Traffic Impact Study

Summerfield
Keenesburg, Colorado

Prepared for:

MSP Investment Co., LLP

Kimley»Horn

T R A F F I C I M P A C T S T U D Y

Summerfield

Keenesburg, Colorado

Prepared for
MSP Investment Co., LLP
720 S Colorado Boulevard
Suite 940 North Tower
Denver, CO 80246

Prepared by
Kimley-Horn and Associates, Inc.
4582 South Ulster Street
Suite 1500
Denver, Colorado 80237
(303) 228-2300

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1.0 EXECUTIVE SUMMARY

Summerfield is a proposed residential development to be located southwest of the Woodward Avenue and CR-59 intersection in Keenesburg, Colorado. The project is anticipated to be built in two phases. The first phase (north portion) is planned to include 190 single-family detached dwelling units and 73 townhome dwelling units. The second phase (south portion) is planned to include 553 single-family detached dwelling units. The first phase is anticipated to be completed by the end of 2024 while the second phase and full buildout of the entire Summerfield project is anticipated to be completed by the end of 2027. Therefore, analysis was conducted for the 2024 and 2027 short-term horizons as well as the 2040 long-term horizon.

The purpose of this study is to identify project traffic generation characteristics and project traffic related impacts on the local street system to develop improvements required for the identified impacts. The following key intersections will be evaluated as part of this project:

- CR-398 and CR-59
- Woodward Avenue and CR-59
- SH-52 and CR-59

In addition, the accesses proposed along CR-59 were included for evaluation in this traffic study.

Regional access to Summerfield will be provided by Interstate 76 through the Keenesburg Interchange. Primary access will be provided by Woodward Avenue and CR-59. Direct access to the development will be provided by the extension of Crawford Avenue for the northern Phase I development area as well as four accesses along CR-59. The four accesses, two each for the northern and southern residential areas, will provide full turning movements.

Phase I of the Summerfield development is anticipated to generate approximately 2,388 daily trips with 175 of these trips occurring during the morning peak hour and 233 of these trips occurring during the afternoon peak hour. Phase II of the Summerfield development is anticipated to generate approximately 5,014 daily trips with 397 of these trips occurring during the morning peak hour and 525 of these trips occurring during the afternoon peak hour. The entire Summerfield development is anticipated to generate approximately 7,402 daily trips with

572 trips occurring during the morning peak hour and 758 trips occurring during the afternoon peak hour.

Based on the analysis presented in this report, Kimley-Horn believes the proposed Summerfield project will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected future traffic volumes resulted in the following recommendations:

Existing (2021) Recommendations

- The SH-52 and CR-59 intersection was noted to have movements operating with long delays and poor level of service on the stop-controlled northbound and southbound approaches today. Therefore, it is believed that a change in control is needed at this intersection to serve existing traffic. The intersection should be improved as either a single lane roundabout or be signalized. If signalized, the existing westbound acceleration lane from the northbound left turn should be redesignated as an eastbound left turn lane with a length of 295 feet plus 160-foot taper for 2024 traffic volumes or 315 feet plus 160-foot taper to accommodate full buildout of Summerfield in the 2027 horizon. Likewise, a westbound right turn deceleration lane with a length of 275 feet plus 180-foot taper is warranted at this intersection based on existing traffic volumes and should be considered for construction if a traffic signal is installed.

Phase I (2024) Recommendations

- With completion of the northern Phase I of the Summerfield development, extension of Crawford Avenue into the development from the west will be constructed. In addition, two full movement accesses are proposed along CR-59. It is recommended that R1-1 “STOP” signs be installed on the exiting eastbound approaches out of the development at both driveways.

- With competition of Phase I, it is recommended that an eastbound right turn lane be constructed at the CR-398 and CR-59 intersection due to the close proximity of the railroad tracks and the desire that right turning traffic blocked by a train will not block eastbound through traffic along CR-398. This eastbound right turn lane is recommended to provide a length of 275 feet with a 180-foot taper.

- Based on the addition of Summerfield project traffic on the north leg of CR-59 at SH-52 resulting in an increase in traffic volumes greater than 20 percent over existing, an access permit is believed to be required by CDOT in association with this project.

Phase II (2027) Recommendations

- With completion of the southern Phase II of the Summerfield development, two additional full movement accesses are proposed along CR-59. It is recommended that R1-1 "STOP" signs be installed on the exiting eastbound approaches out of the development at both accesses.

- With construction of Phase II, southbound right turn lanes are recommended for both accesses. The north access southbound right turn lane is recommended to provide a length of 175 feet with a 180-foot taper. The south access southbound right turn lane is recommended to provide a length of 230 feet with a 180-foot taper.

- The intersection of Woodward Avenue and CR-59 is recommended to be signalized. With the installation of a traffic signal, separate left turn lanes are recommended to be constructed and/or designated on each approach to the intersection. The eastbound and westbound left turn lanes are recommended to provide left turn lanes of 150 feet with a 180-foot taper. The northbound left turn lane is recommended to provide a length of 275 feet with a 180-foot taper. The southbound left turn lane is recommended to provide 175 feet of length with a 180-foot taper.

- By 2027, the eastbound left turn lane at the intersection of SH-52 and CR-59 intersection may need to be extended to provide 315 feet of length plus a 160-foot taper.

General Recommendations

- Any on-site and off-site signing and striping improvements should be incorporated into the Civil Drawings and conform to Town of Keenesburg and/or CDOT standards (as applicable) as well as the Manual on Uniform Traffic Control Devices – 2009 Edition (MUTCD).

2.0 INTRODUCTION

Kimley-Horn has prepared this report to document the results of a Traffic Impact study of future traffic conditions associated with the proposed Summerfield residential development to be located southwest of the Woodward Avenue and CR-59 intersection in Keenesburg, Colorado. A vicinity map illustrating the project location with respect to the surrounding area is shown in **Figure 1**. The project is anticipated to be built in two phases. The first phase (north portion) is planned to include 190 single-family detached dwelling units and 73 townhome dwelling units. The second phase (south portion) is planned to include 553 single-family detached dwelling units. A site plan for the proposed development is provided in **Appendix G**. The first phase is anticipated to be completed by the end of 2024 while the second phase and full buildout of the entire Summerfield project is anticipated to be completed by the end of 2027. Therefore, analysis was conducted for the 2024 and 2027 short-term horizons as well as the 2040 long-term horizon.

The purpose of this study is to identify project traffic generation characteristics and project traffic related impacts on the local street system to develop improvements required for the identified impacts. The following key intersections will be evaluated as part of this project:

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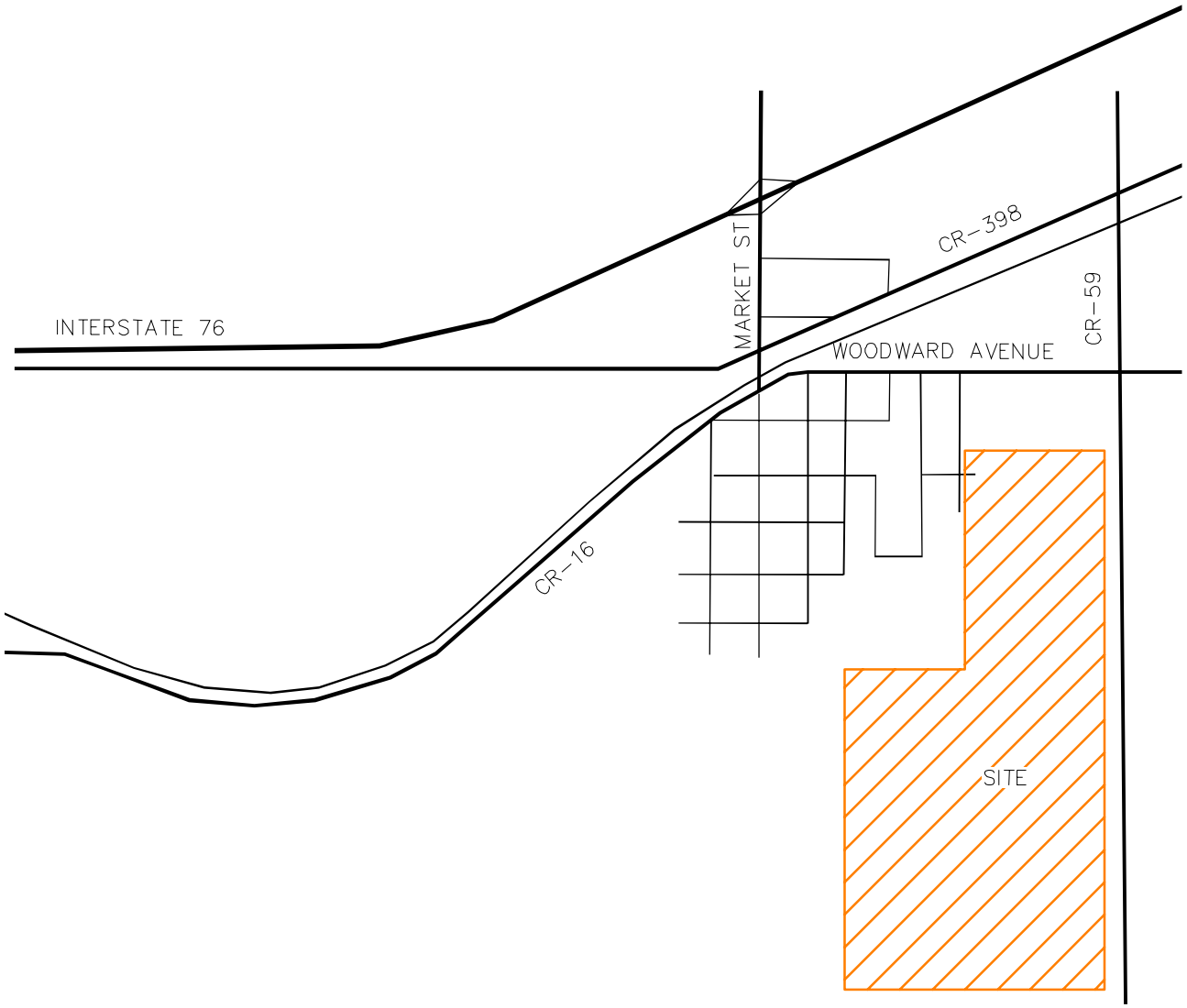


SUMMERFIELD
KEENESBURG, COLORADO
VICINITY MAP

FIGURE 1

3.0 EXISTING CONDITIONS

3.1 Existing Study Area

The existing project site consists of vacant land used for agricultural purposes. Additional vacant land exists to the south and east of the project area. To the west are single-family residential homes within the Town of Keenesburg, while railroad tracks and Interstate 76 (I-76) are located to the north of the site. The land uses and roadway network surrounding the site are shown in the aerial on **Figure 2**.

3.2 Existing Roadway Network

Through the study area, Woodward Avenue provides one through lane of travel in each direction, eastbound and westbound, with a posted speed limit of 30 miles per hour. County Road 398 (CR-398) provides one through lane in each direction, eastbound and westbound, with a posted speed limit of 45 miles per hour. County Road 59 (CR-59) provides one through lane in each direction, northbound and southbound, with a posted speed limit of 35 miles per hour. SH-52 provides one through lane of travel in each direction, eastbound and westbound, with a posted speed limit of 45 miles per hour near the study intersection.

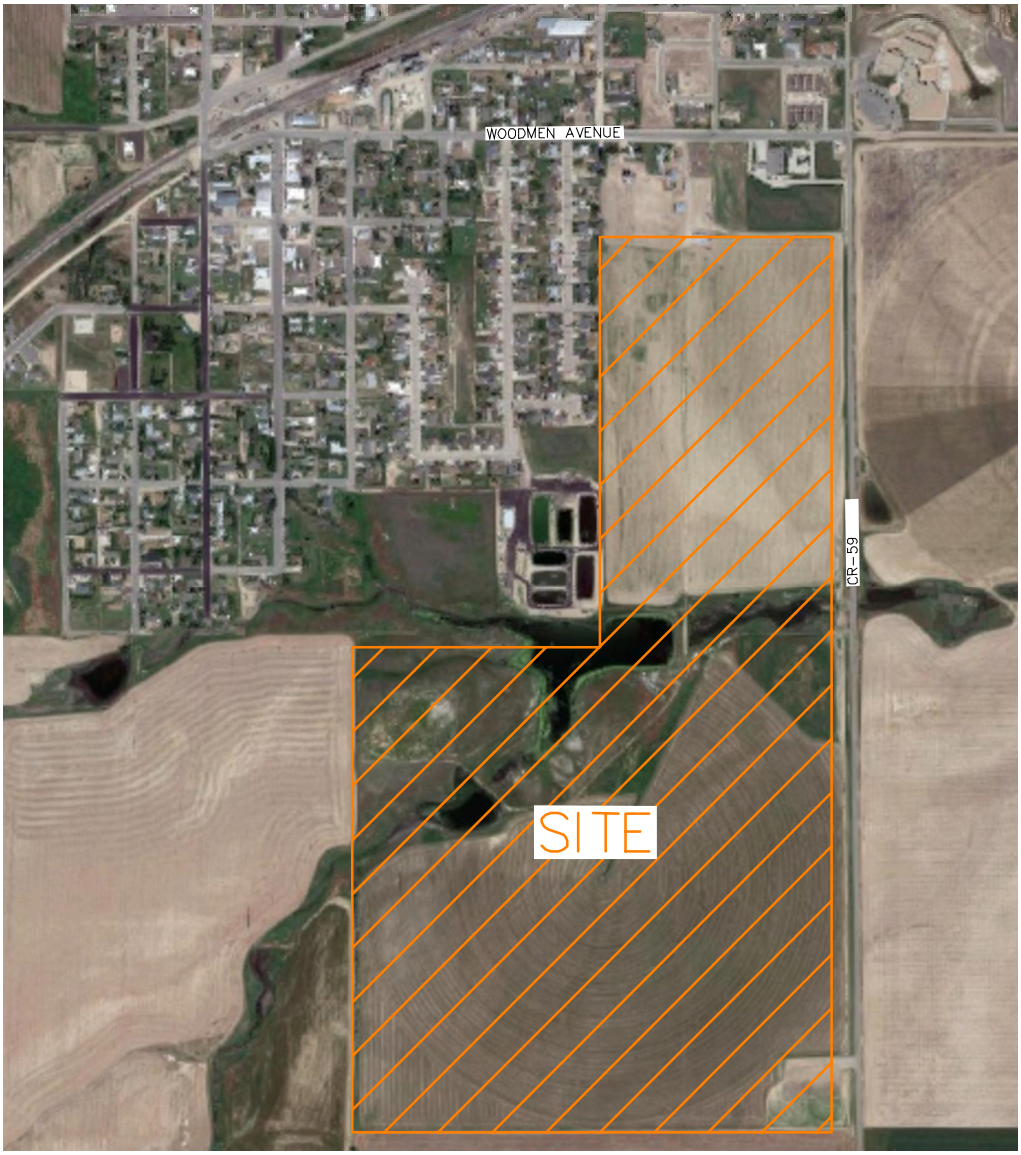
The intersection of CR-398 and CR-59 is unsignalized with stop control on the eastbound, westbound, and southbound approaches. The northbound approach does not include stop-control due to the close proximity of the adjacent railroad track at grade crossing approximately 110 feet south of this intersection. All four approaches provide a single lane for shared movements.

The intersection of Woodward Avenue and CR-59 is unsignalized with all-way stop control. All four approaches provide a single lane for shared movements.

The intersection of SH-52 and CR-59 is unsignalized with stop control on the northbound and southbound approaches. The northbound and southbound approaches provide a single lane for shared movements. The eastbound approach provides a shared through/left turn lane and a right turn lane while the westbound approach provides a left turn lane and a shared through/right turn lane.

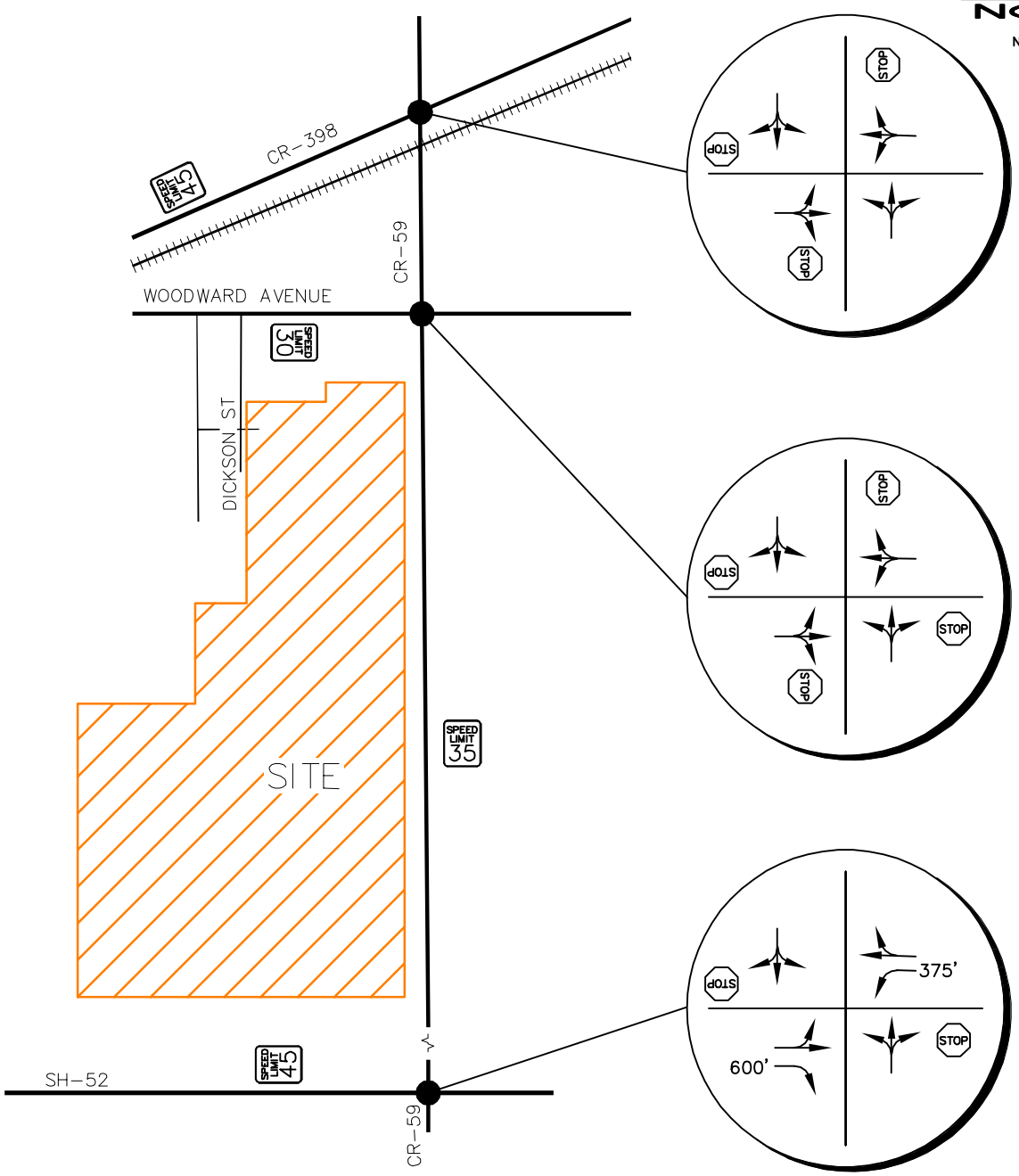
Existing intersection lane configurations are shown in **Figure 3**.

NORTH
NTS 196100002



SUMMERFIELD
KEENESBURG, COLORADO
SITE AREA

FIGURE 2



SUMMERFIELD
KEENESBURG, COLORADO
EXISTING LANE CONFIGURATIONS

FIGURE 3

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3.3 Existing Traffic Volumes

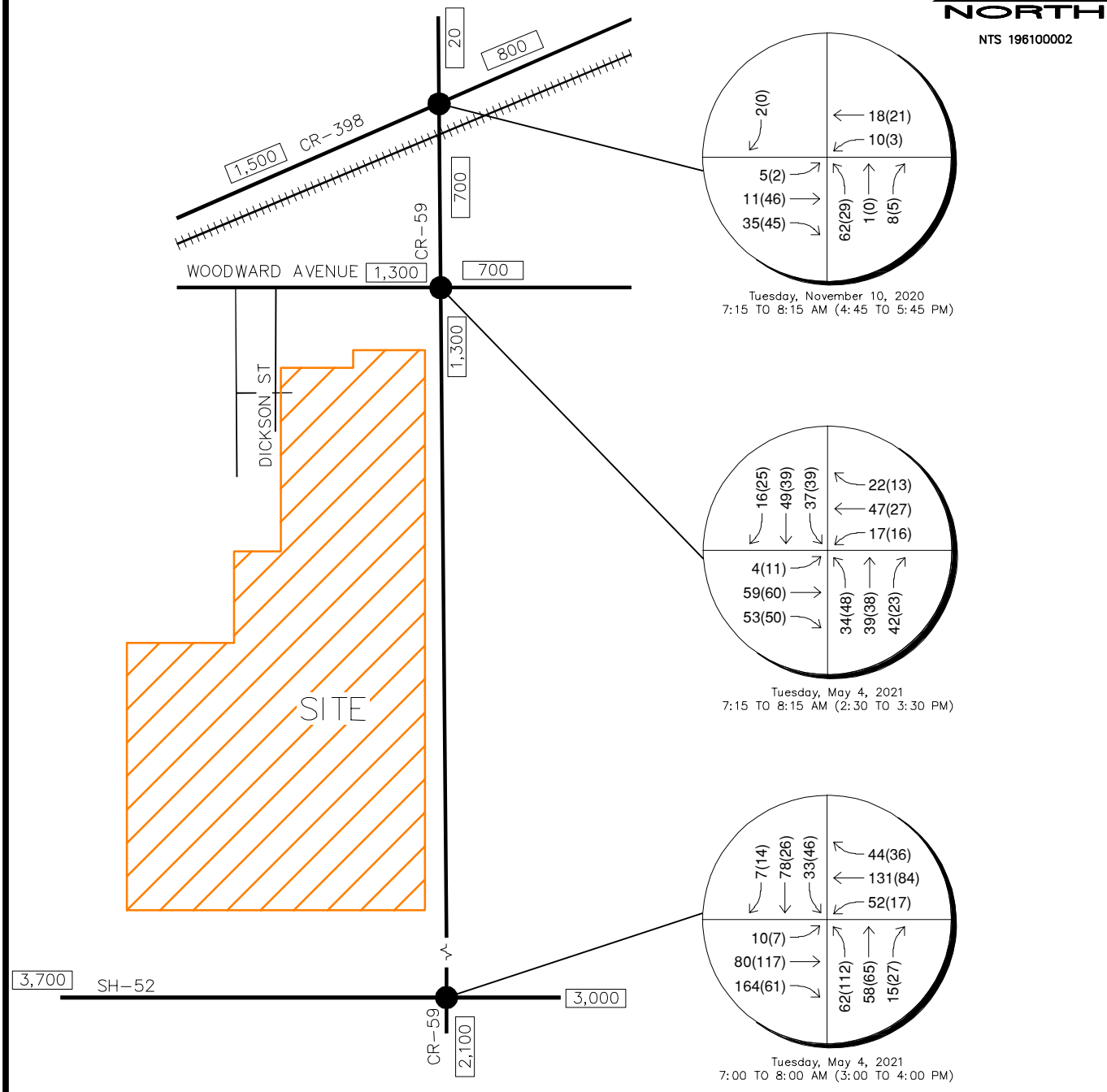
Existing peak hour turning movement counts were conducted at the intersection of CR-398/CR-59 on Tuesday, November 10, 2020. The counts were conducted in 15-minute intervals during the morning and afternoon peak hours of adjacent street traffic from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on this count date. The intersections of Woodward Avenue/CR-59 and SH-52/CR-59 on Tuesday, May 4, 2021. These counts were conducted in 15-minute intervals during the morning and afternoon peak hours from 7:00 AM to 9:00 AM and 2:00 PM to 6:00 PM. Existing turning movement counts are shown in **Figure 4** (count sheets in **Appendix A**).

3.4 Adjusted Existing Traffic Volumes

These counts were conducted during the COVID-19 pandemic. Therefore, an adjustment factor was determined from a comparison of counts conducted at a nearby intersection to estimate the 2021 volumes adjusted to normal conditions. Counts conducted at the intersection of CR-398 and Market Street intersection in 2018 and 2020 determined that the morning peak hour traffic volumes needed to be increased by approximately 27 percent while the afternoon peak hour needed to be increased by approximately 39 percent to identify the normal condition traffic volumes to account for COVID-19. The 2021 adjusted existing turning movement counts are shown in **Figure 5** with the adjusted existing counts and the count adjustment calculations provided in **Appendix A.**

3.5 Unspecified Development Traffic Growth

Based on information provided on the website for the Colorado Department of Transportation, the 20-year growth factor along SH-76 (Market Street) is 1.46 near I-76 and 1.35 near CR-398. The growth factor equates to an annual growth rate of approximately 1.91 percent per year near the interstate and 1.51 percent per year near CR-398. Likewise, the 20-year growth factor along SH-52 through the CR-59 intersection is 1.45, which equates to an annual growth rate of 1.88 percent. Traffic information from the CDOT Online Transportation Information System (OTIS) website is included in **Appendix B**. Based on this, a 1.75 percent annual growth rate was used to calculate future traffic volumes at the study area intersections since Summerfield will be a component of the future traffic volumes as well. This annual growth rate was used to estimate short-term 2024 and 2027 along with the long-term 2040 traffic volume projections at the key intersections. In addition, the Evan's Place development was included as background traffic at the study intersections. The calculated background traffic volumes for 2024, 2027, and 2040 are shown in **Figure 6**, **Figure 7,** and **Figure 8** respectively.



LEGEND

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

SUMMERFIELD
KEENESBURG, COLORADO
EXISTING TRAFFIC VOLUMES

FIGURE 4

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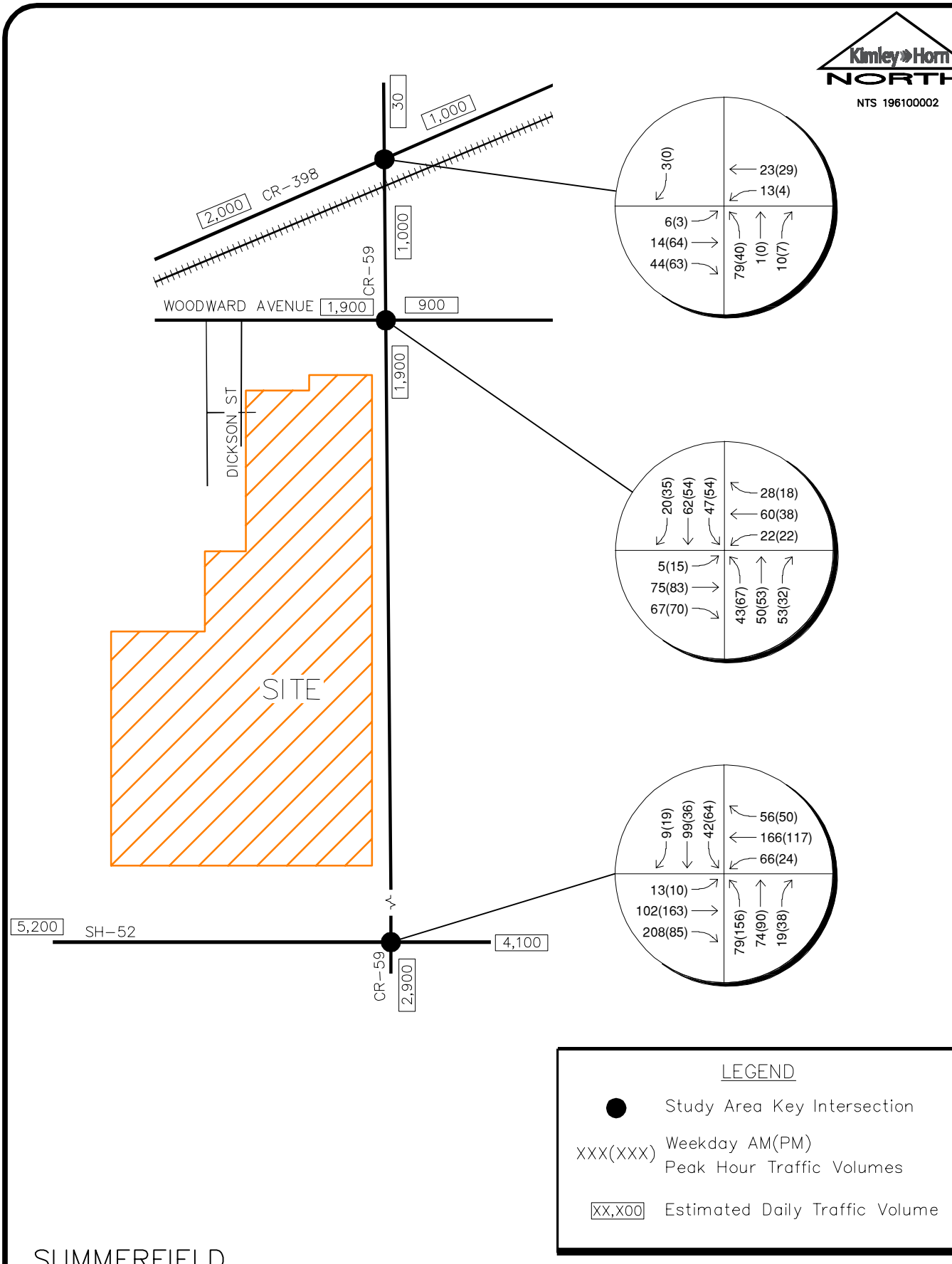

SUMMERFIELD
KEENESBURG, COLORADO
2021 ADJUSTED TRAFFIC VOLUMES

FIGURE 5

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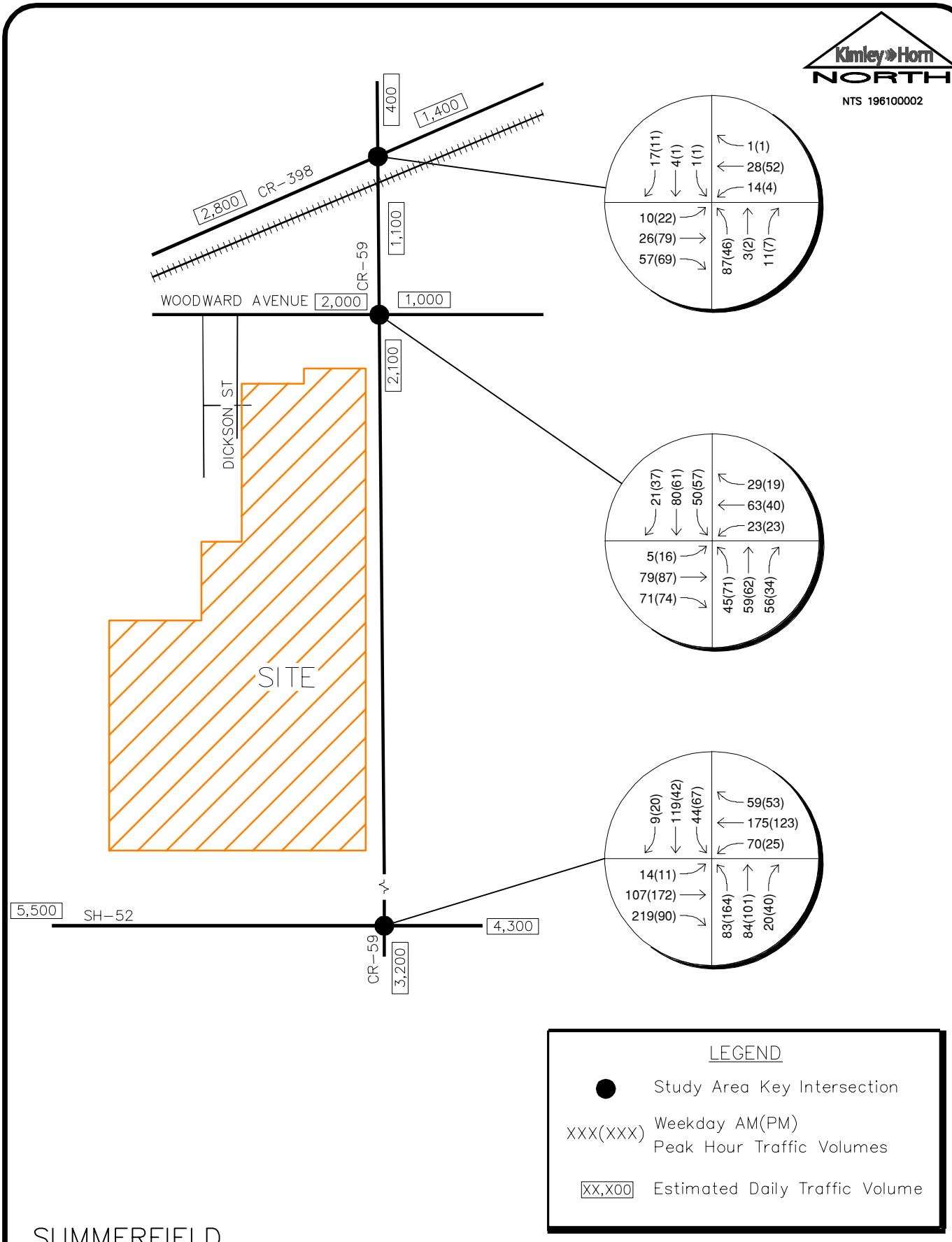

LEGEND

- ● Study Area Key Intersection
- XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

