A	A	
HCM 95th %tile Q(veh)	0	-	-	0.009	0.013	0.024	0.055	0.04	-	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 2.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	4	12	4	1	9	13	54	11	3	83	5
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, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	3	4	13	4	1	10	14	59	12	3	90	5

Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	197	198	93	201	195	65	96	0	0	71	0	0
Stage 1	99	99	-	93	93	-	-	-	-	-	-	-
Stage 2	98	99	-	108	102	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	745	684	943	740	686	977	1449	-	-	1480	-	-
Stage 1	888	798	-	895	803	-	-	-	-	-	-	-
Stage 2	889	798	-	878	795	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-	-	-	-
Mov Capacity-1 Maneuver	730	676	943	720	678	977	1449	-	-	1480	-	-
Mov Capacity-2 Maneuver	730	676	-	720	678	-	-	-	-	-	-	-
Stage 1	879	796	-	886	795	-	-	-	-	-	-	-
Stage 2	870	790	-	859	793	-	-	-	-	-	-	-

Approach	EB		WB			NB		SB		
HCM Control Delay, s	9.4		9.3			1.3		0.2		
HCM LOS	A		A							

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1449	-	-	835	862	1480	-	-
HCM Lane V/C Ratio	0.01	-	-	0.025	0.018	0.002	-	-
HCM Control Delay (s)	7.509	0	-	9.4	9.3	7.438	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0.03	-	-	0.076	0.054	0.007	-	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	11	18	5	0	10	4	6	1	0	2	3	1
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	15	25	7	0	14	5	8	1	0	3	4	1

Major/Minor

	Major1	Major2	Minor1	Minor2
Conflicting Flow All	19	0	0	32
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Follow-up Headway	2.29	-	-	2.29
Pot Capacity-1 Maneuver	1547	-	-	1530
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Time blocked-Platoon, %	-	-	-	-
Mov Capacity-1 Maneuver	1547	-	-	1530
Mov Capacity-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach

	EB	WB	NB	SB
HCM Control Delay, s	2.4	0	9.2	9.3
HCM LOS			A	A

Minor Lane / Major Mvmt

	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	868	1547	-	-	1530	-	-	855
HCM Lane V/C Ratio	0.011	0.01	-	-	-	-	-	0.01
HCM Control Delay (s)	9.2	7.35	0	-	0	-	-	9.3
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.034	0.03	-	-	0	-	-	0.029

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	31	1	2	15	4	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	44	1	3	21	6	4

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	44
Stage 1	-	-	-
Stage 2	-	-	-
Follow-up Headway	-	-	2.29
Pot Capacity-1 Maneuver	-	-	1514
Stage 1	-	-	-
Stage 2	-	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	-	-	1514
Mov Capacity-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	8.8
HCM LOS			A

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	949	-	-	1514	-
HCM Lane V/C Ratio	0.011	-	-	0.002	-
HCM Control Delay (s)	8.8	-	-	7.382	0
HCM Lane LOS	A			A	A
HCM 95th %tile Q(veh)	0.032	-	-	0.006	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	4.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	0	0	0	20	0	15	0	13	17	16	20	0
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	200	-	-	200	-	-	-	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	0	0	0	23	0	17	0	15	20	18	23	0
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	84	75	23	75	75	15	23	0	0	15	0	0
Stage 1	60	60	-	15	15	-	-	-	-	-	-	-
Stage 2	24	15	-	60	60	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	884	800	1031	896	800	1042	1542	-	-	1552	-	-
Stage 1	932	829	-	985	867	-	-	-	-	-	-	-
Stage 2	974	867	-	932	829	-	-	-	-	-	-	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	861	790	1031	888	790	1042	1542	-	-	1552	-	-
Mov Capacity-2 Maneuver	861	790	-	888	790	-	-	-	-	-	-	-
Stage 1	932	819	-	985	867	-	-	-	-	-	-	-
Stage 2	958	867	-	921	819	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			8.9			0			3.3		
HCM LOS	A			A								
Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR		
Capacity (veh/h)	1542	-	-	0	0	888	989	1552	-	-		
HCM Lane V/C Ratio	-	-	-	+	+	0.017	0.025	0.012	-	-		
HCM Control Delay (s)	0	-	-	0	0	9.1	8.7	7.347	0	-		
HCM Lane LOS	A	-	-	A	A	A	A	A	A	-		
HCM 95th %tile Q(veh)	0	-	-	+	+	0.053	0.077	0.036	-	-		
Notes												
~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined												

