Traffic Impact Study

Crossroads-Meadowbrook

El Paso County, Colorado

Prepared for:

Colorado Springs Equities LLC

Kimley»Horn

Add "PCD File No. CR201

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

Crossroads-Meadowbrook

El Paso County, Colorado

Add the Developer's Statement:

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

_____ _____

[Name, Title] Date
[Business Name]
[Address]

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

August 2020

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.

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1.0 EXECUTIVE SUMMARY

The Crossroads-Meadowbrook development areas are proposed along the north and south sides of US-24 in El Paso County, Colorado. This traffic study evaluates three separate project areas; the first area, named Meadowbrook Park, is located on the northeast corner of the US-24 and Newt Drive/SH-94 intersection, the second area, Crossroads North, is located within the triangle area between US-24, Marksheffel Road, and SH-94, and the third development area, Crossroads Mix Use, is located on the northwest corner of the US-24 and Newt Drive/SH-94 intersection.

All three of these development areas are anticipated to include approximately 70 single-family detached housing units, a 18.28-acre public park, a 52,000 square foot movie theater, a 130,000 square foot free standing discount store, 44,942 square feet of retail space, a 7,200 square foot tire store, a 127,000 square foot home improvement store, a 114,000 square foot furniture store, 21,200 square feet of sit down restaurant space, 20,909 square feet of fast food restaurants, a 2,400 square foot coffee shop, and a gas station with 5,000 square foot convenience market. It is expected that buildout of these development areas would be completed in the next five years. Therefore, for purposes of this analysis, this project was evaluated for the short-term 2025 and long-term 2040 horizons.

The purpose of this study is to identify development area traffic generation characteristics, to identify potential traffic related impacts on the local street system, and to develop mitigation measures required for identified impacts. The following intersections were incorporated into this traffic study in accordance with El Paso County and CDOT standards and requirements:

- Meadowbrook Parkway and Marksheffel Road
- US-24 and Marksheffel Road
- Meadowbrook Parkway and Newt Drive
- US-24 and SH-94
- SH-94 and Marksheffel Road

Regional access to Crossroads-Meadowbrook is provided by Interstate 25 (I-25), Powers Boulevard (SH-21), and US-24. Primary access to the development areas will be provided by Marksheffel Road and Meadowbrook Parkway. Direct access to Meadowbrook Park is proposed

at one full movement access along Meadowbrook Parkway to align with the existing Preble Drive. Direct access to Crossroads North is proposed from two full movement accesses along Marksheffel Road approximately 1,000 feet and 2,000 feet north of SH-94. Direct access to Crossroads Mix Use is proposed along the future extension of Meadowbrook Parkway at two full movement accesses and an eastern right-in/right-out access.

All three development areas of the Crossroads-Meadowbrook project evaluated in the study are expected to generate a total of approximately 36,498 external daily weekday trips with 2,176 of these trips occurring during the morning peak hour and 2,903 trips occurring during the afternoon peak hour.

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns and volumes, anticipated surrounding development areas, expected roadway improvements, and the proposed access system for each project area. Assignment of project traffic was based upon the trip generation described previously and the distributions developed. Assigned traffic was added to future traffic volumes projected at the study area intersections to conduct a traffic analysis for the determination of possible improvements needed.

Based on the analysis presented in this report, Kimley-Horn believes the proposed Crossroads-Meadowbrook project areas will be successfully incorporated into the existing and future roadway network. The proposed project development and expected traffic volumes resulted in the following recommendations/conclusions:

2025 Recommendations:

- A CDOT Access Permit will be required for the Newt Drive north leg of the US-24 intersection in association with the Crossroads Mix Use development. Likewise, CDOT Access Permits will be required for the south leg of SH-94 at US-24 and north leg of Marksheffel Road at SH-94 in association with the Crossroads North development.

- It is recommended that a single lane roundabout be constructed at the Meadowbrook Parkway and New Drive intersection with development of the Crossroads Mix Use project. It is recommended that the roundabout have single lane approaches on the

eastbound Newt Drive, northbound Meadowbrook Parkway, and southbound Meadowbrook Parkway approaches and a two-lane approach on westbound Newt Drive with a shared left turn/through lane into the roundabout and a separate right turn lane.

- The intersection of SH-94 and US-24 is projected to operate poorly in 2025 with the existing intersection configuration. Therefore, US-24 may need to provide three through lanes in each direction through this intersection in the near-term horizon. The additional through lanes are a regional capacity improvement that should be considered by CDOT and El Paso County in the near future. If and when US-24 is improved to provide three through lanes in each direction, it is recommended that a separate 600-foot plus 225-foot taper right turn lane be constructed to maintain free right turn movements to eastbound SH-94. The third southwestbound through lane along US-24 can be designated by absorbing the existing right turn lane. The six-lane section of US-24 can occur between the Peterson Road interchange to the west and transition back to a four-lane roadway east of SH-94. In addition to these regional improvements, it is recommended that the existing single 900-foot left turn lane be extended to 935-feet plus 225-foot taper with dual left turn lanes on the northeastbound US-24 approach for the left turn to Newt Drive. The area for these dual lefts is presently mostly available; however, the lane is striped out which will require restriping and a slight extension may also need to be constructed. A traffic signal modification will be required at the intersection to incorporate these improvements.

- Traffic signals are anticipated to be needed and warranted at both full movement access intersections along Marksheffel Road for Crossroads North. Therefore, traffic signals are recommended for installation at these intersections with development of Crossroads North. It is recommended that a 235-foot with 200-foot taper (based on El Paso County standards for 50 mph) southbound right turn lane be constructed at both access intersections along Marksheffel Road due to the volume of traffic entering Crossroads North at this access. Likewise, separate eastbound left turn and right turn lanes are recommended to serve exiting traffic out of Crossroads North.

- All project access driveways for Meadowbrook Park and Crossroads Mix Use are recommended to be two-way stop-controlled with R1-1 “STOP” signs installed for the exiting approaches.

- From the CDOT SHAC analysis it was found that a westbound acceleration lane is needed from the southbound right turn at the intersection of SH-94 and Marksheffel Road in association with the Crossroads North project. It is recommended that the acceleration lane be constructed as a continuous lane to tie into the outside through lane on the westbound approach to US-24.

- It is recommended that the following turn lanes be lengthened to CDOT standards and accommodate future projected queue lengths; the 475-foot westbound SH-94 dual left turn lanes at the intersection of US-24 and SH-94 need to be lengthened to 740 feet with a 145 foot taper (in association with Crossroads North), and the 300-foot eastbound left turn lane and the 250-foot westbound right turn lane at the intersection of SH-94 and Marksheffel Road need to be lengthened to 850 feet with a 225 foot taper and 600 feet with a 225 foot taper, respectively (in association with Crossroads North).

- Meadowbrook Parkway will be extended along Crossroads Mix Use development project area in association with that project. It is recommended that this roadway be designated as a three-lane roadway with a center two-way left turn lane.

2040 Recommendations:

- If future traffic volume projections are realized, US-24 may need to provide three through lanes in each direction through the Marksheffel Road intersection. If and when this occurs, it is believed that the existing separate eastbound and westbound US-24 right turn lanes could be converted to shared through/right turn lanes.

- At the SH-94 and Marksheffel Road intersection, dual eastbound left turn lanes operating with protected only phasing may be needed to provide acceptable operations.

General Recommendations:

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

2.0 INTRODUCTION

Kimley-Horn and Associates, Inc. (Kimley-Horn) has prepared this report to document the results of a Traffic Impact Study of future traffic conditions associated with the proposed Crossroads-Meadowbrook project to be located along the north and south sides of US-24 in El Paso County, Colorado. A vicinity map illustrating the location of the Crossroads-Meadowbrook project is shown in **Figure 1**.

This traffic study evaluates three separate development areas; the first area, named Meadowbrook Park, is located on the northeast corner of the US-24 and Newt Drive/SH-94 intersection, the second area, Crossroads North, is located within the triangle area between US-24, Marksheffel Road, and SH-94, and the third development area, Crossroads Mix Use, is located on the northwest corner of the US-24 and Newt Drive/SH-94 intersection. All three of these development areas are anticipated to include approximately 70 single-family detached housing units, a 18.28-acre public park, a 52,000 square foot movie theater, a 130,000 square foot free standing discount store, 44,942 square feet of retail space, a 7,200 square foot tire store, a 127,000 square foot home improvement store, a 114,000 square foot furniture store, 21,200 square feet of sit down restaurant space, 20,909 square feet of fast food restaurants, a 2,400 square foot coffee shop, and a gas station with 5,000 square foot convenience market. A conceptual site plan for the project is attached in **Appendix G**. It is expected that buildout of these development areas would be completed in the next five years. Therefore, for purposes of this analysis, this project was evaluated for the short-term 2025 and long-term 2040 horizons.

The purpose of this study is to identify development area traffic generation characteristics, to identify potential traffic related impacts on the local street system, and to develop mitigation measures required for identified impacts. The following intersections were incorporated into this traffic study in accordance with El Paso County and CDOT standards and requirements:

- Meadowbrook Parkway and Marksheffel Road
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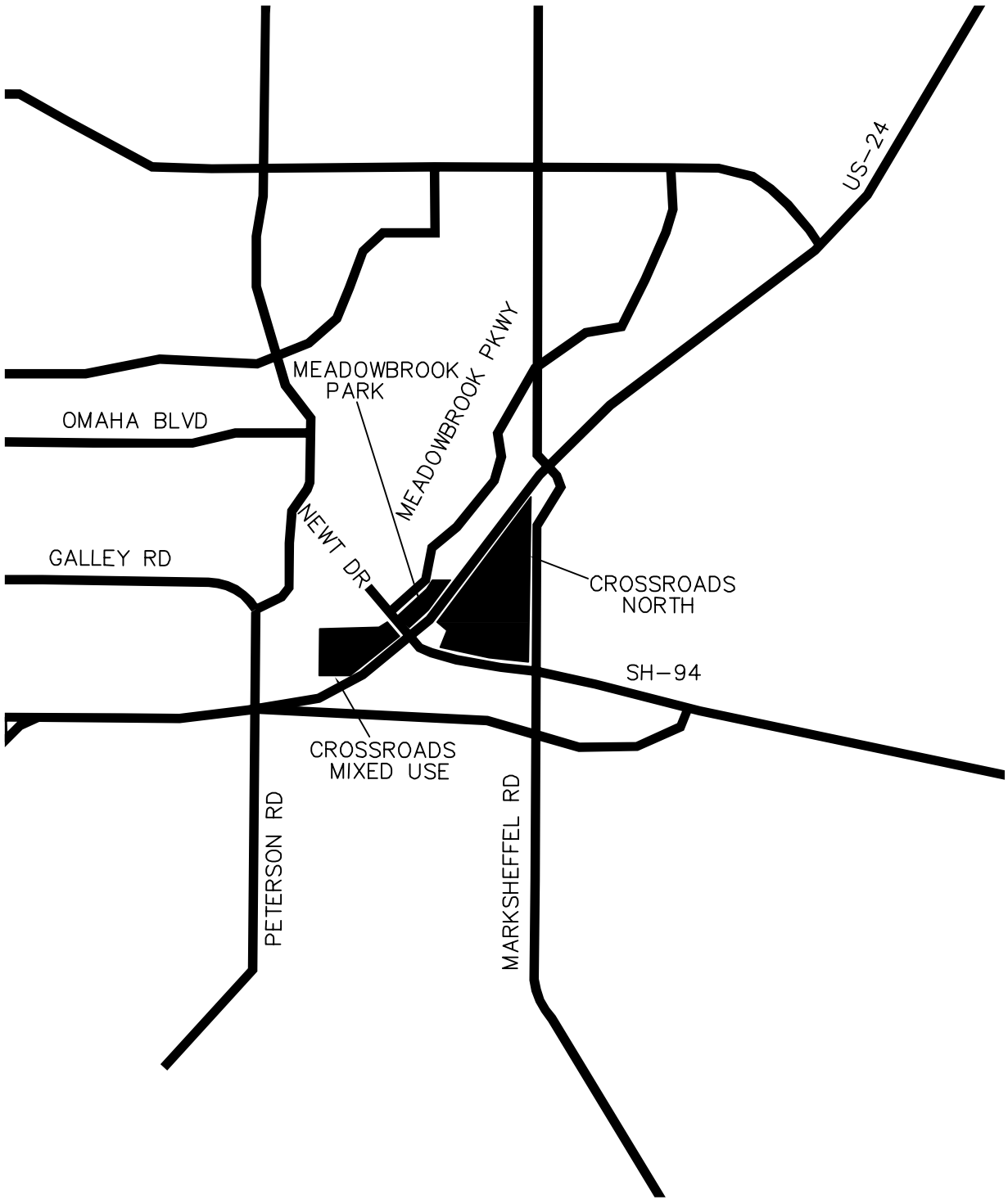
- Meadowbrook Parkway and Newt Drive
- US-24 and SH-94
- SH-94 and Marksheffel Road



CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
VICINITY MAP

FIGURE 1

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see comment on Figure 8 (page 24)

3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing and Future Study Area

The existing site areas are comprised of vacant land. The surrounding area contains a mix of uses. Directly to the east of Crossroads North exists a water treatment plant. Directly to the south are industrial uses. Directly to the west is mainly residential neighborhoods. Other industrial uses are proposed north of Meadowbrook Park. Outside of these areas, the Colorado Springs Airport and Peterson Air Force Base exists to the southwest. The site area is shown in the aerial of **Figure 2**.

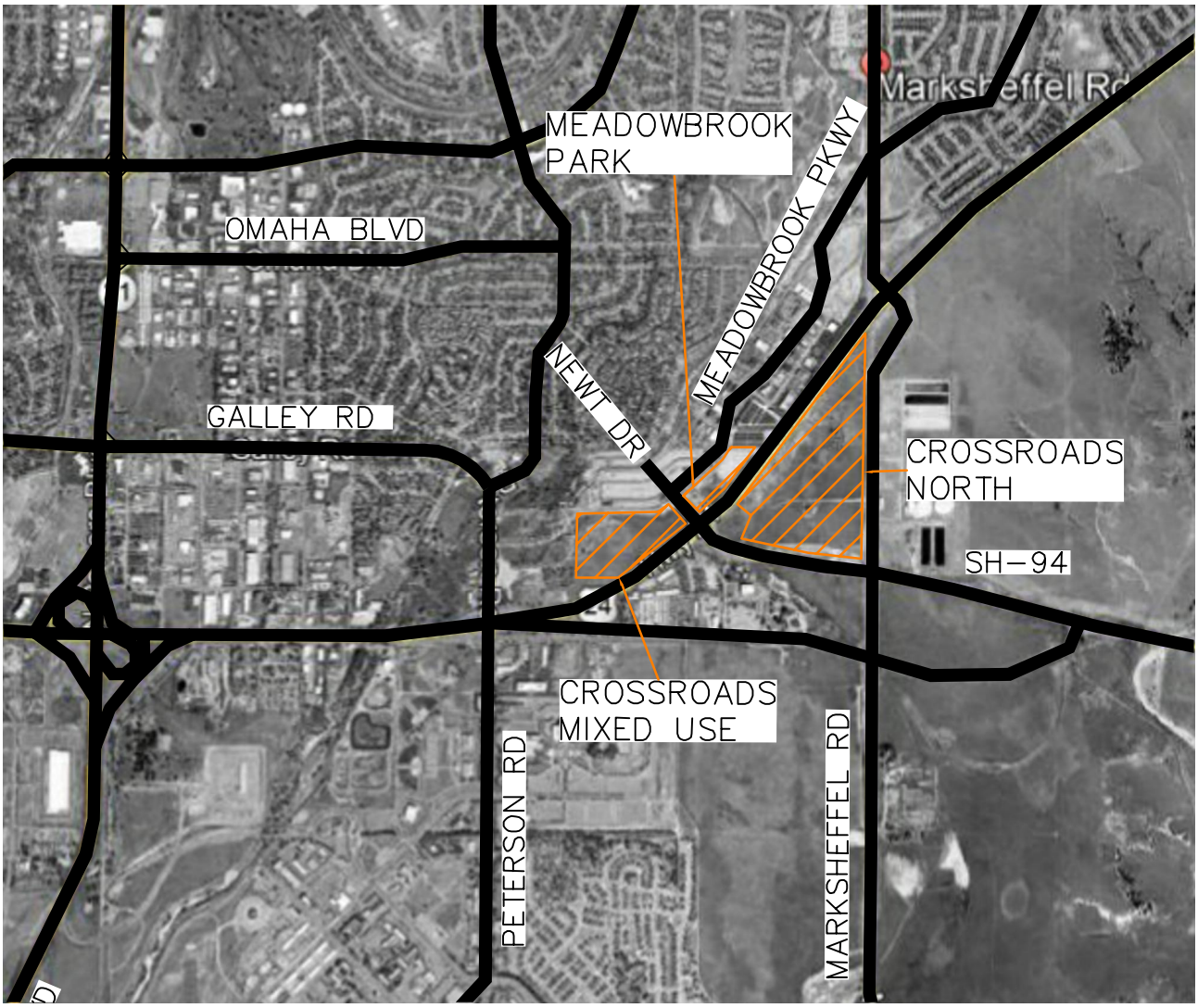
3.2 Existing and Future Roadway Network

Regional access to Crossroads-Meadowbrook is provided by Interstate 25 (I-25), Powers Boulevard (SH-21), and US-24. Primary access to the development areas will be provided by Marksheffel Road and Meadowbrook Parkway. Direct access to Meadowbrook Park is proposed at one full movement access along Meadowbrook Parkway to align with the existing Preble Drive. Direct access to Crossroads North is proposed from two full movement accesses along Marksheffel Road approximately 1,000 feet and 2,000 feet north of SH-94. Direct access to Crossroads Mix Use is proposed along the future extension of Meadowbrook Parkway at two full movement accesses and an eastern right-in/right-out access.

SH-94 is a CDOT Highway, categorized E-X: Expressway, Major Bypass that provides one through lane of travel both eastbound and westbound in the development area. SH-94 has a 55 mile per hour speed limit through the study area. US-24 is a CDOT Highway, categorized E-X: Expressway, Major Bypass that provides two through lanes of travel both eastbound and westbound in the vicinity of the project areas. US-24 has a 55 mile per hour speed limit through the study area. Marksheffel Road is an El Paso County arterial that provides two through lanes of travel in each direction, northbound and southbound, with a 55 mile per hour speed limit through the study area. Meadowbrook Parkway is a collector roadway that provides one lane of travel in each direction, with a 35 mile per hour speed limit through the study area.

Revise to Urban 4-lane Principal Arterial

Revise to El Paso County non-residential collector roadway.



CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
SITE AREA

FIGURE 2

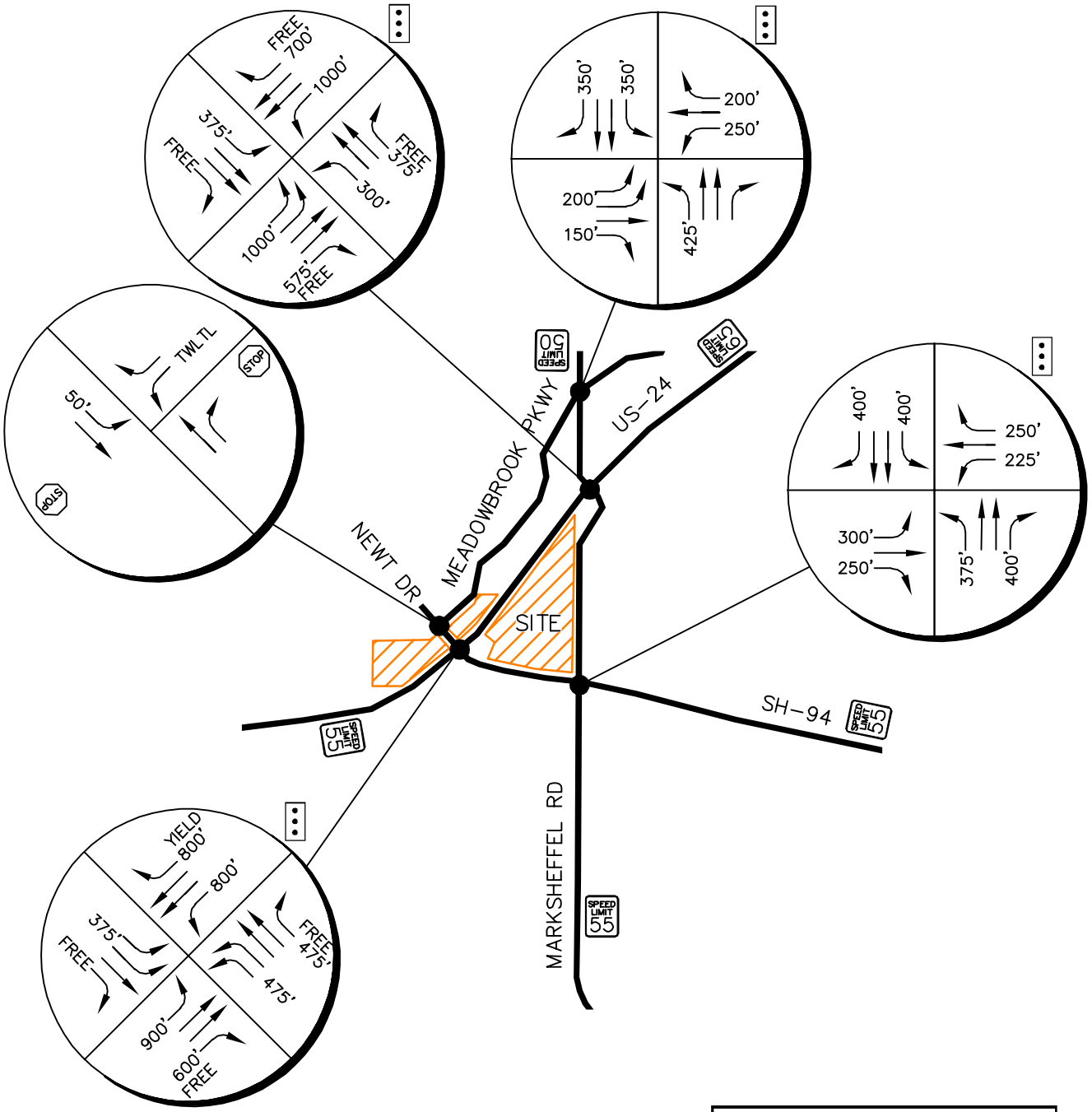
The Meadowbrook Parkway and Marksheffel Road intersection is a four-leg signalized intersection. The eastbound Meadowbrook Parkway approach consists of dual left turn lanes, one through lane, and a right turn lane. The westbound approach consists of a left turn lane, a through lane, and one right turn lane. The northbound and southbound approaches of Marksheffel Road consist of one left turn lane, two through lanes, and a right turn lane.

The Marksheffel Road and US-24 intersection is a four-leg signalized intersection. The northbound, southbound, and westbound approaches consist of a left turn lane, two through lanes, and separate right turn lanes operating with a free right turn movement. The eastbound US-24 approach consists of dual left turn lanes, two through lanes, and a right turn lane with free movements.

The Newt Drive and Meadowbrook Parkway intersection is a T-intersection with stop control on the eastbound and westbound approaches of Newt Drive. The westbound approach consists of one through lane and a right turn lane. The eastbound approach consists of one left turn lane and one through lane. The southbound approach consists of a two-way left turn lane and a right turn lane. With the construction of the Crossroads Mix Use project, a southwest leg will be constructed at this intersection by extension of Meadowbrook Parkway adjacent to the development area.

The intersection of SH-94 and US-24 is signalized with four-legs. Since both state highways run east-west, the traffic software for this intersection assigned SH-94 as east-west and US-24 as north-south. The eastbound Newt Drive approach consists of dual left turn lanes, one through lane, and a free right turn lane. The westbound SH-94 approach consists of dual left turn lanes, two through lanes, and a free right turn lane. The US-24 approaches each consist of a left turn lane, two through lanes, and a right turn lane. The westbound US-24 right turn operates with free turning movements.

The SH-94 and Marksheffel Road intersection is a four-leg signalized intersection. The eastbound and westbound approaches consist of a left turn lane, one through lane, and one right turn lane. The northbound and southbound approaches consist of a left turn lane, two through lanes, and a right turn lane. Existing intersection lane configurations and control for the study area are shown in **Figure 3**.



CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
EXISTING LANE CONFIGURATIONS

FIGURE 3

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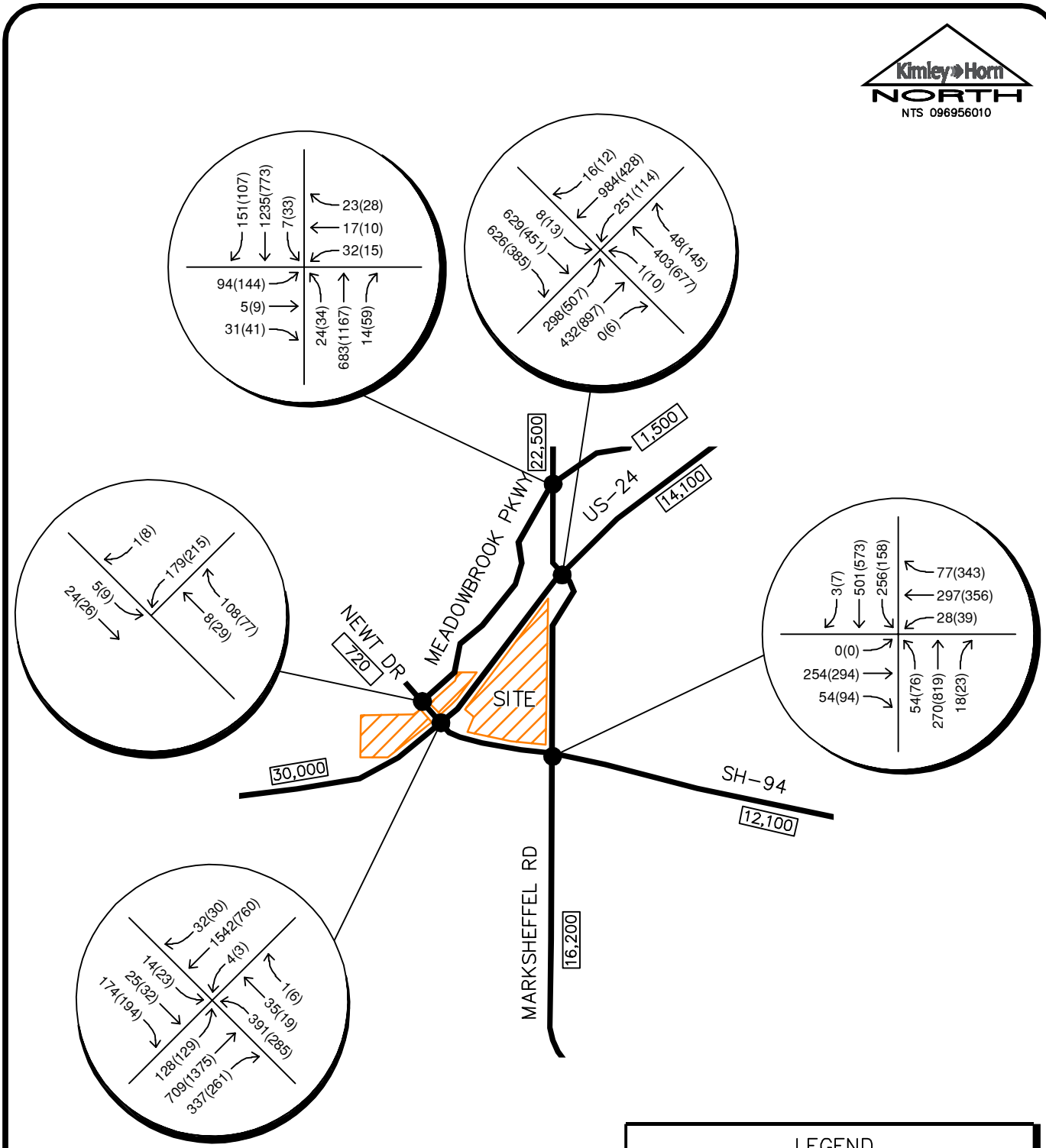
3.3 Existing Traffic Volumes

Due to the effects on traffic from COVID-19, traffic counts at each intersection were derived by different methodologies. Existing peak hour turning movement counts, pedestrian counts, and bicycle counts were conducted at the intersections of SH-94 and Marksheffel Road, Meadowbrook Parkway and Newt Drive, and SH-94 and US-24 on Tuesday, June 2, 2020 and at the intersections of Marksheffel Road and US-24 and Meadowbrook Parkway and Marksheffel Road on Thursday, June 4, 2020 during the morning and afternoon peak hours. The weekday counts were conducted in 15-minute intervals during the AM and PM peak hours of adjacent street traffic from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. The turning movement counts were grown based on data obtained from hourly counts from the CDOT OTIS database to account for a COVID-19 adjustment for this area. The morning and afternoon peak hour counts were adjusted by 20% and 10%, respectively except for the counts at the intersection of SH-94 and Marksheffel Road which were not adjusted in the morning peak hour but were adjusted by 44% for the afternoon peak hour. These adjusted turning movement counts are shown in **Figure 4** with vehicle, pedestrian, bicycle count sheets, and CDOT OTIS data provided in **Appendix A**.

3.4 Unspecified Development Traffic Growth

According to information provided on the website for the Colorado Department of Transportation (CDOT), the average 20-year growth factor along SH-94 in the vicinity of the site is 1.29. This value equates to an annual growth rate of 1.16 percent. SH-94 traffic information from the CDOT Online Transportation Information System (OTIS) website is included in **Appendix B**. Based on this, an annual growth rate of 1.16 percent was used to calculate future traffic volumes within the project study area. This annual growth rate was used to estimate near term 2025 and long term 2040 traffic volume projections at the key intersections. Along with the growth of existing traffic volumes, project traffic from the single-family housing development to the west at Newt Drive were estimated based on the number of homes yet to be occupied and added to the background traffic volumes. Background traffic volumes for 2025 and 2040 are shown in **Figures 5** and **6**, respectively.



LEGEND

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

CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
2020 EXISTING ADJUSTED
TRAFFIC VOLUMES

FIGURE 4

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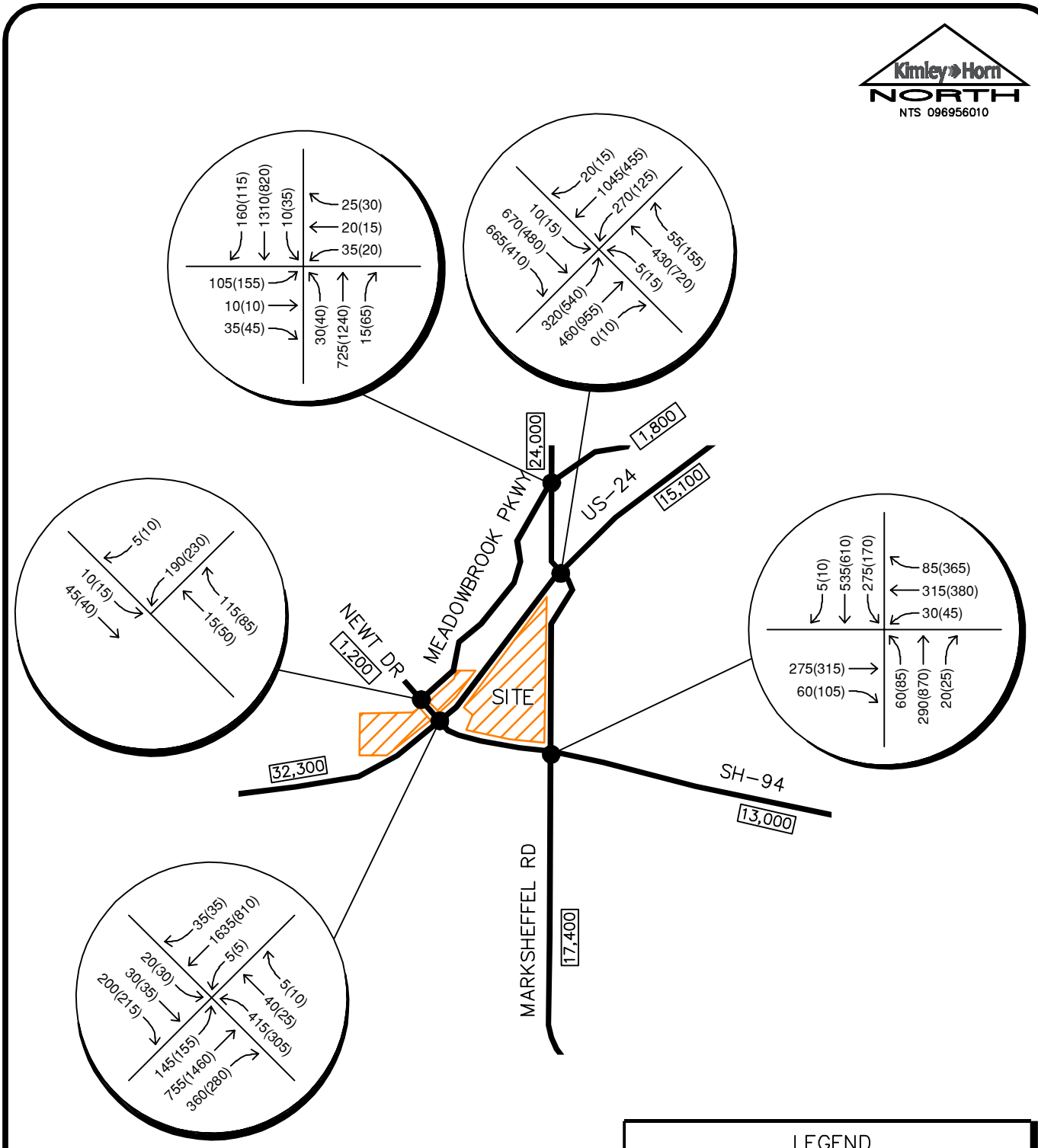

CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
2025 BACKGROUND
TRAFFIC VOLUMES

FIGURE 5

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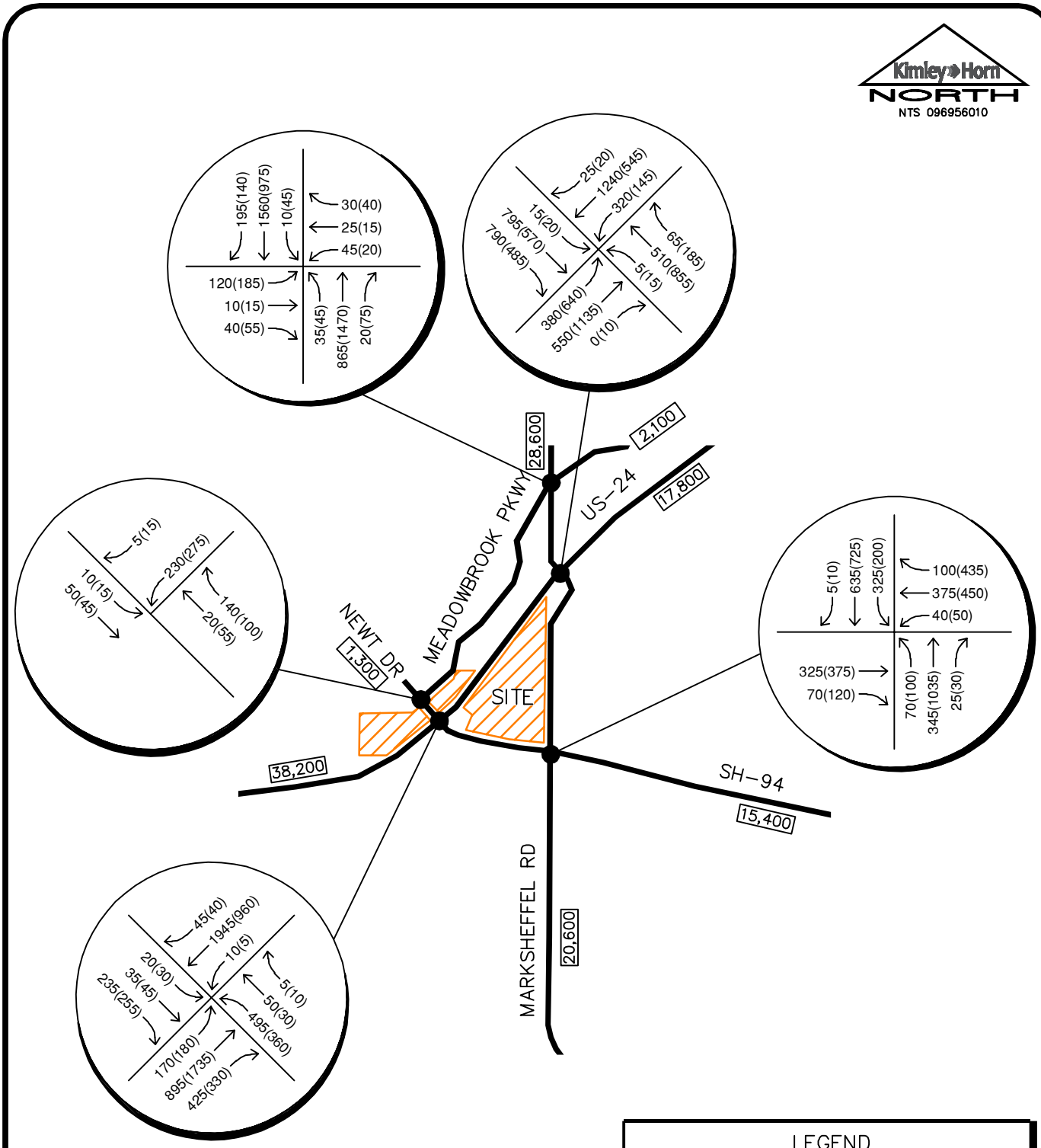

CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
2040 BACKGROUND
TRAFFIC VOLUMES

FIGURE 6

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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 use 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.

For purposes of this traffic evaluation, the project was studied to include approximately 70 single-family detached housing dwelling units, a 18.28 acre public park, a 52,000 square foot movie theater, a 130,000 square foot free standing discount store, 44,942 square feet of retail space, a 7,200 square foot tire store, a 127,000 square foot home improvement store, a 114,000 square foot furniture store, 21,200 square feet of sit down restaurant, 20,909 square feet of fast food restaurants, a 2,400 square foot coffee shop, and a 5,000 square foot gas station with convenience market. Based on this, Kimley-Horn used the ITE Trip Generation Manual average rates and equations that apply to Single-Family Detached House (ITE Code 210), Public Park (ITE Code 411), Movie Theater (ITE Code 444), Free Standing Discount Store (ITE 815), Shopping Center (ITE Code 820), Tire Superstore (ITE Code 849), Home Improvement Superstore (ITE Code 862), Furniture Store (ITE Code 890), High-Turnover (Sit-Down) Restaurant (ITE Code 932), Fast-Food Restaurant with Drive Through (ITE Code 934), Coffee/Donut Shop with Drive Through (ITE Code 937), and Gasoline Station with Convenience Market (ITE Code 960) for traffic associated with the proposed Crossroads-Meadowbrook project. The trip generation calculations are included in **Appendix C**. These calculations illustrate the equations used and directional distribution of trips based on ITE studies.

The Crossroads-Meadowbrook project is expected to generate a total of approximately 36,498 daily weekday external driveway trips. Of these, a total of 2,176 weekday morning peak hour and 2,903 weekday afternoon peak hour trips peak hour trips are expected. Calculations were based on the procedure and information provided in the ITE *Trip Generation Manual, 10th*

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

Edition – Volume 1: User's Guide and Handbook, 2017. **Table 1** provides the estimated external trip generation for the Crossroads-Meadowbrook project.

Table 1 – Crossroads-Meadowbrook Project External Traffic Generation

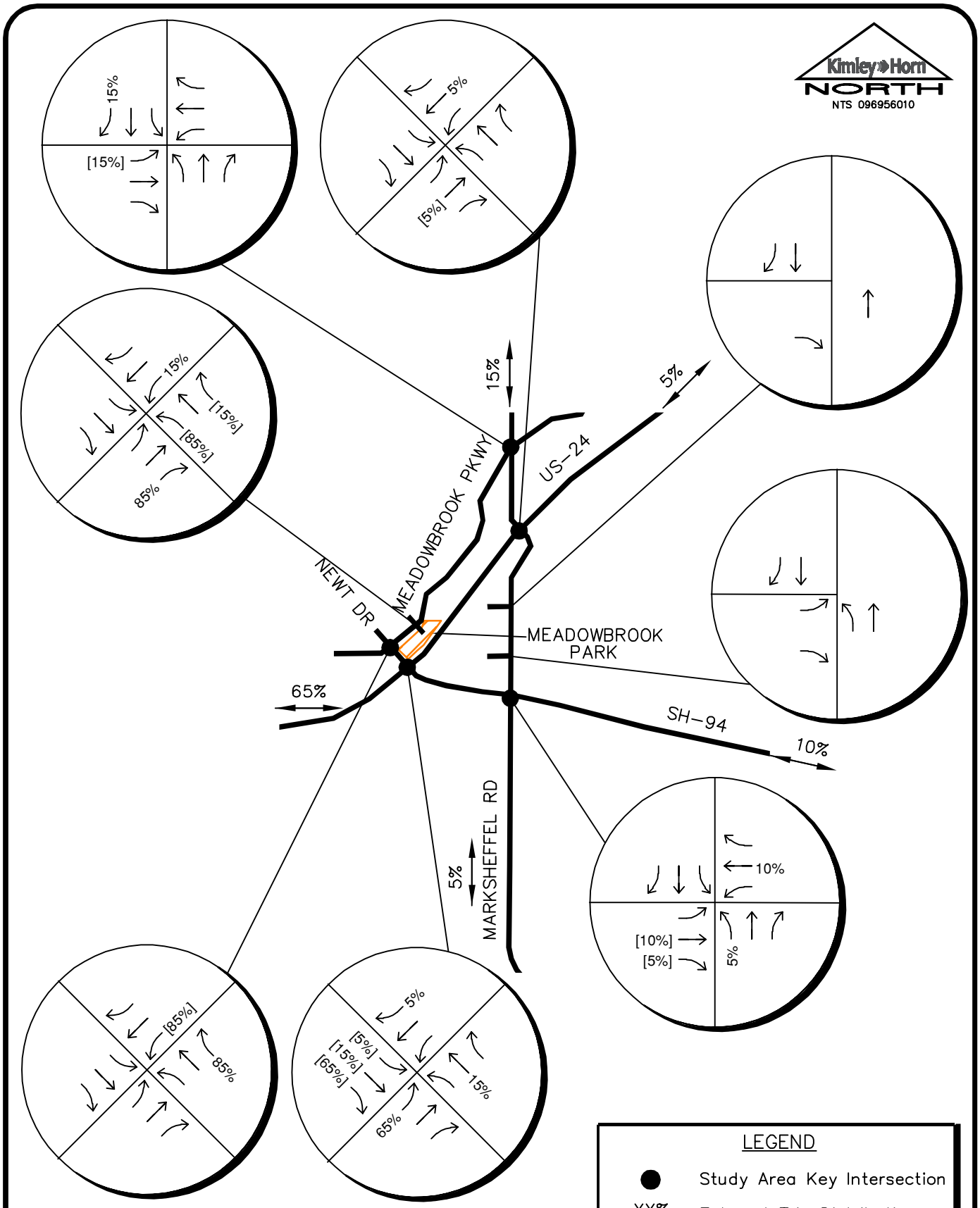
Use and Quantity	Daily	Weekday Vehicles Trips					
		AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Crossroads Mix Use							
Free Standing Discount Store (ITE 815) – 130,000 SF	6,906	152	628	105	47	314	314
Shopping Center (ITE 820) – 44,942 SF	1,696	26	16	42	82	89	171
High-Turnover (Sit-Down) Restaurant (ITE 932) – 10,200 SF	1,146	56	45	101	62	38	100
Fast-Food Restaurant w/ D.T. (ITE 934) – 14,309 SF	6,740	293	282	575	243	224	467
Coffee/Donut Shop w/ D.T. (ITE 937) – 2,400 SF	1,968	109	105	214	53	53	106
Crossroads Mix Use Total	18,456	589	495	1,084	754	718	1,472
Crossroads North							
Public Park (ITE 411) – 18.28 Acres	14	0	0	0	1	1	2
Movie Theater (ITE 444) – 52,000 SF	4,062	5	6	11	302	19	321
Tire Superstore (ITE 849) – 7,200 SF	148	6	4	10	7	8	15
Home Improvement Superstore (ITE 862) – 127,000 SF	3,904	113	86	199	145	151	296
Furniture Store (ITE 890) – 114,000 SF	720	21	9	30	28	31	59
High-Turnover (Sit-Down) Restaurant (ITE 932) – 11,000 SF	1,234	60	49	109	66	41	107
Fast-Food Restaurant w/ D.T. (ITE 934) – 6,600 SF	3,110	135	130	265	112	104	216
Gasoline Station w/ Convenience Market (ITE 960) – 5,000 SF	4,188	208	208	416	173	173	346
Crossroads North Total	17,380	548	492	1,040	834	528	1,362
Meadowbrook Park							
Single-Family Detached Housing (ITE 210) – 70 Dwelling Units	662	13	39	52	44	25	69
Total Site Trip Generation	**36,498**	**1,150**	**1,026**	**2,176**	**1,632**	**1,271**	**2,903**

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, expected roadway improvements, 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 is illustrated for Meadowbrook Park in **Figure 7**, for Crossroads North in **Figure 8**, and for Crossroads Mix Use in **Figure 9.**

4.3 Traffic Assignment and Total (Background Plus Project) Traffic

Traffic assignment was obtained by applying the project trip distribution of each area to the estimated traffic generation of the associated development shown in the trip generation tables. Project traffic assignment for the Crossroads-Meadowbrook project during the peak hours studied is shown for Meadowbrook Park in **Figure 10**, for Crossroads North in **Figure 11,** and for Crossroads Mix Use in **Figure 12**. The total traffic assignment for all three development areas were summed together as shown in **Figure 13**. Project traffic volumes were added to the background volumes to represent estimated traffic conditions for the short term 2025 horizon and long term 2040 horizon. These background plus project (total) traffic volumes for the project are illustrated for the 2025 and 2040 horizon years in **Figures 14** and **15**, respectively.



CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
MEADOWBROOK PARK
TRIP DISTRIBUTION

FIGURE 7

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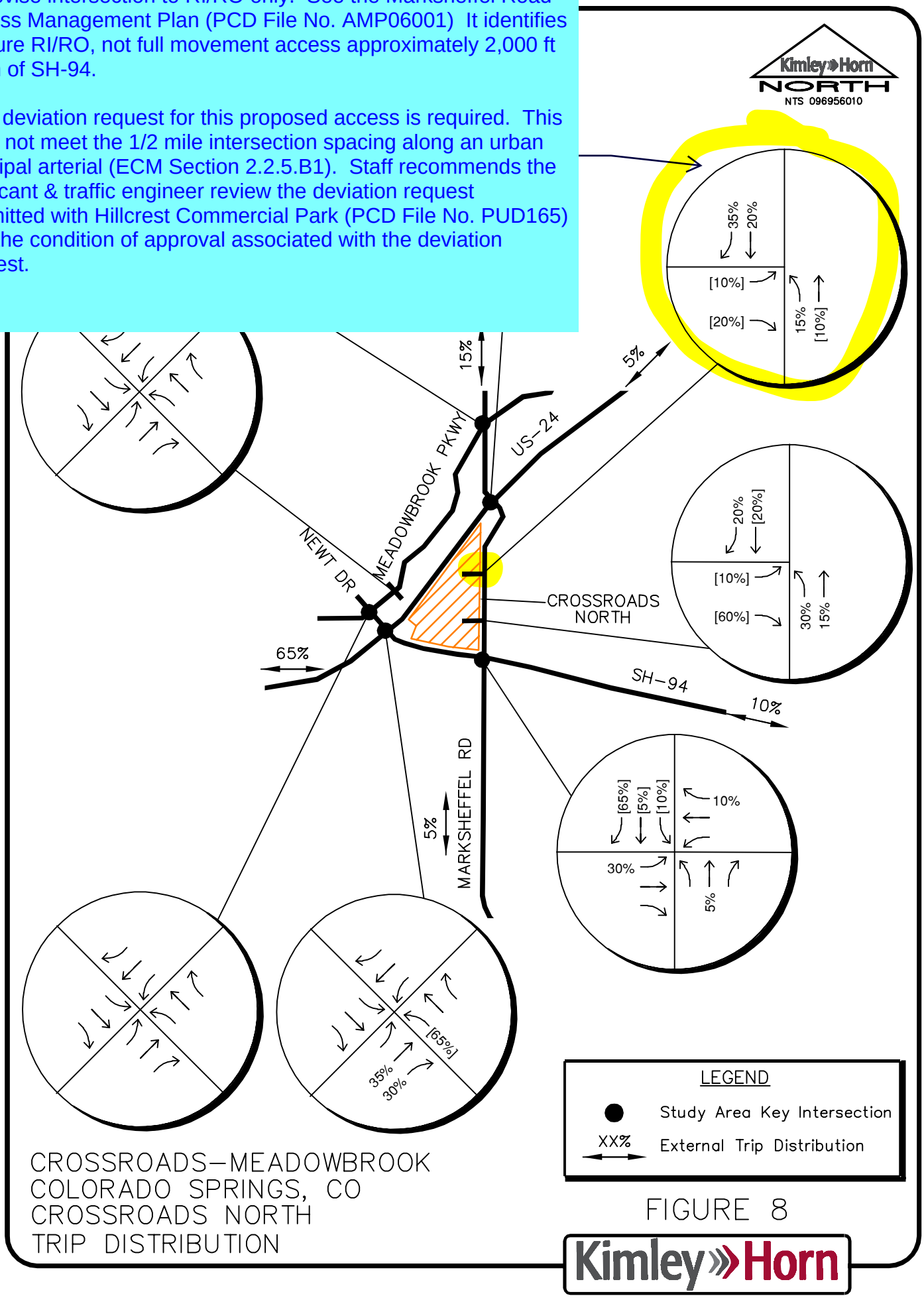
1. Revise intersection to RI/RO only. See the Marksheffel Road Access Management Plan (PCD File No. AMP06001) It identifies a future RI/RO, not full movement access approximately 2,000 ft north of SH-94.

2. A deviation request for this proposed access is required. This does not meet the 1/2 mile intersection spacing along an urban principal arterial (ECM Section 2.2.5.B1). Staff recommends the applicant & traffic engineer review the deviation request submitted with Hillcrest Commercial Park (PCD File No. PUD165) and the condition of approval associated with the deviation request.



CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
CROSSROADS NORTH
TRIP DISTRIBUTION

FIGURE 8

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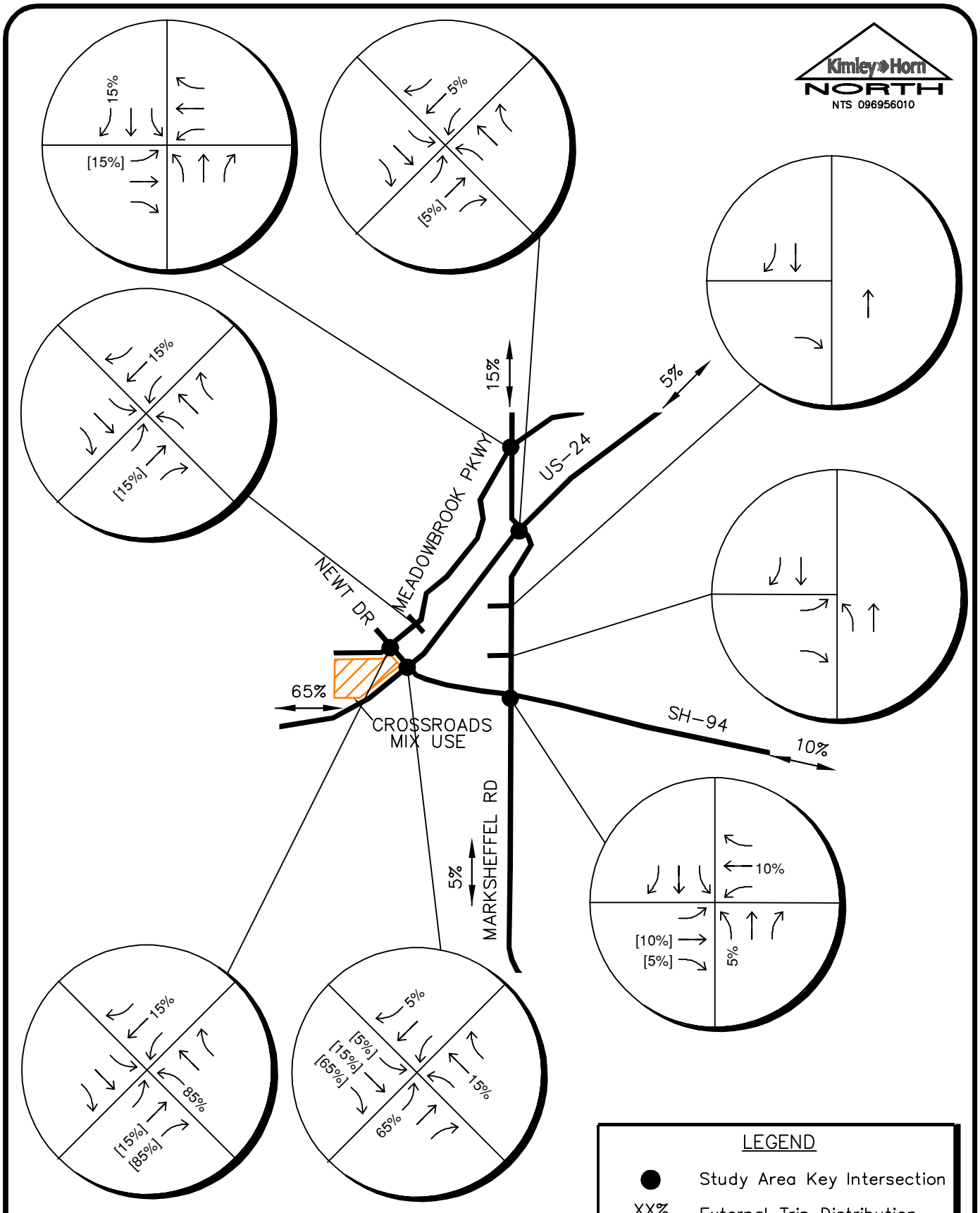

CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
CROSSROADS MIX USE
TRIP DISTRIBUTION

FIGURE 9

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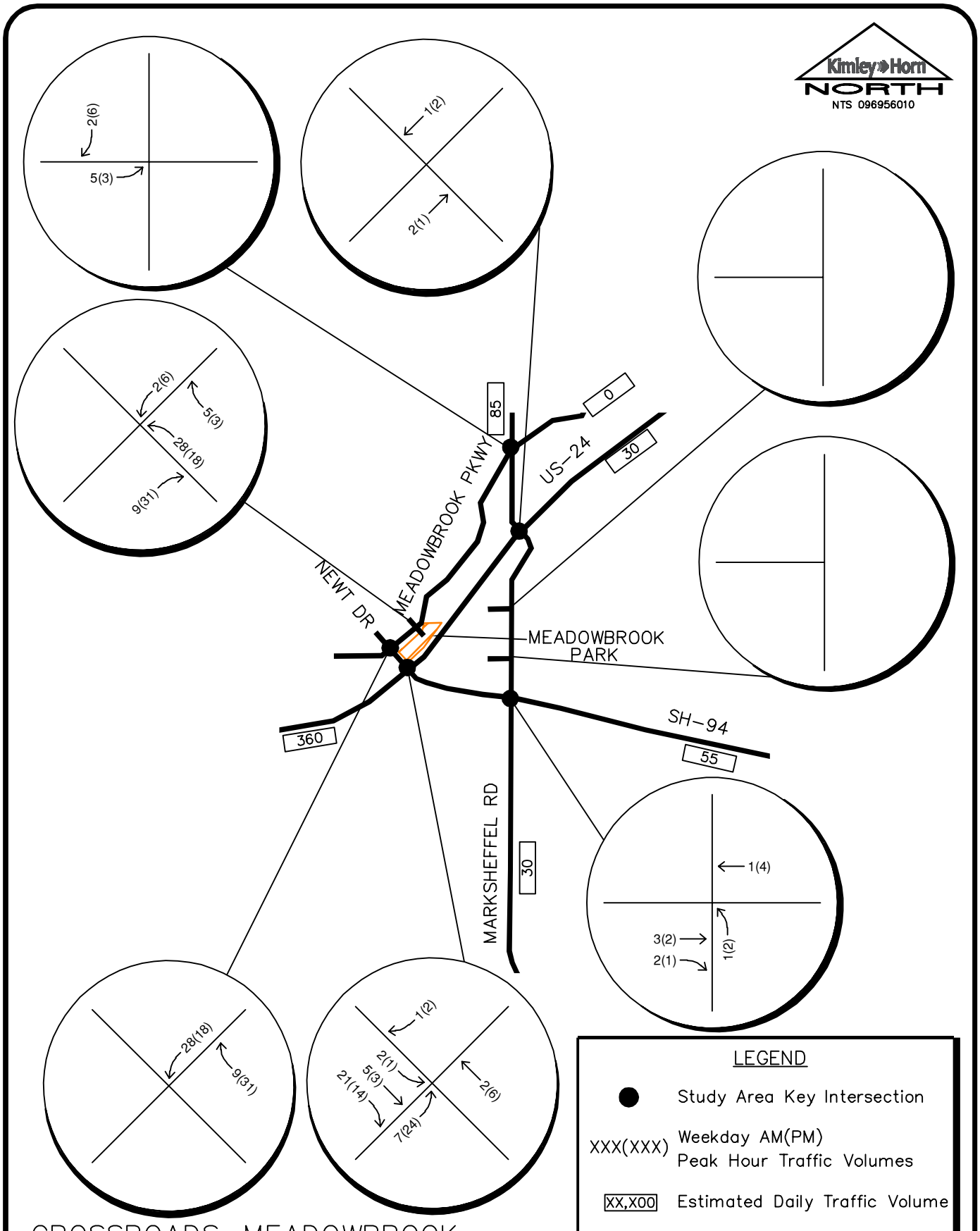

CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
MEADOWBROOK PARK
TRAFFIC ASSIGNMENT