SUMMERFIELD
KEENESBURG, COLORADO
2024 BACKGROUND TRAFFIC VOLUMES

FIGURE 6

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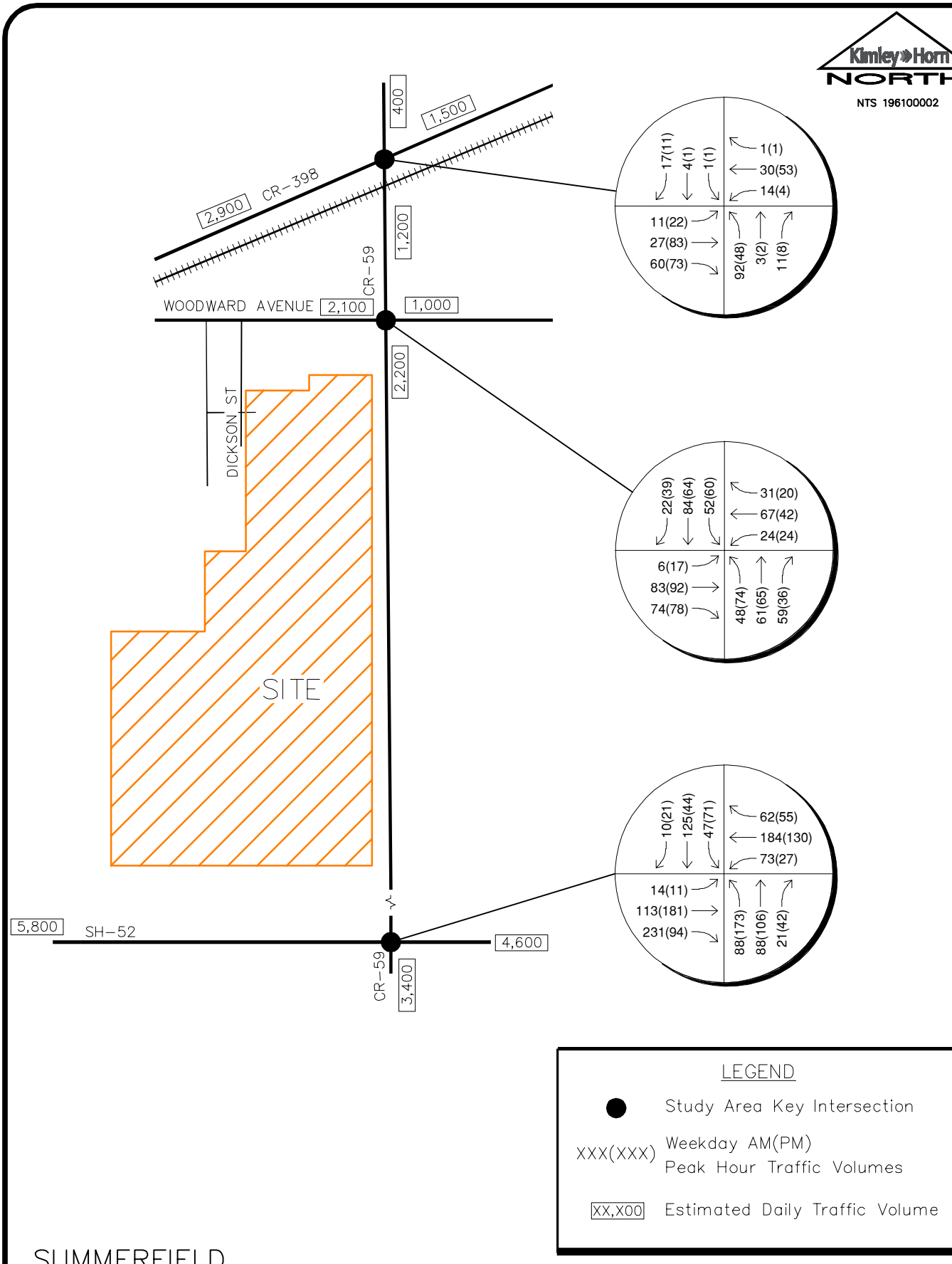

SUMMERFIELD
KEENESBURG, COLORADO
2027 BACKGROUND TRAFFIC VOLUMES

FIGURE 7

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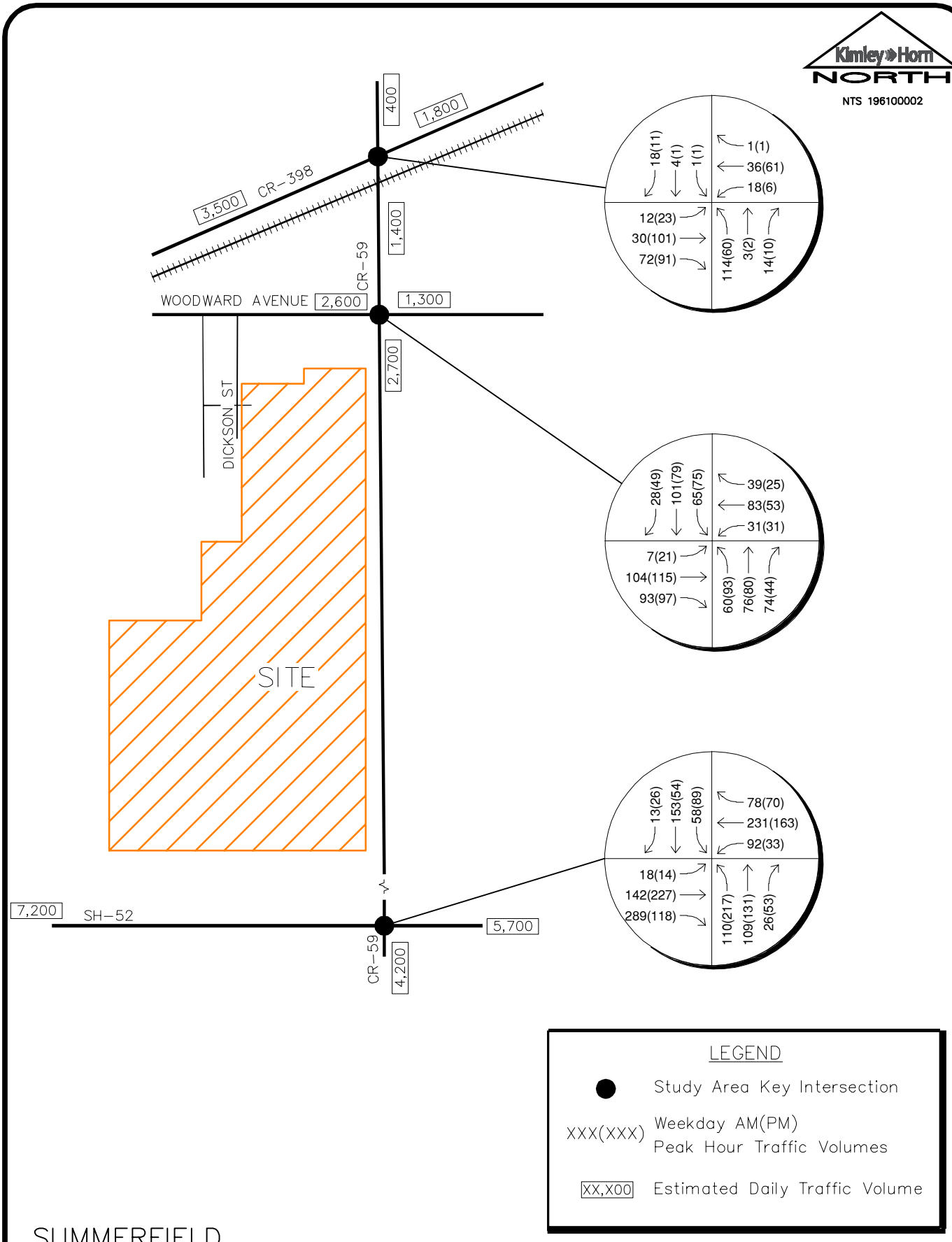

SUMMERFIELD
KEENESBURG, COLORADO
2040 BACKGROUND TRAFFIC VOLUMES

FIGURE 8

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4.0 PROJECT TRAFFIC CHARACTERISTICS

4.1 Trip Generation

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land uses to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*[1] published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses.

The project is anticipated to be built in two phases. The first phase (north portion) is planned to include 190 single-family detached dwelling units and 73 townhome dwelling units. The second phase (south portion) is planned to include 553 single-family detached dwelling units. For this study, Kimley-Horn used the equations associated with Single-Family Detached Housing (ITE 210) and Low-Rise Residential (ITE 220).

Phase I of the Summerfield development is anticipated to generate approximately 2,388 daily trips with 175 of these trips occurring during the morning peak hour and 233 of these trips occurring during the afternoon peak hour. Phase II of the Summerfield development is anticipated to generate approximately 5,014 daily trips with 397 of these trips occurring during the morning peak hour and 525 of these trips occurring during the afternoon peak hour. The entire Summerfield development is anticipated to generate approximately 7,402 daily trips with 572 trips occurring during the morning peak hour and 758 trips occurring during the afternoon peak hour. The project traffic generation is shown in **Table 1** while the trip generation calculation worksheets are provided in **Appendix C.**

[1] Institute of Transportation Engineers, *Trip Generation Manual*, Tenth Edition, Washington DC, 2017.

Table 1 – Summerfield Project Trip Generation

Land Use and Quantity	Daily	Weekday Vehicle Trips					
		AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Phase I (North Development)							
Single-Family Detach Housing (ITE 210) 190 Dwelling Units	1,876	35	105	140	118	70	188
Low-Rise Residential (ITE 220) 73 Dwelling Units	512	8	27	35	28	17	45
Phase I Total Trips	**2,388**	**43**	**132**	**175**	**146**	**87**	**233**
Phase II (South Development)							
Single-Family Detach Housing (ITE 210) 553 Dwelling Units	5,014	99	298	397	331	194	525
Summerfield Total Trips	**7,402**	**142**	**430**	**572**	**477**	**281**	**758**

4.2 Trip Distribution

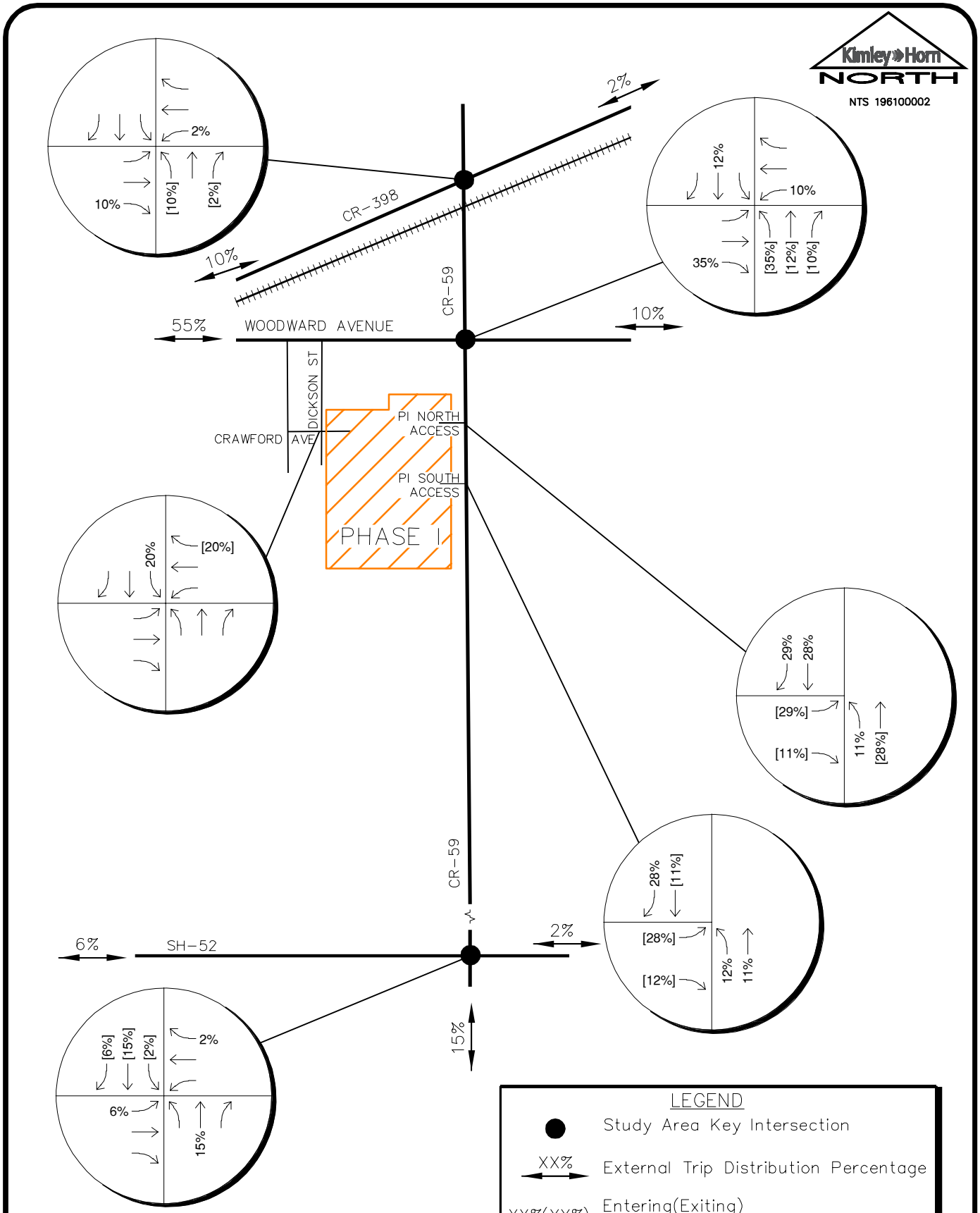
Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, existing and anticipated surrounding demographic information, and the proposed access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. The project trip distribution for the proposed development for Phase I is illustrated in **Figure 9** and for Phase II is illustrated in **Figure 10.**

4.3 Traffic Assignment

Traffic assignment was obtained by applying the distributions from **Figure 9** and **Figure 10** to the estimated traffic generation of the project shown in **Table 1** for Phase I and Phase II, respectively. The traffic assignment is shown in **Figure 11** for Phase I and **Figure 12** for full buildout of Summerfield with the total traffic assignment.

4.4 Total (Background Plus Project) Traffic

Project traffic volumes were added to the background volumes to represent estimated traffic conditions for the short-term 2024 and 2027 horizons. **Figures 13** and **14** illustrate the background plus project traffic volumes for the 2024 and 2027 horizons at the study key intersections, respectively. The 2040 total full buildout traffic volumes for the study area are shown in **Figure 15**.



SUMMERFIELD
KEENESBURG, COLORADO
PHASE I PROJECT TRIP DISTRIBUTION

FIGURE 9

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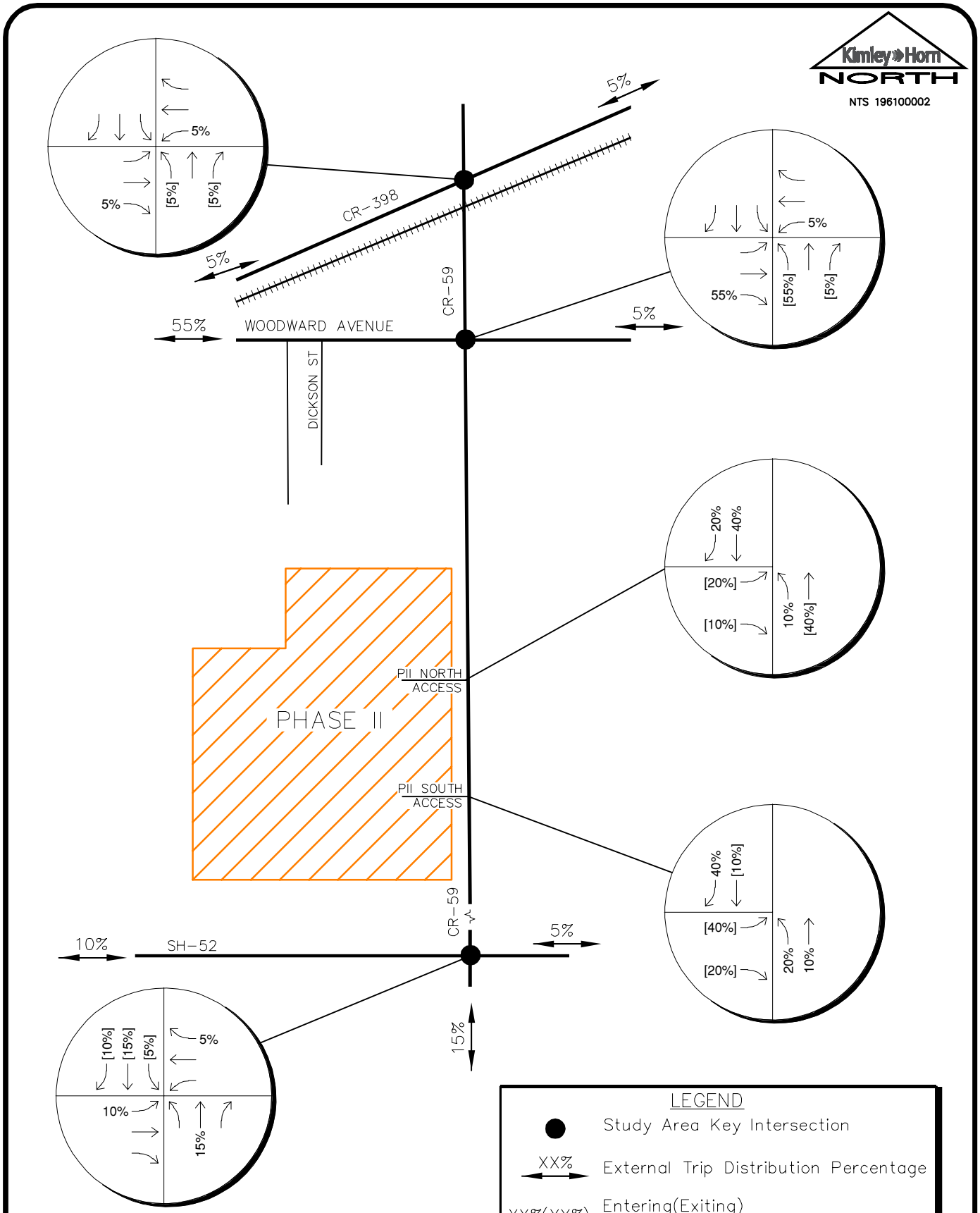

SUMMERFIELD
KEENESBURG, COLORADO
PHASE II PROJECT TRIP DISTRIBUTION

FIGURE 10

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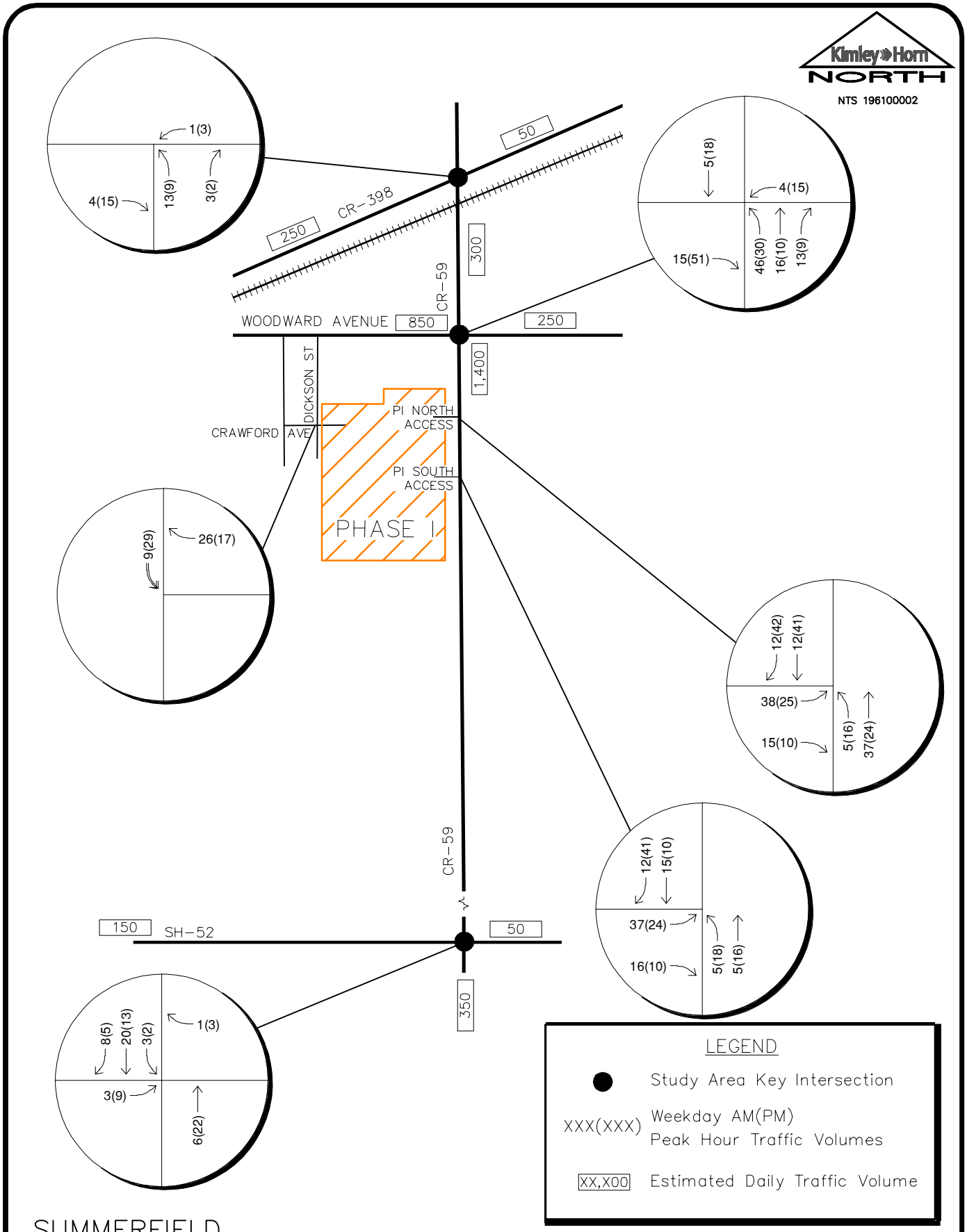

SUMMERFIELD
KEENESBURG, COLORADO
PHASE I TRAFFIC ASSIGNMENT

FIGURE 11

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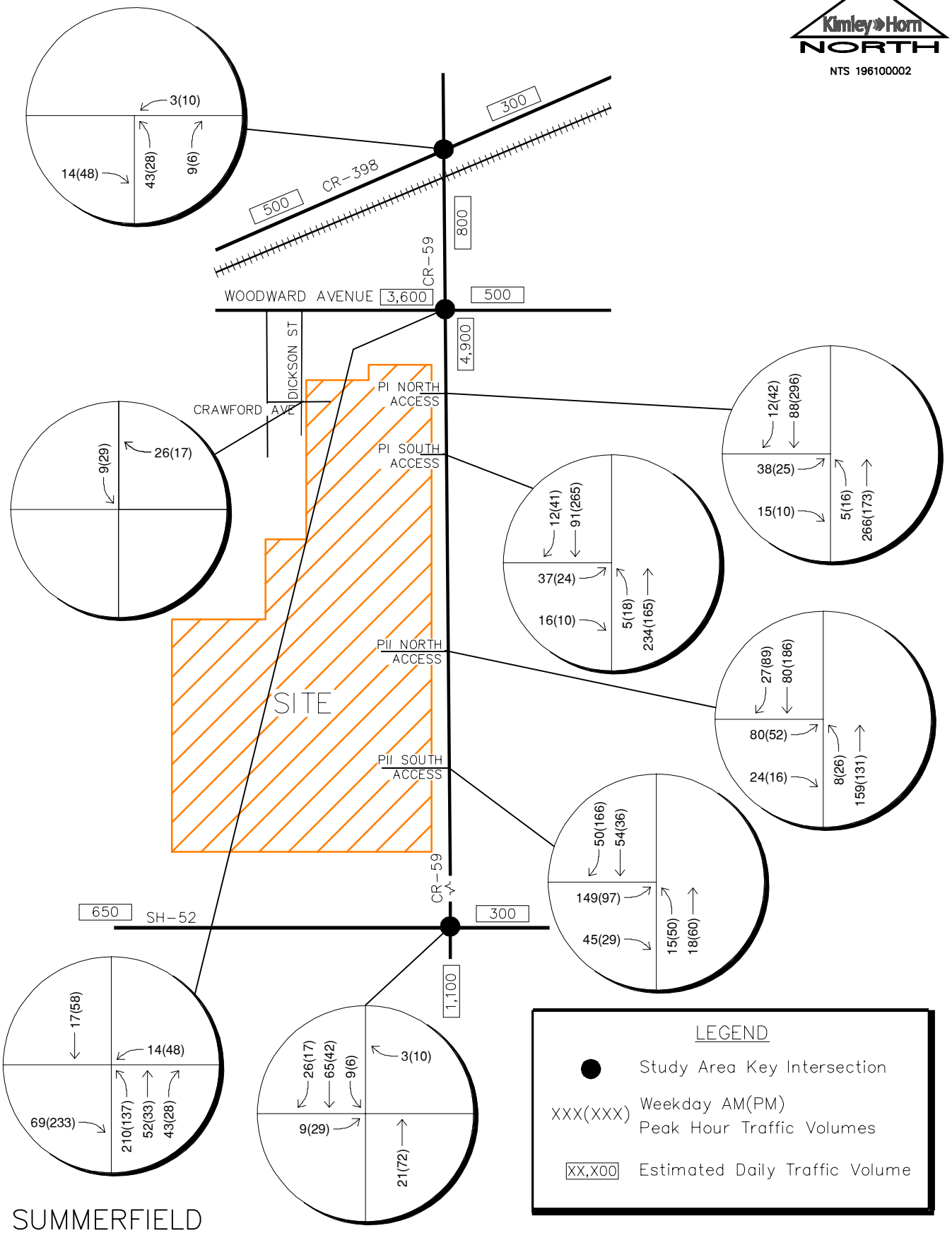

SUMMERFIELD
KEENESBURG, COLORADO
TOTAL TRIP ASSIGNMENT

FIGURE 12

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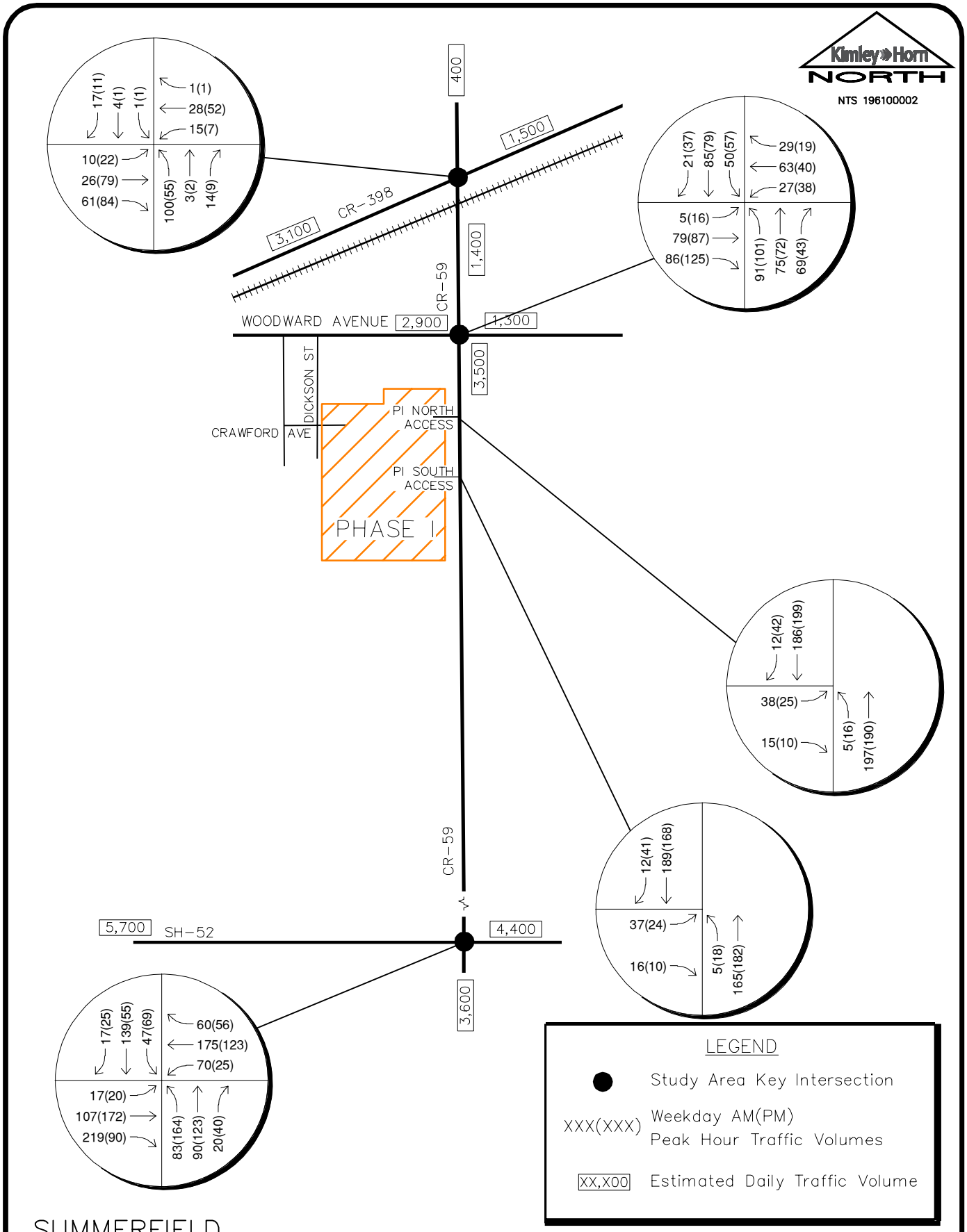

SUMMERFIELD
KEENESBURG, COLORADO
2024 TOTAL TRAFFIC VOLUMES

FIGURE 13

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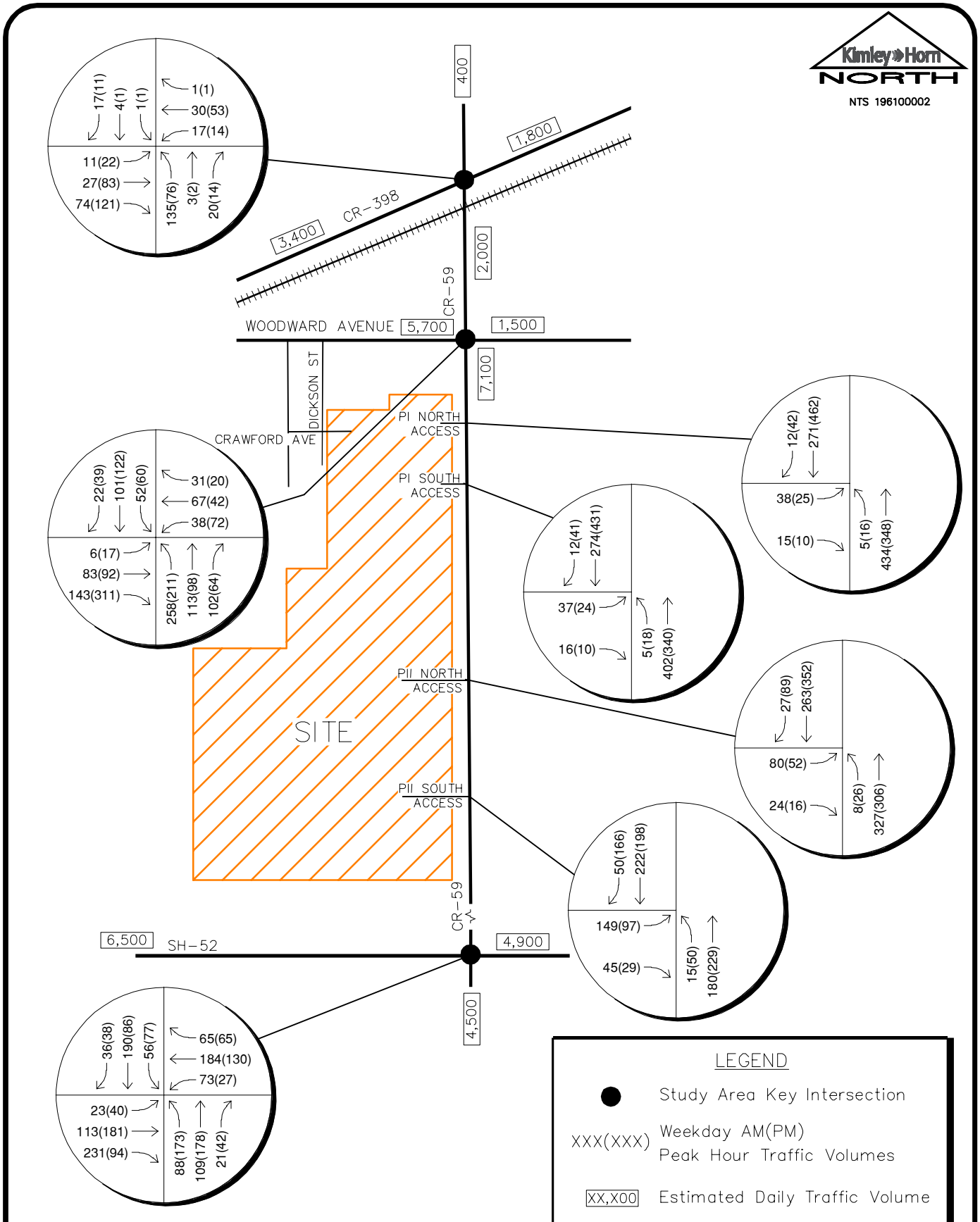

SUMMERFIELD
KEENESBURG, COLORADO
2027 TOTAL TRAFFIC VOLUMES

FIGURE 14

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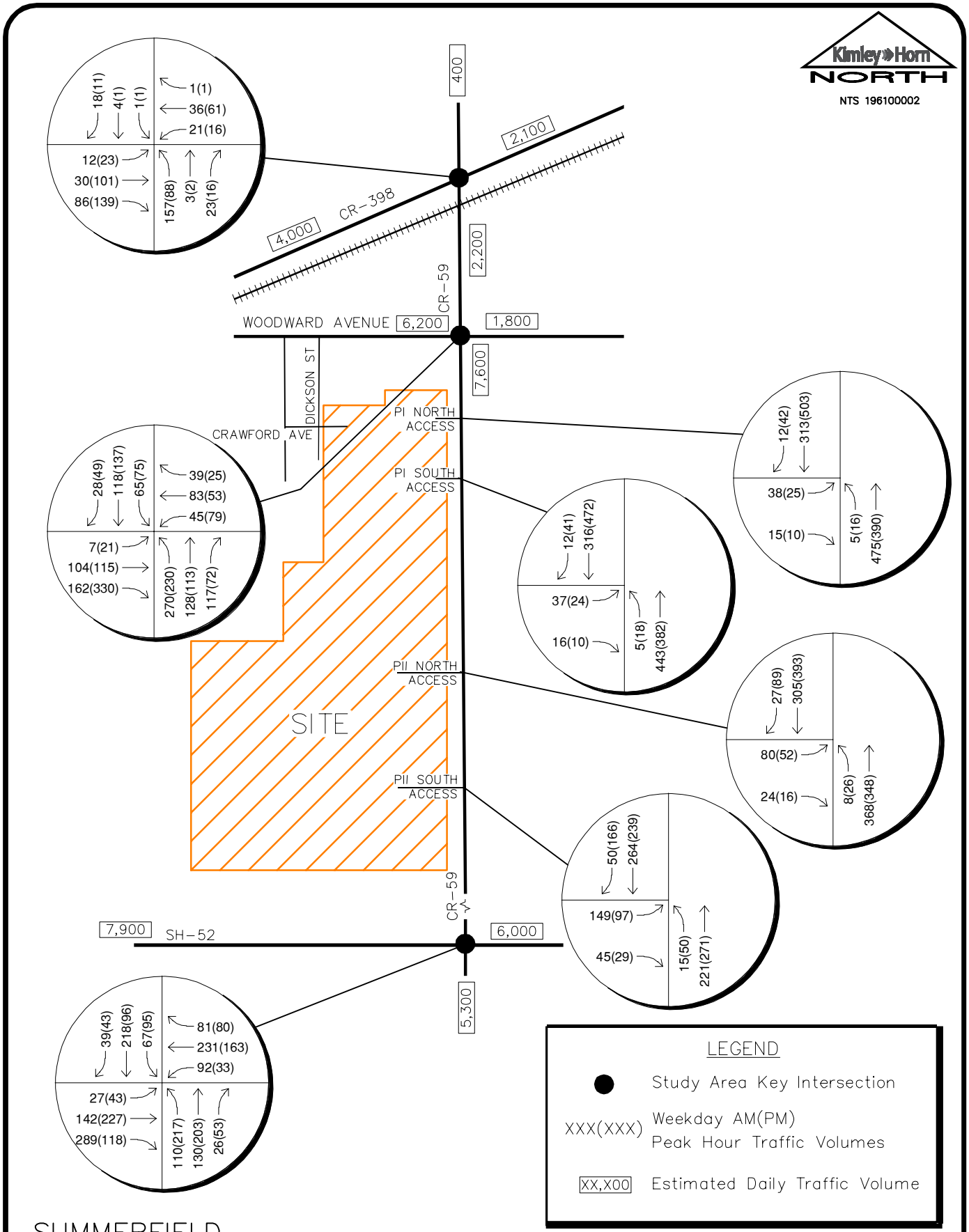

SUMMERFIELD
KEENESBURG, COLORADO
2040 TOTAL TRAFFIC VOLUMES

FIGURE 15

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5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the vicinity of the site was conducted to determine potential capacity deficiencies in the 2024, 2027, and 2040 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is the current edition of the *Highway Capacity Manual*[2].