Intersection

Intersection Delay, s/veh 3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	2	24	10	7	5	11	42	0	4	36	4
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	3	2	27	11	8	6	12	48	0	5	41	5

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	132	125	43	140	128	48	45	0	0	48	0	0
Stage 1	52	52	-	73	73	-	-	-	-	-	-	-
Stage 2	80	73	-	67	55	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	822	751	1005	812	748	999	1513	-	-	1509	-	-
Stage 1	941	836	-	917	819	-	-	-	-	-	-	-
Stage 2	909	819	-	924	834	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-	-	-	-
Mov Capacity-1 Maneuver	803	742	1005	781	739	999	1513	-	-	1509	-	-
Mov Capacity-2 Maneuver	803	742	-	781	739	-	-	-	-	-	-	-
Stage 1	933	833	-	909	812	-	-	-	-	-	-	-
Stage 2	887	812	-	894	831	-	-	-	-	-	-	-

Approach	EB		WB			NB			SB		
HCM Control Delay, s	8.9		9.6			1.5			0.7		
HCM LOS	A		A								

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1513	-	-	957	806	1509	-	-
HCM Lane V/C Ratio	0.008	-	-	0.034	0.031	0.003	-	-
HCM Control Delay (s)	7.399	0	-	8.9	9.6	7.393	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0.025	-	-	0.107	0.096	0.009	-	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	18	11	1	20	0	7	1	2	5	4	5
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	20	12	1	22	0	8	1	2	6	4	6

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	32	0	0	57	52	26	54	58	22
Stage 1	-	-	-	-	-	-	28	28	-	24	24	-
Stage 2	-	-	-	-	-	-	29	24	-	30	34	-
Follow-up Headway	2.29	-	-	2.29	-	-	3.59	4.09	3.39	3.59	4.09	3.39
Pot Capacity-1 Maneuver	1543	-	-	1530	-	-	920	824	1027	925	818	1032
Stage 1	-	-	-	-	-	-	969	856	-	974	860	-
Stage 2	-	-	-	-	-	-	968	860	-	967	851	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	1543	-	-	1530	-	-	910	822	1027	921	816	1032
Mov Capacity-2 Maneuver	-	-	-	-	-	-	910	822	-	921	816	-
Stage 1	-	-	-	-	-	-	968	855	-	973	859	-
Stage 2	-	-	-	-	-	-	957	859	-	963	850	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.2	-	-	0.4	-	-	9	-	-	9	-	-
HCM LOS	A	-	-	A	-	-	A	-	-	A	-	-

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	921	1543	-	-	1530	-	-	923
HCM Lane V/C Ratio	0.012	0.001	-	-	0.001	-	-	0.017
HCM Control Delay (s)	9	7.335	0	-	7.355	0	-	9
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.037	0.002	-	-	0.002	-	-	0.051

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	22	12	6	26	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	31	17	9	37	3	11

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	31
Stage 1	-	-	-
Stage 2	-	-	-
Follow-up Headway	-	-	2.29
Pot Capacity-1 Maneuver	-	-	1531
Stage 1	-	-	-
Stage 2	-	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	-	-	1531
Mov Capacity-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	8.7
HCM LOS			A