FIGURE 10

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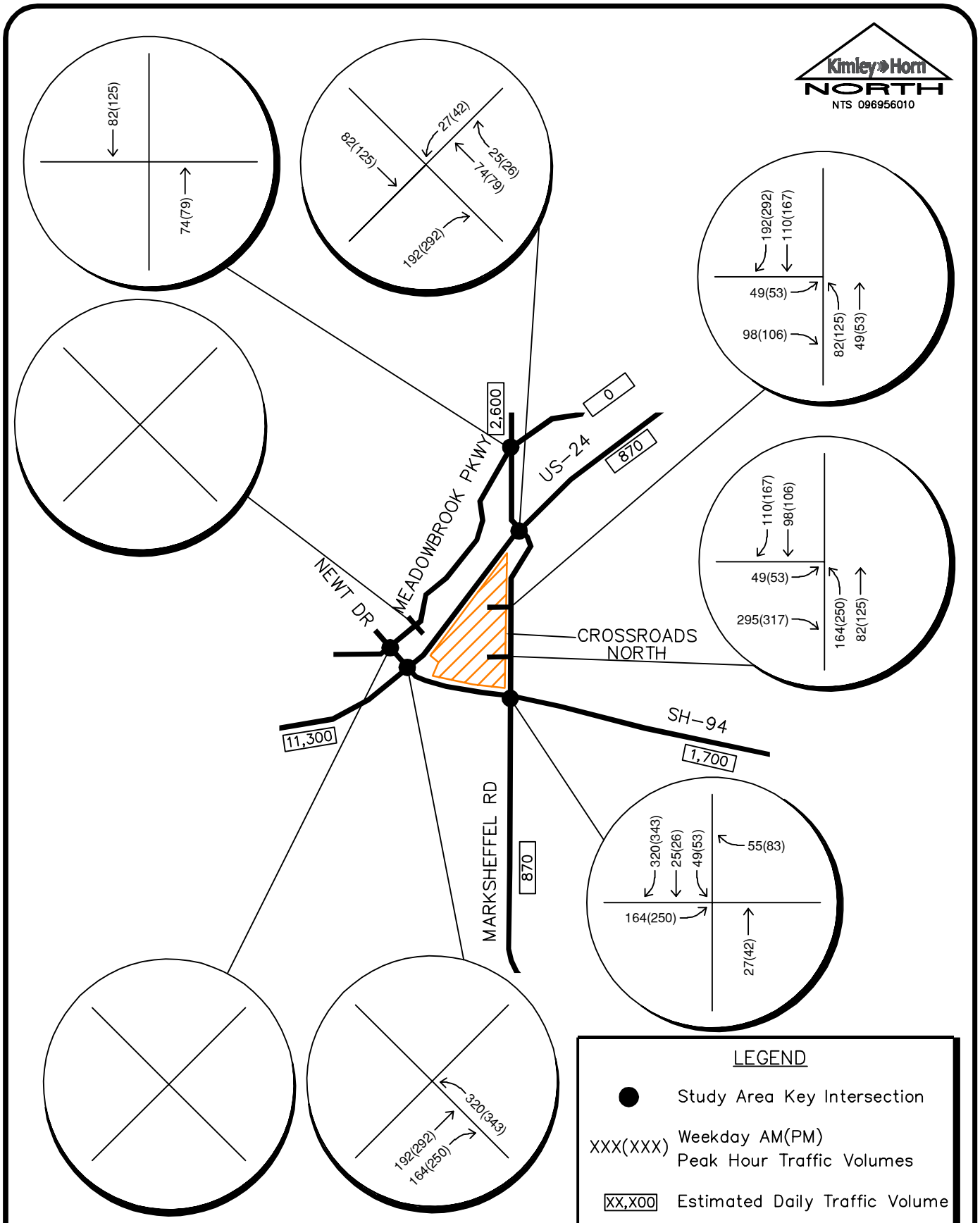
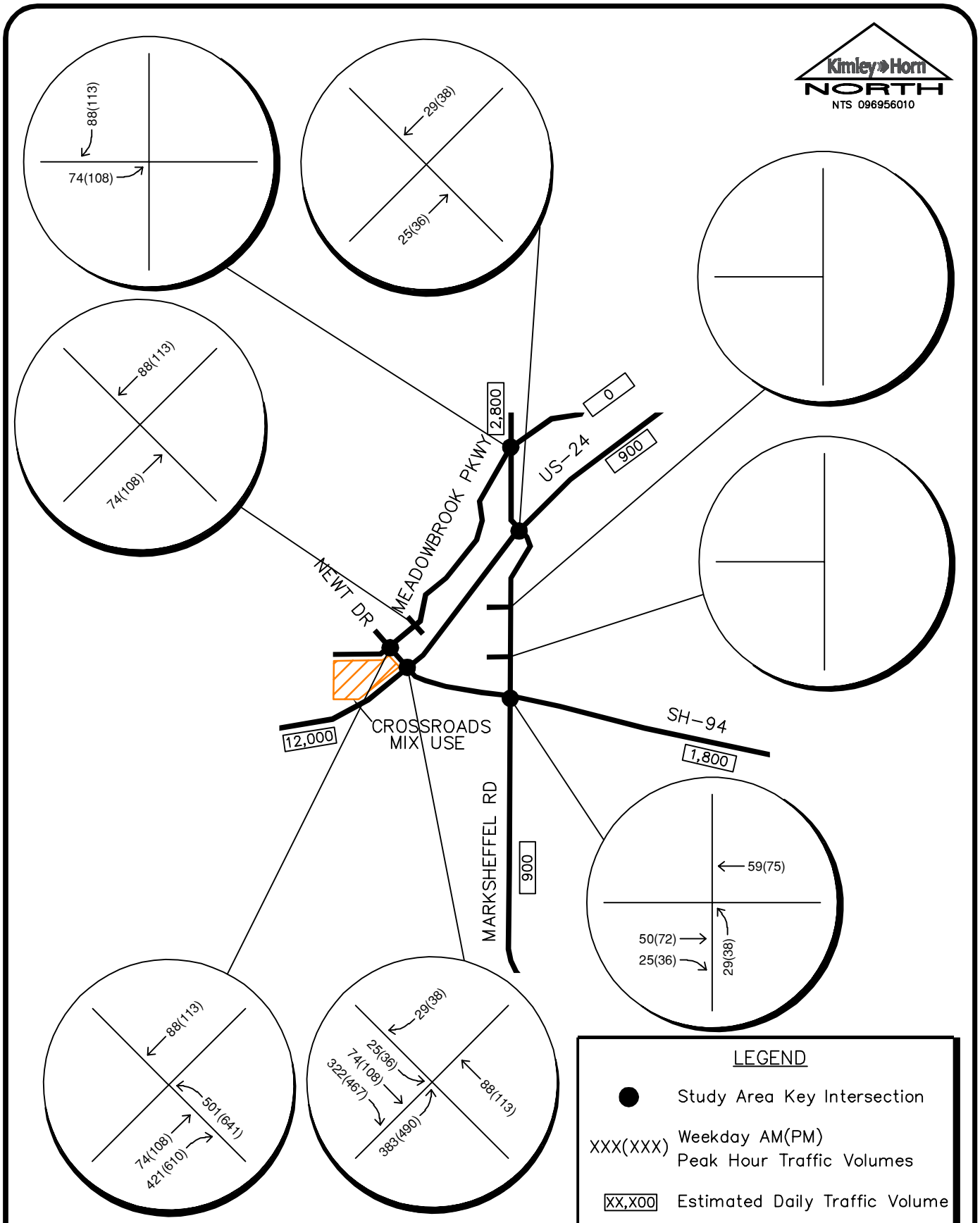


CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
CROSSROADS NORTH
TRAFFIC ASSIGNMENT

FIGURE 11

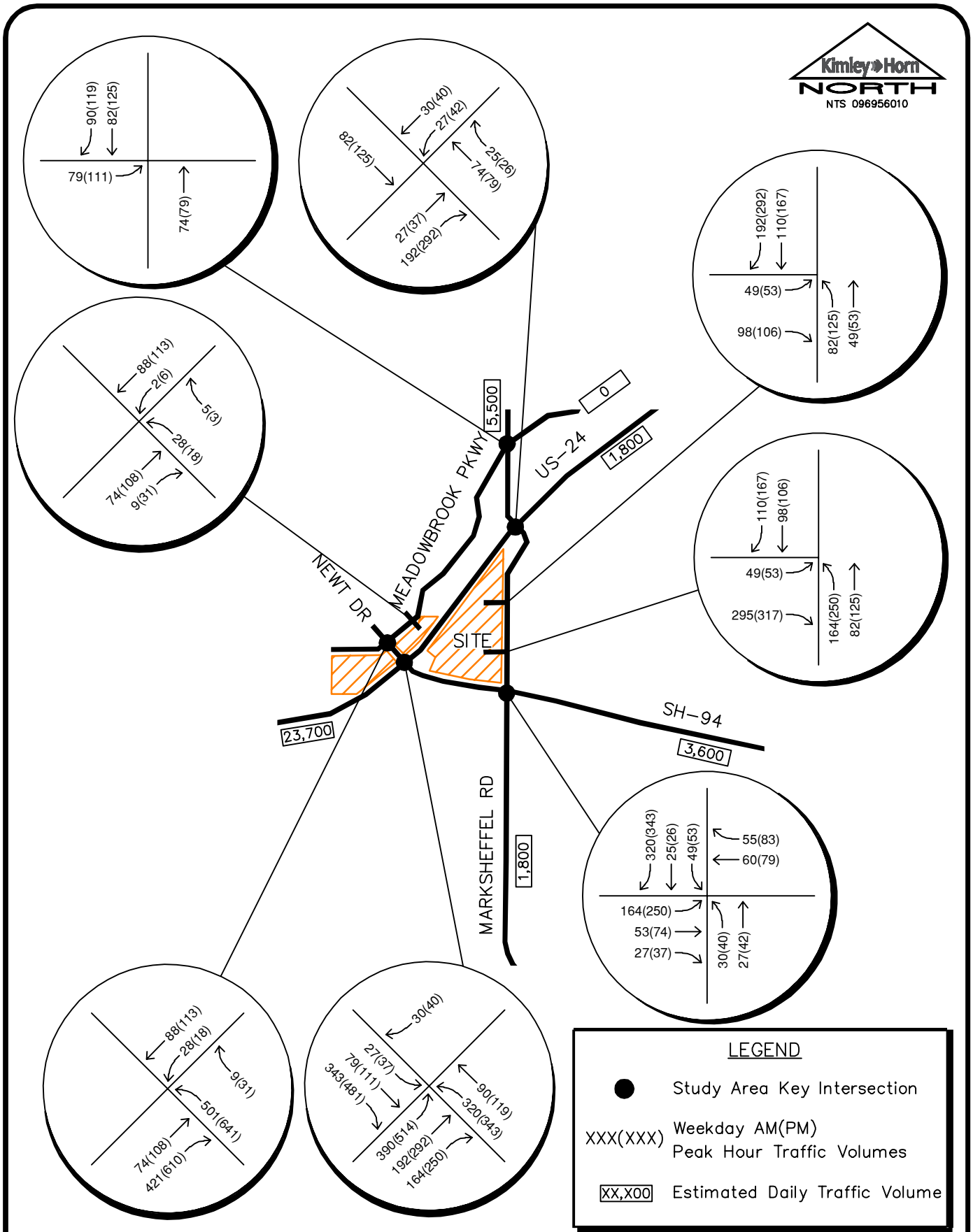
Kimley»Horn



CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
CROSSROADS MIX USE
PROJECT TRAFFIC ASSIGNMENT

FIGURE 12

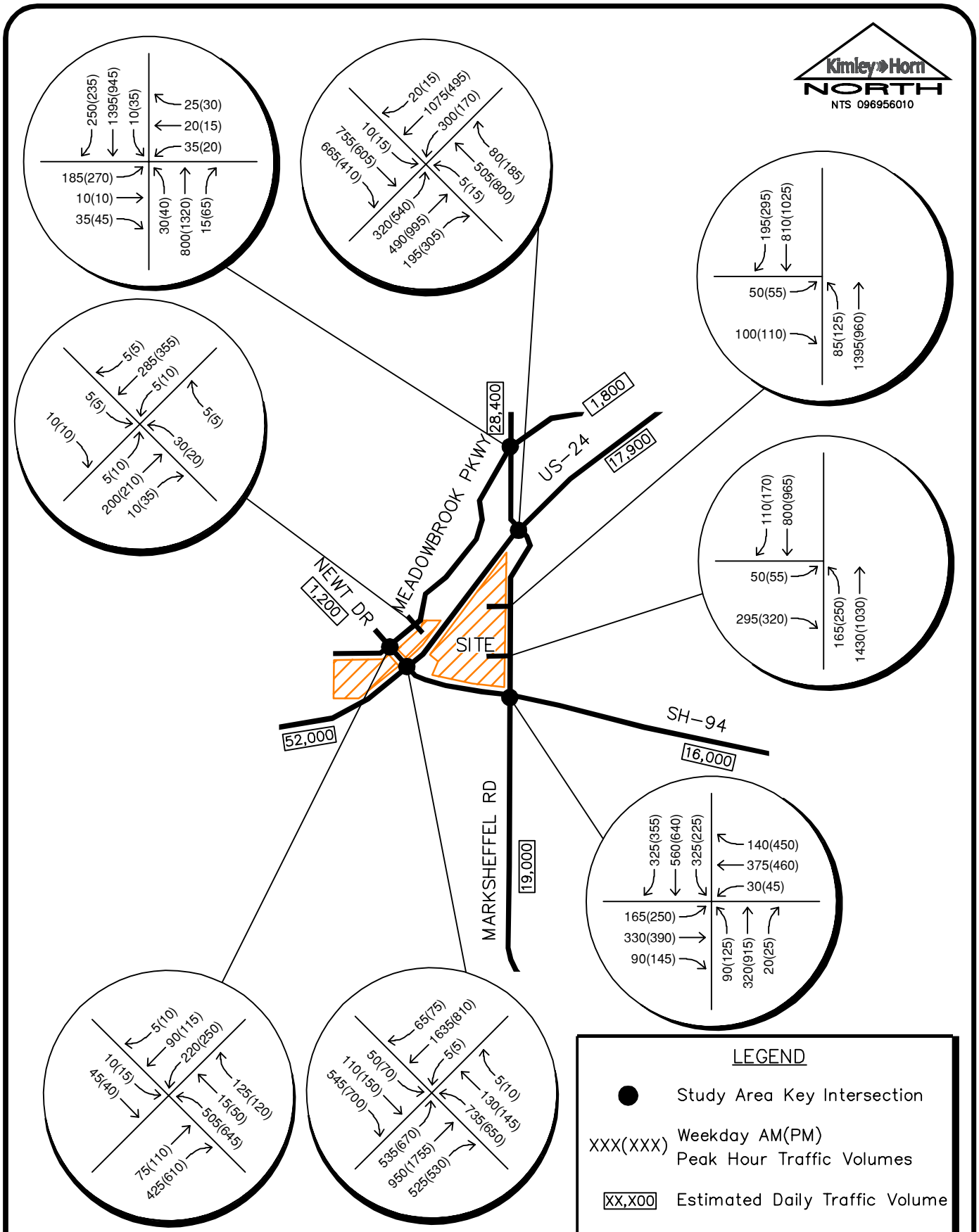
Kimley»Horn



CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
TOTAL PROJECT TRAFFIC ASSIGNMENT

FIGURE 13

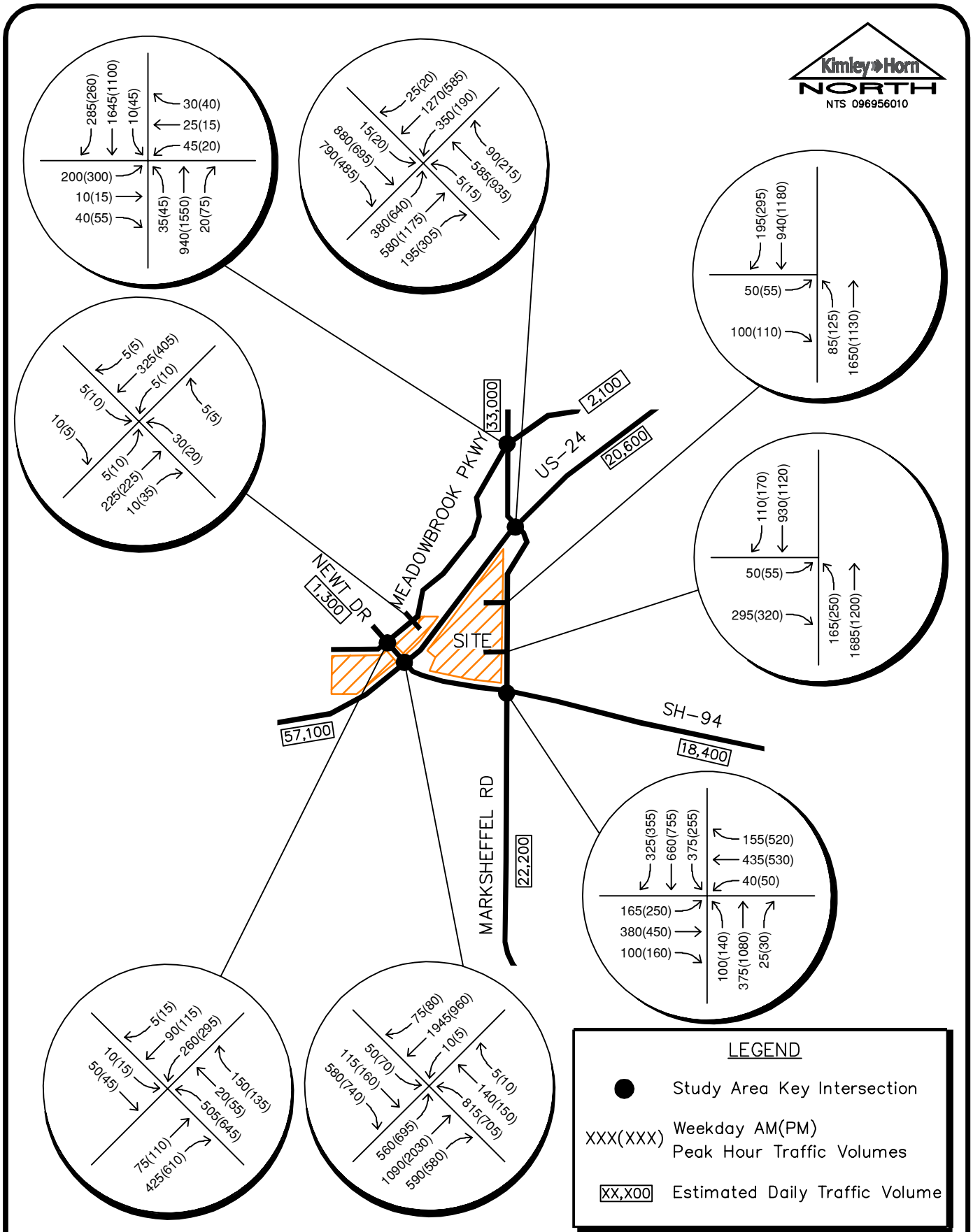
Kimley»Horn



CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
2025 TOTAL TRAFFIC VOLUMES

FIGURE 14

Kimley»Horn



CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
2040 TOTAL TRAFFIC VOLUMES

FIGURE 15

Kimley»Horn

5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2025 and 2040 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is 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, El Paso County recommends LOS D as the minimum threshold for acceptable operations. **Table 2** shows the definition of level of service 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 level of service (LOS) for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. Level of service for a two-way stop-controlled intersection is not defined for the intersection as a whole. Level of service for a signalized and four-way stop controlled intersection is defined for each approach and for the intersection.

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

5.2 Key Intersection Operational Analysis

Calculations for the level of service at the key intersections identified for study are provided in **Appendix D**. The existing and background traffic analyses are based on the lane geometry and intersection control shown in **Figure 3**. The signalized intersection analysis utilizes the observed cycle lengths with existing phasing and timing. Based on increased national attention given to appropriate yellow and all-red clearance intervals to improve intersection safety, these have been calculated and are applied for the approaches to the signalized intersections. The increase in the yellow and all red time sacrifices intersection capacity for improved safety. Existing peak hour factors were used for the existing and 2025 background conditions. The standardized peak hour factor of 0.92 was used for 2025 background plus project and 2040 conditions due to the amount of additional project traffic on the street network. Synchro traffic analysis software was used to analyze the study area intersections and access drives for level of service. The Synchro Highway Capacity Manual (HCM) methodology reports were used to analyze intersection delay and level of service.

Meadowbrook Parkway and Marksheffel Road

Meadowbrook Parkway and Marksheffel Road is a four-leg signalized intersection. This intersection currently operates with LOS B during the morning and afternoon peak hours under the existing lane configuration and signal control. With or without the completion of the proposed developments, the intersection is anticipated to operate acceptably with LOS B during both the morning and afternoon peak hours throughout 2040. **Table 3** provides the results of the level of service at this intersection.

Table 3 – Meadowbrook Parkway and Marksheffel Road LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2020 Existing	10.8	B	12.1	B
2025 Background	11.5	B	12.8	B
2025 Background Plus Project	13.2	B	14.8	B
2040 Background	11.9	B	13.3	B
2040 Background Plus Project	14.5	B	16.5	B

Marksheffel Road and US-24

Marksheffel Road and US-24 is a four-leg signalized intersection. Although US-24 is east-west and Marksheffel Road is north-south, the traffic software at this intersection assigned US-24 as north-south. This intersection currently operates with a LOS D during the morning and afternoon peak hours under the existing lane configuration and signal control. With or without the completion of the proposed developments in 2025, the intersection is anticipated to operate acceptably with LOS D during both the morning and afternoon peak hours.

During the morning peak hour in 2040, the intersection may operate with a LOS E with the addition of development project traffic. If future traffic volumes are realized, it is recommended that the eastbound and westbound right turn lanes along US-24 be converted to a shared through/right turn lane. If this occurs, the existing free northbound and southbound right turn movements on the Marksheffel Road approaches will need to be converted to yield control. With these improvements, the intersection is expected to operate with LOS D during both peak hours in the 2040 total condition. **Table 4** provides the results of the level of service at this intersection.

Table 4 – Marksheffel Road and US-24 LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2020 Existing	37.3	D	39.5	D
2025 Background	38.2	D	39.3	D
2025 Background Plus Project	42.4	D	41.9	D
2040 Background	53.5	D	45.0	D
2040 Background Plus Project	61.2	E	52.2	D
2040 Background Plus Project #	43.5	D	43.7	D

Three Through Lanes along US-24 approaches by absorbing existing right turn lanes as through lanes

clarify sentence. Staff's assuming this is extending Meadowbrook Parkway to Peterson Road.

Newt Drive and Meadowbrook Parkway

The existing intersection of Newt Drive and Meadowbrook Parkway is a three-leg stop-controlled intersection with the east and west legs along Newt Drive providing stop control. This intersection currently operates with all movements at LOS B. In the 2025 background condition the movements at this intersection are anticipated to continue to operate at LOS B. With the completion of the proposed development and specifically the Crossroads Mix Use development area in 2025, a south leg of Meadowbrook Parkway will be constructed. Once this northbound leg is constructed the westbound approach is anticipated to operate at LOS F during both peak hours and the eastbound approach is anticipated to operate at LOS F during the afternoon peak hour. Based on projected traffic volumes, it is recommended that a roundabout with single lane approaches eastbound, northbound and southbound and a shared left turn/through lane with separate right turn lane on westbound Newt Drive be constructed at this intersection in 2025. With the recommended improvements, it is anticipated that the intersection will operate acceptably throughout 2040, with or without the addition of project traffic, with LOS C or better. **Table 5** provides the results of the level of service at this intersection.

Table 5 – Newt Drive and Meadowbrook Parkway LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2020 Existing				
Eastbound Approach	12.5	B	13.7	B
Westbound Approach	12.1	B	13.7	B
2025 Background				
Eastbound Approach	13.3	B	14.6	B
Westbound Approach	12.5	B	14.7	B
2025 Background Plus Project				
Eastbound Approach	25.8	D	58.0	F
Westbound Approach	417.0	F	1007.6	F
Northbound Left	0.0	A	0.0	A
Southbound Left	9.7	A	11.4	B
2025 Background Plus Project #	9.1	A	17.2	C
2040 Background #	4.1	A	4.4	A
2040 Background Plus Project #	9.9	A	20.7	C

Roundabout

SH-94 and US-24

SH-94 and US-24 is a four-leg signalized intersection. Although both highways are east-west, the traffic software at this intersection assigned US-24 as north-south. This intersection currently operates with LOS C during the morning and afternoon peak hours under the existing lane configuration and signal control. With the completion of the proposed development in 2025, the intersection is anticipated to operate poorly during the morning and afternoon peak hours with LOS F. If future project volumes are realized it is recommended that an additional through lane be considered as a regional improvement on the US-24 approaches. The US-24 right turn to eastbound SH-94 is recommended to include a separate right turn lane operating with free movements. The US-24 right turn lane for Newt Drive can be absolved as a shared through/right turn lane. A 150 second cycle length is also needed during the morning peak hour in order to improve operations. It is believed that with these improvements the intersection is at its ultimate configuration. With the ultimate configuration the intersection is anticipated to operate poorly during the morning and afternoon peak hour during the 2040 buildout condition. **Table 6** provides the results of the level of service at this intersection.

Table 6 – SH-94 and US-24 LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2020 Existing	32.4	C	24.0	C
2025 Background	41.0	D	28.6	C
2025 Background Plus Project	183.4	F	121.9	F
2025 Background Plus Project #	70.0	E	48.6	D
2040 Background #	35.1	D	25.3	C
2040 Background Plus Project #	101.4	F	58.5	E

Three northbound through lanes, southbound right turn lane changed to a shared through/right turn lane, eastbound and westbound right turn lane changed from free to yield control. 150 second cycle length for morning peak hour.

SH-94 and Marksheffel Road

The existing intersection of SH-94 and Marksheffel Road is currently a four-leg signalized intersection. This intersection currently operates with LOS C during the morning and afternoon peaks hours with existing traffic volumes and lane configurations. With the completion of the proposed development in 2025 the southbound right turn at this intersection is anticipated to be a free southbound right turn due to CDOT State Highway Access Code guidelines. This intersection is anticipated to operate acceptable with LOS D or better during the 2025 buildout. By 2040 buildout, this intersection operates poorly with LOS E during the afternoon peak hour. For the intersection to operate acceptably during the 2040 buildout, it is recommended to construct dual eastbound left turn lanes with protected only. With this improvement, the intersection is anticipated to operate with LOS D or better in 2040 with project traffic. **Table 7** provides the results of the level of service at this intersection.

Table 7 – SH-94 and Marksheffel Road LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2020 Existing	24.2	C	28.3	C
2025 Background	24.3	C	34.3	C
2025 Background Plus Project #	25.4	C	45.6	D
2040 Background #	22.5	C	30.9	C
2040 Background Plus Project #	44.5	D	74.9	E
2040 Background Plus Project ##	33.8	C	53.2	D

Free southbound right turn
Dual eastbound left turn lanes (protected phasing)

Along with intersection operational analysis roadway link ADT's were analyzed to see it they meet the El Paso County TIS guidelines. It was found that all estimated roadway link ADT's meet the threshold capacities set forth in the El Paso County TIS guidelines with the exception of the segment of US-24 south of SH-94 during the 2040 buildout condition.

Provide analysis/recommendation regarding the NBLT on Marksheffel Rd to Air Lane. What is the required storage/taper and is the existing NBLT sufficient.

Provide analysis/recommendation regarding whether or not a SBRT acceleration lane at the two access points is warranted.

5.3 Project Access Operational Analysis

With completion of the Crossroads-Meadowbrook project, the site proposes two project accesses along the west side of Marksheffel Road for the Crossroads North development area and four project accesses along the east side of Meadowbrook Parkway for Meadowbrook Park and Crossroads Mix Use. Both accesses along Marksheffel Road are proposed to be full movement signalized accesses. The four accesses along Meadowbrook Parkway are proposed to be full movement two-way stop-controlled accesses. The northeastern access along Meadowbrook Parkway for Crossroads Mix Use may be right-in/right-out. The one access for Meadowbrook Park will align with Preble Drive and has an existing two-way left turn lane along Meadowbrook Parkway. All project access driveways are recommended to have R1-1 "STOP" signs installed for the exiting approaches, except for the two accesses along Marksheffel Road which are recommended for signalization.

The north and south accesses along Marksheffel Road are proposed as full movement accesses. El Paso County uses the CDOT State Highway Access Code for determination of turn lanes. Based on this, a right turn lane is required for any access with a projected peak hour right ingress turning volume of 25 vehicles per hour or greater for principal arterials, therefore it is recommended that a southbound right turn lane be constructed at both intersections due to the volumes being 295 vehicles per hour at the north access and 170 vehicles per hour at the south access.

With the recommended lane configurations and two-way stop control, all movements at the project accesses are expected to operate acceptably with LOS D or better during the peak hours in the 2025 and 2040 horizons with exception of movements at both full movement accesses along Marksheffel Road. A four-hour vehicle volume signal warrant analysis was performed at both accesses along Marksheffel Road and the 2025 traffic volume projections do warrant signalization. Therefore, it is recommended that these intersections be signalized with development of Crossroads North. The signal warrant analysis is attached in **Appendix E**. With the signal improvements at both full movement accesses along Marksheffel Road the intersections operate acceptably with LOS B or better throughout the 2040 horizon. The operational analysis at the proposed project driveways is summarized in **Table 8** for the short-term 2025 horizon and for the long-term 2040 horizon. Detailed results of the operational analysis are also provided in **Appendix D**.

Table 8 – Project Access LOS Results

Access and Movement	2022 Total Traffic				2040 Total Traffic			
	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
Marksheffel Road & North Full Access								
Eastbound Left	11.6	B	163.2	F	-	-	-	-
Eastbound Right	28.0	D	15.1	C	-	-	-	-
Northbound Left	12.9	B	15.8	C	-	-	-	-
Marksheffel Road & North Full Access #	4.6	A	5.6	A	4.3	A	5.4	A
Marksheffel Road & South Full Access								
Eastbound Left	24.2	C	48.1	E	-	-	-	-
Eastbound Right	19.2	C	27.4	D	-	-	-	-
Northbound Left	12.0	B	17.3	C	-	-	-	-
Marksheffel Road & South Full Access #	8.3	A	11.2	B	6.7	A	7.7	A
Meadowbrook Parkway & Full Access/Preble Dr								
Eastbound Approach	10.5	B	11.1	B	10.7	B	11.9	B
Westbound Approach	11.3	B	11.8	B	11.4	B	11.9	B
Northbound Left	7.9	A	8.1	A	8.0	A	8.3	A
Southbound Left	7.7	A	7.8	A	7.7	A	7.8	A

Signalized, free eastbound right turn

5.4 Sight Distance Evaluation

It is recommended that appropriate sight distance triangles be provided at all site access points to give drivers exiting the development areas a clear view of oncoming traffic. Landscaping and objects within sight triangles must not obstruct drivers' views of the adjacent travel lanes. Intersection sight distances for left turn from stop and right turn from stop were analyzed for the proposed project accesses along Marksheffel Road and Meadowbrook Parkway.

With AASHTO standards and a design speed of 55 miles per hour along Marksheffel Road, the intersection sight distance for a vehicle turning left from stop is 610 feet, while the sight distance for a vehicle turning right from stop is 530 feet. Therefore, all obstructions for left turning vehicles from stop should be clear to the right within the triangle created with a vertex point located 14.5 feet from the edge of the major road traveled way (typical position of the minor road driver's eye when stopped) and a line of sight distance of 555 feet located in the middle of the nearest lane opposite of the center median for both accesses along Marksheffel Road. Likewise, all obstructions for right turning vehicles from stop should be clear to the left within the

triangle created with a vertex point located 14.5 feet from the edge of the major road traveled way and a line of sight distance of 530 feet located in the middle of the nearest lane for both accesses along Marksheffel Road.

Along with the accesses along Marksheffel Road, the access along Meadowbrook Parkway was analyzed for sight distance requirements. With AASHTO standards and a design speed of 35 miles per hour along Meadowbrook Parkway, the intersection sight distance for a vehicle turning left from stop is 390 feet, while the sight distance for a vehicle turning right from stop is 335 feet. Therefore, all obstructions for left turning vehicles from stop should be clear to the right within the triangle created with a vertex point located 14.5 feet from the edge of the major road traveled way (typical position of the minor road driver's eye when stopped) and a line of sight distance of 445 feet located in the middle of the nearest lane opposite of the center median for the access along Meadowbrook Parkway. Likewise, all obstructions for right turning vehicles from stop should be clear to the left within the triangle created with a vertex point located 14.5 feet from the edge of the major road traveled way and a line of sight distance of 335 feet located in the middle of the nearest lane for the access along Meadowbrook Parkway.

5.5 Bicycle and Pedestrian Access

Bicycle and pedestrian access evaluations were conducted for the Crossroads-Meadowbrook project. This focused on the areas of Meadowbrook Parkway, Marksheffel Road, US-24, and SH-94 adjacent to the site development areas. The following provides a description of the assessment.

Adjacent to the site, Meadowbrook Parkway provides the only sidewalks within the project area along both sides of the street. Pedestrian access is good along Meadowbrook Parkway between Newt Drive and Marksheffel Road with wide sidewalks with minimal gaps and signalized crossings of Marksheffel Road, where a great level of service exists for pedestrians. To the east of Marksheffel Road, Meadowbrook Parkway leads into a neighborhood with no sidewalks on either side of the road. Although the only sidewalks that exist within the study area are on Meadowbrook Parkway there are very few destinations outside of the ones provided on Meadowbrook Parkway. The only new sidewalks shown on the site plan are along the east side of Meadowbrook Parkway at the Meadowbrook Park development.

Transit within the Colorado Springs area is provided by Mountain Metropolitan Transit. From review of the most recent route map from August 1, 2019 there are currently no transit routes that run through the site area.

5.6 CDOT Access Permit Analysis Need

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. Based on traffic projections, the addition of project traffic at the SH-94 and US-24 intersection, along with the project traffic on the north leg of SH-94 and Marksheffel Road is anticipated to increase existing access traffic volumes by more than 20 percent during the peak hour; therefore, it is believed that access permits will be required by CDOT for these approaches in association with this project.

Since US-24 and SH-94 are state owned and maintained facilities, it is recommended that auxiliary turn lanes along US-24 and SH-94 be constructed in accordance with the current CDOT State Highway Access Code (SHAC). CDOT categorizes the segments of US-24 and SH-94 through the study area as E-X: Expressway, Major Bypass. According to the State Highway Access Code for category E-X roadways, the following thresholds apply:

- A left turn deceleration lane and taper with storage length is required for any access with a projected peak hour left ingress turning volume greater than 10 vehicles per hour (vph), a left turn lane with deceleration, storage, and transition taper lengths is required for any access.

- A right turn lane with deceleration and taper lengths is required for any access with a projected peak hour right ingress turning volume greater than 10 vph.

- A right turn lane with acceleration and taper lengths is required for any access with a project peak hour turning volume greater than 10 vph.

Based on traffic projections and the above thresholds, auxiliary turn lane requirements were calculated for SH-94/US-24 intersection and the north leg of the SH-94/Marksheffel Road intersection. SH-94 provides one lane of travel in each direction and has a posted speed limit of

40 miles per hour at US-24 and 55 miles per hour at Marksheffel Road. US-24 provides two lanes of travel in each direction and has a posted speed limit of 55 miles per hour within the study area. As such, turn lane requirements at the study area intersections along SH-94 and US-24 are as follows:

US-24 and SH-94

- A westbound left turn deceleration lane **is** warranted along the SH-94 approach to US-24 based on projected 2025 background plus project traffic being 735 westbound left turns during the peak hour and the threshold being 10 vph. Since SH-94 has a category of E-X the left turn lane requirement is deceleration, storage, and taper lengths. There are currently dual westbound left-turn lanes with an average length of 475 and the taper is approximately 300 feet. Based on the 40-mile per hour speed limit, the deceleration lane length is 370 feet plus a 145-foot taper. The storage requirement is 735 feet in two lanes, or 370 feet per lane. Therefore, the existing dual westbound left turn lanes are recommended to be lengthened to 740 feet with a 145 foot taper.

- A northeastbound left turn deceleration lane **is** warranted along US-24 approach to Newt Drive/SH-94 based on projected 2025 background plus project traffic being 670 left turns during the peak hour. Since US-24 has a category of E-X the left turn lane requirement is deceleration, storage, and taper lengths. Currently the northbound left-turn lane is approximately 900 feet long and the taper is approximately 150 feet. Based on the 55-mile per hour speed limit, the deceleration lane length is 600 feet, plus a 225-foot taper, and 670 feet of storage for a total length of 1,270 feet plus 225-foot taper. However, by 2025 it is recommended that dual northeastbound US-24 left turn lanes be designated at this intersection. Dividing the storage in half results in 935-foot plus 225-foot taper northeastbound dual left turn lanes.

- A northbound right turn deceleration lane **is** warranted based on projected 2025 background plus project traffic being 530 northbound right turns during the peak hour and the threshold being 10 vph. Since US-24 has a category of E-X the right turn lane requirement is deceleration, and taper lengths. The northbound right turn lane is currently 600 feet with a 225-foot taper, which meets CDOT SHAC standards based on the 55-mile per hour speed limit. Therefore, no turn lane modifications would be

recommended for the northbound right turn lane at this intersection of SH-94 and US-24, but this northeastbound US-24 right turn lane should be maintained and constructed if and when US-24 is converted to three through lanes.

- An eastbound right turn acceleration lane along SH-94 from the northeastbound US-24 right turn **is** warranted based on projected 2025 background plus project traffic being 530 northbound right turns during the peak hour and the threshold being 10 vph. Since US-24 has a category of E-X the right turn lane requirement is acceleration, and taper lengths. The right turn lane currently has a 425-foot acceleration lane with a 350-foot taper. Based on the 40-mile per hour speed limit, the acceleration lane length is 380 feet plus a 145-foot taper. Therefore, the existing northbound right turn acceleration lane meets current CDOT SHAC requirements and no turn lane modifications are anticipated to be needed for this acceleration lane.

- A southwestbound US-24 left turn deceleration lane **is not** warranted based on projected 2040 background plus project traffic being 5 southbound left turns during the peak hour and the threshold being 10 vph.

- A southwestbound US-24 right turn deceleration lane **is** warranted based on projected 2025 background plus project traffic being 75 southbound right turns during the peak hour and the threshold being 10 vph. Since US-24 has a category of E-X the right turn lane requirement is deceleration, and taper lengths. The southbound right turn lane is currently 800 feet long with a 200-foot taper. Based on the 55-mile per hour speed limit, the deceleration lane length is 600 feet plus a 225-foot taper. Therefore, the existing southbound right turn lane meets current CDOT SHAC requirements. Of note, by 2025 this southbound right turn lane may need to be absorbed by the construction of a third southbound through lane.

- A southwestbound acceleration lane along US-24 from the Newt Drive right turn **is** warranted based on projected 2025 background plus project traffic. Since US-24 has a category of E-X and a speed limit of 55 mph the right turn lane requirement is acceleration, and taper lengths. This acceleration lane exists today for a length of 760 feet plus 225-foot taper, which meets current CDOT SHAC requirements. Therefore, no

turn lane modifications are recommended for this acceleration lane along southwestbound US-24.

SH-94 and Marksheffel Road

- An eastbound left turn deceleration lane **is** warranted based on projected 2025 background plus project traffic being 250 eastbound left turns during the peak hour and the threshold being 10 vph. Since SH-94 has a category of E-X the left turn lane requirement is deceleration, storage, and taper lengths. Currently the eastbound left-turn lane is approximately 300 feet long and the taper is approximately 125 feet. Based on the 55-mile per hour speed limit, the deceleration lane length is 600 feet, plus a 225-foot taper. It is recommended that this lane be constructed to 850 feet with a 225 foot taper by 2025.

- A westbound right turn deceleration lane **is** warranted based on projected 2025 background plus project traffic being 450 westbound right turns during the peak hour and the threshold being 10 vph. Since SH-94 has a category of E-X the right turn lane requirement is deceleration and taper lengths. The westbound right turn lane is currently 250 feet with a 250-foot taper. Based on the 55-mile per hour speed limit, the deceleration lane length is 600 feet plus a 225-foot taper. Therefore, the existing westbound right turn lane does not meet current CDOT SHAC requirements. It is recommended that this lane be constructed to 600 feet with a 225-foot taper by 2025.

- A westbound acceleration lane along SH-94 from the Marksheffel Road southbound right turn **is** warranted based on projected 2025 background plus project traffic being 450 westbound right turns during the peak hour and the threshold being 10 vph. Since SH-94 has a category of E-X the right turn lane requirement is acceleration, and taper lengths. The right turn lane currently has no acceleration lane. Based on the 50-mile per hour speed limit, a 760-foot acceleration lane with a 225-foot taper is recommended. It is recommended that this acceleration lane be a continuous lane to tie into the outside westbound through lane on the approach to US-24.

5.7 Queuing Analysis

A vehicle queuing analysis was conducted for the study area intersections. The queuing analysis was performed using Synchro presenting the results of the 95th percentile queue lengths. Results are shown in the following **Table 9** with calculations provided within the level of service operational sheets of **Appendix D** for the unsignalized intersections and **Appendix F** for signalized intersections.

Table 9 – Turn Lane Storage Length Analysis Results

Intersection Turn Lane	Existing Turn Lane Length (feet)	2025 Total Queue Length (feet)	2025 Recommended Turn Lane Length (feet)	2040 Total Queue Length (feet)	2040 Recommended Turn Lane Length (feet)
Meadowbrook Pkwy & Marksheffel Rd					
Eastbound Left	200' DL	154' DL	200' DL	168' DL	200' DL
Eastbound Right	150'	10'	150'	20'	150'
Westbound Left	250'	53'	250'	62'	250'
Westbound Right	200'	0'	200'	0'	200'
Northbound Left	425'	24'	425'	24'	425'
Southbound Left	350'	35'	350'	87'	350'
Southbound Right	350'	30'	350'	33'	350'
Marksheffel Rd & US-24					
Marksheffel Eastbound Left	375'	30'	375'	32'	375'
Marksheffel Westbound Left	300'	16'	300'	28'	300'
Marksheffel Westbound Right	375'	0'	375'	0'	375'
US-24 Northbound Left	1000' DL	205' DL	1000' DL	266' DL	1000' DL
US-24 Northbound Right	575'	0'	575'	0' #	**C #**
US-24 Southbound Left	1000'	322'	1000'	419'	1000'
US-24 Southbound Right	700'	0'	700'	0' #	**C #**
US-24 & SH-94					
SH-94 Eastbound Left	375' DL	46' DL	375' DL	51' DL	375' DL
SH-94 Westbound Left	475' DL	**575' DL**	**740' (CDOT) DL**	**695' DL**	740' (CDOT) DL
SH-94 Westbound Right	475'	0'	475'	0'	475'
US-24 Northbound Left	900'	428' DL	**935' (CDOT) DL**	491' DL	935' (CDOT) DL
US-24 Northbound Right	600'	0'	600'	0'	600'
US-24 Southbound Left	800'	10'	800'	15'	800'
US-24 Southbound Right	800'	0' #	**C #**	0' #	C #
SH-94 & Marksheffel Rd					
Eastbound Left	300'	**426'**	**850' (CDOT)**	211' DL	850' CDOT DL
Eastbound Right	250'	18'	250'	41'	250'
Westbound Left	225'	51'	225'	71'	225'
Westbound Right	250'	**252'**	**600' (CDOT)**	**541'**	600' (CDOT)
Northbound Left	375'	101'	375'	103'	375'
Northbound Right	400'	0'	400'	0'	400'
Southbound Left	400'	313'	400'	374'	400'
Southbound Right	400'	0'	**C**	115'	C

update per comment on fig. 8

Intersection Turn Lane	Existing Turn Lane Length (feet)	2025 Total Queue Length (feet)	2025 Recommended Turn Lane Length (feet)	2040 Total Queue Length (feet)	2040 Recommended Turn Lane Length (feet)
Marksheffel Rd & North Full Access ^					
Eastbound Left	DNE	88’	C	88’	C
Eastbound Right	DNE	57’	C	57’	C
Northbound Left	TWLTL	99’	TWLTL	109’	TWLTL
Southbound Right	DNE	43’	235’	59’	235’
Marksheffel Rd & South Full Access ^					
Eastbound Left	DNE	83’	C	83’	C
Eastbound Right	DNE	93’	C	125’	C
Northbound Left	250’	78’	250’	97’	250’
Southbound Right	DNE	19’	235’	24’	235’
Meadowbrook Pkwy & Full Access/Preble Dr					
Westbound Approach	C	25’	C	25’	C
Eastbound Approach	DNE	25’	C	25’	C
Northbound Left	TWLTL	25’	TWLTL	25’	TWLTL
Southbound Left	TWLTL	25’	TWLTL	25’	TWLTL

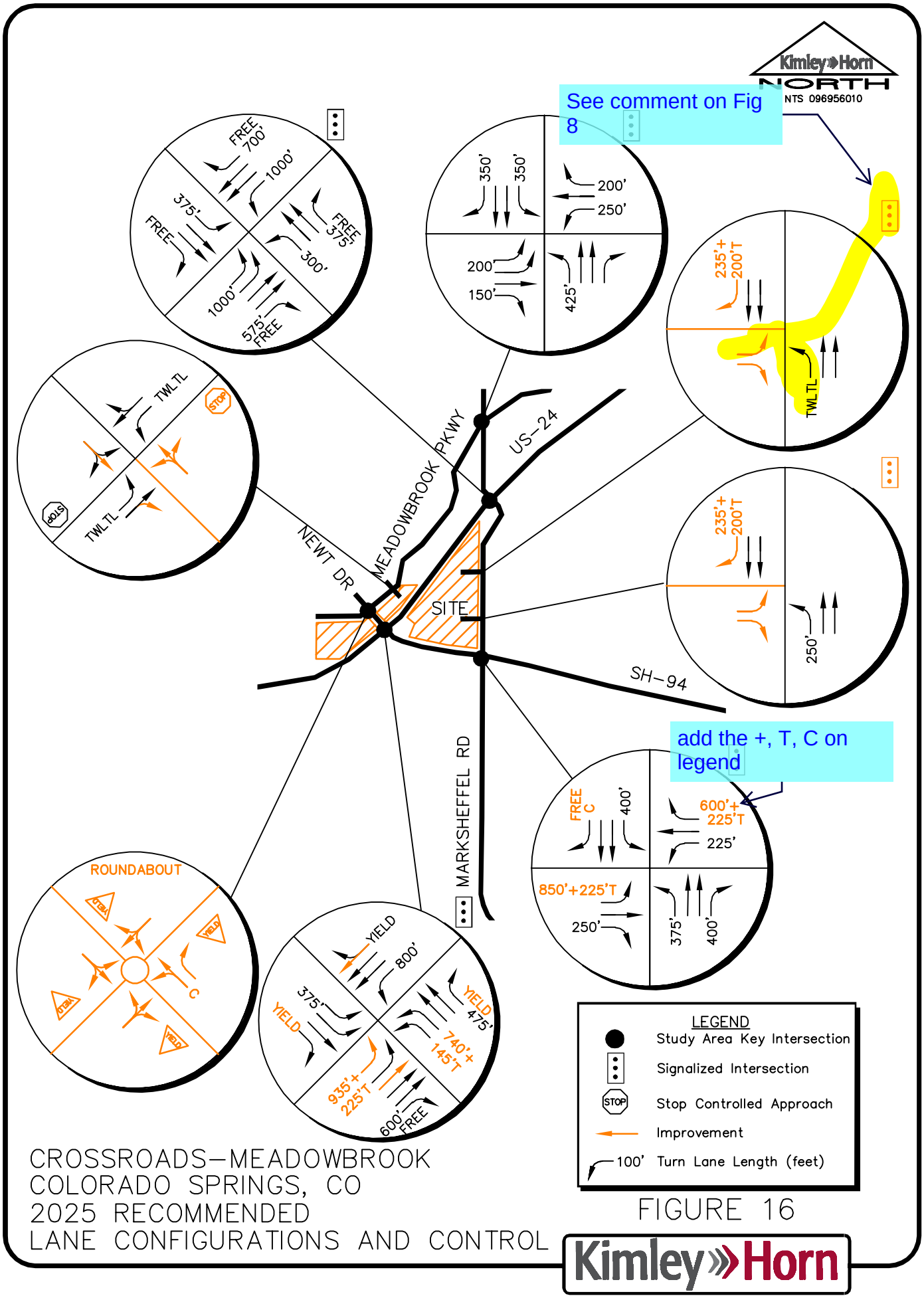
^ = Signalized, # = Through/Right Turn Lane, DL = Dual Turn Lanes, TWLTL = Two-Way Left Turn Lane, * = Maximum Length, DNE = Does Not Exist, C = Continuous

Update footnote to include definition regarding the blue and red colors.

If future traffic volumes are realized by 2025, the following turn lanes need to be lengthened to accommodate the queues; the westbound left turn lanes at the intersection of US-24 and SH-94 needs to be lengthened to 740 feet with a 145 foot taper, and the eastbound left turn and westbound right turn lane at the intersection of SH-94 and Marksheffel Road need to be lengthened to 850 feet with a 225 foot taper and 600 feet with a 225 foot taper, respectively per CDOT SHAC requirements.

5.8 Intersection Improvement Summary

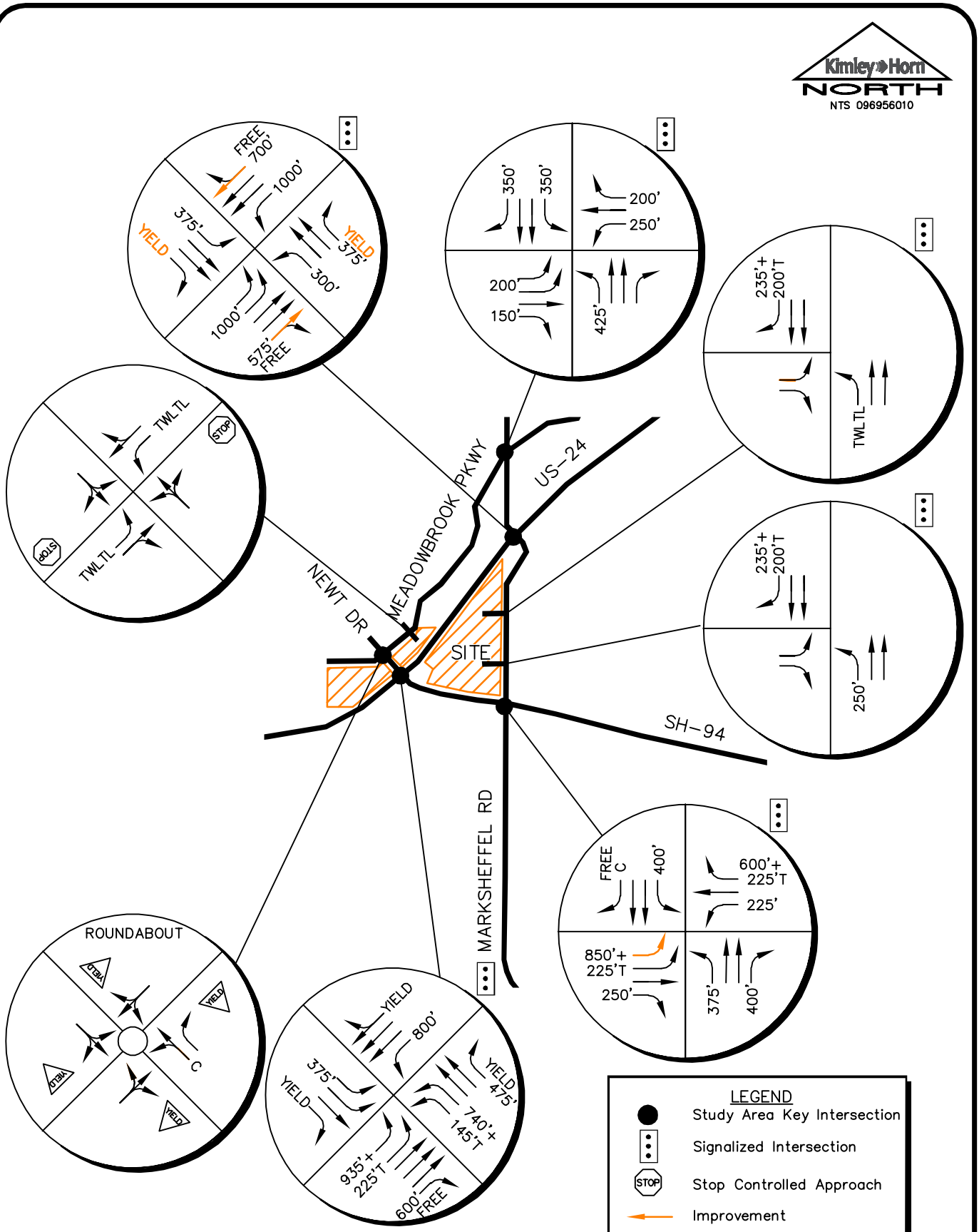
Based on the results of the level of service operational and turn lane analysis for Crossroads-Meadowbrook, the recommended lane configurations and control of the study area intersections for the 2025 short term build out horizon as well as the 2040 long-term twenty-year horizon are shown in **Figures 16** and **17**, respectively. Likewise, a recommended improvements summary table is provided in **Table 10**. The recommended improvements for nonregional commitments identified in the table shows all geometry, control, and storage lane improvements along with the project participation percentage and development area associated with that recommended improvement.



CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
2025 RECOMMENDED
LANE CONFIGURATIONS AND CONTROL

FIGURE 16

Kimley»Horn



CROSSROADS–MEADOWBROOK
COLORADO SPRINGS, CO
2040 RECOMMENDED
LANE CONFIGURATIONS AND CONTROL

FIGURE 17

Kimley»Horn

Add a legend or footnote on this table.

Table 10 – Crossroads – Meadowbrook Intersection Improvement Summary

Intersection	Improvements	Project Participation Percentage	Associated Development Area
Newt Drive and Meadowbrook Parkway	Roundabout Control	PM Peak 1521/1965 **77.4%**	Crossroads Mix Use
SH-94 and US-24	Restripe and extend 900-foot northeastbound dual left turn lanes along US-24 to 935-feet with 225-foot taper	PM Peak 514/670 **76.4%**	Crossroads Mix Use
	Extend the 475-foot westbound dual left turn lanes along SH-94 to 740 feet with a 145-foot taper	PM Peak 343/650 **52.7%**	Crossroads North
SH-94 and Marksheffel Road	Extend the 300-foot eastbound left turn lane to 850 feet with a 225-foot taper	PM Peak 250/250 **100%**	Crossroads North
	Extend the 250-foot westbound right turn lane to 600 feet with a 225-foot taper	PM Peak 83/450 **18.4%**	Crossroads North
	Construct acceleration lane along westbound SH-94 from southbound right turn at Marksheffel Road (free rights)	PM Peak 343/355 **96.6%**	Crossroads North
Marksheffel Road and North Full Access	Signalized control	**100%**	Crossroads North
Marksheffel Road and South Full Access	Signalized control	**100%**	Crossroads North
Meadowbrook Parkway	Three-lane roadway west of Newt Drive	**100%**	Crossroads Mix Use

See comment on Fig 8

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes the proposed Crossroads-Meadowbrook project areas will be successfully incorporated into the existing and future roadway network. The proposed project development and expected traffic volumes resulted in the following recommendations/conclusions:

2025 Recommendations:

- A CDOT Access Permit will be required for the Newt Drive north leg of the US-24 intersection in association with the Crossroads Mix Use development. Likewise, CDOT Access Permits will be required for the south leg of SH-94 at US-24 and north leg of Marksheffel Road at SH-94 in association with the Crossroads North development.

- It is recommended that a single lane roundabout be constructed at the Meadowbrook Parkway and New Drive intersection with development of the Crossroads Mix Use project. It is recommended that the roundabout have single lane approaches on the eastbound Newt Drive, northbound Meadowbrook Parkway, and southbound Meadowbrook Parkway approaches and a two-lane approach on westbound Newt Drive with a shared left turn/through lane into the roundabout and a separate right turn lane.

- The intersection of SH-94 and US-24 is projected to operate poorly in 2025 with the existing intersection configuration. Therefore, US-24 may need to provide three through lanes in each direction through this intersection in the near-term horizon. The additional through lanes are a regional capacity improvement that should be considered by CDOT and El Paso County in the near future. If and when US-24 is improved to provide three through lanes in each direction, it is recommended that a separate 600-foot plus 225-foot taper right turn lane be constructed to maintain free right turn movements to eastbound SH-94. The third southwestbound through lane along US-24 can be designated by absorbing the existing right turn lane. The six-lane section of US-24 can occur between the Peterson Road interchange to the west and transition back to a four-lane roadway east of SH-94. In addition to these regional improvements, it is recommended that the existing single 900-foot left turn lane be extended to 935-feet plus 225-foot taper with dual left turn lanes on the northeastbound US-24 approach for the

left turn to Newt Drive. The area for these dual lefts is presently mostly available; however, the lane is striped out which will require restriping and a slight extension may also need to be constructed. A traffic signal modification will be required at the intersection to incorporate these improvements.

update

- Traffic signals are anticipated to be needed and warranted at both full movement access intersections along Marksheffel Road for Crossroads North. Therefore, traffic signals are recommended for installation at these intersections with development of Crossroads North. It is recommended that a 235-foot with 200-foot taper (based on El Paso County standards for 50 mph) southbound right turn lane be constructed at both access intersections along Marksheffel Road due to the volume of traffic entering Crossroads North at this access. Likewise, separate eastbound left turn and right turn lanes are recommended to serve exiting traffic out of Crossroads North.

- All project access driveways for Meadowbrook Park and Crossroads Mix Use are recommended to be two-way stop-controlled with R1-1 “STOP” signs installed for the exiting approaches.

- From the CDOT SHAC analysis it was found that a westbound acceleration lane is needed from the southbound right turn at the intersection of SH-94 and Marksheffel Road in association with the Crossroads North project. It is recommended that the acceleration lane be constructed as a continuous lane to tie into the outside through lane on the westbound approach to US-24.

- It is recommended that the following turn lanes be lengthened to CDOT standards and accommodate future projected queue lengths; the 475-foot westbound SH-94 dual left turn lanes at the intersection of US-24 and SH-94 need to be lengthened to 740 feet with a 145 foot taper (in association with Crossroads North), and the 300-foot eastbound left turn lane and the 250-foot westbound right turn lane at the intersection of SH-94 and Marksheffel Road need to be lengthened to 850 feet with a 225 foot taper and 600 feet with a 225 foot taper, respectively (in association with Crossroads North).

- Meadowbrook Parkway will be extended along Crossroads Mix Use development project area in association with that project. It is recommended that this roadway be designated as a three-lane roadway with a center two-way left turn lane.

2040 Recommendations:

- If future traffic volume projections are realized, US-24 may need to provide three through lanes in each direction through the Marksheffel Road intersection. If and when this occurs, it is believed that the existing separate eastbound and westbound US-24 right turn lanes could be converted to shared through/right turn lanes.

- At the SH-94 and Marksheffel Road intersection, dual eastbound left turn lanes operating with protected only phasing may be needed to provide acceptable operations.

General Recommendations:

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

1. Identify the projected ADT for Air Lane (southern access, 60' ROW corridor) and provide street classification recommendation regarding Air Lane. Engineering Criteria Manual (ECM) Chapter 2 Table 2-6 and 2-7 includes the design ADT for the given street functional classification.

2. Provide internal street road classification for Meadowbrook Plaza and state if these are planned to be public or private roads.

2. Provide a discussion regarding the MTCP Corridor preservation plan. The MTCP identifies Marksheffel Rd as a 6-lane Expressway. Identify the existing ROW, required ROW and, if applicable, the ROW preservation.

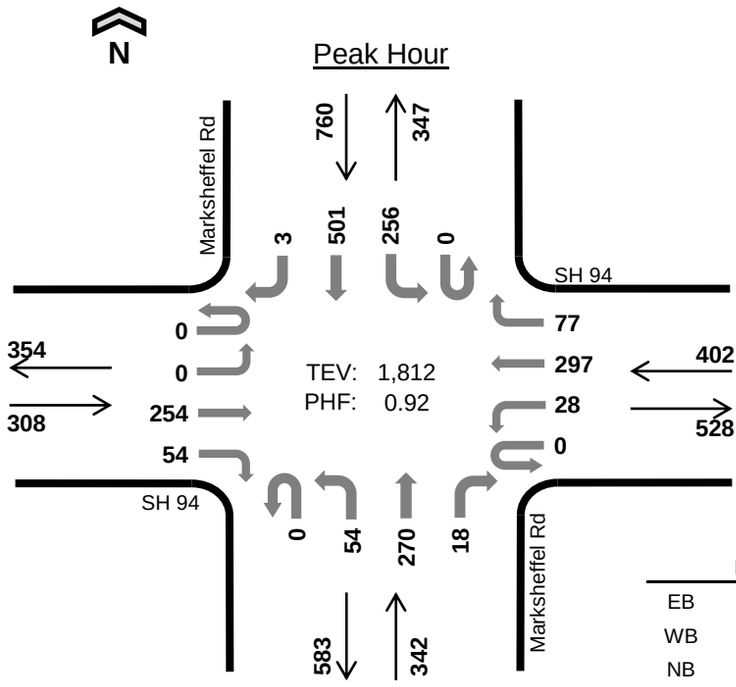
3. Read the Road Impact Fee Implementation Document specifically Appendix 2. Identify any improvements affected by the development that may be an eligible intersection improvement or eligible roadway improvement. Staff is thinking of the Roundabout.
Be advised: Initiating a credit request and entering into a credit agreement with the County is the applicants responsibility. If the applicant intends to move forward with such request then they need to coordinate with the Principal Transportation Planner for the EPC Department of Public Works.