5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). For intersections and roadways in this study area, common traffic engineering practice recommends overall intersection LOS D and movement/approach LOS E as the minimum desirable thresholds for acceptable operations. **Table 2** shows the definition of LOS for signalized and unsignalized intersections.

Table 2 – Level of Service Definitions

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Definitions provided from the Highway Capacity Manual, Sixth Edition, Transportation Research Board, 2016.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the LOS for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the whole intersection. LOS for a signalized, all-way stop, or roundabout controlled intersection is defined for each approach and for the intersection. The intersection analysis was conducted using Synchro software with the analysis results reported using the Highway Capacity Manual (HCM) procedure.

[2] Transportation Research Board, *Highway Capacity Manual*, Sixth Edition, Washington DC, 2016.

5.2 Intersection Operational Analysis

Calculations for the LOS at the study key intersections are provided in **Appendix D**. The LOS analyses are based on the lane geometry and intersection control shown in **Figure 2**. The LOS analyses determine what improvements may be needed at the intersections and proposed local street access to handle background traffic growth and project related traffic in the two study horizons. Synchro traffic analysis software was used to analyze the study area intersections for intersection delay and level of service.

CR-398 and CR-59

The intersection of CR-398 and CR-59 is unsignalized with stop control on the eastbound, westbound, and southbound approaches. The northbound approach operates with free movements due to the proximity of the at-grade railroad track crossing to the south, approximately 110 feet to the south. This intersection was evaluated with all-way stop control for purposes of this study as the existing control condition is not supported by the HCM methodology. The intersection movements operate acceptably at LOS A during both peak hours under existing conditions.

With construction of the project, an eastbound right turn lane will be constructed due to the close proximity of the railroad tracks and the desire that right turning traffic blocked by a train will not block eastbound through traffic along CR-398. This eastbound right turn lane is recommended to provide a length of 275 feet with a 180-foot taper. With the addition of project traffic and this right turn lane improvement, all movements are anticipated to continue operating at an acceptable level of service throughout the 2040 horizon. **Table 3** provides the results of the LOS analysis conducted at this intersection.

Table 3 – CR-398 and CR-59 LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2021 Adjusted Existing				
Northbound Approach	8.3	A	7.9	A
Eastbound Approach	7.5	A	7.8	A
Westbound Approach	7.8	A	7.5	A
Southbound Approach	6.9	A	7.5	A
Overall	**7.9**	**A**	**7.8**	**A**
2024 Background				
Northbound Approach	8.8	A	8.3	A
Eastbound Approach	8.0	A	8.6	A
Westbound Approach	8.1	A	7.9	A
Southbound Approach	7.4	A	7.4	A
Overall	**8.3**	**A**	**8.4**	**A**
2024 Background Plus Project#				
Northbound Approach	9.1	A	8.5	A
Eastbound Left/Through	8.5	A	9.0	A
Eastbound Right	7.8	A	7.6	A
Westbound Approach	8.3	A	8.2	A
Southbound Approach	7.5	A	7.5	A
Overall	**8.5**	**A**	**8.3**	**A**
2027 Background				
Northbound Approach	8.9	A	8.6	A
Eastbound Approach	8.1	A	7.9	A
Westbound Approach	8.1	A	8.0	A
Southbound Approach	7.4	A	7.3	A
Overall	**8.4**	**A**	**8.1**	**A**
2027 Background Plus Project#				
Northbound Approach	10.0	A	9.1	A
Eastbound Left/Through	8.8	A	9.2	A
Eastbound Right	8.2	A	8.1	A
Westbound Approach	8.7	A	8.5	A
Southbound Approach	7.7	A	7.7	A
Overall	**9.1**	**A**	**8.7**	**A**
2040 Background				
Northbound Approach	8.4	A	8.2	A
Eastbound Approach	7.7	A	8.4	A
Westbound Approach	7.9	A	7.8	A
Southbound Approach	7.2	A	7.3	A
Overall	**8.0**	**A**	**8.2**	**A**
2040 Background Plus Project#				
Northbound Approach	9.1	A	8.7	A
Eastbound Left/Through	8.4	A	8.9	A
Eastbound Right	7.7	A	7.9	A
Westbound Approach	8.2	A	8.3	A
Southbound Approach	7.3	A	7.5	A
Overall	**8.5**	**A**	**8.4**	**A**

= Separate EB Right Turn Lane

Woodward Avenue and CR-59

The intersection of Woodward Avenue and CR-59 is unsignalized, operating with all-way stop control. The intersection has all movements operating acceptably at LOS B or better during both peak hours under existing conditions. With the addition of Phase I project traffic in 2024, all movements and approaches are anticipated to continue operating acceptably at LOS B or better with the existing intersection configuration and control. In 2027 with full buildout of Summerfield, drivers through this intersection may begin to have longer delays during the morning and afternoon peak hours. Therefore, this intersection should be considered for signalization. A four-hour signal warrant was completed at this intersection. It was determined that a signal may be warranted with full project development in 2027. The signal warrant four-hour worksheet is included in **Appendix F.** With signalization, it is recommended that each approach include separate left turn lanes for more efficient traffic signal operation. With these improvements, the intersection would operate with LOS C during both peak hours through the 2040 horizon. **Table 4** provides the results of the LOS analysis conducted at this intersection.

Table 4 – Woodward Ave & CR-59 LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2021 Adjusted Existing				
Northbound Approach	10.4	B	9.8	A
Eastbound Approach	10.2	B	9.8	A
Westbound Approach	9.9	A	9.0	A
Southbound Approach	10.3	B	9.6	A
Overall	**10.2**	**B**	**9.6**	**A**
2024 Background				
Northbound Approach	11.1	B	10.2	B
Eastbound Approach	10.9	B	10.2	B
Westbound Approach	10.4	B	9.3	A
Southbound Approach	11.2	B	10.0	A
Overall	**10.9**	**B**	**10.0**	**A**
2024 Background Plus Project				
Northbound Approach	14.8	B	12.5	B
Eastbound Approach	12.4	B	12.2	B
Westbound Approach	11.5	B	10.4	B
Southbound Approach	12.3	B	11.4	B
Overall	**13.0**	**B**	**11.9**	**B**
2027 Background				
Northbound Approach	11.6	B	10.7	B
Eastbound Approach	11.3	B	10.7	B
Westbound Approach	10.8	B	9.5	A
Southbound Approach	11.6	B	10.4	B
Overall	**11.4**	**B**	**10.5**	**B**
2027 Background Plus Project				
Northbound Approach	172.4	F	72.1	F
Eastbound Approach	24.2	C	89.6	F
Westbound Approach	17.6	C	18.5	C
Southbound Approach	19.3	C	25.3	D
Overall	**91.5**	**F**	**63.2**	**F**
2027 Background Plus Project #	19.8	B	24.1	C
2040 Background				
Northbound Approach	10.7	B	11.0	B
Eastbound Approach	10.5	B	11.0	B
Westbound Approach	10.1	B	9.7	A
Southbound Approach	10.7	B	10.7	B
Overall	**10.5**	**B**	**10.7**	**B**
2040 Background Plus Project #	18.7	B	24.5	C

= Signalized with Separate Left Turn Lanes on Each Approach

SH-52 and CR-59

The intersection of SH-52 and CR-59 is unsignalized with stop control on the northbound and southbound approaches. Currently, the northbound and southbound approaches operate with long delays during the morning peak hour with existing traffic. Therefore, a four-hour signal warrant analysis was completed, which determined that a signal is believed to be warranted at this intersection with existing traffic. The signal warrant four-hour worksheet is included in **Appendix F.** Therefore, CDOT should consider this intersection for a control upgrade with either a traffic signal installed or a single lane roundabout. With the addition of a traffic signal, a separate eastbound left turn lane is recommended. The intersection is anticipated to operate at LOS C during both peak hours through the 2040 horizon with a traffic signal. With a single lane roundabout, the intersection would operate at LOS B or better during the morning and LOS A during the afternoon peak hours throughout 2040. **Table 5** provides the results of the LOS analysis conducted at this intersection.

Table 5 – SH-52 & CR-59 LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2021 Adjusted Existing				
Northbound Approach	36.8	E	20.7	C
Eastbound Left	8.0	A	7.7	A
Westbound Left	8.6	A	8.0	A
Southbound Approach	116.8	F	21.0	C
2024 Background				
Northbound Approach	62.4	F	24.3	C
Eastbound Left	8.0	A	7.7	A
Westbound Left	8.7	A	8.0	A
Southbound Approach	218.3	F	24.1	C
2024 Background Plus Project #	26.1	C	24.1	C
2024 Background Plus Project ##	9.3	A	7.4	A
2027 Background				
Northbound Approach	-	-	28.5	D
Eastbound Left	8.1	A	7.7	A
Westbound Left	8.8	A	8.1	A
Southbound Approach	>300	F	27.6	D
2027 Background Plus Project #	26.6	C	23.8	C
2027 Background Plus Project ##	11.8	B	9.1	A
2040 Background				
Northbound Approach	45.4	E	35.3	E
Eastbound Left	8.0	A	7.8	A
Westbound Left	8.6	A	8.1	A
Southbound Approach	157.0	F	33.4	D
2040 Background Plus Project #	25.6	C	24.7	C
2040 Background Plus Project ##	10.9	B	9.5	A

= Signalized with Separate EB and WB Left Turn Lanes
= Single Lane Roundabout

Summerfield Access

With completion of Summerfield, Crawford Avenue will be extended into the northern Phase I portion of the neighborhood to provide cross access. In addition, two full movement accesses are proposed along CR-59 for the northern Phase I development and two full movement accesses are proposed along CR-59 for the southern Phase II development. It is recommended that a R1-1 "STOP" sign be installed on the exiting eastbound approaches of the development at all four accesses.

Southbound right turn lanes are warranted at both accesses for the Phase II development. **Table 6** provides the results of the level of service for this project street access. As shown in the table, the project street access intersections along CR-59 are anticipated to have all movements operating with acceptable LOS during the peak hours of the 2024, 2027, and 2040 total scenarios.

Table 6 – Summerfield Access Level of Service Results

Intersection	2024 Total				2027 Total				2040 Total			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS
Phase I North Access												
Northbound Left	7.7	A	7.8	A	7.9	A	8.6	A	8.0	A	8.7	A
Eastbound Approach	11.3	B	10.9	B	14.9	B	17.2	C	16.3	C	18.9	C
Phase I South Access												
Northbound Left	7.7	A	7.7	A	7.9	A	8.5	A	8.0	A	8.6	A
Eastbound Approach	11.0	B	10.6	B	14.4	B	16.5	C	15.7	C	18.0	C
Phase II North Access												
Northbound Left	-	-	-	-	7.9	A	8.4	A	8.0	A	8.5	A
Eastbound Approach	-	-	-	-	15.0	C	16.0	C	16.7	C	17.7	C
Phase II South Access												
Northbound Left	-	-	-	-	7.9	A	8.2	A	8.0	A	8.4	A
Eastbound Approach	-	-	-	-	14.5	B	14.7	B	16.3	C	16.4	C

CR-59 Railroad Crossing

An active railroad crossing of CR-59 exists between CR-398 and Woodward Avenue. This crossing has gates with gate arms to control vehicle movements while an oncoming train is approaching and crossing. During the morning and afternoon peak hours on Wednesday, October 28, 2020, the number of trains observed crossing at the existing at-grade rail/roadway crossing were recorded. Likewise, the duration of time the train crossing the roadway was identified and recorded. The train crossing information from the counts conducted on the count date are provided in **Appendix A**.

Based on the observations, there were two trains crossing during the morning peak hours between 7 to 9 am and two trains crossing during the afternoon peak hour. The trains crossing during the morning peak hour were observed to occur for 2 minutes and 13 seconds from 7:29 am to 7:31 am and again for 5 minutes and 5 seconds from 8:08 am to 8:13 am. During the afternoon peak hour, there was an 18 second train crossing interruption at 4:19 pm and a 2 minute and 2 second train crossing between 4:32 and 4:34.

In 2027 with full buildout of the Summerfield project, there are anticipated to be 95 vehicles per hour (vph) southbound and 158 vph northbound during the morning peak hour. During the afternoon peak hour, the vehicle volume across the railroad tracks is anticipated to be 136 vph southbound and 92 vph northbound. Therefore, the highest peak hour volume along CR-59 across the railroad tracks is anticipated to be 136 vph southbound and 158 vph northbound during the peak hours. On average, this is equal to 2.3 vehicles per minute (vpm) southbound and 2.6 vpm northbound. With a five-minute train interruption to traffic along CR-59, this could translate to a queue of 12 vehicles southbound and 13 vehicles northbound. A more common two-minute train interruption would translate to a queue of five (5) vehicles southbound and six (6) vehicles northbound. When these train crossings occur, vehicle queues may extend through the intersection of CR-398 and CR-59 to the north. For this reason, an eastbound right turn lane is proposed at the CR-398 and CR-59 intersection for purposes of vehicle storage when a train crossing is present. Although not the most efficient traffic condition, these volumes are such that the vehicle queues will clear within a minute or two after the train interruption is over.

5.3 Queue Analysis

A queuing analysis was conducted at the key intersections that include defined storage bays. Results were obtained from the 95th percentile queue lengths obtained from the Synchro analysis. Queue length calculations for unsignalized intersections are provided within the level of service operational sheets provided in **Appendix D** and the signalized intersection queue lengths are provided in **Appendix E**. Results of the queuing analysis and recommendations at the study area intersections are provided in **Table 7**.

Table 7 – Turn lane Length Analysis Results

Intersection Turn Lane	Existing Turn Lane Length (feet)	2024 Calculated Queue Length (feet)	2024 Rec. Turn Lane Length (feet)	2027 Calculated Queue Length (feet)	2027 Rec. Turn Lane Length (feet)	2040 Calculated Queue Length (feet)	2040 Rec. Turn Lane Length (feet)
CR-59 & CR-398							
Eastbound Right	DNE	25’	**275’+180’T**	25’	**275’+180’T**	25’	**275’+180’T**
CR-59 & Woodward Ave							
Eastbound Left	DNE	-	-	19’	**150’+180’T**	25’	**150’+180’T**
Westbound Left	DNE	-	-	105’	**150’+180’T**	129’	**150’+180’T**
Northbound Left	DNE	-	-	120’	**275’+180’T**	116’	**275’+180’T**
Southbound Left	DNE	-	-	39’	**175’+180’T**	43’	**175’+180’T**
CR-59 & SH-52							
Eastbound Left	DNE	23’	**295’+160’T**	39’	**315’+160’T**	42’	**315’+160’T**
Eastbound Right	600’	28’	600’	28’	600’	57’	600’
Westbound Left	375’	47’	375’	50’	375’	64’	375’

The National Cooperative Highway Research Program (NCHRP) was utilized to determine the turn lane lengths of the proposed auxiliary turn lanes. Per NCHRP, the eastbound right turn lane at CR-398 & CR-59 is recommended to provide 275 feet of length with a 180-foot taper with construction of Phase I. With signalization of the intersection of Woodward Avenue and CR-59, eastbound, westbound, northbound, and southbound left turn lanes are recommended to be constructed with the buildout of Phase II development. The eastbound and westbound left turn lanes are recommended to provide left turn lanes of 150 feet with a 180-foot taper. The northbound left turn lane is recommended to provide a length of 275 feet with a 180-foot taper. The southbound left turn lane is recommended to provide 175 feet of length with a 180-foot taper.

In addition, NCHRP was utilized to determine if turn lanes were warranted at the access intersections. Per NCHRP turn lane requirements, no turn lanes are warranted for accesses of

Phase I of development. By 2027 with the addition of Phase II development, a southbound right turn lane is required at the Phase II north access and the Phase II south access.

With construction of Phase II, the north access to the Phase II portion is recommended to provide 175 feet of storage with a 180-foot taper southbound right turn lane. The south access to the Phase II portion is recommended to provide 230 feet of storage with a 180-foot taper southbound right turn lane.

5.4 CDOT Turn Lane Requirement Analysis

The threshold for requiring an access permit along CDOT roadways occurs when project traffic is anticipated to increase the existing access traffic volumes by more than 20 percent. At the north leg of CR-59 at the SH-52 intersection, it was found that the Summerfield project would increase traffic volumes by 38% during the morning peak hour and 57% during the afternoon peak hour over existing. Therefore, it is believed that an access permit for the north leg of CR-59 at SH-52 will be required by CDOT in association with this project.

Since SH-52 is a state owned and maintained facility, it is recommended that auxiliary turn lanes along SH-52 be constructed in accordance with the current CDOT State Highway Access Code (SHAC). CDOT categorizes the segment of SH-52 through the study area as R-B Rural Highway. According to the State Highway Access Code for category R-B roadways, the following thresholds apply:

- A left turn deceleration lane with storage length plus taper is required for any access with a projected peak hour left ingress turning volume greater than 10 vph. The taper length will be included within the deceleration length.
- A right turn deceleration lane with storage length plus taper is required for any access with a projected peak hour right ingress turning volume greater than 25 vph. The taper length will be included within the deceleration length.
- A right turn acceleration lane with taper is required for any access with a projected peak hour right turning volume greater than 50 vph when the posted speed on the highway is 45 mph or greater and the highway has only one lane for through traffic in the direction of the right turn.

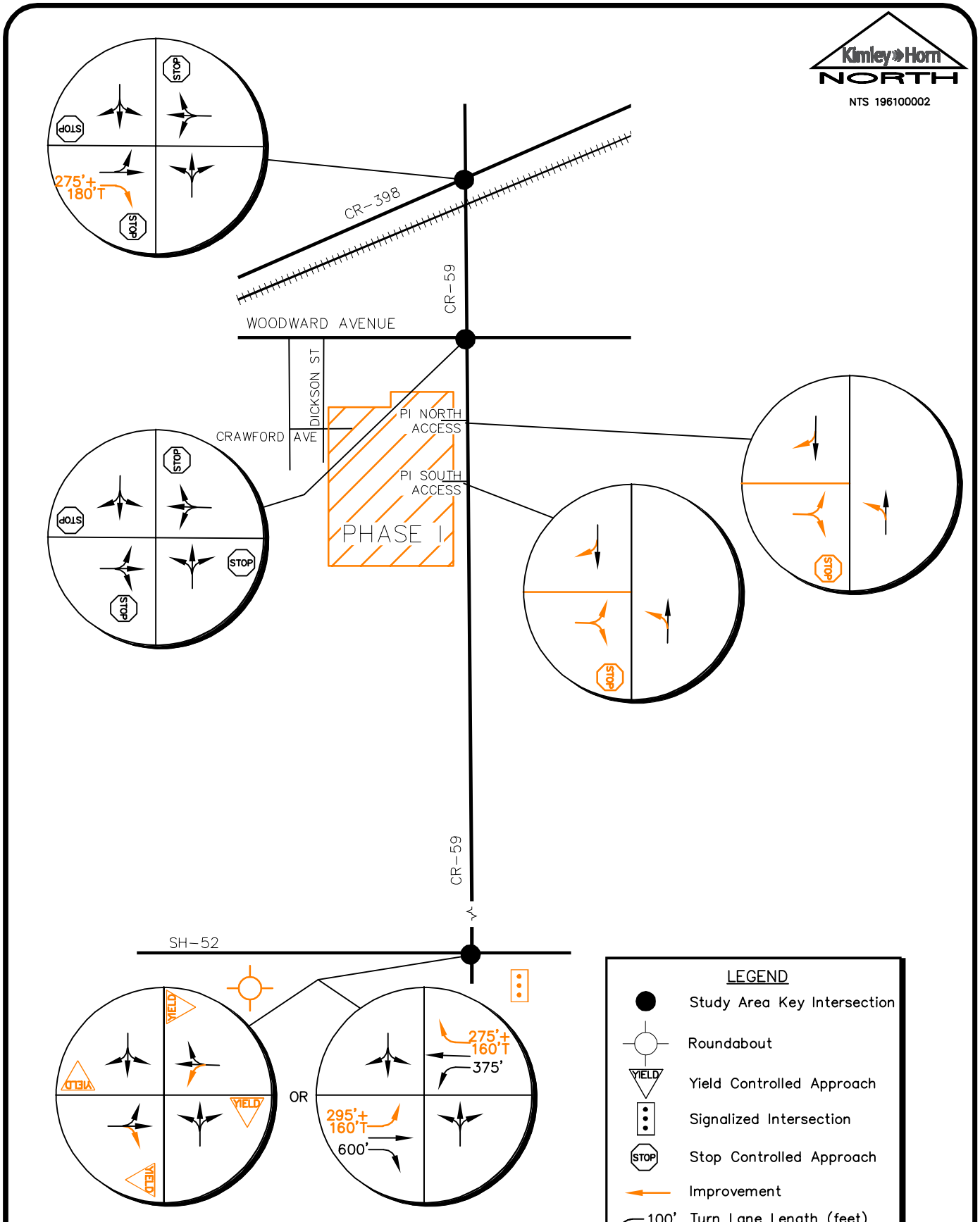
Based on traffic projections and the above thresholds, auxiliary turn lanes requirements along SH-52 with a posted speed limit of 45 miles per hour near the study intersection are as follows as it relates to project traffic movements to and from the north leg:

SH-52 and CR-59

- An eastbound left turn deceleration **is** warranted based on the projected 2024 background plus project traffic being 20 eastbound left turns during the peak hour and the threshold being 10 vph. The left turn deceleration lane per SHAC requirements is 20 feet of storage plus 275 feet of deceleration length plus a 160-foot taper (13.5:1 ratio). Therefore, the left turn deceleration lane should provide 295 feet of length plus a 160-foot taper. By 2027, the turn lane may need to be extended to 315 feet of length with 160 feet of taper. It is recommended that the existing left turn acceleration lane for westbound traffic from the northbound left turn be restriped for this left turn unless a roundabout is constructed at the intersection.
- A westbound right turn deceleration lane **is** warranted today based on existing traffic being 44 vph and the threshold being 25 vph; however, this lane does not currently exist. To meet CDOT SHAC requirements, this right turn deceleration lane should be constructed with a length of 275 feet plus 160-foot taper.
- A westbound acceleration lane from the southbound right turn **is not** warranted based on the full buildout project traffic volume in 2040 being 39 vph and the threshold being 50 vph.

5.5 Improvement Summary

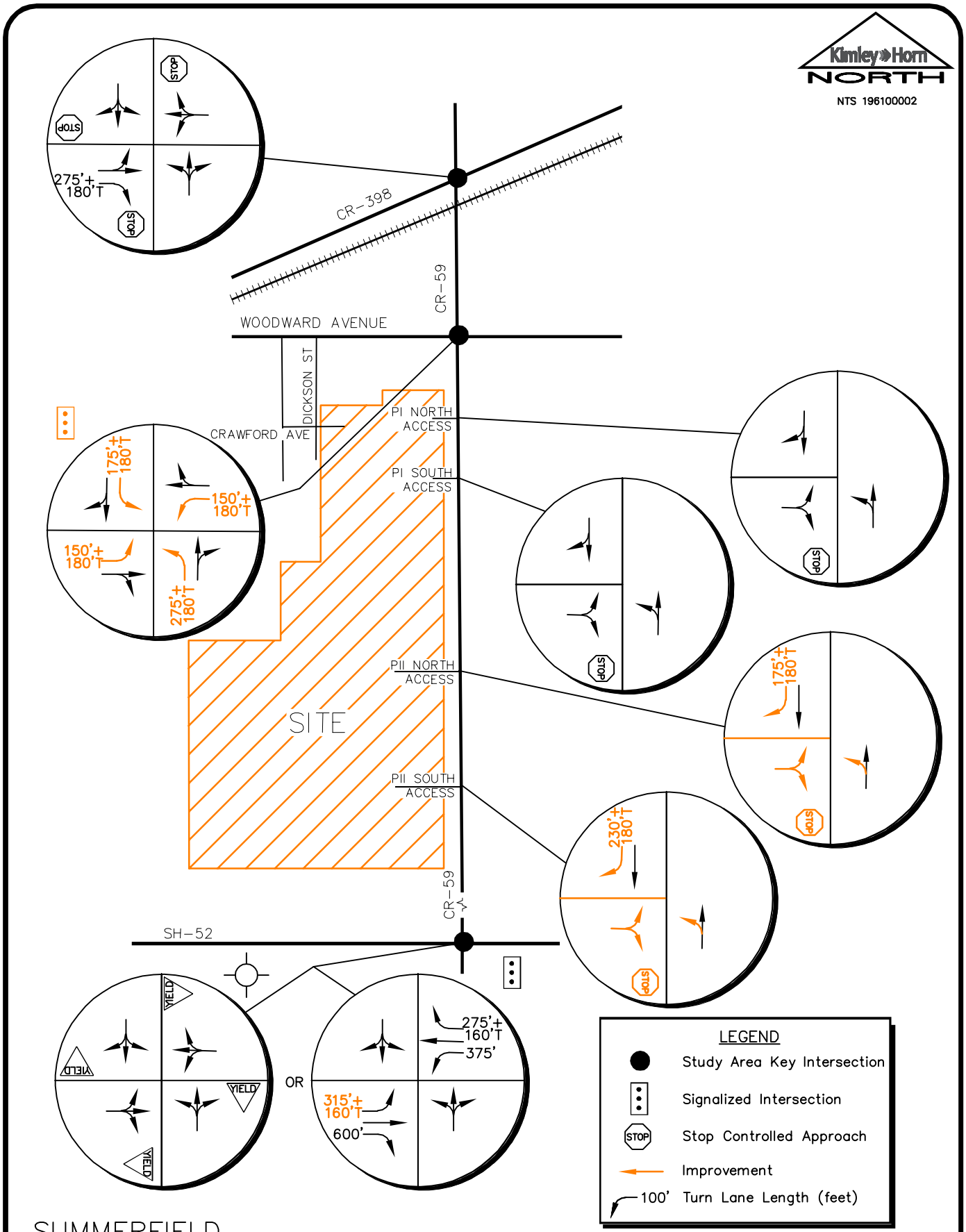
Based on the results of the intersection operations and turn lane queuing analysis, improvements were identified as being needed at key study intersections through the study horizons. These improvements are summarized in **Figure 16** for the 2024 horizon and **Figure 17** for the 2027 horizon. Of note, there were no additional improvements identified for the 2040 horizon.



SUMMERFIELD
KEENESBURG, COLORADO
2024 RECOMMENDATIONS

FIGURE 16

Kimley»Horn



SUMMERFIELD
KEENESBURG, COLORADO
2027 RECOMMENDATIONS

FIGURE 17

Kimley»Horn

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes the proposed Summerfield project will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected future traffic volumes resulted in the following recommendations:

Existing (2021) Recommendations

- The SH-52 and CR-59 intersection was noted to have movements operating with long delays and poor level of service on the stop-controlled northbound and southbound approaches today. Therefore, it is believed that a change in control is needed at this intersection to serve existing traffic. The intersection should be improved as either a single lane roundabout or be signalized. If signalized, the existing westbound acceleration lane from the northbound left turn should be redesignated as an eastbound left turn lane with a length of 295 feet plus 160-foot taper for 2024 traffic volumes or 315 feet plus 160-foot taper to accommodate full buildout of Summerfield in the 2027 horizon. Likewise, a westbound right turn deceleration lane with a length of 275 feet plus 180-foot taper is warranted at this intersection based on existing traffic volumes and should be considered for construction if a traffic signal is installed.

Phase I (2024) Recommendations

- With completion of the northern Phase I of the Summerfield development, extension of Crawford Avenue into the development from the west will be constructed. In addition, two full movement accesses are proposed along CR-59. It is recommended that R1-1 “STOP” signs be installed on the exiting eastbound approaches out of the development at both driveways.

- With competition of Phase I, it is recommended that an eastbound right turn lane be constructed at the CR-398 and CR-59 intersection due to the close proximity of the railroad tracks and the desire that right turning traffic blocked by a train will not block eastbound through traffic along CR-398. This eastbound right turn lane is recommended to provide a length of 275 feet with a 180-foot taper.

- Based on the addition of Summerfield project traffic on the north leg of CR-59 at SH-52 resulting in an increase in traffic volumes greater than 20 percent over existing, an access permit is believed to be required by CDOT in association with this project.

Phase II (2027) Recommendations

- With completion of the southern Phase II of the Summerfield development, two additional full movement accesses are proposed along CR-59. It is recommended that R1-1 "STOP" signs be installed on the exiting eastbound approaches out of the development at both accesses.

- With construction of Phase II, southbound right turn lanes are recommended for both accesses. The north access southbound right turn lane is recommended to provide a length of 175 feet with a 180-foot taper. The south access southbound right turn lane is recommended to provide a length of 230 feet with a 180-foot taper.

- The intersection of Woodward Avenue and CR-59 is recommended to be signalized. With the installation of a traffic signal, separate left turn lanes are recommended to be constructed and/or designated on each approach to the intersection. The eastbound and westbound left turn lanes are recommended to provide left turn lanes of 150 feet with a 180-foot taper. The northbound left turn lane is recommended to provide a length of 275 feet with a 180-foot taper. The southbound left turn lane is recommended to provide 175 feet of length with a 180-foot taper.

- By 2027, the eastbound left turn lane at the intersection of SH-52 and CR-59 intersection may need to be extended to provide 315 feet of length plus a 160-foot taper.

General Recommendations

- Any on-site and off-site signing and striping improvements should be incorporated into the Civil Drawings and conform to Town of Keenesburg and/or CDOT standards (as applicable) as well as the Manual on Uniform Traffic Control Devices – 2009 Edition (MUTCD).