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	992	-	-	1531	-
HCM Lane V/C Ratio	0.014	-	-	0.006	-
HCM Control Delay (s)	8.7	-	-	7.365	0
HCM Lane LOS	A			A	A
HCM 95th %tile Q(veh)	0.044	-	-	0.017	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	3.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	1	1	10	1	12	0	18	23	16	12	1
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	200	-	-	200	-	-	-	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	4	1	1	13	1	15	0	23	29	21	15	1
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	88	80	16	81	81	23	17	0	0	23	0	0
Stage 1	57	57	-	23	23	-	-	-	-	-	-	-
Stage 2	31	23	-	58	58	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	878	795	1040	888	794	1031	1550	-	-	1542	-	-
Stage 1	935	832	-	975	860	-	-	-	-	-	-	-
Stage 2	965	860	-	934	831	-	-	-	-	-	-	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	855	784	1040	876	783	1031	1550	-	-	1542	-	-
Mov Capacity-2 Maneuver	855	784	-	876	783	-	-	-	-	-	-	-
Stage 1	935	820	-	975	860	-	-	-	-	-	-	-
Stage 2	949	860	-	918	819	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.1		8.9			0			4.1			
HCM LOS	A		A									
Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR		
Capacity (veh/h)	1550	-	-	855	881	876	977	1542	-	-		
HCM Lane V/C Ratio	-	-	-	0.003	0.004	0.01	0.021	0.013	-	-		
HCM Control Delay (s)	0	-	-	9.2	9.1	9.2	8.8	7.366	0	-		
HCM Lane LOS	A	-	-	A	A	A	A	A	A	-		
HCM 95th %tile Q(veh)	0	-	-	0.009	0.013	0.03	0.066	0.04	-	-		
Notes												
~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined												

Intersection

Intersection Delay, s/veh 2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	4	15	4	1	9	15	54	11	3	83	5
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, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	3	4	16	4	1	10	16	59	12	3	90	5

Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	202	202	93	207	199	65	96	0	0	71	0	0
Stage 1	99	99	-	97	97	-	-	-	-	-	-	-
Stage 2	103	103	-	110	102	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	739	680	943	734	683	977	1449	-	-	1480	-	-
Stage 1	888	798	-	890	799	-	-	-	-	-	-	-
Stage 2	884	795	-	876	795	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-	-	-	-
Mov Capacity-1 Maneuver	723	670	943	710	673	977	1449	-	-	1480	-	-
Mov Capacity-2 Maneuver	723	670	-	710	673	-	-	-	-	-	-	-
Stage 1	877	796	-	879	789	-	-	-	-	-	-	-
Stage 2	863	785	-	854	793	-	-	-	-	-	-	-

Approach	EB		WB			NB			SB		
HCM Control Delay, s	9.4		9.3			1.4			0.2		
HCM LOS	A		A								

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1449	-	-	845	857	1480	-	-
HCM Lane V/C Ratio	0.011	-	-	0.028	0.018	0.002	-	-
HCM Control Delay (s)	7.513	0	-	9.4	9.3	7.438	0	-
HCM Lane LOS	A	A	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0.034	-	-	0.087	0.054	0.007	-	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	11	21	5	0	12	4	6	1	0	2	3	1
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	15	29	7	0	16	5	8	1	0	3	4	1

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	22	0	0	36	0	0	84	84	32	82	85	19
Stage 1	-	-	-	-	-	-	62	62	-	19	19	-
Stage 2	-	-	-	-	-	-	22	22	-	63	66	-
Follow-up Headway	2.29	-	-	2.29	-	-	3.59	4.09	3.39	3.59	4.09	3.39
Pot Capacity-1 Maneuver	1543	-	-	1525	-	-	884	791	1019	886	790	1036
Stage 1	-	-	-	-	-	-	929	828	-	980	864	-
Stage 2	-	-	-	-	-	-	976	861	-	928	824	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	1543	-	-	1525	-	-	873	783	1019	878	782	1036
Mov Capacity-2 Maneuver	-	-	-	-	-	-	873	783	-	878	782	-
Stage 1	-	-	-	-	-	-	920	820	-	970	864	-
Stage 2	-	-	-	-	-	-	970	861	-	917	816	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.2			0			9.2			9.3		
HCM LOS	A			A			A			A		