APPENDICES

APPENDIX A

Intersection Count Sheets

Marksheffel Rd
SH 94



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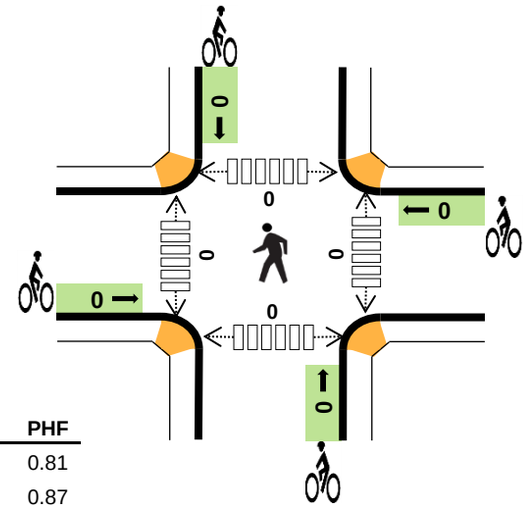
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	8.1%	0.81
WB	5.5%	0.87
NB	4.7%	0.82
SB	2.6%	0.87
TOTAL	4.6%	0.92

Two-Hour Count Summaries

Interval Start	SH 94 Eastbound				SH 94 Westbound				Marksheffel Rd Northbound				Marksheffel Rd 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**	**57**	**8**	**0**	**2**	**73**	**22**	**0**	**11**	**71**	**7**	**0**	**79**	**110**	**0**	**440**	0
7:15 AM	**0**	**0**	**79**	**16**	**0**	**7**	**87**	**21**	**0**	**10**	**51**	**3**	**0**	**74**	**143**	**1**	**492**	0
7:30 AM	**0**	**0**	**61**	**21**	**0**	**8**	**69**	**13**	**0**	**24**	**76**	**4**	**0**	**67**	**133**	**1**	**477**	0
7:45 AM	**0**	**0**	**57**	**9**	**0**	**11**	**68**	**21**	**0**	**9**	**72**	**4**	**0**	**36**	**115**	**1**	**403**	**1,812**
8:00 AM	0	4	39	14	0	2	43	12	0	10	50	2	0	47	115	1	339	1,711
8:15 AM	0	0	61	11	0	2	49	21	0	8	59	2	0	32	89	0	334	1,553
8:30 AM	0	1	50	15	0	6	67	25	0	9	52	4	0	32	85	1	347	1,423
8:45 AM	0	0	36	14	0	4	44	17	0	14	49	1	0	21	85	2	287	1,307
Count Total	0	5	440	108	0	42	500	152	0	95	480	27	0	388	875	7	3,119	0
Peak Hour	**0**	**0**	**254**	**54**	**0**	**28**	**297**	**77**	**0**	**54**	**270**	**18**	**0**	**256**	**501**	**3**	**1,812**	**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**	**2**	**5**	**5**	***16***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**6**	**4**	**4**	**4**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**9**	**6**	**4**	**8**	***27***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**6**	**10**	**3**	**3**	***22***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	3	7	2	9	*21*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	10	5	2	4	*21*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	8	5	8	7	*28*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	8	6	1	5	*20*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	54	45	29	45	*173*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**25**	**22**	**16**	**20**	***83***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

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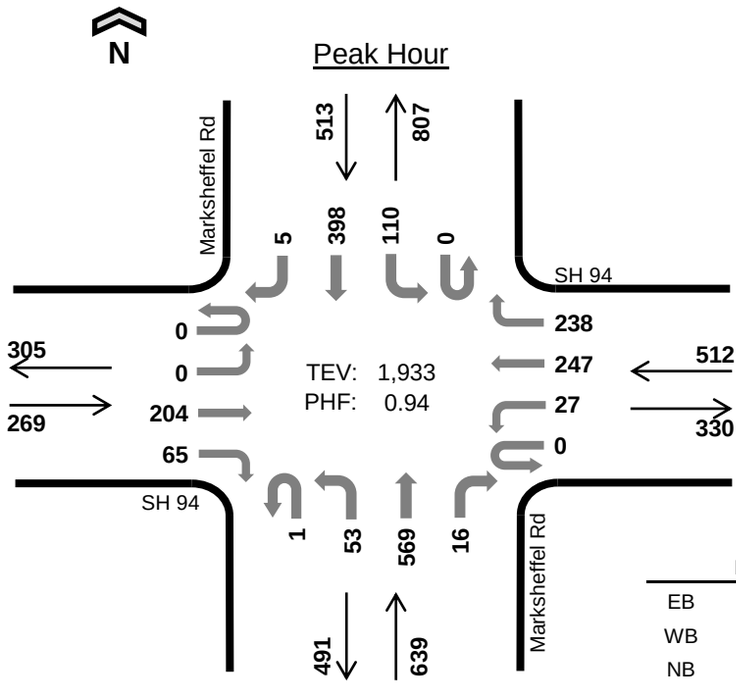
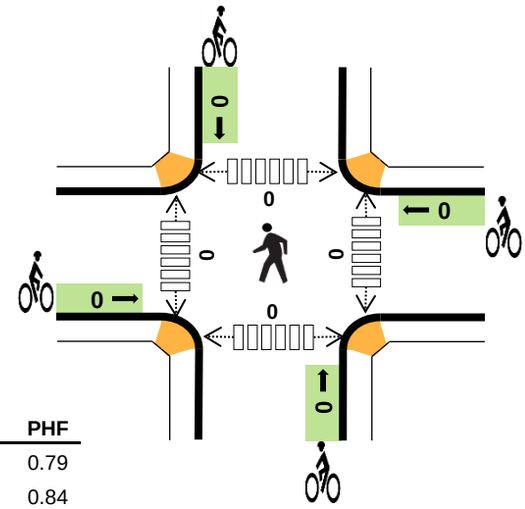
Marksheffel Rd
SH 94



Date: Tue, Jun 02, 2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM



	HV %:	PHF
EB	3.3%	0.79
WB	2.7%	0.84
NB	2.3%	0.92
SB	3.9%	0.97
TOTAL	3.0%	0.94

Two-Hour Count Summaries

Interval Start	SH 94 Eastbound				SH 94 Westbound				Marksheffel Rd Northbound				Marksheffel Rd 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**	**58**	**27**	**0**	**7**	**63**	**49**	**0**	**14**	**140**	**2**	**0**	**24**	**94**	**1**	**479**	0
4:15 PM	**0**	**0**	**57**	**15**	**0**	**10**	**65**	**78**	**1**	**10**	**142**	**6**	**0**	**28**	**102**	**1**	**515**	0
4:30 PM	**0**	**0**	**42**	**13**	**0**	**6**	**47**	**62**	**0**	**12**	**159**	**2**	**0**	**25**	**105**	**1**	**474**	0
4:45 PM	**0**	**0**	**47**	**10**	**0**	**4**	**72**	**49**	**0**	**17**	**128**	**6**	**0**	**33**	**97**	**2**	**465**	**1,933**
5:00 PM	1	1	72	14	0	5	52	48	0	8	107	2	0	20	84	2	416	1,870
5:15 PM	1	0	73	13	0	5	37	44	0	18	112	3	0	29	110	0	445	1,800
5:30 PM	0	0	69	19	0	1	40	31	0	12	75	3	0	28	115	0	393	1,719
5:45 PM	0	0	47	21	0	0	32	31	0	7	122	2	0	28	110	0	400	1,654
Count Total	2	1	465	132	0	38	408	392	1	98	985	26	0	215	817	7	3,587	0
Peak Hour	**0**	**0**	**204**	**65**	**0**	**27**	**247**	**238**	**1**	**53**	**569**	**16**	**0**	**110**	**398**	**5**	**1,933**	**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	**1**	**5**	**4**	**7**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**2**	**3**	**4**	**4**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**2**	**4**	**5**	**8**	***19***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**4**	**2**	**2**	**1**	***9***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:00 PM	1	2	2	4	*9*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	2	1	3	2	*8*	0	0	1	0	*1*	0	0	0	0	*0*
5:30 PM	3	0	2	1	*6*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	1	3	4	*9*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	16	18	25	31	*90*	0	0	1	0	*1*	0	0	0	0	*0*
Peak Hour	**9**	**14**	**15**	**20**	***58***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

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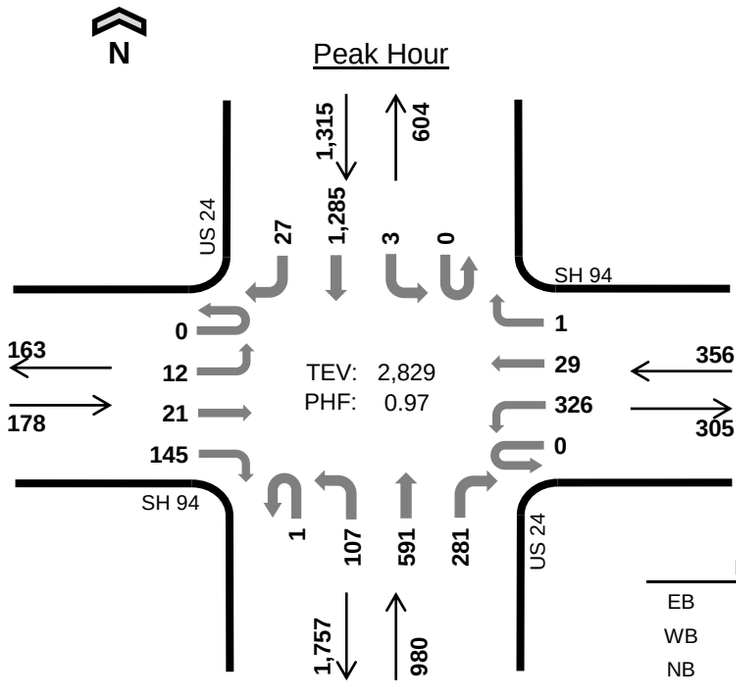
US 24
SH 94



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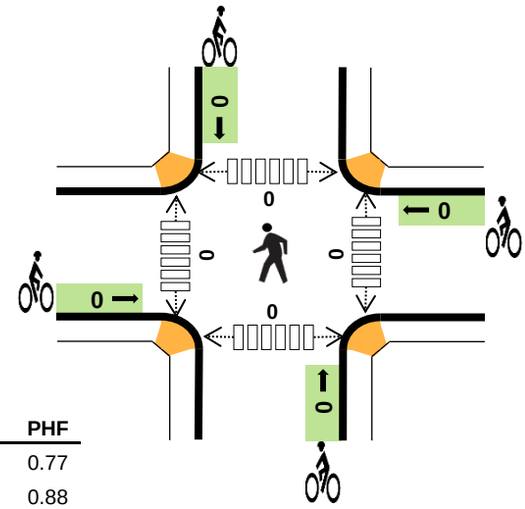
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	5.1%	0.77
WB	3.9%	0.88
NB	10.4%	0.97
SB	5.5%	0.96
TOTAL	7.0%	0.97

Two-Hour Count Summaries

Interval Start	SH 94 Eastbound				SH 94 Westbound				US 24 Northbound				US 24 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**	**6**	**45**	**0**	**81**	**10**	**0**	**0**	**27**	**147**	**65**	**0**	**1**	**319**	**7**	**709**	0
7:15 AM	**0**	**6**	**7**	**21**	**0**	**90**	**10**	**1**	**0**	**25**	**145**	**79**	**0**	**0**	**336**	**8**	**728**	0
7:30 AM	**0**	**5**	**6**	**47**	**0**	**85**	**5**	**0**	**0**	**20**	**152**	**80**	**0**	**0**	**310**	**6**	**716**	0
7:45 AM	**0**	**0**	**2**	**32**	**0**	**70**	**4**	**0**	**1**	**35**	**147**	**57**	**0**	**2**	**320**	**6**	**676**	**2,829**
8:00 AM	0	4	4	25	0	51	7	1	0	28	120	54	0	3	230	5	532	2,652
8:15 AM	0	4	4	34	0	51	6	0	1	17	107	64	0	1	207	10	506	2,430
8:30 AM	0	1	4	26	0	66	2	0	0	25	128	55	0	0	223	4	534	2,248
8:45 AM	0	3	7	29	0	48	6	1	1	23	131	44	0	1	197	9	500	2,072
Count Total	0	24	40	259	0	542	50	3	3	200	1,077	498	0	8	2,142	55	4,901	0
Peak Hour	**0**	**12**	**21**	**145**	**0**	**326**	**29**	**1**	**1**	**107**	**591**	**281**	**0**	**3**	**1,285**	**27**	**2,829**	**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**	**1**	**19**	**20**	***44***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**0**	**5**	**27**	**16**	***48***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**4**	**3**	**31**	**15**	***53***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**1**	**5**	**25**	**21**	***52***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	1	8	20	15	*44*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	3	2	24	9	*38*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	7	27	13	*47*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	2	5	15	18	*40*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	15	36	188	127	*366*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**9**	**14**	**102**	**72**	***197***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

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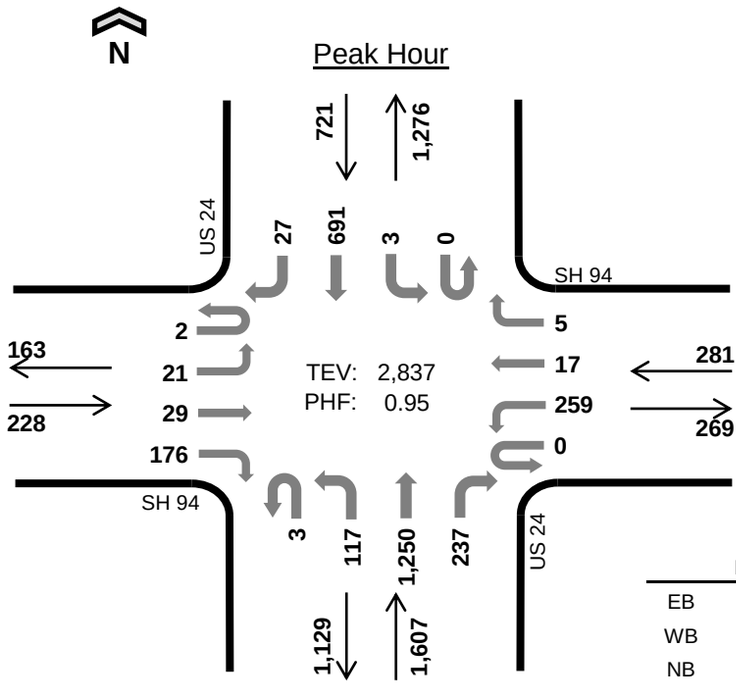
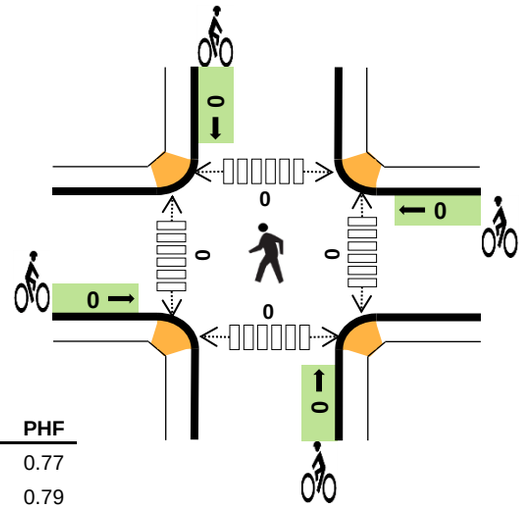
US 24
SH 94



Date: Tue, Jun 02, 2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	0.9%	0.77
WB	2.8%	0.79
NB	3.0%	0.96
SB	5.0%	0.90
TOTAL	3.3%	0.95

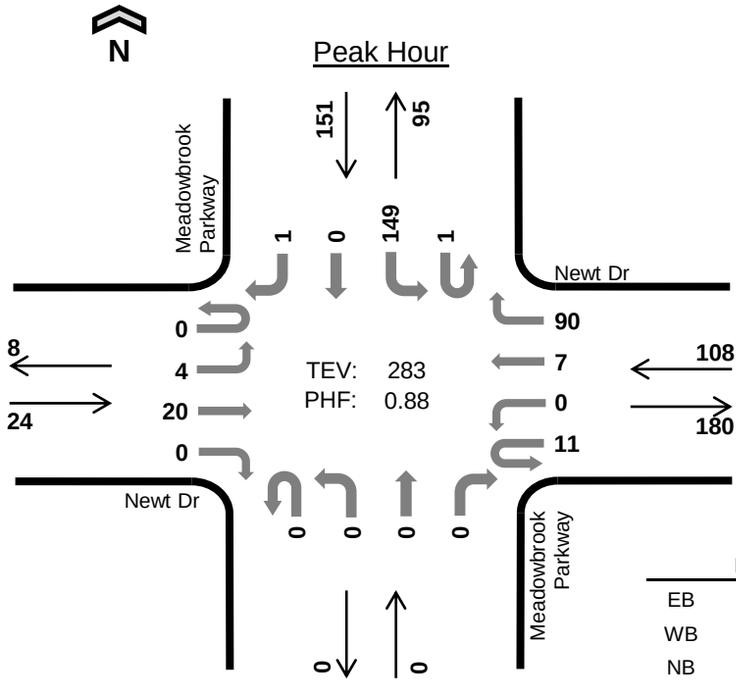
Two-Hour Count Summaries

Interval Start	SH 94 Eastbound				SH 94 Westbound				US 24 Northbound				US 24 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	5	4	32	0	73	7	0	1	31	284	80	1	2	177	7	704	0
4:15 PM	**0**	**5**	**4**	**45**	**0**	**51**	**2**	**2**	**1**	**30**	**327**	**62**	**0**	**3**	**153**	**7**	**692**	0
4:30 PM	**0**	**4**	**13**	**33**	**0**	**66**	**7**	**0**	**1**	**29**	**300**	**46**	**0**	**0**	**194**	**7**	**700**	0
4:45 PM	**0**	**9**	**1**	**40**	**0**	**83**	**5**	**1**	**0**	**31**	**307**	**53**	**0**	**0**	**158**	**7**	**695**	2,791
5:00 PM	**2**	**3**	**11**	**58**	**0**	**59**	**3**	**2**	**1**	**27**	**316**	**76**	**0**	**0**	**186**	**6**	**750**	**2,837**
5:15 PM	0	8	7	36	0	49	8	0	0	19	299	80	0	0	170	8	684	2,829
5:30 PM	0	5	4	29	0	44	7	1	0	19	267	85	0	0	183	4	648	2,777
5:45 PM	0	3	8	24	0	38	4	1	0	12	252	62	0	0	142	10	556	2,638
Count Total	2	42	52	297	0	463	43	7	4	198	2,352	544	1	5	1,363	56	5,429	0
Peak Hour	**2**	**21**	**29**	**176**	**0**	**259**	**17**	**5**	**3**	**117**	**1,250**	**237**	**0**	**3**	**691**	**27**	**2,837**	**0**

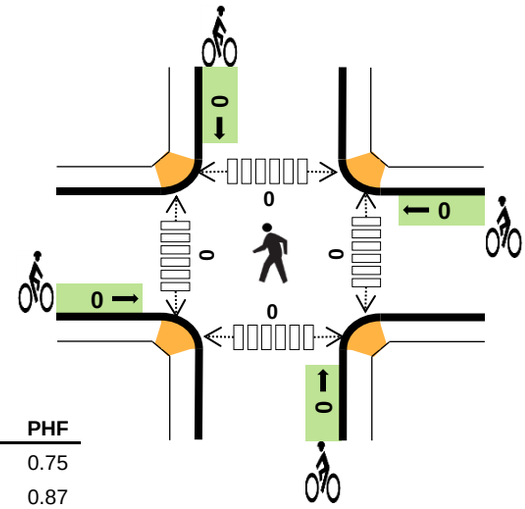
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

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	4	16	12	*32*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**0**	**3**	**11**	**12**	***26***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:30 PM	**1**	**1**	**20**	**12**	***34***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**1**	**1**	**14**	**5**	***21***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**3**	**4**	**7**	***14***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:15 PM	1	2	10	6	*19*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	2	1	7	11	*21*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	1	2	3	7	*13*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	6	17	85	72	*180*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**2**	**8**	**49**	**36**	***95***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

Meadowbrook Parkway
Newt Dr



Date: Tue, Jun 02, 2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	0.0%	0.75
WB	1.9%	0.87
NB	-	-
SB	6.0%	0.74
TOTAL	3.9%	0.88

Two-Hour Count Summaries

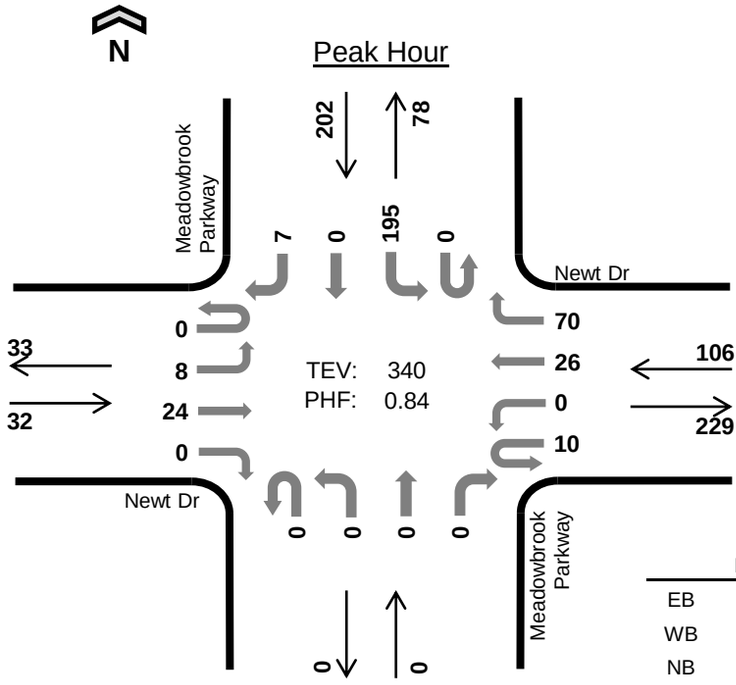
Interval Start	Newt Dr Eastbound				Newt Dr Westbound				Meadowbrook Parkway Northbound				Meadowbrook Parkway Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**3**	**5**	**0**	**4**	**0**	**1**	**21**	**0**	**0**	**0**	**0**	**0**	**41**	**0**	**1**	**76**	0
7:15 AM	**0**	**0**	**5**	**0**	**4**	**0**	**0**	**22**	**0**	**0**	**0**	**0**	**1**	**31**	**0**	**0**	**63**	0
7:30 AM	**0**	**1**	**3**	**0**	**2**	**0**	**4**	**19**	**0**	**0**	**0**	**0**	**0**	**51**	**0**	**0**	**80**	0
7:45 AM	**0**	**0**	**7**	**0**	**1**	**0**	**2**	**28**	**0**	**0**	**0**	**0**	**0**	**26**	**0**	**0**	**64**	**283**
8:00 AM	0	4	2	0	4	0	3	24	0	0	0	0	0	32	0	0	69	276
8:15 AM	0	0	4	0	0	0	3	11	0	0	0	0	0	34	0	0	52	265
8:30 AM	0	0	4	0	4	0	2	18	0	0	0	0	0	25	0	0	53	238
8:45 AM	0	1	5	0	4	0	2	17	0	0	0	0	0	30	0	0	59	233
Count Total	0	9	35	0	23	0	17	160	0	0	0	0	1	270	0	1	516	0
Peak Hour	**0**	**4**	**20**	**0**	**11**	**0**	**7**	**90**	**0**	**0**	**0**	**0**	**1**	**149**	**0**	**1**	**283**	**0**

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

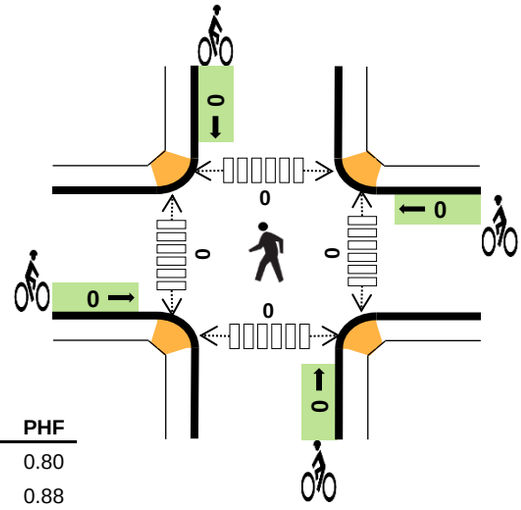
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**0**	**0**	**0**	**4**	***4***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**0**	**1**	**0**	**4**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**0**	**1**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	0	2	0	1	*3*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	0	1	0	3	*4*	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	*0*
8:45 AM	0	1	0	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	6	0	15	*21*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**0**	**2**	**0**	**9**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

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

Meadowbrook Parkway
Newt Dr



Date: Tue, Jun 02, 2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	6.3%	0.80
WB	7.5%	0.88
NB	-	-
SB	1.5%	0.71
TOTAL	3.8%	0.84

Two-Hour Count Summaries

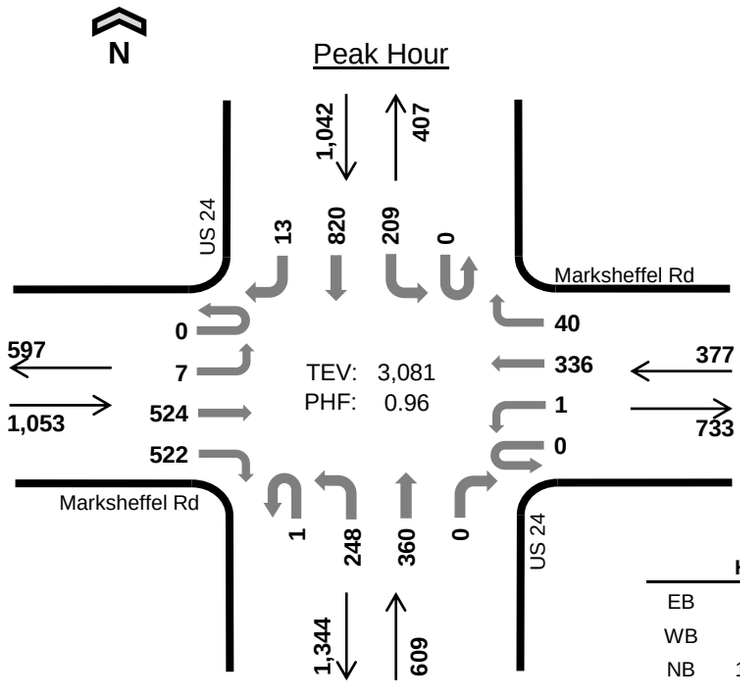
Interval Start	Newt Dr Eastbound				Newt Dr Westbound				Meadowbrook Parkway Northbound				Meadowbrook Parkway Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	2	2	0	4	0	6	26	0	0	0	0	0	38	0	0	78	0
4:15 PM	0	2	3	0	4	0	6	15	0	0	0	0	0	44	0	1	75	0
4:30 PM	**0**	**2**	**6**	**0**	**2**	**0**	**3**	**23**	**0**	**0**	**0**	**0**	**0**	**42**	**0**	**4**	**82**	0
4:45 PM	**0**	**1**	**8**	**0**	**2**	**0**	**7**	**21**	**0**	**0**	**0**	**0**	**0**	**41**	**0**	**0**	**80**	315
5:00 PM	**0**	**2**	**3**	**0**	**4**	**0**	**12**	**9**	**0**	**0**	**0**	**0**	**0**	**70**	**0**	**1**	**101**	338
5:15 PM	**0**	**3**	**7**	**0**	**2**	**0**	**4**	**17**	**0**	**0**	**0**	**0**	**0**	**42**	**0**	**2**	**77**	**340**
5:30 PM	0	0	4	0	6	0	4	8	0	0	0	0	0	27	0	0	49	307
5:45 PM	0	1	4	0	2	0	6	7	0	0	0	0	0	29	0	1	50	277
Count Total	0	13	37	0	26	0	48	126	0	0	0	0	0	333	0	9	592	0
Peak Hour	**0**	**8**	**24**	**0**	**10**	**0**	**26**	**70**	**0**	**0**	**0**	**0**	**0**	**195**	**0**	**7**	**340**	**0**

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

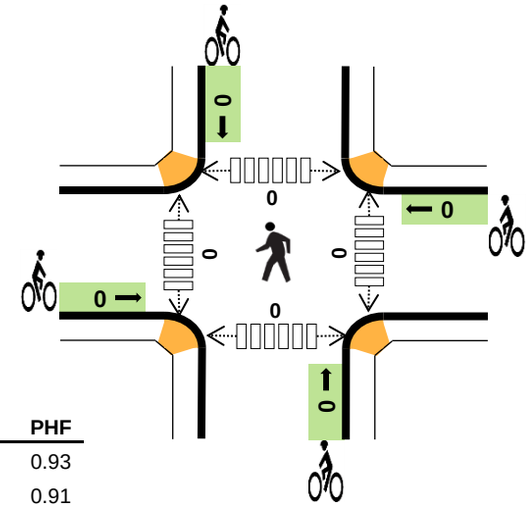
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**0**	**4**	**0**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**0**	**1**	**0**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**2**	**2**	**0**	**1**	***5***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:30 PM	0	1	0	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	1	0	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	2	10	0	5	*17*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**2**	**8**	**0**	**3**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

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

US 24
Marksheffel Rd



Date: Thu, Jun 04, 2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	5.5%	0.93
WB	3.2%	0.91
NB	10.5%	0.93
SB	3.9%	0.94
TOTAL	5.7%	0.96

Two-Hour Count Summaries

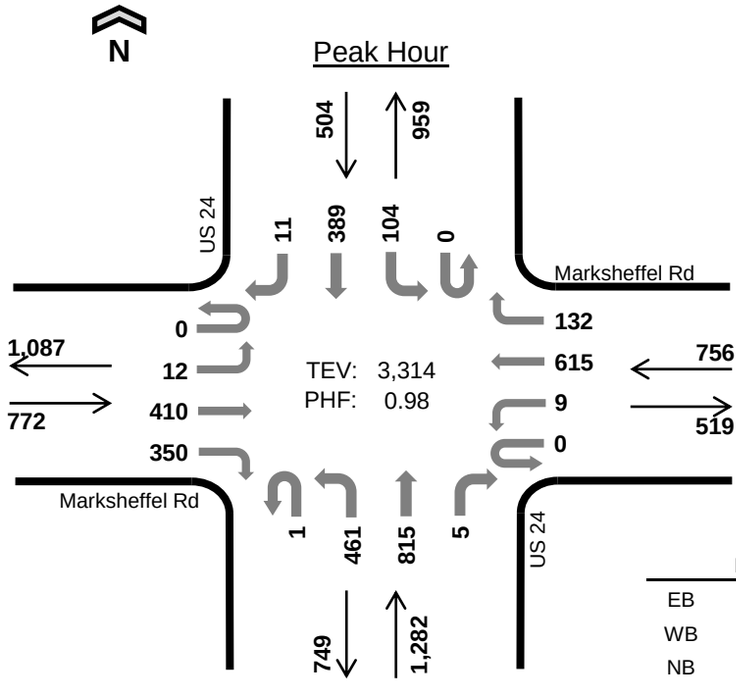
Interval Start	Marksheffel Rd Eastbound				Marksheffel Rd Westbound				US 24 Northbound				US 24 Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**0**	**122**	**138**	**0**	**0**	**94**	**6**	**0**	**68**	**96**	**0**	**0**	**50**	**203**	**1**	**778**	0
7:15 AM	**0**	**0**	**155**	**127**	**0**	**0**	**96**	**8**	**1**	**59**	**96**	**0**	**0**	**43**	**213**	**3**	**801**	0
7:30 AM	**0**	**3**	**123**	**142**	**0**	**1**	**80**	**14**	**0**	**62**	**78**	**0**	**0**	**59**	**214**	**5**	**781**	0
7:45 AM	**0**	**4**	**124**	**115**	**0**	**0**	**66**	**12**	**0**	**59**	**90**	**0**	**0**	**57**	**190**	**4**	**721**	**3,081**
8:00 AM	0	8	106	109	0	2	57	17	0	50	75	0	0	37	125	7	593	2,896
8:15 AM	0	1	87	90	0	0	48	16	0	50	73	1	0	42	138	1	547	2,642
8:30 AM	0	3	83	105	0	1	84	13	0	48	71	0	0	30	155	1	594	2,455
8:45 AM	0	0	92	85	0	2	58	8	0	52	91	0	0	39	162	5	594	2,328
Count Total	0	19	892	911	0	6	583	94	1	448	670	1	0	357	1,400	27	5,409	0
Peak Hour	**0**	**7**	**524**	**522**	**0**	**1**	**336**	**40**	**1**	**248**	**360**	**0**	**0**	**209**	**820**	**13**	**3,081**	**0**

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

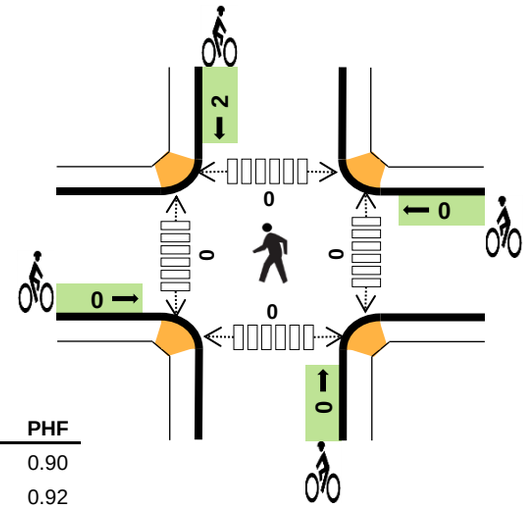
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	**18**	**3**	**10**	**8**	***39***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**12**	**3**	**17**	**10**	***42***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**14**	**4**	**21**	**13**	***52***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**14**	**2**	**16**	**10**	***42***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	9	3	18	11	*41*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	9	1	12	7	*29*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	9	2	10	9	*30*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	11	4	22	21	*58*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	96	22	126	89	*333*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	**58**	**12**	**64**	**41**	***175***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***

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

US 24
Marksheffel Rd



Date: Thu, Jun 04, 2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM



	HV %:	PHF
EB	2.8%	0.90
WB	1.3%	0.92
NB	1.7%	0.97
SB	2.8%	0.91
TOTAL	2.1%	0.98

Two-Hour Count Summaries

Interval Start	Marksheffel Rd Eastbound				Marksheffel Rd Westbound				US 24 Northbound				US 24 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	2	102	84	0	3	163	33	0	78	159	0	1	21	132	0	778	0
4:15 PM	0	7	82	73	0	1	172	39	2	131	166	1	0	32	121	4	831	0
4:30 PM	**0**	**4**	**92**	**73**	**0**	**4**	**165**	**37**	**0**	**119**	**207**	**0**	**0**	**23**	**100**	**2**	**826**	0
4:45 PM	**0**	**5**	**117**	**92**	**0**	**1**	**162**	**34**	**0**	**128**	**185**	**4**	**0**	**17**	**90**	**5**	**840**	3,275
5:00 PM	**0**	**3**	**96**	**92**	**0**	**2**	**140**	**34**	**1**	**96**	**210**	**1**	**0**	**27**	**101**	**1**	**804**	3,301
5:15 PM	**0**	**0**	**105**	**93**	**0**	**2**	**148**	**27**	**0**	**118**	**213**	**0**	**0**	**37**	**98**	**3**	**844**	**3,314**
5:30 PM	0	3	111	87	0	1	115	29	0	108	178	1	0	15	109	2	759	3,247
5:45 PM	0	3	78	62	0	6	110	20	0	96	122	0	0	24	91	1	613	3,020
Count Total	0	27	783	656	0	20	1,175	253	3	874	1,440	7	1	196	842	18	6,295	0
Peak Hour	**0**	**12**	**410**	**350**	**0**	**9**	**615**	**132**	**1**	**461**	**815**	**5**	**0**	**104**	**389**	**11**	**3,314**	**0**

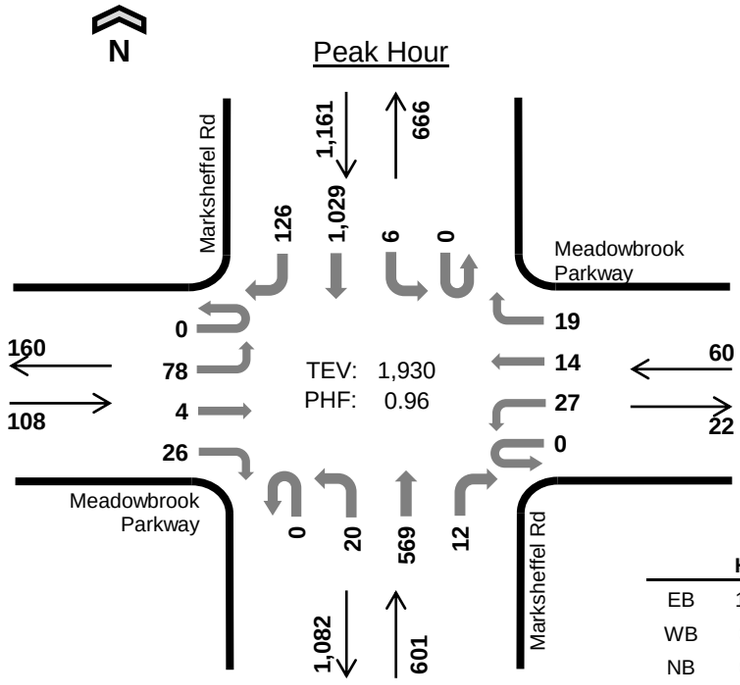
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

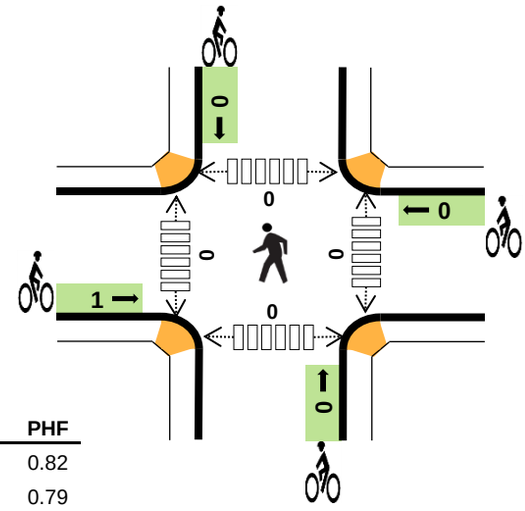
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	12	3	7	8	*30*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	6	2	10	5	*23*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**4**	**4**	**6**	**6**	***20***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	*0*
4:45 PM	**6**	**2**	**6**	**1**	***15***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:00 PM	**7**	**2**	**6**	**3**	***18***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
5:15 PM	**5**	**2**	**4**	**4**	***15***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	***0***
5:30 PM	6	0	5	5	*16*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	2	2	3	2	*9*	0	0	0	1	*1*	0	0	0	0	*0*
Count Total	48	17	47	34	*146*	0	0	0	3	*3*	0	0	0	0	*0*
Peak Hour	**22**	**10**	**22**	**14**	***68***	**0**	**0**	**0**	**2**	***2***	**0**	**0**	**0**	**0**	***0***

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

Marksheffel Rd
Meadowbrook Parkway

Date: Thu, Jun 04, 2020
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:00 AM to 8:00 AM





	HV %:	PHF
EB	10.2%	0.82
WB	0.0%	0.79
NB	6.7%	0.87
SB	5.7%	0.92
TOTAL	6.1%	0.96

Two-Hour Count Summaries

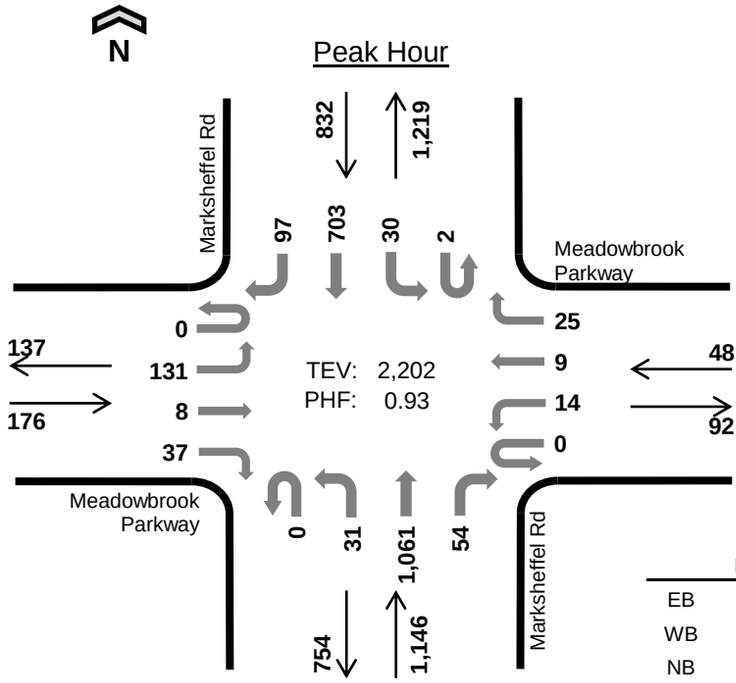
Interval Start	Meadowbrook Parkway Eastbound				Meadowbrook Parkway Westbound				Marksheffel Rd Northbound				Marksheffel Rd Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	**0**	**12**	**2**	**7**	**0**	**11**	**3**	**5**	**0**	**3**	**167**	**2**	**0**	**0**	**268**	**24**	**504**	0
7:15 AM	**0**	**24**	**1**	**5**	**0**	**5**	**3**	**2**	**0**	**4**	**144**	**4**	**0**	**0**	**256**	**26**	**474**	0
7:30 AM	**0**	**18**	**1**	**5**	**0**	**5**	**4**	**6**	**0**	**8**	**130**	**3**	**0**	**3**	**276**	**38**	**497**	0
7:45 AM	**0**	**24**	**0**	**9**	**0**	**6**	**4**	**6**	**0**	**5**	**128**	**3**	**0**	**3**	**229**	**38**	**455**	**1,930**
8:00 AM	0	25	2	9	0	3	4	6	0	9	100	7	0	5	219	24	413	1,839
8:15 AM	0	21	1	3	0	4	2	8	0	2	98	3	1	3	159	25	330	1,695
8:30 AM	0	7	2	4	0	8	4	5	0	4	127	5	0	2	200	27	395	1,593
8:45 AM	0	24	1	4	0	11	2	6	0	4	103	4	0	2	158	30	349	1,487
Count Total	0	155	10	46	0	53	26	44	0	39	997	31	1	18	1,765	232	3,417	0
Peak Hour	**0**	**78**	**4**	**26**	**0**	**27**	**14**	**19**	**0**	**20**	**569**	**12**	**0**	**6**	**1,029**	**126**	**1,930**	**0**

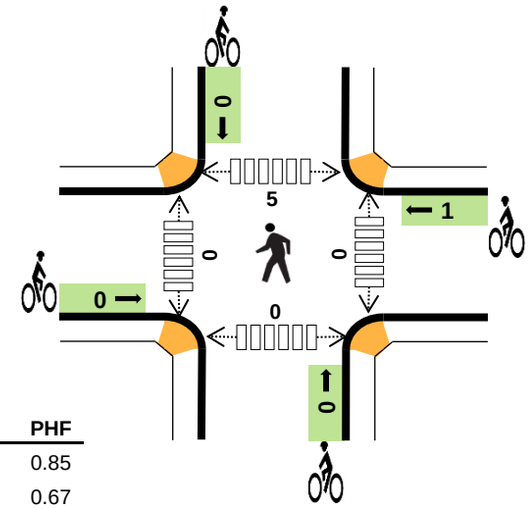
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

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	**2**	**0**	**8**	**21**	***31***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:15 AM	**3**	**0**	**9**	**14**	***26***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
7:30 AM	**4**	**0**	**10**	**16**	***30***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	*0*
7:45 AM	**2**	**0**	**13**	**15**	***30***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
8:00 AM	3	0	12	10	*25*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	4	0	4	12	*20*	0	0	0	0	*0*	0	0	1	0	*1*
8:30 AM	2	0	6	7	*15*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	1	9	12	*22*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	20	1	71	107	*199*	1	0	0	0	*1*	0	0	1	0	*1*
Peak Hour	**11**	**0**	**40**	**66**	***117***	**1**	**0**	**0**	**0**	***1***	**0**	**0**	**0**	**0**	***0***

Marksheffel Rd
Meadowbrook Parkway

Date: Thu, Jun 04, 2020
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV %:	PHF
EB	1.7%	0.85
WB	0.0%	0.67
NB	1.5%	0.90
SB	3.8%	0.87
TOTAL	2.4%	0.93

Two-Hour Count Summaries

Interval Start	Meadowbrook Parkway Eastbound				Meadowbrook Parkway Westbound				Marksheffel Rd Northbound				Marksheffel Rd 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**	**43**	**0**	**5**	**0**	**5**	**3**	**10**	**0**	**12**	**227**	**7**	**0**	**5**	**183**	**21**	**521**	0
4:15 PM	**0**	**29**	**3**	**9**	**0**	**5**	**2**	**6**	**0**	**8**	**294**	**16**	**1**	**6**	**164**	**25**	**568**	0
4:30 PM	**0**	**39**	**2**	**11**	**0**	**1**	**1**	**5**	**0**	**5**	**260**	**11**	**1**	**10**	**150**	**27**	**523**	0
4:45 PM	**0**	**20**	**3**	**12**	**0**	**3**	**3**	**4**	**0**	**6**	**280**	**20**	**0**	**9**	**206**	**24**	**590**	**2,202**
5:00 PM	0	42	5	10	0	6	0	5	0	5	226	12	0	10	173	13	507	2,188
5:15 PM	0	29	3	10	0	4	0	9	0	3	260	14	0	7	193	23	555	2,175
5:30 PM	0	18	3	9	0	4	1	5	0	3	214	13	0	12	200	29	511	2,163
5:45 PM	0	24	0	4	0	3	0	8	1	4	194	10	0	7	123	12	390	1,963
Count Total	0	244	19	70	0	31	10	52	1	46	1,955	103	2	66	1,392	174	4,165	0
Peak Hour	**0**	**131**	**8**	**37**	**0**	**14**	**9**	**25**	**0**	**31**	**1,061**	**54**	**2**	**30**	**703**	**97**	**2,202**	**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**	**0**	**5**	**12**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	*0*
4:15 PM	**2**	**0**	**3**	**6**	***11***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**2**	**0**	*2*
4:30 PM	**0**	**0**	**4**	**7**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**3**	**0**	*3*
4:45 PM	**1**	**0**	**5**	**7**	***13***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
5:00 PM	2	0	2	6	*10*	0	0	0	0	*0*	0	0	0	0	*0*
5:15 PM	0	0	5	6	*11*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	2	0	2	8	*12*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	2	5	*7*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	7	0	28	57	*92*	0	1	0	0	*1*	0	0	5	0	*5*
Peak Hour	**3**	**0**	**17**	**32**	***52***	**0**	**1**	**0**	**0**	***1***	**0**	**0**	**5**	**0**	***5***

APPENDIX B

CDOT Annual Traffic Data

Station ID: 103943
Date: 7/11/2019
Route: 094A
Description: SH 94 E/O Marksheffel Rd, Colorado Springs

COUNTDIR	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
P	21	16	9	23	82	299	705	500	366	246	211	243	253	246	252	271	391	383	282	193	178	120	99	54
S	17	6	10	14	45	141	322	359	287	278	237	292	270	272	395	606	824	541	282	153	90	54	40	51

Marsheffel and SH 94			
Peak Hour Counts	528	95%	
	402	89%	
Percent Difference	92%		

Marsheffel and SH 94			
Peak Hour Counts	330	118%	
	512	161%	
Percent Difference	144%		

Station ID: 100851
Date: 2/20/2020
Route: 024G
Description: SH 24 NE/O SH 94, Colorado Springs

COUNTDIR	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
P	55	33	24	26	94	150	465	601	503	409	468	614	622	633	920	1088	1495	1289	704	712	452	268	159	82
S	36	17	38	95	301	818	1863	1716	1023	715	636	665	609	577	613	655	693	685	369	224	183	124	79	53

US 24 and SH 94			
Peak Hour Counts	604	100%	
	1315	130%	
Percent Difference	121%		
US 24 and Marksheffel			
Peak Hour Counts	609	99%	
	1344	128%	
Percent Difference	119%		

US 24 and SH 94			
Peak Hour Counts	1276	117%	
	721	96%	
Percent Difference	110%		
US 24 and Marksheffel			
Peak Hour Counts	1282	117%	
	749	93%	
Percent Difference	108%		

Reagan Ranch Growth Rate

Station ID	2018 AADT	2040 AADT	Growth Factor	Yearly Growth Rate
103943	10000	13630	1.33	1.30%
103944	11000	14025	1.25	1.02%
		Avg Growth Rate		1.16%

APPENDIX C

Trip Generation Worksheets

Trip Generation Planner (ITE 10th Edition) - Summary Report

Weekday Trip Generation
Trips Based on Average Rates/Equations

Project Name **Crossroads-Meadowbrook (Total)**
Project Number **096956010**

Kimley»Horn

ITE Code	Internal Capture Land Use	Land Use Description	Independent Variable	Setting/Location	No. of Units	Avg Rate or Eq	Rates: Daily Rate	Rates: AM Rate	Rates: PM Rate	Total Trips: Daily Trips	Total Trips: AM Trips	Total Trips: PM Trips	Total Trips: AM Trips In	Total Trips: AM Trips Out	Total Trips: PM Trips In	Total Trips: PM Trips Out
210	Residential	Single-Family Detached Housing	Dwelling Unit(s)	General Urban/Suburban	70	Avg	9.44	0.74	0.99	662	52	69	13	39	44	25
815	Retail	Free Standing Discount Store	1,000 Sq Ft	General Urban/Suburban	130	Avg	53.12	1.17	4.83	6,906	152	628	105	47	314	314
411	Other	Public Park	Acre(s)	General Urban/Suburban	18.28	Avg	0.78	0.02	0.11	14		2			1	1
444	Cinema/Entertainment	Movie Theater	1,000 Sq Ft	General Urban/Suburban	52	Avg	78.09	0.22	6.17	4,062	11	321	5	6	302	19
820	Retail	Shopping Center	1,000 Sq Ft GLA	General Urban/Suburban	44.942	Avg	37.75	0.94	3.81	1,696	42	171	26	16	82	89
849	Retail	Tire Superstore	1,000 Sq Ft	General Urban/Suburban	7.2	Avg	20.37	1.34	2.11	148	10	15	6	4	7	8
862	Retail	Home Improvement Superstore	1,000 Sq Ft	General Urban/Suburban	127	Avg	30.74	1.57	2.33	3,904	199	296	113	86	145	151
890	Retail	Furniture Store	1,000 Sq Ft	General Urban/Suburban	114	Avg	6.30	0.26	0.52	720	30	59	21	9	28	31
932	Restaurant	High-Turnover (Sit-Down) Restaurant	1,000 Sq Ft	General Urban/Suburban	21.2	Avg	112.18	9.94	9.77	2,380	210	207	116	94	128	79
934	Restaurant	Fast-Food Restaurant w/ D.T.	1,000 Sq Ft	General Urban/Suburban	20.909	Avg	470.95	40.19	32.67	9,850	840	683	428	412	355	328
937	Restaurant	Coffee/Donut Shop w/ D.T.	1,000 Sq Ft	General Urban/Suburban	2.4	Avg	820.38	88.99	43.38	1,968	214	106	109	105	53	53
960	Retail	Gasoline Station w/ Convenience Market	1,000 Sq Ft	General Urban/Suburban	5	Avg	837.58	83.14	69.28	4,188	416	346	208	208	173	173
									Grand Total	36,498	2,176	2,903	1,150	1,026	1,632	1,271

Notes:
(1) AM and/or PM rates correspond to peak hour of generator
(2) Land use was removed in *Trip Generation, 10 Edition,* trip generation data from the ITE *Trip Generation, 9th Edition*

Trip Generation Planner (ITE 10th Edition) - Summary Report

Weekday Trip Generation
Trips Based on Average Rates/Equations

Project Name **Crossroads-Meadowbrook (Crossroads North)**
Project Number **096956010**

Kimley»Horn

							Rates			Total Trips						
ITE Code	**Internal Capture Land Use**	**Land Use Description**	**Independent Variable**	**Setting/Location**	**No. of Units**	**Avg Rate or Eq**	**Daily Rate**	**AM Rate**	**PM Rate**	**Daily Trips**	**AM Trips**	**PM Trips**	**AM Trips In**	**AM Trips Out**	**PM Trips In**	**PM Trips Out**
411	Other	Public Park	Acre(s)	General Urban/Suburban	18.28	Avg	0.78	0.02	0.11	14		2			1	1
444	Cinema/Entertainment	Movie Theater	1,000 Sq Ft	General Urban/Suburban	52	Avg	78.09	0.22	6.17	4,062	11	321	5	6	302	19
849	Retail	Tire Superstore	1,000 Sq Ft	General Urban/Suburban	7.2	Avg	20.37	1.34	2.11	148	10	15	6	4	7	8
862	Retail	Home Improvement Superstore	1,000 Sq Ft	General Urban/Suburban	127	Avg	30.74	1.57	2.33	3,904	199	296	113	86	145	151
890	Retail	Furniture Store	1,000 Sq Ft	General Urban/Suburban	114	Avg	6.30	0.26	0.52	720	30	59	21	9	28	31
932	Restaurant	High-Turnover (Sit-Down) Restaurant	1,000 Sq Ft	General Urban/Suburban	11	Avg	112.18	9.94	9.77	1,234	109	107	60	49	66	41
934	Restaurant	Fast-Food Restaurant w/ D.T.	1,000 Sq Ft	General Urban/Suburban	6.6	Avg	470.95	40.19	32.67	3,110	265	216	135	130	112	104
960	Retail	Gasoline Station w/ Convenience Market	1,000 Sq Ft	General Urban/Suburban	5	Avg	837.58	83.14	69.28	4,188	416	346	208	208	173	173
									Grand Total	17,380	1,040	1,362	548	492	834	528

Notes:
(1) AM and/or PM rates correspond to peak hour of generator
(2) Land use was removed in *Trip Generation, 10 Edition,* trip generation data from the ITE *Trip Generation, 9th Edition*

Trip Generation Planner (ITE 10th Edition) - Summary Report

Weekday Trip Generation
Trips Based on Average Rates/Equations

Project Name **Crossroads-Meadowbrook (Crossroads Mix Use)**
Project Number **096956010**

Kimley»Horn

ITE Code	Internal Capture Land Use	Land Use Description	Independent Variable	Setting/Location	No. of Units	Avg Rate or Eq	Rates: Daily Rate	Rates: AM Rate	Rates: PM Rate	Total Trips: Daily Trips	Total Trips: AM Trips	Total Trips: PM Trips	Total Trips: AM Trips In	Total Trips: AM Trips Out	Total Trips: PM Trips In	Total Trips: PM Trips Out
815	Retail	Free Standing Discount Store	1,000 Sq Ft	General Urban/Suburban	130	Avg	53.12	1.17	4.83	6,906	152	628	105	47	314	314
820	Retail	Shopping Center	1,000 Sq Ft GLA	General Urban/Suburban	44.942	Avg	37.75	0.94	3.81	1,696	42	171	26	16	82	89
932	Restaurant	High-Turnover (Sit-Down) Restaurant	1,000 Sq Ft	General Urban/Suburban	10.2	Avg	112.18	9.94	9.77	1,146	101	100	56	45	62	38
934	Restaurant	Fast-Food Restaurant w/ D.T.	1,000 Sq Ft	General Urban/Suburban	14.309	Avg	470.95	40.19	32.67	6,740	575	467	293	282	243	224
937	Restaurant	Coffee/Donut Shop w/ D.T.	1,000 Sq Ft	General Urban/Suburban	2.4	Avg	820.38	88.99	43.38	1,968	214	106	109	105	53	53
								Grand Total		18,456	1,084	1,472	589	495	754	718

Notes:
(1) AM and/or PM rates correspond to peak hour of generator
(2) Land use was removed in *Trip Generation, 10 Edition,* trip generation data from the ITE *Trip Generation, 9th Edition*

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation - Public Park				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations
Land Use Code - Public Park (411)
Independant Variable - Acres (X)

Acres 18
X = 18
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (400 Series Page 3)

(T) = 0.02 (X)
(T) = 0.02 * (18.3)

Directional Distribution: 59% ent. 41% exit.
T = 0 Average Vehicle Trip Ends
0 entering 0 exiting
0 + 0 = 0

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (400 Series Page 4)

(T) = 0.11 (X)
(T) = 0.11 * (18.3)

Directional Distribution: 55% ent. 45% exit.
T = 2 Average Vehicle Trip Ends
1 entering 1 exiting
1 + 1 = 2

Weekday (400 Series page 2)

Average Weekday
T = 0.78* (X)
T = 0.78 * 18

Directional Distribution: 50% entering, 50% exiting
T = 14 Average Vehicle Trip Ends
7 entering 7 exiting

7 + 7 = 14

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for Movie Theater				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Movie Theater (444)

Independent Variable - Gross Floor Area
Gross Floor Area = 52,000 Square Feet
X = 52.0
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (400 Series Page 111)

Directional Distribution: 50% ent. 50% exit.
T = 0.22 (X)
T = 0.22 * 52
T = 11 Average Vehicle Trip Ends
5 entering 6 exiting

5 (*) - 6 = 11

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (400 Series Page 112)

Directional Distribution: 94% ent. 6% exit.
T = 6.17 (X)
T = 6.17 * 52
T = 321 Average Vehicle Trip Ends
302 entering 19 exiting

302 + 19 = 321

Weekday (400 Series Page 110)

Average Weekday
T = 78.09 (X)
T = 78.09* 52
Directional Distribution: 50% entering, 50% exiting
T = 4062 Average Vehicle Trip Ends
2031 entering 2031 exiting

2031 + 2031 = 4062

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for Tire Superstore				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Tire Superstore (849)

Independant Variable - 1000 Square Feet Gross Floor Area (X)
Gross Floor Area = 7,200 Square Feet
X = 7.200
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 262)

Directional Distribution: 65% ent. 35% exit.
T = 1.34 (X)
T = 1.34 * 7.200
T = 10 Average Vehicle Trip Ends
6 entering 4 exiting

6 + 4 (*) = 10

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series Page 263)

Directional Distribution: 47% ent. 53% exit.
T = 2.11 (X)
T = 2.11 * 7.200
T = 15 Average Vehicle Trip Ends
7 entering 8 exiting

7 + 8 = 15

Weekday (800 Series Page 261)

Average Weekday
T = 20.37 (X)
T = 20.37* 7.200
Directional Distribution: 50% entering, 50% exiting
T = 148 Average Vehicle Trip Ends
74 entering 74 exiting

74 + 74 = 148

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for Home Improvements Superstore				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Home Improvement Superstore (862)

Independant Variable - 1000 Square Feet Gross Floor Area (X)
Gross Floor Area = 127,000 Square Feet
X = 127.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 437)

Directional Distribution: 57% ent. 43% exit.
T = 1.57 (X)
T = 1.57 * 127.000
T = 199 Average Vehicle Trip Ends
113 entering 86 exiting

113 (*) · 86 = 199

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series Page 438)

Directional Distribution: 49% ent. 51% exit.
T = 2.33 (X)
T = 2.33 * 127.000
T = 296 Average Vehicle Trip Ends
145 entering 151 exiting

145 + 151 = 296

Weekday (800 Series Page 436)

Average Weekday
T = 30.74 (X)
T = 30.74* 127.000
Directional Distribution: 50% entering, 50% exiting
T = 3904 Average Vehicle Trip Ends
1952 entering 1952 exiting

1952 + 1952 = 3904

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for Furniture Store				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rates

Land Use Code - Furniture Store (890)

Independent Variable - 1000 Square Feet (X)
SF = 114,000
X = 114.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 585)

Directional Distribution: 71% ent. 29% exit.
(T) = 0.26 (X) T = 30 Average Vehicle Trip Ends
(T) = 0.26 * (114.0) 21 entering 9 exiting

21 + 9 = 30

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series Page 586)

Directional Distribution: 47% ent. 53% exit.
(T) = 0.52 (X) T = 59 Average Vehicle Trip Ends
(T) = 0.52 * (114.0) 28 entering 31 exiting

28 + 31 = 59

Weekday (800 Series Page 584)

Average Weekday Directional Distribution: 50% ent. 50% exit.
(T) = 6.30 (X) T = 720 Average Vehicle Trip Ends
(T) = 6.30 * (114.0) 360 entering 360 exiting

360 + 360 = 720

Saturday, Peak Hour of Generator (800 Series Page 590)

Daily Weekday Directional Distribution: 54% ent. 46% exit.
(T) = 1.10 (X) T = 125 Average Vehicle Trip Ends
(T) = 1.10 * (114.0) 68 entering 58 exiting

68 + 57 = 125

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for High-Turnover (Sit-Down) Restaurant				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	096956010
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations
Land Use Code - High Turnover Sit-Down Restaurant (932)
Independant Variable - 1000 Square Feet Gross Floor Area (X)
Gross Floor Area = 11,000 Square Feet
X = 11.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series Page 97)

Average Weekday — Directional Distribution: 55% ent. 45% exit.
T = 9.94 (X) — T = 109 Average Vehicle Trip Ends
T = 9.94 * 11.000 — 60 entering 49 exiting

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series Page 98)

Average Weekday — Directional Distribution: 62% ent. 38% exit.
T = 9.77 (X) — T = 107 Average Vehicle Trip Ends
T = 9.77 * 11.000 — 66 entering 41 exiting

Weekday (900 Series Page 96)

Average Weekday — Directional Distribution: 50% entering, 50% exiting
T = 112.18 (X) — T = 1234 Average Vehicle Trip Ends
T = 112.18 * 11.000 — 617 entering 617 exiting

P.M. Peak Hour of Generator (900 Series Page 100)

Average Weekday — Directional Distribution: 52% ent. 48% exit.
T = 17.41 (X) — T = 192 Average Vehicle Trip Ends
T = 17.41 * 11.000 — 100 entering 92 exiting

Saturday Peak Hour of Generator (900 Series Page 105

Average Saturday — Directional Distribution: 51% ent. 49% exit.
T = 11.19 (X) — T = 124 Average Vehicle Trip Ends
T = 11.19 * 11.000 — 63 entering 61 exiting

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017-Page 207)

AM Peak Hour = 57% Non-Pass By — PM Peak Hour = 57% Non-Pass By

	IN	Out	Total
AM Peak	34	28	62
PM Peak	38	23	61
Daily	352	352	704

PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017 -Page 207)

AM Peak Hour = 43% Pass By — PM Peak Hour = 43% Pass By

	IN	Out	Total
AM Peak	26	21	48
PM Peak	28	18	46
Daily	265	265	530

PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for Fast-Food Restaurant with Drive-Through Window				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Fast Food Restaurant With Drive-Through Window (934)

Independant Variable - 1000 Square Feet Gross Floor Area (X)
Gross Floor Area = 6,600 Square Feet
X = 6.600
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series page 158)

Average Weekday — Directional Distribution: 51% ent. 49% exit.
T = 40.19 (X) — T = 265 Average Vehicle Trip Ends
T = 40.19 * 6.600 — 135 entering 130 exiting

135 + 130 = 265

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series page 159)

Average Weekday — Directional Distribution: 52% ent. 48% exit.
T = 32.67 (X) — T = 216 Average Vehicle Trip Ends
T = 32.67 * 6.600 — 112 entering 104 exiting

112 + 104 (*) = 216

Weekday (900 Series page 157)

Average Weekday — Directional Distribution: 50% entering, 50% exiting
T = 470.95 (X) — T = 3110 Average Vehicle Trip Ends
T = 470.95 * 6.600 — 1555 entering 1555 exiting