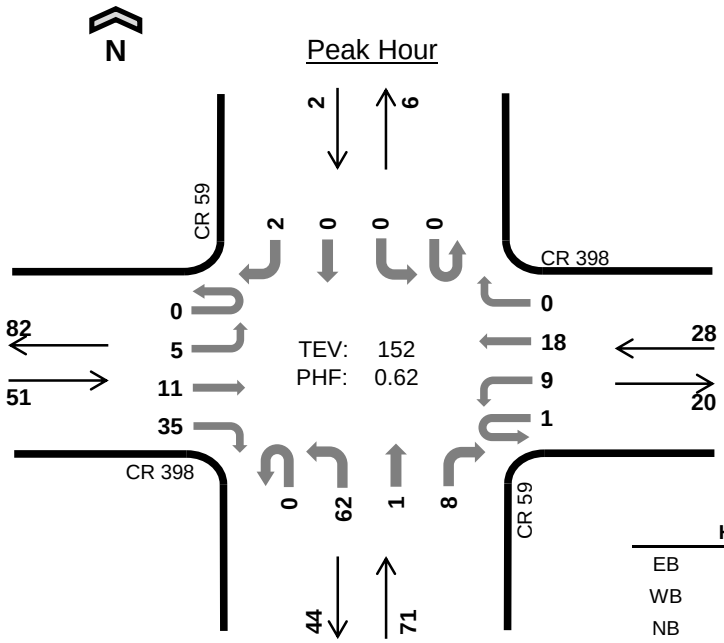
APPENDICES

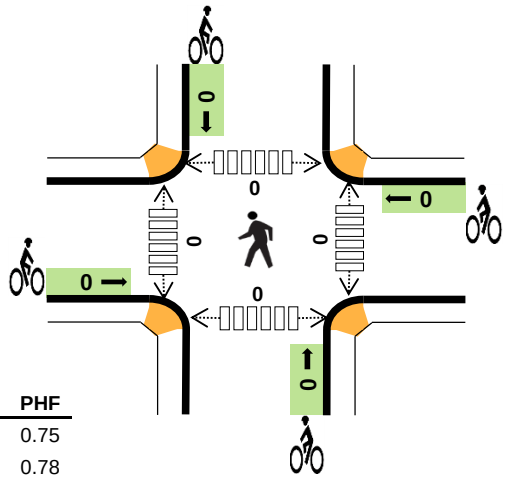
APPENDIX A

Intersection Counts

CR 59
CR 398

Date: Tue, Nov 10, 2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	5.9%	0.75
WB	7.1%	0.78
NB	9.9%	0.51
SB	50.0%	0.50
TOTAL	8.6%	0.62

Two-Hour Count Summaries

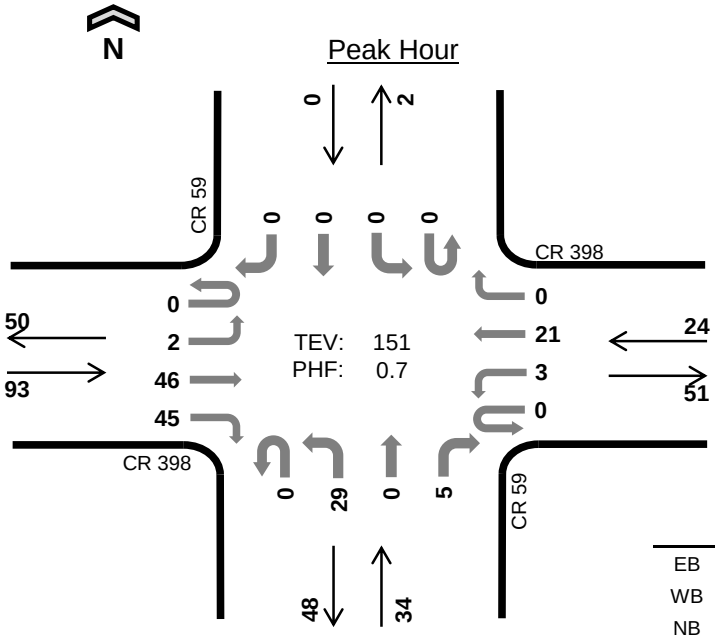
Interval Start	CR 398 Eastbound				CR 398 Westbound				CR 59 Northbound				CR 59 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	5	3	0	0	3	0	0	4	0	0	0	0	0	0	15	0
7:15 AM	**0**	**0**	**5**	**12**	**0**	**1**	**5**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**27**	0
7:30 AM	**0**	**0**	**5**	**7**	**0**	**2**	**4**	**0**	**0**	**13**	**1**	**1**	**0**	**0**	**0**	**0**	**33**	0
7:45 AM	**0**	**2**	**1**	**13**	**0**	**5**	**4**	**0**	**0**	**31**	**0**	**4**	**0**	**0**	**0**	**1**	**61**	136
8:00 AM	**0**	**3**	**0**	**3**	**1**	**1**	**5**	**0**	**0**	**14**	**0**	**3**	**0**	**0**	**0**	**1**	**31**	**152**
8:15 AM	0	2	4	2	0	1	0	0	0	6	0	1	0	0	0	1	17	142
8:30 AM	0	1	2	7	0	0	4	0	0	5	0	1	0	0	0	1	21	130
8:45 AM	0	2	5	9	0	0	4	0	0	2	0	1	0	0	0	0	23	92
Count Total	0	10	27	56	1	10	29	0	0	79	1	11	0	0	0	4	228	0
Peak Hour	**0**	**5**	**11**	**35**	**1**	**9**	**18**	**0**	**0**	**62**	**1**	**8**	**0**	**0**	**0**	**2**	**152**	**0**

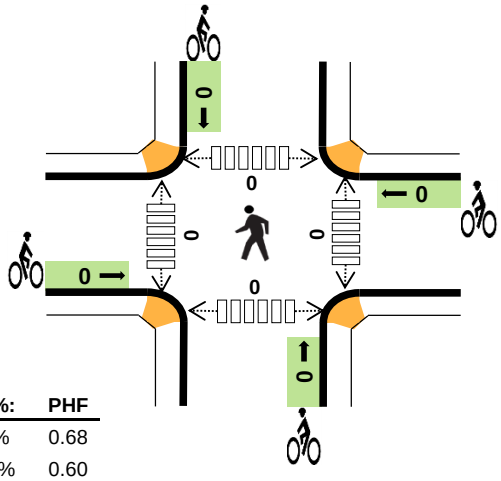
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**2**	**0**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**1**	**1**	**6**	**0**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	2	0	1	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	6	3	8	1	*18*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**3**	**2**	**7**	**1**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

CR 59
CR 398

Date: Tue, Nov 10, 2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV %:	PHF
EB	5.4%	0.68
WB	20.8%	0.60
NB	8.8%	0.77
SB	-	-
TOTAL	8.6%	0.70

Two-Hour Count Summaries

Interval Start	CR 398 Eastbound				CR 398 Westbound				CR 59 Northbound				CR 59 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	8	7	0	2	6	0	0	12	0	0	0	0	0	0	35	0
4:15 PM	0	1	11	11	0	0	8	0	0	9	0	0	0	0	0	0	40	0
4:30 PM	0	0	7	5	0	0	5	0	0	7	0	1	0	0	0	1	26	0
4:45 PM	**0**	**1**	**8**	**12**	**0**	**1**	**3**	**0**	**0**	**10**	**0**	**1**	**0**	**0**	**0**	**0**	**36**	137
5:00 PM	**0**	**0**	**8**	**6**	**0**	**1**	**5**	**0**	**0**	**4**	**0**	**2**	**0**	**0**	**0**	**0**	**26**	128
5:15 PM	**0**	**0**	**18**	**16**	**0**	**1**	**9**	**0**	**0**	**8**	**0**	**2**	**0**	**0**	**0**	**0**	**54**	142
5:30 PM	**0**	**1**	**12**	**11**	**0**	**0**	**4**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**35**	**151**
5:45 PM	0	0	8	10	0	1	2	0	0	14	0	1	0	0	0	0	36	151
Count Total	0	3	80	78	0	6	42	0	0	71	0	7	0	0	0	1	288	0
Peak Hour	**0**	**2**	**46**	**45**	**0**	**3**	**21**	**0**	**0**	**29**	**0**	**5**	**0**	**0**	**0**	**0**	**151**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

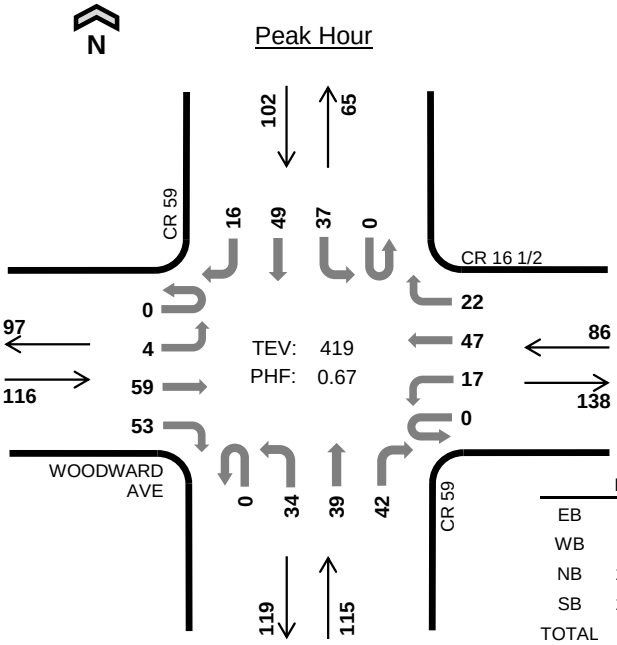
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	3	0	2	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	1	0	1	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	2	1	2	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**3**	**0**	**0**	**0**	***3***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**1**	**5**	**2**	**0**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	11	6	8	0	*25*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**5**	**5**	**3**	**0**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

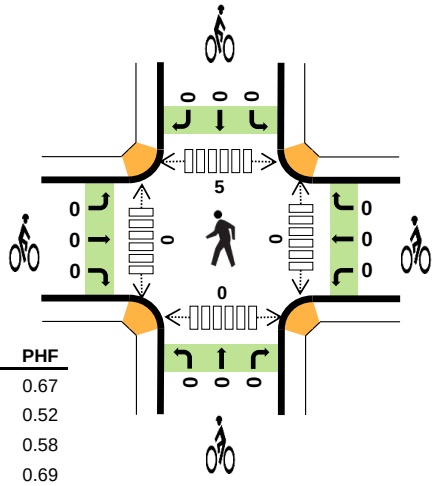
Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

CR 59
WOODWARD AVE

Peak Hour

Date: 05/04/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM





	HV %:	PHF
EB	1.7%	0.67
WB	8.1%	0.52
NB	13.0%	0.58
SB	10.8%	0.69
TOTAL	8.4%	0.67

Two-Hour Count Summaries

Interval Start		WOODWARD AVE Eastbound				CR 16 1/2 Westbound				CR 59 Northbound				CR 59 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	4	12	0	0	6	0	0	4	4	2	0	0	7	0	39	0
7:15 AM		**0**	**1**	**6**	**16**	**0**	**2**	**3**	**2**	**0**	**1**	**5**	**2**	**0**	**7**	**10**	**1**	**56**	0
7:30 AM		**0**	**1**	**15**	**27**	**0**	**4**	**9**	**6**	**0**	**17**	**11**	**13**	**0**	**7**	**20**	**0**	**130**	0
7:45 AM		**0**	**0**	**24**	**5**	**0**	**8**	**24**	**9**	**0**	**12**	**13**	**25**	**0**	**19**	**10**	**8**	**157**	382
8:00 AM		**0**	**2**	**14**	**5**	**0**	**3**	**11**	**5**	**0**	**4**	**10**	**2**	**0**	**4**	**9**	**7**	**76**	**419**
8:15 AM		0	0	5	5	0	0	1	0	0	3	2	0	0	0	8	0	24	387
8:30 AM		0	3	2	4	0	0	5	1	0	4	1	0	0	1	6	2	29	286
8:45 AM		0	1	0	3	0	1	2	0	0	5	3	0	0	1	0	0	16	145
Count Total		0	8	70	77	0	18	61	23	0	50	49	44	0	39	70	18	527	0
Peak Hour	**All**	**0**	**4**	**59**	**53**	**0**	**17**	**47**	**22**	**0**	**34**	**39**	**42**	**0**	**37**	**49**	**16**	**419**	**0**
	HV	**0**	**0**	**0**	**2**	**0**	**3**	**1**	**3**	**0**	**1**	**10**	**4**	**0**	**1**	**9**	**1**	**35**	**0**
	HV%	**-**	**0%**	**0%**	**4%**	**-**	**18%**	**2%**	**14%**	**-**	**3%**	**26%**	**10%**	**-**	**3%**	**18%**	**6%**	**8%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) East	West	North	South	Total
7:00 AM	0	0	2	3	*5*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**1**	**0**	*1*
7:30 AM	**1**	**2**	**4**	**8**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**4**	**0**	*4*
7:45 AM	**0**	**2**	**8**	**0**	***10***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**1**	**2**	**3**	**3**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:15 AM	0	0	2	3	*5*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	1	1	0	5	*7*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	3	8	20	22	*53*	0	0	0	0	*0*	0	0	5	0	*5*
Peak Hour	**2**	**7**	**15**	**11**	***35***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**5**	**0**	***5***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	WOODWARD AVE Eastbound				CR 16 1/2 Westbound				CR 59 Northbound				CR 59 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	1	1	0	0	0	3	0	5	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
7:30 AM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**1**	**2**	**0**	**1**	**7**	**0**	**15**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**6**	**2**	**0**	**0**	**0**	**0**	**10**	31
8:00 AM	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**1**	**9**	**35**
8:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	5	39
8:30 AM	0	1	0	0	0	0	1	0	0	0	0	0	0	1	4	0	7	31
8:45 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	22
Count Total	0	1	0	2	0	3	2	3	0	2	14	4	0	2	19	1	53	0
Peak Hour	**0**	**0**	**0**	**2**	**0**	**3**	**1**	**3**	**0**	**1**	**10**	**4**	**0**	**1**	**9**	**1**	**35**	**0**

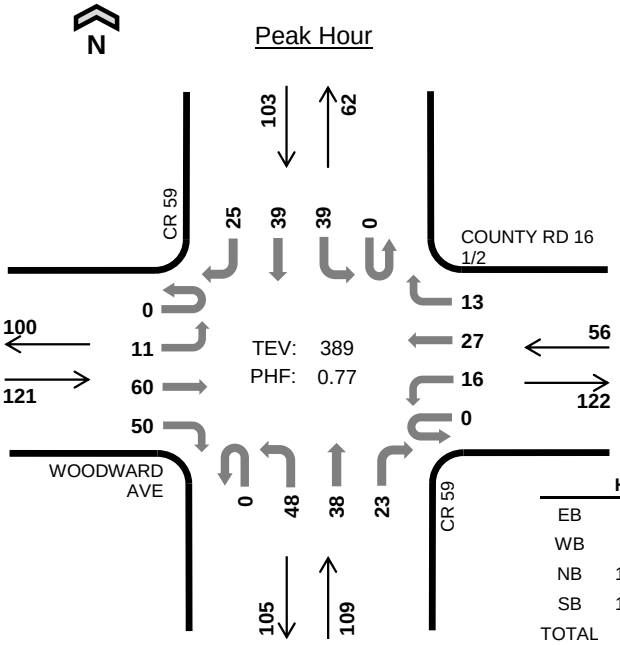
Two-Hour Count Summaries - Bikes

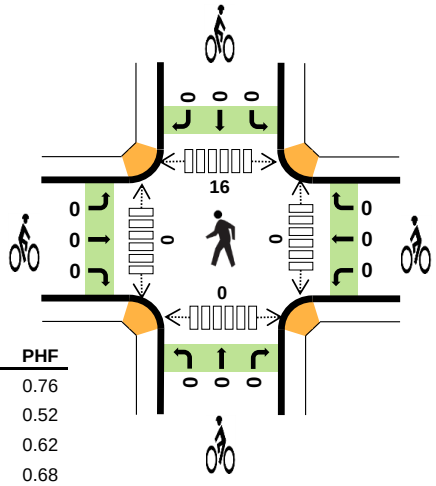
Interval Start	WOODWARD AVE Eastbound			CR 16 1/2 Westbound			CR 59 Northbound			CR 59 Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

CR 59
WOODWARD AVE

Date: 05/04/2021
Count Period: 2:00 PM to 6:00 PM
Peak Hour: 2:30 PM to 3:30 PM





	HV %:	PHF
EB	3.3%	0.76
WB	5.4%	0.52
NB	11.0%	0.62
SB	13.6%	0.68
TOTAL	8.5%	0.77

Four-Hour Count Summaries

Interval Start		WOODWARD AVE Eastbound				COUNTY RD 16 1/2 Westbound				CR 59 Northbound				CR 59 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:30 PM		0	3	7	13	0	0	3	2	0	7	4	3	0	8	12	1	63	0
2:45 PM		0	1	28	11	0	1	8	0	0	9	4	8	0	19	7	1	97	0
3:00 PM		0	3	18	10	0	12	8	7	0	13	11	6	0	10	15	13	126	0
3:15 PM		0	4	7	16	0	3	8	4	0	19	19	6	0	2	5	10	103	389
Peak Hour	All	0	11	60	50	0	16	27	13	0	48	38	23	0	39	39	25	389	0
	HV	0	0	2	2	0	1	1	1	0	2	7	3	0	1	13	0	33	0
	HV%	-	0%	3%	4%	-	6%	4%	8%	-	4%	18%	13%	-	3%	33%	0%	8%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:30 PM	1	0	2	5	*8*	0	0	0	0	*0*	0	0	0	0	*0*
2:45 PM	1	1	3	3	*8*	0	0	0	0	*0*	0	0	0	0	*0*
3:00 PM	1	0	1	4	*6*	0	0	0	0	*0*	0	0	6	0	*6*
3:15 PM	1	2	6	2	*11*	0	0	0	0	*0*	0	0	10	0	*10*
Peak Hour	4	3	12	14	*33*	0	0	0	0	*0*	0	0	16	0	*16*

Four-Hour Count Summaries

Interval Start	WOODWARD AVE Eastbound				COUNTY RD 16 1/2 Westbound				CR 59 Northbound				CR 59 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	3	4	7	0	1	3	0	0	5	1	1	0	1	4	2	32	0
2:15 PM	0	2	5	4	0	0	2	2	0	6	4	0	0	1	1	0	27	0
2:30 PM	**0**	**3**	**7**	**13**	**0**	**0**	**3**	**2**	**0**	**7**	**4**	**3**	**0**	**8**	**12**	**1**	**63**	0
2:45 PM	**0**	**1**	**28**	**11**	**0**	**1**	**8**	**0**	**0**	**9**	**4**	**8**	**0**	**19**	**7**	**1**	**97**	219
3:00 PM	**0**	**3**	**18**	**10**	**0**	**12**	**8**	**7**	**0**	**13**	**11**	**6**	**0**	**10**	**15**	**13**	**126**	313
3:15 PM	**0**	**4**	**7**	**16**	**0**	**3**	**8**	**4**	**0**	**19**	**19**	**6**	**0**	**2**	**5**	**10**	**103**	**389**
3:30 PM	0	5	5	7	0	0	2	1	0	9	6	1	0	5	6	6	53	379
3:45 PM	0	2	10	7	0	0	5	0	0	15	8	1	0	5	6	2	61	343
4:00 PM	0	1	8	8	0	1	3	2	0	7	4	0	0	3	3	2	42	259
4:15 PM	0	0	8	8	0	0	6	2	0	5	7	1	0	3	1	2	43	199
4:30 PM	0	0	7	10	0	0	8	1	0	12	7	0	0	1	7	1	54	200
4:45 PM	0	1	8	10	0	0	1	1	0	7	9	1	0	2	5	0	45	184
5:00 PM	0	1	4	11	0	1	5	0	0	9	6	1	0	1	8	3	50	192
5:15 PM	0	3	15	8	0	1	2	2	0	8	10	0	0	3	3	0	55	204
5:30 PM	0	5	10	4	0	0	6	0	0	5	6	1	0	2	5	1	45	195
5:45 PM	0	0	3	8	0	2	4	3	0	6	8	1	0	1	7	1	44	194
Count Total	0	34	147	142	0	22	74	27	0	142	114	31	0	67	95	45	940	0
Peak Hour All	**0**	**11**	**60**	**50**	**0**	**16**	**27**	**13**	**0**	**48**	**38**	**23**	**0**	**39**	**39**	**25**	**389**	**0**
Peak Hour HV	**0**	**0**	**2**	**2**	**0**	**1**	**1**	**1**	**0**	**2**	**7**	**3**	**0**	**1**	**13**	**0**	**33**	**0**
Peak Hour HV%	**-**	**0%**	**3%**	**4%**	**-**	**6%**	**4%**	**8%**	**-**	**4%**	**18%**	**13%**	**-**	**3%**	**33%**	**0%**	**8%**	**0**

Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:00 PM	1	0	0	3	*4*	0	0	0	0	*0*	0	0	0	0	*0*
2:15 PM	0	0	1	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
2:30 PM	**1**	**0**	**2**	**5**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
2:45 PM	**1**	**1**	**3**	**3**	***8***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
3:00 PM	**1**	**0**	**1**	**4**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**6**	**0**	*6*
3:15 PM	**1**	**2**	**6**	**2**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**10**	**0**	***10***
3:30 PM	0	0	1	4	*5*	0	0	0	0	*0*	0	0	0	0	*0*
3:45 PM	1	0	2	2	*5*	0	0	0	0	*0*	0	0	0	0	*0*
4:00 PM	0	1	1	2	*4*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	0	2	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	0	0	2	2	*4*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	1	0	1	2	*4*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 PM	0	0	1	2	*3*	0	0	0	0	*0*	0	1	1	0	*2*
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	1	0	1	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	1	0	*1*
Count Total	8	4	24	33	*69*	0	0	0	0	*0*	0	1	18	0	*19*
Peak Hour	**4**	**3**	**12**	**14**	***33***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**16**	**0**	***16***

Four-Hour Count Summaries - Heavy Vehicles

Interval Start	WOODWARD AVE				COUNTY RD 16 1/2				CR 59				CR 59				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	3	0	4	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	2	0
2:30 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**5**	**0**	**8**	0
2:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**3**	**0**	**8**	22
3:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**3**	**0**	**6**	24
3:15 PM	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**4**	**2**	**0**	**0**	**2**	**0**	**11**	**33**
3:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	3	1	0	5	30
3:45 PM	0	0	0	1	0	0	0	0	0	0	2	0	0	1	1	0	5	27
4:00 PM	0	0	0	0	0	0	0	1	0	0	1	0	0	2	0	0	4	25
4:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	3	17
4:30 PM	0	0	0	0	0	0	0	0	0	1	1	0	0	1	1	0	4	16
4:45 PM	0	0	0	1	0	0	0	0	0	0	1	0	0	2	0	0	4	15
5:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	0	3	14
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11
5:30 PM	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	2	9
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
Count Total	0	1	3	4	0	1	1	2	0	3	18	3	0	11	22	0	69	0
Peak Hour	**0**	**0**	**2**	**2**	**0**	**1**	**1**	**1**	**0**	**2**	**7**	**3**	**0**	**1**	**13**	**0**	**33**	**0**

Four-Hour Count Summaries - Bikes

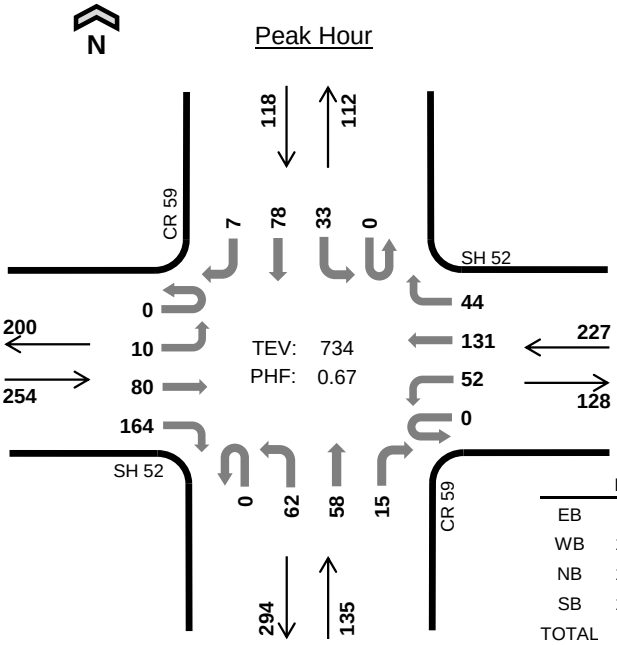
Interval Start	WOODWARD AVE			COUNTY RD 16 1/2			CR 59			CR 59			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
2:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

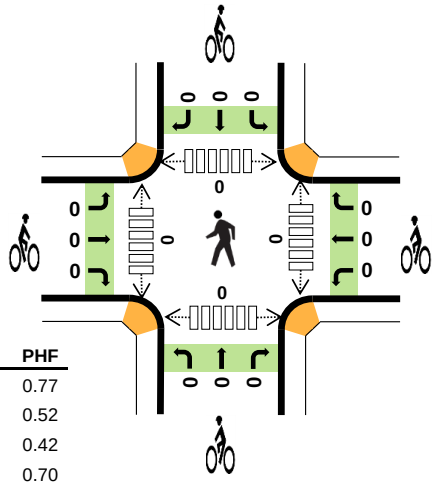
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

CR 59
SH 52

Peak Hour

Date: 05/04/2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	5.1%	0.77
WB	11.0%	0.52
NB	11.1%	0.42
SB	11.0%	0.70
TOTAL	9.0%	0.67

Two-Hour Count Summaries

Interval Start		SH 52 Eastbound				SH 52 Westbound				CR 59 Northbound				CR 59 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		**0**	**1**	**25**	**13**	**0**	**3**	**23**	**4**	**0**	**2**	**3**	**1**	**0**	**14**	**4**	**1**	**94**	0
7:15 AM		**0**	**0**	**28**	**41**	**0**	**6**	**26**	**5**	**0**	**4**	**3**	**1**	**0**	**10**	**13**	**2**	**139**	0
7:30 AM		**0**	**3**	**8**	**72**	**0**	**35**	**50**	**24**	**0**	**19**	**17**	**5**	**0**	**3**	**38**	**1**	**275**	0
7:45 AM		**0**	**6**	**19**	**38**	**0**	**8**	**32**	**11**	**0**	**37**	**35**	**8**	**0**	**6**	**23**	**3**	**226**	**734**
8:00 AM		0	1	15	13	0	0	19	4	0	13	6	1	0	9	5	4	90	730
8:15 AM		0	1	12	1	0	1	23	3	0	6	0	0	0	6	2	1	56	647
8:30 AM		0	1	5	3	0	0	12	4	0	1	1	1	0	4	3	3	38	410
8:45 AM		0	1	19	3	0	0	13	5	0	2	1	0	0	5	2	0	51	235
Count Total		0	14	131	184	0	53	198	60	0	84	66	17	0	57	90	15	969	0
Peak Hour	**All**	**0**	**10**	**80**	**164**	**0**	**52**	**131**	**44**	**0**	**62**	**58**	**15**	**0**	**33**	**78**	**7**	**734**	**0**
	HV	**0**	**1**	**7**	**5**	**0**	**3**	**18**	**4**	**0**	**6**	**9**	**0**	**0**	**4**	**8**	**1**	**66**	**0**
	HV%	**-**	**10%**	**9%**	**3%**	**-**	**6%**	**14%**	**9%**	**-**	**10%**	**16%**	**0%**	**-**	**12%**	**10%**	**14%**	**9%**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**4**	**4**	**2**	**3**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**2**	**1**	**1**	**2**	***6***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**5**	**9**	**2**	**8**	***24***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**2**	**11**	**10**	**0**	***23***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	5	1	4	2	*12*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	3	3	0	4	*10*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	1	5	0	3	*9*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	5	1	0	2	*8*	0	0	0	0	*0*	0	0	0	1	*1*
Count Total	27	35	19	24	*105*	0	0	0	0	*0*	0	0	0	1	*1*
Peak Hour	**13**	**25**	**15**	**13**	***66***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Two-Hour Count Summaries - Heavy Vehicles

Interval Start	SH 52 Eastbound				SH 52 Westbound				CR 59 Northbound				CR 59 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**1**	**3**	**0**	**0**	**0**	**4**	**0**	**0**	**1**	**1**	**0**	**0**	**2**	**1**	**0**	**13**	0
7:15 AM	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**6**	0
7:30 AM	**0**	**0**	**1**	**4**	**0**	**3**	**4**	**2**	**0**	**1**	**1**	**0**	**0**	**1**	**7**	**0**	**24**	0
7:45 AM	**0**	**0**	**2**	**0**	**0**	**0**	**9**	**2**	**0**	**3**	**7**	**0**	**0**	**0**	**0**	**0**	**23**	**66**
8:00 AM	0	0	4	1	0	0	1	0	0	0	4	0	0	1	1	0	12	65
8:15 AM	0	1	2	0	0	0	3	0	0	0	0	0	0	2	1	1	10	69
8:30 AM	0	0	1	0	0	0	4	1	0	0	0	0	0	1	0	2	9	54
8:45 AM	0	0	5	0	0	0	1	0	0	0	0	0	0	2	0	0	8	39
Count Total	0	2	19	6	0	3	27	5	0	6	13	0	0	10	10	4	105	0
Peak Hour	**0**	**1**	**7**	**5**	**0**	**3**	**18**	**4**	**0**	**6**	**9**	**0**	**0**	**4**	**8**	**1**	**66**	**0**

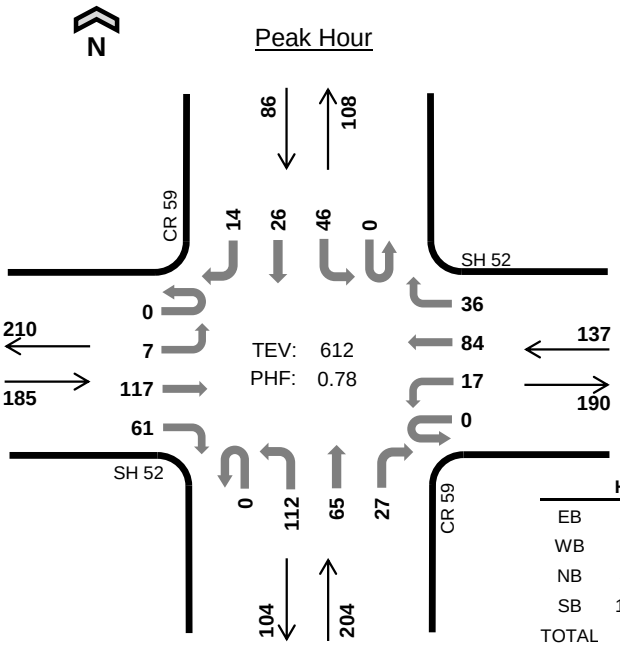
Two-Hour Count Summaries - Bikes

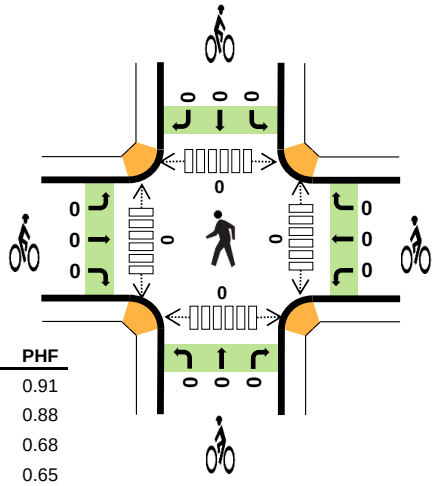
Interval Start	SH 52 Eastbound			SH 52 Westbound			CR 59 Northbound			CR 59 Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

CR 59
SH 52

Date: 05/04/2021
Count Period: 2:00 PM to 6:00 PM
Peak Hour: 3:00 PM to 4:00 PM





	HV %:	PHF
EB	7.0%	0.91
WB	3.6%	0.88
NB	4.4%	0.68
SB	11.6%	0.65
TOTAL	6.0%	0.78

Four-Hour Count Summaries

Interval Start		SH 52 Eastbound				SH 52 Westbound				CR 59 Northbound				CR 59 Southbound				15-min Total	Rolling One Hour
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM		0	2	31	18	0	7	22	9	0	41	25	9	0	16	13	4	197	0
3:15 PM		0	2	34	15	0	5	15	5	0	30	24	13	0	18	5	5	171	0
3:30 PM		0	1	29	17	0	2	29	8	0	27	7	5	0	4	6	2	137	0
3:45 PM		0	2	23	11	0	3	18	14	0	14	9	0	0	8	2	3	107	612
Peak Hour	All	0	7	117	61	0	17	84	36	0	112	65	27	0	46	26	14	612	0
	HV	0	1	7	5	0	1	2	2	0	0	7	2	0	7	2	1	37	0
	HV%	-	14%	6%	8%	-	6%	2%	6%	-	0%	11%	7%	-	15%	8%	7%	6%	0

Note: For all three-hour count summary, see next page.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:00 PM	2	1	7	3	*13*	0	0	0	0	*0*	0	0	0	0	*0*
3:15 PM	6	0	2	4	*12*	0	0	0	0	*0*	0	0	0	0	*0*
3:30 PM	4	2	0	1	*7*	0	0	0	0	*0*	0	0	0	0	*0*
3:45 PM	1	2	0	2	*5*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	13	5	9	10	*37*	0	0	0	0	*0*	0	0	0	0	*0*

Four-Hour Count Summaries

Interval Start	SH 52 Eastbound				SH 52 Westbound				CR 59 Northbound				CR 59 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	1	4	1	0	0	10	2	0	4	3	1	0	7	0	2	35	0
2:15 PM	0	2	15	6	0	3	12	11	0	5	1	3	0	4	1	3	66	0
2:30 PM	0	5	15	12	0	3	22	11	0	0	2	0	0	4	8	5	87	0
2:45 PM	0	8	11	18	0	2	16	6	0	1	5	0	0	5	14	0	86	274
3:00 PM	**0**	**2**	**31**	**18**	**0**	**7**	**22**	**9**	**0**	**41**	**25**	**9**	**0**	**16**	**13**	**4**	**197**	436
3:15 PM	**0**	**2**	**34**	**15**	**0**	**5**	**15**	**5**	**0**	**30**	**24**	**13**	**0**	**18**	**5**	**5**	**171**	541
3:30 PM	**0**	**1**	**29**	**17**	**0**	**2**	**29**	**8**	**0**	**27**	**7**	**5**	**0**	**4**	**6**	**2**	**137**	591
3:45 PM	**0**	**2**	**23**	**11**	**0**	**3**	**18**	**14**	**0**	**14**	**9**	**0**	**0**	**8**	**2**	**3**	**107**	**612**
4:00 PM	0	1	24	5	0	3	18	5	0	8	1	1	0	5	1	4	76	491
4:15 PM	0	5	38	8	0	2	19	6	0	6	3	2	0	6	5	1	101	421
4:30 PM	0	4	27	11	0	7	13	10	0	10	4	3	0	6	8	0	103	387
4:45 PM	0	5	29	11	0	3	22	6	0	9	7	3	0	6	6	0	107	387
5:00 PM	0	1	21	24	0	2	22	6	0	11	10	4	0	11	5	2	119	430
5:15 PM	0	4	42	24	0	2	29	8	0	15	7	1	0	5	4	3	144	473
5:30 PM	0	2	41	10	0	4	26	1	0	20	10	3	0	4	7	1	129	499
5:45 PM	0	2	31	7	0	3	19	2	0	15	10	2	0	6	11	1	109	501
Count Total	0	47	415	198	0	51	312	110	0	216	128	50	0	115	96	36	1,774	0
Peak Hour All	**0**	**7**	**117**	**61**	**0**	**17**	**84**	**36**	**0**	**112**	**65**	**27**	**0**	**46**	**26**	**14**	**612**	**0**
Peak Hour HV	**0**	**1**	**7**	**5**	**0**	**1**	**2**	**2**	**0**	**0**	**7**	**2**	**0**	**7**	**2**	**1**	**37**	**0**
Peak Hour HV%	**-**	**14%**	**6%**	**8%**	**-**	**6%**	**2%**	**6%**	**-**	**0%**	**11%**	**7%**	**-**	**15%**	**8%**	**7%**	**6%**	**0**

Note: Four-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
2:00 PM	2	1	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
2:15 PM	3	3	1	2	*9*	0	0	0	0	*0*	0	0	0	0	*0*
2:30 PM	5	5	0	4	*14*	0	0	0	0	*0*	0	0	0	0	*0*
2:45 PM	2	1	1	7	*11*	0	0	0	0	*0*	0	0	0	0	*0*
3:00 PM	**2**	**1**	**7**	**3**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
3:15 PM	**6**	**0**	**2**	**4**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
3:30 PM	**4**	**2**	**0**	**1**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
3:45 PM	**1**	**2**	**0**	**2**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
4:00 PM	2	1	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	6	4	0	0	*10*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	0	3	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	3	7	1	2	*13*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 PM	0	2	0	2	*4*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	0	6	0	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	3	5	0	0	*8*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	3	0	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	39	46	12	27	*124*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**13**	**5**	**9**	**10**	***37***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Four-Hour Count Summaries - Heavy Vehicles