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	859	1543	-	-	1525	-	-	848
HCM Lane V/C Ratio	0.011	0.01	-	-	-	-	-	0.01
HCM Control Delay (s)	9.2	7.356	0	-	0	-	-	9.3
HCM Lane LOS	A	A	A	-	A	-	-	A
HCM 95th %tile Q(veh)	0.034	0.03	-	-	0	-	-	0.029

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	31	2	4	15	8	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	44	3	6	21	11	9

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	44
Stage 1	-	-	-
Stage 2	-	-	-
Follow-up Headway	-	-	2.29
Pot Capacity-1 Maneuver	-	-	1514
Stage 1	-	-	-
Stage 2	-	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	-	-	1514
Mov Capacity-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	8.9
HCM LOS			A

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	944	-	-	1514	-
HCM Lane V/C Ratio	0.021	-	-	0.004	-
HCM Control Delay (s)	8.9	-	-	7.387	0
HCM Lane LOS	A			A	A
HCM 95th %tile Q(veh)	0.065	-	-	0.011	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	1	1	29	1	23	1	20	21	20	30	1
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	200	-	-	200	-	-	-	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	1	1	33	1	26	1	23	24	23	34	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	120	106	35	107	107	23	36	0	0	23	0	0
Stage 1	81	81	-	25	25	-	-	-	-	-	-	-
Stage 2	39	25	-	82	82	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	837	769	1015	854	768	1031	1525	-	-	1542	-	-
Stage 1	908	812	-	973	859	-	-	-	-	-	-	-
Stage 2	956	859	-	907	811	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-	-	-	-
Mov Capacity-1 Maneuver	805	757	1015	842	756	1031	1525	-	-	1542	-	-
Mov Capacity-2 Maneuver	805	757	-	842	756	-	-	-	-	-	-	-
Stage 1	907	800	-	972	858	-	-	-	-	-	-	-
Stage 2	929	858	-	891	799	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.3			9.1			0.2			2.9		
HCM LOS	A			A								

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1525	-	-	805	858	842	959	1542	-	-
HCM Lane V/C Ratio	0.001	-	-	0.001	0.003	0.026	0.04	0.015	-	-
HCM Control Delay (s)	7.362	0	-	9.5	9.2	9.4	8.9	7.37	0	-
HCM Lane LOS	A	A	-	A	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0.002	-	-	0.003	0.009	0.081	0.126	0.045	-	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	3	3	32	15	11	8	12	65	1	6	55	6
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	3	3	36	17	12	9	14	74	1	7	62	7

Major/Minor

	Minor2	Minor1			Major1			Major2				
Conflicting Flow All	193	182	66	201	185	74	69	0	0	75	0	0
Stage 1	80	80	-	102	102	-	-	-	-	-	-	-
Stage 2	113	102	-	99	83	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	749	698	976	740	695	966	1483	-	-	1475	-	-
Stage 1	909	813	-	885	795	-	-	-	-	-	-	-
Stage 2	873	795	-	888	811	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-	-	-	-
Mov Capacity-1 Maneuver	723	688	976	702	685	966	1483	-	-	1475	-	-
Mov Capacity-2 Maneuver	723	688	-	702	685	-	-	-	-	-	-	-
Stage 1	900	809	-	876	787	-	-	-	-	-	-	-
Stage 2	843	787	-	847	807	-	-	-	-	-	-	-