1555 + 1555 = 3110

Saturday Peak Hour of Generator (900 Series page 163)

Directional Distribution: 51% ent. 49% exit.
T = 54.86 (X) — T = 362 Average Vehicle Trip Ends
T = 54.86 * 6.600 — 185 entering 177 exiting

185 + 177 = 362

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

AM Peak Hour = 51% Non-Pass By — PM Peak Hour = 50% Non-Pass By

	IN	Out	Total	
AM Peak	69	66	135	
PM Peak	56	52	108	
Daily	778	778	1556	PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

AM Peak Hour = 49% Pass By — PM Peak Hour = 50% Pass By

	IN	Out	Total	
AM Peak	66	64	130	
PM Peak	56	52	108	
Daily	777	777	1554	PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for Super Convenience Market/Gas Station				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	096956010
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Super Convenience Market/Gas Station (960)

Independant Variable - 1000 Square Feet Gross Leasable Area (X)

Gross Leasable Area = 5,000 Square Feet
X = 5.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series Page 404)

T = 83.14 (X)
T = 83.14 * 5.000

Directional Distribution: 50% ent. 50% exit.
T = 416 Average Vehicle Trip Ends
208 entering 208 exiting

208 + 208 = 416

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series page 405)

T = 69.28 (X)
T = 69.28 * 5.000

Directional Distribution: 50% ent. 50% exit.
T = 346 Average Vehicle Trip Ends
173 entering 173 exiting

173 + 173 = 346

Weekday (800 Series page 335)

Average Weekday
T = 837.58 (X)
T = 837.58 * 5.000

Directional Distribution: 50% entering, 50% exiting
T = 4188 Average Vehicle Trip Ends
2094 entering 2094 exiting

2094 + 2094 = 4188

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

PM Peak Hour = 44% Non-Pass By AM Peak Hour = 38% Non-Pass By

	IN	Out	Total
AM Peak	79	79	158
PM Peak	76	76	152
Daily	921	921	1842

* Utilized ITE 945 pass-by calculations

PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

PM Peak Hour = 56% Pass By AM Peak Hour = 62% Pass By

	IN	Out	Total
AM Peak	129	129	258
PM Peak	97	97	194
Daily	1173	1173	2346

PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation - Public Park				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations
Land Use Code - Public Park (411)
Independant Variable - Acres (X)

Acres 18
X = 18
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (400 Series Page 3)

(T) = 0.02 (X)
(T) = 0.02 * (18.3)

Directional Distribution: 59% ent. 41% exit.
T = 0 Average Vehicle Trip Ends
0 entering 0 exiting
0 + 0 = 0

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (400 Series Page 4)

(T) = 0.11 (X)
(T) = 0.11 * (18.3)

Directional Distribution: 55% ent. 45% exit.
T = 2 Average Vehicle Trip Ends
1 entering 1 exiting
1 + 1 = 2

Weekday (400 Series page 2)

Average Weekday
T = 0.78* (X)
T = 0.78 * 18

Directional Distribution: 50% entering, 50% exiting
T = 14 Average Vehicle Trip Ends
7 entering 7 exiting

7 + 7 = 14

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for Movie Theater				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	1 of 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Movie Theater (444)

Independent Variable - Gross Floor Area
Gross Floor Area = 52,000 Square Feet
X = 52.0
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (400 Series Page 111)

Directional Distribution: 50% ent. 50% exit.
T = 0.22 (X)
T = 0.22 * 52
T = 11 Average Vehicle Trip Ends
5 entering 6 exiting

5 (*) - 6 = 11

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (400 Series Page 112)

Directional Distribution: 94% ent. 6% exit.
T = 6.17 (X)
T = 6.17 * 52
T = 321 Average Vehicle Trip Ends
302 entering 19 exiting

302 + 19 = 321

Weekday (400 Series Page 110)

Average Weekday
T = 78.09 (X)
T = 78.09* 52
Directional Distribution: 50% entering, 50% exiting
T = 4062 Average Vehicle Trip Ends
2031 entering 2031 exiting

2031 + 2031 = 4062

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for Tire Superstore				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Tire Superstore (849)

Independant Variable - 1000 Square Feet Gross Floor Area (X)
Gross Floor Area = 7,200 Square Feet
X = 7.200
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 262)

Directional Distribution: 65% ent. 35% exit.
T = 1.34 (X)
T = 1.34 * 7.200
T = 10 Average Vehicle Trip Ends
6 entering 4 exiting

6 + 4 (*) = 10

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series Page 263)

Directional Distribution: 47% ent. 53% exit.
T = 2.11 (X)
T = 2.11 * 7.200
T = 15 Average Vehicle Trip Ends
7 entering 8 exiting

7 + 8 = 15

Weekday (800 Series Page 261)

Average Weekday
T = 20.37 (X)
T = 20.37* 7.200
Directional Distribution: 50% entering, 50% exiting
T = 148 Average Vehicle Trip Ends
74 entering 74 exiting

74 + 74 = 148

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for Home Improvements Superstore				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Home Improvement Superstore (862)

Independant Variable - 1000 Square Feet Gross Floor Area (X)
Gross Floor Area = 127,000 Square Feet
X = 127.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 437)

Directional Distribution: 57% ent. 43% exit.
T = 1.57 (X)
T = 1.57 * 127.000
T = 199 Average Vehicle Trip Ends
113 entering 86 exiting

113 (*) · 86 = 199

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series Page 438)

Directional Distribution: 49% ent. 51% exit.
T = 2.33 (X)
T = 2.33 * 127.000
T = 296 Average Vehicle Trip Ends
145 entering 151 exiting

145 + 151 = 296

Weekday (800 Series Page 436)

Average Weekday
T = 30.74 (X)
T = 30.74* 127.000
Directional Distribution: 50% entering, 50% exiting
T = 3904 Average Vehicle Trip Ends
1952 entering 1952 exiting

1952 + 1952 = 3904

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for Furniture Store				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rates

Land Use Code - Furniture Store (890)

Independent Variable - 1000 Square Feet (X)
SF = 114,000
X = 114.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 585)

Directional Distribution: 71% ent. 29% exit.
(T) = 0.26 (X) T = 30 Average Vehicle Trip Ends
(T) = 0.26 * (114.0) 21 entering 9 exiting

21 + 9 = 30

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series Page 586)

Directional Distribution: 47% ent. 53% exit.
(T) = 0.52 (X) T = 59 Average Vehicle Trip Ends
(T) = 0.52 * (114.0) 28 entering 31 exiting

28 + 31 = 59

Weekday (800 Series Page 584)

Average Weekday Directional Distribution: 50% ent. 50% exit.
(T) = 6.30 (X) T = 720 Average Vehicle Trip Ends
(T) = 6.30 * (114.0) 360 entering 360 exiting

360 + 360 = 720

Saturday, Peak Hour of Generator (800 Series Page 590)

Daily Weekday Directional Distribution: 54% ent. 46% exit.
(T) = 1.10 (X) T = 125 Average Vehicle Trip Ends
(T) = 1.10 * (114.0) 68 entering 58 exiting

68 + 57 = 125

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for High-Turnover (Sit-Down) Restaurant				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	096956010
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations
Land Use Code - High Turnover Sit-Down Restaurant (932)
Independant Variable - 1000 Square Feet Gross Floor Area (X)
Gross Floor Area = 11,000 Square Feet
X = 11.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series Page 97)

Average Weekday — Directional Distribution: 55% ent. 45% exit.
T = 9.94 (X) — T = 109 Average Vehicle Trip Ends
T = 9.94 * 11.000 — 60 entering 49 exiting

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series Page 98)

Average Weekday — Directional Distribution: 62% ent. 38% exit.
T = 9.77 (X) — T = 107 Average Vehicle Trip Ends
T = 9.77 * 11.000 — 66 entering 41 exiting

Weekday (900 Series Page 96)

Average Weekday — Directional Distribution: 50% entering, 50% exiting
T = 112.18 (X) — T = 1234 Average Vehicle Trip Ends
T = 112.18 * 11.000 — 617 entering 617 exiting

P.M. Peak Hour of Generator (900 Series Page 100)

Average Weekday — Directional Distribution: 52% ent. 48% exit.
T = 17.41 (X) — T = 192 Average Vehicle Trip Ends
T = 17.41 * 11.000 — 100 entering 92 exiting

Saturday Peak Hour of Generator (900 Series Page 105

Average Saturday — Directional Distribution: 51% ent. 49% exit.
T = 11.19 (X) — T = 124 Average Vehicle Trip Ends
T = 11.19 * 11.000 — 63 entering 61 exiting

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017-Page 207)

AM Peak Hour = 57% Non-Pass By — PM Peak Hour = 57% Non-Pass By

	IN	Out	Total
AM Peak	34	28	62
PM Peak	38	23	61
Daily	352	352	704

PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017 -Page 207)

AM Peak Hour = 43% Pass By — PM Peak Hour = 43% Pass By

	IN	Out	Total
AM Peak	26	21	48
PM Peak	28	18	46
Daily	265	265	530

PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for Fast-Food Restaurant with Drive-Through Window				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Fast Food Restaurant With Drive-Through Window (934)

Independant Variable - 1000 Square Feet Gross Floor Area (X)
Gross Floor Area = 6,600 Square Feet
X = 6.600
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series page 158)

Average Weekday — Directional Distribution: 51% ent. 49% exit.
T = 40.19 (X) — T = 265 Average Vehicle Trip Ends
T = 40.19 * 6.600 — 135 entering 130 exiting

135 + 130 = 265

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series page 159)

Average Weekday — Directional Distribution: 52% ent. 48% exit.
T = 32.67 (X) — T = 216 Average Vehicle Trip Ends
T = 32.67 * 6.600 — 112 entering 104 exiting

112 + 104 (*) = 216

Weekday (900 Series page 157)

Average Weekday — Directional Distribution: 50% entering, 50% exiting
T = 470.95 (X) — T = 3110 Average Vehicle Trip Ends
T = 470.95 * 6.600 — 1555 entering 1555 exiting

1555 + 1555 = 3110

Saturday Peak Hour of Generator (900 Series page 163)

Directional Distribution: 51% ent. 49% exit.
T = 54.86 (X) — T = 362 Average Vehicle Trip Ends
T = 54.86 * 6.600 — 185 entering 177 exiting

185 + 177 = 362

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

AM Peak Hour = 51% Non-Pass By — PM Peak Hour = 50% Non-Pass By

	IN	Out	Total	
AM Peak	69	66	135	
PM Peak	56	52	108	
Daily	778	778	1556	PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

AM Peak Hour = 49% Pass By — PM Peak Hour = 50% Pass By

	IN	Out	Total	
AM Peak	66	64	130	
PM Peak	56	52	108	
Daily	777	777	1554	PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads North)				
Subject	Trip Generation for Super Convenience Market/Gas Station				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	096956010
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Super Convenience Market/Gas Station (960)

Independant Variable - 1000 Square Feet Gross Leasable Area (X)

Gross Leasable Area = 5,000 Square Feet
X = 5.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series Page 404)

T = 83.14 (X)
T = 83.14 * 5.000

Directional Distribution: 50% ent. 50% exit.
T = 416 Average Vehicle Trip Ends
208 entering 208 exiting

208 + 208 = 416

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series page 405)

T = 69.28 (X)
T = 69.28 * 5.000

Directional Distribution: 50% ent. 50% exit.
T = 346 Average Vehicle Trip Ends
173 entering 173 exiting

173 + 173 = 346

Weekday (800 Series page 335)

Average Weekday
T = 837.58 (X)
T = 837.58 * 5.000

Directional Distribution: 50% entering, 50% exiting
T = 4188 Average Vehicle Trip Ends
2094 entering 2094 exiting

2094 + 2094 = 4188

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

PM Peak Hour = 44% Non-Pass By AM Peak Hour = 38% Non-Pass By

	IN	Out	Total
AM Peak	79	79	158
PM Peak	76	76	152
Daily	921	921	1842

* Utilized ITE 945 pass-by calculations

PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

PM Peak Hour = 56% Pass By AM Peak Hour = 62% Pass By

	IN	Out	Total
AM Peak	129	129	258
PM Peak	97	97	194
Daily	1173	1173	2346

PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads Mix Use)				
Subject	Trip Generation for Free-Standing Discount Store				
Designed by	TES	*Date*	July 16, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rates

Land Use Code - Free-Standing Discount Store (815)

Independant Variable - 1000 Square Feet (X)
SF = 130,000
X = 130.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 50)

Directional Distribution: 69% ent. 31% exit.
(T) = 1.17 (X) T = 152 Average Vehicle Trip Ends
(T) = 1.17 * (130.0) 105 entering 47 exiting

105 + 47 = 152

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series Page 51)

Directional Distribution: 50% ent. 50% exit.
(T) =4.83 (X) T = 628 Average Vehicle Trip Ends
(T) =4.83 * (130.0) 314 entering 314 exiting

314 + 314 = 628

Weekday (800 Series Page 49)

.
Average Weekday Directional Distribution: 50% ent. 50% exit.
(T) = 53.12 (X) T = 6906 Average Vehicle Trip Ends
(T) = 53.12 * (130.0) 3453 entering 3453 exiting

3453 + 3453 = 6906

Saturday, Peak Hour of Generator (800 Series Page 55)

Daily Weekday Directional Distribution: 51% ent. 49% exit.
(T) =6.94 (X) T = 902 Average Vehicle Trip Ends
(T) = 6.94 * (130.0) 460 entering 442 exiting

460 + 442 = 902

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads Mix Use)				
Subject	Trip Generation for Shopping Center				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	096956010
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Shopping Center (820)

Independant Variable - 1000 Square Feet Gross Leasable Area (X)

Gross Leasable Area = 44,942 Square Feet
X = 44.942
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 139)

Average Weekday — Directional Distribution: 62% ent. 38% exit.
T = 0.94 * (X) — T = 42 Average Vehicle Trip Ends
T = 0.94 * 44.942 — 26 entering 16 exiting

26 + 16 = 42

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series page 140)

Average Weekday — Directional Distribution: 48% ent. 52% exit.
T = 3.81 * (X) — T = 171 Average Vehicle Trip Ends
T = 3.81 * 44.942 — 82 entering 89 exiting

82 + 89 = 171

Weekday (800 Series page 138)

Average Weekday — Directional Distribution: 50% entering, 50% exiting
T = 37.75 * (X) — T = 1696 Average Vehicle Trip Ends
T = 37.75 * 44.942 — 848 entering 848 exiting

848 + 848 = 1696

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017-Page 190)

AM Peak Hour = 66% Non-Pass By — PM Peak Hour = 66% Non-Pass By

	IN	Out	Total
AM Peak	17	11	28
PM Peak	54	59	113
Daily	560	560	1120

PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017 -Page 190)

AM Peak Hour = 34% Pass By — PM Peak Hour = 34% Pass By

	IN	Out	Total
AM Peak	9	5	15
PM Peak	28	30	58
Daily	288	288	576

PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads Mix Use)				
Subject	Trip Generation for High-Turnover (Sit-Down) Restaurant				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	096956010
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations
Land Use Code - High Turnover Sit-Down Restaurant (932)
Independant Variable - 1000 Square Feet Gross Floor Area (X)
Gross Floor Area = 10,200 Square Feet
X = 10.200
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series Page 97)

Average Weekday — Directional Distribution: 55% ent. 45% exit.
T = 9.94 (X) — T = 101 Average Vehicle Trip Ends
T = 9.94 * 10.200 — 56 entering 45 exiting

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series Page 98)

Average Weekday — Directional Distribution: 62% ent. 38% exit.
T = 9.77 (X) — T = 100 Average Vehicle Trip Ends
T = 9.77 * 10.200 — 62 entering 38 exiting

Weekday (900 Series Page 96)

Average Weekday — Directional Distribution: 50% entering, 50% exiting
T = 112.18 (X) — T = 1146 Average Vehicle Trip Ends
T = 112.18 * 10.200 — 573 entering 573 exiting

P.M. Peak Hour of Generator (900 Series Page 100)

Average Weekday — Directional Distribution: 52% ent. 48% exit.
T = 17.41 (X) — T = 178 Average Vehicle Trip Ends
T = 17.41 * 10.200 — 93 entering 85 exiting

Saturday Peak Hour of Generator (900 Series Page 105

Average Saturday — Directional Distribution: 51% ent. 49% exit.
T = 11.19 (X) — T = 116 Average Vehicle Trip Ends
T = 11.19 * 10.200 — 59 entering 57 exiting

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017-Page 207)

AM Peak Hour = 57% Non-Pass By — PM Peak Hour = 57% Non-Pass By

	IN	Out	Total
AM Peak	32	26	58
PM Peak	35	22	57
Daily	327	327	654

PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017 -Page 207)

AM Peak Hour = 43% Pass By — PM Peak Hour = 43% Pass By

	IN	Out	Total
AM Peak	24	19	44
PM Peak	27	16	43
Daily	246	246	492

PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads Mix Use)				
Subject	Trip Generation for Fast-Food Restaurant with Drive-Through Window				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	1 *of* 1

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Fast Food Restaurant With Drive-Through Window (934)

Independant Variable - 1000 Square Feet Gross Floor Area (X)
Gross Floor Area = 14,309 Square Feet
X = 14.309
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (900 Series page 158)

Average Weekday — Directional Distribution: 51% ent. 49% exit.
T = 40.19 (X) — T = 575 Average Vehicle Trip Ends
T = 40.19 * 14.309 — 293 entering 282 exiting

293 + 282 = 575

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (900 Series page 159)

Average Weekday — Directional Distribution: 52% ent. 48% exit.
T = 32.67 (X) — T = 467 Average Vehicle Trip Ends
T = 32.67 * 14.309 — 243 entering 224 exiting

243 + 224 = 467

Weekday (900 Series page 157)

Average Weekday — Directional Distribution: 50% entering, 50% exiting
T = 470.95 (X) — T = 6740 Average Vehicle Trip Ends
T = 470.95 * 14.309 — 3370 entering 3370 exiting

3370 + 3370 = 6740

Saturday Peak Hour of Generator (900 Series page 163)

Directional Distribution: 51% ent. 49% exit.
T = 54.86 (X) — T = 785 Average Vehicle Trip Ends
T = 54.86 * 14.309 — 400 entering 385 exiting

400 + 385 = 785

Non Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

AM Peak Hour = 51% Non-Pass By — PM Peak Hour = 50% Non-Pass By

	IN	Out	Total	
AM Peak	149	144	293	
PM Peak	122	112	234	
Daily	1685	1685	3370	PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Per ITE Trip Generation Handbook, 3rd Edition September 2017)

AM Peak Hour = 49% Pass By — PM Peak Hour = 50% Pass By

	IN	Out	Total	
AM Peak	144	138	282	
PM Peak	122	112	234	
Daily	1685	1685	3370	PM Peak Hour Rate Applied to Daily

Kimley»Horn

Project	Crossroads-Meadowbrook (Crossroads Mix Use)				
Subject	Trip Generation for Coffee/Donut Shop with Drive Through				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	096956010
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

Land Use Code - Coffee/Donut Shop with Drive Through (937)

Independant Variable - 1000 Square Feet Gross Floor Feet (X)
Gross Floor Area = 2,400
X = 2.4
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (Series 900 Page 232)

Directional Distribution: 51% ent. 49% exit.
T = 88.99 (X)
T = 88.99 * 2.4
T = 214 Average Vehicle Trip Ends
109 entering 105 exiting

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (Series 900 Page 233)

Directional Distribution: 50% ent. 50% exit.
T = 43.38 (X)
T = 43.38 * 2.4
T = 106 Average Vehicle Trip Ends
53 entering 53 exiting

Weekday (Series 900 Page 231)

Average Weekday
(T) = 820.38 (X)
(T) = 820.38 * (2.4)

Directional Distribution: 50% entering, 50% exiting
T = 1968 Average Vehicle Trip Ends
984 entering 984 exiting

984 + 984 = 1968

Kimley»Horn

Project	Crossroads-Meadowbrook (Meadowbrook Park)				
Subject	Trip Generation for Single-Family Detached Housing				
Designed by	TES	*Date*	June 24, 2020	*Job No.*	96956010
Checked by		*Date*		*Sheet No.*	of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 10th Edition, Average Rate Equations

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

Independant Variable - Dwelling Units (X)

X = 70
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) = 0.74(X)
(T) = 0.74 * (70.0)

Directional Distribution: 25% entering, 75% exiting
T = 52 Average Vehicle Trip Ends
13 entering 39 exiting

13 + 39 = 52

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

Average Weekday
(T) = 0.99(X)
(T) = 0.99 * (70.0)

Directional Distribution: 63% entering, 37% exiting
T = 69 Average Vehicle Trip Ends
44 entering 25 exiting

44 + 25 = 69

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

Average Saturday
(T) = 0.93(X)
(T) = 0.93 * (70.0)

Directional Distribution: 54% entering, 46% exiting
T = 65 Average Vehicle Trip Ends
35 entering 30 exiting

35 + 30 = 65

Weekday (200 Series Page 2)

Average Weekday
(T) = 9.44(X)
(T) = 9.44 * (70.0)

Directional Distribution: 50% entering, 50% exiting
T = 662 Average Vehicle Trip Ends
331 entering 331 exiting

331 + 331 = 662

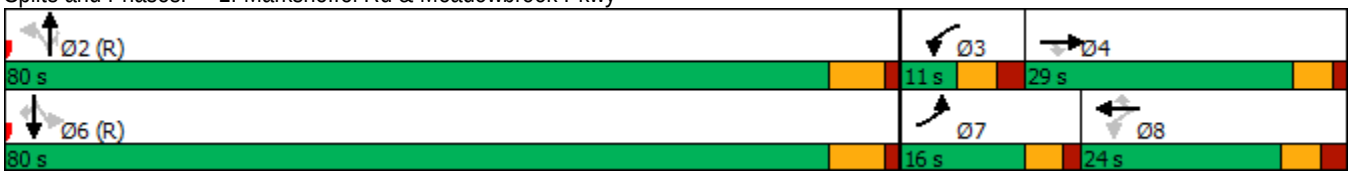
APPENDIX D

Intersection Analysis Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	5	31	32	17	23	24	683	14	7	1235	151
Future Volume (vph)	94	5	31	32	17	23	24	683	14	7	1235	151
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	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	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	11.0	24.0	24.0	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	16.0	29.0	29.0	11.0	24.0	24.0	80.0	80.0	80.0	80.0	80.0	80.0
Total Split (%)	13.3%	24.2%	24.2%	9.2%	20.0%	20.0%	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Act Effct Green (s)	9.7	8.5	8.5	14.9	7.0	7.0	88.2	88.2	88.2	88.2	88.2	88.2
Actuated g/C Ratio	0.08	0.07	0.07	0.12	0.06	0.06	0.74	0.74	0.74	0.74	0.74	0.74
v/c Ratio	0.45	0.05	0.21	0.20	0.20	0.17	0.13	0.32	0.01	0.02	0.54	0.14
Control Delay	57.8	51.0	2.5	42.4	57.6	2.1	9.0	10.5	0.3	6.1	8.8	1.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.8	51.0	2.5	42.4	57.6	2.1	9.0	10.5	0.3	6.1	8.8	1.2
LOS	E	D	A	D	E	A	A	B	A	A	A	A
Approach Delay		44.3			33.3			10.2			8.0	
Approach LOS		D			C			B			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 11.8	Intersection LOS: B
Intersection Capacity Utilization 57.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Marksheffel Rd & Meadowbrook Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	5	31	32	17	23	24	683	14	7	1235	151
Future Volume (veh/h)	94	5	31	32	17	23	24	683	14	7	1235	151
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	1752	1752	1752	1870	1870	1870	1796	1796	1796	1811	1811	1811
Adj Flow Rate, veh/h	115	6	38	41	22	29	28	785	16	8	1342	164
Peak Hour Factor	0.82	0.82	0.82	0.79	0.79	0.79	0.87	0.87	0.87	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	2	2	2	7	7	7	6	6	6
Cap, veh/h	167	93	79	171	77	65	263	2599	1159	514	2620	1169
Arrive On Green	0.05	0.05	0.05	0.03	0.04	0.04	0.76	0.76	0.76	0.76	0.76	0.76
Sat Flow, veh/h	3237	1752	1485	1781	1870	1585	334	3413	1522	658	3441	1535
Grp Volume(v), veh/h	115	6	38	41	22	29	28	785	16	8	1342	164
Grp Sat Flow(s),veh/h/ln	1618	1752	1485	1781	1870	1585	334	1706	1522	658	1721	1535
Q Serve(g_s), s	4.2	0.4	3.0	2.6	1.4	2.1	4.3	8.6	0.3	0.5	18.3	3.4
Cycle Q Clear(g_c), s	4.2	0.4	3.0	2.6	1.4	2.1	22.6	8.6	0.3	9.0	18.3	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	93	79	171	77	65	263	2599	1159	514	2620	1169
V/C Ratio(X)	0.69	0.06	0.48	0.24	0.29	0.44	0.11	0.30	0.01	0.02	0.51	0.14
Avail Cap(c_a), veh/h	297	350	297	190	281	238	263	2599	1159	514	2620	1169
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.0	54.0	55.2	52.9	55.8	56.2	10.0	4.4	3.5	5.8	5.6	3.8
Incr Delay (d2), s/veh	5.0	0.3	4.5	0.7	2.0	4.7	0.8	0.3	0.0	0.1	0.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.2	1.2	1.2	0.7	0.9	0.4	2.7	0.1	0.1	5.9	1.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.0	54.2	59.6	53.6	57.8	60.8	10.8	4.7	3.5	5.9	6.3	4.1
LnGrp LOS	E	D	E	D	E	E	B	A	A	A	A	A
Approach Vol, veh/h		159			92			829			1514	
Approach Delay, s/veh		60.4			56.9			4.9			6.1	
Approach LOS		E			E			A			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		97.9	9.7	12.4		97.9	11.2	10.9				
Change Period (Y+Rc), s		6.5	6.0	* 6		6.5	5.0	6.0				
Max Green Setting (Gmax), s		73.5	5.0	* 24		73.5	11.0	18.0				
Max Q Clear Time (g_c+I1), s		24.6	4.6	5.0		20.3	6.2	4.1				
Green Ext Time (p_c), s		7.7	0.0	0.1		16.6	0.1	0.1				

Intersection Summary	
HCM 6th Ctrl Delay	10.8
HCM 6th LOS	B

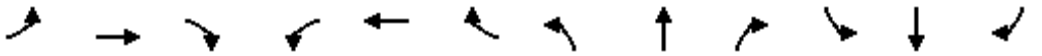
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	9	41	15	10	28	34	1167	59	33	773	107
Future Volume (vph)	144	9	41	15	10	28	34	1167	59	33	773	107
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	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	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	11.0	24.0	24.0	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	18.0	32.0	32.0	11.0	25.0	25.0	77.0	77.0	77.0	77.0	77.0	77.0
Total Split (%)	15.0%	26.7%	26.7%	9.2%	20.8%	20.8%	64.2%	64.2%	64.2%	64.2%	64.2%	64.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Act Effct Green (s)	11.2	13.5	13.5	12.1	6.6	6.6	87.0	87.0	87.0	87.0	87.0	87.0
Actuated g/C Ratio	0.09	0.11	0.11	0.10	0.06	0.06	0.72	0.72	0.72	0.72	0.72	0.72
v/c Ratio	0.53	0.05	0.19	0.14	0.15	0.20	0.09	0.51	0.06	0.16	0.35	0.11
Control Delay	57.5	48.7	3.8	40.5	56.7	2.1	7.1	13.5	0.7	8.8	7.3	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.5	48.7	3.8	40.5	56.7	2.1	7.1	13.5	0.7	8.8	7.3	1.3
LOS	E	D	A	D	E	A	A	B	A	A	A	A
Approach Delay		45.8			23.2			12.8			6.6	
Approach LOS		D			C			B			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 13.5	Intersection LOS: B
Intersection Capacity Utilization 55.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Marksheffel Rd & Meadowbrook Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	144	9	41	15	10	28	34	1167	59	33	773	107
Future Volume (veh/h)	144	9	41	15	10	28	34	1167	59	33	773	107
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	1841	1841	1841
Adj Flow Rate, veh/h	169	11	48	22	15	42	38	1297	66	38	889	123
Peak Hour Factor	0.85	0.85	0.85	0.67	0.67	0.67	0.90	0.90	0.90	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	4	4	4
Cap, veh/h	229	149	126	157	81	68	426	2646	1180	295	2605	1162
Arrive On Green	0.07	0.08	0.08	0.02	0.04	0.04	0.74	0.74	0.74	0.74	0.74	0.74
Sat Flow, veh/h	3456	1870	1585	1781	1870	1585	557	3554	1585	393	3497	1560
Grp Volume(v), veh/h	169	11	48	22	15	42	38	1297	66	38	889	123
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1870	1585	557	1777	1585	393	1749	1560
Q Serve(g_s), s	5.8	0.7	3.4	1.4	0.9	3.1	3.0	17.6	1.3	5.2	10.4	2.6
Cycle Q Clear(g_c), s	5.8	0.7	3.4	1.4	0.9	3.1	13.4	17.6	1.3	22.8	10.4	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	229	149	126	157	81	68	426	2646	1180	295	2605	1162
V/C Ratio(X)	0.74	0.07	0.38	0.14	0.19	0.61	0.09	0.49	0.06	0.13	0.34	0.11
Avail Cap(c_a), veh/h	374	421	357	192	296	251	426	2646	1180	295	2605	1162
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	51.1	52.4	53.1	55.4	56.4	7.5	6.2	4.1	10.7	5.2	4.2
Incr Delay (d2), s/veh	4.6	0.2	1.9	0.4	1.1	8.6	0.4	0.7	0.1	0.9	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.3	1.4	0.6	0.5	1.4	0.4	6.0	0.4	0.5	3.5	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.6	51.4	54.3	53.5	56.5	65.0	8.0	6.8	4.2	11.6	5.6	4.4
LnGrp LOS	E	D	D	D	E	E	A	A	A	B	A	A
Approach Vol, veh/h		228			79			1401			1050	
Approach Delay, s/veh		58.1			60.2			6.7			5.7	
Approach LOS		E			E			A			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		95.9	8.6	15.5		95.9	13.0	11.2				
Change Period (Y+Rc), s		6.5	6.0	* 6		6.5	5.0	6.0				
Max Green Setting (Gmax), s		70.5	5.0	* 27		70.5	13.0	19.0				
Max Q Clear Time (g_c+I1), s		19.6	3.4	5.4		24.8	7.8	5.1				
Green Ext Time (p_c), s		15.5	0.0	0.1		9.5	0.2	0.1				

Intersection Summary												
HCM 6th Ctrl Delay			12.1									
HCM 6th LOS			B									

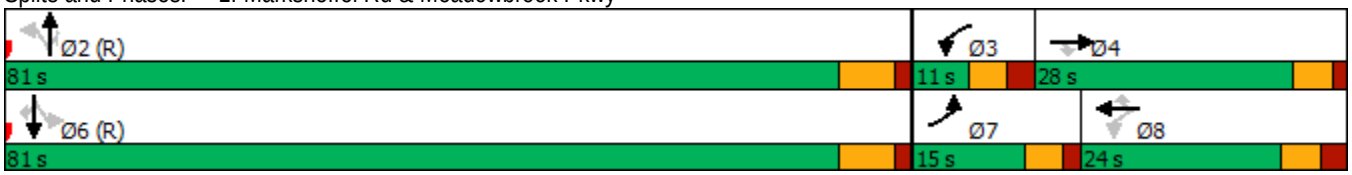
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	105	10	35	35	20	25	30	725	15	10	1310	160
Future Volume (vph)	105	10	35	35	20	25	30	725	15	10	1310	160
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	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	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	11.0	24.0	24.0	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	15.0	28.0	28.0	11.0	24.0	24.0	81.0	81.0	81.0	81.0	81.0	81.0
Total Split (%)	12.5%	23.3%	23.3%	9.2%	20.0%	20.0%	67.5%	67.5%	67.5%	67.5%	67.5%	67.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Act Effct Green (s)	10.2	9.9	9.9	13.5	7.1	7.1	87.4	87.4	87.4	87.4	87.4	87.4
Actuated g/C Ratio	0.08	0.08	0.08	0.11	0.06	0.06	0.73	0.73	0.73	0.73	0.73	0.73
v/c Ratio	0.47	0.08	0.22	0.24	0.23	0.18	0.18	0.34	0.02	0.03	0.57	0.15
Control Delay	57.7	50.6	3.1	42.8	58.0	2.3	15.5	11.8	2.1	6.4	9.7	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.7	50.6	3.1	42.8	58.0	2.3	15.5	11.8	2.1	6.4	9.7	1.3
LOS	E	D	A	D	E	A	B	B	A	A	A	A
Approach Delay		44.4			33.7			11.7			8.8	
Approach LOS		D			C			B			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 89 (74%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 75	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.57	
Intersection Signal Delay: 13.0	Intersection LOS: B
Intersection Capacity Utilization 59.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Marksheffel Rd & Meadowbrook Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	10	35	35	20	25	30	725	15	10	1310	160
Future Volume (veh/h)	105	10	35	35	20	25	30	725	15	10	1310	160
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	1752	1752	1752	1870	1870	1870	1796	1796	1796	1811	1811	1811
Adj Flow Rate, veh/h	128	12	43	44	25	32	34	833	17	11	1424	174
Peak Hour Factor	0.82	0.82	0.82	0.79	0.79	0.79	0.87	0.87	0.87	0.92	0.92	0.92
Percent Heavy Veh, %	10	10	10	2	2	2	7	7	7	6	6	6
Cap, veh/h	180	99	84	173	78	66	239	2584	1153	486	2605	1162
Arrive On Green	0.06	0.06	0.06	0.03	0.04	0.04	0.76	0.76	0.76	0.76	0.76	0.76
Sat Flow, veh/h	3237	1752	1485	1781	1870	1585	306	3413	1522	628	3441	1535
Grp Volume(v), veh/h	128	12	43	44	25	32	34	833	17	11	1424	174
Grp Sat Flow(s),veh/h/ln	1618	1752	1485	1781	1870	1585	306	1706	1522	628	1721	1535
Q Serve(g_s), s	4.7	0.8	3.4	2.8	1.6	2.4	6.2	9.4	0.3	0.7	20.6	3.7
Cycle Q Clear(g_c), s	4.7	0.8	3.4	2.8	1.6	2.4	26.8	9.4	0.3	10.1	20.6	3.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	180	99	84	173	78	66	239	2584	1153	486	2605	1162
V/C Ratio(X)	0.71	0.12	0.51	0.25	0.32	0.49	0.14	0.32	0.01	0.02	0.55	0.15
Avail Cap(c_a), veh/h	270	336	285	190	281	238	239	2584	1153	486	2605	1162
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	53.8	55.0	52.8	55.9	56.3	11.6	4.7	3.6	6.3	6.0	4.0
Incr Delay (d2), s/veh	5.1	0.5	4.7	0.8	2.4	5.5	1.2	0.3	0.0	0.1	0.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.4	1.4	1.3	0.8	1.0	0.5	3.0	0.1	0.1	6.6	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.8	54.3	59.7	53.6	58.2	61.8	12.8	5.0	3.6	6.4	6.9	4.3
LnGrp LOS	E	D	E	D	E	E	B	A	A	A	A	A
Approach Vol, veh/h		183			101			884			1609	
Approach Delay, s/veh		60.1			57.3			5.3			6.6	
Approach LOS		E			E			A			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		97.4	9.8	12.8		97.4	11.7	11.0				
Change Period (Y+Rc), s		6.5	6.0	* 6		6.5	5.0	6.0				
Max Green Setting (Gmax), s		74.5	5.0	* 23		74.5	10.0	18.0				
Max Q Clear Time (g_c+I1), s		28.8	4.8	5.4		22.6	6.7	4.4				
Green Ext Time (p_c), s		8.6	0.0	0.1		18.4	0.1	0.1				

Intersection Summary												
HCM 6th Ctrl Delay			11.5									
HCM 6th LOS			B									

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	10	45	20	15	30	40	1240	65	35	820	115
Future Volume (vph)	155	10	45	20	15	30	40	1240	65	35	820	115
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	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	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	11.0	24.0	24.0	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	18.0	31.0	31.0	11.0	24.0	24.0	78.0	78.0	78.0	78.0	78.0	78.0
Total Split (%)	15.0%	25.8%	25.8%	9.2%	20.0%	20.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Act Effct Green (s)	11.7	14.0	14.0	13.0	7.0	7.0	86.1	86.1	86.1	86.1	86.1	86.1
Actuated g/C Ratio	0.10	0.12	0.12	0.11	0.06	0.06	0.72	0.72	0.72	0.72	0.72	0.72
v/c Ratio	0.54	0.06	0.20	0.17	0.20	0.21	0.12	0.54	0.06	0.20	0.38	0.11
Control Delay	57.4	47.9	4.9	40.3	57.7	2.2	1.1	2.8	0.1	10.4	7.9	1.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	47.9	4.9	40.3	57.7	2.2	1.1	2.8	0.1	10.4	7.9	1.4
LOS	E	D	A	D	E	A	A	A	A	B	A	A
Approach Delay		45.7			26.5			2.6			7.2	
Approach LOS		D			C			A			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 81 (68%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.54	
Intersection Signal Delay: 8.7	Intersection LOS: A
Intersection Capacity Utilization 57.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Marksheffel Rd & Meadowbrook Pkwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	10	45	20	15	30	40	1240	65	35	820	115
Future Volume (veh/h)	155	10	45	20	15	30	40	1240	65	35	820	115
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	1841	1841	1841
Adj Flow Rate, veh/h	182	12	53	30	22	45	44	1378	72	40	943	132
Peak Hour Factor	0.85	0.85	0.85	0.67	0.67	0.67	0.90	0.90	0.90	0.87	0.87	0.87
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	4	4	4
Cap, veh/h	242	151	128	168	85	72	397	2625	1171	267	2583	1152
Arrive On Green	0.07	0.08	0.08	0.03	0.05	0.05	0.74	0.74	0.74	0.74	0.74	0.74
Sat Flow, veh/h	3456	1870	1585	1781	1870	1585	525	3554	1585	361	3497	1560
Grp Volume(v), veh/h	182	12	53	30	22	45	44	1378	72	40	943	132
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1870	1585	525	1777	1585	361	1749	1560
Q Serve(g_s), s	6.2	0.7	3.8	1.9	1.4	3.3	3.9	19.9	1.5	6.4	11.6	2.9
Cycle Q Clear(g_c), s	6.2	0.7	3.8	1.9	1.4	3.3	15.5	19.9	1.5	26.2	11.6	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	242	151	128	168	85	72	397	2625	1171	267	2583	1152
V/C Ratio(X)	0.75	0.08	0.41	0.18	0.26	0.62	0.11	0.53	0.06	0.15	0.37	0.11
Avail Cap(c_a), veh/h	374	405	343	195	281	238	397	2625	1171	267	2583	1152
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.8	51.0	52.4	52.6	55.3	56.3	8.4	6.7	4.3	12.3	5.6	4.5
Incr Delay (d2), s/veh	4.6	0.2	2.1	0.5	1.6	8.6	0.6	0.8	0.1	1.2	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.3	1.6	0.9	0.7	1.5	0.5	6.8	0.5	0.6	3.9	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.4	51.2	54.6	53.1	56.9	64.8	9.0	7.5	4.4	13.5	6.0	4.7
LnGrp LOS	E	D	D	D	E	E	A	A	A	B	A	A
Approach Vol, veh/h		247			97			1494			1115	
Approach Delay, s/veh		58.0			59.4			7.3			6.1	
Approach LOS		E			E			A			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		95.1	9.2	15.7		95.1	13.4	11.5				
Change Period (Y+Rc), s		6.5	6.0	* 6		6.5	5.0	6.0				
Max Green Setting (Gmax), s		71.5	5.0	* 26		71.5	13.0	18.0				
Max Q Clear Time (g_c+I1), s		21.9	3.9	5.8		28.2	8.2	5.3				
Green Ext Time (p_c), s		17.2	0.0	0.2		10.4	0.2	0.1				

Intersection Summary	
HCM 6th Ctrl Delay	12.8
HCM 6th LOS	B

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	10	35	35	20	25	30	800	15	10	1395	250
Future Volume (vph)	185	10	35	35	20	25	30	800	15	10	1395	250
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	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	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	11.0	24.0	24.0	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	19.0	31.0	31.0	12.0	24.0	24.0	77.0	77.0	77.0	77.0	77.0	77.0
Total Split (%)	15.8%	25.8%	25.8%	10.0%	20.0%	20.0%	64.2%	64.2%	64.2%	64.2%	64.2%	64.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Act Effct Green (s)	12.3	12.9	12.9	11.2	7.0	7.0	87.9	87.9	87.9	87.9	87.9	87.9
Actuated g/C Ratio	0.10	0.11	0.11	0.09	0.06	0.06	0.73	0.73	0.73	0.73	0.73	0.73
v/c Ratio	0.61	0.06	0.16	0.24	0.20	0.12	0.20	0.35	0.01	0.03	0.61	0.23
Control Delay	59.7	46.8	1.5	43.3	57.6	1.2	9.4	8.4	0.0	6.9	10.4	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	46.8	1.5	43.3	57.6	1.2	9.4	8.4	0.0	6.9	10.4	1.3
LOS	E	D	A	D	E	A	A	A	A	A	B	A
Approach Delay		50.3			33.9			8.3			9.0	
Approach LOS		D			C			A			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.61	
Intersection Signal Delay: 12.9	Intersection LOS: B
Intersection Capacity Utilization 61.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Marksheffel Rd & Meadowbrook Pkwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	10	35	35	20	25	30	800	15	10	1395	250
Future Volume (veh/h)	185	10	35	35	20	25	30	800	15	10	1395	250
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	1752	1752	1752	1870	1870	1870	1796	1796	1796	1811	1811	1811
Adj Flow Rate, veh/h	201	11	38	38	22	27	33	870	16	11	1516	272
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, %	10	10	10	2	2	2	7	7	7	6	6	6
Cap, veh/h	258	145	123	169	77	65	193	2502	1116	450	2523	1125
Arrive On Green	0.08	0.08	0.08	0.03	0.04	0.04	0.73	0.73	0.73	0.73	0.73	0.73
Sat Flow, veh/h	3237	1752	1485	1781	1870	1585	254	3413	1522	607	3441	1535
Grp Volume(v), veh/h	201	11	38	38	22	27	33	870	16	11	1516	272
Grp Sat Flow(s),veh/h/ln	1618	1752	1485	1781	1870	1585	254	1706	1522	607	1721	1535
Q Serve(g_s), s	7.3	0.7	2.9	2.4	1.4	2.0	8.5	11.0	0.3	0.8	25.2	6.9
Cycle Q Clear(g_c), s	7.3	0.7	2.9	2.4	1.4	2.0	33.7	11.0	0.3	11.7	25.2	6.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	258	145	123	169	77	65	193	2502	1116	450	2523	1125
V/C Ratio(X)	0.78	0.08	0.31	0.22	0.29	0.41	0.17	0.35	0.01	0.02	0.60	0.24
Avail Cap(c_a), veh/h	378	380	322	205	281	238	193	2502	1116	450	2523	1125
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	50.8	51.8	52.9	55.8	56.1	15.7	5.7	4.3	7.8	7.6	5.2
Incr Delay (d2), s/veh	6.2	0.2	1.4	0.7	2.0	4.1	1.9	0.4	0.0	0.1	1.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.3	1.1	1.1	0.7	0.9	0.6	3.6	0.1	0.1	8.5	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	51.0	53.2	53.6	57.8	60.2	17.6	6.1	4.3	7.9	8.7	5.7
LnGrp LOS	E	D	D	D	E	E	B	A	A	A	A	A
Approach Vol, veh/h		250			87			919			1799	
Approach Delay, s/veh		58.9			56.7			6.5			8.2	
Approach LOS		E			E			A			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		94.5	9.6	15.9		94.5	14.6	10.9				
Change Period (Y+Rc), s		6.5	6.0	* 6		6.5	5.0	6.0				
Max Green Setting (Gmax), s		70.5	6.0	* 26		70.5	14.0	18.0				
Max Q Clear Time (g_c+I1), s		35.7	4.4	4.9		27.2	9.3	4.0				
Green Ext Time (p_c), s		8.8	0.0	0.1		19.9	0.3	0.1				

Intersection Summary												
HCM 6th Ctrl Delay			13.2									
HCM 6th LOS			B									

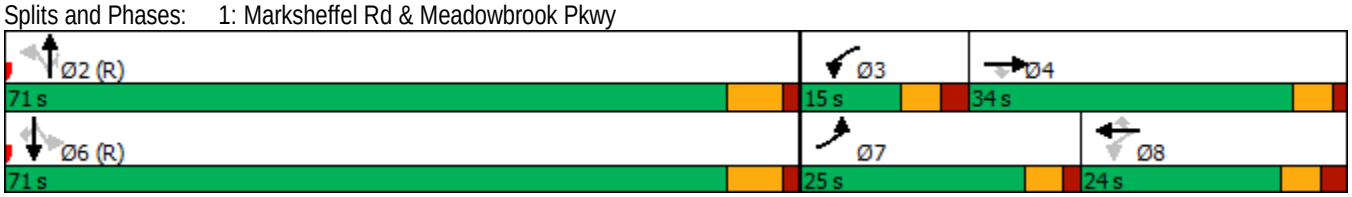
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	10	45	20	15	30	40	1320	65	35	945	235
Future Volume (vph)	270	10	45	20	15	30	40	1320	65	35	945	235
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	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	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	11.0	24.0	24.0	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	25.0	34.0	34.0	15.0	24.0	24.0	71.0	71.0	71.0	71.0	71.0	71.0
Total Split (%)	20.8%	28.3%	28.3%	12.5%	20.0%	20.0%	59.2%	59.2%	59.2%	59.2%	59.2%	59.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Act Effct Green (s)	15.5	15.5	15.5	11.1	6.6	6.6	85.1	85.1	85.1	85.1	85.1	85.1
Actuated g/C Ratio	0.13	0.13	0.13	0.09	0.06	0.06	0.71	0.71	0.71	0.71	0.71	0.71
v/c Ratio	0.66	0.05	0.18	0.14	0.16	0.16	0.13	0.57	0.06	0.21	0.42	0.22
Control Delay	57.0	44.3	3.4	38.4	56.9	1.6	8.4	13.8	1.2	12.3	9.1	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	44.3	3.4	38.4	56.9	1.6	8.4	13.8	1.2	12.3	9.1	1.5
LOS	E	D	A	D	E	A	A	B	A	B	A	A
Approach Delay		49.2			25.5			13.1			7.7	
Approach LOS		D			C			B			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.66	
Intersection Signal Delay: 15.1	Intersection LOS: B
Intersection Capacity Utilization 62.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Marksheffel Rd & Meadowbrook Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	270	10	45	20	15	30	40	1320	65	35	945	235
Future Volume (veh/h)	270	10	45	20	15	30	40	1320	65	35	945	235
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	1841	1841	1841
Adj Flow Rate, veh/h	293	11	49	22	16	33	43	1435	71	38	1027	255
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	4	4	4
Cap, veh/h	363	217	184	154	77	65	313	2516	1122	235	2477	1105
Arrive On Green	0.10	0.12	0.12	0.02	0.04	0.04	0.71	0.71	0.71	0.71	0.71	0.71
Sat Flow, veh/h	3456	1870	1585	1781	1870	1585	431	3554	1585	342	3497	1560
Grp Volume(v), veh/h	293	11	49	22	16	33	43	1435	71	38	1027	255
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1870	1585	431	1777	1585	342	1749	1560
Q Serve(g_s), s	10.0	0.6	3.4	1.4	1.0	2.4	5.5	23.7	1.6	7.3	14.6	6.8
Cycle Q Clear(g_c), s	10.0	0.6	3.4	1.4	1.0	2.4	20.1	23.7	1.6	31.1	14.6	6.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	363	217	184	154	77	65	313	2516	1122	235	2477	1105
V/C Ratio(X)	0.81	0.05	0.27	0.14	0.21	0.51	0.14	0.57	0.06	0.16	0.41	0.23
Avail Cap(c_a), veh/h	576	452	383	249	281	238	313	2516	1122	235	2477	1105
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.5	47.2	48.4	53.4	55.6	56.3	11.4	8.6	5.4	16.2	7.2	6.1
Incr Delay (d2), s/veh	4.6	0.1	0.8	0.4	1.3	6.0	0.9	0.9	0.1	1.5	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.3	1.4	0.6	0.5	1.1	0.6	8.6	0.5	0.7	5.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.1	47.3	49.1	53.8	57.0	62.3	12.3	9.5	5.5	17.7	7.8	6.6
LnGrp LOS	E	D	D	D	E	E	B	A	A	B	A	A
Approach Vol, veh/h		353			71			1549			1320	
Approach Delay, s/veh		55.7			58.5			9.4			7.8	
Approach LOS		E			E			A			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		91.5	8.6	19.9		91.5	17.6	10.9				
Change Period (Y+Rc), s		6.5	6.0	* 6		6.5	5.0	6.0				
Max Green Setting (Gmax), s		64.5	9.0	* 29		64.5	20.0	18.0				
Max Q Clear Time (g_c+I1), s		25.7	3.4	5.4		33.1	12.0	4.4				
Green Ext Time (p_c), s		17.0	0.0	0.2		11.3	0.6	0.1				

Intersection Summary	
HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

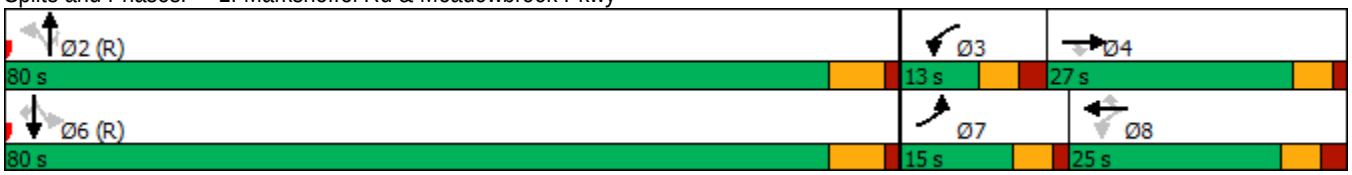
Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	10	40	45	25	30	35	865	20	10	1560	195
Future Volume (vph)	120	10	40	45	25	30	35	865	20	10	1560	195
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	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	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	11.0	24.0	24.0	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	15.0	27.0	27.0	13.0	25.0	25.0	80.0	80.0	80.0	80.0	80.0	80.0
Total Split (%)	12.5%	22.5%	22.5%	10.8%	20.8%	20.8%	66.7%	66.7%	66.7%	66.7%	66.7%	66.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Act Effct Green (s)	9.3	9.7	9.7	13.0	7.3	7.3	88.2	88.2	88.2	88.2	88.2	88.2
Actuated g/C Ratio	0.08	0.08	0.08	0.11	0.06	0.06	0.74	0.74	0.74	0.74	0.74	0.74
v/c Ratio	0.53	0.08	0.22	0.28	0.24	0.19	0.29	0.38	0.02	0.03	0.68	0.18
Control Delay	61.1	50.9	3.2	45.1	58.2	2.3	14.8	8.7	0.9	5.9	11.1	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.1	50.9	3.2	45.1	58.2	2.3	14.8	8.7	0.9	5.9	11.1	1.1
LOS	E	D	A	D	E	A	B	A	A	A	B	A
Approach Delay		47.0			35.4			8.8			9.9	
Approach LOS		D			D			A			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 12.6	Intersection LOS: B
Intersection Capacity Utilization 66.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Marksheffel Rd & Meadowbrook Pkwy



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	10	40	45	25	30	35	865	20	10	1560	195
Future Volume (veh/h)	120	10	40	45	25	30	35	865	20	10	1560	195
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	1752	1752	1752	1870	1870	1870	1796	1796	1796	1811	1811	1811
Adj Flow Rate, veh/h	130	11	43	49	27	33	38	940	22	11	1696	212
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, %	10	10	10	2	2	2	7	7	7	6	6	6
Cap, veh/h	182	96	82	177	78	66	178	2582	1151	435	2603	1161
Arrive On Green	0.06	0.05	0.05	0.03	0.04	0.04	0.76	0.76	0.76	0.76	0.76	0.76
Sat Flow, veh/h	3237	1752	1485	1781	1870	1585	226	3413	1522	565	3441	1535
Grp Volume(v), veh/h	130	11	43	49	27	33	38	940	22	11	1696	212
Grp Sat Flow(s),veh/h/ln	1618	1752	1485	1781	1870	1585	226	1706	1522	565	1721	1535
Q Serve(g_s), s	4.7	0.7	3.4	3.1	1.7	2.4	11.6	11.1	0.4	0.8	28.4	4.7
Cycle Q Clear(g_c), s	4.7	0.7	3.4	3.1	1.7	2.4	40.0	11.1	0.4	11.9	28.4	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	182	96	82	177	78	66	178	2582	1151	435	2603	1161
V/C Ratio(X)	0.71	0.11	0.53	0.28	0.35	0.50	0.21	0.36	0.02	0.03	0.65	0.18
Avail Cap(c_a), veh/h	270	321	272	220	296	251	178	2582	1151	435	2603	1161
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	53.9	55.2	52.7	55.9	56.3	16.6	4.9	3.6	6.9	7.0	4.1
Incr Delay (d2), s/veh	5.1	0.5	5.2	0.8	2.7	5.8	2.7	0.4	0.0	0.1	1.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.3	1.4	1.4	0.9	1.1	0.7	3.5	0.1	0.1	9.2	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.8	54.5	60.4	53.5	58.6	62.1	19.4	5.3	3.6	7.0	8.3	4.5
LnGrp LOS	E	D	E	D	E	E	B	A	A	A	A	A
Approach Vol, veh/h		184			109			1000			1919	
Approach Delay, s/veh		60.3			57.4			5.8			7.9	
Approach LOS		E			E			A			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		97.3	10.1	12.6		97.3	11.8	11.0				
Change Period (Y+Rc), s		6.5	6.0	* 6		6.5	5.0	6.0				
Max Green Setting (Gmax), s		73.5	7.0	* 22		73.5	10.0	19.0				
Max Q Clear Time (g_c+I1), s		42.0	5.1	5.4		30.4	6.7	4.4				
Green Ext Time (p_c), s		9.8	0.0	0.1		22.9	0.1	0.1				

Intersection Summary	
HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	185	15	55	20	15	40	45	1470	75	45	975	140
Future Volume (vph)	185	15	55	20	15	40	45	1470	75	45	975	140
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	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	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	11.0	24.0	24.0	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	18.0	28.0	28.0	14.0	24.0	24.0	78.0	78.0	78.0	78.0	78.0	78.0
Total Split (%)	15.0%	23.3%	23.3%	11.7%	20.0%	20.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Act Effct Green (s)	11.8	14.1	14.1	12.2	6.6	6.6	86.4	86.4	86.4	86.4	86.4	86.4
Actuated g/C Ratio	0.10	0.12	0.12	0.10	0.06	0.06	0.72	0.72	0.72	0.72	0.72	0.72
v/c Ratio	0.60	0.07	0.23	0.14	0.16	0.26	0.15	0.63	0.07	0.34	0.42	0.13
Control Delay	59.3	48.7	6.5	40.4	56.9	4.3	9.3	12.0	3.8	15.9	8.1	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.3	48.7	6.5	40.4	56.9	4.3	9.3	12.0	3.8	15.9	8.1	1.3
LOS	E	D	A	D	E	A	A	B	A	B	A	A
Approach Delay		47.3			24.5			11.5			7.6	
Approach LOS		D			C			B			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 13.3	Intersection LOS: B
Intersection Capacity Utilization 64.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Marksheffel Rd & Meadowbrook Pkwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	15	55	20	15	40	45	1470	75	45	975	140
Future Volume (veh/h)	185	15	55	20	15	40	45	1470	75	45	975	140
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	1841	1841	1841
Adj Flow Rate, veh/h	201	16	60	22	16	43	49	1598	82	49	1060	152
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	4	4	4
Cap, veh/h	261	168	142	157	82	70	345	2610	1164	210	2569	1146
Arrive On Green	0.08	0.09	0.09	0.02	0.04	0.04	0.73	0.73	0.73	0.73	0.73	0.73
Sat Flow, veh/h	3456	1870	1585	1781	1870	1585	461	3554	1585	289	3497	1560
Grp Volume(v), veh/h	201	16	60	22	16	43	49	1598	82	49	1060	152
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1870	1585	461	1777	1585	289	1749	1560
Q Serve(g_s), s	6.9	0.9	4.3	1.4	1.0	3.2	5.4	26.0	1.7	11.8	13.9	3.4
Cycle Q Clear(g_c), s	6.9	0.9	4.3	1.4	1.0	3.2	19.3	26.0	1.7	37.8	13.9	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	261	168	142	157	82	70	345	2610	1164	210	2569	1146
V/C Ratio(X)	0.77	0.10	0.42	0.14	0.19	0.62	0.14	0.61	0.07	0.23	0.41	0.13
Avail Cap(c_a), veh/h	374	358	304	237	281	238	345	2610	1164	210	2569	1146
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	50.2	51.7	53.0	55.3	56.4	9.7	7.7	4.5	16.8	6.1	4.7
Incr Delay (d2), s/veh	5.9	0.2	2.0	0.4	1.1	8.6	0.9	1.1	0.1	2.6	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.5	1.8	0.6	0.5	1.4	0.6	9.0	0.6	0.9	4.7	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	50.4	53.7	53.4	56.5	64.9	10.6	8.8	4.6	19.4	6.6	4.9
LnGrp LOS	E	D	D	D	E	E	B	A	A	B	A	A
Approach Vol, veh/h		277			81			1729			1261	
Approach Delay, s/veh		58.3			60.1			8.6			6.9	
Approach LOS		E			E			A			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		94.6	8.6	16.8		94.6	14.1	11.3				
Change Period (Y+Rc), s		6.5	6.0	* 6		6.5	5.0	6.0				
Max Green Setting (Gmax), s		71.5	8.0	* 23		71.5	13.0	18.0				
Max Q Clear Time (g_c+I1), s		28.0	3.4	6.3		39.8	8.9	5.2				
Green Ext Time (p_c), s		21.0	0.0	0.2		11.8	0.2	0.1				

Intersection Summary												
HCM 6th Ctrl Delay			13.3									
HCM 6th LOS			B									

Notes

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	10	40	45	25	30	35	940	20	10	1645	285
Future Volume (vph)	200	10	40	45	25	30	35	940	20	10	1645	285
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	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	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	11.0	24.0	24.0	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	21.0	29.0	29.0	16.0	24.0	24.0	75.0	75.0	75.0	75.0	75.0	75.0
Total Split (%)	17.5%	24.2%	24.2%	13.3%	20.0%	20.0%	62.5%	62.5%	62.5%	62.5%	62.5%	62.5%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Act Effct Green (s)	13.2	12.5	12.5	14.1	7.3	7.3	84.3	84.3	84.3	84.3	84.3	84.3
Actuated g/C Ratio	0.11	0.10	0.10	0.12	0.06	0.06	0.70	0.70	0.70	0.70	0.70	0.70
v/c Ratio	0.62	0.06	0.19	0.26	0.24	0.19	0.40	0.43	0.02	0.04	0.75	0.27
Control Delay	58.7	47.8	2.4	40.6	58.2	2.3	30.1	11.2	1.1	7.8	15.1	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	47.8	2.4	40.6	58.2	2.3	30.1	11.2	1.1	7.8	15.1	1.5
LOS	E	D	A	D	E	A	C	B	A	A	B	A
Approach Delay		49.4			33.4			11.7			13.1	
Approach LOS		D			C			B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 16.0	Intersection LOS: B
Intersection Capacity Utilization 68.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Marksheffel Rd & Meadowbrook Pkwy

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	10	40	45	25	30	35	940	20	10	1645	285
Future Volume (veh/h)	200	10	40	45	25	30	35	940	20	10	1645	285
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	1752	1752	1752	1870	1870	1870	1796	1796	1796	1811	1811	1811
Adj Flow Rate, veh/h	217	11	43	49	27	33	38	1022	22	11	1788	310
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, %	10	10	10	2	2	2	7	7	7	6	6	6
Cap, veh/h	276	147	125	178	78	66	141	2482	1107	380	2503	1116
Arrive On Green	0.09	0.08	0.08	0.03	0.04	0.04	0.73	0.73	0.73	0.73	0.73	0.73
Sat Flow, veh/h	3237	1752	1485	1781	1870	1585	188	3413	1522	523	3441	1535
Grp Volume(v), veh/h	217	11	43	49	27	33	38	1022	22	11	1788	310
Grp Sat Flow(s),veh/h/ln	1618	1752	1485	1781	1870	1585	188	1706	1522	523	1721	1535
Q Serve(g_s), s	7.9	0.7	3.3	3.1	1.7	2.4	17.3	14.0	0.5	1.0	35.4	8.3
Cycle Q Clear(g_c), s	7.9	0.7	3.3	3.1	1.7	2.4	52.7	14.0	0.5	15.0	35.4	8.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	276	147	125	178	78	66	141	2482	1107	380	2503	1116
V/C Ratio(X)	0.79	0.07	0.35	0.28	0.35	0.50	0.27	0.41	0.02	0.03	0.71	0.28
Avail Cap(c_a), veh/h	432	350	297	264	281	238	141	2482	1107	380	2503	1116
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	50.7	51.9	52.7	55.9	56.3	24.2	6.4	4.5	9.3	9.3	5.6
Incr Delay (d2), s/veh	5.0	0.2	1.6	0.8	2.7	5.8	4.6	0.5	0.0	0.1	1.8	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.3	1.3	1.4	0.9	1.1	0.9	4.7	0.1	0.1	12.2	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	50.9	53.5	53.5	58.6	62.1	28.9	6.9	4.6	9.4	11.1	6.2
LnGrp LOS	E	D	D	D	E	E	C	A	A	A	B	A
Approach Vol, veh/h		271			109			1082			2109	
Approach Delay, s/veh		57.6			57.4			7.6			10.3	
Approach LOS		E			E			A			B	