Interval Start	SH 52 Eastbound				SH 52 Westbound				CR 59 Northbound				CR 59 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
2:00 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0
2:15 PM	0	0	2	1	0	0	1	2	0	0	0	1	0	2	0	0	9	0
2:30 PM	0	1	3	1	0	1	4	0	0	0	0	0	0	0	2	2	14	0
2:45 PM	0	1	0	1	0	0	0	1	0	0	1	0	0	1	6	0	11	37
3:00 PM	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**7**	**0**	**0**	**2**	**1**	**0**	**13**	47
3:15 PM	**0**	**0**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**1**	**1**	**12**	50
3:30 PM	**0**	**1**	**2**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**7**	43
3:45 PM	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**5**	**37**
4:00 PM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	27
4:15 PM	0	2	4	0	0	0	3	1	0	0	0	0	0	0	0	0	10	25
4:30 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	21
4:45 PM	0	0	3	0	0	0	4	3	0	1	0	0	0	2	0	0	13	29
5:00 PM	0	0	0	0	0	0	2	0	0	0	0	0	0	2	0	0	4	30
5:15 PM	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	6	26
5:30 PM	0	0	3	0	0	0	4	1	0	0	0	0	0	0	0	0	8	31
5:45 PM	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	3	21
Count Total	0	5	26	8	0	2	33	11	0	1	8	3	0	14	10	3	124	0
Peak Hour	**0**	**1**	**7**	**5**	**0**	**1**	**2**	**2**	**0**	**0**	**7**	**2**	**0**	**7**	**2**	**1**	**37**	**0**

Four-Hour Count Summaries - Bikes

Interval Start	SH 52 Eastbound			SH 52 Westbound			CR 59 Northbound			CR 59 Southbound			15-min Total	Rolling One Hour
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
2:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
3:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Study Name KEENESBURG - MARKET & ELM ST COUNTS
Start Date 10/28/2020
Start Time 7:00 AM
Site Code TMC4
Project P-00972

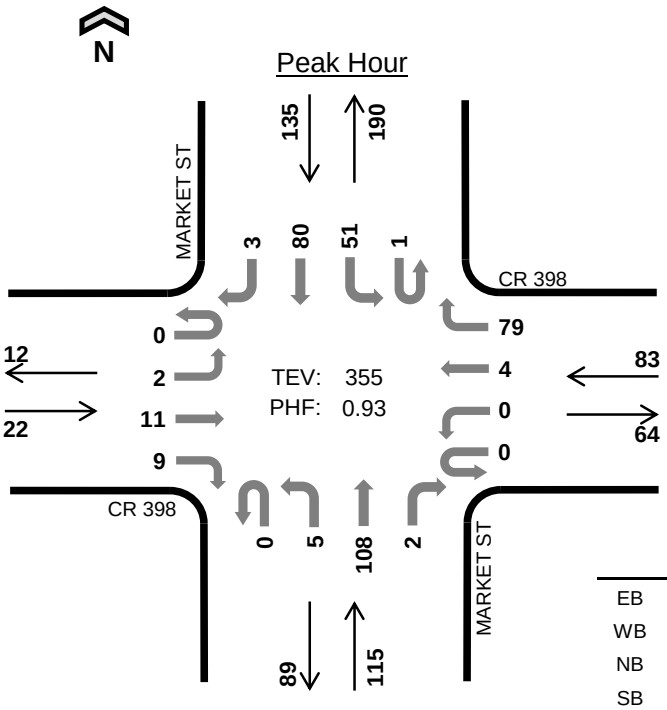
Type Railroad Crossing
Classification n/a

	MARKET ST RR CROSSING		
Sample	Gates Down	Gates Up	Duration
1	7:29:08 AM	7:31:21 AM	0:02:13
2	8:07:55 AM	8:13:00 AM	0:05:05
3	4:19:17 PM	4:19:35 PM	0:00:18
4	4:31:53 PM	4:33:55 PM	0:02:02

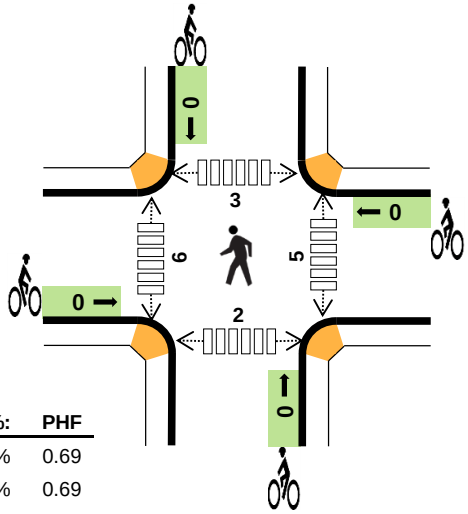
Summerfield at Keenesburg Counts Adjustment

Market Street & CR-398 Traffic Counts		
Scenario	AM Peak	PM Peak
2018 Existing (Pre-COVID - 2018)	434	538
2018 to 2020 Grown Existing	449	557
2020 Counts (During COVID - 2020-06-25)	355	402
Percent Change	-20.99%	-27.83%
Growth Adjustment	26.57%	38.56%
Adjustment Factor	1.27	1.39

MARKET ST
CR 398



Date: Wed, Oct 28, 2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	27.3%	0.69
WB	13.3%	0.69
NB	6.1%	0.87
SB	10.4%	0.96
TOTAL	10.7%	0.93

Two-Hour Count Summaries

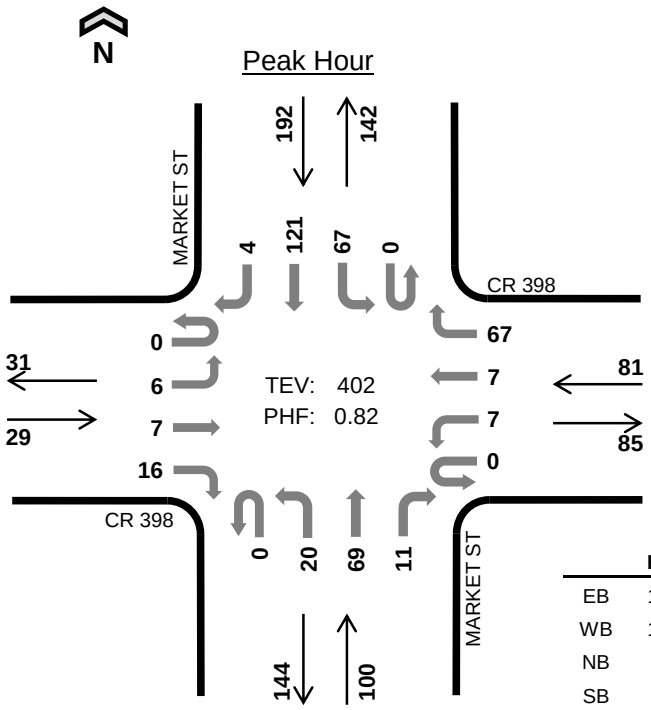
Interval Start	CR 398 Eastbound				CR 398 Westbound				MARKET ST Northbound				MARKET ST Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	1	0	0	0	13	0	1	17	0	0	8	17	1	58	0
7:15 AM	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**15**	**0**	**0**	**25**	**1**	**0**	**13**	**19**	**0**	**76**	0
7:30 AM	**0**	**0**	**4**	**3**	**0**	**0**	**1**	**18**	**0**	**2**	**29**	**0**	**0**	**14**	**20**	**0**	**91**	0
7:45 AM	**0**	**0**	**4**	**0**	**0**	**0**	**1**	**29**	**0**	**2**	**23**	**0**	**0**	**10**	**24**	**0**	**93**	318
8:00 AM	**0**	**2**	**2**	**4**	**0**	**0**	**2**	**17**	**0**	**1**	**31**	**1**	**1**	**14**	**17**	**3**	**95**	**355**
8:15 AM	0	2	1	0	0	0	1	9	0	0	18	0	2	9	17	2	61	340
8:30 AM	0	2	0	3	0	1	0	8	0	1	9	0	0	6	13	0	43	292
8:45 AM	0	3	4	1	0	1	2	9	0	1	20	0	0	6	15	1	63	262
Count Total	0	9	16	14	0	2	7	118	0	8	172	2	3	80	142	7	580	0
Peak Hour	**0**	**2**	**11**	**9**	**0**	**0**	**4**	**79**	**0**	**5**	**108**	**2**	**1**	**51**	**80**	**3**	**355**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

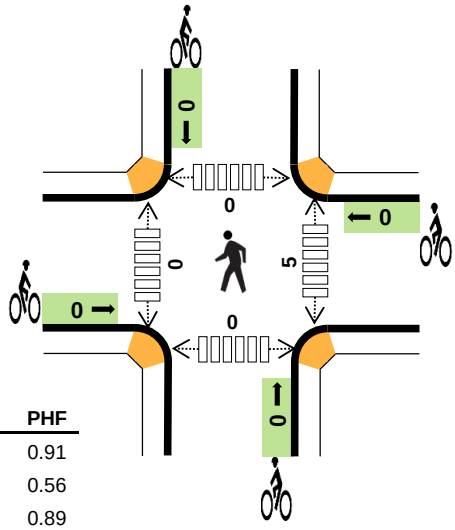
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	0	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	**1**	**1**	**2**	**3**	***7***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	*1*
7:30 AM	**1**	**3**	**1**	**3**	***8***	**0**	**0**	**0**	**0**	***0***	**2**	**2**	**2**	**2**	*8*
7:45 AM	**2**	**6**	**0**	**4**	***12***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
8:00 AM	**2**	**1**	**4**	**4**	***11***	**0**	**0**	**0**	**0**	***0***	**3**	**3**	**1**	**0**	***7***
8:15 AM	1	0	0	5	*6*	0	0	0	0	*0*	3	0	0	1	*4*
8:30 AM	0	0	1	4	*5*	0	0	0	0	*0*	1	1	0	1	*3*
8:45 AM	3	0	1	4	*8*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	10	12	9	29	*60*	0	0	0	0	*0*	9	7	3	4	*23*
Peak Hour	**6**	**11**	**7**	**14**	***38***	**0**	**0**	**0**	**0**	***0***	**5**	**6**	**3**	**2**	***16***

Mark Skaggs: (425) 250-0777 mark.skaggs@idaxdata.com

MARKET ST
CR 398



Date: Wed, Oct 28, 2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	10.3%	0.91
WB	14.8%	0.56
NB	3.0%	0.89
SB	5.7%	0.91
TOTAL	7.2%	0.82

Two-Hour Count Summaries

Interval Start	CR 398 Eastbound				CR 398 Westbound				MARKET ST Northbound				MARKET ST Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	3	1	0	1	2	0	24	0	1	13	2	0	20	38	4	109	0
4:15 PM	0	1	4	3	0	3	2	22	0	4	15	1	0	11	44	1	111	0
4:30 PM	0	3	5	0	0	5	0	12	0	4	16	1	0	12	31	1	90	0
4:45 PM	**0**	**2**	**1**	**5**	**0**	**0**	**0**	**14**	**0**	**2**	**16**	**2**	**0**	**14**	**29**	**2**	**87**	397
5:00 PM	**0**	**2**	**3**	**3**	**0**	**2**	**0**	**12**	**0**	**5**	**17**	**5**	**0**	**17**	**35**	**1**	**102**	390
5:15 PM	**0**	**0**	**0**	**5**	**0**	**0**	**5**	**12**	**0**	**8**	**19**	**1**	**0**	**15**	**26**	**0**	**91**	370
5:30 PM	**0**	**2**	**3**	**3**	**0**	**5**	**2**	**29**	**0**	**5**	**17**	**3**	**0**	**21**	**31**	**1**	**122**	**402**
5:45 PM	0	0	1	0	0	6	0	8	0	2	11	3	0	15	28	0	74	389
Count Total	0	13	18	19	1	23	9	133	0	31	124	18	0	125	262	10	786	0
Peak Hour	**0**	**6**	**7**	**16**	**0**	**7**	**7**	**67**	**0**	**20**	**69**	**11**	**0**	**67**	**121**	**4**	**402**	**0**

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

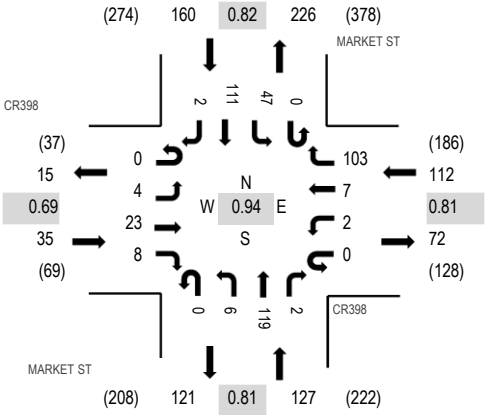
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	5	1	5	*11*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	2	4	1	3	*10*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	2	2	3	6	*13*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	**0**	**5**	**1**	**3**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**1**	**1**	**2**	**4**	***8***	**0**	**0**	**0**	**0**	***0***	**2**	**0**	**0**	**0**	*2*
5:15 PM	**0**	**2**	**0**	**0**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:30 PM	**2**	**4**	**0**	**4**	***10***	**0**	**0**	**0**	**0**	***0***	**3**	**0**	**0**	**0**	***3***
5:45 PM	1	0	2	1	*4*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	8	23	10	26	*67*	0	0	0	0	*0*	5	0	0	0	*5*
Peak Hour	**3**	**12**	**3**	**11**	***29***	**0**	**0**	**0**	**0**	***0***	**5**	**0**	**0**	**0**	***5***

All Traffic Data Services Inc.

(303) 216-2439
www.alltrafficdata.net

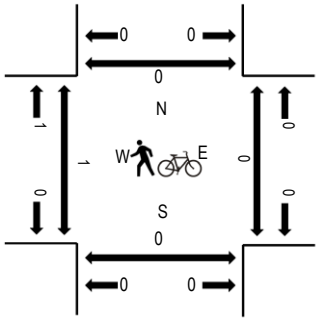
Location: 5 MARKET ST & CR398 AM
Date and Start Time: Wednesday, October 3, 2018
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



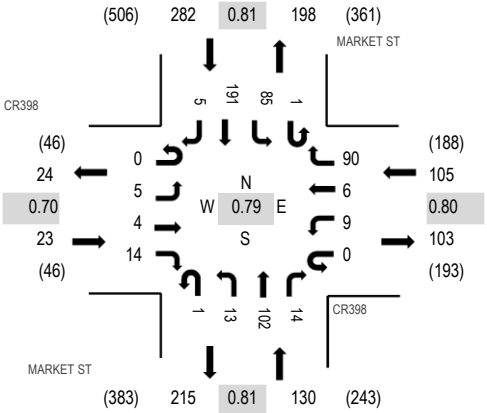
Traffic Counts

Interval Start Time	CR398 Eastbound				CR398 Westbound				MARKET ST Northbound				MARKET ST Southbound				Total	Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	6	1	0	0	1	23	0	1	25	3	0	3	26	1	90	409	0	0	0	0
7:15 AM	0	1	10	1	0	0	1	24	0	0	29	0	0	14	28	0	108	434	0	0	0	0
7:30 AM	0	3	1	0	0	0	0	17	0	1	35	0	0	14	34	1	106	418	0	0	0	0
7:45 AM	0	0	8	5	0	1	3	31	0	2	20	1	0	11	23	0	105	383	0	0	0	0
8:00 AM	0	0	4	2	0	1	3	31	0	3	35	1	0	8	26	1	115	342	1	0	0	0
8:15 AM	0	1	5	3	0	0	7	19	0	2	27	0	0	11	17	0	92		0	1	0	0
8:30 AM	0	1	3	4	0	0	2	11	0	1	18	0	0	10	19	2	71		0	0	0	0
8:45 AM	0	1	5	4	0	0	3	8	0	0	18	0	0	10	13	2	64		1	0	0	0
Count Total	0	7	42	20	0	2	20	164	0	10	207	5	0	81	186	7	751		2	1	0	0
Peak Hour	0	4	23	8	0	2	7	103	0	6	119	2	0	47	111	2	434		1	0	0	0

All Traffic Data Services Inc.
(303) 216-2439
www.alltrafficdata.net

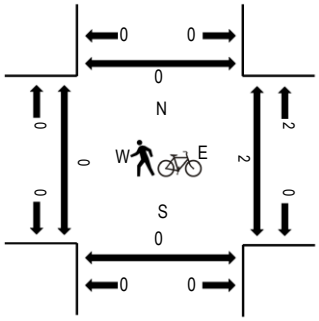
Location: 5 MARKET ST & CR398 PM
Date and Start Time: Wednesday, October 3, 2018
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	CR398 Eastbound				CR398 Westbound				MARKET ST Northbound				MARKET ST Southbound					Rolling Hour	Pedestrain Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	1	1	1	0	2	0	18	0	2	22	5	0	10	38	0	100	443	0	0	0	0
4:15 PM	0	1	3	4	0	3	1	18	0	3	25	1	0	18	29	0	106	472	0	0	0	0
4:30 PM	0	2	2	3	0	1	3	10	0	2	20	1	0	15	41	1	101	537	0	0	0	0
4:45 PM	0	1	3	1	0	2	6	19	0	2	26	4	0	27	43	2	136	538	0	0	0	0
5:00 PM	0	0	1	5	0	2	2	16	1	1	25	1	0	24	50	1	129	540	0	0	0	0
5:15 PM	0	1	3	6	0	2	2	29	0	5	25	7	0	25	65	1	171		0	2	0	0
5:30 PM	0	2	0	2	0	1	2	16	0	2	21	2	1	17	34	2	102		0	0	0	0
5:45 PM	0	2	0	1	0	4	0	29	0	5	31	4	0	19	42	1	138		0	0	0	0
Count Total	0	10	13	23	0	17	16	155	1	22	195	25	1	155	342	8	983		0	2	0	0
Peak Hour	0	5	4	14	0	9	6	90	1	13	102	14	1	85	191	5	540		0	2	0	0

APPENDIX B

Background Traffic

CDOT OTIS GROW RATE PROJECTIONS: MARKET STREET/SH-76 AND SH-52

ROUTE	REFPT	ENDREFPT	LENGTH	UPDATEYR	AADT	AADTYR	COUNTYEAR	YR20FACTOR	DHV	LOCATION	Growth Rate
076B	0	0.298	0.294	2019	4400	2019	2018	1.46	11	ON SH 76 SPUR MARKET ST S/O I-76 KEENESURG	1.91%
076B	0.298	0.472	0.21	2019	3700	2019	2019	1.35	11	ON SH 76 SPUR MARKET ST N/O OLD US 6 KEENESBURG	1.51%

ROUTE	REFPT	ENDREFPT	LENGTH	UPDATEYR	AADT	AADTYR	COUNTYEAR	YR20FACTOR	DHV	LOCATION	Growth Rate
052A	32	36.922	4.773	2019	3100	2019	2018	1.46	11	ON SH 52 E/O CR 49	1.91%
052A	36.922	41.939	4.992	2019	2100	2019	2018	1.44	11	ON SH 52 W/O SH 79 & CR 69 PROSPECT VALLEY	1.84%

TRAFFIC IMPACT ANALYSIS
FOR
EVAN'S PLACE
TOWN OF KEENESBURG, COLORADO

October 2018

Prepared for:

LGI HOMES – COLORADO LLC
14205 S.E. 36th STREET, SUITE 100
BELLEVUE, WASHINGTON 98006

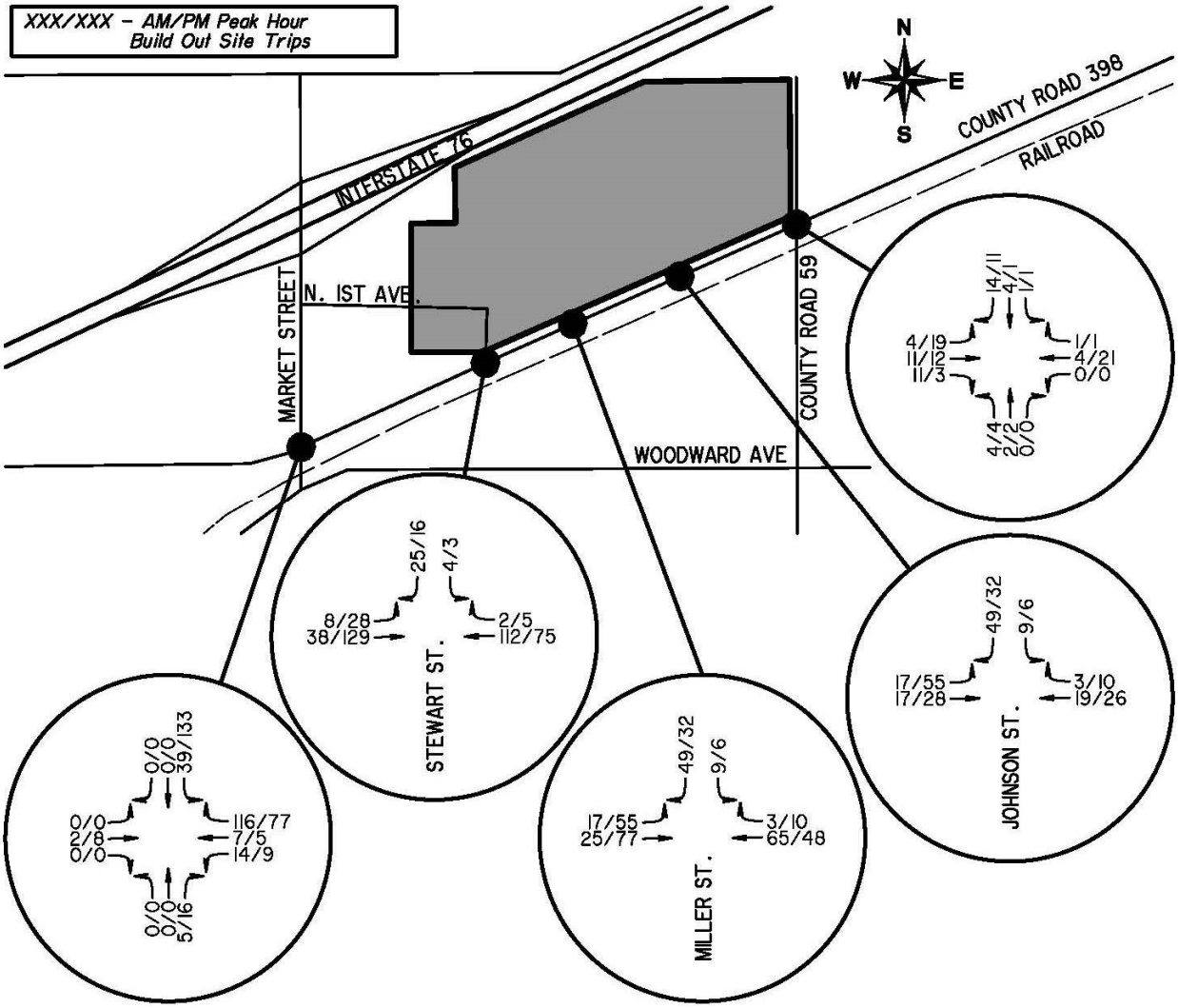
Prepared by:

GOODWIN AND MARSHALL INC

CIVIL ENGINEERS ~ PLANNERS ~ SURVEYORS

8400 E. Prentice Avenue, Suite 1500
Greenwood Village, Colorado 80111
(303) 459 - 4861

Figure 5: Build Out Trip Distribution and Assignment



Traffic on N. 1st Avenue (100% travel to and from Market Street)

ADT = 493/day

AM Peak Hour = 10 enter / 29 exit

PM Peak Hour = 32 enter / 19 exit

Traffic on Evans Place (100% travel to and from CR 59)

ADT = 329/day

AM Peak Hour = 7 enter / 19 exit

PM Peak Hour = 22 enter / 13 exit

APPENDIX C

Trip Generation Worksheet

Kimley»Horn

Project	Summerfield (Phase I)				
Subject	Trip Generation for Single-Family Detached Housing				
Designed by	TES	*Date*	August 31, 2021	*Job No.*	196100002
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Fitted Curve Equations

Land Use Code - Single-Family Detached Housing (210)

Independant Variable - Dwelling Units (X)

X = 190
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 3)

Average Weekday
(T) = 0.71 (X) + 4.80
(T) = 0.71 * (190) + 4.80

Directional Distribution: 25% ent. 75% exit.
T = 140 Average Vehicle Trip Ends
35 entering 105 exiting

35 + 105 = 140

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 4)

Average Weekday
Ln(T) = 0.96 Ln(X) + 0.20
Ln(T) = 0.96 * Ln(190) + 0.20

Directional Distribution: 63% ent. 37% exit.
T = 188 Average Vehicle Trip Ends
118 entering 70 exiting

118 + 70 = 188

Peak Hour of Generator, Saturday (200 Series Page 8)

Average Saturday
(T) = 0.84 (X) + 17.99
(T) = 0.84 * (190) + 17.99

Directional Distribution: 54% ent. 46% exit.
T = 178 Average Vehicle Trip Ends
96 entering 82 exiting

96 + 82 = 178

Weekday (200 Series Page 2)

Average Weekday
Ln(T) = 0.92 Ln(X) + 2.71
Ln(T) = 0.92 * Ln(190) + 2.71

Directional Distribution: 50% entering, 50% exiting
T = 1876 Average Vehicle Trip Ends
938 entering 938 exiting

938 + 938 = 1876

Kimley»Horn

Project	Summerfield (Phase I)				
Subject	Trip Generation for Multifamily Housing (Low-Rise)				
Designed by	TES	*Date*	August 31, 2021	*Job No.*	196100002
Checked by				*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Fitted Curve Equations

Land Use Code - Multifamily Housing (Low-Rise) (220)

Independant Variable - Dwelling Units (X)

X = 73
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Series 200 Page 32)

Ln(T) = 0.95 Ln(X) - 0.51
Ln(T) = 0.95 * Ln(73.0) - 0.51

Directional Distribution: 23% ent. 77% exit.
T = 35 Average Vehicle Trip Ends
8 entering 27 exiting

8 + 27 = 35

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (Series 200 Page 33)

Ln(T) = 0.89 Ln(X) - 0.02
Ln(T) = 0.89 * Ln(73.0) - 0.02

Directional Distribution: 63% ent. 37% exit.
T = 45 Average Vehicle Trip Ends
28 entering 17 exiting

28 + 17 = 45

Weekday (Series 200 Page 31)

(T) = 7.56*(X) - 40.86
(T) = 7.56 * 73 - 40.86

Directional Distribution: 50% ent. 50% exit.
T = 511 Average Vehicle Trip Ends
256 entering 256 exiting

256 + 256 = not ok

Peak Hour of Generator, Saturday (Series 200 Page 37)

(T) = 1.08*(X) - 33.24
(T) = 1.08 * 73 - 33.24

Directional Distribution: 50% ent. 50% exit.
T = 46 Average Vehicle Trip Ends
23 entering 23 exiting

23 + 23 = 46

Kimley»Horn

Project	Summerfield (Phase II)				
Subject	Trip Generation for Single-Family Detached Housing				
Designed by	TES	*Date*	August 31, 2021	*Job No.*	196100002
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Fitted Curve Equations

Land Use Code - Single-Family Detached Housing (210)

Independant Variable - Dwelling Units (X)

X = 553
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 3)

Average Weekday
(T) = 0.71 (X) + 4.80
(T) = 0.71 * (553) + 4.80

Directional Distribution: 25% ent. 75% exit.
T = 397 Average Vehicle Trip Ends
99 entering 298 exiting

99 + 298 = 397

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 4)

Average Weekday
Ln(T) = 0.96 Ln(X) + 0.20
Ln(T) = 0.96 * Ln(553) + 0.20

Directional Distribution: 63% ent. 37% exit.
T = 525 Average Vehicle Trip Ends
331 entering 194 exiting

331 + 194 = 525

Peak Hour of Generator, Saturday (200 Series Page 8)

Average Saturday
(T) = 0.84 (X) + 17.99
(T) = 0.84 * (553) + 17.99

Directional Distribution: 54% ent. 46% exit.
T = 483 Average Vehicle Trip Ends
261 entering 222 exiting

261 + 222 = 483

Weekday (200 Series Page 2)

Average Weekday
Ln(T) = 0.92 Ln(X) + 2.71
Ln(T) = 0.92 * Ln(553) + 2.71

Directional Distribution: 50% entering, 50% exiting
T = 5014 Average Vehicle Trip Ends
2507 entering 2507 exiting

2507 + 2507 = 5014

APPENDIX D

Intersection Analysis Worksheets

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	14	44	13	23	0	79	1	10	0	0	3
Future Vol, veh/h	6	14	44	13	23	0	79	1	10	0	0	3
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	23	71	21	37	0	127	2	16	0	0	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.5	7.8	8.3	6.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	88%	9%	36%	0%
Vol Thru, %	1%	22%	64%	0%
Vol Right, %	11%	69%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	64	36	3
LT Vol	79	6	13	0
Through Vol	1	14	23	0
RT Vol	10	44	0	3
Lane Flow Rate	145	103	58	5
Geometry Grp	1	1	1	1
Degree of Util (X)	0.174	0.113	0.072	0.005
Departure Headway (Hd)	4.326	3.953	4.457	3.839
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	819	911	808	936
Service Time	2.405	1.955	2.46	1.848
HCM Lane V/C Ratio	0.177	0.113	0.072	0.005
HCM Control Delay	8.3	7.5	7.8	6.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.4	0.2	0

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	64	63	4	29	0	40	0	7	0	0	0
Future Vol, veh/h	3	64	63	4	29	0	40	0	7	0	0	0
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	91	90	6	41	0	57	0	10	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.8	7.5	7.9	0
HCM LOS	A	A	A	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	85%	2%	12%	0%
Vol Thru, %	0%	49%	88%	100%
Vol Right, %	15%	48%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	47	130	33	0
LT Vol	40	3	4	0
Through Vol	0	64	29	0
RT Vol	7	63	0	0
Lane Flow Rate	67	186	47	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.082	0.196	0.055	0
Departure Headway (Hd)	4.415	3.802	4.218	4.497
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	802	936	840	0
Service Time	2.498	1.857	2.29	2.497
HCM Lane V/C Ratio	0.084	0.199	0.056	0
HCM Control Delay	7.9	7.8	7.5	7.5
HCM Lane LOS	A	A	A	N
HCM 95th-tile Q	0.3	0.7	0.2	0

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	26	57	14	28	1	87	3	11	1	4	17
Future Vol, veh/h	10	26	57	14	28	1	87	3	11	1	4	17
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	42	92	23	45	2	140	5	18	2	6	27
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8	8.1	8.8	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	86%	11%	33%	5%
Vol Thru, %	3%	28%	65%	18%
Vol Right, %	11%	61%	2%	77%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	101	93	43	22
LT Vol	87	10	14	1
Through Vol	3	26	28	4
RT Vol	11	57	1	17
Lane Flow Rate	163	150	69	35
Geometry Grp	1	1	1	1
Degree of Util (X)	0.206	0.172	0.089	0.041
Departure Headway (Hd)	4.563	4.132	4.607	4.153
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	788	870	779	863
Service Time	2.582	2.149	2.627	2.176
HCM Lane V/C Ratio	0.207	0.172	0.089	0.041
HCM Control Delay	8.8	8	8.1	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.6	0.3	0.1

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	79	69	4	52	1	46	2	7	1	1	11
Future Vol, veh/h	22	79	69	4	52	1	46	2	7	1	1	11
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	113	99	6	74	1	66	3	10	1	1	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.6	7.9	8.3	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	84%	13%	7%	8%
Vol Thru, %	4%	46%	91%	8%
Vol Right, %	13%	41%	2%	85%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	55	170	57	13
LT Vol	46	22	4	1
Through Vol	2	79	52	1
RT Vol	7	69	1	11
Lane Flow Rate	79	243	81	19
Geometry Grp	1	1	1	1
Degree of Util (X)	0.103	0.273	0.1	0.022
Departure Headway (Hd)	4.741	4.048	4.409	4.234
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	757	894	815	846
Service Time	2.76	2.048	2.424	2.256
HCM Lane V/C Ratio	0.104	0.272	0.099	0.022
HCM Control Delay	8.3	8.6	7.9	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1.1	0.3	0.1

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	26	61	15	28	1	100	3	14	1	4	17
Future Vol, veh/h	10	26	61	15	28	1	100	3	14	1	4	17
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	42	98	24	45	2	161	5	23	2	6	27
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	8.1	8.3	9.1	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	85%	28%	0%	34%	5%
Vol Thru, %	3%	72%	0%	64%	18%
Vol Right, %	12%	0%	100%	2%	77%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	117	36	61	44	22
LT Vol	100	10	0	15	1
Through Vol	3	26	0	28	4
RT Vol	14	0	61	1	17
Lane Flow Rate	189	58	98	71	35
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.241	0.085	0.121	0.095	0.042
Departure Headway (Hd)	4.604	5.273	4.429	4.802	4.236
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	781	681	810	747	845
Service Time	2.626	2.996	2.152	2.829	2.264
HCM Lane V/C Ratio	0.242	0.085	0.121	0.095	0.041
HCM Control Delay	9.1	8.5	7.8	8.3	7.5
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.9	0.3	0.4	0.3	0.1

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	79	84	7	52	1	55	2	9	1	1	11
Future Vol, veh/h	22	79	84	7	52	1	55	2	9	1	1	11
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	113	120	10	74	1	79	3	13	1	1	16
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	8.4	8.2	8.5	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	83%	22%	0%	12%	8%
Vol Thru, %	3%	78%	0%	87%	8%
Vol Right, %	14%	0%	100%	2%	85%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	66	101	84	60	13
LT Vol	55	22	0	7	1
Through Vol	2	79	0	52	1
RT Vol	9	0	84	1	11
Lane Flow Rate	94	144	120	86	19
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.126	0.2	0.139	0.109	0.022
Departure Headway (Hd)	4.817	4.99	4.178	4.597	4.341
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	746	721	860	782	825
Service Time	2.834	2.704	1.892	2.615	2.363
HCM Lane V/C Ratio	0.126	0.2	0.14	0.11	0.023
HCM Control Delay	8.5	9	7.6	8.2	7.5
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.4	0.7	0.5	0.4	0.1

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	27	60	14	30	1	92	3	11	1	4	17
Future Vol, veh/h	11	27	60	14	30	1	92	3	11	1	4	17
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	44	97	23	48	2	148	5	18	2	6	27
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	8.1	8.9	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	87%	11%	31%	5%
Vol Thru, %	3%	28%	67%	18%
Vol Right, %	10%	61%	2%	77%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	98	45	22
LT Vol	92	11	14	1
Through Vol	3	27	30	4
RT Vol	11	60	1	17
Lane Flow Rate	171	158	73	35
Geometry Grp	1	1	1	1
Degree of Util (X)	0.218	0.183	0.094	0.041
Departure Headway (Hd)	4.595	4.161	4.639	4.191
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	783	863	774	854
Service Time	2.617	2.179	2.659	2.219
HCM Lane V/C Ratio	0.218	0.183	0.094	0.041
HCM Control Delay	8.9	8.1	8.1	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.7	0.3	0.1