Approach

	EB	WB	NB	SB
HCM Control Delay, s	9.1	10.1	1.1	0.7
HCM LOS	A	B		

Minor Lane / Major Mvmt

	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1483	-	-	920	744	1475	-	-
HCM Lane V/C Ratio	0.009	-	-	0.047	0.052	0.005	-	-
HCM Control Delay (s)	7.45	0	-	9.1	10.1	7.452	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0.028	-	-	0.148	0.164	0.014	-	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	20	17	2	24	1	11	2	3	8	6	8
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	2	22	19	2	27	1	12	2	3	9	7	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	28	0	0	41	0	0	75	68	32	71	78	27
Stage 1	-	-	-	-	-	-	36	36	-	32	32	-
Stage 2	-	-	-	-	-	-	39	32	-	39	46	-
Follow-up Headway	2.29	-	-	2.29	-	-	3.59	4.09	3.39	3.59	4.09	3.39
Pot Capacity-1 Maneuver	1535	-	-	1518	-	-	896	807	1019	901	797	1026
Stage 1	-	-	-	-	-	-	960	849	-	964	853	-
Stage 2	-	-	-	-	-	-	956	853	-	956	841	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	1535	-	-	1518	-	-	881	805	1019	895	795	1026
Mov Capacity-2 Maneuver	-	-	-	-	-	-	881	805	-	895	795	-
Stage 1	-	-	-	-	-	-	959	848	-	963	852	-
Stage 2	-	-	-	-	-	-	939	852	-	949	840	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.4			0.5			9.1			9.1		
HCM LOS							A			A		

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	893	1535	-	-	1518	-	-	906
HCM Lane V/C Ratio	0.02	0.001	-	-	0.001	-	-	0.027
HCM Control Delay (s)	9.1	7.349	0	-	7.375	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.061	0.004	-	-	0.004	-	-	0.083

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	35	6	3	40	1	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	50	9	4	57	1	6

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	50
Stage 1	-	-	-
Stage 2	-	-	-
Follow-up Headway	-	-	2.29
Pot Capacity-1 Maneuver	-	-	1507
Stage 1	-	-	-
Stage 2	-	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	-	-	1507
Mov Capacity-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	8.8
HCM LOS			A

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	965	-	-	1507	-
HCM Lane V/C Ratio	0.007	-	-	0.003	-
HCM Control Delay (s)	8.8	-	-	7.396	0
HCM Lane LOS	A			A	A
HCM 95th %tile Q(veh)	0.022	-	-	0.009	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	2	2	12	2	15	1	27	33	24	18	2
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	200	-	-	200	-	-	-	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	6	3	3	15	3	19	1	35	42	31	23	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	134	123	24	125	124	35	26	0	0	35	0	0
Stage 1	86	86	-	37	37	-	-	-	-	-	-	-
Stage 2	48	37	-	88	87	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	819	753	1030	831	752	1015	1538	-	-	1526	-	-
Stage 1	902	808	-	958	849	-	-	-	-	-	-	-
Stage 2	945	849	-	900	807	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-	-	-	-
Mov Capacity-1 Maneuver	788	736	1030	813	735	1015	1538	-	-	1526	-	-
Mov Capacity-2 Maneuver	788	736	-	813	735	-	-	-	-	-	-	-
Stage 1	901	791	-	957	848	-	-	-	-	-	-	-
Stage 2	923	848	-	876	790	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.4			9.1			0.1			4		
HCM LOS	A			A								

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1538	-	-	788	837	813	937	1526	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.009	0.013	0.029	0.02	-	-
HCM Control Delay (s)	7.343	0	-	9.6	9.3	9.5	9	7.408	0	-
HCM Lane LOS	A	A	-	A	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0.003	-	-	0.016	0.026	0.038	0.089	0.062	-	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	6	18	6	2	14	20	85	16	5	125	8
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, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	5	7	20	7	2	15	22	92	17	5	136	9

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	304	304	140	309
Stage 1	151	151	-	145
Stage 2	153	153	-	164
Follow-up Headway	3.59	4.09	3.39	3.59
Pot Capacity-1 Maneuver	633	596	887	628
Stage 1	833	757	-	839
Stage 2	831	756	-	820
Time blocked-Platoon, %				
Mov Capacity-1 Maneuver	611	584	887	599
Mov Capacity-2 Maneuver	611	584	-	599
Stage 1	819	754	-	825
Stage 2	801	743	-	792