Timer - Assigned Phs	2	3	4	6	7	8
Phs Duration (G+Y+Rc), s	93.8	10.2	16.1	93.8	15.2	11.0
Change Period (Y+Rc), s	6.5	6.0	* 6	6.5	5.0	6.0
Max Green Setting (Gmax), s	68.5	10.0	* 24	68.5	16.0	18.0
Max Q Clear Time (g_c+I1), s	54.7	5.1	5.3	37.4	9.9	4.4
Green Ext Time (p_c), s	7.3	0.0	0.1	20.8	0.4	0.1

Intersection Summary	
HCM 6th Ctrl Delay	14.5
HCM 6th LOS	B

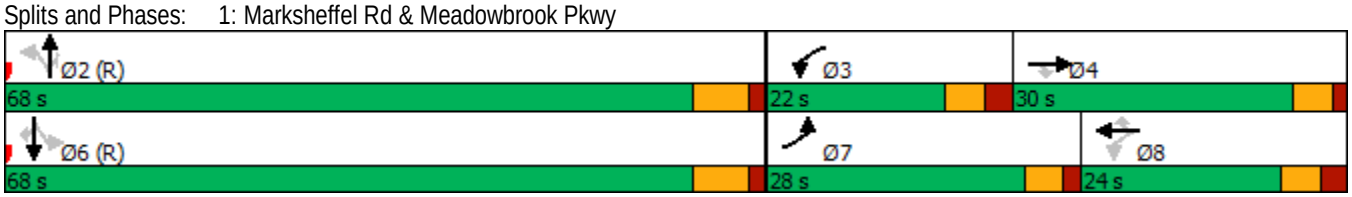
Notes

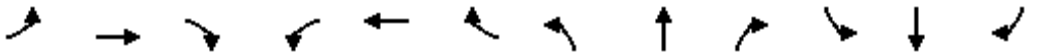
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	15	55	20	15	40	45	1550	75	45	1100	260
Future Volume (vph)	300	15	55	20	15	40	45	1550	75	45	1100	260
Turn Type	Prot	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4		3	8			2			6	
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	3	8	8	2	2	2	6	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	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	11.0	24.0	24.0	24.5	24.5	24.5	24.5	24.5	24.5
Total Split (s)	28.0	30.0	30.0	22.0	24.0	24.0	68.0	68.0	68.0	68.0	68.0	68.0
Total Split (%)	23.3%	25.0%	25.0%	18.3%	20.0%	20.0%	56.7%	56.7%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.5	1.5	1.5	2.5	2.5	2.5	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	C-Min	C-Min	C-Min	C-Min	C-Min	C-Min
Act Effct Green (s)	16.6	18.9	18.9	12.2	6.6	6.6	81.6	81.6	81.6	81.6	81.6	81.6
Actuated g/C Ratio	0.14	0.16	0.16	0.10	0.06	0.06	0.68	0.68	0.68	0.68	0.68	0.68
v/c Ratio	0.69	0.05	0.19	0.13	0.16	0.20	0.20	0.70	0.07	0.47	0.51	0.25
Control Delay	56.7	43.1	5.2	36.4	56.9	2.1	12.4	18.0	1.2	31.5	11.4	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	43.1	5.2	36.4	56.9	2.1	12.4	18.0	1.2	31.5	11.4	1.6
LOS	E	D	A	D	E	A	B	B	A	C	B	A
Approach Delay		48.4			22.3			17.1			10.2	
Approach LOS		D			C			B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.70	
Intersection Signal Delay: 17.8	Intersection LOS: B
Intersection Capacity Utilization 70.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Marksheffel Rd & Meadowbrook Pkwy





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	15	55	20	15	40	45	1550	75	45	1100	260
Future Volume (veh/h)	300	15	55	20	15	40	45	1550	75	45	1100	260
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	1841	1841	1841
Adj Flow Rate, veh/h	326	16	60	22	16	43	49	1685	82	49	1196	283
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	4	4	4
Cap, veh/h	400	242	205	157	82	70	251	2468	1101	171	2429	1083
Arrive On Green	0.12	0.13	0.13	0.02	0.04	0.04	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	3456	1870	1585	1781	1870	1585	357	3554	1585	266	3497	1560
Grp Volume(v), veh/h	326	16	60	22	16	43	49	1685	82	49	1196	283
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1781	1870	1585	357	1777	1585	266	1749	1560
Q Serve(g_s), s	11.1	0.9	4.1	1.4	1.0	3.2	8.9	33.1	2.0	15.7	19.0	8.1
Cycle Q Clear(g_c), s	11.1	0.9	4.1	1.4	1.0	3.2	27.9	33.1	2.0	48.8	19.0	8.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	400	242	205	157	82	70	251	2468	1101	171	2429	1083
V/C Ratio(X)	0.82	0.07	0.29	0.14	0.19	0.62	0.19	0.68	0.07	0.29	0.49	0.26
Avail Cap(c_a), veh/h	662	390	330	356	281	238	251	2468	1101	171	2429	1083
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	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.8	45.8	47.2	53.0	55.3	56.4	15.0	10.6	5.9	24.8	8.5	6.8
Incr Delay (d2), s/veh	4.1	0.1	0.8	0.4	1.1	8.6	1.7	1.6	0.1	4.1	0.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.4	1.7	0.6	0.5	1.4	0.8	12.2	0.7	1.2	6.9	2.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.9	46.0	48.0	53.4	56.5	64.9	16.7	12.2	6.0	29.0	9.2	7.4
LnGrp LOS	E	D	D	D	E	E	B	B	A	C	A	A
Approach Vol, veh/h		402			81			1816			1528	
Approach Delay, s/veh		54.3			60.1			12.0			9.5	
Approach LOS		D			E			B			A	

Timer - Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		89.8	8.6	21.6		89.8	18.9	11.3				
Change Period (Y+Rc), s		6.5	6.0	* 6		6.5	5.0	6.0				
Max Green Setting (Gmax), s		61.5	16.0	* 25		61.5	23.0	18.0				
Max Q Clear Time (g_c+I1), s		35.1	3.4	6.1		50.8	13.1	5.2				
Green Ext Time (p_c), s		17.2	0.0	0.2		7.3	0.8	0.1				

Intersection Summary												
HCM 6th Ctrl Delay			16.5									
HCM 6th LOS			B									

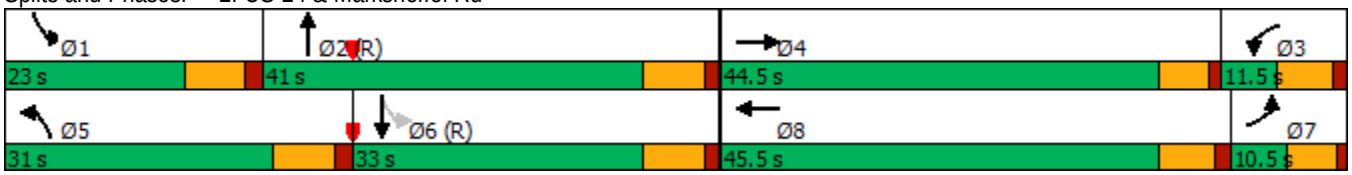
Notes

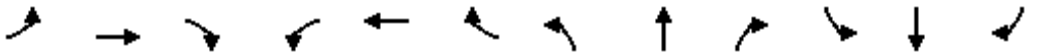
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	8	629	626	1	403	48	298	432	251	984	16
Future Volume (vph)	8	629	626	1	403	48	298	432	251	984	16
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			Free			Free			6		Free
Detector Phase	7	4		3	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)	10.5	10.5		11.5	11.5		12.0	12.0	12.0	12.0	
Total Split (s)	10.5	44.5		11.5	45.5		31.0	41.0	23.0	33.0	
Total Split (%)	8.8%	37.1%		9.6%	37.9%		25.8%	34.2%	19.2%	27.5%	
Yellow Time (s)	4.5	4.5		5.0	5.0		5.5	5.5	5.5	5.5	
All-Red Time (s)	1.0	1.0		1.5	1.5		1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5		6.5	6.5		7.0	7.0	7.0	7.0	
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	None	C-Max	
Act Effct Green (s)	8.1	30.5	120.0	5.6	27.6	120.0	17.4	54.3	63.2	50.1	120.0
Actuated g/C Ratio	0.07	0.25	1.00	0.05	0.23	1.00	0.14	0.45	0.53	0.42	1.00
v/c Ratio	0.08	0.78	0.44	0.01	0.55	0.03	0.70	0.32	0.48	0.72	0.01
Control Delay	42.2	40.0	1.5	49.0	30.1	0.0	50.3	43.0	16.2	34.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.2	40.0	1.5	49.0	30.1	0.0	50.3	43.0	16.2	34.7	0.0
LOS	D	D	A	D	C	A	D	D	B	C	A
Approach Delay		20.9			27.0			46.0		30.6	
Approach LOS		C			C			D		C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 97 (81%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 29.9	Intersection LOS: C
Intersection Capacity Utilization 69.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: US-24 & Marksheffel Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	8	629	626	1	403	48	298	432	0	251	984	16
Future Volume (veh/h)	8	629	626	1	403	48	298	432	0	251	984	16
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	1811	1811	1811	1856	1856	1856	1737	1737	1737	1841	1841	1841
Adj Flow Rate, veh/h	9	676	0	1	443	0	320	465	0	267	1047	0
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	3	3	3	11	11	11	4	4	4
Cap, veh/h	118	816		2	570		388	1456		561	1483	
Arrive On Green	0.07	0.24	0.00	0.00	0.16	0.00	0.12	0.44	0.00	0.10	0.42	0.00
Sat Flow, veh/h	1725	3441	1535	1767	3526	1572	3209	3300	1472	1753	3497	1560
Grp Volume(v), veh/h	9	676	0	1	443	0	320	465	0	267	1047	0
Grp Sat Flow(s),veh/h/ln	1725	1721	1535	1767	1763	1572	1605	1650	1472	1753	1749	1560
Q Serve(g_s), s	0.6	22.4	0.0	0.1	14.5	0.0	11.7	11.0	0.0	10.2	29.5	0.0
Cycle Q Clear(g_c), s	0.6	22.4	0.0	0.1	14.5	0.0	11.7	11.0	0.0	10.2	29.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	118	816		2	570		388	1456		561	1483	
V/C Ratio(X)	0.08	0.83		0.41	0.78		0.82	0.32		0.48	0.71	
Avail Cap(c_a), veh/h	118	1118		74	1146		642	1456		613	1483	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.4	43.5	0.0	59.9	48.2	0.0	51.5	21.8	0.0	16.3	28.4	0.0
Incr Delay (d2), s/veh	0.3	3.9	0.0	85.9	2.3	0.0	4.4	0.6	0.0	0.6	2.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	9.9	0.0	0.1	6.5	0.0	4.9	4.4	0.0	4.1	12.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	47.3	0.0	145.8	50.5	0.0	55.9	22.4	0.0	16.9	31.3	0.0
LnGrp LOS	D	D		F	D		E	C		B	C	
Approach Vol, veh/h		685	A		444	A		785	A		1314	A
Approach Delay, s/veh		47.4			50.7			36.1			28.3	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.5	59.9	6.7	33.9	21.5	57.9	14.7	25.9
Change Period (Y+Rc), s	7.0	7.0	6.5	5.5	7.0	7.0	6.5	* 6.5
Max Green Setting (Gmax), s	16.0	34.0	5.0	39.0	24.0	26.0	5.0	* 39
Max Q Clear Time (g_c+I1), s	12.2	13.0	2.1	24.4	13.7	31.5	2.6	16.5
Green Ext Time (p_c), s	0.3	3.1	0.0	4.1	0.8	0.0	0.0	3.0

Intersection Summary	
HCM 6th Ctrl Delay	37.3
HCM 6th LOS	D

Notes

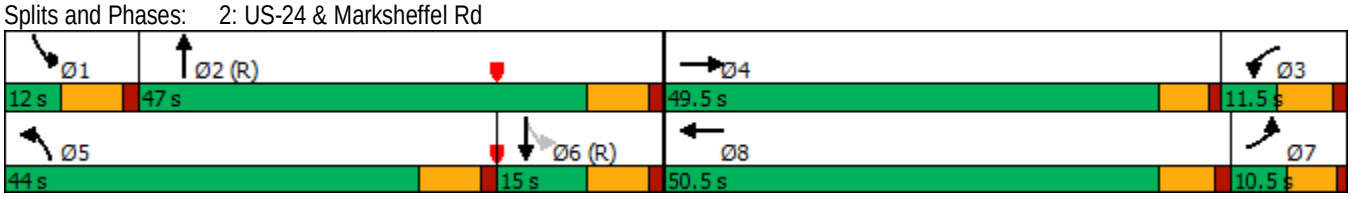
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

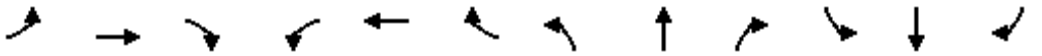
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	451	385	10	677	145	507	897	6	114	428	12
Future Volume (vph)	13	451	385	10	677	145	507	897	6	114	428	12
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	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)	10.5	10.5		11.5	11.5		12.0	12.0		12.0	12.0	
Total Split (s)	10.5	49.5		11.5	50.5		44.0	47.0		12.0	15.0	
Total Split (%)	8.8%	41.3%		9.6%	42.1%		36.7%	39.2%		10.0%	12.5%	
Yellow Time (s)	4.5	4.5		5.0	5.0		5.5	5.5		5.5	5.5	
All-Red Time (s)	1.0	1.0		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		6.5	6.5		7.0	7.0		7.0	7.0	
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	6.6	34.2	120.0	8.5	32.9	120.0	26.1	51.9	120.0	44.7	35.2	120.0
Actuated g/C Ratio	0.06	0.28	1.00	0.07	0.27	1.00	0.22	0.43	1.00	0.37	0.29	1.00
v/c Ratio	0.15	0.50	0.27	0.09	0.77	0.10	0.79	0.69	0.00	0.45	0.45	0.01
Control Delay	50.7	36.6	0.6	35.8	34.9	0.1	39.5	49.1	0.0	28.1	40.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.7	36.6	0.6	35.8	34.9	0.1	39.5	49.1	0.0	28.1	40.0	0.0
LOS	D	D	A	D	C	A	D	D	A	C	D	A
Approach Delay		20.5			28.8			45.5			36.7	
Approach LOS		C			C			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 97 (81%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 34.5	Intersection LOS: C
Intersection Capacity Utilization 66.9%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: US-24 & Marksheffel Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	13	451	385	10	677	145	507	897	6	114	428	12
Future Volume (veh/h)	13	451	385	10	677	145	507	897	6	114	428	12
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	1811	1811	1811	1856	1856	1856	1737	1737	1737	1841	1841	1841
Adj Flow Rate, veh/h	14	485	0	11	744	0	545	965	0	121	455	0
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	3	3	3	11	11	11	4	4	4
Cap, veh/h	27	619		179	906		631	1521		269	1070	
Arrive On Green	0.02	0.18	0.00	0.10	0.26	0.00	0.20	0.46	0.00	0.04	0.31	0.00
Sat Flow, veh/h	1725	3441	1535	1767	3526	1572	3209	3300	1472	1753	3497	1560
Grp Volume(v), veh/h	14	485	0	11	744	0	545	965	0	121	455	0
Grp Sat Flow(s),veh/h/ln	1725	1721	1535	1767	1763	1572	1605	1650	1472	1753	1749	1560
Q Serve(g_s), s	1.0	16.1	0.0	0.7	23.9	0.0	19.7	26.7	0.0	5.0	12.5	0.0
Cycle Q Clear(g_c), s	1.0	16.1	0.0	0.7	23.9	0.0	19.7	26.7	0.0	5.0	12.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	27	619		179	906		631	1521		269	1070	
V/C Ratio(X)	0.52	0.78		0.06	0.82		0.86	0.63		0.45	0.43	
Avail Cap(c_a), veh/h	72	1262		179	1293		990	1521		269	1070	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.6	47.0	0.0	48.8	42.0	0.0	46.7	24.6	0.0	28.8	33.2	0.0
Incr Delay (d2), s/veh	14.8	2.2	0.0	0.1	2.9	0.0	5.0	2.0	0.0	1.2	1.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	7.1	0.0	0.3	10.7	0.0	8.3	10.7	0.0	0.5	5.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.5	49.2	0.0	48.9	44.9	0.0	51.6	26.7	0.0	30.0	34.5	0.0
LnGrp LOS	E	D		D	D		D	C		C	C	
Approach Vol, veh/h		499	A		755	A		1510	A		576	A
Approach Delay, s/veh		49.9			45.0			35.7			33.5	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	62.3	18.6	27.1	30.6	43.7	8.4	37.3
Change Period (Y+Rc), s	7.0	7.0	6.5	5.5	7.0	7.0	6.5	* 6.5
Max Green Setting (Gmax), s	5.0	40.0	5.0	44.0	37.0	8.0	5.0	* 44
Max Q Clear Time (g_c+I1), s	7.0	28.7	2.7	18.1	21.7	14.5	3.0	25.9
Green Ext Time (p_c), s	0.0	5.2	0.0	3.4	1.9	0.0	0.0	5.0

Intersection Summary	
HCM 6th Ctrl Delay	39.5
HCM 6th LOS	D

Notes

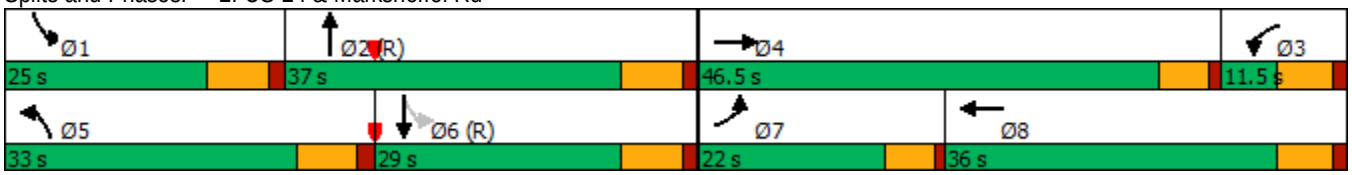
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	10	670	665	5	430	55	320	460	270	1045	20
Future Volume (vph)	10	670	665	5	430	55	320	460	270	1045	20
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			Free			Free			6		Free
Detector Phase	7	4		3	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)	10.5	10.5		11.5	11.5		12.0	12.0	12.0	12.0	
Total Split (s)	22.0	46.5		11.5	36.0		33.0	37.0	25.0	29.0	
Total Split (%)	18.3%	38.8%		9.6%	30.0%		27.5%	30.8%	20.8%	24.2%	
Yellow Time (s)	4.5	4.5		5.0	5.0		5.5	5.5	5.5	5.5	
All-Red Time (s)	1.0	1.0		1.5	1.5		1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5		6.5	6.5		7.0	7.0	7.0	7.0	
Lead/Lag	Lead	Lead		Lag	Lag		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	None	C-Max	
Act Effct Green (s)	6.4	32.6	120.0	5.8	31.4	120.0	18.3	51.1	61.4	47.1	120.0
Actuated g/C Ratio	0.05	0.27	1.00	0.05	0.26	1.00	0.15	0.43	0.51	0.39	1.00
v/c Ratio	0.12	0.78	0.47	0.06	0.52	0.04	0.72	0.36	0.54	0.82	0.01
Control Delay	54.4	39.1	1.7	42.4	25.9	0.0	50.2	48.6	18.6	40.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.4	39.1	1.7	42.4	25.9	0.0	50.2	48.6	18.6	40.0	0.0
LOS	D	D	A	D	C	A	D	D	B	D	A
Approach Delay		20.7			23.2			49.2		35.1	
Approach LOS		C			C			D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 96 (80%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 31.5	Intersection LOS: C
Intersection Capacity Utilization 72.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: US-24 & Marksheffel Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	670	665	5	430	55	320	460	0	270	1045	20
Future Volume (veh/h)	10	670	665	5	430	55	320	460	0	270	1045	20
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	1811	1811	1811	1856	1856	1856	1737	1737	1737	1841	1841	1841
Adj Flow Rate, veh/h	11	720	0	5	473	0	344	495	0	287	1112	0
Peak Hour Factor	0.93	0.93	0.93	0.91	0.91	0.91	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	3	3	3	11	11	11	4	4	4
Cap, veh/h	22	866		11	865		415	1353		534	1385	
Arrive On Green	0.01	0.25	0.00	0.01	0.25	0.00	0.13	0.41	0.00	0.12	0.40	0.00
Sat Flow, veh/h	1725	3441	1535	1767	3526	1572	3209	3300	1472	1753	3497	1560
Grp Volume(v), veh/h	11	720	0	5	473	0	344	495	0	287	1112	0
Grp Sat Flow(s),veh/h/ln	1725	1721	1535	1767	1763	1572	1605	1650	1472	1753	1749	1560
Q Serve(g_s), s	0.8	23.8	0.0	0.3	14.0	0.0	12.5	12.5	0.0	11.5	33.8	0.0
Cycle Q Clear(g_c), s	0.8	23.8	0.0	0.3	14.0	0.0	12.5	12.5	0.0	11.5	33.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	22	866		11	865		415	1353		534	1385	
V/C Ratio(X)	0.50	0.83		0.44	0.55		0.83	0.37		0.54	0.80	
Avail Cap(c_a), veh/h	237	1176		74	867		695	1353		594	1385	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.9	42.5	0.0	59.4	39.5	0.0	51.0	24.6	0.0	17.9	32.1	0.0
Incr Delay (d2), s/veh	16.3	3.8	0.0	24.8	0.7	0.0	4.3	0.8	0.0	0.8	5.0	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	10.5	0.0	0.2	6.2	0.0	5.3	5.0	0.0	4.7	15.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.2	46.3	0.0	84.2	40.2	0.0	55.3	25.4	0.0	18.7	37.1	0.0
LnGrp LOS	E	D		F	D		E	C		B	D	
Approach Vol, veh/h		731	A		478	A		839	A		1399	A
Approach Delay, s/veh		46.7			40.6			37.6			33.3	
Approach LOS		D			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.8	56.2	7.3	35.7	22.5	54.5	7.0	35.9
Change Period (Y+Rc), s	7.0	7.0	6.5	5.5	7.0	7.0	5.5	6.5
Max Green Setting (Gmax), s	18.0	30.0	5.0	41.0	26.0	22.0	16.5	29.5
Max Q Clear Time (g_c+I1), s	13.5	14.5	2.3	25.8	14.5	35.8	2.8	16.0
Green Ext Time (p_c), s	0.4	3.0	0.0	4.4	1.0	0.0	0.0	2.6

Intersection Summary	
HCM 6th Ctrl Delay	38.2
HCM 6th LOS	D

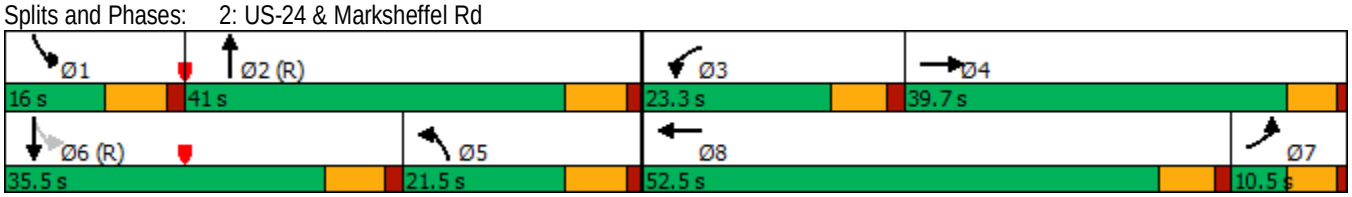
Notes

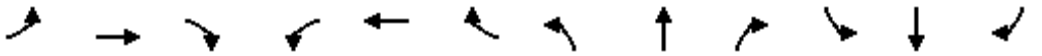
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	480	410	15	720	155	540	955	10	125	455	15
Future Volume (vph)	15	480	410	15	720	155	540	955	10	125	455	15
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	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)	10.5	10.5		11.5	11.5		12.0	12.0		12.0	12.0	
Total Split (s)	10.5	39.7		23.3	52.5		21.5	41.0		16.0	35.5	
Total Split (%)	8.8%	33.1%		19.4%	43.8%		17.9%	34.2%		13.3%	29.6%	
Yellow Time (s)	4.5	4.5		5.0	5.0		5.5	5.5		5.5	5.5	
All-Red Time (s)	1.0	1.0		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		6.5	6.5		7.0	7.0		7.0	7.0	
Lead/Lag	Lag	Lag		Lead	Lead		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	6.8	34.9	120.0	6.7	34.3	120.0	14.5	48.8	120.0	45.4	45.4	120.0
Actuated g/C Ratio	0.06	0.29	1.00	0.06	0.29	1.00	0.12	0.41	1.00	0.38	0.38	1.00
v/c Ratio	0.17	0.52	0.29	0.16	0.78	0.11	1.35	0.68	0.01	0.60	0.38	0.01
Control Delay	51.3	32.2	0.6	68.3	30.1	0.1	191.2	19.9	0.0	41.3	30.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.3	32.2	0.6	68.3	30.1	0.1	191.2	19.9	0.0	41.3	30.7	0.0
LOS	D	C	A	E	C	A	F	B	A	D	C	A
Approach Delay		18.2			25.5			81.2			32.2	
Approach LOS		B			C			F			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 16 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.35	
Intersection Signal Delay: 45.5	Intersection LOS: D
Intersection Capacity Utilization 70.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: US-24 & Marksheffel Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	480	410	15	720	155	540	955	10	125	455	15
Future Volume (veh/h)	15	480	410	15	720	155	540	955	10	125	455	15
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	17	533	0	16	783	0	557	985	0	137	500	0
Peak Hour Factor	0.90	0.90	0.90	0.92	0.92	0.92	0.97	0.97	0.97	0.91	0.91	0.91
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	3	3	3
Cap, veh/h	32	949		31	954		896	1499		193	837	
Arrive On Green	0.02	0.27	0.00	0.02	0.27	0.00	0.26	0.42	0.00	0.08	0.24	0.00
Sat Flow, veh/h	1767	3526	1572	1781	3554	1585	3456	3554	1585	1767	3526	1572
Grp Volume(v), veh/h	17	533	0	16	783	0	557	985	0	137	500	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1781	1777	1585	1728	1777	1585	1767	1763	1572
Q Serve(g_s), s	1.1	15.6	0.0	1.1	24.8	0.0	17.1	26.6	0.0	8.1	15.1	0.0
Cycle Q Clear(g_c), s	1.1	15.6	0.0	1.1	24.8	0.0	17.1	26.6	0.0	8.1	15.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	32	949		31	954		896	1499		193	837	
V/C Ratio(X)	0.53	0.56		0.52	0.82		0.62	0.66		0.71	0.60	
Avail Cap(c_a), veh/h	74	1005		249	1362		896	1499		193	837	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.4	37.8	0.0	58.5	41.2	0.0	39.2	27.7	0.0	42.9	40.6	0.0
Incr Delay (d2), s/veh	13.2	0.6	0.0	13.0	2.8	0.0	1.3	2.3	0.0	11.6	3.1	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	0.6	6.8	0.0	0.6	11.2	0.0	7.4	11.6	0.0	4.2	6.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.6	38.4	0.0	71.5	44.0	0.0	40.6	30.0	0.0	54.5	43.8	0.0
LnGrp LOS	E	D		E	D		D	C		D	D	
Approach Vol, veh/h		550	A		799	A		1542	A		637	A
Approach Delay, s/veh		39.4			44.5			33.8			46.1	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	57.6	8.6	37.8	38.1	35.5	7.7	38.7
Change Period (Y+Rc), s	7.0	7.0	6.5	5.5	7.0	7.0	5.5	6.5
Max Green Setting (Gmax), s	9.0	34.0	16.8	34.2	14.5	28.5	5.0	46.0
Max Q Clear Time (g_c+I1), s	10.1	28.6	3.1	17.6	19.1	17.1	3.1	26.8
Green Ext Time (p_c), s	0.0	3.0	0.0	3.3	0.0	2.5	0.0	5.4

Intersection Summary	
HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D

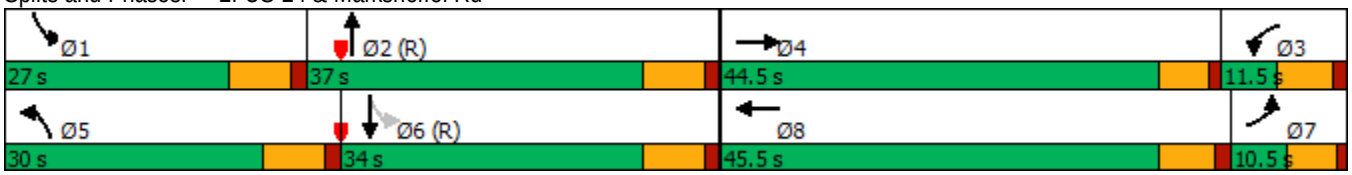
Notes

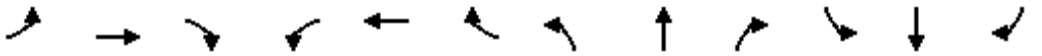
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	755	665	5	505	80	320	490	195	300	1075	20
Future Volume (vph)	10	755	665	5	505	80	320	490	195	300	1075	20
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	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)	10.5	10.5		11.5	11.5		12.0	12.0		12.0	12.0	
Total Split (s)	10.5	44.5		11.5	45.5		30.0	37.0		27.0	34.0	
Total Split (%)	8.8%	37.1%		9.6%	37.9%		25.0%	30.8%		22.5%	28.3%	
Yellow Time (s)	4.5	4.5		5.0	5.0		5.5	5.5		5.5	5.5	
All-Red Time (s)	1.0	1.0		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		6.5	6.5		7.0	7.0		7.0	7.0	
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	7.3	34.9	120.0	5.4	32.6	120.0	18.2	46.7	120.0	61.6	45.1	120.0
Actuated g/C Ratio	0.06	0.29	1.00	0.04	0.27	1.00	0.15	0.39	1.00	0.51	0.38	1.00
v/c Ratio	0.11	0.82	0.47	0.06	0.58	0.06	0.72	0.42	0.14	0.63	0.88	0.01
Control Delay	45.6	41.0	1.4	56.0	38.3	0.1	44.4	58.1	0.2	21.2	45.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	41.0	1.4	56.0	38.3	0.1	44.4	58.1	0.2	21.2	45.1	0.0
LOS	D	D	A	E	D	A	D	E	A	C	D	A
Approach Delay		22.6			33.2			42.5			39.4	
Approach LOS		C			C			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 97 (81%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 33.8	Intersection LOS: C
Intersection Capacity Utilization 76.0%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: US-24 & Marksheffel Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	755	665	5	505	80	320	490	195	300	1075	20
Future Volume (veh/h)	10	755	665	5	505	80	320	490	195	300	1075	20
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	1811	1811	1811	1856	1856	1856	1737	1737	1737	1841	1841	1841
Adj Flow Rate, veh/h	11	812	0	5	549	0	344	527	0	319	1144	0
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	3	3	3	11	11	11	4	4	4
Cap, veh/h	133	944		11	688		411	1227		507	1310	
Arrive On Green	0.08	0.27	0.00	0.01	0.20	0.00	0.13	0.37	0.00	0.13	0.37	0.00
Sat Flow, veh/h	1725	3441	1535	1767	3526	1572	3209	3300	1472	1753	3497	1560
Grp Volume(v), veh/h	11	812	0	5	549	0	344	527	0	319	1144	0
Grp Sat Flow(s),veh/h/ln	1725	1721	1535	1767	1763	1572	1605	1650	1472	1753	1749	1560
Q Serve(g_s), s	0.7	26.9	0.0	0.3	17.8	0.0	12.6	14.3	0.0	13.3	36.5	0.0
Cycle Q Clear(g_c), s	0.7	26.9	0.0	0.3	17.8	0.0	12.6	14.3	0.0	13.3	36.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	944		11	688		411	1227		507	1310	
V/C Ratio(X)	0.08	0.86		0.44	0.80		0.84	0.43		0.63	0.87	
Avail Cap(c_a), veh/h	133	1118		74	1146		615	1227		570	1310	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	51.4	41.4	0.0	59.4	46.0	0.0	51.1	28.2	0.0	19.5	34.9	0.0
Incr Delay (d2), s/veh	0.3	6.1	0.0	24.8	2.2	0.0	6.4	1.1	0.0	1.8	8.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	12.1	0.0	0.2	8.0	0.0	5.4	5.8	0.0	5.6	16.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.7	47.5	0.0	84.2	48.2	0.0	57.5	29.3	0.0	21.3	43.1	0.0
LnGrp LOS	D	D		F	D		E	C		C	D	
Approach Vol, veh/h		823	A		554	A		871	A		1463	A
Approach Delay, s/veh		47.5			48.6			40.4			38.4	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	22.7	51.6	7.3	38.4	22.4	51.9	15.8	29.9
Change Period (Y+Rc), s	7.0	7.0	6.5	5.5	7.0	7.0	6.5	* 6.5
Max Green Setting (Gmax), s	20.0	30.0	5.0	39.0	23.0	27.0	5.0	* 39
Max Q Clear Time (g_c+I1), s	15.3	16.3	2.3	28.9	14.6	38.5	2.7	19.8
Green Ext Time (p_c), s	0.4	3.0	0.0	4.0	0.8	0.0	0.0	3.6

Intersection Summary	
HCM 6th Ctrl Delay	42.4
HCM 6th LOS	D

Notes

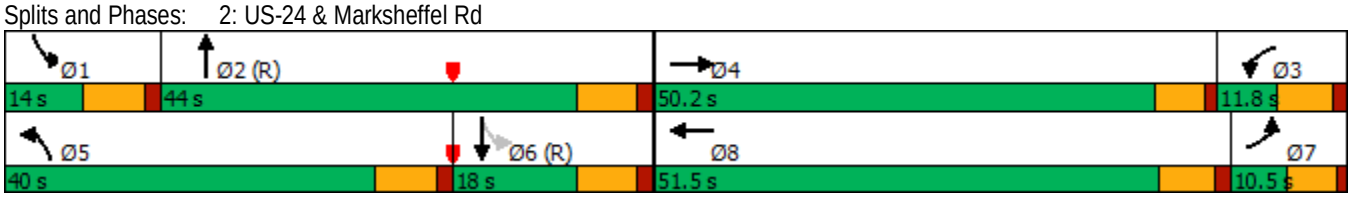
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

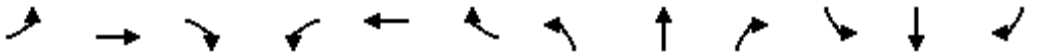
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	605	410	15	800	185	540	995	305	170	495	15
Future Volume (vph)	15	605	410	15	800	185	540	995	305	170	495	15
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	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)	10.5	10.5		11.5	11.5		12.0	12.0		12.0	12.0	
Total Split (s)	10.5	50.2		11.8	51.5		40.0	44.0		14.0	18.0	
Total Split (%)	8.8%	41.8%		9.8%	42.9%		33.3%	36.7%		11.7%	15.0%	
Yellow Time (s)	4.5	4.5		5.0	5.0		5.5	5.5		5.5	5.5	
All-Red Time (s)	1.0	1.0		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		6.5	6.5		7.0	7.0		7.0	7.0	
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	6.1	34.8	120.0	9.3	37.4	120.0	24.9	42.8	120.0	46.9	32.5	120.0
Actuated g/C Ratio	0.05	0.29	1.00	0.08	0.31	1.00	0.21	0.36	1.00	0.39	0.27	1.00
v/c Ratio	0.18	0.65	0.28	0.12	0.79	0.13	0.78	0.81	0.20	0.66	0.57	0.01
Control Delay	49.4	38.2	0.4	51.3	52.4	0.1	27.1	49.1	0.0	42.6	43.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	38.2	0.4	51.3	52.4	0.1	27.1	49.1	0.0	42.6	43.6	0.0
LOS	D	D	A	D	D	A	C	D	A	D	D	A
Approach Delay		23.3			42.7			34.5			42.4	
Approach LOS		C			D			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 97 (81%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 35.0	Intersection LOS: C
Intersection Capacity Utilization 76.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: US-24 & Marksheffel Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	605	410	15	800	185	540	995	305	170	495	15
Future Volume (veh/h)	15	605	410	15	800	185	540	995	305	170	495	15
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	16	658	0	16	870	0	557	1026	0	185	538	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	3	3	3
Cap, veh/h	30	816		154	1038		647	1448		254	982	
Arrive On Green	0.02	0.23	0.00	0.09	0.29	0.00	0.19	0.41	0.00	0.06	0.28	0.00
Sat Flow, veh/h	1767	3526	1572	1781	3554	1585	3456	3554	1585	1767	3526	1572
Grp Volume(v), veh/h	16	658	0	16	870	0	557	1026	0	185	538	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1781	1777	1585	1728	1777	1585	1767	1763	1572
Q Serve(g_s), s	1.1	21.2	0.0	1.0	27.5	0.0	18.7	28.9	0.0	7.0	15.6	0.0
Cycle Q Clear(g_c), s	1.1	21.2	0.0	1.0	27.5	0.0	18.7	28.9	0.0	7.0	15.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	30	816		154	1038		647	1448		254	982	
V/C Ratio(X)	0.53	0.81		0.10	0.84		0.86	0.71		0.73	0.55	
Avail Cap(c_a), veh/h	74	1313		154	1333		950	1448		254	982	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.5	43.6	0.0	50.6	39.8	0.0	47.3	29.6	0.0	34.6	36.9	0.0
Incr Delay (d2), s/veh	13.3	2.0	0.0	0.3	3.9	0.0	5.6	3.0	0.0	10.1	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	9.4	0.0	0.5	12.5	0.0	8.5	12.8	0.0	2.5	7.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.8	45.5	0.0	50.9	43.7	0.0	52.8	32.6	0.0	44.6	39.1	0.0
LnGrp LOS	E	D		D	D		D	C		D	D	
Approach Vol, veh/h		674	A		886	A		1583	A		723	A
Approach Delay, s/veh		46.2			43.8			39.7			40.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	55.9	16.8	33.3	29.5	40.4	8.6	41.5
Change Period (Y+Rc), s	7.0	7.0	6.5	5.5	7.0	7.0	6.5	* 6.5
Max Green Setting (Gmax), s	7.0	37.0	5.3	44.7	33.0	11.0	5.0	* 45
Max Q Clear Time (g_c+I1), s	9.0	30.9	3.0	23.2	20.7	17.6	3.1	29.5
Green Ext Time (p_c), s	0.0	3.5	0.0	4.6	1.7	0.0	0.0	5.5

Intersection Summary	
HCM 6th Ctrl Delay	41.9
HCM 6th LOS	D

Notes

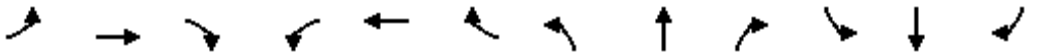
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	15	795	790	5	510	65	380	550	320	1240	25
Future Volume (vph)	15	795	790	5	510	65	380	550	320	1240	25
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2	1	6	
Permitted Phases			Free			Free			6		Free
Detector Phase	7	4		3	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)	10.5	10.5		11.5	11.5		12.0	12.0	12.0	12.0	
Total Split (s)	11.0	36.5		11.5	37.0		23.0	41.0	31.0	49.0	
Total Split (%)	9.2%	30.4%		9.6%	30.8%		19.2%	34.2%	25.8%	40.8%	
Yellow Time (s)	4.5	4.5		5.0	5.0		5.5	5.5	5.5	5.5	
All-Red Time (s)	1.0	1.0		1.5	1.5		1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.5	5.5		6.5	6.5		7.0	7.0	7.0	7.0	
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max	None	C-Max	
Act Effct Green (s)	6.1	33.0	120.0	5.0	29.5	120.0	19.4	47.3	63.5	45.8	120.0
Actuated g/C Ratio	0.05	0.28	1.00	0.04	0.25	1.00	0.16	0.39	0.53	0.38	1.00
v/c Ratio	0.18	0.91	0.56	0.07	0.64	0.05	0.81	0.46	0.68	1.00	0.02
Control Delay	51.8	48.6	2.5	61.6	45.3	0.0	61.9	30.5	21.0	61.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.8	48.6	2.5	61.6	45.3	0.0	61.9	30.5	21.0	61.3	0.0
LOS	D	D	A	E	D	A	E	C	C	E	A
Approach Delay		25.8			40.4			43.3		52.2	
Approach LOS		C			D			D		D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 97 (81%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.00	
Intersection Signal Delay: 40.0	Intersection LOS: D
Intersection Capacity Utilization 83.3%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: US-24 & Marksheffel Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	795	790	5	510	65	380	550	0	320	1240	25
Future Volume (veh/h)	15	795	790	5	510	65	380	550	0	320	1240	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	1811	1811	1811	1856	1856	1856	1737	1737	1737	1841	1841	1841
Adj Flow Rate, veh/h	16	855	0	5	554	0	409	591	0	340	1319	0
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	3	3	3	11	11	11	4	4	4
Cap, veh/h	114	889		11	670		428	1255		502	1347	
Arrive On Green	0.07	0.26	0.00	0.01	0.19	0.00	0.13	0.38	0.00	0.14	0.39	0.00
Sat Flow, veh/h	1725	3441	1535	1767	3526	1572	3209	3300	1472	1753	3497	1560
Grp Volume(v), veh/h	16	855	0	5	554	0	409	591	0	340	1319	0
Grp Sat Flow(s),veh/h/ln	1725	1721	1535	1767	1763	1572	1605	1650	1472	1753	1749	1560
Q Serve(g_s), s	1.0	29.4	0.0	0.3	18.1	0.0	15.2	16.2	0.0	13.9	44.7	0.0
Cycle Q Clear(g_c), s	1.0	29.4	0.0	0.3	18.1	0.0	15.2	16.2	0.0	13.9	44.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	114	889		11	670		428	1255		502	1347	
V/C Ratio(X)	0.14	0.96		0.44	0.83		0.96	0.47		0.68	0.98	
Avail Cap(c_a), veh/h	114	889		74	896		428	1255		610	1347	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.8	43.9	0.0	59.4	46.7	0.0	51.6	28.1	0.0	19.1	36.4	0.0
Incr Delay (d2), s/veh	0.6	21.4	0.0	24.8	4.8	0.0	32.3	1.3	0.0	2.3	20.0	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	15.0	0.0	0.2	8.4	0.0	8.0	6.6	0.0	5.9	22.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.4	65.3	0.0	84.2	51.5	0.0	83.9	29.3	0.0	21.4	56.4	0.0
LnGrp LOS	D	E		F	D		F	C		C	E	
Approach Vol, veh/h		871	A		559	A		1000	A		1659	A
Approach Delay, s/veh		65.1			51.8			51.7			49.2	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.6	52.6	7.3	36.5	23.0	53.2	14.5	29.3
Change Period (Y+Rc), s	7.0	7.0	6.5	5.5	7.0	7.0	6.5	* 6.5
Max Green Setting (Gmax), s	24.0	34.0	5.0	31.0	16.0	42.0	5.5	* 31
Max Q Clear Time (g_c+I1), s	15.9	18.2	2.3	31.4	17.2	46.7	3.0	20.1
Green Ext Time (p_c), s	0.7	3.6	0.0	0.0	0.0	0.0	0.0	2.7

Intersection Summary	
HCM 6th Ctrl Delay	53.5
HCM 6th LOS	D

Notes

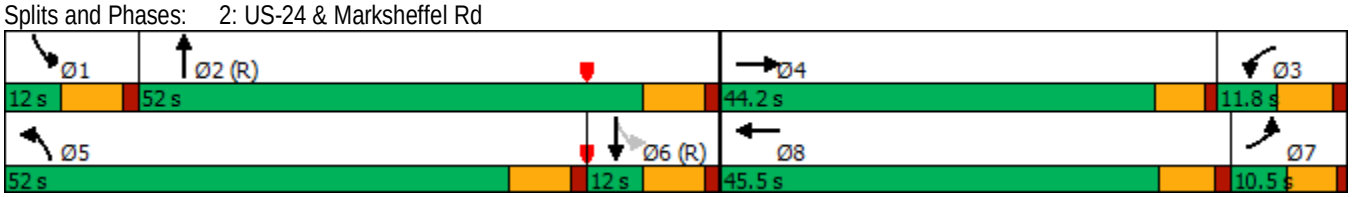
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

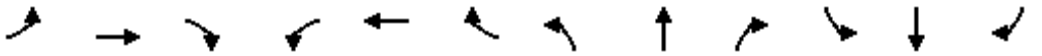
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	570	485	15	855	185	640	1135	10	145	545	20
Future Volume (vph)	20	570	485	15	855	185	640	1135	10	145	545	20
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	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)	10.5	10.5		11.5	11.5		12.0	12.0		12.0	12.0	
Total Split (s)	10.5	44.2		11.8	45.5		52.0	52.0		12.0	12.0	
Total Split (%)	8.8%	36.8%		9.8%	37.9%		43.3%	43.3%		10.0%	10.0%	
Yellow Time (s)	4.5	4.5		5.0	5.0		5.5	5.5		5.5	5.5	
All-Red Time (s)	1.0	1.0		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		6.5	6.5		7.0	7.0		7.0	7.0	
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	5.3	37.0	120.0	8.1	36.8	120.0	29.2	46.0	120.0	37.6	27.2	120.0
Actuated g/C Ratio	0.04	0.31	1.00	0.07	0.31	1.00	0.24	0.38	1.00	0.31	0.23	1.00
v/c Ratio	0.28	0.57	0.34	0.13	0.86	0.13	0.79	0.86	0.01	0.71	0.75	0.01
Control Delay	58.6	43.3	0.8	38.1	36.4	0.2	38.2	57.7	0.0	51.3	52.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.6	43.3	0.8	38.1	36.4	0.2	38.2	57.7	0.0	51.3	52.0	0.0
LOS	E	D	A	D	D	A	D	E	A	D	D	A
Approach Delay		24.4			30.0			50.4			50.4	
Approach LOS		C			C			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 97 (81%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 39.5	Intersection LOS: D
Intersection Capacity Utilization 80.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: US-24 & Marksheffel Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	570	485	15	855	185	640	1135	10	145	545	20
Future Volume (veh/h)	20	570	485	15	855	185	640	1135	10	145	545	20
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	22	620	0	16	929	0	660	1170	0	158	592	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	3	3	3
Cap, veh/h	38	763		195	1050		764	1479		195	834	
Arrive On Green	0.02	0.22	0.00	0.11	0.30	0.00	0.22	0.42	0.00	0.04	0.24	0.00
Sat Flow, veh/h	1767	3526	1572	1781	3554	1585	3456	3554	1585	1767	3526	1572
Grp Volume(v), veh/h	22	620	0	16	929	0	660	1170	0	158	592	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1781	1777	1585	1728	1777	1585	1767	1763	1572
Q Serve(g_s), s	1.5	20.1	0.0	1.0	29.9	0.0	22.1	34.4	0.0	5.0	18.5	0.0
Cycle Q Clear(g_c), s	1.5	20.1	0.0	1.0	29.9	0.0	22.1	34.4	0.0	5.0	18.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	38	763		195	1050		764	1479		195	834	
V/C Ratio(X)	0.57	0.81		0.08	0.88		0.86	0.79		0.81	0.71	
Avail Cap(c_a), veh/h	74	1137		195	1155		1296	1479		195	834	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.2	44.7	0.0	48.0	40.3	0.0	45.0	30.5	0.0	42.6	42.0	0.0
Incr Delay (d2), s/veh	12.9	2.8	0.0	0.2	7.9	0.0	3.3	4.4	0.0	21.8	5.1	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	9.0	0.0	0.4	14.1	0.0	9.8	15.4	0.0	3.5	8.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	47.6	0.0	48.2	48.2	0.0	48.3	34.9	0.0	64.4	47.1	0.0
LnGrp LOS	E	D		D	D		D	C		E	D	
Approach Vol, veh/h		642	A		945	A		1830	A		750	A
Approach Delay, s/veh		48.4			48.2			39.7			50.7	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.0	56.9	19.6	31.5	33.5	35.4	9.1	42.0
Change Period (Y+Rc), s	7.0	7.0	6.5	5.5	7.0	7.0	6.5	* 6.5
Max Green Setting (Gmax), s	5.0	45.0	5.3	38.7	45.0	5.0	5.0	* 39
Max Q Clear Time (g_c+I1), s	7.0	36.4	3.0	22.1	24.1	20.5	3.5	31.9
Green Ext Time (p_c), s	0.0	5.1	0.0	3.9	2.5	0.0	0.0	3.6

Intersection Summary	
HCM 6th Ctrl Delay	45.0
HCM 6th LOS	D

Notes

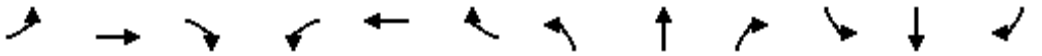
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	880	790	5	585	90	380	580	195	350	1270	25
Future Volume (vph)	15	880	790	5	585	90	380	580	195	350	1270	25
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	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)	10.5	10.5		11.5	11.5		12.0	12.0		12.0	12.0	
Total Split (s)	11.0	37.5		11.5	38.0		22.0	38.0		33.0	49.0	
Total Split (%)	9.2%	31.3%		9.6%	31.7%		18.3%	31.7%		27.5%	40.8%	
Yellow Time (s)	4.5	4.5		5.0	5.0		5.5	5.5		5.5	5.5	
All-Red Time (s)	1.0	1.0		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		6.5	6.5		7.0	7.0		7.0	7.0	
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	5.9	34.3	120.0	5.0	31.1	120.0	19.9	42.7	120.0	63.6	44.0	120.0
Actuated g/C Ratio	0.05	0.29	1.00	0.04	0.26	1.00	0.17	0.36	1.00	0.53	0.37	1.00
v/c Ratio	0.19	0.97	0.56	0.07	0.70	0.06	0.78	0.54	0.14	0.76	1.06	0.02
Control Delay	55.4	57.4	2.1	56.8	38.3	0.1	60.2	35.3	0.2	25.7	80.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.4	57.4	2.1	56.8	38.3	0.1	60.2	35.3	0.2	25.7	80.4	0.0
LOS	E	E	A	E	D	A	E	D	A	C	F	A
Approach Delay		31.5			33.3			37.6			67.5	
Approach LOS		C			C			D			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 97 (81%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.06	
Intersection Signal Delay: 44.5	Intersection LOS: D
Intersection Capacity Utilization 86.5%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: US-24 & Marksheffel Rd



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	880	790	5	585	90	380	580	195	350	1270	25
Future Volume (veh/h)	15	880	790	5	585	90	380	580	195	350	1270	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	1811	1811	1811	1856	1856	1856	1737	1737	1737	1841	1841	1841
Adj Flow Rate, veh/h	16	946	0	5	636	0	409	624	0	372	1351	0
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	3	3	3	11	11	11	4	4	4
Cap, veh/h	89	918		11	752		401	1172		493	1347	
Arrive On Green	0.05	0.27	0.00	0.01	0.21	0.00	0.13	0.36	0.00	0.16	0.39	0.00
Sat Flow, veh/h	1725	3441	1535	1767	3526	1572	3209	3300	1472	1753	3497	1560
Grp Volume(v), veh/h	16	946	0	5	636	0	409	624	0	372	1351	0
Grp Sat Flow(s),veh/h/ln	1725	1721	1535	1767	1763	1572	1605	1650	1472	1753	1749	1560
Q Serve(g_s), s	1.1	32.0	0.0	0.3	20.8	0.0	15.0	18.0	0.0	15.8	46.2	0.0
Cycle Q Clear(g_c), s	1.1	32.0	0.0	0.3	20.8	0.0	15.0	18.0	0.0	15.8	46.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	89	918		11	752		401	1172		493	1347	
V/C Ratio(X)	0.18	1.03		0.44	0.85		1.02	0.53		0.75	1.00	
Avail Cap(c_a), veh/h	89	918		74	925		401	1172		601	1347	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.5	44.0	0.0	59.4	45.3	0.0	52.5	30.8	0.0	20.8	36.9	0.0
Incr Delay (d2), s/veh	1.0	37.9	0.0	24.8	6.2	0.0	50.0	1.7	0.0	4.3	25.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	18.3	0.0	0.2	9.7	0.0	8.8	7.4	0.0	6.9	24.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.4	81.9	0.0	84.2	51.5	0.0	102.5	32.5	0.0	25.2	62.0	0.0
LnGrp LOS	E	F		F	D		F	C		C	F	
Approach Vol, veh/h		962	A		641	A		1033	A		1723	A
Approach Delay, s/veh		81.5			51.7			60.2			54.1	
Approach LOS		F			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	25.6	49.6	7.3	37.5	22.0	53.2	12.7	32.1
Change Period (Y+Rc), s	7.0	7.0	6.5	5.5	7.0	7.0	6.5	* 6.5
Max Green Setting (Gmax), s	26.0	31.0	5.0	32.0	15.0	42.0	5.5	* 32
Max Q Clear Time (g_c+I1), s	17.8	20.0	2.3	34.0	17.0	48.2	3.1	22.8
Green Ext Time (p_c), s	0.8	3.2	0.0	0.0	0.0	0.0	0.0	2.8

Intersection Summary	
HCM 6th Ctrl Delay	61.2
HCM 6th LOS	E

Notes

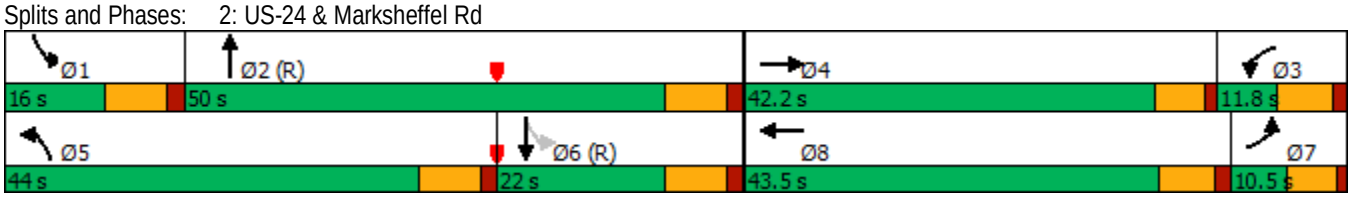
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

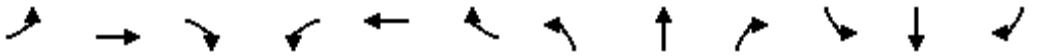
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	695	485	15	935	215	640	1175	305	190	585	20
Future Volume (vph)	20	695	485	15	935	215	640	1175	305	190	585	20
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free	6		Free
Detector Phase	7	4		3	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)	10.5	10.5		11.5	11.5		12.0	12.0		12.0	12.0	
Total Split (s)	10.5	42.2		11.8	43.5		44.0	50.0		16.0	22.0	
Total Split (%)	8.8%	35.2%		9.8%	36.3%		36.7%	41.7%		13.3%	18.3%	
Yellow Time (s)	4.5	4.5		5.0	5.0		5.5	5.5		5.5	5.5	
All-Red Time (s)	1.0	1.0		1.5	1.5		1.5	1.5		1.5	1.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.5	5.5		6.5	6.5		7.0	7.0		7.0	7.0	
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	5.1	39.2	120.0	5.9	36.8	120.0	28.7	43.3	120.0	40.8	27.7	120.0
Actuated g/C Ratio	0.04	0.33	1.00	0.05	0.31	1.00	0.24	0.36	1.00	0.34	0.23	1.00
v/c Ratio	0.30	0.66	0.34	0.19	0.94	0.15	0.80	0.95	0.20	0.79	0.79	0.01
Control Delay	55.5	35.0	0.5	53.0	44.7	0.2	27.1	54.4	0.0	54.5	52.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.5	35.0	0.5	53.0	44.7	0.2	27.1	54.4	0.0	54.5	52.9	0.0
LOS	E	D	A	D	D	A	C	D	A	D	D	A
Approach Delay		21.4			36.6			38.3			52.0	
Approach LOS		C			D			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 97 (81%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.95	
Intersection Signal Delay: 36.1	Intersection LOS: D
Intersection Capacity Utilization 85.9%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: US-24 & Marksheffel Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	695	485	15	935	215	640	1175	305	190	585	20
Future Volume (veh/h)	20	695	485	15	935	215	640	1175	305	190	585	20
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	22	755	0	16	1016	0	660	1211	0	207	636	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	3	3	3
Cap, veh/h	38	887		146	1080		757	1331		216	813	
Arrive On Green	0.02	0.25	0.00	0.08	0.30	0.00	0.22	0.37	0.00	0.08	0.23	0.00
Sat Flow, veh/h	1767	3526	1572	1781	3554	1585	3456	3554	1585	1767	3526	1572
Grp Volume(v), veh/h	22	755	0	16	1016	0	660	1211	0	207	636	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1781	1777	1585	1728	1777	1585	1767	1763	1572
Q Serve(g_s), s	1.5	24.5	0.0	1.0	33.4	0.0	22.1	38.8	0.0	9.0	20.3	0.0
Cycle Q Clear(g_c), s	1.5	24.5	0.0	1.0	33.4	0.0	22.1	38.8	0.0	9.0	20.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	38	887		146	1080		757	1331		216	813	
V/C Ratio(X)	0.57	0.85		0.11	0.94		0.87	0.91		0.96	0.78	
Avail Cap(c_a), veh/h	74	1078		146	1096		1066	1331		216	813	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.2	42.8	0.0	51.0	40.7	0.0	45.2	35.6	0.0	39.1	43.3	0.0
Incr Delay (d2), s/veh	12.9	5.7	0.0	0.3	15.0	0.0	5.9	10.8	0.0	49.4	7.4	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	11.3	0.0	0.5	16.7	0.0	10.1	18.5	0.0	4.8	9.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	48.4	0.0	51.3	55.7	0.0	51.2	46.4	0.0	88.5	50.7	0.0
LnGrp LOS	E	D		D	E		D	D		F	D	
Approach Vol, veh/h		777	A		1032	A		1871	A		843	A
Approach Delay, s/veh		49.1			55.7			48.1			60.0	
Approach LOS		D			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	51.9	16.4	35.7	33.3	34.7	9.1	43.0
Change Period (Y+Rc), s	7.0	7.0	6.5	5.5	7.0	7.0	6.5	* 6.5
Max Green Setting (Gmax), s	9.0	43.0	5.3	36.7	37.0	15.0	5.0	* 37
Max Q Clear Time (g_c+I1), s	11.0	40.8	3.0	26.5	24.1	22.3	3.5	35.4
Green Ext Time (p_c), s	0.0	1.6	0.0	3.7	2.1	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	52.2
HCM 6th LOS	D

Notes

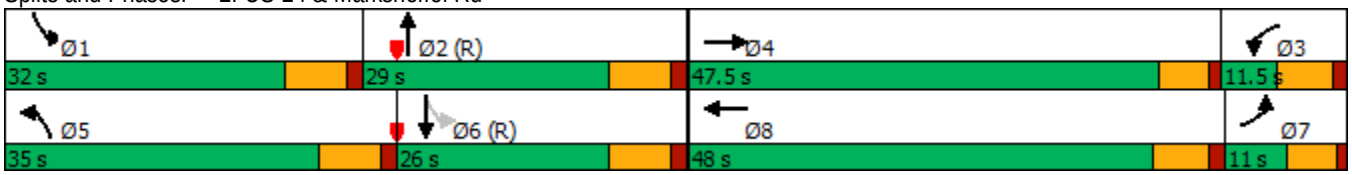
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