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	27	60	14	30	1	92	3	11	1	4	17
Future Vol, veh/h	11	27	60	14	30	1	92	3	11	1	4	17
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	39	86	20	43	1	131	4	16	1	6	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	8	8.6	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	87%	11%	31%	5%
Vol Thru, %	3%	28%	67%	18%
Vol Right, %	10%	61%	2%	77%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	98	45	22
LT Vol	92	11	14	1
Through Vol	3	27	30	4
RT Vol	11	60	1	17
Lane Flow Rate	151	140	64	31
Geometry Grp	1	1	1	1
Degree of Util (X)	0.19	0.159	0.081	0.036
Departure Headway (Hd)	4.526	4.088	4.554	4.101
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	795	879	789	874
Service Time	2.542	2.102	2.571	2.119
HCM Lane V/C Ratio	0.19	0.159	0.081	0.035
HCM Control Delay	8.6	7.9	8	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.6	0.3	0.1

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	27	74	17	30	1	135	3	20	1	4	17
Future Vol, veh/h	11	27	74	17	30	1	135	3	20	1	4	17
Peak Hour Factor	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	44	119	27	48	2	218	5	32	2	6	27
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	8.4	8.7	10	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	85%	29%	0%	35%	5%
Vol Thru, %	2%	71%	0%	62%	18%
Vol Right, %	13%	0%	100%	2%	77%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	158	38	74	48	22
LT Vol	135	11	0	17	1
Through Vol	3	27	0	30	4
RT Vol	20	0	74	1	17
Lane Flow Rate	255	61	119	77	35
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.331	0.093	0.153	0.108	0.043
Departure Headway (Hd)	4.681	5.458	4.607	5.011	4.404
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	767	656	777	714	809
Service Time	2.714	3.195	2.344	3.054	2.452
HCM Lane V/C Ratio	0.332	0.093	0.153	0.108	0.043
HCM Control Delay	10	8.8	8.2	8.7	7.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	1.5	0.3	0.5	0.4	0.1

Intersection	
Intersection Delay, s/veh	8.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	83	121	14	53	1	76	2	14	1	1	11
Future Vol, veh/h	22	83	121	14	53	1	76	2	14	1	1	11
Peak Hour Factor	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	31	119	173	20	76	1	109	3	20	1	1	16
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	8.6	8.5	9.1	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	83%	21%	0%	21%	8%
Vol Thru, %	2%	79%	0%	78%	8%
Vol Right, %	15%	0%	100%	1%	85%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	92	105	121	68	13
LT Vol	76	22	0	14	1
Through Vol	2	83	0	53	1
RT Vol	14	0	121	1	11
Lane Flow Rate	131	150	173	97	19
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.181	0.213	0.206	0.129	0.023
Departure Headway (Hd)	4.948	5.101	4.292	4.778	4.54
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	725	705	837	750	786
Service Time	2.979	2.827	2.019	2.811	2.582
HCM Lane V/C Ratio	0.181	0.213	0.207	0.129	0.024
HCM Control Delay	9.1	9.2	8.1	8.5	7.7
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.7	0.8	0.8	0.4	0.1

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	30	72	18	36	1	114	3	14	1	4	18
Future Vol, veh/h	12	30	72	18	36	1	114	3	14	1	4	18
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	33	78	20	39	1	124	3	15	1	4	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.9	8.4	7.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	87%	11%	33%	4%
Vol Thru, %	2%	26%	65%	17%
Vol Right, %	11%	63%	2%	78%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	131	114	55	23
LT Vol	114	12	18	1
Through Vol	3	30	36	4
RT Vol	14	72	1	18
Lane Flow Rate	142	124	60	25
Geometry Grp	1	1	1	1
Degree of Util (X)	0.177	0.139	0.075	0.028
Departure Headway (Hd)	4.483	4.031	4.503	4.033
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	805	892	798	890
Service Time	2.483	2.043	2.516	2.049
HCM Lane V/C Ratio	0.176	0.139	0.075	0.028
HCM Control Delay	8.4	7.7	7.9	7.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.5	0.2	0.1

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	101	91	6	61	1	60	2	10	1	1	11
Future Vol, veh/h	23	101	91	6	61	1	60	2	10	1	1	11
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	110	99	7	66	1	65	2	11	1	1	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.4	7.8	8.2	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	83%	11%	9%	8%
Vol Thru, %	3%	47%	90%	8%
Vol Right, %	14%	42%	1%	85%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	72	215	68	13
LT Vol	60	23	6	1
Through Vol	2	101	61	1
RT Vol	10	91	1	11
Lane Flow Rate	78	234	74	14
Geometry Grp	1	1	1	1
Degree of Util (X)	0.102	0.254	0.09	0.016
Departure Headway (Hd)	4.689	3.92	4.392	4.193
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	769	902	820	858
Service Time	2.693	2.011	2.398	2.199
HCM Lane V/C Ratio	0.101	0.259	0.09	0.016
HCM Control Delay	8.2	8.4	7.8	7.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1	0.3	0

Intersection	
Intersection Delay, s/veh	8.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	30	86	21	36	1	157	3	23	1	4	18
Future Vol, veh/h	12	30	86	21	36	1	157	3	23	1	4	18
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	33	93	23	39	1	171	3	25	1	4	20
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	7.9	8.2	9.1	7.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	86%	29%	0%	36%	4%
Vol Thru, %	2%	71%	0%	62%	17%
Vol Right, %	13%	0%	100%	2%	78%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	183	42	86	58	23
LT Vol	157	12	0	21	1
Through Vol	3	30	0	36	4
RT Vol	23	0	86	1	18
Lane Flow Rate	199	46	93	63	25
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.25	0.067	0.115	0.084	0.029
Departure Headway (Hd)	4.532	5.265	4.417	4.785	4.177
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	794	682	812	750	857
Service Time	2.549	2.985	2.137	2.809	2.202
HCM Lane V/C Ratio	0.251	0.067	0.115	0.084	0.029
HCM Control Delay	9.1	8.4	7.7	8.2	7.3
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	1	0.2	0.4	0.3	0.1

Intersection	
Intersection Delay, s/veh	8.4
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	101	139	16	61	1	88	2	16	1	1	11
Future Vol, veh/h	23	101	139	16	61	1	88	2	16	1	1	11
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	110	151	17	66	1	96	2	17	1	1	12
Number of Lanes	0	1	1	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	2
HCM Control Delay	8.4	8.3	8.7	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	EBLn2	WBLn1	SBLn1
Vol Left, %	83%	19%	0%	21%	8%
Vol Thru, %	2%	81%	0%	78%	8%
Vol Right, %	15%	0%	100%	1%	85%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	124	139	78	13
LT Vol	88	23	0	16	1
Through Vol	2	101	0	61	1
RT Vol	16	0	139	1	11
Lane Flow Rate	115	135	151	85	14
Geometry Grp	2	7	7	5	2
Degree of Util (X)	0.155	0.188	0.177	0.11	0.017
Departure Headway (Hd)	4.836	5.019	4.223	4.68	4.404
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	742	717	851	766	812
Service Time	2.86	2.737	1.942	2.704	2.435
HCM Lane V/C Ratio	0.155	0.188	0.177	0.111	0.017
HCM Control Delay	8.7	8.9	7.9	8.3	7.5
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.5	0.7	0.6	0.4	0.1

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	5	75	67	22	60	28	43	50	53	47	62	20
Future Vol, veh/h	5	75	67	22	60	28	43	50	53	47	62	20
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	112	100	33	90	42	64	75	79	70	93	30
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	9.9	10.4	10.3
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	3%	20%	36%
Vol Thru, %	34%	51%	55%	48%
Vol Right, %	36%	46%	25%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	146	147	110	129
LT Vol	43	5	22	47
Through Vol	50	75	60	62
RT Vol	53	67	28	20
Lane Flow Rate	218	219	164	193
Geometry Grp	1	1	1	1
Degree of Util (X)	0.308	0.305	0.239	0.281
Departure Headway (Hd)	5.081	5.008	5.24	5.251
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	708	717	685	685
Service Time	3.11	3.039	3.273	3.281
HCM Lane V/C Ratio	0.308	0.305	0.239	0.282
HCM Control Delay	10.4	10.2	9.9	10.3
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.3	1.3	0.9	1.2

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	83	70	22	38	18	67	53	32	54	54	35
Future Vol, veh/h	15	83	70	22	38	18	67	53	32	54	54	35
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	108	91	29	49	23	87	69	42	70	70	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.8	9	9.8	9.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	44%	9%	28%	38%
Vol Thru, %	35%	49%	49%	38%
Vol Right, %	21%	42%	23%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	152	168	78	143
LT Vol	67	15	22	54
Through Vol	53	83	38	54
RT Vol	32	70	18	35
Lane Flow Rate	197	218	101	186
Geometry Grp	1	1	1	1
Degree of Util (X)	0.269	0.289	0.142	0.252
Departure Headway (Hd)	4.903	4.761	5.063	4.886
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	726	748	700	728
Service Time	2.979	2.834	3.151	2.964
HCM Lane V/C Ratio	0.271	0.291	0.144	0.255
HCM Control Delay	9.8	9.8	9	9.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	1.2	0.5	1

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	79	71	23	63	29	45	59	56	50	80	21
Future Vol, veh/h	5	79	71	23	63	29	45	59	56	50	80	21
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	118	106	34	94	43	67	88	84	75	119	31
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.9	10.4	11.1	11.2
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	3%	20%	33%
Vol Thru, %	37%	51%	55%	53%
Vol Right, %	35%	46%	25%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	160	155	115	151
LT Vol	45	5	23	50
Through Vol	59	79	63	80
RT Vol	56	71	29	21
Lane Flow Rate	239	231	172	225
Geometry Grp	1	1	1	1
Degree of Util (X)	0.348	0.334	0.26	0.337
Departure Headway (Hd)	5.24	5.204	5.453	5.388
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	685	689	657	667
Service Time	3.279	3.247	3.499	3.43
HCM Lane V/C Ratio	0.349	0.335	0.262	0.337
HCM Control Delay	11.1	10.9	10.4	11.2
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.6	1.5	1	1.5

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	16	87	74	23	40	19	71	62	34	57	61	37
Future Vol, veh/h	16	87	74	23	40	19	71	62	34	57	61	37
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	113	96	30	52	25	92	81	44	74	79	48
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.2	9.3	10.2	10
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	9%	28%	37%
Vol Thru, %	37%	49%	49%	39%
Vol Right, %	20%	42%	23%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	167	177	82	155
LT Vol	71	16	23	57
Through Vol	62	87	40	61
RT Vol	34	74	19	37
Lane Flow Rate	217	230	106	201
Geometry Grp	1	1	1	1
Degree of Util (X)	0.3	0.311	0.156	0.278
Departure Headway (Hd)	4.984	4.866	5.288	4.973
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	711	731	683	713
Service Time	3.08	2.956	3.288	3.071
HCM Lane V/C Ratio	0.305	0.315	0.155	0.282
HCM Control Delay	10.2	10.2	9.3	10
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	1.3	1.3	0.6	1.1

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	79	86	27	63	29	91	75	69	50	85	21
Future Vol, veh/h	5	79	86	27	63	29	91	75	69	50	85	21
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	7	118	128	40	94	43	136	112	103	75	127	31
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.4	11.5	14.8	12.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	39%	3%	23%	32%
Vol Thru, %	32%	46%	53%	54%
Vol Right, %	29%	51%	24%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	235	170	119	156
LT Vol	91	5	27	50
Through Vol	75	79	63	85
RT Vol	69	86	29	21
Lane Flow Rate	351	254	178	233
Geometry Grp	1	1	1	1
Degree of Util (X)	0.536	0.396	0.294	0.374
Departure Headway (Hd)	5.499	5.613	5.951	5.776
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	652	637	599	617
Service Time	3.572	3.695	4.04	3.857
HCM Lane V/C Ratio	0.538	0.399	0.297	0.378
HCM Control Delay	14.8	12.4	11.5	12.3
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	3.2	1.9	1.2	1.7

Intersection	
Intersection Delay, s/veh	11.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	87	125	38	40	19	101	72	43	57	79	37
Future Vol, veh/h	16	87	125	38	40	19	101	72	43	57	79	37
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	113	162	49	52	25	131	94	56	74	103	48
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.2	10.4	12.5	11.4
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	47%	7%	39%	33%
Vol Thru, %	33%	38%	41%	46%
Vol Right, %	20%	55%	20%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	216	228	97	173
LT Vol	101	16	38	57
Through Vol	72	87	40	79
RT Vol	43	125	19	37
Lane Flow Rate	281	296	126	225
Geometry Grp	1	1	1	1
Degree of Util (X)	0.425	0.43	0.203	0.344
Departure Headway (Hd)	5.448	5.233	5.799	5.504
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	659	684	616	652
Service Time	3.499	3.287	3.864	3.558
HCM Lane V/C Ratio	0.426	0.433	0.205	0.345
HCM Control Delay	12.5	12.2	10.4	11.4
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	2.1	2.2	0.8	1.5

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	83	74	24	67	31	48	61	59	52	84	22
Future Vol, veh/h	6	83	74	24	67	31	48	61	59	52	84	22
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	124	110	36	100	46	72	91	88	78	125	33
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.3	10.8	11.6	11.6
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	4%	20%	33%
Vol Thru, %	36%	51%	55%	53%
Vol Right, %	35%	45%	25%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	168	163	122	158
LT Vol	48	6	24	52
Through Vol	61	83	67	84
RT Vol	59	74	31	22
Lane Flow Rate	251	243	182	236
Geometry Grp	1	1	1	1
Degree of Util (X)	0.373	0.359	0.282	0.36
Departure Headway (Hd)	5.35	5.319	5.569	5.503
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	669	674	643	651
Service Time	3.4	3.371	3.624	3.554
HCM Lane V/C Ratio	0.375	0.361	0.283	0.363
HCM Control Delay	11.6	11.3	10.8	11.6
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.7	1.6	1.2	1.6

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	92	78	24	42	20	74	65	36	60	64	39
Future Vol, veh/h	17	92	78	24	42	20	74	65	36	60	64	39
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	119	101	31	55	26	96	84	47	78	83	51
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.7	9.5	10.7	10.4
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	42%	9%	28%	37%
Vol Thru, %	37%	49%	49%	39%
Vol Right, %	21%	42%	23%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	175	187	86	163
LT Vol	74	17	24	60
Through Vol	65	92	42	64
RT Vol	36	78	20	39
Lane Flow Rate	227	243	112	212
Geometry Grp	1	1	1	1
Degree of Util (X)	0.326	0.342	0.167	0.303
Departure Headway (Hd)	5.156	5.065	5.387	5.15
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	698	714	666	699
Service Time	3.189	3.065	3.425	3.184
HCM Lane V/C Ratio	0.325	0.34	0.168	0.303
HCM Control Delay	10.7	10.7	9.5	10.4
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.4	1.5	0.6	1.3

Intersection	
Intersection Delay, s/veh	91.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	83	143	38	67	31	258	113	102	52	101	22
Future Vol, veh/h	6	83	143	38	67	31	258	113	102	52	101	22
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	124	213	57	100	46	385	169	152	78	151	33
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	24.2	17.6	172.4	19.3
HCM LOS	C	C	F	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	55%	3%	28%	30%
Vol Thru, %	24%	36%	49%	58%
Vol Right, %	22%	62%	23%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	473	232	136	175
LT Vol	258	6	38	52
Through Vol	113	83	67	101
RT Vol	102	143	31	22
Lane Flow Rate	706	346	203	261
Geometry Grp	1	1	1	1
Degree of Util (X)	1.308	0.658	0.426	0.523
Departure Headway (Hd)	6.669	7.648	8.472	7.909
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	551	474	428	460
Service Time	4.669	5.648	6.472	5.909
HCM Lane V/C Ratio	1.281	0.73	0.474	0.567
HCM Control Delay	172.4	24.2	17.6	19.3
HCM Lane LOS	F	C	C	C
HCM 95th-tile Q	29.7	4.7	2.1	3

Intersection	
Intersection Delay, s/veh	63.2
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	92	311	72	42	20	211	98	64	60	122	39
Future Vol, veh/h	17	92	311	72	42	20	211	98	64	60	122	39
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	119	404	94	55	26	274	127	83	78	158	51
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

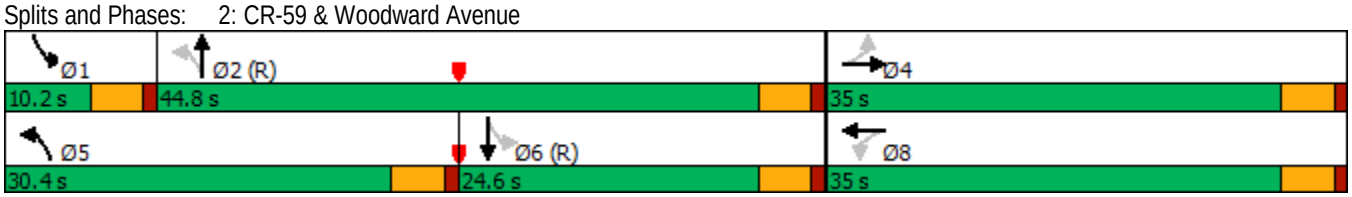
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	89.6	18.5	72.1	25.3
HCM LOS	F	C	F	D

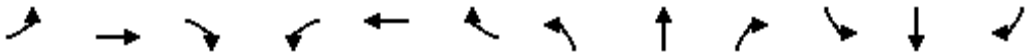
Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	57%	4%	54%	27%
Vol Thru, %	26%	22%	31%	55%
Vol Right, %	17%	74%	15%	18%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	373	420	134	221
LT Vol	211	17	72	60
Through Vol	98	92	42	122
RT Vol	64	311	20	39
Lane Flow Rate	484	545	174	287
Geometry Grp	1	1	1	1
Degree of Util (X)	1.008	1.079	0.42	0.641
Departure Headway (Hd)	7.802	7.123	9.082	8.443
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	470	507	399	431
Service Time	5.802	5.182	7.082	6.443
HCM Lane V/C Ratio	1.03	1.075	0.436	0.666
HCM Control Delay	72.1	89.6	18.5	25.3
HCM Lane LOS	F	F	C	D
HCM 95th-tile Q	13.4	16.9	2	4.4

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	6	83	38	67	258	113	52	101
Future Volume (vph)	6	83	38	67	258	113	52	101
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	35.0	35.0	35.0	35.0	30.4	44.8	10.2	24.6
Total Split (%)	38.9%	38.9%	38.9%	38.9%	33.8%	49.8%	11.3%	27.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	18.7	18.7	18.7	18.7	62.3	52.9	50.7	43.8
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.69	0.59	0.56	0.49
v/c Ratio	0.04	0.78	0.70	0.37	0.46	0.31	0.12	0.21
Control Delay	24.7	35.0	70.6	25.5	8.6	10.5	7.7	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.7	35.0	70.6	25.5	8.6	10.5	7.7	16.6
LOS	C	C	E	C	A	B	A	B
Approach Delay		34.7		38.2		9.5		13.9
Approach LOS		C		D		A		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 19.8	Intersection LOS: B
Intersection Capacity Utilization 53.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: CR-59 & Woodward Avenue





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	83	143	38	67	31	258	113	102	52	101	22
Future Volume (veh/h)	6	83	143	38	67	31	258	113	102	52	101	22
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	124	213	57	100	46	385	169	152	78	151	33
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	328	164	282	165	322	148	788	487	438	621	657	144
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.14	0.54	0.54	0.05	0.44	0.44
Sat Flow, veh/h	1242	618	1061	1043	1212	558	1781	907	816	1781	1487	325
Grp Volume(v), veh/h	9	0	337	57	0	146	385	0	321	78	0	184
Grp Sat Flow(s),veh/h/ln	1242	0	1679	1043	0	1770	1781	0	1723	1781	0	1812
Q Serve(g_s), s	0.5	0.0	16.6	4.8	0.0	5.9	9.8	0.0	9.5	2.1	0.0	5.7
Cycle Q Clear(g_c), s	6.5	0.0	16.6	21.4	0.0	5.9	9.8	0.0	9.5	2.1	0.0	5.7
Prop In Lane	1.00		0.63	1.00		0.32	1.00		0.47	1.00		0.18
Lane Grp Cap(c), veh/h	328	0	446	165	0	470	788	0	925	621	0	801
V/C Ratio(X)	0.03	0.00	0.76	0.35	0.00	0.31	0.49	0.00	0.35	0.13	0.00	0.23
Avail Cap(c_a), veh/h	419	0	569	241	0	600	1047	0	925	649	0	801
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	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.0	0.0	30.4	40.2	0.0	26.4	9.4	0.0	11.9	12.3	0.0	15.6
Incr Delay (d2), s/veh	0.0	0.0	4.3	1.2	0.0	0.4	0.5	0.0	1.0	0.1	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	0.2	0.0	7.1	1.3	0.0	2.5	3.5	0.0	3.7	0.8	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.1	0.0	34.7	41.4	0.0	26.8	9.8	0.0	12.9	12.4	0.0	16.3
LnGrp LOS	C	A	C	D	A	C	A	A	B	B	A	B
Approach Vol, veh/h		346			203			706			262	
Approach Delay, s/veh		34.5			30.9			11.2			15.1	
Approach LOS		C			C			B			B	

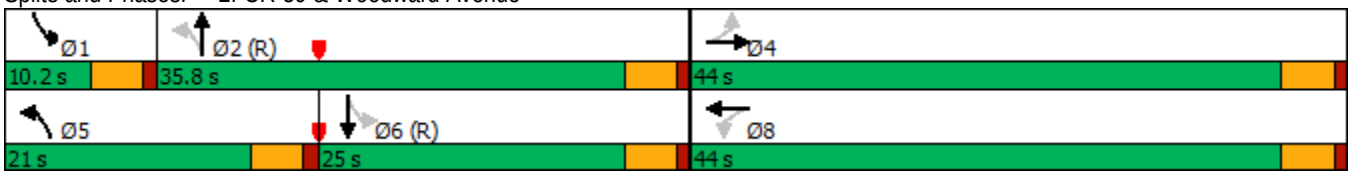
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	52.8		28.4	17.3	44.3		28.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.7	40.3		30.5	25.9	20.1		30.5				
Max Q Clear Time (g_c+I1), s	4.1	11.5		18.6	11.8	7.7		23.4				
Green Ext Time (p_c), s	0.0	2.1		1.7	1.0	0.7		0.5				

Intersection Summary			
HCM 6th Ctrl Delay		19.8	
HCM 6th LOS		B	

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	17	92	72	42	211	98	60	122
Future Volume (vph)	17	92	72	42	211	98	60	122
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	44.0	44.0	44.0	44.0	21.0	35.8	10.2	25.0
Total Split (%)	48.9%	48.9%	48.9%	48.9%	23.3%	39.8%	11.3%	27.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	24.4	24.4	24.4	24.4	56.3	47.0	46.8	39.8
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.63	0.52	0.52	0.44
v/c Ratio	0.06	0.84	1.15	0.16	0.38	0.22	0.12	0.26
Control Delay	19.9	27.8	174.5	15.5	11.4	14.0	10.5	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	27.8	174.5	15.5	11.4	14.0	10.5	20.0
LOS	B	C	F	B	B	B	B	C
Approach Delay		27.5		100.9		12.5		17.4
Approach LOS		C		F		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 29.3	Intersection LOS: C
Intersection Capacity Utilization 63.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: CR-59 & Woodward Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	92	311	72	42	20	211	98	64	60	122	39
Future Volume (veh/h)	17	92	311	72	42	20	211	98	64	60	122	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	22	119	404	94	55	26	274	127	83	78	158	51
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	578	152	516	194	488	231	570	418	273	532	433	140
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.12	0.40	0.40	0.05	0.32	0.32
Sat Flow, veh/h	1317	374	1268	879	1201	568	1781	1056	690	1781	1354	437
Grp Volume(v), veh/h	22	0	523	94	0	81	274	0	210	78	0	209
Grp Sat Flow(s),veh/h/ln	1317	0	1642	879	0	1768	1781	0	1746	1781	0	1792
Q Serve(g_s), s	1.0	0.0	25.0	9.4	0.0	2.6	8.7	0.0	7.4	2.6	0.0	8.1
Cycle Q Clear(g_c), s	3.5	0.0	25.0	34.3	0.0	2.6	8.7	0.0	7.4	2.6	0.0	8.1
Prop In Lane	1.00		0.77	1.00		0.32	1.00		0.40	1.00		0.24
Lane Grp Cap(c), veh/h	578	0	668	194	0	719	570	0	691	532	0	573
V/C Ratio(X)	0.04	0.00	0.78	0.49	0.00	0.11	0.48	0.00	0.30	0.15	0.00	0.36
Avail Cap(c_a), veh/h	621	0	721	222	0	776	676	0	691	560	0	573
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	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.7	0.0	23.3	38.2	0.0	16.6	15.9	0.0	18.7	18.8	0.0	23.6
Incr Delay (d2), s/veh	0.0	0.0	5.3	1.9	0.0	0.1	0.6	0.0	1.1	0.1	0.0	1.8
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	0.3	0.0	10.2	2.1	0.0	1.0	3.5	0.0	3.1	1.1	0.0	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	17.7	0.0	28.5	40.1	0.0	16.7	16.5	0.0	19.8	19.0	0.0	25.4
LnGrp LOS	B	A	C	D	A	B	B	A	B	B	A	C
Approach Vol, veh/h		545			175			484			287	
Approach Delay, s/veh		28.1			29.3			18.0			23.6	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	40.1		41.1	15.6	33.3		41.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.7	31.3		39.5	16.5	20.5		39.5				
Max Q Clear Time (g_c+I1), s	4.6	9.4		27.0	10.7	10.1		36.3				
Green Ext Time (p_c), s	0.0	1.2		3.0	0.4	0.8		0.2				

Intersection Summary			
HCM 6th Ctrl Delay		24.1	
HCM 6th LOS		C	

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	104	93	31	83	39	60	76	74	65	101	28
Future Vol, veh/h	7	104	93	31	83	39	60	76	74	65	101	28
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	113	101	34	90	42	65	83	80	71	110	30
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.5	10.1	10.7	10.7
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	29%	3%	20%	34%
Vol Thru, %	36%	51%	54%	52%
Vol Right, %	35%	46%	25%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	210	204	153	194
LT Vol	60	7	31	65
Through Vol	76	104	83	101
RT Vol	74	93	39	28
Lane Flow Rate	228	222	166	211
Geometry Grp	1	1	1	1
Degree of Util (X)	0.326	0.314	0.247	0.311
Departure Headway (Hd)	5.147	5.105	5.34	5.302
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	698	703	672	677
Service Time	3.182	3.141	3.378	3.336
HCM Lane V/C Ratio	0.327	0.316	0.247	0.312
HCM Control Delay	10.7	10.5	10.1	10.7
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.4	1.3	1	1.3

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	115	97	31	53	25	93	80	44	75	79	49
Future Vol, veh/h	21	115	97	31	53	25	93	80	44	75	79	49
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, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	125	105	34	58	27	101	87	48	82	86	53
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

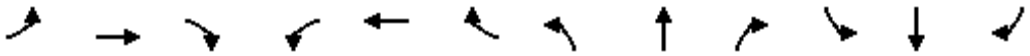
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11	9.7	11	10.7
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	9%	28%	37%
Vol Thru, %	37%	49%	49%	39%
Vol Right, %	20%	42%	23%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	217	233	109	203
LT Vol	93	21	31	75
Through Vol	80	115	53	79
RT Vol	44	97	25	49
Lane Flow Rate	236	253	118	221
Geometry Grp	1	1	1	1
Degree of Util (X)	0.343	0.36	0.18	0.321
Departure Headway (Hd)	5.241	5.113	5.48	5.232
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	686	704	654	686
Service Time	3.275	3.146	3.52	3.264
HCM Lane V/C Ratio	0.344	0.359	0.18	0.322
HCM Control Delay	11	11	9.7	10.7
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.5	1.6	0.7	1.4

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	7	104	45	83	270	128	65	118
Future Volume (vph)	7	104	45	83	270	128	65	118
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	35.0	35.0	35.0	35.0	27.0	44.0	11.0	28.0
Total Split (%)	38.9%	38.9%	38.9%	38.9%	30.0%	48.9%	12.2%	31.1%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	16.3	16.3	16.3	16.3	64.3	55.5	55.8	49.2
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.71	0.62	0.62	0.55
v/c Ratio	0.04	0.75	0.60	0.38	0.33	0.24	0.10	0.16
Control Delay	27.0	35.2	60.8	26.9	6.3	8.3	5.9	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	35.2	60.8	26.9	6.3	8.3	5.9	12.2
LOS	C	D	E	C	A	A	A	B
Approach Delay		35.0		36.1		7.2		10.2
Approach LOS		C		D		A		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 18.4	Intersection LOS: B
Intersection Capacity Utilization 57.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: CR-59 & Woodward Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	104	162	45	83	39	270	128	117	65	118	28
Future Volume (veh/h)	7	104	162	45	83	39	270	128	117	65	118	28
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	8	113	176	49	90	42	293	139	127	71	128	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	293	153	238	159	279	130	839	515	471	712	758	178
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.10	0.57	0.57	0.05	0.52	0.52
Sat Flow, veh/h	1258	659	1027	1090	1206	563	1781	900	822	1781	1465	343
Grp Volume(v), veh/h	8	0	289	49	0	132	293	0	266	71	0	158
Grp Sat Flow(s),veh/h/ln	1258	0	1686	1090	0	1769	1781	0	1722	1781	0	1809
Q Serve(g_s), s	0.5	0.0	14.3	3.9	0.0	5.6	6.4	0.0	7.0	1.6	0.0	4.2
Cycle Q Clear(g_c), s	6.1	0.0	14.3	18.2	0.0	5.6	6.4	0.0	7.0	1.6	0.0	4.2
Prop In Lane	1.00		0.61	1.00		0.32	1.00		0.48	1.00		0.19
Lane Grp Cap(c), veh/h	293	0	390	159	0	410	839	0	986	712	0	936
V/C Ratio(X)	0.03	0.00	0.74	0.31	0.00	0.32	0.35	0.00	0.27	0.10	0.00	0.17
Avail Cap(c_a), veh/h	428	0	571	276	0	600	1104	0	986	759	0	936
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	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.2	0.0	32.1	40.5	0.0	28.7	7.2	0.0	9.7	9.0	0.0	11.5
Incr Delay (d2), s/veh	0.0	0.0	2.9	1.1	0.0	0.5	0.2	0.0	0.7	0.1	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	6.0	1.1	0.0	2.4	2.2	0.0	2.6	0.6	0.0	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.3	0.0	35.0	41.6	0.0	29.2	7.5	0.0	10.4	9.0	0.0	11.9
LnGrp LOS	C	A	C	D	A	C	A	A	B	A	A	B
Approach Vol, veh/h		297			181			559			229	
Approach Delay, s/veh		34.9			32.5			8.9			11.0	
Approach LOS		C			C			A			B	

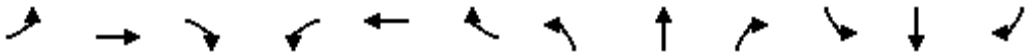
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	56.0		25.3	13.6	51.1		25.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.5	39.5		30.5	22.5	23.5		30.5				
Max Q Clear Time (g_c+I1), s	3.6	9.0		16.3	8.4	6.2		20.2				
Green Ext Time (p_c), s	0.0	1.7		1.5	0.7	0.7		0.6				

Intersection Summary			
HCM 6th Ctrl Delay		18.7	
HCM 6th LOS		B	

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	21	115	79	53	230	113	75	137
Future Volume (vph)	21	115	79	53	230	113	75	137
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	37.0	37.0	37.0	37.0	22.0	42.7	10.3	31.0
Total Split (%)	41.1%	41.1%	41.1%	41.1%	24.4%	47.4%	11.4%	34.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max
Act Effct Green (s)	23.8	23.8	23.8	23.8	56.8	48.2	47.9	41.3
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.63	0.54	0.53	0.46
v/c Ratio	0.07	0.85	1.05	0.17	0.34	0.21	0.12	0.24
Control Delay	21.5	33.2	146.3	16.7	9.8	11.6	9.5	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	33.2	146.3	16.7	9.8	11.6	9.5	17.5
LOS	C	C	F	B	A	B	A	B
Approach Delay		32.7		81.8		10.6		15.2
Approach LOS		C		F		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 28.1	Intersection LOS: C
Intersection Capacity Utilization 68.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: CR-59 & Woodward Avenue



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	115	330	79	53	25	230	113	72	75	137	49
Future Volume (veh/h)	21	115	330	79	53	25	230	113	72	75	137	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	125	359	86	58	27	250	123	78	82	149	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	512	154	442	167	436	203	628	471	299	601	503	179
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.11	0.44	0.44	0.05	0.38	0.38
Sat Flow, veh/h	1313	426	1224	911	1207	562	1781	1070	678	1781	1317	469
Grp Volume(v), veh/h	23	0	484	86	0	85	250	0	201	82	0	202
Grp Sat Flow(s),veh/h/ln	1313	0	1650	911	0	1769	1781	0	1748	1781	0	1786
Q Serve(g_s), s	1.1	0.0	23.9	8.5	0.0	2.9	7.2	0.0	6.5	2.5	0.0	7.1
Cycle Q Clear(g_c), s	4.0	0.0	23.9	32.3	0.0	2.9	7.2	0.0	6.5	2.5	0.0	7.1
Prop In Lane	1.00		0.74	1.00		0.32	1.00		0.39	1.00		0.26
Lane Grp Cap(c), veh/h	512	0	596	167	0	639	628	0	770	601	0	682
V/C Ratio(X)	0.04	0.00	0.81	0.51	0.00	0.13	0.40	0.00	0.26	0.14	0.00	0.30
Avail Cap(c_a), veh/h	512	0	596	167	0	639	784	0	770	629	0	682
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	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	26.0	40.6	0.0	19.3	13.1	0.0	15.9	15.3	0.0	19.4
Incr Delay (d2), s/veh	0.0	0.0	8.4	2.7	0.0	0.1	0.4	0.0	0.8	0.1	0.0	1.1
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	0.3	0.0	10.3	2.0	0.0	1.2	2.8	0.0	2.7	1.0	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.7	0.0	34.4	43.3	0.0	19.4	13.5	0.0	16.7	15.4	0.0	20.5
LnGrp LOS	C	A	C	D	A	B	B	A	B	B	A	C
Approach Vol, veh/h		507			171			451			284	
Approach Delay, s/veh		33.8			31.4			14.9			19.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	44.1		37.0	14.1	38.9		37.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.8	38.2		32.5	17.5	26.5		32.5				
Max Q Clear Time (g_c+I1), s	4.5	8.5		25.9	9.2	9.1		34.3				
Green Ext Time (p_c), s	0.0	1.2		1.8	0.5	1.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		24.5	
HCM 6th LOS		C	