Approach	EB	WB	NB	SB
HCM Control Delay, s	10	9.8	1.3	0.3
HCM LOS	B	A		

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1390	-	-	748	774	1432	-	-
HCM Lane V/C Ratio	0.016	-	-	0.042	0.031	0.004	-	-
HCM Control Delay (s)	7.631	0	-	10	9.8	7.524	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0.048	-	-	0.132	0.096	0.011	-	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	17	26	8	1	16	6	9	2	1	3	5	2
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	23	36	11	1	22	8	12	3	1	4	7	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	30	0	0	47	0	0	122	121	41	119	122	26
Stage 1	-	-	-	-	-	-	88	88	-	29	29	-
Stage 2	-	-	-	-	-	-	34	33	-	90	93	-
Follow-up Headway	2.29	-	-	2.29	-	-	3.59	4.09	3.39	3.59	4.09	3.39
Pot Capacity-1 Maneuver	1533	-	-	1511	-	-	834	755	1008	838	754	1027
Stage 1	-	-	-	-	-	-	900	807	-	968	855	-
Stage 2	-	-	-	-	-	-	962	852	-	898	803	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	1533	-	-	1511	-	-	816	743	1008	824	742	1027
Mov Capacity-2 Maneuver	-	-	-	-	-	-	816	743	-	824	742	-
Stage 1	-	-	-	-	-	-	887	795	-	953	854	-
Stage 2	-	-	-	-	-	-	951	851	-	880	791	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.5			0.3			9.5			9.5		
HCM LOS	A			A			A			A		

Minor Lane / Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	816	1533	-	-	1511	-	-	811
HCM Lane V/C Ratio	0.02	0.015	-	-	0.001	-	-	0.017
HCM Control Delay (s)	9.5	7.385	0	-	7.385	0	-	9.5
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.062	0.046	-	-	0.003	-	-	0.052

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	48	1	2	25	4	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	69	1	3	36	6	4

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	69
Stage 1	-	-	-
Stage 2	-	-	-
Follow-up Headway	-	-	2.29
Pot Capacity-1 Maneuver	-	-	1483
Stage 1	-	-	-
Stage 2	-	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	-	-	1483
Mov Capacity-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9
HCM LOS			A

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	908	-	-	1483	-
HCM Lane V/C Ratio	0.011	-	-	0.002	-
HCM Control Delay (s)	9	-	-	7.432	0
HCM Lane LOS	A			A	A
HCM 95th %tile Q(veh)	0.033	-	-	0.006	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	1	1	1	30	1	23	1	20	24	23	30	1
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	200	-	-	200	-	-	-	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	1	1	1	34	1	26	1	23	28	26	34	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	127	113	35	114	114	23	36	0	0	23	0	0
Stage 1	88	88	-	25	25	-	-	-	-	-	-	-
Stage 2	39	25	-	89	89	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	828	762	1015	845	761	1031	1525	-	-	1542	-	-
Stage 1	900	807	-	973	859	-	-	-	-	-	-	-
Stage 2	956	859	-	899	806	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-		-	-
Mov Capacity-1 Maneuver	795	748	1015	831	747	1031	1525	-	-	1542	-	-
Mov Capacity-2 Maneuver	795	748	-	831	747	-	-	-	-	-	-	-
Stage 1	899	793	-	972	858	-	-	-	-	-	-	-
Stage 2	929	858	-	881	792	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.3			9.1			0.2			3.1		
HCM LOS	A			A								