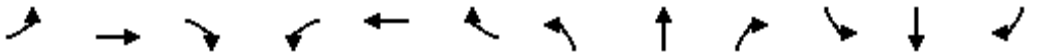
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	15	880	790	5	585	90	380	580	350	1270
Future Volume (vph)	15	880	790	5	585	90	380	580	350	1270
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			Free			Free			6	
Detector Phase	7	4		3	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)	10.5	10.5		11.5	11.5		12.0	12.0	12.0	12.0
Total Split (s)	11.0	47.5		11.5	48.0		35.0	29.0	32.0	26.0
Total Split (%)	9.2%	39.6%		9.6%	40.0%		29.2%	24.2%	26.7%	21.7%
Yellow Time (s)	4.5	4.5		5.0	5.0		5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0		1.5	1.5		1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		6.5	6.5		7.0	7.0	7.0	7.0
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	C-Max
Act Effct Green (s)	7.3	39.8	120.0	5.4	35.1	120.0	20.8	32.8	63.0	37.7
Actuated g/C Ratio	0.06	0.33	1.00	0.04	0.29	1.00	0.17	0.27	0.52	0.31
v/c Ratio	0.15	0.84	0.56	0.06	0.62	0.06	0.75	0.65	0.81	0.88
Control Delay	56.3	43.3	2.1	60.0	45.0	0.1	55.9	40.3	39.8	47.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	43.3	2.1	60.0	45.0	0.1	55.9	40.3	39.8	47.8
LOS	E	D	A	E	D	A	E	D	D	D
Approach Delay		24.1			39.1			45.4		46.1
Approach LOS		C			D			D		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 97 (81%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 37.8	Intersection LOS: D
Intersection Capacity Utilization 76.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: US-24 & Marksheffel Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	15	880	790	5	585	90	380	580	195	350	1270	25
Future Volume (veh/h)	15	880	790	5	585	90	380	580	195	350	1270	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	1811	1811	1811	1856	1856	1856	1737	1737	1737	1841	1841	1841
Adj Flow Rate, veh/h	16	946	0	5	636	0	409	624	0	372	1351	0
Peak Hour Factor	0.93	0.93	0.93	0.92	0.92	0.92	0.93	0.93	0.93	0.94	0.94	0.94
Percent Heavy Veh, %	6	6	6	3	3	3	11	11	11	4	4	4
Cap, veh/h	151	1075		11	786		483	1415		502	1578	
Arrive On Green	0.09	0.31	0.00	0.01	0.22	0.00	0.15	0.30	0.00	0.17	0.31	0.00
Sat Flow, veh/h	1725	3441	1535	1767	3526	1572	3209	4898	0	1753	5191	0
Grp Volume(v), veh/h	16	946	0	5	636	0	409	624	0	372	1351	0
Grp Sat Flow(s),veh/h/ln	1725	1721	1535	1767	1763	1572	1605	1581	0	1753	1675	0
Q Serve(g_s), s	1.0	31.3	0.0	0.3	20.5	0.0	14.9	12.8	0.0	17.3	30.3	0.0
Cycle Q Clear(g_c), s	1.0	31.3	0.0	0.3	20.5	0.0	14.9	12.8	0.0	17.3	30.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	151	1075		11	786		483	1415		502	1578	
V/C Ratio(X)	0.11	0.88		0.44	0.81		0.85	0.44		0.74	0.86	
Avail Cap(c_a), veh/h	151	1204		74	1219		749	1415		577	1578	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	50.4	39.1	0.0	59.4	44.2	0.0	49.6	34.0	0.0	23.1	38.6	0.0
Incr Delay (d2), s/veh	0.3	7.2	0.0	24.8	2.4	0.0	5.5	1.0	0.0	4.4	6.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	14.1	0.0	0.2	9.2	0.0	6.3	5.0	0.0	7.7	13.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.7	46.3	0.0	84.2	46.6	0.0	55.1	35.0	0.0	27.5	44.8	0.0
LnGrp LOS	D	D		F	D		E	D		C	D	
Approach Vol, veh/h		962	A		641	A		1033	A		1723	A
Approach Delay, s/veh		46.3			46.9			43.0			41.1	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	26.9	42.8	7.3	43.0	25.1	44.7	17.0	33.3
Change Period (Y+Rc), s	7.0	7.0	6.5	5.5	7.0	7.0	6.5	* 6.5
Max Green Setting (Gmax), s	25.0	22.0	5.0	42.0	28.0	19.0	5.5	* 42
Max Q Clear Time (g_c+I1), s	19.3	14.8	2.3	33.3	16.9	32.3	3.0	22.5
Green Ext Time (p_c), s	0.6	2.5	0.0	4.2	1.2	0.0	0.0	4.2

Intersection Summary	
HCM 6th Ctrl Delay	43.5
HCM 6th LOS	D

Notes

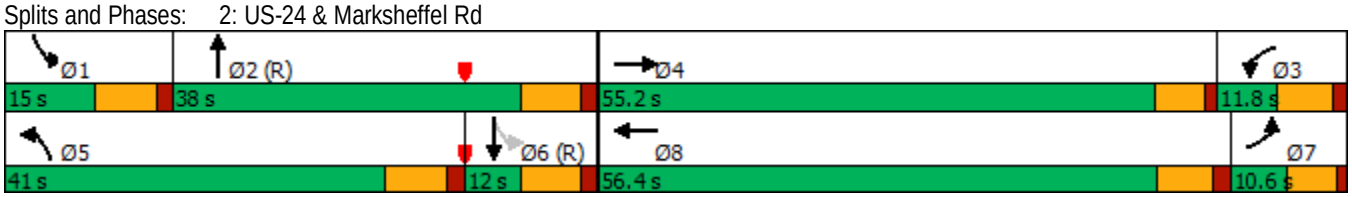
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

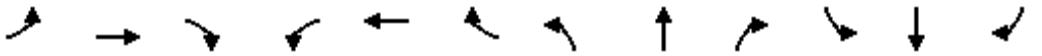
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Configurations										
Traffic Volume (vph)	20	695	485	15	935	215	640	1175	190	585
Future Volume (vph)	20	695	485	15	935	215	640	1175	190	585
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	pm+pt	NA
Protected Phases	7	4		3	8		5	2	1	6
Permitted Phases			Free			Free			6	
Detector Phase	7	4		3	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)	10.5	10.5		11.5	11.5		12.0	12.0	12.0	12.0
Total Split (s)	10.6	55.2		11.8	56.4		41.0	38.0	15.0	12.0
Total Split (%)	8.8%	46.0%		9.8%	47.0%		34.2%	31.7%	12.5%	10.0%
Yellow Time (s)	4.5	4.5		5.0	5.0		5.5	5.5	5.5	5.5
All-Red Time (s)	1.0	1.0		1.5	1.5		1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	5.5	5.5		6.5	6.5		7.0	7.0	7.0	7.0
Lead/Lag	Lag	Lead		Lag	Lead		Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes
Recall Mode	None	None		None	None		None	C-Max	None	C-Max
Act Effct Green (s)	6.3	42.6	120.0	9.8	43.3	120.0	28.3	34.4	35.2	20.6
Actuated g/C Ratio	0.05	0.36	1.00	0.08	0.36	1.00	0.24	0.29	0.29	0.17
v/c Ratio	0.24	0.61	0.34	0.11	0.80	0.15	0.81	1.05	0.72	0.76
Control Delay	49.4	37.1	0.5	41.9	29.1	0.2	27.1	71.2	51.4	55.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	37.1	0.5	41.9	29.1	0.2	27.1	71.2	51.4	55.1
LOS	D	D	A	D	C	A	C	E	D	E
Approach Delay		22.5			23.9			57.8		54.2
Approach LOS		C			C			E		D

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 97 (81%), Referenced to phase 2:NBT and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.05	
Intersection Signal Delay: 41.4	Intersection LOS: D
Intersection Capacity Utilization 83.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 2: US-24 & Marksheffel Rd





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	695	485	15	935	215	640	1175	305	190	585	20
Future Volume (veh/h)	20	695	485	15	935	215	640	1175	305	190	585	20
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	1856	1856	1856	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	22	755	0	16	1016	0	660	1211	0	207	636	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.92	0.92	0.92
Percent Heavy Veh, %	3	3	3	2	2	2	2	2	2	3	3	3
Cap, veh/h	38	930		185	1199		751	1783		245	1006	
Arrive On Green	0.02	0.26	0.00	0.10	0.34	0.00	0.22	0.35	0.00	0.07	0.20	0.00
Sat Flow, veh/h	1767	3526	1572	1781	3554	1585	3456	5274	0	1767	5233	0
Grp Volume(v), veh/h	22	755	0	16	1016	0	660	1211	0	207	636	0
Grp Sat Flow(s),veh/h/ln	1767	1763	1572	1781	1777	1585	1728	1702	0	1767	1689	0
Q Serve(g_s), s	1.5	24.1	0.0	1.0	31.8	0.0	22.2	24.3	0.0	8.0	13.8	0.0
Cycle Q Clear(g_c), s	1.5	24.1	0.0	1.0	31.8	0.0	22.2	24.3	0.0	8.0	13.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	38	930		185	1199		751	1783		245	1006	
V/C Ratio(X)	0.57	0.81		0.09	0.85		0.88	0.68		0.84	0.63	
Avail Cap(c_a), veh/h	75	1460		185	1478		979	1783		245	1006	
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.2	41.4	0.0	48.6	36.9	0.0	45.4	33.3	0.0	41.3	44.1	0.0
Incr Delay (d2), s/veh	12.9	2.0	0.0	0.2	4.0	0.0	7.5	2.1	0.0	22.8	3.0	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	10.7	0.0	0.4	14.3	0.0	10.2	10.3	0.0	3.9	6.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.0	43.4	0.0	48.8	40.9	0.0	52.9	35.4	0.0	64.1	47.1	0.0
LnGrp LOS	E	D		D	D		D	D		E	D	
Approach Vol, veh/h		777	A		1032	A		1871	A		843	A
Approach Delay, s/veh		44.1			41.0			41.6			51.3	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.0	48.9	18.9	37.2	33.1	30.8	9.1	47.0
Change Period (Y+Rc), s	7.0	7.0	6.5	5.5	7.0	7.0	6.5	* 6.5
Max Green Setting (Gmax), s	8.0	31.0	5.3	49.7	34.0	5.0	5.1	* 50
Max Q Clear Time (g_c+I1), s	10.0	26.3	3.0	26.1	24.2	15.8	3.5	33.8
Green Ext Time (p_c), s	0.0	3.1	0.0	5.6	1.9	0.0	0.0	6.7

Intersection Summary	
HCM 6th Ctrl Delay	43.7
HCM 6th LOS	D

Notes

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

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	24	0	0	8	108	0	0	0	179	0	1
Future Vol, veh/h	5	24	0	0	8	108	0	0	0	179	0	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	100	-	0	-	-	-	50	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	87	87	87	92	92	92	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	6	6	2
Mvmt Flow	7	32	0	0	9	124	0	0	0	242	0	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	552	485	1	501	485	0	1	0	0	0	0	0
Stage 1	485	485	-	0	0	-	-	-	-	-	-	-
Stage 2	67	0	-	501	485	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.16	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.254	-	-
Pot Cap-1 Maneuver	444	482	1084	480	482	-	1622	-	-	-	-	-
Stage 1	563	552	-	-	-	-	-	-	-	-	-	-
Stage 2	943	-	-	552	552	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	482	1084	457	482	-	1622	-	-	-	-	-
Mov Cap-2 Maneuver	285	511	-	484	515	-	-	-	-	-	-	-
Stage 1	563	552	-	-	-	-	-	-	-	-	-	-
Stage 2	943	-	-	520	552	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0	
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1622	-	-	-	511	-	515	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	0.063	-	0.018	-	-	-	-
HCM Control Delay (s)	0	-	-	-	12.5	0	12.1	-	-	-	-
HCM Lane LOS	A	-	-	-	B	A	B	-	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	-	0.1	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	26	0	0	29	77	0	0	0	215	0	8
Future Vol, veh/h	9	26	0	0	29	77	0	0	0	215	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	100	-	0	-	-	-	50	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	88	88	88	92	92	92	71	71	71
Heavy Vehicles, %	6	6	6	8	8	8	2	2	2	2	2	2
Mvmt Flow	11	33	0	0	33	88	0	0	0	303	0	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	673	612	6	628	617	0	11	0	0	0	0	0
Stage 1	612	612	-	0	0	-	-	-	-	-	-	-
Stage 2	61	0	-	628	617	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.56	6.26	7.18	6.58	6.28	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.16	5.56	-	6.18	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.56	-	6.18	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4.054	3.354	3.572	4.072	3.372	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	364	403	1065	387	398	-	1608	-	-	-	-	-
Stage 1	474	478	-	-	-	-	-	-	-	-	-	-
Stage 2	940	-	-	461	472	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	403	1065	365	398	-	1608	-	-	-	-	-
Mov Cap-2 Maneuver	248	444	-	405	446	-	-	-	-	-	-	-
Stage 1	474	478	-	-	-	-	-	-	-	-	-	-
Stage 2	940	-	-	430	472	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0	
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1608	-	-	-	444	-	446	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	0.073	-	0.074	-	-	-	-
HCM Control Delay (s)	0	-	-	-	13.7	0	13.7	-	-	-	-
HCM Lane LOS	A	-	-	-	B	A	B	-	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.2	-	0.2	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	45	0	0	15	115	0	0	0	190	0	5
Future Vol, veh/h	10	45	0	0	15	115	0	0	0	190	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	100	-	0	-	-	-	50	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	87	87	87	92	92	92	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	6	6	2
Mvmt Flow	13	60	0	0	17	132	0	0	0	257	0	7

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	593	518	4	548	521	0	7	0	0	0	0	0
Stage 1	518	518	-	0	0	-	-	-	-	-	-	-
Stage 2	75	0	-	548	521	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.16	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.254	-	-
Pot Cap-1 Maneuver	417	462	1080	447	460	-	1614	-	-	-	-	-
Stage 1	541	533	-	-	-	-	-	-	-	-	-	-
Stage 2	934	-	-	521	532	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	462	1080	405	460	-	1614	-	-	-	-	-
Mov Cap-2 Maneuver	274	494	-	430	498	-	-	-	-	-	-	-
Stage 1	541	533	-	-	-	-	-	-	-	-	-	-
Stage 2	934	-	-	462	532	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0	
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1614	-	-	-	494	-	498	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	0.121	-	0.035	-	-	-	-
HCM Control Delay (s)	0	-	-	-	13.3	0	12.5	-	-	-	-
HCM Lane LOS	A	-	-	-	B	A	B	-	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	-	0.1	-	-	-	-

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	40	0	0	50	85	0	0	0	230	0	10
Future Vol, veh/h	15	40	0	0	50	85	0	0	0	230	0	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	100	-	0	-	-	-	50	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	80	80	80	88	88	88	92	92	92	71	71	71
Heavy Vehicles, %	6	6	6	8	8	8	2	2	2	2	2	2
Mvmt Flow	19	50	0	0	57	97	0	0	0	324	0	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	732	655	7	680	662	0	14	0	0	0	0	0
Stage 1	655	655	-	0	0	-	-	-	-	-	-	-
Stage 2	77	0	-	680	662	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.56	6.26	7.18	6.58	6.28	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.16	5.56	-	6.18	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.56	-	6.18	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4.054	3.354	3.572	4.072	3.372	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	332	381	1064	357	375	-	1604	-	-	-	-	-
Stage 1	448	457	-	-	-	-	-	-	-	-	-	-
Stage 2	922	-	-	431	450	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	-	381	1064	325	375	-	1604	-	-	-	-	-
Mov Cap-2 Maneuver	233	426	-	362	428	-	-	-	-	-	-	-
Stage 1	448	457	-	-	-	-	-	-	-	-	-	-
Stage 2	922	-	-	384	450	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s			0	
HCM LOS	-	-		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1604	-	-	-	426	-	428	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	0.117	-	0.133	-	-	-	-
HCM Control Delay (s)	0	-	-	-	14.6	0	14.7	-	-	-	-
HCM Lane LOS	A	-	-	-	B	A	B	-	-	-	-
HCM 95th %tile Q(veh)	0	-	-	-	0.4	-	0.5	-	-	-	-

Intersection	
Int Delay, s/veh	179.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	45	0	505	15	125	0	75	425	220	90	5
Future Vol, veh/h	10	45	0	505	15	125	0	75	425	220	90	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	100	-	0	-	-	-	50	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	6	6	2
Mvmt Flow	11	49	0	549	16	136	0	82	462	239	98	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	968	1123	101	916	894	313	103	0	0	544	0	0
Stage 1	579	579	-	313	313	-	-	-	-	-	-	-
Stage 2	389	544	-	603	581	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.16	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.254	-	-
Pot Cap-1 Maneuver	233	206	954	~ 253	280	727	1489	-	-	1005	-	-
Stage 1	501	501	-	698	657	-	-	-	-	-	-	-
Stage 2	635	519	-	~ 486	500	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	149	157	954	~ 172	213	727	1489	-	-	1005	-	-
Mov Cap-2 Maneuver	216	216	-	~ 264	306	-	-	-	-	-	-	-
Stage 1	501	382	-	698	657	-	-	-	-	-	-	-
Stage 2	504	519	-	~ 323	381	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.8	$ 417	0	6.8
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1489	-	-	216	216	264	306	727	1005	-	-
HCM Lane V/C Ratio	-	-	-	0.05	0.226	2.079	0.053	0.187	0.238	-	-
HCM Control Delay (s)	0	-	-	22.5	26.5	$ 529.3	17.4	11.1	9.7	-	-
HCM Lane LOS	A	-	-	C	D	F	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.8	40.7	0.2	0.7	0.9	-	-

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

Intersection	
Int Delay, s/veh	421

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	40	0	645	50	120	0	110	610	250	115	10
Future Vol, veh/h	15	40	0	645	50	120	0	110	610	250	115	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	50	-	-	100	-	0	-	-	-	50	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	6	6	6	8	8	8	2	2	2	2	2	2
Mvmt Flow	16	43	0	701	54	130	0	120	663	272	125	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1219	1458	131	1148	1132	452	136	0	0	783	0	0
Stage 1	675	675	-	452	452	-	-	-	-	-	-	-
Stage 2	544	783	-	696	680	-	-	-	-	-	-	-
Critical Hdwy	7.16	6.56	6.26	7.18	6.58	6.28	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.16	5.56	-	6.18	5.58	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.16	5.56	-	6.18	5.58	-	-	-	-	-	-	-
Follow-up Hdwy	3.554	4.054	3.354	3.572	4.072	3.372	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	154	127	908	~ 171	198	595	1448	-	-	835	-	-
Stage 1	437	447	-	~ 576	560	-	-	-	-	-	-	-
Stage 2	516	399	-	~ 423	442	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	74	86	908	~ 90	133	595	1448	-	-	835	-	-
Mov Cap-2 Maneuver	83	110	-	~ 189	230	-	-	-	-	-	-	-
Stage 1	437	301	-	~ 576	560	-	-	-	-	-	-	-
Stage 2	364	399	-	~ 244	298	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	58	$ 1007.6	0	7.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	83	110	189	230	595	835	-	-
HCM Lane V/C Ratio	-	-	-	0.196	0.395	3.709	0.236	0.219	0.325	-	-
HCM Control Delay (s)	0	-	-	58.7	57.3	$ 1268.8	25.4	12.7	11.4	-	-
HCM Lane LOS	A	-	-	F	F	F	D	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.7	1.6	67.9	0.9	0.8	1.4	-	-

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

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	60	701	544	342
Demand Flow Rate, veh/h	61	715	555	362
Vehicles Circulating, veh/h	917	95	314	576
Vehicles Exiting, veh/h	21	774	664	234
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	8.2	6.6	10.9	11.7
Approach LOS	A	A	B	B

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.806	0.194	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	61	576	139	555	362
Cap Entry Lane, veh/h	542	1302	1302	1002	767
Entry HV Adj Factor	0.984	0.980	0.978	0.981	0.945
Flow Entry, veh/h	60	565	136	544	342
Cap Entry, veh/h	533	1277	1274	983	725
V/C Ratio	0.113	0.442	0.107	0.554	0.472
Control Delay, s/veh	8.2	7.2	3.7	10.9	11.7
LOS	A	A	A	B	B
95th %tile Queue, veh	0	2	0	4	3

Intersection	
Intersection Delay, s/veh	17.2
Intersection LOS	C

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	59	885	783	408
Demand Flow Rate, veh/h	63	955	798	416
Vehicles Circulating, veh/h	1161	139	340	815
Vehicles Exiting, veh/h	69	999	884	279
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	11.4	10.8	22.2	22.1
Approach LOS	B	B	C	C

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.853	0.147	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	63	815	140	798	416
Cap Entry Lane, veh/h	422	1251	1251	976	601
Entry HV Adj Factor	0.943	0.926	0.929	0.981	0.982
Flow Entry, veh/h	59	755	130	783	408
Cap Entry, veh/h	398	1159	1162	957	590
V/C Ratio	0.149	0.651	0.112	0.818	0.692
Control Delay, s/veh	11.4	12.0	4.0	22.2	22.1
LOS	B	B	A	C	C
95th %tile Queue, veh	1	5	0	9	5

Intersection	
Intersection Delay, s/veh	4.1
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	65	174	0	255
Demand Flow Rate, veh/h	66	177	0	270
Vehicles Circulating, veh/h	265	11	331	22
Vehicles Exiting, veh/h	27	320	0	166
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.0	3.4	0.0	4.5
Approach LOS	A	A	-	A

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.124	0.876	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	66	22	155	0	270
Cap Entry Lane, veh/h	1053	1406	1406	985	1349
Entry HV Adj Factor	0.984	0.980	0.981	1.000	0.944
Flow Entry, veh/h	65	22	152	0	255
Cap Entry, veh/h	1036	1378	1379	985	1274
V/C Ratio	0.063	0.016	0.110	0.000	0.200
Control Delay, s/veh	4.0	2.7	3.5	3.7	4.5
LOS	A	A	A	A	A
95th %tile Queue, veh	0	0	0	0	1

Intersection	
Intersection Delay, s/veh	4.4
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	65	169	0	315
Demand Flow Rate, veh/h	69	183	0	321
Vehicles Circulating, veh/h	305	17	374	65
Vehicles Exiting, veh/h	81	357	0	135
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.4	3.4	0.0	5.0
Approach LOS	A	A	-	A

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.355	0.645	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	69	65	118	0	321
Cap Entry Lane, veh/h	1011	1398	1398	942	1291
Entry HV Adj Factor	0.943	0.926	0.924	1.000	0.981
Flow Entry, veh/h	65	60	109	0	315
Cap Entry, veh/h	953	1295	1292	942	1267
V/C Ratio	0.068	0.046	0.084	0.000	0.249
Control Delay, s/veh	4.4	3.1	3.5	3.8	5.0
LOS	A	A	A	A	A
95th %tile Queue, veh	0	0	0	0	1

Intersection	
Intersection Delay, s/veh	9.9
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	65	734	544	386
Demand Flow Rate, veh/h	66	748	555	409
Vehicles Circulating, veh/h	964	95	366	582
Vehicles Exiting, veh/h	27	826	664	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	8.8	6.5	12.1	13.3
Approach LOS	A	A	B	B

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.778	0.222	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	66	582	166	555	409
Cap Entry Lane, veh/h	516	1302	1302	950	762
Entry HV Adj Factor	0.984	0.980	0.982	0.981	0.944
Flow Entry, veh/h	65	571	163	544	386
Cap Entry, veh/h	508	1277	1279	932	720
V/C Ratio	0.128	0.447	0.127	0.584	0.537
Control Delay, s/veh	8.8	7.3	3.9	12.1	13.3
LOS	A	A	A	B	B
95th %tile Queue, veh	0	2	0	4	3

Intersection	
Intersection Delay, s/veh	20.7
Intersection LOS	C

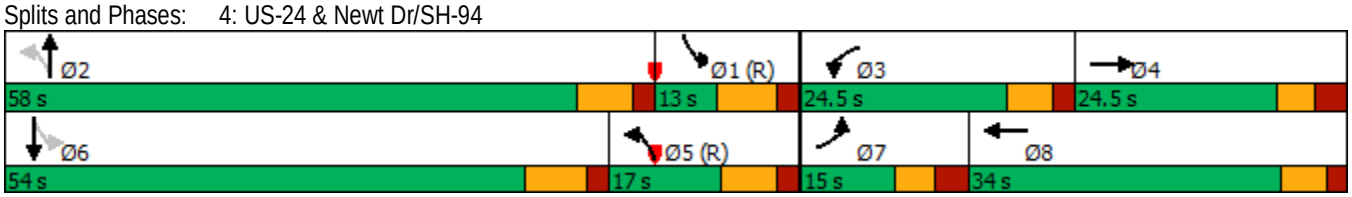
Approach	EB	WB	NB	SB
Entry Lanes	1	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	65	908	783	462
Demand Flow Rate, veh/h	69	981	798	471
Vehicles Circulating, veh/h	1211	139	396	822
Vehicles Exiting, veh/h	81	1055	884	298
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	12.3	10.8	27.8	29.2
Approach LOS	B	B	D	D

Lane	Left	Left	Right	Left	Left
Designated Moves	LTR	LT	R	LTR	LTR
Assumed Moves	LTR	LT	R	LTR	LTR
RT Channelized					
Lane Util	1.000	0.838	0.162	1.000	1.000
Follow-Up Headway, s	2.609	2.535	2.535	2.609	2.609
Critical Headway, s	4.976	4.544	4.544	4.976	4.976
Entry Flow, veh/h	69	822	159	798	471
Cap Entry Lane, veh/h	401	1251	1251	921	597
Entry HV Adj Factor	0.943	0.926	0.925	0.981	0.982
Flow Entry, veh/h	65	761	147	783	462
Cap Entry, veh/h	378	1159	1157	904	586
V/C Ratio	0.172	0.657	0.127	0.866	0.789
Control Delay, s/veh	12.3	12.1	4.2	27.8	29.2
LOS	B	B	A	D	D
95th %tile Queue, veh	1	5	0	11	8

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	25	174	391	35	1	128	709	337	4	1542	32
Future Volume (vph)	14	25	174	391	35	1	128	709	337	4	1542	32
Turn Type	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free	2		Free	6		Free
Detector Phase	7	4		3	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)	11.5	24.5		11.0	24.0		12.0	25.0		12.5	25.5	
Total Split (s)	15.0	24.5		24.5	34.0		17.0	58.0		13.0	54.0	
Total Split (%)	12.5%	20.4%		20.4%	28.3%		14.2%	48.3%		10.8%	45.0%	
Yellow Time (s)	3.5	3.5		4.0	4.0		5.0	5.0		5.5	5.5	
All-Red Time (s)	3.0	3.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.0	6.0		7.0	7.0		7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		C-Max	Max		C-Max	Max	
Act Effct Green (s)	6.2	7.6	120.0	18.1	21.9	120.0	76.8	66.8	120.0	67.8	62.3	120.0
Actuated g/C Ratio	0.05	0.06	1.00	0.15	0.18	1.00	0.64	0.56	1.00	0.56	0.52	1.00
v/c Ratio	0.11	0.28	0.15	0.87	0.06	0.00	0.68	0.40	0.24	0.01	0.91	0.02
Control Delay	55.3	59.0	0.2	44.2	19.4	0.0	54.9	17.3	0.4	6.0	27.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.3	59.0	0.2	44.2	19.4	0.0	54.9	17.3	0.4	6.0	27.7	0.0
LOS	E	E	A	D	B	A	D	B	A	A	C	A
Approach Delay		10.6			42.0			16.5			27.1	
Approach LOS		B			D			B			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 110 (92%), Referenced to phase 1:SBL and 5:NBL, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 24.3	Intersection LOS: C
Intersection Capacity Utilization 84.6%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: US-24 & Newt Dr/SH-94



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	14	25	174	391	35	1	128	709	337	4	1542	32
Future Volume (veh/h)	14	25	174	391	35	1	128	709	337	4	1542	32
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	1826	1826	1826	1841	1841	1841	1752	1752	1752	1811	1811	1811
Adj Flow Rate, veh/h	18	32	0	444	40	0	132	731	0	4	1606	0
Peak Hour Factor	0.77	0.77	0.77	0.88	0.88	0.88	0.97	0.97	0.97	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	4	4	4	10	10	10	6	6	6
Cap, veh/h	63	72		499	571		171	1934		372	1870	
Arrive On Green	0.02	0.04	0.00	0.15	0.16	0.00	0.04	0.58	0.00	0.01	0.54	0.00
Sat Flow, veh/h	3374	1826	1547	3401	3497	1560	1668	3328	1485	1725	3441	1535
Grp Volume(v), veh/h	18	32	0	444	40	0	132	731	0	4	1606	0
Grp Sat Flow(s),veh/h/ln	1687	1826	1547	1700	1749	1560	1668	1664	1485	1725	1721	1535
Q Serve(g_s), s	0.6	2.1	0.0	15.4	1.2	0.0	1.9	14.2	0.0	0.0	47.9	0.0
Cycle Q Clear(g_c), s	0.6	2.1	0.0	15.4	1.2	0.0	1.9	14.2	0.0	0.0	47.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	63	72		499	571		171	1934		372	1870	
V/C Ratio(X)	0.28	0.44		0.89	0.07		0.77	0.38		0.01	0.86	
Avail Cap(c_a), veh/h	239	274		524	816		242	1934		438	1870	
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	0.00	0.68	0.68	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	58.1	56.3	0.0	50.3	42.5	0.0	52.5	13.5	0.0	19.4	23.5	0.0
Incr Delay (d2), s/veh	2.4	4.2	0.0	12.1	0.0	0.0	9.4	0.6	0.0	0.0	5.4	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	0.3	1.0	0.0	7.4	0.5	0.0	4.3	5.3	0.0	0.1	20.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.5	60.5	0.0	62.4	42.5	0.0	61.9	14.1	0.0	19.4	28.8	0.0
LnGrp LOS	E	E		E	D		E	B		B	C	
Approach Vol, veh/h		50	A		484	A		863	A		1610	A
Approach Delay, s/veh		60.5			60.8			21.4			28.8	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	76.7	23.6	11.3	12.4	72.7	8.8	26.1
Change Period (Y+Rc), s	7.5	7.0	6.0	6.5	7.5	* 7.5	6.5	* 6.5
Max Green Setting (Gmax), s	5.5	51.0	18.5	18.0	10.0	* 47	8.5	* 28
Max Q Clear Time (g_c+I1), s	2.0	16.2	17.4	4.1	3.9	49.9	2.6	3.2
Green Ext Time (p_c), s	0.0	5.9	0.2	0.1	0.2	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	32.4
HCM 6th LOS	C

Notes

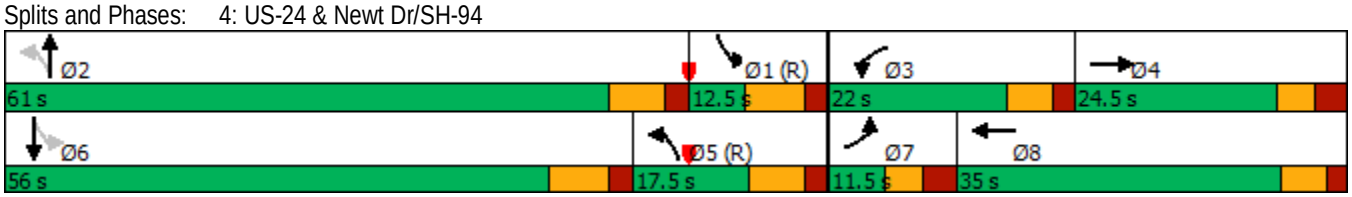
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	32	194	285	19	6	129	1375	261	3	760	30
Future Volume (vph)	23	32	194	285	19	6	129	1375	261	3	760	30
Turn Type	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free	2		Free	6		Free
Detector Phase	7	4		3	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)	11.5	24.5		11.0	24.0		12.0	25.0		12.5	25.5	
Total Split (s)	11.5	24.5		22.0	35.0		17.5	61.0		12.5	56.0	
Total Split (%)	9.6%	20.4%		18.3%	29.2%		14.6%	50.8%		10.4%	46.7%	
Yellow Time (s)	3.5	3.5		4.0	4.0		5.0	5.0		5.5	5.5	
All-Red Time (s)	3.0	3.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.0	6.0		7.0	7.0		7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		C-Max	Max		C-Max	Max	
Act Effct Green (s)	5.0	8.2	120.0	15.5	20.9	120.0	77.2	66.7	120.0	66.2	61.2	120.0
Actuated g/C Ratio	0.04	0.07	1.00	0.13	0.17	1.00	0.64	0.56	1.00	0.55	0.51	1.00
v/c Ratio	0.21	0.33	0.16	0.82	0.04	0.01	0.31	0.74	0.17	0.02	0.48	0.02
Control Delay	59.2	59.6	0.2	44.3	18.7	0.0	13.8	24.2	0.2	6.3	17.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.2	59.6	0.2	44.3	18.7	0.0	13.8	24.2	0.2	6.3	17.1	0.0
LOS	E	E	A	D	B	A	B	C	A	A	B	A
Approach Delay		13.4			41.8			19.9			16.4	
Approach LOS		B			D			B			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 110 (92%), Referenced to phase 1:SBL and 5:NBL, Start of Green	
Natural Cycle: 100	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 20.9	Intersection LOS: C
Intersection Capacity Utilization 74.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: US-24 & Newt Dr/SH-94



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	32	194	285	19	6	129	1375	261	3	760	30
Future Volume (veh/h)	23	32	194	285	19	6	129	1375	261	3	760	30
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	1856	1856	1856	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	30	42	0	361	24	0	134	1432	0	3	844	0
Peak Hour Factor	0.77	0.77	0.77	0.79	0.79	0.79	0.96	0.96	0.96	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	5	5	5
Cap, veh/h	91	75		418	463		414	2147		175	1954	
Arrive On Green	0.03	0.04	0.00	0.12	0.13	0.00	0.05	0.61	0.00	0.00	0.56	0.00
Sat Flow, veh/h	3456	1870	1585	3428	3526	1572	1767	3526	1572	1739	3469	1547
Grp Volume(v), veh/h	30	42	0	361	24	0	134	1432	0	3	844	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1714	1763	1572	1767	1763	1572	1739	1735	1547
Q Serve(g_s), s	1.0	2.6	0.0	12.4	0.7	0.0	0.0	32.1	0.0	0.0	16.8	0.0
Cycle Q Clear(g_c), s	1.0	2.6	0.0	12.4	0.7	0.0	0.0	32.1	0.0	0.0	16.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	91	75		418	463		414	2147		175	1954	
V/C Ratio(X)	0.33	0.56		0.86	0.05		0.32	0.67		0.02	0.43	
Avail Cap(c_a), veh/h	144	281		457	852		488	2147		240	1954	
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	0.00	0.69	0.69	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.4	56.6	0.0	51.7	45.6	0.0	21.4	15.4	0.0	29.7	15.1	0.0
Incr Delay (d2), s/veh	2.1	6.5	0.0	10.7	0.0	0.0	0.4	1.7	0.0	0.0	0.7	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	1.4	0.0	5.9	0.3	0.0	2.6	12.7	0.0	0.1	6.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.5	63.0	0.0	62.4	45.6	0.0	21.8	17.1	0.0	29.7	15.8	0.0
LnGrp LOS	E	E		E	D		C	B		C	B	
Approach Vol, veh/h		72	A		385	A		1566	A		847	A
Approach Delay, s/veh		61.5			61.4			17.5			15.9	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.0	80.1	20.6	11.3	13.0	75.1	9.7	22.3
Change Period (Y+Rc), s	7.5	7.0	6.0	6.5	7.5	* 7.5	6.5	* 6.5
Max Green Setting (Gmax), s	5.0	54.0	16.0	18.0	10.5	* 49	5.0	* 29
Max Q Clear Time (g_c+I1), s	2.0	34.1	14.4	4.6	2.0	18.8	3.0	2.7
Green Ext Time (p_c), s	0.0	11.1	0.2	0.1	0.2	6.8	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

Notes

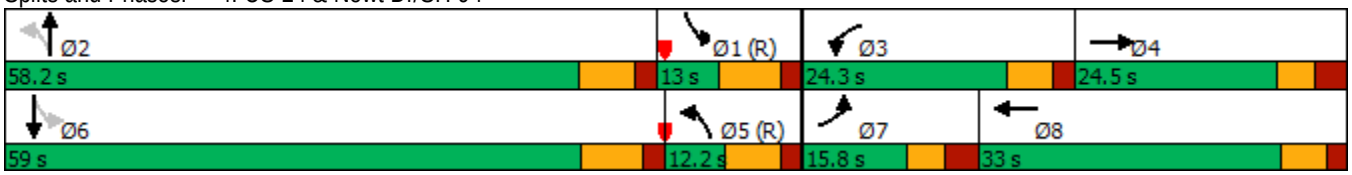
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	30	200	430	40	5	145	755	415	5	1635	35
Future Volume (vph)	20	30	200	430	40	5	145	755	415	5	1635	35
Turn Type	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free	2		Free	6		Free
Detector Phase	7	4		3	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)	11.5	24.5		11.0	24.0		12.0	25.0		12.5	25.5	
Total Split (s)	15.8	24.5		24.3	33.0		12.2	58.2		13.0	59.0	
Total Split (%)	13.2%	20.4%		20.3%	27.5%		10.2%	48.5%		10.8%	49.2%	
Yellow Time (s)	3.5	3.5		4.0	4.0		5.0	5.0		5.5	5.5	
All-Red Time (s)	3.0	3.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.0	6.0		7.0	7.0		7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		C-Max	Max		C-Max	Max	
Act Effct Green (s)	6.4	8.0	120.0	18.3	19.7	120.0	71.4	66.2	120.0	72.0	66.5	120.0
Actuated g/C Ratio	0.05	0.07	1.00	0.15	0.16	1.00	0.60	0.55	1.00	0.60	0.55	1.00
v/c Ratio	0.15	0.32	0.17	0.95	0.08	0.00	1.16	0.43	0.29	0.01	0.90	0.02
Control Delay	55.6	59.7	0.2	58.9	22.9	0.0	165.9	18.0	0.5	6.0	22.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.6	59.7	0.2	58.9	22.9	0.0	165.9	18.0	0.5	6.0	22.6	0.0
LOS	E	E	A	E	C	A	F	B	A	A	C	A
Approach Delay		11.8			55.3			28.7			22.0	
Approach LOS		B			E			C			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 110 (92%), Referenced to phase 1:SBL and 5:NBL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.16	
Intersection Signal Delay: 28.0	Intersection LOS: C
Intersection Capacity Utilization 89.2%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: US-24 & Newt Dr/SH-94



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	30	200	430	40	5	145	755	415	5	1635	35
Future Volume (veh/h)	20	30	200	430	40	5	145	755	415	5	1635	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1841	1841	1841	1752	1752	1752	1811	1811	1811
Adj Flow Rate, veh/h	26	39	0	489	45	0	149	778	0	5	1703	0
Peak Hour Factor	0.77	0.77	0.77	0.88	0.88	0.88	0.97	0.97	0.97	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	4	4	4	10	10	10	6	6	6
Cap, veh/h	81	74		519	576		153	1770		408	1839	
Arrive On Green	0.02	0.04	0.00	0.15	0.16	0.00	0.04	0.53	0.00	0.05	0.53	0.00
Sat Flow, veh/h	3374	1826	1547	3401	3497	1560	1668	3328	1485	1725	3441	1535
Grp Volume(v), veh/h	26	39	0	489	45	0	149	778	0	5	1703	0
Grp Sat Flow(s),veh/h/ln	1687	1826	1547	1700	1749	1560	1668	1664	1485	1725	1721	1535
Q Serve(g_s), s	0.9	2.5	0.0	17.1	1.3	0.0	4.9	17.1	0.0	0.0	54.7	0.0
Cycle Q Clear(g_c), s	0.9	2.5	0.0	17.1	1.3	0.0	4.9	17.1	0.0	0.0	54.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	81	74		519	576		153	1770		408	1839	
V/C Ratio(X)	0.32	0.53		0.94	0.08		0.98	0.44		0.01	0.93	
Avail Cap(c_a), veh/h	261	274		519	787		153	1770		408	1839	
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	0.00	0.69	0.69	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.6	56.4	0.0	50.3	42.4	0.0	55.3	17.2	0.0	19.0	25.8	0.0
Incr Delay (d2), s/veh	2.2	5.7	0.0	20.2	0.0	0.0	65.4	0.8	0.0	0.0	9.5	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	1.3	0.0	8.7	0.6	0.0	7.1	6.6	0.0	0.1	23.7	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.8	62.1	0.0	70.5	42.4	0.0	120.7	18.0	0.0	19.0	35.3	0.0
LnGrp LOS	E	E		E	D		F	B		B	D	
Approach Vol, veh/h		65	A		534	A		927	A		1708	A
Approach Delay, s/veh		61.2			68.1			34.5			35.2	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	70.8	24.3	11.4	12.7	71.6	9.4	26.3
Change Period (Y+Rc), s	7.5	7.0	6.0	6.5	7.5	* 7.5	6.5	* 6.5
Max Green Setting (Gmax), s	5.5	51.2	18.3	18.0	5.2	* 52	9.3	* 27
Max Q Clear Time (g_c+I1), s	2.0	19.1	19.1	4.5	6.9	56.7	2.9	3.3
Green Ext Time (p_c), s	0.0	6.3	0.0	0.1	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	41.0
HCM 6th LOS	D

Notes

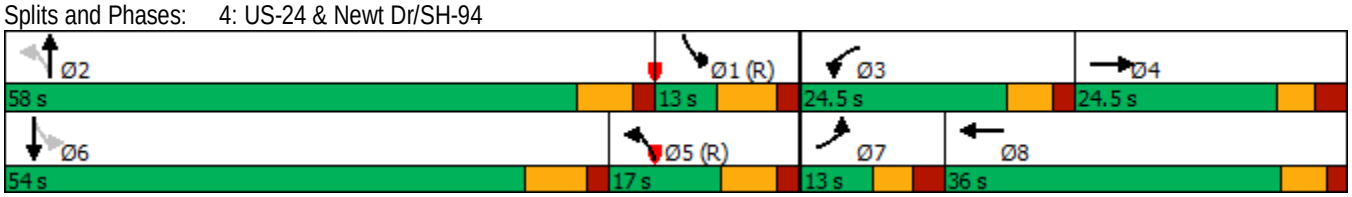
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

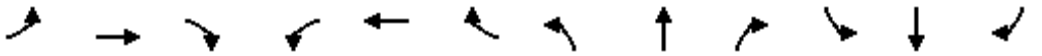
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	35	215	370	25	10	155	1460	395	5	810	35
Future Volume (vph)	30	35	215	370	25	10	155	1460	395	5	810	35
Turn Type	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free	2		Free	6		Free
Detector Phase	7	4		3	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)	11.5	24.5		11.0	24.0		12.0	25.0		12.5	25.5	
Total Split (s)	13.0	24.5		24.5	36.0		17.0	58.0		13.0	54.0	
Total Split (%)	10.8%	20.4%		20.4%	30.0%		14.2%	48.3%		10.8%	45.0%	
Yellow Time (s)	3.5	3.5		4.0	4.0		5.0	5.0		5.5	5.5	
All-Red Time (s)	3.0	3.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.0	6.0		7.0	7.0		7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		C-Max	Max		C-Max	Max	
Act Effct Green (s)	6.2	8.3	120.0	18.3	22.9	120.0	73.3	63.3	120.0	64.3	58.8	120.0
Actuated g/C Ratio	0.05	0.07	1.00	0.15	0.19	1.00	0.61	0.53	1.00	0.54	0.49	1.00
v/c Ratio	0.22	0.35	0.18	0.90	0.05	0.01	0.42	0.82	0.26	0.04	0.53	0.03
Control Delay	57.5	59.9	0.2	54.2	26.3	0.0	19.5	29.7	0.4	8.0	19.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.5	59.9	0.2	54.2	26.3	0.0	19.5	29.7	0.4	8.0	19.6	0.0
LOS	E	E	A	D	C	A	B	C	A	A	B	A
Approach Delay		13.8			51.1			23.2			18.7	
Approach LOS		B			D			C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 110 (92%), Referenced to phase 1:SBL and 5:NBL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 24.9	Intersection LOS: C
Intersection Capacity Utilization 78.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: US-24 & Newt Dr/SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	35	215	370	25	10	155	1460	395	5	810	35
Future Volume (veh/h)	30	35	215	370	25	10	155	1460	395	5	810	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1856	1856	1856	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	39	45	0	468	32	0	161	1521	0	6	900	0
Peak Hour Factor	0.77	0.77	0.77	0.79	0.79	0.79	0.96	0.96	0.96	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	5	5	5
Cap, veh/h	105	76		520	557		363	2026		146	1863	
Arrive On Green	0.03	0.04	0.00	0.15	0.16	0.00	0.04	0.57	0.00	0.01	0.54	0.00
Sat Flow, veh/h	3456	1870	1585	3428	3526	1572	1767	3526	1572	1739	3469	1547
Grp Volume(v), veh/h	39	45	0	468	32	0	161	1521	0	6	900	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1714	1763	1572	1767	1763	1572	1739	1735	1547
Q Serve(g_s), s	1.3	2.8	0.0	16.1	0.9	0.0	0.0	38.7	0.0	0.0	19.5	0.0
Cycle Q Clear(g_c), s	1.3	2.8	0.0	16.1	0.9	0.0	0.0	38.7	0.0	0.0	19.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	105	76		520	557		363	2026		146	1863	
V/C Ratio(X)	0.37	0.59		0.90	0.06		0.44	0.75		0.04	0.48	
Avail Cap(c_a), veh/h	187	281		529	881		437	2026		211	1863	
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	0.00	0.71	0.71	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.1	56.6	0.0	50.0	42.9	0.0	27.7	19.1	0.0	36.9	17.4	0.0
Incr Delay (d2), s/veh	2.2	7.1	0.0	14.0	0.0	0.0	0.8	2.6	0.0	0.1	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.5	0.0	7.9	0.4	0.0	3.7	15.8	0.0	0.1	7.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.2	63.6	0.0	64.0	43.0	0.0	28.6	21.7	0.0	37.1	18.3	0.0
LnGrp LOS	E	E		E	D		C	C		D	B	
Approach Vol, veh/h		84	A		500	A		1682	A		906	A
Approach Delay, s/veh		61.6			62.6			22.4			18.4	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.5	75.9	24.2	11.4	12.5	71.9	10.1	25.4
Change Period (Y+Rc), s	7.5	7.0	6.0	6.5	7.5	* 7.5	6.5	* 6.5
Max Green Setting (Gmax), s	5.5	51.0	18.5	18.0	10.0	* 47	6.5	* 30
Max Q Clear Time (g_c+I1), s	2.0	40.7	18.1	4.8	2.0	21.5	3.3	2.9
Green Ext Time (p_c), s	0.0	7.3	0.1	0.1	0.2	7.1	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Notes

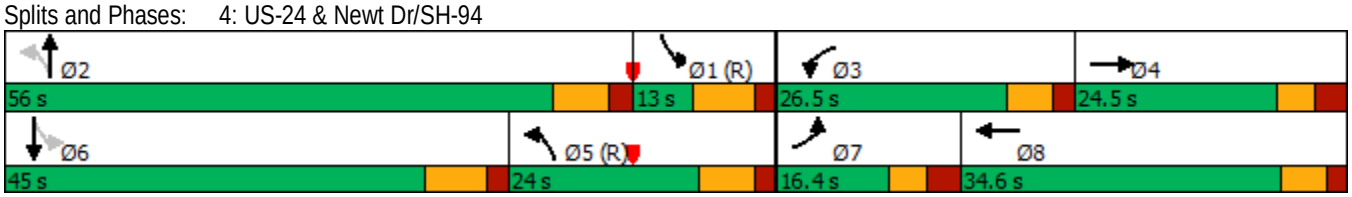
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

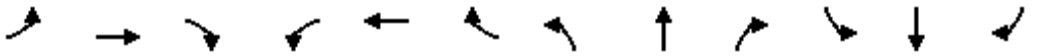
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	110	545	735	130	5	535	950	525	5	1635	65
Future Volume (vph)	50	110	545	735	130	5	535	950	525	5	1635	65
Turn Type	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free	2		Free	6		Free
Detector Phase	7	4		3	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)	11.5	24.5		11.0	24.0		12.0	25.0		12.5	25.5	
Total Split (s)	16.4	24.5		26.5	34.6		24.0	56.0		13.0	45.0	
Total Split (%)	13.7%	20.4%		22.1%	28.8%		20.0%	46.7%		10.8%	37.5%	
Yellow Time (s)	3.5	3.5		4.0	4.0		5.0	5.0		5.5	5.5	
All-Red Time (s)	3.0	3.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.0	6.0		7.0	7.0		7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		C-Max	Max		C-Max	Max	
Act Effct Green (s)	7.3	13.2	120.0	20.5	28.7	120.0	66.8	53.8	120.0	47.8	42.3	120.0
Actuated g/C Ratio	0.06	0.11	1.00	0.17	0.24	1.00	0.56	0.45	1.00	0.40	0.35	1.00
v/c Ratio	0.27	0.61	0.38	1.39	0.17	0.00	1.91	0.67	0.37	0.03	1.42	0.04
Control Delay	56.5	63.2	0.7	217.3	32.1	0.0	448.3	29.4	0.7	10.2	217.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	63.2	0.7	217.3	32.1	0.0	448.3	29.4	0.7	10.2	217.7	0.0
LOS	E	E	A	F	C	A	F	C	A	B	F	A
Approach Delay		14.5			188.5			133.5			208.8	
Approach LOS		B			F			F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 110 (92%), Referenced to phase 1:SBL and 5:NBL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.91	
Intersection Signal Delay: 150.5	Intersection LOS: F
Intersection Capacity Utilization 119.6%	ICU Level of Service H
Analysis Period (min) 15	

Splits and Phases: 4: US-24 & Newt Dr/SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	110	545	735	130	5	535	950	525	5	1635	65
Future Volume (veh/h)	50	110	545	735	130	5	535	950	525	5	1635	65
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	1826	1826	1826	1841	1841	1841	1752	1752	1752	1811	1811	1811
Adj Flow Rate, veh/h	54	120	0	799	141	0	552	979	0	5	1703	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	4	4	4	10	10	10	6	6	6
Cap, veh/h	117	153		581	754		296	1566		232	1289	
Arrive On Green	0.03	0.08	0.00	0.06	0.07	0.00	0.14	0.47	0.00	0.05	0.37	0.00
Sat Flow, veh/h	3374	1826	1547	3401	3497	1560	1668	3328	1485	1725	3441	1535
Grp Volume(v), veh/h	54	120	0	799	141	0	552	979	0	5	1703	0
Grp Sat Flow(s),veh/h/ln	1687	1826	1547	1700	1749	1560	1668	1664	1485	1725	1721	1535
Q Serve(g_s), s	1.9	7.7	0.0	20.5	4.6	0.0	17.0	26.5	0.0	0.0	45.0	0.0
Cycle Q Clear(g_c), s	1.9	7.7	0.0	20.5	4.6	0.0	17.0	26.5	0.0	0.0	45.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	117	153		581	754		296	1566		232	1289	
V/C Ratio(X)	0.46	0.79		1.38	0.19		1.86	0.63		0.02	1.32	
Avail Cap(c_a), veh/h	278	274		581	834		296	1566		232	1289	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.89	0.89	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.8	53.9	0.0	56.6	45.8	0.0	49.8	23.8	0.0	38.4	37.5	0.0
Incr Delay (d2), s/veh	2.8	8.6	0.0	178.4	0.1	0.0	400.9	1.9	0.0	0.0	150.0	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	3.9	0.0	23.8	2.1	0.0	41.4	10.7	0.0	0.1	45.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.6	62.5	0.0	235.0	45.9	0.0	450.7	25.7	0.0	38.4	187.5	0.0
LnGrp LOS	E	E		F	D		F	C		D	F	
Approach Vol, veh/h		174	A		940	A		1531	A		1708	A
Approach Delay, s/veh		61.6			206.7			178.9			187.1	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	63.5	26.5	16.5	24.5	52.5	10.7	32.4
Change Period (Y+Rc), s	7.5	7.0	6.0	6.5	7.5	* 7.5	6.5	* 6.5
Max Green Setting (Gmax), s	5.5	49.0	20.5	18.0	17.0	* 38	9.9	* 29
Max Q Clear Time (g_c+I1), s	2.0	28.5	22.5	9.7	19.0	47.0	3.9	6.6
Green Ext Time (p_c), s	0.0	7.3	0.0	0.3	0.0	0.0	0.0	0.8

Intersection Summary		
HCM 6th Ctrl Delay		183.4
HCM 6th LOS		F

Notes

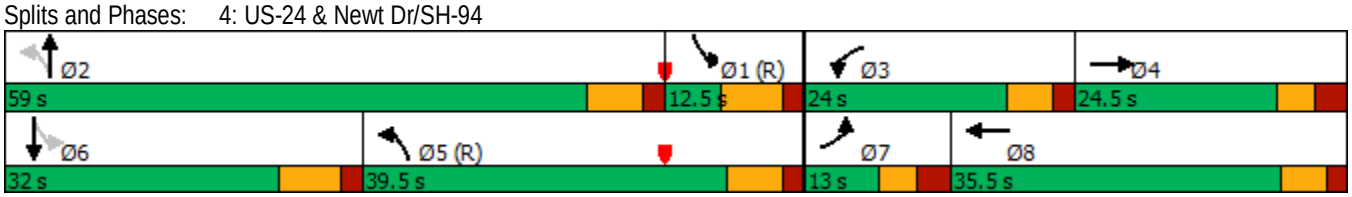
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

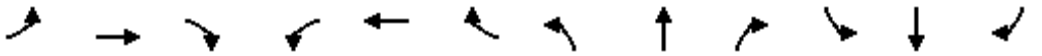
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	150	700	650	145	10	670	1755	530	5	810	75
Future Volume (vph)	70	150	700	650	145	10	670	1755	530	5	810	75
Turn Type	Prot	NA	Free	Prot	NA	Free	pm+pt	NA	Free	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free	2		Free	6		Free
Detector Phase	7	4		3	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)	11.5	24.5		11.0	24.0		12.0	25.0		12.5	25.5	
Total Split (s)	13.0	24.5		24.0	35.5		39.5	59.0		12.5	32.0	
Total Split (%)	10.8%	20.4%		20.0%	29.6%		32.9%	49.2%		10.4%	26.7%	
Yellow Time (s)	3.5	3.5		4.0	4.0		5.0	5.0		5.5	5.5	
All-Red Time (s)	3.0	3.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.5		6.0	6.0		7.0	7.0		7.5	7.5	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		C-Max	Max		C-Max	Max	
Act Effct Green (s)	6.4	15.0	120.0	18.0	29.1	120.0	67.5	55.0	120.0	32.5	27.5	120.0
Actuated g/C Ratio	0.05	0.12	1.00	0.15	0.24	1.00	0.56	0.46	1.00	0.27	0.23	1.00
v/c Ratio	0.42	0.70	0.48	1.39	0.19	0.01	1.30	1.14	0.35	0.04	1.12	0.05
Control Delay	62.2	66.0	1.0	225.0	33.6	0.0	184.2	102.3	0.6	11.8	104.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.2	66.0	1.0	225.0	33.6	0.0	184.2	102.3	0.6	11.8	104.2	0.1
LOS	E	E	A	F	C	A	F	F	A	B	F	A
Approach Delay		16.3			187.7			102.6			94.9	
Approach LOS		B			F			F			F	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 110 (92%), Referenced to phase 1:SBL and 5:NBL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.39	
Intersection Signal Delay: 99.4	Intersection LOS: F
Intersection Capacity Utilization 108.4%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 4: US-24 & Newt Dr/SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	150	700	650	145	10	670	1755	530	5	810	75
Future Volume (veh/h)	70	150	700	650	145	10	670	1755	530	5	810	75
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	1856	1856	1856	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	76	163	0	707	158	0	698	1828	0	5	880	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	5	5	5
Cap, veh/h	133	197		514	749		539	1671		140	850	
Arrive On Green	0.04	0.11	0.00	0.05	0.07	0.00	0.27	0.47	0.00	0.05	0.24	0.00
Sat Flow, veh/h	3456	1870	1585	3428	3526	1572	1767	3526	1572	1739	3469	1547
Grp Volume(v), veh/h	76	163	0	707	158	0	698	1828	0	5	880	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1714	1763	1572	1767	1763	1572	1739	1735	1547
Q Serve(g_s), s	2.6	10.3	0.0	18.0	5.1	0.0	32.5	56.9	0.0	0.0	29.4	0.0
Cycle Q Clear(g_c), s	2.6	10.3	0.0	18.0	5.1	0.0	32.5	56.9	0.0	0.0	29.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	133	197		514	749		539	1671		140	850	
V/C Ratio(X)	0.57	0.83		1.37	0.21		1.30	1.09		0.04	1.04	
Avail Cap(c_a), veh/h	187	281		514	867		539	1671		140	850	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	0.89	0.89	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.7	52.6	0.0	57.0	46.3	0.0	41.9	31.6	0.0	54.6	45.3	0.0
Incr Delay (d2), s/veh	3.9	13.1	0.0	179.4	0.1	0.0	146.5	52.3	0.0	0.1	40.5	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	1.2	5.5	0.0	21.1	2.3	0.0	36.7	35.4	0.0	0.1	17.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.6	65.7	0.0	236.4	46.4	0.0	188.4	83.8	0.0	54.7	85.8	0.0
LnGrp LOS	E	E		F	D		F	F		D	F	
Approach Vol, veh/h		239	A		865	A		2526	A		885	A
Approach Delay, s/veh		64.1			201.7			112.7			85.6	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.0	63.9	24.0	19.1	40.0	36.9	11.1	32.0
Change Period (Y+Rc), s	7.5	7.0	6.0	6.5	7.5	* 7.5	6.5	* 6.5
Max Green Setting (Gmax), s	5.0	52.0	18.0	18.0	32.5	* 25	6.5	* 30
Max Q Clear Time (g_c+I1), s	2.0	58.9	20.0	12.3	34.5	31.4	4.6	7.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	121.9
HCM 6th LOS	F

Notes

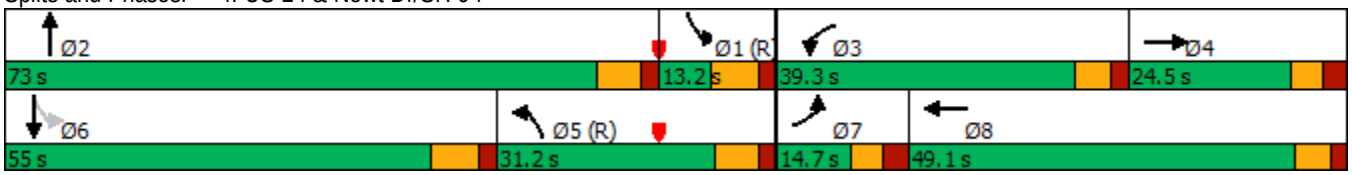
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	50	110	545	735	130	5	535	950	525	5	1635
Future Volume (vph)	50	110	545	735	130	5	535	950	525	5	1635
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			Free			Free			Free	6	
Detector Phase	7	4		3	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)	11.5	24.5		11.0	24.0		12.0	25.0		12.5	25.5
Total Split (s)	14.7	24.5		39.3	49.1		31.2	73.0		13.2	55.0
Total Split (%)	9.8%	16.3%		26.2%	32.7%		20.8%	48.7%		8.8%	36.7%
Yellow Time (s)	3.5	3.5		4.0	4.0		5.0	5.0		5.5	5.5
All-Red Time (s)	3.0	3.0		2.0	2.0		2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	6.5	6.5		6.0	6.0		7.0	7.0		7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None		None	None		C-Max	Max		C-Max	Max
Act Effct Green (s)	7.4	14.6	150.0	33.3	43.0	150.0	24.2	69.4	150.0	56.6	50.9
Actuated g/C Ratio	0.05	0.10	1.00	0.22	0.29	1.00	0.16	0.46	1.00	0.38	0.34
v/c Ratio	0.33	0.68	0.38	1.07	0.14	0.00	1.08	0.45	0.37	0.03	1.07
Control Delay	74.1	84.2	0.7	107.4	40.7	0.0	119.4	28.6	0.7	19.8	90.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.1	84.2	0.7	107.4	40.7	0.0	119.4	28.6	0.7	19.8	90.7
LOS	E	F	A	F	D	A	F	C	A	B	F
Approach Delay		19.0			96.8			45.5			90.5
Approach LOS		B			F			D			F

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 0 (0%), Referenced to phase 1:SBL and 5:NBL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.08	
Intersection Signal Delay: 65.0	Intersection LOS: E
Intersection Capacity Utilization 93.0%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 4: US-24 & Newt Dr/SH-94



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	110	545	735	130	5	535	950	525	5	1635	65
Future Volume (veh/h)	50	110	545	735	130	5	535	950	525	5	1635	65
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	1826	1826	1826	1841	1841	1841	1752	1752	1752	1811	1811	1811
Adj Flow Rate, veh/h	54	120	0	799	141	0	552	979	0	5	1703	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	4	4	4	10	10	10	6	6	6
Cap, veh/h	101	146		755	939		522	2281		241	1748	
Arrive On Green	0.03	0.08	0.00	0.22	0.27	0.00	0.16	0.48	0.00	0.04	0.35	0.00
Sat Flow, veh/h	3374	1826	1547	3401	3497	1560	3237	4782	1485	1725	5107	0
Grp Volume(v), veh/h	54	120	0	799	141	0	552	979	0	5	1703	0
Grp Sat Flow(s),veh/h/ln	1687	1826	1547	1700	1749	1560	1618	1594	1485	1725	1648	0
Q Serve(g_s), s	2.4	9.7	0.0	33.3	4.6	0.0	24.2	20.2	0.0	0.0	50.9	0.0
Cycle Q Clear(g_c), s	2.4	9.7	0.0	33.3	4.6	0.0	24.2	20.2	0.0	0.0	50.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	101	146		755	939		522	2281		241	1748	
V/C Ratio(X)	0.54	0.82		1.06	0.15		1.06	0.43		0.02	0.97	
Avail Cap(c_a), veh/h	184	219		755	1005		522	2281		241	1748	
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)	0.90	0.90	0.00	0.89	0.89	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	71.7	68.0	0.0	58.3	41.8	0.0	62.9	25.8	0.0	41.4	47.8	0.0
Incr Delay (d2), s/veh	4.0	13.0	0.0	47.5	0.1	0.0	55.3	0.6	0.0	0.0	16.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	5.1	0.0	19.3	2.0	0.0	14.0	7.9	0.0	0.1	23.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.7	81.0	0.0	105.8	41.9	0.0	118.2	26.4	0.0	41.4	64.0	0.0
LnGrp LOS	E	F		F	D		F	C		D	E	
Approach Vol, veh/h		174	A		940	A		1531	A		1708	A
Approach Delay, s/veh		79.4			96.2			59.5			63.9	
Approach LOS		E			F			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.7	78.5	39.3	18.5	31.7	60.5	11.0	46.8
Change Period (Y+Rc), s	7.5	7.0	6.0	6.5	7.5	* 7.5	6.5	* 6.5
Max Green Setting (Gmax), s	5.7	66.0	33.3	18.0	24.2	* 48	8.2	* 43
Max Q Clear Time (g_c+I1), s	2.0	22.2	35.3	11.7	26.2	52.9	4.4	6.6
Green Ext Time (p_c), s	0.0	8.9	0.0	0.2	0.0	0.0	0.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	70.0
HCM 6th LOS	E