Intersection	
Int Delay, s/veh	26.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	102	208	66	166	56	79	74	19	42	99	9
Future Vol, veh/h	13	102	208	66	166	56	79	74	19	42	99	9
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	-	-	600	375	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	152	310	99	248	84	118	110	28	63	148	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	332	0	0	462	0	0	759	720	152	902	988	290
Stage 1	-	-	-	-	-	-	190	190	-	488	488	-
Stage 2	-	-	-	-	-	-	569	530	-	414	500	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1227	-	-	1099	-	-	323	354	894	259	247	749
Stage 1	-	-	-	-	-	-	812	743	-	561	550	-
Stage 2	-	-	-	-	-	-	507	527	-	616	543	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1227	-	-	1099	-	-	135	315	894	184	220	749
Mov Cap-2 Maneuver	-	-	-	-	-	-	277	426	-	184	220	-
Stage 1	-	-	-	-	-	-	794	727	-	549	501	-
Stage 2	-	-	-	-	-	-	319	480	-	495	531	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	2	36.8	116.8
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	358	1227	-	-	1099	-	-	217
HCM Lane V/C Ratio	0.717	0.016	-	-	0.09	-	-	1.032
HCM Control Delay (s)	36.8	8	0	-	8.6	-	-	116.8
HCM Lane LOS	E	A	A	-	A	-	-	F
HCM 95th %tile Q(veh)	5.3	0	-	-	0.3	-	-	9.6

Intersection	
Int Delay, s/veh	10.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	163	85	24	117	50	156	90	38	64	36	19
Future Vol, veh/h	10	163	85	24	117	50	156	90	38	64	36	19
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	-	-	600	375	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	209	109	31	150	64	200	115	49	82	46	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	214	0	0	318	0	0	514	511	209	616	588	182
Stage 1	-	-	-	-	-	-	235	235	-	244	244	-
Stage 2	-	-	-	-	-	-	279	276	-	372	344	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1356	-	-	1242	-	-	471	466	831	403	421	861
Stage 1	-	-	-	-	-	-	768	710	-	760	704	-
Stage 2	-	-	-	-	-	-	728	682	-	648	637	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1356	-	-	1242	-	-	406	449	831	312	405	861
Mov Cap-2 Maneuver	-	-	-	-	-	-	556	568	-	312	405	-
Stage 1	-	-	-	-	-	-	759	701	-	751	686	-
Stage 2	-	-	-	-	-	-	643	665	-	503	629	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1	20.7	21
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	586	1356	-	-	1242	-	-	376
HCM Lane V/C Ratio	0.621	0.009	-	-	0.025	-	-	0.406
HCM Control Delay (s)	20.7	7.7	0	-	8	-	-	21
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	4.3	0	-	-	0.1	-	-	1.9

Intersection	
Int Delay, s/veh	49.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	107	219	70	175	59	83	84	20	44	119	9
Future Vol, veh/h	14	107	219	70	175	59	83	84	20	44	119	9
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	-	-	600	375	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	160	327	104	261	88	124	125	30	66	178	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	349	0	0	487	0	0	811	759	160	956	1042	305
Stage 1	-	-	-	-	-	-	202	202	-	513	513	-
Stage 2	-	-	-	-	-	-	609	557	-	443	529	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1210	-	-	1076	-	-	298	336	885	238	230	735
Stage 1	-	-	-	-	-	-	800	734	-	544	536	-
Stage 2	-	-	-	-	-	-	482	512	-	594	527	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1210	-	-	1076	-	-	~ 67	296	885	160	202	735
Mov Cap-2 Maneuver	-	-	-	-	-	-	229	407	-	160	202	-
Stage 1	-	-	-	-	-	-	780	716	-	530	484	-
Stage 2	-	-	-	-	-	-	271	462	-	462	514	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	2	62.4	218.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	316	1210	-	-	1076	-	-	196
HCM Lane V/C Ratio	0.883	0.017	-	-	0.097	-	-	1.31
HCM Control Delay (s)	62.4	8	0	-	8.7	-	-	218.3
HCM Lane LOS	F	A	A	-	A	-	-	F
HCM 95th %tile Q(veh)	8.2	0.1	-	-	0.3	-	-	14.3

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

Intersection	
Int Delay, s/veh	11.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	172	90	25	123	53	164	101	40	67	42	20
Future Vol, veh/h	11	172	90	25	123	53	164	101	40	67	42	20
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	-	-	600	375	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	221	115	32	158	68	210	129	51	86	54	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	226	0	0	336	0	0	545	539	221	653	620	192
Stage 1	-	-	-	-	-	-	249	249	-	256	256	-
Stage 2	-	-	-	-	-	-	296	290	-	397	364	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1342	-	-	1223	-	-	449	449	819	380	404	850
Stage 1	-	-	-	-	-	-	755	701	-	749	696	-
Stage 2	-	-	-	-	-	-	712	672	-	629	624	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1342	-	-	1223	-	-	378	431	819	284	388	850
Mov Cap-2 Maneuver	-	-	-	-	-	-	533	556	-	284	388	-
Stage 1	-	-	-	-	-	-	745	692	-	739	678	-
Stage 2	-	-	-	-	-	-	619	655	-	473	616	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1	24.3	24.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	567	1342	-	-	1223	-	-	351
HCM Lane V/C Ratio	0.69	0.011	-	-	0.026	-	-	0.471
HCM Control Delay (s)	24.3	7.7	0	-	8	-	-	24.1
HCM Lane LOS	C	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	5.4	0	-	-	0.1	-	-	2.4

Intersection	
Intersection Delay, s/veh	9.3
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	512	455	288	302
Demand Flow Rate, veh/h	523	464	294	308
Vehicles Circulating, veh/h	388	288	259	498
Vehicles Exiting, veh/h	417	265	651	254
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.8	8.7	6.2	8.9
Approach LOS	B	A	A	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	523	464	294	308
Cap Entry Lane, veh/h	929	1029	1060	830
Entry HV Adj Factor	0.979	0.980	0.981	0.980
Flow Entry, veh/h	512	455	288	302
Cap Entry, veh/h	909	1008	1039	814
V/C Ratio	0.563	0.451	0.277	0.371
Control Delay, s/veh	11.8	8.7	6.2	8.9
LOS	B	A	A	A
95th %tile Queue, veh	4	2	1	2

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

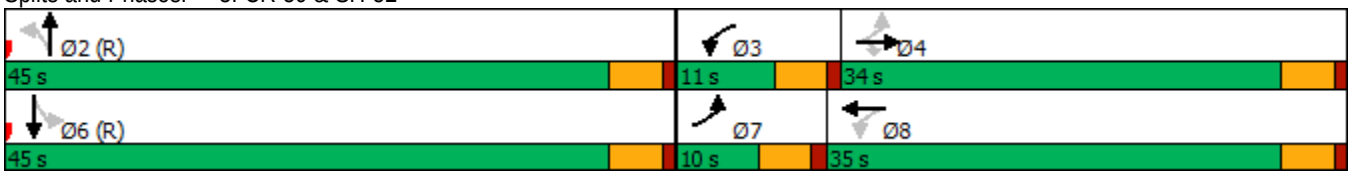
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	362	262	419	191
Demand Flow Rate, veh/h	369	267	427	195
Vehicles Circulating, veh/h	195	402	342	408
Vehicles Exiting, veh/h	408	367	222	261
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	6.4	7.1	8.9	6.2
Approach LOS	A	A	A	A

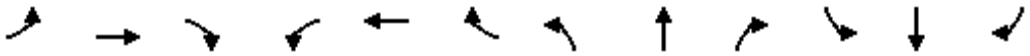
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	369	267	427	195
Cap Entry Lane, veh/h	1131	916	974	910
Entry HV Adj Factor	0.980	0.981	0.981	0.977
Flow Entry, veh/h	362	262	419	191
Cap Entry, veh/h	1108	898	955	890
V/C Ratio	0.326	0.292	0.439	0.214
Control Delay, s/veh	6.4	7.1	8.9	6.2
LOS	A	A	A	A
95th %tile Queue, veh	1	1	2	1

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	17	107	219	70	175	83	90	47	139
Future Volume (vph)	17	107	219	70	175	83	90	47	139
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	34.0	34.0	11.0	35.0	45.0	45.0	45.0	45.0
Total Split (%)	11.1%	37.8%	37.8%	12.2%	38.9%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	22.9	18.5	18.5	25.9	23.3		53.7		53.7
Actuated g/C Ratio	0.25	0.21	0.21	0.29	0.26		0.60		0.60
v/c Ratio	0.11	0.42	0.56	0.31	0.73		0.35		0.32
Control Delay	18.7	32.9	6.9	22.8	37.4		12.9		12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	18.7	32.9	6.9	22.8	37.4		12.9		12.3
LOS	B	C	A	C	D		B		B
Approach Delay		15.6			34.0		12.9		12.3
Approach LOS		B			C		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 55	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 19.8	Intersection LOS: B
Intersection Capacity Utilization 40.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: CR-59 & SH-52





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	107	219	70	175	60	83	90	20	47	139	17
Future Volume (veh/h)	17	107	219	70	175	60	83	90	20	47	139	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	160	327	104	261	90	124	134	30	70	207	25
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	444	376	339	362	125	388	405	86	233	666	77
Arrive On Green	0.03	0.24	0.24	0.06	0.27	0.27	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	1781	1870	1585	1781	1329	458	599	734	155	332	1207	139
Grp Volume(v), veh/h	25	160	327	104	0	351	288	0	0	302	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1788	1488	0	0	1678	0	0
Q Serve(g_s), s	0.9	6.4	17.8	3.9	0.0	16.0	0.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.9	6.4	17.8	3.9	0.0	16.0	8.4	0.0	0.0	7.9	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.26	0.43		0.10	0.23		0.08
Lane Grp Cap(c), veh/h	223	444	376	339	0	486	879	0	0	976	0	0
V/C Ratio(X)	0.11	0.36	0.87	0.31	0.00	0.72	0.33	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	286	613	520	359	0	606	879	0	0	976	0	0
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	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.7	28.6	33.0	23.4	0.0	29.7	10.8	0.0	0.0	10.8	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.5	11.2	0.5	0.0	3.2	1.0	0.0	0.0	0.8	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	2.9	7.8	1.6	0.0	7.1	3.1	0.0	0.0	3.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.0	29.1	44.2	23.9	0.0	32.9	11.8	0.0	0.0	11.6	0.0	0.0
LnGrp LOS	C	C	D	C	A	C	B	A	A	B	A	A
Approach Vol, veh/h		512			455			288			302	
Approach Delay, s/veh		38.6			30.8			11.8			11.6	
Approach LOS		D			C			B			B	

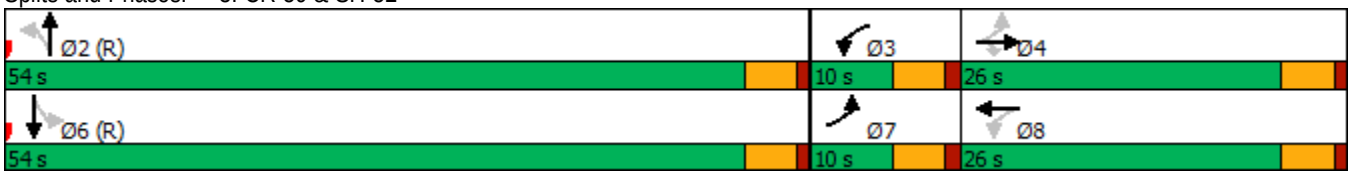
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		54.2	10.0	25.8		54.2	6.8	29.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		40.5	6.5	29.5		40.5	5.5	30.5				
Max Q Clear Time (g_c+I1), s		10.4	5.9	19.8		9.9	2.9	18.0				
Green Ext Time (p_c), s		2.0	0.0	1.5		2.0	0.0	1.7				

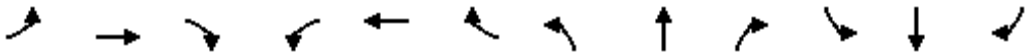
Intersection Summary												
HCM 6th Ctrl Delay			26.1									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	20	172	90	25	123	164	123	69	55
Future Volume (vph)	20	172	90	25	123	164	123	69	55
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	26.0	26.0	10.0	26.0	54.0	54.0	54.0	54.0
Total Split (%)	11.1%	28.9%	28.9%	11.1%	28.9%	60.0%	60.0%	60.0%	60.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	19.2	15.9	15.9	20.1	17.9		59.1		59.1
Actuated g/C Ratio	0.21	0.18	0.18	0.22	0.20		0.66		0.66
v/c Ratio	0.11	0.67	0.31	0.14	0.62		0.46		0.22
Control Delay	22.9	44.4	8.1	23.4	36.3		11.4		8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	22.9	44.4	8.1	23.4	36.3		11.4		8.2
LOS	C	D	A	C	D		B		A
Approach Delay		31.3			34.7		11.4		8.2
Approach LOS		C			C		B		A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.67	
Intersection Signal Delay: 21.7	Intersection LOS: C
Intersection Capacity Utilization 48.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: CR-59 & SH-52





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	172	90	25	123	56	164	123	40	69	55	25
Future Volume (veh/h)	20	172	90	25	123	56	164	123	40	69	55	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	221	115	32	158	72	210	158	51	88	71	32
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	286	242	175	191	87	548	403	123	484	382	162
Arrive On Green	0.03	0.15	0.15	0.03	0.16	0.16	0.67	0.67	0.67	0.67	0.67	0.67
Sat Flow, veh/h	1781	1870	1585	1781	1216	554	732	604	185	638	573	244
Grp Volume(v), veh/h	26	221	115	32	0	230	419	0	0	191	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1771	1521	0	0	1455	0	0
Q Serve(g_s), s	1.1	10.2	6.0	1.3	0.0	11.3	6.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	10.2	6.0	1.3	0.0	11.3	10.5	0.0	0.0	3.8	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.31	0.50		0.12	0.46		0.17
Lane Grp Cap(c), veh/h	163	286	242	175	0	277	1074	0	0	1028	0	0
V/C Ratio(X)	0.16	0.77	0.48	0.18	0.00	0.83	0.39	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	224	447	379	230	0	423	1074	0	0	1028	0	0
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	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	31.4	36.6	34.8	31.2	0.0	36.8	6.6	0.0	0.0	5.6	0.0	0.0
Incr Delay (d2), s/veh	0.5	4.5	1.4	0.5	0.0	8.1	1.1	0.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.9	2.4	0.6	0.0	5.4	3.3	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.9	41.1	36.3	31.7	0.0	44.9	7.7	0.0	0.0	6.0	0.0	0.0
LnGrp LOS	C	D	D	C	A	D	A	A	A	A	A	A
Approach Vol, veh/h		362			262			419			191	
Approach Delay, s/veh		38.9			43.3			7.7			6.0	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		64.5	7.3	18.2		64.5	6.9	18.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		49.5	5.5	21.5		49.5	5.5	21.5				
Max Q Clear Time (g_c+I1), s		12.5	3.3	12.2		5.8	3.1	13.3				
Green Ext Time (p_c), s		3.1	0.0	1.1		1.3	0.0	0.8				

Intersection Summary	
HCM 6th Ctrl Delay	24.1
HCM 6th LOS	C

Intersection	
Int Delay, s/veh	53.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	113	231	73	184	62	88	88	21	47	125	10
Future Vol, veh/h	14	113	231	73	184	62	88	88	21	47	125	10
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	-	-	600	375	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	67	67	67	67	67	67	67	67	67	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	21	169	345	109	275	93	131	131	31	70	187	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	368	0	0	514	0	0	852	797	169	1005	1096	322
Stage 1	-	-	-	-	-	-	211	211	-	540	540	-
Stage 2	-	-	-	-	-	-	641	586	-	465	556	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1191	-	-	1052	-	-	280	319	875	220	213	719
Stage 1	-	-	-	-	-	-	791	728	-	526	521	-
Stage 2	-	-	-	-	-	-	463	497	-	578	513	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1191	-	-	1052	-	-	-	278	875	143	~ 186	719
Mov Cap-2 Maneuver	-	-	-	-	-	-	199	391	-	143	~ 186	-
Stage 1	-	-	-	-	-	-	770	709	-	512	467	-
Stage 2	-	-	-	-	-	-	244	445	-	442	500	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	2		$ 306.8
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1191	-	-	1052	-	-	179
HCM Lane V/C Ratio	-	0.018	-	-	0.104	-	-	1.518
HCM Control Delay (s)	-	8.1	0	-	8.8	-	-	$ 306.8
HCM Lane LOS	-	A	A	-	A	-	-	F
HCM 95th %tile Q(veh)	-	0.1	-	-	0.3	-	-	17.4

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

Intersection	
Int Delay, s/veh	13.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	181	94	27	130	55	173	106	42	71	44	21
Future Vol, veh/h	11	181	94	27	130	55	173	106	42	71	44	21
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	-	-	600	375	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	232	121	35	167	71	222	136	54	91	56	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	238	0	0	353	0	0	574	568	232	689	654	203
Stage 1	-	-	-	-	-	-	260	260	-	273	273	-
Stage 2	-	-	-	-	-	-	314	308	-	416	381	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1329	-	-	1206	-	-	430	432	807	360	386	838
Stage 1	-	-	-	-	-	-	745	693	-	733	684	-
Stage 2	-	-	-	-	-	-	697	660	-	614	613	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1329	-	-	1206	-	-	356	414	807	263	370	838
Mov Cap-2 Maneuver	-	-	-	-	-	-	515	543	-	263	370	-
Stage 1	-	-	-	-	-	-	735	684	-	723	664	-
Stage 2	-	-	-	-	-	-	599	641	-	453	605	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1	28.5	27.6
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	550	1329	-	-	1206	-	-	329
HCM Lane V/C Ratio	0.748	0.011	-	-	0.029	-	-	0.53
HCM Control Delay (s)	28.5	7.7	0	-	8.1	-	-	27.6
HCM Lane LOS	D	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	6.5	0	-	-	0.1	-	-	2.9

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	548	481	325	422
Demand Flow Rate, veh/h	559	490	332	431
Vehicles Circulating, veh/h	487	335	293	525
Vehicles Exiting, veh/h	469	290	753	300
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	16.0	9.9	6.9	12.3
Approach LOS	C	A	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	559	490	332	431
Cap Entry Lane, veh/h	840	981	1023	808
Entry HV Adj Factor	0.980	0.981	0.978	0.980
Flow Entry, veh/h	548	481	325	422
Cap Entry, veh/h	823	962	1001	792
V/C Ratio	0.666	0.500	0.324	0.534
Control Delay, s/veh	16.0	9.9	6.9	12.3
LOS	C	A	A	B
95th %tile Queue, veh	5	3	1	3

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

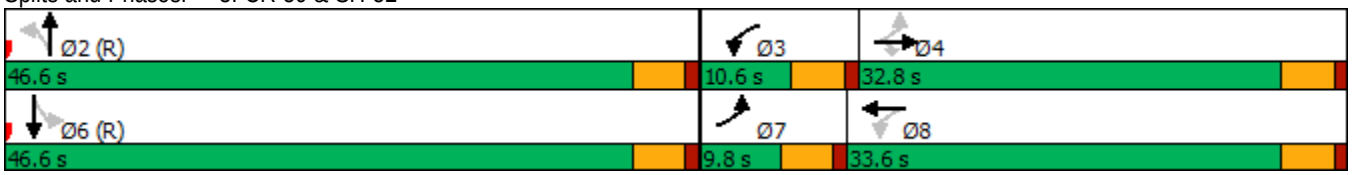
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	404	285	504	258
Demand Flow Rate, veh/h	412	291	514	263
Vehicles Circulating, veh/h	249	511	390	432
Vehicles Exiting, veh/h	446	393	271	370
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.5	8.7	11.5	7.3
Approach LOS	A	A	B	A

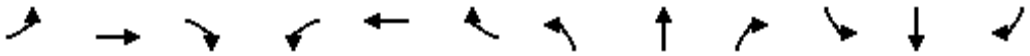
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	412	291	514	263
Cap Entry Lane, veh/h	1070	819	927	888
Entry HV Adj Factor	0.981	0.978	0.981	0.980
Flow Entry, veh/h	404	285	504	258
Cap Entry, veh/h	1051	802	910	871
V/C Ratio	0.385	0.355	0.554	0.296
Control Delay, s/veh	7.5	8.7	11.5	7.3
LOS	A	A	B	A
95th %tile Queue, veh	2	2	3	1

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	23	113	231	73	184	88	109	56	190
Future Volume (vph)	23	113	231	73	184	88	109	56	190
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.8	32.8	32.8	10.6	33.6	46.6	46.6	46.6	46.6
Total Split (%)	10.9%	36.4%	36.4%	11.8%	37.3%	51.8%	51.8%	51.8%	51.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	24.8	20.5	20.5	26.8	23.1		52.0		52.0
Actuated g/C Ratio	0.28	0.23	0.23	0.30	0.26		0.58		0.58
v/c Ratio	0.16	0.40	0.55	0.32	0.78		0.43		0.46
Control Delay	19.0	30.9	6.4	21.8	40.8		15.0		17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	19.0	30.9	6.4	21.8	40.8		15.0		17.7
LOS	B	C	A	C	D		B		B
Approach Delay		14.8			36.5		15.0		17.7
Approach LOS		B			D		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 21.4	Intersection LOS: C
Intersection Capacity Utilization 48.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: CR-59 & SH-52





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	113	231	73	184	65	88	109	21	56	190	36
Future Volume (veh/h)	23	113	231	73	184	65	88	109	21	56	190	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	169	345	109	275	97	131	163	31	84	284	54
Peak Hour Factor	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	462	392	344	367	129	336	403	72	197	647	117
Arrive On Green	0.03	0.25	0.25	0.06	0.28	0.28	0.54	0.54	0.54	0.54	0.54	0.54
Sat Flow, veh/h	1781	1870	1585	1781	1321	466	517	745	133	276	1197	216
Grp Volume(v), veh/h	34	169	345	109	0	372	325	0	0	422	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1787	1396	0	0	1690	0	0
Q Serve(g_s), s	1.3	6.7	18.9	4.0	0.0	17.1	0.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.3	6.7	18.9	4.0	0.0	17.1	12.6	0.0	0.0	12.5	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.26	0.40		0.10	0.20		0.13
Lane Grp Cap(c), veh/h	226	462	392	344	0	496	810	0	0	961	0	0
V/C Ratio(X)	0.15	0.37	0.88	0.32	0.00	0.75	0.40	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	274	588	498	353	0	578	810	0	0	961	0	0
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	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.0	28.0	32.6	23.0	0.0	29.6	12.1	0.0	0.0	12.4	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.5	14.0	0.5	0.0	4.6	1.5	0.0	0.0	1.5	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	3.0	8.5	1.7	0.0	7.8	3.9	0.0	0.0	5.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.3	28.5	46.6	23.5	0.0	34.2	13.6	0.0	0.0	13.8	0.0	0.0
LnGrp LOS	C	C	D	C	A	C	B	A	A	B	A	A
Approach Vol, veh/h		548			481			325			422	
Approach Delay, s/veh		39.7			31.8			13.6			13.8	
Approach LOS		D			C			B			B	

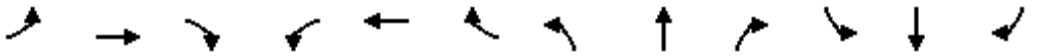
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		53.1	10.1	26.7		53.1	7.4	29.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		42.1	6.1	28.3		42.1	5.3	29.1				
Max Q Clear Time (g_c+I1), s		14.6	6.0	20.9		14.5	3.3	19.1				
Green Ext Time (p_c), s		2.4	0.0	1.4		2.9	0.0	1.6				

Intersection Summary	
HCM 6th Ctrl Delay	26.6
HCM 6th LOS	C

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	40	181	94	27	130	173	178	77	86
Future Volume (vph)	40	181	94	27	130	173	178	77	86
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.8	25.2	25.2	9.6	25.0	55.2	55.2	55.2	55.2
Total Split (%)	10.9%	28.0%	28.0%	10.7%	27.8%	61.3%	61.3%	61.3%	61.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	19.5	16.4	16.4	19.3	16.2		58.9		58.9
Actuated g/C Ratio	0.22	0.18	0.18	0.21	0.18		0.65		0.65
v/c Ratio	0.26	0.69	0.31	0.17	0.74		0.56		0.30
Control Delay	25.9	44.6	8.0	24.0	43.8		13.4		9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	25.9	44.6	8.0	24.0	43.8		13.4		9.6
LOS	C	D	A	C	D		B		A
Approach Delay		31.3			41.4		13.4		9.6
Approach LOS		C			D		B		A

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 23.2	Intersection LOS: C
Intersection Capacity Utilization 55.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: CR-59 & SH-52



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	181	94	27	130	65	173	178	42	77	86	38
Future Volume (veh/h)	40	181	94	27	130	65	173	178	42	77	86	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	51	232	121	35	167	83	222	228	54	99	110	49
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	185	327	277	198	197	98	468	468	105	387	421	177
Arrive On Green	0.04	0.18	0.18	0.03	0.17	0.17	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1781	1870	1585	1781	1179	586	639	728	164	517	656	275
Grp Volume(v), veh/h	51	232	121	35	0	250	504	0	0	258	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1765	1532	0	0	1447	0	0
Q Serve(g_s), s	2.1	10.5	6.1	1.4	0.0	12.4	8.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.1	10.5	6.1	1.4	0.0	12.4	14.3	0.0	0.0	6.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.33	0.44		0.11	0.38		0.19
Lane Grp Cap(c), veh/h	185	327	277	198	0	295	1042	0	0	985	0	0
V/C Ratio(X)	0.28	0.71	0.44	0.18	0.00	0.85	0.48	0.00	0.00	0.26	0.00	0.00
Avail Cap(c_a), veh/h	219	430	365	241	0	402	1042	0	0	985	0	0
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	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	30.0	35.0	33.2	29.9	0.0	36.3	8.1	0.0	0.0	6.8	0.0	0.0
Incr Delay (d2), s/veh	0.8	3.6	1.1	0.4	0.0	11.7	1.6	0.0	0.0	0.6	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	5.0	2.4	0.6	0.0	6.2	4.8	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.8	38.6	34.2	30.4	0.0	48.0	9.7	0.0	0.0	7.4	0.0	0.0
LnGrp LOS	C	D	C	C	A	D	A	A	A	A	A	A
Approach Vol, veh/h		404			285			504			258	
Approach Delay, s/veh		36.3			45.8			9.7			7.4	
Approach LOS		D			D			A			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		62.3	7.4	20.3		62.3	8.1	19.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		50.7	5.1	20.7		50.7	5.3	20.5				
Max Q Clear Time (g_c+I1), s		16.3	3.4	12.5		8.1	4.1	14.4				
Green Ext Time (p_c), s		3.9	0.0	1.1		1.9	0.0	0.7				

Intersection Summary												
HCM 6th Ctrl Delay			23.8									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	35.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	142	289	92	231	78	110	109	26	58	153	13
Future Vol, veh/h	18	142	289	92	231	78	110	109	26	58	153	13
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	-	-	600	375	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	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	20	154	314	100	251	85	120	118	28	63	166	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	336	0	0	468	0	0	778	730	154	918	1002	294
Stage 1	-	-	-	-	-	-	194	194	-	494	494	-
Stage 2	-	-	-	-	-	-	584	536	-	424	508	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1223	-	-	1094	-	-	314	349	892	252	242	745
Stage 1	-	-	-	-	-	-	808	740	-	557	546	-
Stage 2	-	-	-	-	-	-	498	523	-	608	539	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1223	-	-	1094	-	-	~ 104	310	892	175	215	745
Mov Cap-2 Maneuver	-	-	-	-	-	-	253	420	-	175	215	-
Stage 1	-	-	-	-	-	-	789	723	-	544	496	-
Stage 2	-	-	-	-	-	-	295	475	-	481	527	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	2	45.4	157
HCM LOS			E	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	339	1223	-	-	1094	-	-	211
HCM Lane V/C Ratio	0.786	0.016	-	-	0.091	-	-	1.154
HCM Control Delay (s)	45.4	8	0	-	8.6	-	-	157
HCM Lane LOS	E	A	A	-	A	-	-	F
HCM 95th %tile Q(veh)	6.4	0	-	-	0.3	-	-	11.8

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

Intersection	
Int Delay, s/veh	16.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	227	118	33	163	70	217	131	53	89	54	26
Future Vol, veh/h	14	227	118	33	163	70	217	131	53	89	54	26
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	-	-	600	375	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	2	-	-	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	15	247	128	36	177	76	236	142	58	97	59	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	253	0	0	375	0	0	608	602	247	728	692	215
Stage 1	-	-	-	-	-	-	277	277	-	287	287	-
Stage 2	-	-	-	-	-	-	331	325	-	441	405	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1312	-	-	1183	-	-	408	414	792	339	367	825
Stage 1	-	-	-	-	-	-	729	681	-	720	674	-
Stage 2	-	-	-	-	-	-	682	649	-	595	598	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1312	-	-	1183	-	-	332	395	792	241	350	825
Mov Cap-2 Maneuver	-	-	-	-	-	-	496	529	-	241	350	-
Stage 1	-	-	-	-	-	-	718	671	-	709	654	-
Stage 2	-	-	-	-	-	-	581	630	-	428	589	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	1	35.3	33.4
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	533	1312	-	-	1183	-	-	304
HCM Lane V/C Ratio	0.818	0.012	-	-	0.03	-	-	0.604
HCM Control Delay (s)	35.3	7.8	0	-	8.1	-	-	33.4
HCM Lane LOS	E	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	8.1	0	-	-	0.1	-	-	3.7

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	539	475	313	381
Demand Flow Rate, veh/h	550	484	320	389
Vehicles Circulating, veh/h	452	321	284	519
Vehicles Exiting, veh/h	456	283	718	286
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	14.3	9.6	6.7	11.0
Approach LOS	B	A	A	B

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	550	484	320	389
Cap Entry Lane, veh/h	870	995	1033	813
Entry HV Adj Factor	0.979	0.981	0.978	0.979
Flow Entry, veh/h	539	475	313	381
Cap Entry, veh/h	852	975	1010	796
V/C Ratio	0.632	0.487	0.310	0.479
Control Delay, s/veh	14.3	9.6	6.7	11.0
LOS	B	A	A	B
95th %tile Queue, veh	5	3	1	3

Intersection	
Intersection Delay, s/veh	9.5
Intersection LOS	A

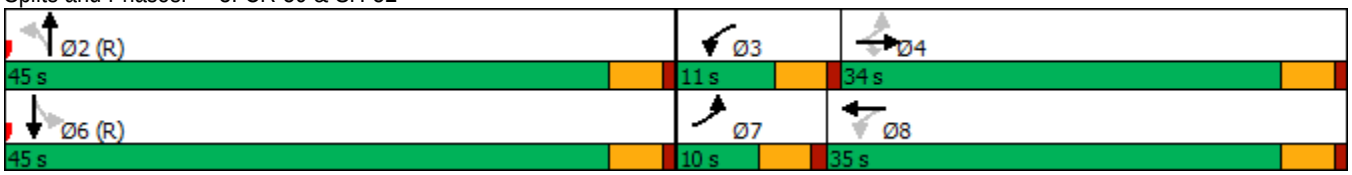
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	422	300	515	254
Demand Flow Rate, veh/h	431	307	525	259
Vehicles Circulating, veh/h	248	514	405	459
Vehicles Exiting, veh/h	470	416	274	362
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.7	9.1	12.2	7.6
Approach LOS	A	A	B	A

Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	431	307	525	259
Cap Entry Lane, veh/h	1071	817	913	864
Entry HV Adj Factor	0.979	0.979	0.980	0.980
Flow Entry, veh/h	422	300	515	254
Cap Entry, veh/h	1049	799	895	847
V/C Ratio	0.402	0.376	0.575	0.300
Control Delay, s/veh	7.7	9.1	12.2	7.6
LOS	A	A	B	A
95th %tile Queue, veh	2	2	4	1

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	27	142	289	92	231	110	130	67	218
Future Volume (vph)	27	142	289	92	231	110	130	67	218
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	10.0	34.0	34.0	11.0	35.0	45.0	45.0	45.0	45.0
Total Split (%)	11.1%	37.8%	37.8%	12.2%	38.9%	50.0%	50.0%	50.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	22.3	17.9	17.9	25.3	22.7		54.3		54.3
Actuated g/C Ratio	0.25	0.20	0.20	0.28	0.25		0.60		0.60
v/c Ratio	0.13	0.42	0.55	0.31	0.73		0.35		0.36
Control Delay	19.6	33.4	7.0	23.1	37.6		12.6		16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	19.6	33.4	7.0	23.1	37.6		12.6		16.2
LOS	B	C	A	C	D		B		B
Approach Delay		15.9			34.3		12.6		16.2
Approach LOS		B			C		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.73	
Intersection Signal Delay: 20.5	Intersection LOS: C
Intersection Capacity Utilization 59.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: CR-59 & SH-52



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	142	289	92	231	81	110	130	26	67	218	39
Future Volume (veh/h)	27	142	289	92	231	81	110	130	26	67	218	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	29	154	314	100	251	88	120	141	28	73	237	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	429	363	334	344	120	372	423	79	212	668	113
Arrive On Green	0.03	0.23	0.23	0.06	0.26	0.26	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	1781	1870	1585	1781	1323	464	562	753	141	292	1190	201
Grp Volume(v), veh/h	29	154	314	100	0	339	289	0	0	352	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1787	1456	0	0	1683	0	0
Q Serve(g_s), s	1.1	6.2	17.1	3.8	0.0	15.6	0.0	0.0	0.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	1.1	6.2	17.1	3.8	0.0	15.6	8.8	0.0	0.0	9.4	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.26	0.42		0.10	0.21		0.12
Lane Grp Cap(c), veh/h	221	429	363	334	0	464	874	0	0	993	0	0
V/C Ratio(X)	0.13	0.36	0.86	0.30	0.00	0.73	0.33	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	279	613	520	357	0	606	874	0	0	993	0	0
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	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.1	29.1	33.3	24.2	0.0	30.4	10.5	0.0	0.0	10.7	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.5	10.3	0.5	0.0	3.2	1.0	0.0	0.0	1.0	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	2.8	7.4	1.6	0.0	6.9	3.1	0.0	0.0	3.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	29.6	43.6	24.7	0.0	33.6	11.5	0.0	0.0	11.7	0.0	0.0
LnGrp LOS	C	C	D	C	A	C	B	A	A	B	A	A
Approach Vol, veh/h		497			439			289			352	
Approach Delay, s/veh		38.3			31.6			11.5			11.7	
Approach LOS		D			C			B			B	