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1525	-	-	795	851	831	953	1542	-	-
HCM Lane V/C Ratio	0.001	-	-	0.001	0.003	0.028	0.041	0.017	-	-
HCM Control Delay (s)	7.362	0	-	9.5	9.2	9.5	8.9	7.375	0	-
HCM Lane LOS	A	A	-	A	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0.002	-	-	0.003	0.009	0.085	0.128	0.052	-	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection												
Intersection Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	4	3	35	15	11	8	15	65	1	6	55	6
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	88	88	88	88	88	88	88	88	88	88	88	88
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	5	3	40	17	12	9	17	74	1	7	62	7
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	199	189	66	210	192	74	69	0	0	75	0	0
Stage 1	80	80	-	109	109	-	-	-	-	-	-	-
Stage 2	119	109	-	101	83	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	743	692	976	730	689	966	1483	-	-	1475	-	-
Stage 1	909	813	-	877	790	-	-	-	-	-	-	-
Stage 2	866	790	-	886	811	-	-	-	-	-	-	-
Time blocked-Platoon, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Capacity-1 Maneuver	716	680	976	689	677	966	1483	-	-	1475	-	-
Mov Capacity-2 Maneuver	716	680	-	689	677	-	-	-	-	-	-	-
Stage 1	898	809	-	866	781	-	-	-	-	-	-	-
Stage 2	834	781	-	842	807	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9.1		10.2			1.4			0.7			
HCM LOS	A		B									
Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1483	-	-	916	734	1475	-	-				
HCM Lane V/C Ratio	0.011	-	-	0.052	0.053	0.005	-	-				
HCM Control Delay (s)	7.456	0	-	9.1	10.2	7.452	0	-				
HCM Lane LOS	A	A	-	A	B	A	A	-				
HCM 95th %tile Q(veh)	0.035	-	-	0.165	0.166	0.014	-	-				
Notes												
~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined												

Intersection

Intersection Delay, s/veh 3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	2	24	17	2	27	1	11	2	3	8	6	8
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	2	27	19	2	30	1	12	2	3	9	7	9

Major/Minor

	Major1	Major2	Minor1	Minor2
Conflicting Flow All	31	0	0	46
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Follow-up Headway	2.29	-	-	2.29
Pot Capacity-1 Maneuver	1531	-	-	1512
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Time blocked-Platoon, %	-	-	-	-
Mov Capacity-1 Maneuver	1531	-	-	1512
Mov Capacity-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach

	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.5	9.2	9.1
HCM LOS			A	A

Minor Lane / Major Mvmt

	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	883	1531	-	-	1512	-	-	899
HCM Lane V/C Ratio	0.02	0.001	-	-	0.001	-	-	0.027
HCM Control Delay (s)	9.2	7.355	0	-	7.384	0	-	9.1
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.062	0.004	-	-	0.004	-	-	0.084

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	35	12	6	40	2	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	50	17	9	57	3	11

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	50
Stage 1	-	-	-
Stage 2	-	-	-
Follow-up Headway	-	-	2.29
Pot Capacity-1 Maneuver	-	-	1507
Stage 1	-	-	-
Stage 2	-	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	-	-	1507
Mov Capacity-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	8.8
HCM LOS			A

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	962	-	-	1507	-
HCM Lane V/C Ratio	0.015	-	-	0.006	-
HCM Control Delay (s)	8.8	-	-	7.403	0
HCM Lane LOS	A			A	A
HCM 95th %tile Q(veh)	0.045	-	-	0.017	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	2	2	14	2	17	1	27	34	24	18	2
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	200	-	-	200	-	-	-	-	300	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	6	3	3	18	3	22	1	35	44	31	23	3

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	135	123	24	125	124	35	26	0	0	35	0	0
Stage 1	86	86	-	37	37	-	-	-	-	-	-	-
Stage 2	49	37	-	88	87	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	818	753	1030	831	752	1015	1538	-	-	1526	-	-
Stage 1	902	808	-	958	849	-	-	-	-	-	-	-
Stage 2	944	849	-	900	807	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-	-	-	-
Mov Capacity-1 Maneuver	785	736	1030	813	735	1015	1538	-	-	1526	-	-
Mov Capacity-2 Maneuver	785	736	-	813	735	-	-	-	-	-	-	-
Stage 1	901	791	-	957	848	-	-	-	-	-	-	-
Stage 2	920	848	-	876	790	-	-	-	-	-	-	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	9.4			9.1			0.1			4		
HCM LOS	A			A								

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1538	-	-	785	836	813	939	1526	-	-
HCM Lane V/C Ratio	0.001	-	-	0.005	0.009	0.015	0.032	0.02	-	-
HCM Control Delay (s)	7.343	0	-	9.6	9.3	9.5	9	7.408	0	-
HCM Lane LOS	A	A	-	A	A	A	A	A	A	-
HCM 95th %tile Q(veh)	0.003	-	-	0.016	0.026	0.045	0.1	0.062	-	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 2.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	5	6	21	6	2	14	22	85	16	5	125	8
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, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	5	7	23	7	2	15	24	92	17	5	136	9