Notes

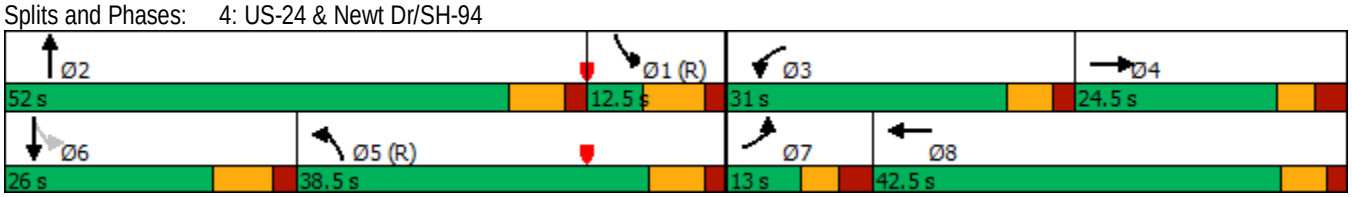
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

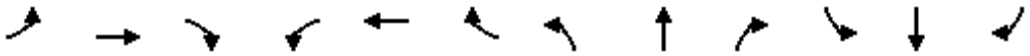
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	70	150	700	650	145	10	670	1755	530	5	810
Future Volume (vph)	70	150	700	650	145	10	670	1755	530	5	810
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			Free			Free			Free	6	
Detector Phase	7	4		3	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)	11.5	24.5		11.0	24.0		12.0	25.0		12.5	25.5
Total Split (s)	13.0	24.5		31.0	42.5		38.5	52.0		12.5	26.0
Total Split (%)	10.8%	20.4%		25.8%	35.4%		32.1%	43.3%		10.4%	21.7%
Yellow Time (s)	3.5	3.5		4.0	4.0		5.0	5.0		5.5	5.5
All-Red Time (s)	3.0	3.0		2.0	2.0		2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	6.5	6.5		6.0	6.0		7.0	7.0		7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None		None	None		C-Max	Max		C-Max	Max
Act Effct Green (s)	6.4	15.0	120.0	25.0	36.1	120.0	31.5	48.0	120.0	26.5	21.5
Actuated g/C Ratio	0.05	0.12	1.00	0.21	0.30	1.00	0.26	0.40	1.00	0.22	0.18
v/c Ratio	0.42	0.70	0.48	1.00	0.15	0.01	0.78	0.91	0.35	0.04	1.09
Control Delay	70.3	59.4	0.8	75.7	28.8	0.0	48.3	42.2	0.6	15.2	95.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.3	59.4	0.8	75.7	28.8	0.0	48.3	42.2	0.6	15.2	95.2
LOS	E	E	A	E	C	A	D	D	A	B	F
Approach Delay		15.6			66.3			36.1			94.8
Approach LOS		B			E			D			F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 110 (92%), Referenced to phase 1:SBL and 5:NBL, Start of Green	
Natural Cycle: 110	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.09	
Intersection Signal Delay: 46.7	Intersection LOS: D
Intersection Capacity Utilization 87.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 4: US-24 & Newt Dr/SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	150	700	650	145	10	670	1755	530	5	810	75
Future Volume (veh/h)	70	150	700	650	145	10	670	1755	530	5	810	75
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	1856	1856	1856	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	76	163	0	707	158	0	698	1828	0	5	880	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	5	5	5
Cap, veh/h	133	197		714	955		777	2287		78	1150	
Arrive On Green	0.04	0.11	0.00	0.07	0.09	0.00	0.23	0.45	0.00	0.01	0.23	0.00
Sat Flow, veh/h	3456	1870	1585	3428	3526	1572	3428	5066	1572	1739	5149	0
Grp Volume(v), veh/h	76	163	0	707	158	0	698	1828	0	5	880	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1714	1763	1572	1714	1689	1572	1739	1662	0
Q Serve(g_s), s	2.6	10.3	0.0	24.7	5.0	0.0	23.7	37.2	0.0	0.0	19.8	0.0
Cycle Q Clear(g_c), s	2.6	10.3	0.0	24.7	5.0	0.0	23.7	37.2	0.0	0.0	19.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	133	197		714	955		777	2287		78	1150	
V/C Ratio(X)	0.57	0.83		0.99	0.17		0.90	0.80		0.06	0.77	
Avail Cap(c_a), veh/h	187	281		714	1072		900	2287		132	1150	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.47	0.47	0.00	0.89	0.89	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.7	52.6	0.0	55.7	42.1	0.0	45.0	28.2	0.0	58.8	43.1	0.0
Incr Delay (d2), s/veh	1.8	6.6	0.0	29.2	0.1	0.0	10.7	3.0	0.0	0.3	4.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	5.2	0.0	14.3	2.2	0.0	11.2	15.3	0.0	0.2	8.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6	59.2	0.0	84.9	42.2	0.0	55.8	31.3	0.0	59.1	48.0	0.0
LnGrp LOS	E	E		F	D		E	C		E	D	
Approach Vol, veh/h		239	A		865	A		2526	A		885	A
Approach Delay, s/veh		59.0			77.1			38.0			48.1	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	61.2	31.0	19.1	34.7	35.2	11.1	39.0
Change Period (Y+Rc), s	7.5	7.0	6.0	6.5	7.5	* 7.5	6.5	* 6.5
Max Green Setting (Gmax), s	5.0	45.0	25.0	18.0	31.5	* 19	6.5	* 37
Max Q Clear Time (g_c+I1), s	2.0	39.2	26.7	12.3	25.7	21.8	4.6	7.0
Green Ext Time (p_c), s	0.0	4.9	0.0	0.4	1.5	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	48.6
HCM 6th LOS	D

Notes

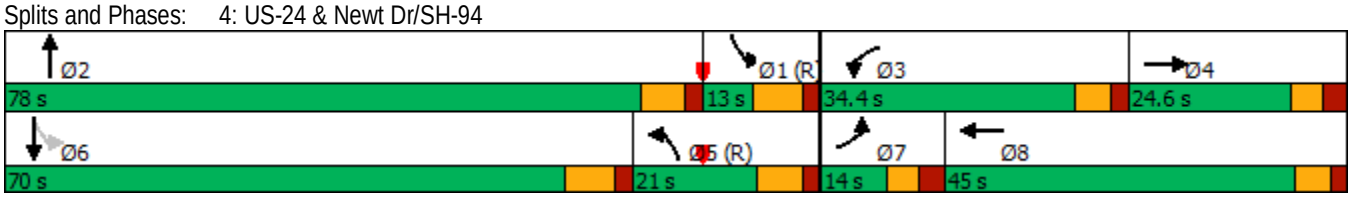
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

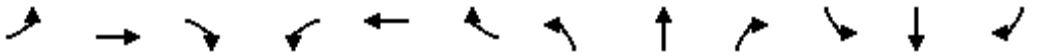
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	20	35	235	495	50	5	170	895	425	10	1945
Future Volume (vph)	20	35	235	495	50	5	170	895	425	10	1945
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			Free			Free			Free	6	
Detector Phase	7	4		3	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)	11.5	24.5		11.0	24.0		12.0	25.0		12.5	25.5
Total Split (s)	14.0	24.6		34.4	45.0		21.0	78.0		13.0	70.0
Total Split (%)	9.3%	16.4%		22.9%	30.0%		14.0%	52.0%		8.7%	46.7%
Yellow Time (s)	3.5	3.5		4.0	4.0		5.0	5.0		5.5	5.5
All-Red Time (s)	3.0	3.0		2.0	2.0		2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	6.5	6.5		6.0	6.0		7.0	7.0		7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None		None	None		C-Max	Max		C-Max	Max
Act Effct Green (s)	6.4	8.5	150.0	27.1	31.6	150.0	14.0	84.3	150.0	81.3	75.8
Actuated g/C Ratio	0.04	0.06	1.00	0.18	0.21	1.00	0.09	0.56	1.00	0.54	0.51
v/c Ratio	0.15	0.37	0.17	0.89	0.07	0.00	0.59	0.35	0.30	0.03	0.84
Control Delay	71.2	77.4	0.2	77.1	47.1	0.0	74.0	19.3	0.5	13.1	37.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	71.2	77.4	0.2	77.1	47.1	0.0	74.0	19.3	0.5	13.1	37.0
LOS	E	E	A	E	D	A	E	B	A	B	D
Approach Delay		14.5			73.7			20.2			36.9
Approach LOS		B			E			C			D

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 0 (0%), Referenced to phase 1:SBL and 5:NBL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 34.5	Intersection LOS: C
Intersection Capacity Utilization 81.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: US-24 & Newt Dr/SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	35	235	495	50	5	170	895	425	10	1945	45
Future Volume (veh/h)	20	35	235	495	50	5	170	895	425	10	1945	45
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	1826	1826	1826	1841	1841	1841	1752	1752	1752	1811	1811	1811
Adj Flow Rate, veh/h	22	38	0	538	54	0	175	923	0	10	2026	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	4	4	4	10	10	10	6	6	6
Cap, veh/h	67	62		589	644		220	2860		334	2677	
Arrive On Green	0.02	0.03	0.00	0.17	0.18	0.00	0.07	0.60	0.00	0.01	0.54	0.00
Sat Flow, veh/h	3374	1826	1547	3401	3497	1560	3237	4782	1485	1725	5107	0
Grp Volume(v), veh/h	22	38	0	538	54	0	175	923	0	10	2026	0
Grp Sat Flow(s),veh/h/ln	1687	1826	1547	1700	1749	1560	1618	1594	1485	1725	1648	0
Q Serve(g_s), s	1.0	3.1	0.0	23.3	1.9	0.0	8.0	14.4	0.0	0.0	47.8	0.0
Cycle Q Clear(g_c), s	1.0	3.1	0.0	23.3	1.9	0.0	8.0	14.4	0.0	0.0	47.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	67	62		589	644		220	2860		334	2677	
V/C Ratio(X)	0.33	0.61		0.91	0.08		0.80	0.32		0.03	0.76	
Avail Cap(c_a), veh/h	169	220		644	909		302	2860		372	2677	
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)	0.98	0.98	0.00	0.65	0.65	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	72.5	71.5	0.0	60.9	50.7	0.0	68.9	15.0	0.0	22.3	26.7	0.0
Incr Delay (d2), s/veh	2.7	9.1	0.0	11.9	0.0	0.0	9.9	0.3	0.0	0.0	2.1	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	1.6	0.0	11.1	0.9	0.0	3.6	5.4	0.0	0.2	19.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.2	80.6	0.0	72.8	50.8	0.0	78.8	15.3	0.0	22.3	28.8	0.0
LnGrp LOS	E	F		E	D		E	B		C	C	
Approach Vol, veh/h		60	A		592	A		1098	A		2036	A
Approach Delay, s/veh		78.6			70.7			25.4			28.7	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.7	96.7	32.0	11.6	17.7	88.7	9.5	34.1
Change Period (Y+Rc), s	7.5	7.0	6.0	6.5	7.5	* 7.5	6.5	* 6.5
Max Green Setting (Gmax), s	5.5	71.0	28.4	18.1	14.0	* 63	7.5	* 39
Max Q Clear Time (g_c+I1), s	2.0	16.4	25.3	5.1	10.0	49.8	3.0	3.9
Green Ext Time (p_c), s	0.0	8.4	0.7	0.1	0.2	10.4	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	35.1
HCM 6th LOS	D

Notes

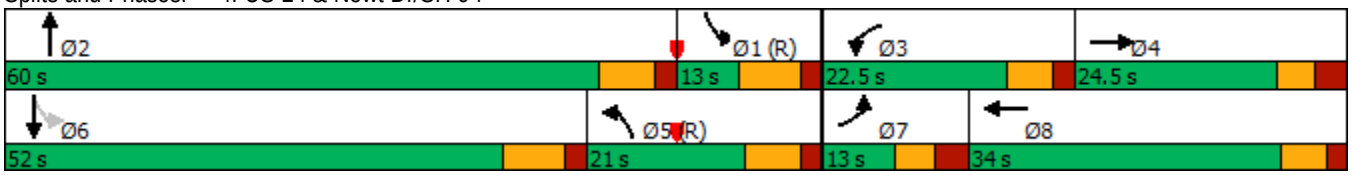
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

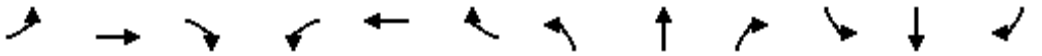
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	30	45	255	360	30	10	180	1735	330	5	960
Future Volume (vph)	30	45	255	360	30	10	180	1735	330	5	960
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			Free			Free			Free	6	
Detector Phase	7	4		3	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)	11.5	24.5		11.0	24.0		12.0	25.0		12.5	25.5
Total Split (s)	13.0	24.5		22.5	34.0		21.0	60.0		13.0	52.0
Total Split (%)	10.8%	20.4%		18.8%	28.3%		17.5%	50.0%		10.8%	43.3%
Yellow Time (s)	3.5	3.5		4.0	4.0		5.0	5.0		5.5	5.5
All-Red Time (s)	3.0	3.0		2.0	2.0		2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	6.5	6.5		6.0	6.0		7.0	7.0		7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None		None	None		C-Max	Max		C-Max	Max
Act Effct Green (s)	6.2	8.5	120.0	16.1	21.0	120.0	14.0	65.2	120.0	62.2	56.7
Actuated g/C Ratio	0.05	0.07	1.00	0.13	0.18	1.00	0.12	0.54	1.00	0.52	0.47
v/c Ratio	0.19	0.37	0.17	0.86	0.05	0.01	0.47	0.66	0.22	0.04	0.47
Control Delay	51.4	58.0	0.2	45.0	25.1	0.0	53.9	22.0	0.3	7.8	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	51.4	58.0	0.2	45.0	25.1	0.0	53.9	22.0	0.3	7.8	19.8
LOS	D	E	A	D	C	A	D	C	A	A	B
Approach Delay		12.8			42.4			21.4			19.8
Approach LOS		B			D			C			B

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 110 (92%), Referenced to phase 1:SBL and 5:NBL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.86	
Intersection Signal Delay: 22.4	Intersection LOS: C
Intersection Capacity Utilization 71.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: US-24 & Newt Dr/SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	45	255	360	30	10	180	1735	330	5	960	40
Future Volume (veh/h)	30	45	255	360	30	10	180	1735	330	5	960	40
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	1856	1856	1856	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	33	49	0	391	33	0	188	1807	0	5	1043	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	5	5	5
Cap, veh/h	96	79		446	496		250	3019		148	2618	
Arrive On Green	0.03	0.04	0.00	0.13	0.14	0.00	0.07	0.60	0.00	0.01	0.53	0.00
Sat Flow, veh/h	3456	1870	1585	3428	3526	1572	3428	5066	1572	1739	5149	0
Grp Volume(v), veh/h	33	49	0	391	33	0	188	1807	0	5	1043	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1714	1763	1572	1714	1689	1572	1739	1662	0
Q Serve(g_s), s	1.1	3.1	0.0	13.4	1.0	0.0	6.5	26.9	0.0	0.0	15.1	0.0
Cycle Q Clear(g_c), s	1.1	3.1	0.0	13.4	1.0	0.0	6.5	26.9	0.0	0.0	15.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	96	79		446	496		250	3019		148	2618	
V/C Ratio(X)	0.34	0.62		0.88	0.07		0.75	0.60		0.03	0.40	
Avail Cap(c_a), veh/h	187	281		471	823		400	3019		216	2618	
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)	0.97	0.97	0.00	0.66	0.66	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.3	56.5	0.0	51.2	44.7	0.0	54.5	15.2	0.0	29.3	17.1	0.0
Incr Delay (d2), s/veh	2.0	7.3	0.0	11.5	0.0	0.0	4.5	0.9	0.0	0.1	0.5	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	1.6	0.0	6.5	0.4	0.0	2.9	10.2	0.0	0.1	5.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	63.8	0.0	62.7	44.8	0.0	59.0	16.1	0.0	29.4	17.6	0.0
LnGrp LOS	E	E		E	D		E	B		C	B	
Approach Vol, veh/h		82	A		424	A		1995	A		1048	A
Approach Delay, s/veh		62.0			61.3			20.2			17.6	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.3	78.5	21.6	11.6	16.3	70.5	9.8	23.4
Change Period (Y+Rc), s	7.5	7.0	6.0	6.5	7.5	* 7.5	6.5	* 6.5
Max Green Setting (Gmax), s	5.5	53.0	16.5	18.0	14.0	* 45	6.5	* 28
Max Q Clear Time (g_c+I1), s	2.0	28.9	15.4	5.1	8.5	17.1	3.1	3.0
Green Ext Time (p_c), s	0.0	15.4	0.2	0.1	0.3	8.6	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	25.3
HCM 6th LOS	C

Notes

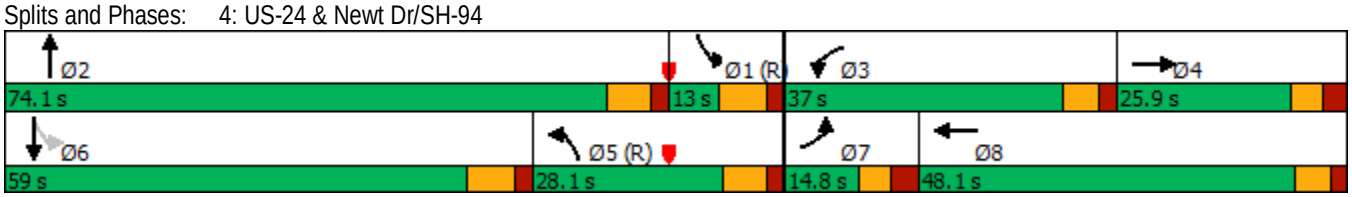
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

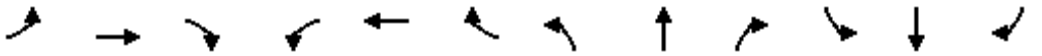
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	50	115	580	815	140	5	560	1090	590	10	1945
Future Volume (vph)	50	115	580	815	140	5	560	1090	590	10	1945
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			Free			Free			Free	6	
Detector Phase	7	4		3	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)	11.5	24.5		11.0	24.0		12.0	25.0		12.5	25.5
Total Split (s)	14.8	25.9		37.0	48.1		28.1	74.1		13.0	59.0
Total Split (%)	9.9%	17.3%		24.7%	32.1%		18.7%	49.4%		8.7%	39.3%
Yellow Time (s)	3.5	3.5		4.0	4.0		5.0	5.0		5.5	5.5
All-Red Time (s)	3.0	3.0		2.0	2.0		2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	6.5	6.5		6.0	6.0		7.0	7.0		7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None		None	None		C-Max	Max		C-Max	Max
Act Effct Green (s)	7.4	15.2	150.0	31.0	41.3	150.0	21.1	71.3	150.0	61.2	55.7
Actuated g/C Ratio	0.05	0.10	1.00	0.21	0.28	1.00	0.14	0.48	1.00	0.41	0.37
v/c Ratio	0.33	0.68	0.41	1.27	0.16	0.00	1.29	0.50	0.41	0.06	1.16
Control Delay	74.0	83.0	0.8	181.4	42.1	0.0	195.9	28.5	0.9	19.6	122.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.0	83.0	0.8	181.4	42.1	0.0	195.9	28.5	0.9	19.6	122.2
LOS	E	F	A	F	D	A	F	C	A	B	F
Approach Delay		18.4			160.3			63.1			121.8
Approach LOS		B			F			E			F

Intersection Summary	
Cycle Length: 150	
Actuated Cycle Length: 150	
Offset: 0 (0%), Referenced to phase 1:SBL and 5:NBL, Start of Green	
Natural Cycle: 150	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.29	
Intersection Signal Delay: 93.2	Intersection LOS: F
Intersection Capacity Utilization 102.2%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 4: US-24 & Newt Dr/SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	115	580	815	140	5	560	1090	590	10	1945	75
Future Volume (veh/h)	50	115	580	815	140	5	560	1090	590	10	1945	75
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	1826	1826	1826	1841	1841	1841	1752	1752	1752	1811	1811	1811
Adj Flow Rate, veh/h	54	125	0	886	152	0	577	1124	0	10	2026	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97	0.96	0.96	0.96
Percent Heavy Veh, %	5	5	5	4	4	4	10	10	10	6	6	6
Cap, veh/h	101	151		703	896		455	2346		229	1912	
Arrive On Green	0.03	0.08	0.00	0.21	0.26	0.00	0.14	0.49	0.00	0.04	0.39	0.00
Sat Flow, veh/h	3374	1826	1547	3401	3497	1560	3237	4782	1485	1725	5107	0
Grp Volume(v), veh/h	54	125	0	886	152	0	577	1124	0	10	2026	0
Grp Sat Flow(s),veh/h/ln	1687	1826	1547	1700	1749	1560	1618	1594	1485	1725	1648	0
Q Serve(g_s), s	2.4	10.1	0.0	31.0	5.1	0.0	21.1	23.5	0.0	0.0	58.0	0.0
Cycle Q Clear(g_c), s	2.4	10.1	0.0	31.0	5.1	0.0	21.1	23.5	0.0	0.0	58.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	101	151		703	896		455	2346		229	1912	
V/C Ratio(X)	0.54	0.83		1.26	0.17		1.27	0.48		0.04	1.06	
Avail Cap(c_a), veh/h	187	236		703	982		455	2346		229	1912	
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)	0.87	0.87	0.00	0.78	0.78	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	71.7	67.7	0.0	59.5	43.4	0.0	64.4	25.4	0.0	40.8	46.0	0.0
Incr Delay (d2), s/veh	3.8	11.4	0.0	126.2	0.1	0.0	136.8	0.7	0.0	0.1	38.6	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	1.1	5.2	0.0	25.7	2.2	0.0	17.4	9.1	0.0	0.3	30.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.6	79.1	0.0	185.7	43.4	0.0	201.2	26.1	0.0	40.9	84.6	0.0
LnGrp LOS	E	E		F	D		F	C		D	F	
Approach Vol, veh/h		179	A		1038	A		1701	A		2036	A
Approach Delay, s/veh		78.0			164.9			85.5			84.4	
Approach LOS		E			F			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.5	80.6	37.0	18.9	28.6	65.5	11.0	44.9
Change Period (Y+Rc), s	7.5	7.0	6.0	6.5	7.5	* 7.5	6.5	* 6.5
Max Green Setting (Gmax), s	5.5	67.1	31.0	19.4	21.1	* 52	8.3	* 42
Max Q Clear Time (g_c+I1), s	2.0	25.5	33.0	12.1	23.1	60.0	4.4	7.1
Green Ext Time (p_c), s	0.0	10.6	0.0	0.3	0.0	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	101.4
HCM 6th LOS	F

Notes

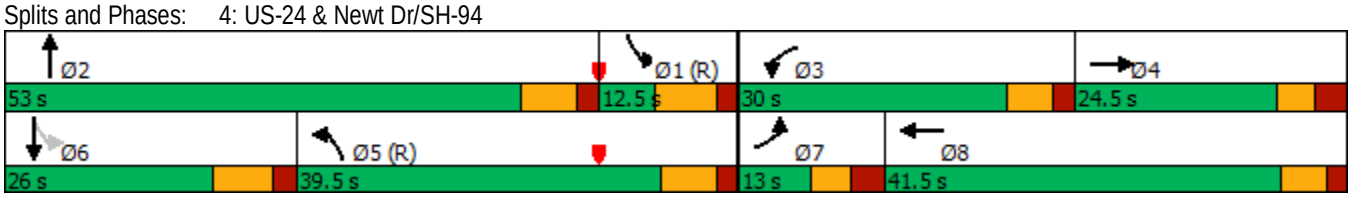
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

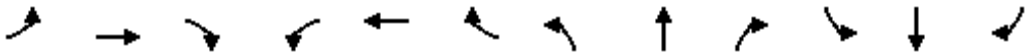
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations											
Traffic Volume (vph)	70	160	740	705	150	10	695	2030	580	5	960
Future Volume (vph)	70	160	740	705	150	10	695	2030	580	5	960
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	pm+pt	NA
Protected Phases	7	4		3	8		5	2		1	6
Permitted Phases			Free			Free			Free	6	
Detector Phase	7	4		3	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)	11.5	24.5		11.0	24.0		12.0	25.0		12.5	25.5
Total Split (s)	13.0	24.5		30.0	41.5		39.5	53.0		12.5	26.0
Total Split (%)	10.8%	20.4%		25.0%	34.6%		32.9%	44.2%		10.4%	21.7%
Yellow Time (s)	3.5	3.5		4.0	4.0		5.0	5.0		5.5	5.5
All-Red Time (s)	3.0	3.0		2.0	2.0		2.0	2.0		2.0	2.0
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Lost Time (s)	6.5	6.5		6.0	6.0		7.0	7.0		7.5	7.5
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lead		Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes
Recall Mode	None	None		None	None		C-Max	Max		C-Max	Max
Act Effct Green (s)	6.4	15.4	120.0	24.0	35.5	120.0	32.5	48.6	120.0	26.1	21.1
Actuated g/C Ratio	0.05	0.13	1.00	0.20	0.30	1.00	0.27	0.40	1.00	0.22	0.18
v/c Ratio	0.42	0.73	0.51	1.13	0.16	0.01	0.79	1.04	0.39	0.04	1.31
Control Delay	68.8	61.4	0.8	102.9	19.6	0.0	47.7	65.8	0.7	13.4	176.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.8	61.4	0.8	102.9	19.6	0.0	47.7	65.8	0.7	13.4	176.2
LOS	E	E	A	F	B	A	D	E	A	B	F
Approach Delay		15.7			87.3			50.6			175.5
Approach LOS		B			F			D			F

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 110 (92%), Referenced to phase 1:SBL and 5:NBL, Start of Green	
Natural Cycle: 130	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.31	
Intersection Signal Delay: 71.8	Intersection LOS: E
Intersection Capacity Utilization 94.4%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 4: US-24 & Newt Dr/SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	160	740	705	150	10	695	2030	580	5	960	80
Future Volume (veh/h)	70	160	740	705	150	10	695	2030	580	5	960	80
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	1856	1856	1856	1856	1856	1856	1826	1826	1826
Adj Flow Rate, veh/h	76	174	0	766	163	0	724	2115	0	5	1043	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.96	0.96	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	3	3	3	3	3	3	5	5	5
Cap, veh/h	133	207		686	946		805	2302		77	1123	
Arrive On Green	0.04	0.11	0.00	0.07	0.09	0.00	0.23	0.45	0.00	0.01	0.23	0.00
Sat Flow, veh/h	3456	1870	1585	3428	3526	1572	3428	5066	1572	1739	5149	0
Grp Volume(v), veh/h	76	174	0	766	163	0	724	2115	0	5	1043	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1714	1763	1572	1714	1689	1572	1739	1662	0
Q Serve(g_s), s	2.6	10.9	0.0	24.0	5.1	0.0	24.6	46.9	0.0	0.0	24.6	0.0
Cycle Q Clear(g_c), s	2.6	10.9	0.0	24.0	5.1	0.0	24.6	46.9	0.0	0.0	24.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	133	207		686	946		805	2302		77	1123	
V/C Ratio(X)	0.57	0.84		1.12	0.17		0.90	0.92		0.07	0.93	
Avail Cap(c_a), veh/h	187	281		686	1043		929	2302		132	1123	
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.30	0.30	0.00	0.53	0.53	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.7	52.3	0.0	56.0	42.4	0.0	44.6	30.7	0.0	58.8	45.5	0.0
Incr Delay (d2), s/veh	1.2	5.1	0.0	63.7	0.0	0.0	10.6	7.3	0.0	0.4	14.4	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	1.2	5.4	0.0	17.1	2.3	0.0	11.6	20.1	0.0	0.2	11.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	57.5	0.0	119.7	42.4	0.0	55.2	38.0	0.0	59.2	59.9	0.0
LnGrp LOS	E	E		F	D		E	D		E	E	
Approach Vol, veh/h		250	A		929	A		2839	A		1048	A
Approach Delay, s/veh		57.6			106.2			42.4			59.9	
Approach LOS		E			F			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	61.5	30.0	19.8	35.7	34.5	11.1	38.7
Change Period (Y+Rc), s	7.5	7.0	6.0	6.5	7.5	* 7.5	6.5	* 6.5
Max Green Setting (Gmax), s	5.0	46.0	24.0	18.0	32.5	* 19	6.5	* 36
Max Q Clear Time (g_c+I1), s	2.0	48.9	26.0	12.9	26.6	26.6	4.6	7.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	1.6	0.0	0.0	1.0

Intersection Summary	
HCM 6th Ctrl Delay	58.5
HCM 6th LOS	E

Notes

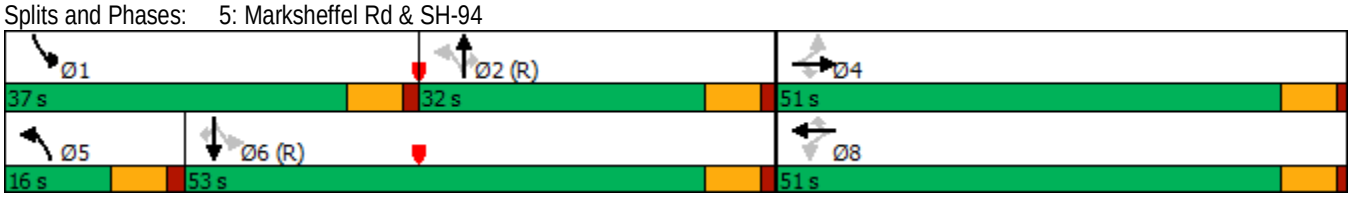
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

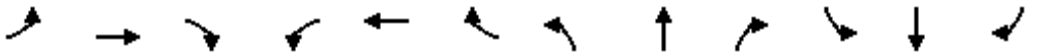
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	254	54	28	297	77	54	270	18	256	501	3
Future Volume (vph)	254	54	28	297	77	54	270	18	256	501	3
Turn Type	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4			8		5	2		1	6	
Permitted Phases		4	8		8	2		2	6		6
Detector Phase	4	4	8	8	8	5	2	2	1	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	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
Total Split (s)	51.0	51.0	51.0	51.0	51.0	16.0	32.0	32.0	37.0	53.0	53.0
Total Split (%)	42.5%	42.5%	42.5%	42.5%	42.5%	13.3%	26.7%	26.7%	30.8%	44.2%	44.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	29.0	29.0	29.0	29.0	29.0	64.9	57.6	57.6	78.2	67.1	67.1
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24	0.54	0.48	0.48	0.65	0.56	0.56
v/c Ratio	0.74	0.14	0.24	0.79	0.19	0.14	0.20	0.03	0.42	0.29	0.00
Control Delay	48.6	0.6	38.3	55.3	1.2	10.9	20.7	0.1	6.8	6.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	48.6	0.6	38.3	55.3	1.2	10.9	20.7	0.1	6.8	6.2	0.0
LOS	D	A	D	E	A	B	C	A	A	A	A
Approach Delay	40.2			43.7			18.1			6.4	
Approach LOS	D			D			B			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 28 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 22.8	Intersection LOS: C
Intersection Capacity Utilization 60.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Marksheffel Rd & SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	254	54	28	297	77	54	270	18	256	501	3
Future Volume (veh/h)	0	254	54	28	297	77	54	270	18	256	501	3
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	1781	1781	1781	1811	1811	1811	1826	1826	1826	1856	1856	1856
Adj Flow Rate, veh/h	0	314	67	32	341	89	66	329	22	294	576	3
Peak Hour Factor	0.81	0.81	0.81	0.87	0.87	0.87	0.82	0.82	0.82	0.87	0.87	0.87
Percent Heavy Veh, %	8	8	8	6	6	6	5	5	5	3	3	3
Cap, veh/h	60	394	334	127	400	339	534	1820	812	715	2057	918
Arrive On Green	0.00	0.44	0.44	0.22	0.22	0.22	0.04	0.52	0.52	0.10	0.58	0.58
Sat Flow, veh/h	912	1781	1510	970	1811	1535	1739	3469	1547	1767	3526	1572
Grp Volume(v), veh/h	0	314	67	32	341	89	66	329	22	294	576	3
Grp Sat Flow(s),veh/h/ln	912	1781	1510	970	1811	1535	1739	1735	1547	1767	1763	1572
Q Serve(g_s), s	0.0	18.2	3.3	3.8	21.7	5.8	2.1	6.0	0.8	8.7	9.8	0.1
Cycle Q Clear(g_c), s	0.0	18.2	3.3	22.0	21.7	5.8	2.1	6.0	0.8	8.7	9.8	0.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	394	334	127	400	339	534	1820	812	715	2057	918
V/C Ratio(X)	0.00	0.80	0.20	0.25	0.85	0.26	0.12	0.18	0.03	0.41	0.28	0.00
Avail Cap(c_a), veh/h	200	668	566	276	679	576	607	1820	812	994	2057	918
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	31.2	27.0	53.8	44.9	38.6	12.0	15.0	13.8	9.8	12.4	10.4
Incr Delay (d2), s/veh	0.0	3.7	0.3	1.0	5.3	0.4	0.1	0.2	0.1	0.4	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	6.6	1.2	1.0	10.3	2.2	0.8	2.4	0.3	3.3	3.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	34.8	27.3	54.8	50.1	39.1	12.1	15.2	13.8	10.2	12.8	10.4
LnGrp LOS	A	C	C	D	D	D	B	B	B	B	B	B
Approach Vol, veh/h		381			462			417			873	
Approach Delay, s/veh		33.5			48.3			14.6			11.9	
Approach LOS		C			D			B			B	

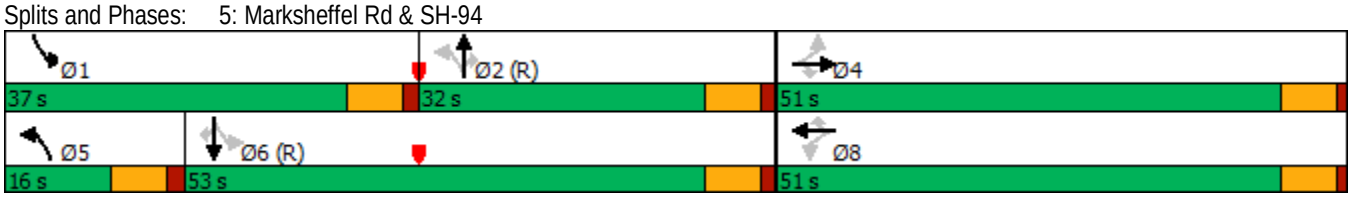
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	69.5		32.5	10.9	76.5		32.5				
Change Period (Y+Rc), s	6.5	6.5		6.0	6.5	6.5		6.0				
Max Green Setting (Gmax), s	30.5	25.5		45.0	9.5	46.5		45.0				
Max Q Clear Time (g_c+I1), s	10.7	8.0		20.2	4.1	11.8		24.0				
Green Ext Time (p_c), s	0.8	2.0		2.1	0.0	4.4		2.5				

Intersection Summary												
HCM 6th Ctrl Delay			24.2									
HCM 6th LOS			C									

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	294	94	39	356	343	76	819	23	158	573	7
Future Volume (vph)	294	94	39	356	343	76	819	23	158	573	7
Turn Type	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4			8		5	2		1	6	
Permitted Phases		4	8		8	2		2	6		6
Detector Phase	4	4	8	8	8	5	2	2	1	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	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
Total Split (s)	51.0	51.0	51.0	51.0	51.0	16.0	32.0	32.0	37.0	53.0	53.0
Total Split (%)	42.5%	42.5%	42.5%	42.5%	42.5%	13.3%	26.7%	26.7%	30.8%	44.2%	44.2%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	35.1	35.1	35.1	35.1	35.1	61.9	53.8	53.8	69.6	57.9	57.9
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29	0.52	0.45	0.45	0.58	0.48	0.48
v/c Ratio	0.71	0.21	0.28	0.78	0.54	0.22	0.65	0.04	0.57	0.39	0.01
Control Delay	41.8	1.9	34.8	49.1	5.6	13.9	30.6	0.1	16.0	15.5	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.8	1.9	34.8	49.1	5.6	13.9	30.6	0.1	16.0	15.5	0.3
LOS	D	A	C	D	A	B	C	A	B	B	A
Approach Delay	32.1			28.1			28.4			15.5	
Approach LOS	C			C			C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 28 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.78	
Intersection Signal Delay: 25.6	Intersection LOS: C
Intersection Capacity Utilization 75.1%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Marksheffel Rd & SH-94



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	294	94	39	356	343	76	819	23	158	573	7
Future Volume (veh/h)	0	294	94	39	356	343	76	819	23	158	573	7
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	1781	1781	1781	1811	1811	1811	1826	1826	1826	1856	1856	1856
Adj Flow Rate, veh/h	0	363	116	45	409	394	93	999	28	182	659	8
Peak Hour Factor	0.81	0.81	0.81	0.87	0.87	0.87	0.82	0.82	0.82	0.87	0.87	0.87
Percent Heavy Veh, %	8	8	8	6	6	6	5	5	5	3	3	3
Cap, veh/h	60	520	441	192	529	448	429	1656	738	333	1788	797
Arrive On Green	0.00	0.58	0.58	0.29	0.29	0.29	0.04	0.48	0.48	0.07	0.51	0.51
Sat Flow, veh/h	646	1781	1510	887	1811	1535	1739	3469	1547	1767	3526	1572
Grp Volume(v), veh/h	0	363	116	45	409	394	93	999	28	182	659	8
Grp Sat Flow(s),veh/h/ln	646	1781	1510	887	1811	1535	1739	1735	1547	1767	1763	1572
Q Serve(g_s), s	0.0	17.2	4.5	5.5	24.8	29.3	3.3	25.4	1.2	6.2	13.6	0.3
Cycle Q Clear(g_c), s	0.0	17.2	4.5	22.6	24.8	29.3	3.3	25.4	1.2	6.2	13.6	0.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	520	441	192	529	448	429	1656	738	333	1788	797
V/C Ratio(X)	0.00	0.70	0.26	0.23	0.77	0.88	0.22	0.60	0.04	0.55	0.37	0.01
Avail Cap(c_a), veh/h	113	668	566	266	679	576	493	1656	738	654	1788	797
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	21.2	18.6	45.8	38.8	40.4	15.1	23.0	16.7	17.6	17.9	14.6
Incr Delay (d2), s/veh	0.0	2.2	0.3	0.6	4.2	12.0	0.3	1.6	0.1	1.4	0.6	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	0.0	5.3	1.5	1.2	11.6	12.5	1.3	10.6	0.4	2.6	5.6	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.4	18.9	46.4	43.0	52.5	15.4	24.7	16.8	19.0	18.5	14.7
LnGrp LOS	A	C	B	D	D	D	B	C	B	B	B	B
Approach Vol, veh/h		479			848			1120			849	
Approach Delay, s/veh		22.3			47.6			23.7			18.6	
Approach LOS		C			D			C			B	

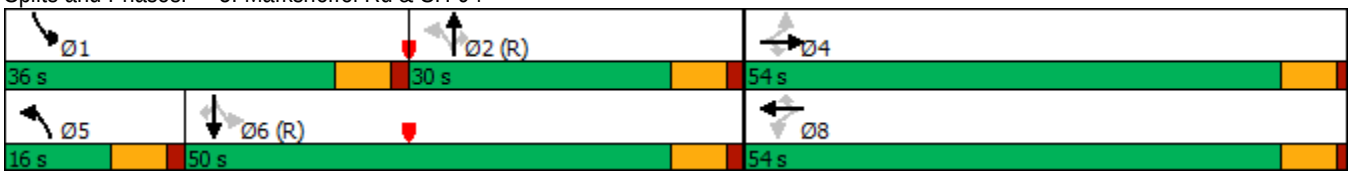
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.2	63.8		41.1	11.6	67.4		41.1				
Change Period (Y+Rc), s	6.5	6.5		6.0	6.5	6.5		6.0				
Max Green Setting (Gmax), s	30.5	25.5		45.0	9.5	46.5		45.0				
Max Q Clear Time (g_c+I1), s	8.2	27.4		19.2	5.3	15.6		31.3				
Green Ext Time (p_c), s	0.5	0.0		2.7	0.1	5.1		3.7				

Intersection Summary			
HCM 6th Ctrl Delay		28.3	
HCM 6th LOS		C	

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	275	60	30	315	85	60	290	20	275	535	5
Future Volume (vph)	275	60	30	315	85	60	290	20	275	535	5
Turn Type	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4			8		5	2		1	6	
Permitted Phases		4	8		8	2		2	6		6
Detector Phase	4	4	8	8	8	5	2	2	1	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	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
Total Split (s)	54.0	54.0	54.0	54.0	54.0	16.0	30.0	30.0	36.0	50.0	50.0
Total Split (%)	45.0%	45.0%	45.0%	45.0%	45.0%	13.3%	25.0%	25.0%	30.0%	41.7%	41.7%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	30.8	30.8	30.8	30.8	30.8	62.2	54.6	54.6	76.6	65.1	65.1
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26	0.52	0.46	0.46	0.64	0.54	0.54
v/c Ratio	0.75	0.15	0.26	0.79	0.20	0.16	0.23	0.03	0.47	0.32	0.01
Control Delay	47.5	0.6	37.7	53.5	1.8	12.1	23.0	0.1	7.9	7.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	47.5	0.6	37.7	53.5	1.8	12.1	23.0	0.1	7.9	7.3	0.0
LOS	D	A	D	D	A	B	C	A	A	A	A
Approach Delay	39.2			42.2			20.0			7.4	
Approach LOS	D			D			C			A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 28 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 23.1	Intersection LOS: C
Intersection Capacity Utilization 64.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Marksheffel Rd & SH-94



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	275	60	30	315	85	60	290	20	275	535	5
Future Volume (veh/h)	0	275	60	30	315	85	60	290	20	275	535	5
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	1781	1781	1781	1811	1811	1811	1826	1826	1826	1856	1856	1856
Adj Flow Rate, veh/h	0	340	74	34	362	98	73	354	24	316	615	6
Peak Hour Factor	0.81	0.81	0.81	0.87	0.87	0.87	0.82	0.82	0.82	0.87	0.87	0.87
Percent Heavy Veh, %	8	8	8	6	6	6	5	5	5	3	3	3
Cap, veh/h	60	422	357	130	429	363	499	1730	772	688	1999	892
Arrive On Green	0.00	0.47	0.47	0.24	0.24	0.24	0.04	0.50	0.50	0.11	0.57	0.57
Sat Flow, veh/h	888	1781	1510	941	1811	1535	1739	3469	1547	1767	3526	1572
Grp Volume(v), veh/h	0	340	74	34	362	98	73	354	24	316	615	6
Grp Sat Flow(s),veh/h/ln	888	1781	1510	941	1811	1535	1739	1735	1547	1767	1763	1572
Q Serve(g_s), s	0.0	19.5	3.4	4.2	22.9	6.2	2.4	6.8	0.9	9.9	11.0	0.2
Cycle Q Clear(g_c), s	0.0	19.5	3.4	23.7	22.9	6.2	2.4	6.8	0.9	9.9	11.0	0.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	422	357	130	429	363	499	1730	772	688	1999	892
V/C Ratio(X)	0.00	0.81	0.21	0.26	0.84	0.27	0.15	0.20	0.03	0.46	0.31	0.01
Avail Cap(c_a), veh/h	205	713	604	284	724	614	570	1730	772	935	1999	892
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	29.3	25.0	53.4	43.7	37.3	13.5	16.8	15.3	10.9	13.6	11.3
Incr Delay (d2), s/veh	0.0	3.6	0.3	1.1	4.6	0.4	0.1	0.3	0.1	0.5	0.4	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	0.0	6.9	1.2	1.0	10.7	2.4	1.0	2.8	0.4	3.8	4.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	32.9	25.3	54.4	48.3	37.7	13.6	17.1	15.4	11.4	14.0	11.3
LnGrp LOS	A	C	C	D	D	D	B	B	B	B	B	B
Approach Vol, veh/h		414			494			451			937	
Approach Delay, s/veh		31.5			46.6			16.4			13.1	
Approach LOS		C			D			B			B	

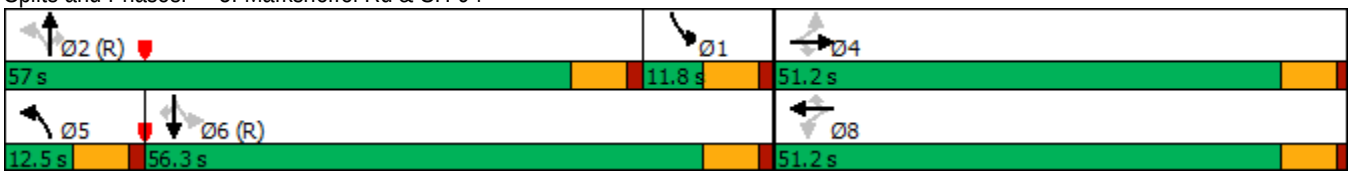
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.3	66.3		34.4	11.1	74.5		34.4				
Change Period (Y+Rc), s	6.5	6.5		6.0	6.5	6.5		6.0				
Max Green Setting (Gmax), s	29.5	23.5		48.0	9.5	43.5		48.0				
Max Q Clear Time (g_c+I1), s	11.9	8.8		21.5	4.4	13.0		25.7				
Green Ext Time (p_c), s	0.9	2.0		2.4	0.1	4.7		2.7				

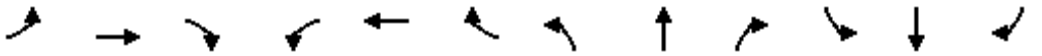
Intersection Summary												
HCM 6th Ctrl Delay			24.3									
HCM 6th LOS			C									

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	315	105	45	380	365	85	870	25	170	610	10
Future Volume (vph)	315	105	45	380	365	85	870	25	170	610	10
Turn Type	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	4			8		5	2		1	6	
Permitted Phases		4	8		8	2		2	6		6
Detector Phase	4	4	8	8	8	5	2	2	1	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	5.0	5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
Total Split (s)	51.2	51.2	51.2	51.2	51.2	12.5	57.0	57.0	11.8	56.3	56.3
Total Split (%)	42.7%	42.7%	42.7%	42.7%	42.7%	10.4%	47.5%	47.5%	9.8%	46.9%	46.9%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag						Lead	Lead	Lead	Lag	Lag	Lag
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	37.0	37.0	37.0	37.0	37.0	58.7	58.7	58.7	56.4	56.4	56.4
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31	0.49	0.49	0.49	0.47	0.47	0.47
v/c Ratio	0.70	0.23	0.34	0.79	0.73	0.27	0.55	0.03	0.59	0.39	0.01
Control Delay	46.2	6.3	36.3	48.2	29.1	20.7	24.1	0.1	28.1	12.9	0.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	46.2	6.3	36.3	48.2	29.1	20.7	24.1	0.1	28.1	12.9	0.2
LOS	D	A	D	D	C	C	C	A	C	B	A
Approach Delay	36.2			38.7			23.2			16.0	
Approach LOS	D			D			C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 77 (64%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.79	
Intersection Signal Delay: 27.9	Intersection LOS: C
Intersection Capacity Utilization 78.5%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Marksheffel Rd & SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	315	105	45	380	365	85	870	25	170	610	10
Future Volume (veh/h)	0	315	105	45	380	365	85	870	25	170	610	10
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	1856	1856	1856	1856	1856	1856	1870	1870	1870	1841	1841	1841
Adj Flow Rate, veh/h	0	399	133	54	452	435	92	946	27	175	629	10
Peak Hour Factor	0.79	0.79	0.79	0.84	0.84	0.84	0.92	0.92	0.92	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	4	4	4
Cap, veh/h	60	579	491	167	579	491	307	1496	667	361	1685	751
Arrive On Green	0.00	0.31	0.31	0.31	0.31	0.31	0.05	0.42	0.42	0.11	0.48	0.48
Sat Flow, veh/h	622	1856	1572	865	1856	1572	1781	3554	1585	1753	3497	1560
Grp Volume(v), veh/h	0	399	133	54	452	435	92	946	27	175	629	10
Grp Sat Flow(s),veh/h/ln	622	1856	1572	865	1856	1572	1781	1777	1585	1753	1749	1560
Q Serve(g_s), s	0.0	22.6	7.6	7.0	26.6	31.6	4.0	25.2	1.2	0.0	13.6	0.4
Cycle Q Clear(g_c), s	0.0	22.6	7.6	29.6	26.6	31.6	4.0	25.2	1.2	0.0	13.6	0.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	60	579	491	167	579	491	307	1496	667	361	1685	751
V/C Ratio(X)	0.00	0.69	0.27	0.32	0.78	0.89	0.30	0.63	0.04	0.48	0.37	0.01
Avail Cap(c_a), veh/h	100	699	592	223	699	592	311	1496	667	361	1685	751
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)	0.00	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	36.2	31.0	49.2	37.5	39.3	25.2	27.4	20.5	40.3	19.6	16.2
Incr Delay (d2), s/veh	0.0	2.2	0.3	1.1	4.7	13.3	0.5	2.0	0.1	1.0	0.6	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	0.0	10.5	2.9	1.6	12.7	13.9	1.8	11.0	0.5	4.8	5.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	38.4	31.3	50.3	42.3	52.5	25.8	29.5	20.6	41.3	20.3	16.3
LnGrp LOS	A	D	C	D	D	D	C	C	C	D	C	B
Approach Vol, veh/h		532			941			1065			814	
Approach Delay, s/veh		36.6			47.5			28.9			24.8	
Approach LOS		D			D			C			C	

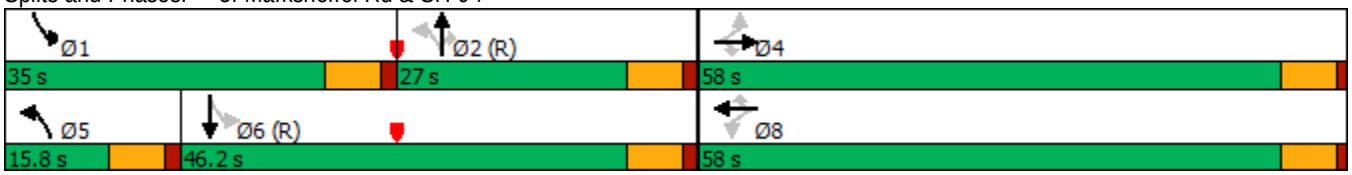
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.6	57.0		43.4	12.2	64.3		43.4				
Change Period (Y+Rc), s	6.5	6.5		6.0	6.5	6.5		6.0				
Max Green Setting (Gmax), s	5.3	50.5		45.2	6.0	49.8		45.2				
Max Q Clear Time (g_c+I1), s	2.0	27.2		24.6	6.0	15.6		33.6				
Green Ext Time (p_c), s	0.1	7.4		2.9	0.0	4.9		3.9				

Intersection Summary			
HCM 6th Ctrl Delay		34.3	
HCM 6th LOS		C	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	330	90	30	375	140	90	320	20	325	560	325
Future Volume (vph)	165	330	90	30	375	140	90	320	20	325	560	325
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		Free
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5	
Total Split (s)	58.0	58.0	58.0	58.0	58.0	58.0	15.8	27.0	27.0	35.0	46.2	
Total Split (%)	48.3%	48.3%	48.3%	48.3%	48.3%	48.3%	13.2%	22.5%	22.5%	29.2%	38.5%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	38.8	38.8	38.8	38.8	38.8	38.8	51.3	43.1	43.1	68.3	53.9	120.0
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.32	0.32	0.43	0.36	0.36	0.57	0.45	1.00
v/c Ratio	1.12	0.63	0.17	0.17	0.70	0.26	0.25	0.28	0.03	0.57	0.39	0.23
Control Delay	136.7	34.5	0.6	26.7	41.2	4.5	18.2	32.8	0.1	14.3	17.1	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	136.7	34.5	0.6	26.7	41.2	4.5	18.2	32.8	0.1	14.3	17.1	0.3
LOS	F	C	A	C	D	A	B	C	A	B	B	A
Approach Delay		58.1			31.0			28.2			11.9	
Approach LOS		E			C			C			B	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 28 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.12	
Intersection Signal Delay: 27.9	Intersection LOS: C
Intersection Capacity Utilization 76.6%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Marksheffel Rd & SH-94



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	330	90	30	375	140	90	320	20	325	560	325
Future Volume (veh/h)	165	330	90	30	375	140	90	320	20	325	560	325
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	1781	1781	1781	1811	1811	1811	1826	1826	1826	1856	1856	1856
Adj Flow Rate, veh/h	179	359	33	33	408	70	98	348	22	353	609	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	6	6	6	5	5	5	3	3	3
Cap, veh/h	255	710	601	377	721	611	362	989	441	546	1371	
Arrive On Green	0.80	0.80	0.80	0.40	0.40	0.40	0.05	0.29	0.29	0.16	0.39	0.00
Sat Flow, veh/h	873	1781	1510	961	1811	1535	1739	3469	1547	1767	3526	1572
Grp Volume(v), veh/h	179	359	33	33	408	70	98	348	22	353	609	0
Grp Sat Flow(s),veh/h/ln	873	1781	1510	961	1811	1535	1739	1735	1547	1767	1763	1572
Q Serve(g_s), s	23.1	8.2	0.6	2.9	21.0	3.5	4.7	9.6	1.2	16.2	15.3	0.0
Cycle Q Clear(g_c), s	44.1	8.2	0.6	11.1	21.0	3.5	4.7	9.6	1.2	16.2	15.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	255	710	601	377	721	611	362	989	441	546	1371	
V/C Ratio(X)	0.70	0.51	0.05	0.09	0.57	0.11	0.27	0.35	0.05	0.65	0.44	
Avail Cap(c_a), veh/h	286	772	654	410	785	665	402	989	441	686	1371	
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.7	8.2	7.4	27.9	28.0	22.8	27.8	34.1	31.1	22.7	27.1	0.0
Incr Delay (d2), s/veh	6.1	0.5	0.0	0.1	0.8	0.1	0.4	1.0	0.2	1.4	1.0	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	4.3	2.3	0.2	0.7	9.2	1.3	2.0	4.2	0.5	6.9	6.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.7	8.7	7.4	28.0	28.8	22.8	28.2	35.1	31.3	24.2	28.1	0.0
LnGrp LOS	C	A	A	C	C	C	C	D	C	C	C	
Approach Vol, veh/h		571			511			468			962	A
Approach Delay, s/veh		14.6			28.0			33.5			26.7	
Approach LOS		B			C			C			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.5	40.7		53.8	13.0	53.2		53.8				
Change Period (Y+Rc), s	6.5	6.5		6.0	6.5	6.5		6.0				
Max Green Setting (Gmax), s	28.5	20.5		52.0	9.3	39.7		52.0				
Max Q Clear Time (g_c+I1), s	18.2	11.6		46.1	6.7	17.3		23.0				
Green Ext Time (p_c), s	0.8	1.5		1.7	0.0	4.3		3.1				

Intersection Summary			
HCM 6th Ctrl Delay		25.4	
HCM 6th LOS		C	

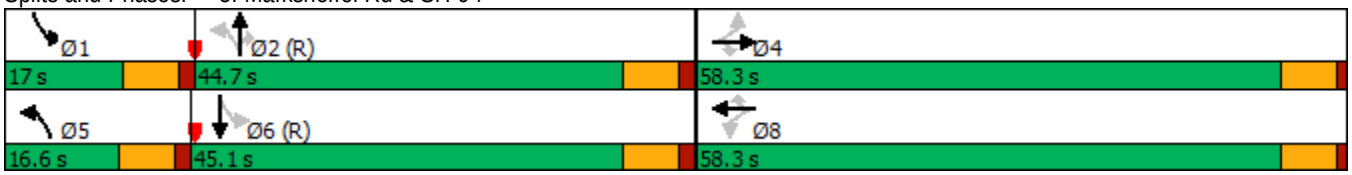
Notes

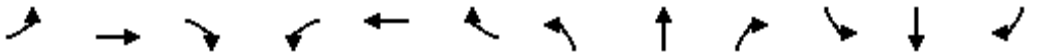
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	390	145	45	460	450	125	915	25	225	640	355
Future Volume (vph)	250	390	145	45	460	450	125	915	25	225	640	355
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		Free
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5	
Total Split (s)	58.3	58.3	58.3	58.3	58.3	58.3	16.6	44.7	44.7	17.0	45.1	
Total Split (%)	48.6%	48.6%	48.6%	48.6%	48.6%	48.6%	13.8%	37.3%	37.3%	14.2%	37.6%	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	52.3	52.3	52.3	52.3	52.3	52.3	47.6	38.2	38.2	49.8	39.3	120.0
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44	0.44	0.40	0.32	0.32	0.42	0.33	1.00
v/c Ratio	1.15	0.53	0.20	0.17	0.62	0.60	0.45	0.88	0.05	1.09	0.58	0.24
Control Delay	133.1	22.9	1.6	22.6	30.4	15.8	24.3	49.4	0.2	113.2	31.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	133.1	22.9	1.6	22.6	30.4	15.8	24.3	49.4	0.2	113.2	31.9	0.3
LOS	F	C	A	C	C	B	C	D	A	F	C	A
Approach Delay		54.1			23.2			45.3			37.7	
Approach LOS		D			C			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 28 (23%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.15	
Intersection Signal Delay: 39.5	Intersection LOS: D
Intersection Capacity Utilization 96.7%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 5: Marksheffel Rd & SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	390	145	45	460	450	125	915	25	225	640	355
Future Volume (veh/h)	250	390	145	45	460	450	125	915	25	225	640	355
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	1856	1856	1856	1856	1856	1856	1870	1870	1870	1841	1841	1841
Adj Flow Rate, veh/h	272	424	49	49	500	239	136	995	27	232	660	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	4	4	4
Cap, veh/h	223	809	685	366	809	685	323	1131	505	242	1184	
Arrive On Green	0.73	0.73	0.73	0.44	0.44	0.44	0.07	0.32	0.32	0.09	0.34	0.00
Sat Flow, veh/h	714	1856	1572	913	1856	1572	1781	3554	1585	1753	3497	1560
Grp Volume(v), veh/h	272	424	49	49	500	239	136	995	27	232	660	0
Grp Sat Flow(s),veh/h/ln	714	1856	1572	913	1856	1572	1781	1777	1585	1753	1749	1560
Q Serve(g_s), s	27.3	12.1	1.1	4.5	25.0	12.1	6.1	31.8	1.4	10.5	18.5	0.0
Cycle Q Clear(g_c), s	52.3	12.1	1.1	16.6	25.0	12.1	6.1	31.8	1.4	10.5	18.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	223	809	685	366	809	685	323	1131	505	242	1184	
V/C Ratio(X)	1.22	0.52	0.07	0.13	0.62	0.35	0.42	0.88	0.05	0.96	0.56	
Avail Cap(c_a), veh/h	223	809	685	366	809	685	353	1131	505	242	1184	
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.91	0.91	0.91	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.5	10.9	9.4	28.0	26.1	22.5	25.8	38.7	28.4	30.9	32.4	0.0
Incr Delay (d2), s/veh	130.9	0.6	0.0	0.2	1.4	0.3	0.9	9.8	0.2	45.9	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.4	3.8	0.4	1.0	11.2	4.5	2.7	15.2	0.6	7.6	8.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	163.4	11.4	9.4	28.2	27.6	22.8	26.7	48.6	28.6	76.8	34.2	0.0
LnGrp LOS	F	B	A	C	C	C	C	D	C	E	C	
Approach Vol, veh/h		745			788			1158			892	A
Approach Delay, s/veh		66.8			26.2			45.5			45.3	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	17.0	44.7		58.3	14.6	47.1		58.3				
Change Period (Y+Rc), s	6.5	6.5		6.0	6.5	6.5		6.0				
Max Green Setting (Gmax), s	10.5	38.2		52.3	10.1	38.6		52.3				
Max Q Clear Time (g_c+I1), s	12.5	33.8		54.3	8.1	20.5		27.0				
Green Ext Time (p_c), s	0.0	2.6		0.0	0.1	4.3		4.6				