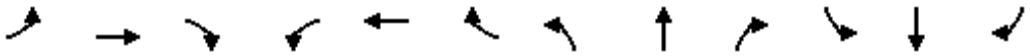
Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		55.0	9.8	25.1		55.0	7.1	27.9				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		40.5	6.5	29.5		40.5	5.5	30.5				
Max Q Clear Time (g_c+I1), s		10.8	5.8	19.1		11.4	3.1	17.6				
Green Ext Time (p_c), s		2.0	0.0	1.5		2.4	0.0	1.7				

Intersection Summary												
HCM 6th Ctrl Delay			25.6									
HCM 6th LOS			C									

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations									
Traffic Volume (vph)	43	227	118	33	163	217	203	95	96
Future Volume (vph)	43	227	118	33	163	217	203	95	96
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	NA	Perm	NA
Protected Phases	7	4		3	8		2		6
Permitted Phases	4		4	8		2		6	
Detector Phase	7	4	4	3	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	9.5	22.5	22.5	9.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	9.8	25.2	25.2	9.6	25.0	55.2	55.2	55.2	55.2
Total Split (%)	10.9%	28.0%	28.0%	10.7%	27.8%	61.3%	61.3%	61.3%	61.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5		4.5		4.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes				
Recall Mode	None	None	None	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	20.1	16.9	16.9	19.8	16.8		58.3		58.3
Actuated g/C Ratio	0.22	0.19	0.19	0.22	0.19		0.65		0.65
v/c Ratio	0.24	0.71	0.32	0.17	0.75		0.58		0.31
Control Delay	25.2	45.2	7.8	23.9	44.9		14.2		10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0		0.0
Total Delay	25.2	45.2	7.8	23.9	44.9		14.2		10.7
LOS	C	D	A	C	D		B		B
Approach Delay		31.6			42.3		14.2		10.7
Approach LOS		C			D		B		B

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 24.2	Intersection LOS: C
Intersection Capacity Utilization 63.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: CR-59 & SH-52



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	227	118	33	163	80	217	203	53	95	96	43
Future Volume (veh/h)	43	227	118	33	163	80	217	203	53	95	96	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	47	247	128	36	177	87	236	221	58	103	104	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	337	286	195	207	102	483	436	109	401	396	168
Arrive On Green	0.04	0.18	0.18	0.03	0.17	0.17	0.64	0.64	0.64	0.64	0.64	0.64
Sat Flow, veh/h	1781	1870	1585	1781	1184	582	667	685	172	541	622	264
Grp Volume(v), veh/h	47	247	128	36	0	264	515	0	0	254	0	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1585	1781	0	1766	1524	0	0	1428	0	0
Q Serve(g_s), s	1.9	11.2	6.5	1.5	0.0	13.1	9.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.9	11.2	6.5	1.5	0.0	13.1	15.3	0.0	0.0	6.3	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.33	0.46		0.11	0.41		0.19
Lane Grp Cap(c), veh/h	182	337	286	195	0	309	1028	0	0	965	0	0
V/C Ratio(X)	0.26	0.73	0.45	0.18	0.00	0.85	0.50	0.00	0.00	0.26	0.00	0.00
Avail Cap(c_a), veh/h	218	430	365	237	0	402	1028	0	0	965	0	0
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	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	29.6	34.8	32.9	29.5	0.0	36.0	8.5	0.0	0.0	7.0	0.0	0.0
Incr Delay (d2), s/veh	0.7	4.7	1.1	0.5	0.0	13.2	1.7	0.0	0.0	0.7	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	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	5.4	2.5	0.6	0.0	6.6	5.1	0.0	0.0	2.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.3	39.5	34.0	29.9	0.0	49.2	10.3	0.0	0.0	7.7	0.0	0.0
LnGrp LOS	C	D	C	C	A	D	B	A	A	A	A	A
Approach Vol, veh/h		422			300			515			254	
Approach Delay, s/veh		36.8			46.9			10.3			7.7	
Approach LOS		D			D			B			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		61.8	7.5	20.7		61.8	8.0	20.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		50.7	5.1	20.7		50.7	5.3	20.5				
Max Q Clear Time (g_c+I1), s		17.3	3.5	13.2		8.3	3.9	15.1				
Green Ext Time (p_c), s		4.0	0.0	1.1		1.9	0.0	0.7				

Intersection Summary												
HCM 6th Ctrl Delay			24.7									
HCM 6th LOS			C									

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	15	5	197	186	12
Future Vol, veh/h	38	15	5	197	186	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	16	5	214	202	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	433	209	215	0	-	0
Stage 1	209	-	-	-	-	-
Stage 2	224	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	580	831	1355	-	-	-
Stage 1	826	-	-	-	-	-
Stage 2	813	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	578	831	1355	-	-	-
Mov Cap-2 Maneuver	578	-	-	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	813	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1355	-	632	-	-
HCM Lane V/C Ratio	0.004	-	0.091	-	-
HCM Control Delay (s)	7.7	0	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	10	16	190	199	42
Future Vol, veh/h	25	10	16	190	199	42
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, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	11	17	207	216	46

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	480	239	262	0	-	0
Stage 1	239	-	-	-	-	-
Stage 2	241	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	545	800	1302	-	-	-
Stage 1	801	-	-	-	-	-
Stage 2	799	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	537	800	1302	-	-	-
Mov Cap-2 Maneuver	607	-	-	-	-	-
Stage 1	789	-	-	-	-	-
Stage 2	799	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.9	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1302	-	652	-	-
HCM Lane V/C Ratio	0.013	-	0.058	-	-
HCM Control Delay (s)	7.8	0	10.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	15	5	434	271	12
Future Vol, veh/h	38	15	5	434	271	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	16	5	472	295	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	784	302	308	0	-	0
Stage 1	302	-	-	-	-	-
Stage 2	482	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	362	738	1253	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	621	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	360	738	1253	-	-	-
Mov Cap-2 Maneuver	360	-	-	-	-	-
Stage 1	746	-	-	-	-	-
Stage 2	621	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.9	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1253	-	421	-	-
HCM Lane V/C Ratio	0.004	-	0.137	-	-
HCM Control Delay (s)	7.9	0	14.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	10	16	348	462	42
Future Vol, veh/h	25	10	16	348	462	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	11	17	378	502	46

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	937	525	548	0	-	0
Stage 1	525	-	-	-	-	-
Stage 2	412	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	294	552	1021	-	-	-
Stage 1	593	-	-	-	-	-
Stage 2	669	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	288	552	1021	-	-	-
Mov Cap-2 Maneuver	288	-	-	-	-	-
Stage 1	581	-	-	-	-	-
Stage 2	669	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.2	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1021	-	334	-	-
HCM Lane V/C Ratio	0.017	-	0.114	-	-
HCM Control Delay (s)	8.6	0	17.2	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	15	5	475	313	12
Future Vol, veh/h	38	15	5	475	313	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	41	16	5	516	340	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	873	347	353	0	-	0
Stage 1	347	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	321	696	1206	-	-	-
Stage 1	716	-	-	-	-	-
Stage 2	593	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	319	696	1206	-	-	-
Mov Cap-2 Maneuver	319	-	-	-	-	-
Stage 1	712	-	-	-	-	-
Stage 2	593	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.3	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1206	-	377	-	-
HCM Lane V/C Ratio	0.005	-	0.153	-	-
HCM Control Delay (s)	8	0	16.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	10	16	390	503	42
Future Vol, veh/h	25	10	16	390	503	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	11	17	424	547	46

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1028	570	593	0	-	0
Stage 1	570	-	-	-	-	-
Stage 2	458	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	259	521	983	-	-	-
Stage 1	566	-	-	-	-	-
Stage 2	637	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	253	521	983	-	-	-
Mov Cap-2 Maneuver	253	-	-	-	-	-
Stage 1	553	-	-	-	-	-
Stage 2	637	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.9	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	983	-	297	-	-
HCM Lane V/C Ratio	0.018	-	0.128	-	-
HCM Control Delay (s)	8.7	0	18.9	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	16	5	165	189	12
Future Vol, veh/h	37	16	5	165	189	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	17	5	179	205	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	401	212	218	0	-	0
Stage 1	212	-	-	-	-	-
Stage 2	189	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	605	828	1352	-	-	-
Stage 1	823	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	603	828	1352	-	-	-
Mov Cap-2 Maneuver	603	-	-	-	-	-
Stage 1	820	-	-	-	-	-
Stage 2	843	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1352	-	657	-	-
HCM Lane V/C Ratio	0.004	-	0.088	-	-
HCM Control Delay (s)	7.7	0	11	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	10	18	182	168	41
Future Vol, veh/h	24	10	18	182	168	41
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, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	11	20	198	183	45

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	444	206	228	0	-	0
Stage 1	206	-	-	-	-	-
Stage 2	238	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	571	835	1340	-	-	-
Stage 1	829	-	-	-	-	-
Stage 2	802	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	561	835	1340	-	-	-
Mov Cap-2 Maneuver	625	-	-	-	-	-
Stage 1	815	-	-	-	-	-
Stage 2	802	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.7	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1340	-	675	-	-
HCM Lane V/C Ratio	0.015	-	0.055	-	-
HCM Control Delay (s)	7.7	0	10.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	16	5	402	274	12
Future Vol, veh/h	37	16	5	402	274	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	17	5	437	298	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	752	305	311	0	-	0
Stage 1	305	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	378	735	1249	-	-	-
Stage 1	748	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	376	735	1249	-	-	-
Mov Cap-2 Maneuver	376	-	-	-	-	-
Stage 1	744	-	-	-	-	-
Stage 2	644	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.4	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1249	-	441	-	-
HCM Lane V/C Ratio	0.004	-	0.131	-	-
HCM Control Delay (s)	7.9	0	14.4	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	10	18	340	431	41
Future Vol, veh/h	24	10	18	340	431	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	11	20	370	468	45

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	901	491	513	0	-	0
Stage 1	491	-	-	-	-	-
Stage 2	410	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	309	578	1052	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	670	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	302	578	1052	-	-	-
Mov Cap-2 Maneuver	302	-	-	-	-	-
Stage 1	600	-	-	-	-	-
Stage 2	670	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.5	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1052	-	351	-	-
HCM Lane V/C Ratio	0.019	-	0.105	-	-
HCM Control Delay (s)	8.5	0	16.5	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	37	16	5	443	316	12
Future Vol, veh/h	37	16	5	443	316	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	17	5	482	343	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	842	350	356	0	-	0
Stage 1	350	-	-	-	-	-
Stage 2	492	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	334	693	1203	-	-	-
Stage 1	713	-	-	-	-	-
Stage 2	615	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	332	693	1203	-	-	-
Mov Cap-2 Maneuver	332	-	-	-	-	-
Stage 1	709	-	-	-	-	-
Stage 2	615	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.7	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1203	-	394	-	-
HCM Lane V/C Ratio	0.005	-	0.146	-	-
HCM Control Delay (s)	8	0	15.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	10	18	382	472	41
Future Vol, veh/h	24	10	18	382	472	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	11	20	415	513	45

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	991	536	558	0	-	0
Stage 1	536	-	-	-	-	-
Stage 2	455	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	273	545	1013	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	266	545	1013	-	-	-
Mov Cap-2 Maneuver	266	-	-	-	-	-
Stage 1	572	-	-	-	-	-
Stage 2	639	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1013	-	313	-	-
HCM Lane V/C Ratio	0.019	-	0.118	-	-
HCM Control Delay (s)	8.6	0	18	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	80	24	8	327	263	27
Future Vol, veh/h	80	24	8	327	263	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	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	26	9	355	286	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	659	286	315	0	-	0
Stage 1	286	-	-	-	-	-
Stage 2	373	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	429	753	1245	-	-	-
Stage 1	763	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	425	753	1245	-	-	-
Mov Cap-2 Maneuver	425	-	-	-	-	-
Stage 1	756	-	-	-	-	-
Stage 2	696	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1245	-	472	-	-
HCM Lane V/C Ratio	0.007	-	0.239	-	-
HCM Control Delay (s)	7.9	0	15	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.9	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	52	16	26	306	352	89
Future Vol, veh/h	52	16	26	306	352	89
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	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	17	28	333	383	97

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	772	383	480	0	-	0
Stage 1	383	-	-	-	-	-
Stage 2	389	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	368	664	1082	-	-	-
Stage 1	689	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	356	664	1082	-	-	-
Mov Cap-2 Maneuver	356	-	-	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	685	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1082	-	400	-	-
HCM Lane V/C Ratio	0.026	-	0.185	-	-
HCM Control Delay (s)	8.4	0	16	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	80	24	8	368	305	27
Future Vol, veh/h	80	24	8	368	305	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	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	87	26	9	400	332	29

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	750	332	361	0	-	0
Stage 1	332	-	-	-	-	-
Stage 2	418	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	379	710	1198	-	-	-
Stage 1	727	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	375	710	1198	-	-	-
Mov Cap-2 Maneuver	375	-	-	-	-	-
Stage 1	720	-	-	-	-	-
Stage 2	664	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.7	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1198	-	421	-	-
HCM Lane V/C Ratio	0.007	-	0.269	-	-
HCM Control Delay (s)	8	0	16.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1.1	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	52	16	26	348	393	89
Future Vol, veh/h	52	16	26	348	393	89
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	-	-	-	-	175
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	57	17	28	378	427	97

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	861	427	524	0	-	0
Stage 1	427	-	-	-	-	-
Stage 2	434	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	326	628	1043	-	-	-
Stage 1	658	-	-	-	-	-
Stage 2	653	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	315	628	1043	-	-	-
Mov Cap-2 Maneuver	315	-	-	-	-	-
Stage 1	636	-	-	-	-	-
Stage 2	653	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.7	0.6	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1043	-	357	-	-
HCM Lane V/C Ratio	0.027	-	0.207	-	-
HCM Control Delay (s)	8.5	0	17.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.8	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	149	45	15	180	222	50
Future Vol, veh/h	149	45	15	180	222	50
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	-	-	-	-	230
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	162	49	16	196	241	54

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	469	241	295	0	-	0
Stage 1	241	-	-	-	-	-
Stage 2	228	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	553	798	1266	-	-	-
Stage 1	799	-	-	-	-	-
Stage 2	810	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	545	798	1266	-	-	-
Mov Cap-2 Maneuver	545	-	-	-	-	-
Stage 1	788	-	-	-	-	-
Stage 2	810	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.5	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1266	-	588	-	-
HCM Lane V/C Ratio	0.013	-	0.359	-	-
HCM Control Delay (s)	7.9	0	14.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	1.6	-	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	97	29	50	229	198	166
Future Vol, veh/h	97	29	50	229	198	166
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	-	-	-	-	230
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	105	32	54	249	215	180

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	572	215	395	0	-	0
Stage 1	215	-	-	-	-	-
Stage 2	357	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	482	825	1164	-	-	-
Stage 1	821	-	-	-	-	-
Stage 2	708	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	456	825	1164	-	-	-
Mov Cap-2 Maneuver	456	-	-	-	-	-
Stage 1	777	-	-	-	-	-
Stage 2	708	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.7	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1164	-	508	-	-
HCM Lane V/C Ratio	0.047	-	0.27	-	-
HCM Control Delay (s)	8.2	0	14.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	1.1	-	-

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	149	45	15	221	264	50
Future Vol, veh/h	149	45	15	221	264	50
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	-	-	-	-	230
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	162	49	16	240	287	54

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	559	287	341	0	-	0
Stage 1	287	-	-	-	-	-
Stage 2	272	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	490	752	1218	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	774	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	483	752	1218	-	-	-
Mov Cap-2 Maneuver	483	-	-	-	-	-
Stage 1	751	-	-	-	-	-
Stage 2	774	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.3	0.5	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1218	-	527	-	-
HCM Lane V/C Ratio	0.013	-	0.4	-	-
HCM Control Delay (s)	8	0	16.3	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	1.9	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	97	29	50	271	239	166
Future Vol, veh/h	97	29	50	271	239	166
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	-	-	-	-	230
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	105	32	54	295	260	180

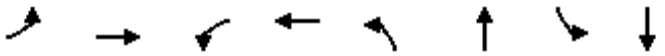
Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	663	260	440	0	-	0
Stage 1	260	-	-	-	-	-
Stage 2	403	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	426	779	1120	-	-	-
Stage 1	783	-	-	-	-	-
Stage 2	675	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	401	779	1120	-	-	-
Mov Cap-2 Maneuver	401	-	-	-	-	-
Stage 1	738	-	-	-	-	-
Stage 2	675	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.4	1.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1120	-	451	-	-
HCM Lane V/C Ratio	0.049	-	0.304	-	-
HCM Control Delay (s)	8.4	0	16.4	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.2	-	1.3	-	-

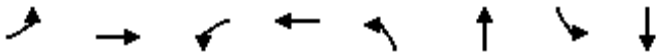
APPENDIX E

Queue Analysis Worksheets



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	9	337	57	146	385	321	78	184
v/c Ratio	0.04	0.78	0.70	0.37	0.46	0.31	0.12	0.21
Control Delay	24.7	35.0	70.6	25.5	8.6	10.5	7.7	16.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.7	35.0	70.6	25.5	8.6	10.5	7.7	16.6
Queue Length 50th (ft)	4	127	30	57	73	66	12	52
Queue Length 95th (ft)	11	119	46	66	110	101	26	92
Internal Link Dist (ft)		1664		1179		364		1627
Turn Bay Length (ft)								
Base Capacity (vph)	378	640	135	620	939	1044	649	887
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.53	0.42	0.24	0.41	0.31	0.12	0.21

Intersection Summary

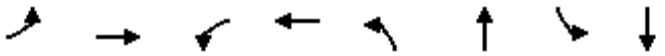


Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	523	94	81	274	210	78	209
v/c Ratio	0.06	0.84	1.15	0.16	0.38	0.22	0.12	0.26
Control Delay	19.9	27.8	174.5	15.5	11.4	14.0	10.5	20.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	27.8	174.5	15.5	11.4	14.0	10.5	20.0
Queue Length 50th (ft)	9	155	~62	23	63	51	16	65
Queue Length 95th (ft)	19	160	#105	38	120	102	39	134
Internal Link Dist (ft)		1664		1179		364		1627
Turn Bay Length (ft)								
Base Capacity (vph)	575	858	133	792	772	935	654	801
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.04	0.61	0.71	0.10	0.35	0.22	0.12	0.26

Intersection Summary

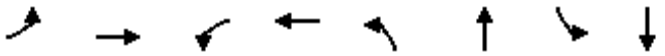
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	8	289	49	132	293	266	71	158
v/c Ratio	0.04	0.75	0.60	0.38	0.33	0.24	0.10	0.16
Control Delay	27.0	35.2	60.8	26.9	6.3	8.3	5.9	12.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.0	35.2	60.8	26.9	6.3	8.3	5.9	12.2
Queue Length 50th (ft)	4	106	26	52	47	48	10	38
Queue Length 95th (ft)	14	175	60	94	104	114	29	95
Internal Link Dist (ft)		1664		1179		364		1627
Turn Bay Length (ft)								
Base Capacity (vph)	390	635	154	619	968	1091	742	995
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.02	0.46	0.32	0.21	0.30	0.24	0.10	0.16

Intersection Summary



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	23	484	86	85	250	201	82	202
v/c Ratio	0.07	0.85	1.05	0.17	0.34	0.21	0.12	0.24
Control Delay	21.5	33.2	146.3	16.7	9.8	11.6	9.5	17.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	33.2	146.3	16.7	9.8	11.6	9.5	17.5
Queue Length 50th (ft)	10	167	~49	25	56	47	17	61
Queue Length 95th (ft)	25	258	#129	53	116	103	43	140
Internal Link Dist (ft)		1664		1179		364		1627
Turn Bay Length (ft)								
Base Capacity (vph)	472	713	113	657	793	960	670	832
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.68	0.76	0.13	0.32	0.21	0.12	0.24

Intersection Summary

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

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

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	25	160	327	104	351	288	302
v/c Ratio	0.11	0.42	0.56	0.31	0.73	0.35	0.32
Control Delay	18.7	32.9	6.9	22.8	37.4	12.9	12.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	18.7	32.9	6.9	22.8	37.4	12.9	12.3
Queue Length 50th (ft)	10	85	0	45	167	68	70
Queue Length 95th (ft)	16	84	7	47	162	117	118
Internal Link Dist (ft)		1817			1735	521	940
Turn Bay Length (ft)			600	375			
Base Capacity (vph)	222	610	738	331	621	831	956
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.26	0.44	0.31	0.57	0.35	0.32

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	26	221	115	32	230	419	191
v/c Ratio	0.11	0.67	0.31	0.14	0.62	0.46	0.22
Control Delay	22.9	44.4	8.1	23.4	36.3	11.4	8.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	44.4	8.1	23.4	36.3	11.4	8.2
Queue Length 50th (ft)	11	119	0	13	94	116	40
Queue Length 95th (ft)	23	151	28	27	145	178	72
Internal Link Dist (ft)		1817			1735	521	940
Turn Bay Length (ft)			600	375			
Base Capacity (vph)	230	445	465	223	459	914	860
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.50	0.25	0.14	0.50	0.46	0.22

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	34	169	345	109	372	325	422
v/c Ratio	0.16	0.40	0.55	0.32	0.78	0.43	0.46
Control Delay	19.0	30.9	6.4	21.8	40.8	15.0	17.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.0	30.9	6.4	21.8	40.8	15.0	17.7
Queue Length 50th (ft)	12	80	0	41	186	105	161
Queue Length 95th (ft)	21	89	6	50	175	132	161
Internal Link Dist (ft)		1817			1735	521	940
Turn Bay Length (ft)			600	375			
Base Capacity (vph)	207	585	734	346	592	761	923
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.29	0.47	0.32	0.63	0.43	0.46

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	51	232	121	35	250	504	258
v/c Ratio	0.26	0.69	0.31	0.17	0.74	0.56	0.30
Control Delay	25.9	44.6	8.0	24.0	43.8	13.4	9.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	44.6	8.0	24.0	43.8	13.4	9.6
Queue Length 50th (ft)	21	124	0	14	121	159	58
Queue Length 95th (ft)	39	160	28	30	159	224	96
Internal Link Dist (ft)		1817			1735	521	940
Turn Bay Length (ft)			600	375			
Base Capacity (vph)	200	428	457	211	423	901	852
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.54	0.26	0.17	0.59	0.56	0.30

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	29	154	314	100	339	289	352
v/c Ratio	0.13	0.42	0.55	0.31	0.73	0.35	0.36
Control Delay	19.6	33.4	7.0	23.1	37.6	12.6	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.6	33.4	7.0	23.1	37.6	12.6	16.2
Queue Length 50th (ft)	12	83	0	44	163	66	102
Queue Length 95th (ft)	25	114	57	64	236	173	237
Internal Link Dist (ft)		1817			1735	521	940
Turn Bay Length (ft)			600	375			
Base Capacity (vph)	221	610	729	327	620	832	974
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.25	0.43	0.31	0.55	0.35	0.36

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	47	247	128	36	264	515	254
v/c Ratio	0.24	0.71	0.32	0.17	0.75	0.58	0.31
Control Delay	25.2	45.2	7.8	23.9	44.9	14.2	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.2	45.2	7.8	23.9	44.9	14.2	10.7
Queue Length 50th (ft)	19	131	0	15	129	169	63
Queue Length 95th (ft)	42	203	43	35	205	304	m120
Internal Link Dist (ft)		1817			1735	521	940
Turn Bay Length (ft)			600	375			
Base Capacity (vph)	198	428	462	207	422	885	830
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.58	0.28	0.17	0.63	0.58	0.31

Intersection Summary

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

APPENDIX F

Signal Warrant Analysis Worksheets

Form 750-020-01
TRAFFIC ENGINEERING
10/15

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Keenesburg**	Engineer:	**2027 Total Volumes**
County:	**99 – Out Of State**	Date:	
District:			

Major Street:	**CR-59**	Lanes:	**1**	Major Approach Speed:	**35**
Minor Street:	**Woodward Avenue**	Lanes:	**1**	Minor Approach Speed:	**30**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☐ Yes ☑ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☑ Yes ☐ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ Yes ☐ No

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

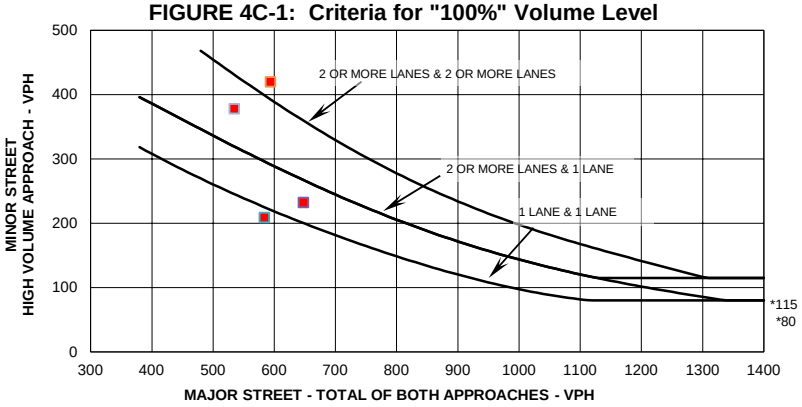
Applicable: ☑ Yes ☐ No
Satisfied: ☑ Yes ☐ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
7:00 AM	648	232
8:00 AM	584	209
4:00 PM	594	420
5:00 PM	535	378

FIGURE 4C-1: Criteria for "100%" Volume Level



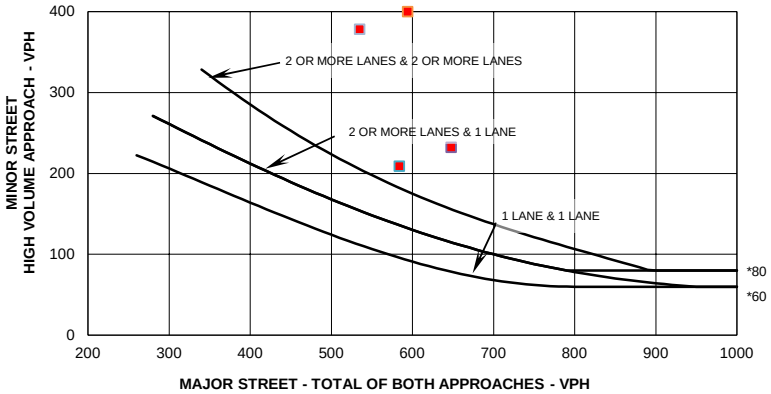
** Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
7:00 AM	648	232
8:00 AM	584	209
4:00 PM	594	420
5:00 PM	535	378

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr (40 mph) on Major Street)



** Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

Form 750-020-01
TRAFFIC ENGINEERING
10/15

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

City:	**Keenesburg**	Engineer:	**(2024 Total Volumes)**
County:	**99 – Out Of State**	Date:	
District:			

Major Street:	**SH-52**	Lanes:	**1**	Major Approach Speed:	**65**
Minor Street:	**CR-59**	Lanes:	**1**	Minor Approach Speed:	**35**

MUTCD Electronic Reference to Chapter 4: http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)? ☑ Yes ☐ No
2. Is the intersection in a built-up area of an isolated community with a population < 10,000? ☑ Yes ☐ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes" ☑ Yes ☐ No

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

Applicable: ☑ Yes ☐ No

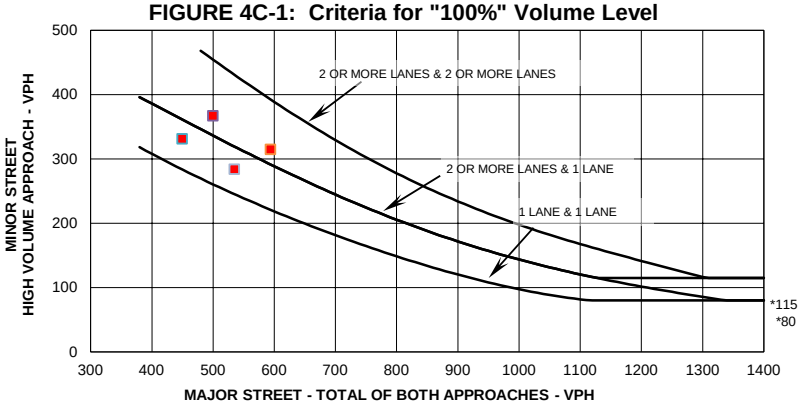
Satisfied: ☑ Yes ☐ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
7:00 AM	500	367
8:00 AM	450	331
4:00 PM	594	315
5:00 PM	535	284

FIGURE 4C-1: Criteria for "100%" Volume Level



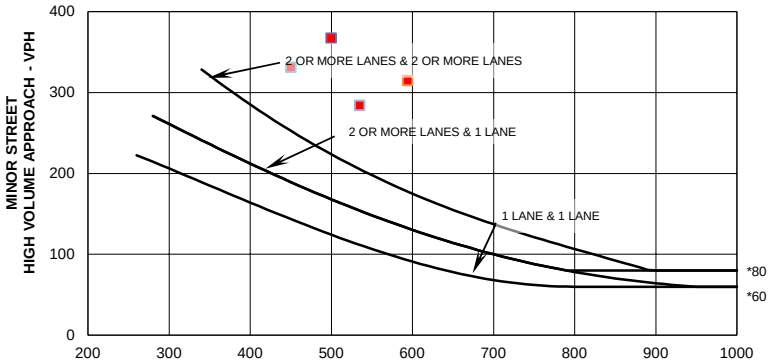
** Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
7:00 AM	500	367
8:00 AM	450	331
4:00 PM	594	315
5:00 PM	535	284

FIGURE 4C-2: Criteria for "70%" Volume Level

(Community Less than 10,000 population or above 70 km/hr (40 mph) on Major Street)



** Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor street approach with one lane.*

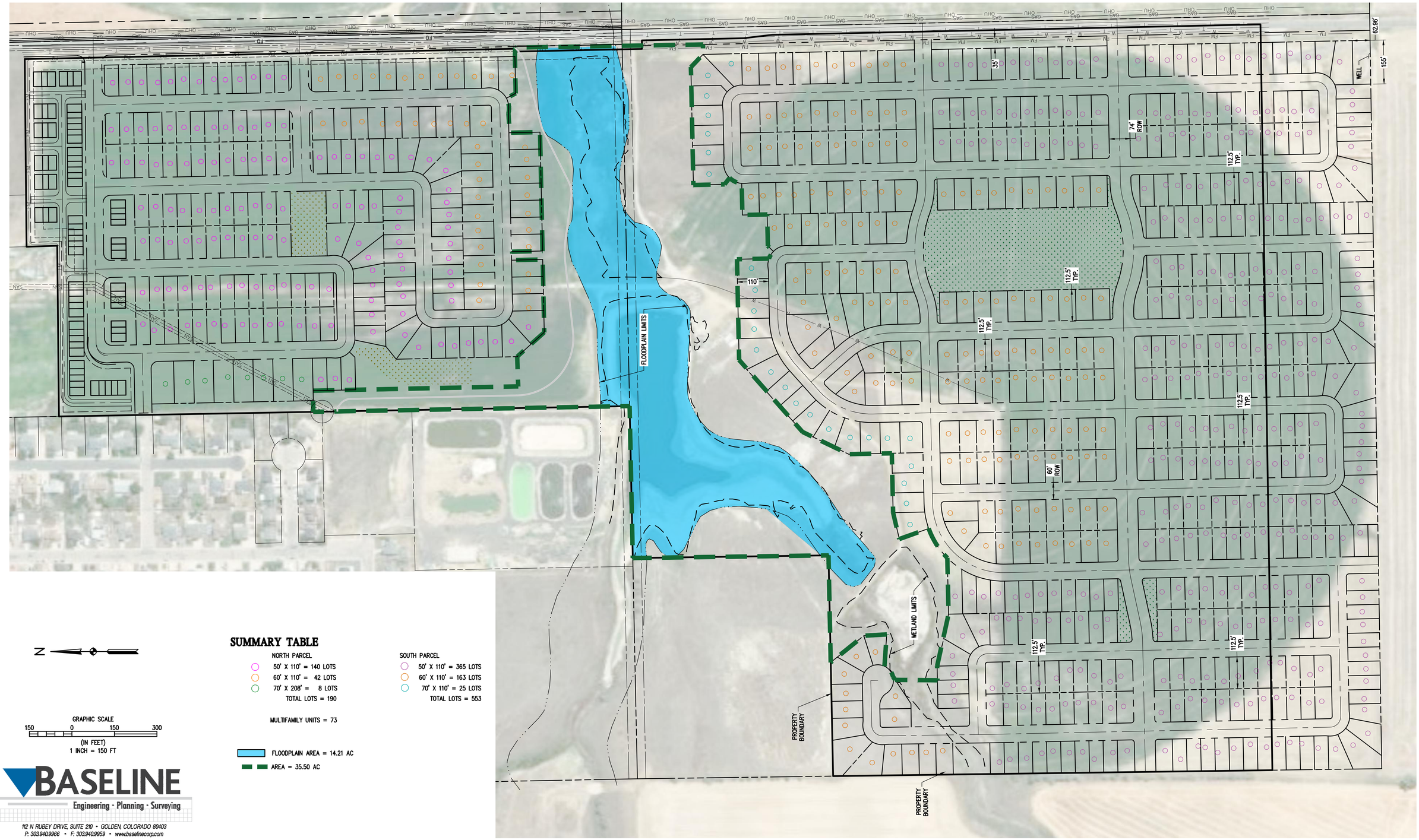
APPENDIX G

Conceptual Site Plan

LAYOUT EXHIBIT

KEENESBURG EAST SUBDIVISION

DATE PRINTED: August 25, 2021



SUMMARY TABLE

NORTH PARCEL	SOUTH PARCEL
50' X 110' = 140 LOTS	50' X 110' = 365 LOTS
60' X 110' = 42 LOTS	60' X 110' = 163 LOTS
70' X 208' = 8 LOTS	70' X 110' = 25 LOTS
TOTAL LOTS = 190	TOTAL LOTS = 553

MULTIFAMILY UNITS = 73

FLOODPLAIN AREA = 14.21 AC

AREA = 35.50 AC

N

GRAPHIC SCALE

150 0 150 300

(IN FEET)

1 INCH = 150 FT

BASELINE

Engineering - Planning - Surveying

112 N RUBEY DRIVE, SUITE 210 • GOLDEN, COLORADO 80403

P: 303.940.9966 • F: 303.940.9959 • www.baselinecorp.com