Major/Minor	Minor2		Minor1			Major1		Major2				
Conflicting Flow All	309	309	140	315	304	101	145	0	0	110	0	0
Stage 1	151	151	-	149	149	-	-	-	-	-	-	-
Stage 2	158	158	-	166	155	-	-	-	-	-	-	-
Follow-up Headway	3.59	4.09	3.39	3.59	4.09	3.39	2.29	-	-	2.29	-	-
Pot Capacity-1 Maneuver	628	592	887	622	596	933	1390	-	-	1432	-	-
Stage 1	833	757	-	835	759	-	-	-	-	-	-	-
Stage 2	826	752	-	818	754	-	-	-	-	-	-	-
Time blocked-Platoon, %								-	-	-	-	-
Mov Capacity-1 Maneuver	606	579	887	591	583	933	1390	-	-	1432	-	-
Mov Capacity-2 Maneuver	606	579	-	591	583	-	-	-	-	-	-	-
Stage 1	818	754	-	820	745	-	-	-	-	-	-	-
Stage 2	796	738	-	787	751	-	-	-	-	-	-	-

Approach	EB		WB			NB		SB		
HCM Control Delay, s	10		9.8			1.4		0.3		
HCM LOS	B		A							

Minor Lane / Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1390	-	-	757	770	1432	-	-
HCM Lane V/C Ratio	0.017	-	-	0.046	0.031	0.004	-	-
HCM Control Delay (s)	7.635	0	-	10	9.8	7.524	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0.052	-	-	0.144	0.096	0.011	-	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Vol, veh/h	17	29	8	1	18	6	9	2	1	3	5	2
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	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	73	73	73	73	73	73	73	73	73	73	73	73
Heavy Vehicles, %	10	10	10	10	10	10	10	10	10	10	10	10
Mvmt Flow	23	40	11	1	25	8	12	3	1	4	7	3

Major/Minor

	Major1	Major2	Minor1	Minor2
Conflicting Flow All	33	0	0	51
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Follow-up Headway	2.29	-	-	2.29
Pot Capacity-1 Maneuver	1529	-	-	1505
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Time blocked-Platoon, %	-	-	-	-
Mov Capacity-1 Maneuver	1529	-	-	1505
Mov Capacity-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach

	EB	WB	NB	SB
HCM Control Delay, s	2.3	0.3	9.5	9.6
HCM LOS			A	A

Minor Lane / Major Mvmt

	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	809	1529	-	-	1505	-	-	804
HCM Lane V/C Ratio	0.02	0.015	-	-	0.001	-	-	0.017
HCM Control Delay (s)	9.5	7.391	0	-	7.394	0	-	9.6
HCM Lane LOS	A	A	A	-	A	A	-	A
HCM 95th %tile Q(veh)	0.062	0.046	-	-	0.003	-	-	0.052

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined

Intersection

Intersection Delay, s/veh 1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Vol, veh/h	48	2	4	25	8	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	300	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	10	10	10	10	10	10
Mvmt Flow	69	3	6	36	11	9

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	69
Stage 1	-	-	-
Stage 2	-	-	-
Follow-up Headway	-	-	2.29
Pot Capacity-1 Maneuver	-	-	1483
Stage 1	-	-	-
Stage 2	-	-	-
Time blocked-Platoon, %	-	-	-
Mov Capacity-1 Maneuver	-	-	1483
Mov Capacity-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.1
HCM LOS			A

Minor Lane / Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	903	-	-	1483	-
HCM Lane V/C Ratio	0.022	-	-	0.004	-
HCM Control Delay (s)	9.1	-	-	7.437	0
HCM Lane LOS	A			A	A
HCM 95th %tile Q(veh)	0.068	-	-	0.012	-

Notes

~ : Volume Exceeds Capacity; \$: Delay Exceeds 300 Seconds; Error : Computation Not Defined