Intersection Summary		
HCM 6th Ctrl Delay		45.6
HCM 6th LOS		D

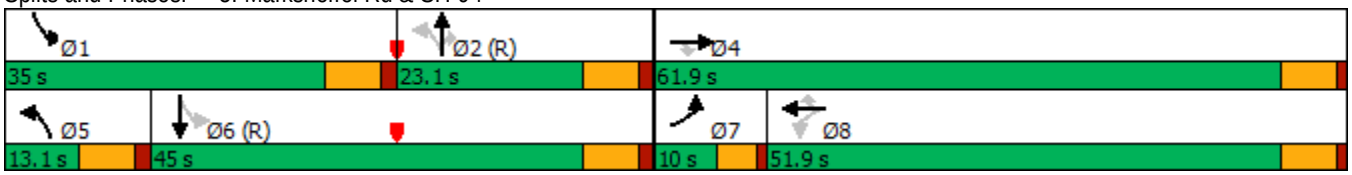
Notes

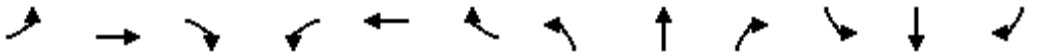
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø7
Lane Configurations												
Traffic Volume (vph)	325	70	40	375	100	70	345	25	325	635	5	
Future Volume (vph)	325	70	40	375	100	70	345	25	325	635	5	
Turn Type	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	
Protected Phases	4			8		5	2		1	6		7
Permitted Phases		4	8		8	2		2	6		Free	
Detector Phase	4	4	8	8	8	5	2	2	1	6		
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5		9.5
Total Split (s)	61.9	61.9	51.9	51.9	51.9	13.1	23.1	23.1	35.0	45.0		10.0
Total Split (%)	51.6%	51.6%	43.3%	43.3%	43.3%	10.9%	19.3%	19.3%	29.2%	37.5%		8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5		
Lead/Lag			Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max		None
Act Effct Green (s)	33.8	33.8	33.8	33.8	33.8	55.1	47.3	47.3	73.7	61.8	120.0	
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.28	0.46	0.39	0.39	0.61	0.52	1.00	
v/c Ratio	0.71	0.14	0.28	0.81	0.19	0.20	0.28	0.04	0.54	0.38	0.00	
Control Delay	46.2	0.6	35.6	52.2	0.8	14.7	28.7	0.1	32.2	38.4	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	46.2	0.6	35.6	52.2	0.8	14.7	28.7	0.1	32.2	38.4	0.0	
LOS	D	A	D	D	A	B	C	A	C	D	A	
Approach Delay	38.1			40.9			24.8			36.1		
Approach LOS	D			D			C			D		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.81	
Intersection Signal Delay: 35.4	Intersection LOS: D
Intersection Capacity Utilization 71.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Marksheffel Rd & SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	325	70	40	375	100	70	345	25	325	635	5
Future Volume (veh/h)	0	325	70	40	375	100	70	345	25	325	635	5
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	1781	1781	1781	1811	1811	1811	1826	1826	1826	1856	1856	1856
Adj Flow Rate, veh/h	0	353	11	43	408	27	76	375	27	353	690	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	6	6	6	5	5	5	3	3	3
Cap, veh/h	1	468	397	139	476	403	451	1532	683	667	1906	
Arrive On Green	0.00	0.26	0.26	0.26	0.26	0.26	0.04	0.44	0.44	0.27	1.00	0.00
Sat Flow, veh/h	1697	1781	1510	986	1811	1535	1739	3469	1547	1767	3526	1572
Grp Volume(v), veh/h	0	353	11	43	408	27	76	375	27	353	690	0
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	986	1811	1535	1739	1735	1547	1767	1763	1572
Q Serve(g_s), s	0.0	21.9	0.6	5.0	25.7	1.6	2.9	8.1	1.2	13.6	0.0	0.0
Cycle Q Clear(g_c), s	0.0	21.9	0.6	26.9	25.7	1.6	2.9	8.1	1.2	13.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1	468	397	139	476	403	451	1532	683	667	1906	
V/C Ratio(X)	0.00	0.75	0.03	0.31	0.86	0.07	0.17	0.24	0.04	0.53	0.36	
Avail Cap(c_a), veh/h	78	830	703	257	693	587	480	1532	683	844	1906	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.00	0.96	0.96	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.98	0.00
Uniform Delay (d), s/veh	0.0	40.7	32.9	53.0	42.1	33.2	17.0	21.0	19.0	11.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.4	0.0	1.2	7.3	0.1	0.2	0.4	0.1	0.6	0.5	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	0.0	9.9	0.2	1.3	12.4	0.6	1.2	3.4	0.5	3.9	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	43.1	32.9	54.3	49.4	33.3	17.1	21.3	19.1	11.7	0.5	0.0
LnGrp LOS	A	D	C	D	D	C	B	C	B	B	A	
Approach Vol, veh/h		364			478			478			1043	A
Approach Delay, s/veh		42.8			48.9			20.6			4.3	
Approach LOS		D			D			C			A	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.0	59.5		37.5	11.1	71.4	0.0	37.5				
Change Period (Y+Rc), s	6.5	6.5		6.0	6.5	6.5	4.5	6.0				
Max Green Setting (Gmax), s	28.5	16.6		55.9	6.6	38.5	5.5	45.9				
Max Q Clear Time (g_c+I1), s	15.6	10.1		23.9	4.9	2.0	0.0	28.9				
Green Ext Time (p_c), s	0.9	1.3		2.4	0.0	5.5	0.0	2.6				

Intersection Summary			
HCM 6th Ctrl Delay		22.5	
HCM 6th LOS		C	

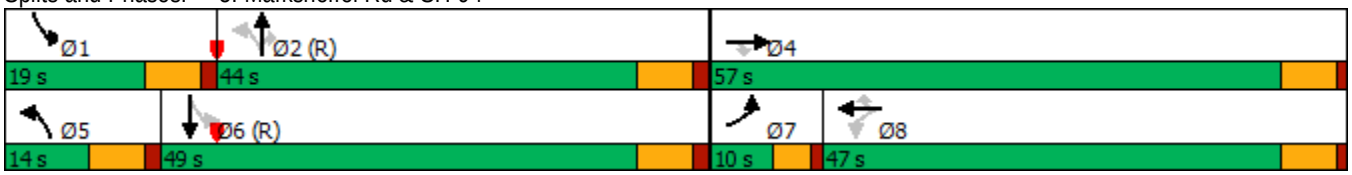
Notes

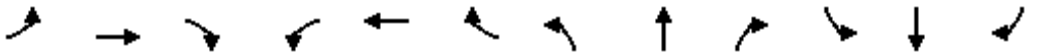
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Ø7
Lane Configurations												
Traffic Volume (vph)	375	120	50	450	435	100	1035	30	200	725	10	
Future Volume (vph)	375	120	50	450	435	100	1035	30	200	725	10	
Turn Type	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free	
Protected Phases	4			8		5	2		1	6		7
Permitted Phases		4	8		8	2		2	6		Free	
Detector Phase	4	4	8	8	8	5	2	2	1	6		
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		5.0
Minimum Split (s)	11.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5		9.5
Total Split (s)	57.0	57.0	47.0	47.0	47.0	14.0	44.0	44.0	19.0	49.0		10.0
Total Split (%)	47.5%	47.5%	39.2%	39.2%	39.2%	11.7%	36.7%	36.7%	15.8%	40.8%		8%
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0		3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5		1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5		
Lead/Lag			Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead
Lead-Lag Optimize?			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes
Recall Mode	None	None	None	None	None	None	C-Max	C-Max	None	C-Max		None
Act Effct Green (s)	40.0	40.0	40.0	40.0	40.0	54.6	46.5	46.5	66.6	52.8	120.0	
Actuated g/C Ratio	0.33	0.33	0.33	0.33	0.33	0.46	0.39	0.39	0.56	0.44	1.00	
v/c Ratio	0.66	0.21	0.30	0.80	0.66	0.31	0.82	0.05	0.75	0.49	0.01	
Control Delay	37.2	3.6	31.5	45.6	16.5	17.6	40.9	0.1	55.5	18.2	0.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	37.2	3.6	31.5	45.6	16.5	17.6	40.9	0.1	55.5	18.2	0.0	
LOS	D	A	C	D	B	B	D	A	E	B	A	
Approach Delay	29.1			31.3			37.8			26.0		
Approach LOS	C			C			D			C		

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.82	
Intersection Signal Delay: 31.8	Intersection LOS: C
Intersection Capacity Utilization 87.1%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Marksheffel Rd & SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	375	120	50	450	435	100	1035	30	200	725	10
Future Volume (veh/h)	0	375	120	50	450	435	100	1035	30	200	725	10
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	1856	1856	1856	1856	1856	1856	1870	1870	1870	1841	1841	1841
Adj Flow Rate, veh/h	0	408	21	54	489	223	109	1125	33	206	747	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	4	4	4
Cap, veh/h	1	544	461	184	544	461	384	1675	747	304	1754	
Arrive On Green	0.00	0.59	0.59	0.29	0.29	0.29	0.05	0.47	0.47	0.05	0.34	0.00
Sat Flow, veh/h	1767	1856	1572	951	1856	1572	1781	3554	1585	1753	3497	1560
Grp Volume(v), veh/h	0	408	21	54	489	223	109	1125	33	206	747	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	951	1856	1572	1781	1777	1585	1753	1749	1560
Q Serve(g_s), s	0.0	19.5	0.7	6.3	30.4	14.0	3.8	29.4	1.3	7.1	19.9	0.0
Cycle Q Clear(g_c), s	0.0	19.5	0.7	25.8	30.4	14.0	3.8	29.4	1.3	7.1	19.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	1	544	461	184	544	461	384	1675	747	304	1754	
V/C Ratio(X)	0.00	0.75	0.05	0.29	0.90	0.48	0.28	0.67	0.04	0.68	0.43	
Avail Cap(c_a), veh/h	81	789	668	230	634	537	411	1675	747	351	1754	
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	0.00	0.98	0.98	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.00
Uniform Delay (d), s/veh	0.0	21.6	17.7	48.1	40.7	34.9	16.1	24.5	17.1	20.9	26.5	0.0
Incr Delay (d2), s/veh	0.0	2.3	0.0	0.9	14.4	0.8	0.4	2.2	0.1	4.1	0.7	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	0.0	6.2	0.3	1.5	15.9	5.5	1.6	12.6	0.5	3.3	9.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	23.9	17.7	49.0	55.1	35.7	16.5	26.7	17.2	25.0	27.2	0.0
LnGrp LOS	A	C	B	D	E	D	B	C	B	C	C	
Approach Vol, veh/h		429			766			1267			953	A
Approach Delay, s/veh		23.6			49.0			25.6			26.7	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	63.1		41.2	12.2	66.7	0.0	41.2				
Change Period (Y+Rc), s	6.5	6.5		6.0	6.5	6.5	4.5	6.0				
Max Green Setting (Gmax), s	12.5	37.5		51.0	7.5	42.5	5.5	41.0				
Max Q Clear Time (g_c+I1), s	9.1	31.4		21.5	5.8	21.9	0.0	32.4				
Green Ext Time (p_c), s	0.2	3.8		2.8	0.0	5.3	0.0	2.8				

Intersection Summary			
HCM 6th Ctrl Delay		30.9	
HCM 6th LOS		C	

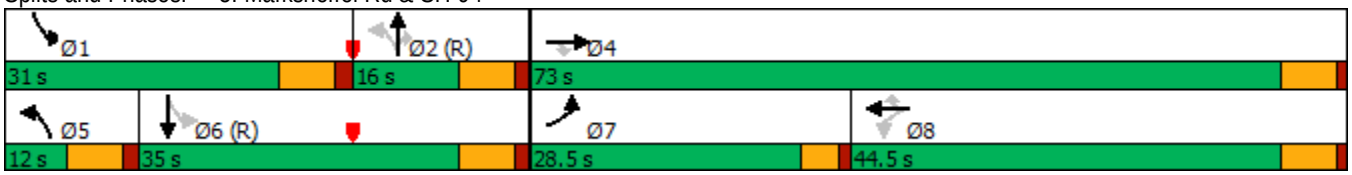
Notes

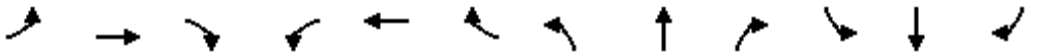
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	380	100	40	435	155	100	375	25	375	660	325
Future Volume (vph)	165	380	100	40	435	155	100	375	25	375	660	325
Turn Type	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8	2		2	6		Free
Detector Phase	7	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	11.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5	
Total Split (s)	28.5	73.0	73.0	44.5	44.5	44.5	12.0	16.0	16.0	31.0	35.0	
Total Split (%)	23.8%	60.8%	60.8%	37.1%	37.1%	37.1%	10.0%	13.3%	13.3%	25.8%	29.2%	
Yellow Time (s)	3.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	17.9	58.6	58.6	36.2	36.2	36.2	24.0	16.0	16.0	48.9	34.5	120.0
Actuated g/C Ratio	0.15	0.49	0.49	0.30	0.30	0.30	0.20	0.13	0.13	0.41	0.29	1.00
v/c Ratio	0.72	0.48	0.14	0.15	0.88	0.28	0.53	0.89	0.07	0.90	0.71	0.23
Control Delay	64.2	21.6	1.1	30.6	57.5	4.0	42.8	74.6	0.4	68.0	59.3	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.2	21.6	1.1	30.6	57.5	4.0	42.8	74.6	0.4	68.0	59.3	0.3
LOS	E	C	A	C	E	A	D	E	A	E	E	A
Approach Delay		29.3			42.7			64.5			47.6	
Approach LOS		C			D			E			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.90	
Intersection Signal Delay: 45.6	Intersection LOS: D
Intersection Capacity Utilization 82.8%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: Marksheffel Rd & SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	380	100	40	435	155	100	375	25	375	660	325
Future Volume (veh/h)	165	380	100	40	435	155	100	375	25	375	660	325
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	1781	1781	1781	1811	1811	1811	1826	1826	1826	1856	1856	1856
Adj Flow Rate, veh/h	179	413	44	43	473	86	109	408	27	408	717	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	6	6	6	5	5	5	3	3	3
Cap, veh/h	208	793	672	311	516	437	253	721	322	490	1237	
Arrive On Green	0.12	0.45	0.45	0.28	0.28	0.28	0.05	0.21	0.21	0.06	0.12	0.00
Sat Flow, veh/h	1697	1781	1510	905	1811	1535	1739	3469	1547	1767	3526	1572
Grp Volume(v), veh/h	179	413	44	43	473	86	109	408	27	408	717	0
Grp Sat Flow(s),veh/h/ln	1697	1781	1510	905	1811	1535	1739	1735	1547	1767	1763	1572
Q Serve(g_s), s	12.4	20.1	2.0	4.3	30.3	5.1	5.5	12.7	1.7	20.3	23.1	0.0
Cycle Q Clear(g_c), s	12.4	20.1	2.0	5.2	30.3	5.1	5.5	12.7	1.7	20.3	23.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	208	793	672	311	516	437	253	721	322	490	1237	
V/C Ratio(X)	0.86	0.52	0.07	0.14	0.92	0.20	0.43	0.57	0.08	0.83	0.58	
Avail Cap(c_a), veh/h	339	995	843	344	581	492	253	721	322	517	1237	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.00
Uniform Delay (d), s/veh	51.6	24.1	19.0	32.9	41.5	32.5	36.3	42.7	38.3	32.8	44.7	0.0
Incr Delay (d2), s/veh	10.6	0.5	0.0	0.2	18.3	0.2	1.2	3.2	0.5	10.2	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	8.5	0.7	1.0	16.0	1.9	2.6	5.8	0.7	10.9	11.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.2	24.5	19.1	33.1	59.8	32.7	37.4	45.9	38.8	43.0	46.6	0.0
LnGrp LOS	E	C	B	C	E	C	D	D	D	D	D	
Approach Vol, veh/h		636			602			544			1125	A
Approach Delay, s/veh		34.8			54.0			43.8			45.3	
Approach LOS		C			D			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.2	31.4		59.4	12.0	48.6	19.2	40.2				
Change Period (Y+Rc), s	6.5	6.5		6.0	6.5	6.5	4.5	6.0				
Max Green Setting (Gmax), s	24.5	9.5		67.0	5.5	28.5	24.0	38.5				
Max Q Clear Time (g_c+I1), s	22.3	14.7		22.1	7.5	25.1	14.4	32.3				
Green Ext Time (p_c), s	0.3	0.0		3.1	0.0	1.5	0.3	1.9				

Intersection Summary			
HCM 6th Ctrl Delay		44.5	
HCM 6th LOS		D	

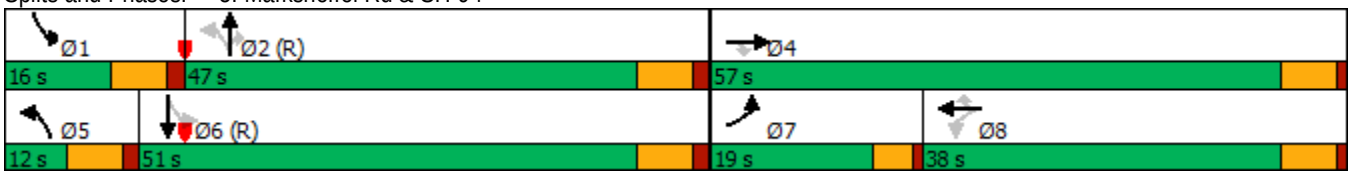
Notes

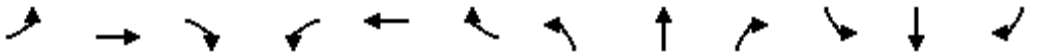
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	450	160	50	530	520	140	1080	30	255	755	355
Future Volume (vph)	250	450	160	50	530	520	140	1080	30	255	755	355
Turn Type	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8	2		2	6		Free
Detector Phase	7	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	11.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5	
Total Split (s)	19.0	57.0	57.0	38.0	38.0	38.0	12.0	47.0	47.0	16.0	51.0	
Total Split (%)	15.8%	47.5%	47.5%	31.7%	31.7%	31.7%	10.0%	39.2%	39.2%	13.3%	42.5%	
Yellow Time (s)	3.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	14.5	51.0	51.0	32.0	32.0	32.0	46.0	40.5	40.5	54.0	44.5	120.0
Actuated g/C Ratio	0.12	0.42	0.42	0.27	0.27	0.27	0.38	0.34	0.34	0.45	0.37	1.00
v/c Ratio	1.29	0.62	0.23	0.23	1.17	1.10	0.63	0.98	0.05	1.33	0.60	0.24
Control Delay	204.9	26.9	3.5	37.7	136.4	101.7	34.9	62.0	0.2	214.6	30.6	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	204.9	26.9	3.5	37.7	136.4	101.7	34.9	62.0	0.2	214.6	30.6	0.3
LOS	F	C	A	D	F	F	C	E	A	F	C	A
Approach Delay		74.3			115.6			57.5			57.1	
Approach LOS		E			F			E			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 140	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.33	
Intersection Signal Delay: 74.8	Intersection LOS: E
Intersection Capacity Utilization 105.3%	ICU Level of Service G
Analysis Period (min) 15	

Splits and Phases: 5: Marksheffel Rd & SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	450	160	50	530	520	140	1080	30	255	755	355
Future Volume (veh/h)	250	450	160	50	530	520	140	1080	30	255	755	355
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	1856	1856	1856	1856	1856	1856	1870	1870	1870	1841	1841	1841
Adj Flow Rate, veh/h	272	489	65	54	576	315	152	1174	33	263	778	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	4	4	4
Cap, veh/h	214	789	668	286	495	419	263	1199	535	204	1297	
Arrive On Green	0.24	0.85	0.85	0.27	0.27	0.27	0.05	0.34	0.34	0.05	0.25	0.00
Sat Flow, veh/h	1767	1856	1572	848	1856	1572	1781	3554	1585	1753	3497	1560
Grp Volume(v), veh/h	272	489	65	54	576	315	152	1174	33	263	778	0
Grp Sat Flow(s),veh/h/ln	1767	1856	1572	848	1856	1572	1781	1777	1585	1753	1749	1560
Q Serve(g_s), s	14.5	10.0	0.8	6.0	32.0	22.0	5.5	39.2	1.7	9.5	23.6	0.0
Cycle Q Clear(g_c), s	14.5	10.0	0.8	6.0	32.0	22.0	5.5	39.2	1.7	9.5	23.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	789	668	286	495	419	263	1199	535	204	1297	
V/C Ratio(X)	1.27	0.62	0.10	0.19	1.16	0.75	0.58	0.98	0.06	1.29	0.60	
Avail Cap(c_a), veh/h	214	789	668	286	495	419	263	1199	535	204	1297	
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.00
Uniform Delay (d), s/veh	45.5	5.9	5.2	34.5	44.0	40.3	30.3	39.3	26.9	33.0	37.2	0.0
Incr Delay (d2), s/veh	151.6	1.3	0.1	0.3	94.1	7.4	3.1	21.4	0.2	160.6	1.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.5	2.5	0.3	1.3	27.5	9.4	1.5	20.4	0.7	13.0	10.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	197.1	7.3	5.3	34.8	138.1	47.8	33.5	60.7	27.1	193.6	39.1	0.0
LnGrp LOS	F	A	A	C	F	D	C	E	C	F	D	
Approach Vol, veh/h		826			945			1359			1041	A
Approach Delay, s/veh		69.6			102.1			56.9			78.1	
Approach LOS		E			F			E			E	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	47.0		57.0	12.0	51.0	19.0	38.0				
Change Period (Y+Rc), s	6.5	6.5		6.0	6.5	6.5	4.5	6.0				
Max Green Setting (Gmax), s	9.5	40.5		51.0	5.5	44.5	14.5	32.0				
Max Q Clear Time (g_c+I1), s	11.5	41.2		12.0	7.5	25.6	16.5	34.0				
Green Ext Time (p_c), s	0.0	0.0		3.8	0.0	5.3	0.0	0.0				

Intersection Summary			
HCM 6th Ctrl Delay		74.9	
HCM 6th LOS		E	

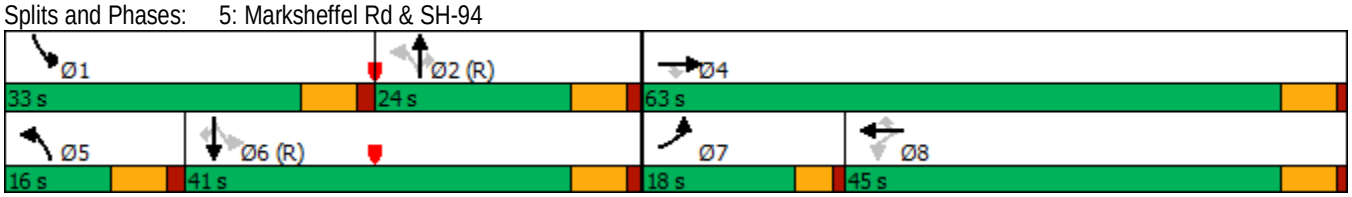
Notes

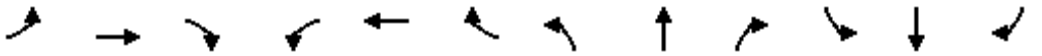
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	165	380	100	40	435	155	100	375	25	375	660	325
Future Volume (vph)	165	380	100	40	435	155	100	375	25	375	660	325
Turn Type	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8	2		2	6		6
Detector Phase	7	4	4	8	8	8	5	2	2	1	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	5.0	5.0	5.0
Minimum Split (s)	9.5	11.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5
Total Split (s)	18.0	63.0	63.0	45.0	45.0	45.0	16.0	24.0	24.0	33.0	41.0	41.0
Total Split (%)	15.0%	52.5%	52.5%	37.5%	37.5%	37.5%	13.3%	20.0%	20.0%	27.5%	34.2%	34.2%
Yellow Time (s)	3.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	6.5
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	11.5	51.8	51.8	35.7	35.7	35.7	33.6	24.8	24.8	55.7	40.4	40.4
Actuated g/C Ratio	0.10	0.43	0.43	0.30	0.30	0.30	0.28	0.21	0.21	0.46	0.34	0.34
v/c Ratio	0.58	0.54	0.15	0.16	0.89	0.29	0.41	0.57	0.06	0.81	0.61	0.46
Control Delay	59.2	27.6	1.4	31.0	59.3	4.0	27.7	49.0	0.2	49.7	35.2	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.2	27.6	1.4	31.0	59.3	4.0	27.7	49.0	0.2	49.7	35.2	7.9
LOS	E	C	A	C	E	A	C	D	A	D	D	A
Approach Delay		31.6			44.0			42.3			32.7	
Approach LOS		C			D			D			C	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 90	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.89	
Intersection Signal Delay: 36.3	Intersection LOS: D
Intersection Capacity Utilization 78.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 5: Marksheffel Rd & SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	380	100	40	435	155	100	375	25	375	660	325
Future Volume (veh/h)	165	380	100	40	435	155	100	375	25	375	660	325
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	1781	1781	1781	1811	1811	1811	1826	1826	1826	1856	1856	1856
Adj Flow Rate, veh/h	179	413	44	43	473	86	109	408	27	408	717	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	6	6	6	5	5	5	3	3	3
Cap, veh/h	237	704	596	252	517	438	349	887	396	546	1359	
Arrive On Green	0.07	0.40	0.40	0.29	0.29	0.29	0.06	0.26	0.26	0.32	0.64	0.00
Sat Flow, veh/h	3291	1781	1510	905	1811	1535	1739	3469	1547	1767	3526	1572
Grp Volume(v), veh/h	179	413	44	43	473	86	109	408	27	408	717	0
Grp Sat Flow(s),veh/h/ln	1646	1781	1510	905	1811	1535	1739	1735	1547	1767	1763	1572
Q Serve(g_s), s	6.4	21.9	2.2	4.7	30.3	5.1	5.5	11.9	1.6	20.4	13.2	0.0
Cycle Q Clear(g_c), s	6.4	21.9	2.2	13.5	30.3	5.1	5.5	11.9	1.6	20.4	13.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	237	704	596	252	517	438	349	887	396	546	1359	
V/C Ratio(X)	0.76	0.59	0.07	0.17	0.91	0.20	0.31	0.46	0.07	0.75	0.53	
Avail Cap(c_a), veh/h	370	846	717	288	589	499	381	887	396	598	1359	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00	0.89	0.89	0.00
Uniform Delay (d), s/veh	54.7	28.6	22.6	39.1	41.4	32.4	29.9	37.7	33.8	20.2	15.5	0.0
Incr Delay (d2), s/veh	4.4	0.7	0.0	0.3	17.6	0.2	0.5	1.7	0.3	4.2	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	9.4	0.8	1.1	15.9	1.9	2.4	5.3	0.6	7.4	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.0	29.3	22.7	39.4	59.1	32.7	30.4	39.4	34.2	24.4	16.8	0.0
LnGrp LOS	E	C	C	D	E	C	C	D	C	C	B	
Approach Vol, veh/h		636			602			544			1125	A
Approach Delay, s/veh		37.2			53.9			37.3			19.6	
Approach LOS		D			D			D			B	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	29.4	37.2		53.4	13.8	52.8	13.1	40.3				
Change Period (Y+Rc), s	6.5	6.5		6.0	6.5	6.5	4.5	6.0				
Max Green Setting (Gmax), s	26.5	17.5		57.0	9.5	34.5	13.5	39.0				
Max Q Clear Time (g_c+I1), s	22.4	13.9		23.9	7.5	15.2	8.4	32.3				
Green Ext Time (p_c), s	0.6	0.9		3.0	0.0	4.9	0.2	2.0				

Intersection Summary												
HCM 6th Ctrl Delay			33.8									
HCM 6th LOS			C									

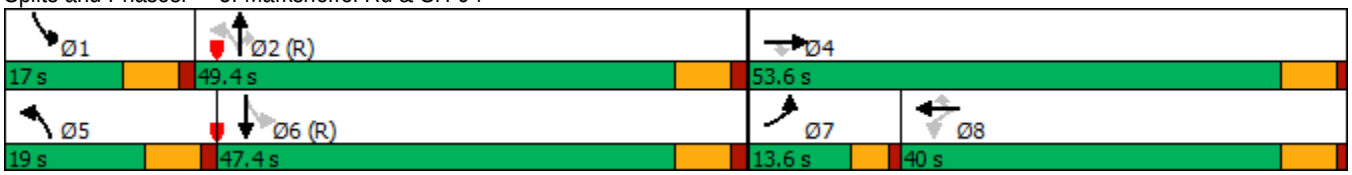
Notes

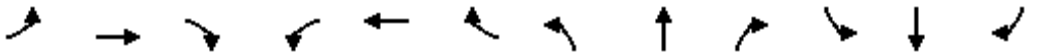
Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	450	160	50	530	520	140	1080	30	255	755	355
Future Volume (vph)	250	450	160	50	530	520	140	1080	30	255	755	355
Turn Type	Prot	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases			4	8		8	2		2	6		Free
Detector Phase	7	4	4	8	8	8	5	2	2	1	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
Minimum Split (s)	9.5	11.0	11.0	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5	
Total Split (s)	13.6	53.6	53.6	40.0	40.0	40.0	19.0	49.4	49.4	17.0	47.4	
Total Split (%)	11.3%	44.7%	44.7%	33.3%	33.3%	33.3%	15.8%	41.2%	41.2%	14.2%	39.5%	
Yellow Time (s)	3.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5	1.5	1.5	1.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.5	6.0	6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5	
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max	C-Max	None	C-Max	
Act Effct Green (s)	9.1	47.6	47.6	34.0	34.0	34.0	53.6	42.9	42.9	53.2	42.7	120.0
Actuated g/C Ratio	0.08	0.40	0.40	0.28	0.28	0.28	0.45	0.36	0.36	0.44	0.36	1.00
v/c Ratio	1.06	0.67	0.24	0.27	1.10	0.96	0.50	0.93	0.05	1.23	0.63	0.24
Control Delay	127.2	32.8	5.3	38.1	111.3	57.3	22.7	50.6	0.1	169.0	30.2	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	127.2	32.8	5.3	38.1	111.3	57.3	22.7	50.6	0.1	169.0	30.2	0.3
LOS	F	C	A	D	F	E	C	D	A	F	C	A
Approach Delay		55.2			82.5			46.2			48.4	
Approach LOS		E			F			D			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green	
Natural Cycle: 120	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.23	
Intersection Signal Delay: 57.4	Intersection LOS: E
Intersection Capacity Utilization 98.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 5: Marksheffel Rd & SH-94





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	450	160	50	530	520	140	1080	30	255	755	355
Future Volume (veh/h)	250	450	160	50	530	520	140	1080	30	255	755	355
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	1856	1856	1856	1856	1856	1856	1870	1870	1870	1841	1841	1841
Adj Flow Rate, veh/h	272	489	65	54	576	315	152	1174	33	263	778	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.97	0.97	0.97
Percent Heavy Veh, %	3	3	3	3	3	3	2	2	2	4	4	4
Cap, veh/h	260	736	624	299	526	446	376	1270	567	232	1309	
Arrive On Green	0.15	0.79	0.79	0.28	0.28	0.28	0.07	0.36	0.36	0.17	0.75	0.00
Sat Flow, veh/h	3428	1856	1572	848	1856	1572	1781	3554	1585	1753	3497	1560
Grp Volume(v), veh/h	272	489	65	54	576	315	152	1174	33	263	778	0
Grp Sat Flow(s),veh/h/ln	1714	1856	1572	848	1856	1572	1781	1777	1585	1753	1749	1560
Q Serve(g_s), s	9.1	13.8	1.1	5.9	34.0	21.5	6.4	38.0	1.6	10.5	12.1	0.0
Cycle Q Clear(g_c), s	9.1	13.8	1.1	6.1	34.0	21.5	6.4	38.0	1.6	10.5	12.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	736	624	299	526	446	376	1270	567	232	1309	
V/C Ratio(X)	1.05	0.66	0.10	0.18	1.10	0.71	0.40	0.92	0.06	1.13	0.59	
Avail Cap(c_a), veh/h	260	736	624	299	526	446	435	1270	567	232	1309	
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.00
Uniform Delay (d), s/veh	50.9	8.9	7.6	33.1	43.0	38.5	22.0	37.0	25.3	26.8	11.0	0.0
Incr Delay (d2), s/veh	65.3	2.0	0.1	0.3	67.9	5.1	0.7	12.6	0.2	97.7	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.9	3.6	0.4	1.2	25.3	8.9	2.8	18.5	0.7	10.0	3.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	116.2	10.9	7.7	33.4	110.9	43.6	22.7	49.6	25.5	124.5	12.8	0.0
LnGrp LOS	F	B	A	C	F	D	C	D	C	F	B	
Approach Vol, veh/h		826			945			1359			1041	A
Approach Delay, s/veh		45.3			84.0			46.0			41.0	
Approach LOS		D			F			D			D	

Timer - Assigned Phs	1	2		4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.0	49.4		53.6	15.0	51.4	13.6	40.0				
Change Period (Y+Rc), s	6.5	6.5		6.0	6.5	6.5	4.5	6.0				
Max Green Setting (Gmax), s	10.5	42.9		47.6	12.5	40.9	9.1	34.0				
Max Q Clear Time (g_c+I1), s	12.5	40.0		15.8	8.4	14.1	11.1	36.0				
Green Ext Time (p_c), s	0.0	2.0		3.7	0.1	6.0	0.0	0.0				

Intersection Summary												
HCM 6th Ctrl Delay			53.2									
HCM 6th LOS			D									

Notes

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

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	100	85	1395	810	195
Future Vol, veh/h	50	100	85	1395	810	195
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	0	150	-	-	150
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	54	109	92	1516	880	212

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1822	440	1092	0	-	0
Stage 1	880	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*246	565	635	-	-	-
Stage 1	*366	-	-	-	-	-
Stage 2	*474	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	*210	565	635	-	-	-
Mov Cap-2 Maneuver	*210	-	-	-	-	-
Stage 1	*313	-	-	-	-	-
Stage 2	*474	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.9	0.7	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	635	-	210	565	-	-
HCM Lane V/C Ratio	0.145	-	0.259	0.192	-	-
HCM Control Delay (s)	11.6	-	28	12.9	-	-
HCM Lane LOS	B	-	D	B	-	-
HCM 95th %tile Q(veh)	0.5	-	1	0.7	-	-

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

Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	110	125	960	1025	295
Future Vol, veh/h	55	110	125	960	1025	295
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	0	150	-	-	150
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	60	120	136	1043	1114	321

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1908	557	1435	0	-	0
Stage 1	1114	-	-	-	-	-
Stage 2	794	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*101	474	469	-	-	-
Stage 1	*276	-	-	-	-	-
Stage 2	*646	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	*71	474	469	-	-	-
Mov Cap-2 Maneuver	*71	-	-	-	-	-
Stage 1	*196	-	-	-	-	-
Stage 2	*646	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	64.5	1.8	0
HCM LOS	F		

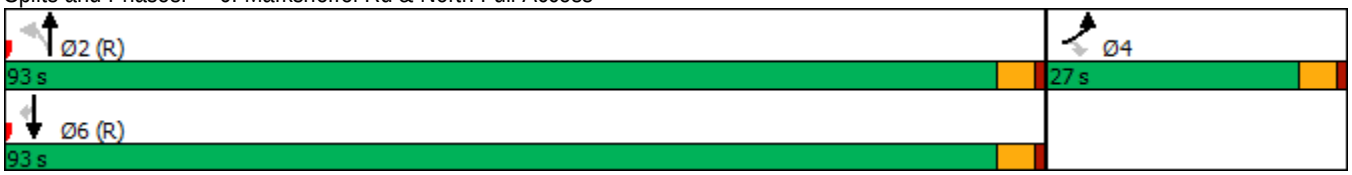
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	469	-	71	474	-	-
HCM Lane V/C Ratio	0.29	-	0.842	0.252	-	-
HCM Control Delay (s)	15.8	-	163.2	15.1	-	-
HCM Lane LOS	C	-	F	C	-	-
HCM 95th %tile Q(veh)	1.2	-	4.1	1	-	-

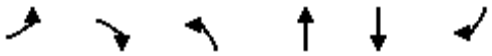
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	50	100	85	1395	810	195
Future Volume (vph)	50	100	85	1395	810	195
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	27.0	27.0	93.0	93.0	93.0	93.0
Total Split (%)	22.5%	22.5%	77.5%	77.5%	77.5%	77.5%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	9.0	9.0	102.0	102.0	102.0	102.0
Actuated g/C Ratio	0.08	0.08	0.85	0.85	0.85	0.85
v/c Ratio	0.41	0.50	0.18	0.50	0.29	0.15
Control Delay	61.2	17.4	4.2	6.8	2.7	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	17.4	4.2	6.8	2.7	1.1
LOS	E	B	A	A	A	A
Approach Delay	31.9			6.6	2.4	
Approach LOS	C			A	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 6.5	Intersection LOS: A
Intersection Capacity Utilization 50.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Marksheffel Rd & North Full Access





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	100	85	1395	810	195
Future Volume (veh/h)	50	100	85	1395	810	195
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	109	92	1516	880	212
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	154	137	465	2979	2979	1329
Arrive On Green	0.09	0.09	1.00	1.00	0.84	0.84
Sat Flow, veh/h	1781	1585	516	3647	3647	1585
Grp Volume(v), veh/h	54	109	92	1516	880	212
Grp Sat Flow(s),veh/h/ln	1781	1585	516	1777	1777	1585
Q Serve(g_s), s	3.4	8.1	1.7	0.0	6.4	3.0
Cycle Q Clear(g_c), s	3.4	8.1	8.1	0.0	6.4	3.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	154	137	465	2979	2979	1329
V/C Ratio(X)	0.35	0.79	0.20	0.51	0.30	0.16
Avail Cap(c_a), veh/h	334	297	465	2979	2979	1329
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.84	0.84	1.00	1.00
Uniform Delay (d), s/veh	51.6	53.7	0.3	0.0	2.1	1.8
Incr Delay (d2), s/veh	1.3	9.8	0.8	0.5	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.6	0.1	0.2	1.6	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.0	63.6	1.1	0.5	2.3	2.1
LnGrp LOS	D	E	A	A	A	A
Approach Vol, veh/h	163			1608	1092	
Approach Delay, s/veh	60.1			0.6	2.3	
Approach LOS	E			A	A	

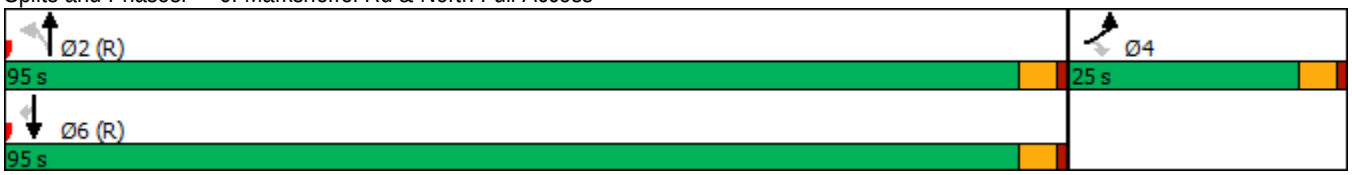
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		105.1		14.9		105.1
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		88.5		22.5		88.5
Max Q Clear Time (g_c+I1), s		10.1		10.1		8.4
Green Ext Time (p_c), s		23.6		0.4		9.1

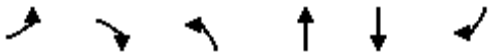
Intersection Summary	
HCM 6th Ctrl Delay	4.6
HCM 6th LOS	A

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	55	110	125	960	1025	295
Future Volume (vph)	55	110	125	960	1025	295
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	25.0	25.0	95.0	95.0	95.0	95.0
Total Split (%)	20.8%	20.8%	79.2%	79.2%	79.2%	79.2%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	9.4	9.4	101.6	101.6	101.6	101.6
Actuated g/C Ratio	0.08	0.08	0.85	0.85	0.85	0.85
v/c Ratio	0.43	0.51	0.35	0.35	0.37	0.23
Control Delay	61.6	16.9	9.1	5.1	3.7	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	16.9	9.1	5.1	3.7	1.3
LOS	E	B	A	A	A	A
Approach Delay	31.8			5.6	3.2	
Approach LOS	C			A	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 6.0	Intersection LOS: A
Intersection Capacity Utilization 50.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Marksheffel Rd & North Full Access





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	110	125	960	1025	295
Future Volume (veh/h)	55	110	125	960	1025	295
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	120	136	1043	1114	321
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	167	148	341	2955	2955	1318
Arrive On Green	0.09	0.09	1.00	1.00	0.83	0.83
Sat Flow, veh/h	1781	1585	372	3647	3647	1585
Grp Volume(v), veh/h	60	120	136	1043	1114	321
Grp Sat Flow(s),veh/h/ln	1781	1585	372	1777	1777	1585
Q Serve(g_s), s	3.8	8.9	7.2	0.0	9.2	5.1
Cycle Q Clear(g_c), s	3.8	8.9	16.5	0.0	9.2	5.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	167	148	341	2955	2955	1318
V/C Ratio(X)	0.36	0.81	0.40	0.35	0.38	0.24
Avail Cap(c_a), veh/h	304	271	341	2955	2955	1318
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.93	0.93	1.00	1.00
Uniform Delay (d), s/veh	51.0	53.3	0.8	0.0	2.5	2.1
Incr Delay (d2), s/veh	1.3	10.0	3.2	0.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	4.0	0.3	0.1	2.4	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.3	63.3	4.0	0.3	2.9	2.6
LnGrp LOS	D	E	A	A	A	A
Approach Vol, veh/h	180			1179	1435	
Approach Delay, s/veh	59.6			0.7	2.8	
Approach LOS	E			A	A	

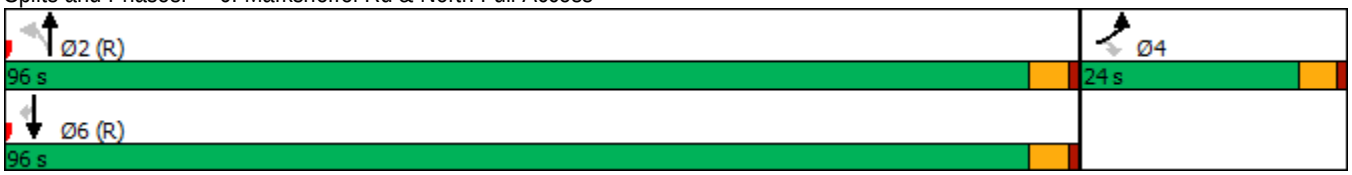
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		104.3		15.7		104.3
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		90.5		20.5		90.5
Max Q Clear Time (g_c+I1), s		18.5		10.9		11.2
Green Ext Time (p_c), s		15.6		0.3		13.8

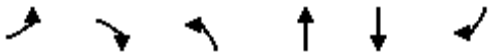
Intersection Summary	
HCM 6th Ctrl Delay	5.6
HCM 6th LOS	A

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	50	100	85	1650	940	195
Future Volume (vph)	50	100	85	1650	940	195
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	24.0	24.0	96.0	96.0	96.0	96.0
Total Split (%)	20.0%	20.0%	80.0%	80.0%	80.0%	80.0%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	9.0	9.0	102.0	102.0	102.0	102.0
Actuated g/C Ratio	0.08	0.08	0.85	0.85	0.85	0.85
v/c Ratio	0.41	0.50	0.21	0.60	0.34	0.15
Control Delay	61.2	17.4	4.1	6.0	8.0	3.3
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	61.2	17.4	4.1	6.3	8.0	3.3
LOS	E	B	A	A	A	A
Approach Delay	31.9			6.2	7.2	
Approach LOS	C			A	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.60	
Intersection Signal Delay: 7.9	Intersection LOS: A
Intersection Capacity Utilization 57.3%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Marksheffel Rd & North Full Access





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	100	85	1650	940	195
Future Volume (veh/h)	50	100	85	1650	940	195
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	109	92	1793	1022	212
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	154	137	409	2981	2981	1329
Arrive On Green	0.09	0.09	1.00	1.00	0.84	0.84
Sat Flow, veh/h	1781	1585	451	3647	3647	1585
Grp Volume(v), veh/h	54	109	92	1793	1022	212
Grp Sat Flow(s),veh/h/ln	1781	1585	451	1777	1777	1585
Q Serve(g_s), s	3.4	8.1	2.5	0.0	7.8	3.0
Cycle Q Clear(g_c), s	3.4	8.1	10.3	0.0	7.8	3.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	154	137	409	2981	2981	1329
V/C Ratio(X)	0.35	0.80	0.22	0.60	0.34	0.16
Avail Cap(c_a), veh/h	289	258	409	2981	2981	1329
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.75	0.75	1.00	1.00
Uniform Delay (d), s/veh	51.7	53.8	0.4	0.0	2.2	1.8
Incr Delay (d2), s/veh	1.4	10.1	1.0	0.7	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	3.6	0.1	0.3	1.9	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	53.0	63.9	1.4	0.7	2.5	2.1
LnGrp LOS	D	E	A	A	A	A
Approach Vol, veh/h	163			1885	1234	
Approach Delay, s/veh	60.3			0.7	2.4	
Approach LOS	E			A	A	

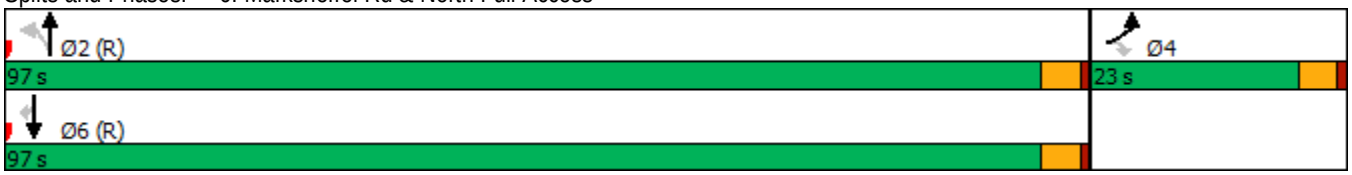
Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		105.2		14.8		105.2
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		91.5		19.5		91.5
Max Q Clear Time (g_c+I1), s		12.3		10.1		9.8
Green Ext Time (p_c), s		33.5		0.3		11.3

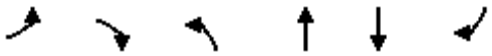
Intersection Summary		
HCM 6th Ctrl Delay		4.3
HCM 6th LOS		A

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	55	110	125	1130	1180	295
Future Volume (vph)	55	110	125	1130	1180	295
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	2	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	22.5	22.5
Total Split (s)	23.0	23.0	97.0	97.0	97.0	97.0
Total Split (%)	19.2%	19.2%	80.8%	80.8%	80.8%	80.8%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Act Effct Green (s)	9.4	9.4	101.6	101.6	101.6	101.6
Actuated g/C Ratio	0.08	0.08	0.85	0.85	0.85	0.85
v/c Ratio	0.43	0.51	0.43	0.41	0.43	0.23
Control Delay	61.6	16.9	12.5	6.0	4.8	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	16.9	12.5	6.0	4.8	1.6
LOS	E	B	B	A	A	A
Approach Delay	31.8			6.6	4.1	
Approach LOS	C			A	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 6.8	Intersection LOS: A
Intersection Capacity Utilization 55.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Marksheffel Rd & North Full Access





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	110	125	1130	1180	295
Future Volume (veh/h)	55	110	125	1130	1180	295
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	120	136	1228	1283	321
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	166	148	293	2956	2956	1318
Arrive On Green	0.09	0.09	1.00	1.00	0.83	0.83
Sat Flow, veh/h	1781	1585	317	3647	3647	1585
Grp Volume(v), veh/h	60	120	136	1228	1283	321
Grp Sat Flow(s),veh/h/ln	1781	1585	317	1777	1777	1585
Q Serve(g_s), s	3.8	8.9	12.2	0.0	11.4	5.1
Cycle Q Clear(g_c), s	3.8	8.9	23.6	0.0	11.4	5.1
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	166	148	293	2956	2956	1318
V/C Ratio(X)	0.36	0.81	0.46	0.42	0.43	0.24
Avail Cap(c_a), veh/h	275	244	293	2956	2956	1318
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.90	0.90	1.00	1.00
Uniform Delay (d), s/veh	51.1	53.4	1.3	0.0	2.7	2.1
Incr Delay (d2), s/veh	1.3	10.2	4.7	0.4	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	4.0	0.5	0.2	2.9	1.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.4	63.6	6.0	0.4	3.1	2.6
LnGrp LOS	D	E	A	A	A	A
Approach Vol, veh/h	180			1364	1604	
Approach Delay, s/veh	59.8			1.0	3.0	
Approach LOS	E			A	A	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		104.3		15.7		104.3
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		92.5		18.5		92.5
Max Q Clear Time (g_c+I1), s		25.6		10.9		13.4
Green Ext Time (p_c), s		20.6		0.3		17.5

Intersection Summary	
HCM 6th Ctrl Delay	5.4
HCM 6th LOS	A

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	295	165	1430	800	110
Future Vol, veh/h	50	295	165	1430	800	110
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	0	150	-	-	150
Veh in Median Storage, #	2	-	-	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	54	321	179	1554	870	120

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2005	435	990	0	-	0
Stage 1	870	-	-	-	-	-
Stage 2	1135	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*156	569	694	-	-	-
Stage 1	*370	-	-	-	-	-
Stage 2	*449	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	*116	569	694	-	-	-
Mov Cap-2 Maneuver	*241	-	-	-	-	-
Stage 1	*275	-	-	-	-	-
Stage 2	*449	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19.9	1.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	694	-	241	569	-	-
HCM Lane V/C Ratio	0.258	-	0.226	0.564	-	-
HCM Control Delay (s)	12	-	24.2	19.2	-	-
HCM Lane LOS	B	-	C	C	-	-
HCM 95th %tile Q(veh)	1	-	0.8	3.5	-	-

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

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	320	250	1030	965	170
Future Vol, veh/h	55	320	250	1030	965	170
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	0	150	-	-	150
Veh in Median Storage, #	2	-	-	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	60	348	272	1120	1049	185

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	2153	525	1234	0	-	0
Stage 1	1049	-	-	-	-	-
Stage 2	1104	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*~ 58	497	560	-	-	-
Stage 1	*298	-	-	-	-	-
Stage 2	*622	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	*~ 30	497	560	-	-	-
Mov Cap-2 Maneuver	*141	-	-	-	-	-
Stage 1	*153	-	-	-	-	-
Stage 2	*622	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	30.4	3.4	0
HCM LOS	D		

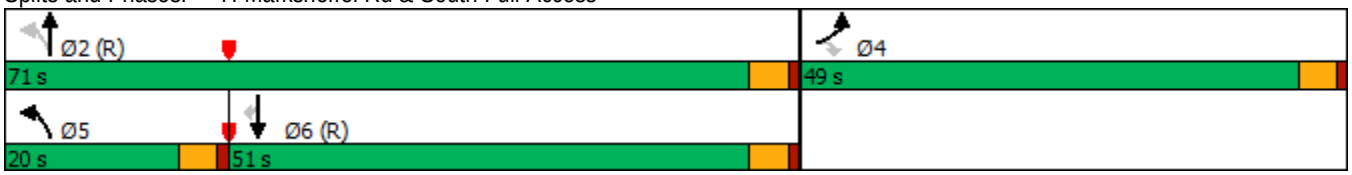
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	560	-	141	497	-	-
HCM Lane V/C Ratio	0.485	-	0.424	0.7	-	-
HCM Control Delay (s)	17.3	-	48.1	27.4	-	-
HCM Lane LOS	C	-	E	D	-	-
HCM 95th %tile Q(veh)	2.6	-	1.9	5.4	-	-

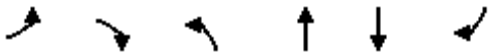
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	50	295	165	1430	800	110
Future Volume (vph)	50	295	165	1430	800	110
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	49.0	49.0	20.0	71.0	51.0	51.0
Total Split (%)	40.8%	40.8%	16.7%	59.2%	42.5%	42.5%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	10.3	10.3	100.7	100.7	88.3	88.3
Actuated g/C Ratio	0.09	0.09	0.84	0.84	0.74	0.74
v/c Ratio	0.36	0.76	0.34	0.52	0.33	0.10
Control Delay	56.3	18.4	4.9	5.8	2.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	18.4	4.9	5.8	2.8	0.3
LOS	E	B	A	A	A	A
Approach Delay	23.9			5.7	2.5	
Approach LOS	C			A	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 6.9	Intersection LOS: A
Intersection Capacity Utilization 51.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Marksheffel Rd & South Full Access





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	295	165	1430	800	110
Future Volume (veh/h)	50	295	165	1430	800	110
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	321	179	1554	870	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	399	355	505	2492	2161	964
Arrive On Green	0.22	0.22	0.07	0.93	1.00	1.00
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	54	321	179	1554	870	120
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	2.9	23.7	4.4	8.5	0.0	0.0
Cycle Q Clear(g_c), s	2.9	23.7	4.4	8.5	0.0	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	399	355	505	2492	2161	964
V/C Ratio(X)	0.14	0.90	0.35	0.62	0.40	0.12
Avail Cap(c_a), veh/h	661	588	636	2492	2161	964
HCM Platoon Ratio	1.00	1.00	1.33	1.33	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.86	0.86	0.96	0.96
Uniform Delay (d), s/veh	37.3	45.3	6.7	1.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	11.1	0.4	1.0	0.5	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	20.1	1.6	1.7	0.2	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.4	56.4	7.1	2.5	0.5	0.3
LnGrp LOS	D	E	A	A	A	A
Approach Vol, veh/h	375			1733	990	
Approach Delay, s/veh	53.7			3.0	0.5	
Approach LOS	D			A	A	

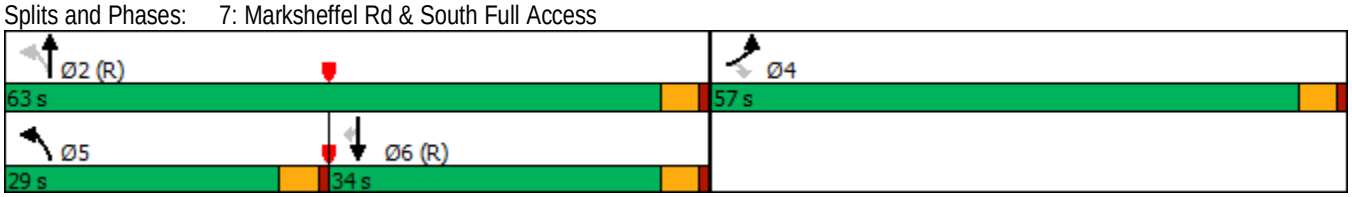
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		88.6		31.4	11.2	77.5
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		66.5		44.5	15.5	46.5
Max Q Clear Time (g_c+I1), s		10.5		25.7	6.4	2.0
Green Ext Time (p_c), s		19.9		1.2	0.3	8.2

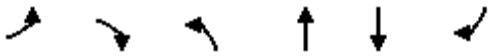
Intersection Summary	
HCM 6th Ctrl Delay	8.3
HCM 6th LOS	A

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	55	320	250	1030	965	170
Future Volume (vph)	55	320	250	1030	965	170
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	57.0	57.0	29.0	63.0	34.0	34.0
Total Split (%)	47.5%	47.5%	24.2%	52.5%	28.3%	28.3%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	10.5	10.5	100.5	100.5	83.1	83.1
Actuated g/C Ratio	0.09	0.09	0.84	0.84	0.69	0.69
v/c Ratio	0.39	0.76	0.55	0.38	0.43	0.16
Control Delay	57.2	16.7	4.6	0.7	5.8	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	16.7	4.6	0.7	5.8	2.5
LOS	E	B	A	A	A	A
Approach Delay	22.7			1.4	5.3	
Approach LOS	C			A	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 5.9	Intersection LOS: A
Intersection Capacity Utilization 55.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: Marksheffel Rd & South Full Access





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	320	250	1030	965	170
Future Volume (veh/h)	55	320	250	1030	965	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	348	272	1120	1049	185
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	431	383	462	2428	1999	892
Arrive On Green	0.24	0.24	0.08	0.68	1.00	1.00
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	60	348	272	1120	1049	185
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	3.2	25.6	7.3	17.5	0.0	0.0
Cycle Q Clear(g_c), s	3.2	25.6	7.3	17.5	0.0	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	431	383	462	2428	1999	892
V/C Ratio(X)	0.14	0.91	0.59	0.46	0.52	0.21
Avail Cap(c_a), veh/h	779	693	678	2428	1999	892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.42	0.42	0.93	0.93
Uniform Delay (d), s/veh	35.7	44.2	8.1	8.8	0.0	0.0
Incr Delay (d2), s/veh	0.1	8.5	0.5	0.3	0.9	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	21.3	2.7	6.4	0.3	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.8	52.7	8.6	9.1	0.9	0.5
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	408			1392	1234	
Approach Delay, s/veh	50.2			9.0	0.9	
Approach LOS	D			A	A	

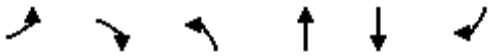
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		86.5		33.5	14.5	72.0
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		58.5		52.5	24.5	29.5
Max Q Clear Time (g_c+I1), s		19.5		27.6	9.3	2.0
Green Ext Time (p_c), s		10.7		1.4	0.7	9.6

Intersection Summary	
HCM 6th Ctrl Delay	11.2
HCM 6th LOS	B

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	50	295	165	1685	930	110
Future Volume (vph)	50	295	165	1685	930	110
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	53.0	53.0	18.0	67.0	49.0	49.0
Total Split (%)	44.2%	44.2%	15.0%	55.8%	40.8%	40.8%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	11.7	11.7	99.3	99.3	85.5	85.5
Actuated g/C Ratio	0.10	0.10	0.83	0.83	0.71	0.71
v/c Ratio	0.31	0.80	0.38	0.63	0.40	0.10
Control Delay	52.4	24.7	6.8	7.8	4.6	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.4	24.7	6.8	7.8	4.6	1.9
LOS	D	C	A	A	A	A
Approach Delay	28.7			7.7	4.3	
Approach LOS	C			A	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 65	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.80	
Intersection Signal Delay: 8.9	Intersection LOS: A
Intersection Capacity Utilization 58.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: Marksheffel Rd & South Full Access



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	295	165	1685	930	110
Future Volume (veh/h)	50	295	165	1685	930	110
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	321	179	1832	1011	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	399	355	463	2491	2156	962
Arrive On Green	0.22	0.22	0.11	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	54	321	179	1832	1011	120
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	2.9	23.6	4.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.9	23.6	4.5	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	399	355	463	2491	2156	962
V/C Ratio(X)	0.14	0.90	0.39	0.74	0.47	0.12
Avail Cap(c_a), veh/h	720	641	562	2491	2156	962
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.63	0.63	0.95	0.95
Uniform Delay (d), s/veh	37.2	45.3	6.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	8.6	0.3	1.3	0.7	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	19.8	1.5	0.4	0.2	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.4	53.9	6.8	1.3	0.7	0.3
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	375			2011	1131	
Approach Delay, s/veh	51.5			1.7	0.7	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		88.6		31.4	11.3	77.3
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		62.5		48.5	13.5	44.5
Max Q Clear Time (g_c+I1), s		2.0		25.6	6.5	2.0
Green Ext Time (p_c), s		27.8		1.3	0.3	9.9

Intersection Summary	
HCM 6th Ctrl Delay	6.7
HCM 6th LOS	A

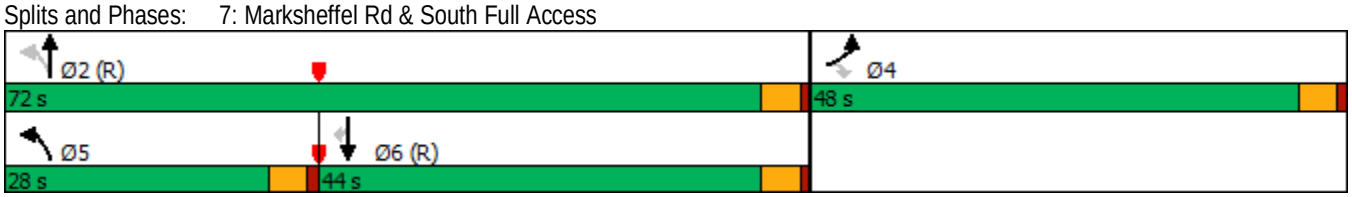
Notes

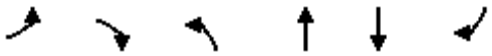
User approved volume balancing among the lanes for turning movement.

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	55	320	250	1200	1120	170
Future Volume (vph)	55	320	250	1200	1120	170
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	48.0	48.0	28.0	72.0	44.0	44.0
Total Split (%)	40.0%	40.0%	23.3%	60.0%	36.7%	36.7%
Yellow Time (s)	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
Lost Time Adjust (s)	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
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max
Act Effct Green (s)	10.5	10.5	100.5	100.5	80.9	80.9
Actuated g/C Ratio	0.09	0.09	0.84	0.84	0.67	0.67
v/c Ratio	0.39	0.76	0.60	0.44	0.51	0.17
Control Delay	57.4	16.8	9.1	6.6	6.2	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	16.8	9.1	6.6	6.2	2.5
LOS	E	B	A	A	A	A
Approach Delay	22.8			7.1	5.7	
Approach LOS	C			A	A	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green	
Natural Cycle: 70	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.76	
Intersection Signal Delay: 8.4	Intersection LOS: A
Intersection Capacity Utilization 60.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 7: Marksheffel Rd & South Full Access





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	55	320	250	1200	1120	170
Future Volume (veh/h)	55	320	250	1200	1120	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	60	348	272	1304	1217	185
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	429	382	433	2431	1982	884
Arrive On Green	0.24	0.24	0.18	1.00	1.00	1.00
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	60	348	272	1304	1217	185
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	3.2	25.6	8.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.2	25.6	8.0	0.0	0.0	0.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	429	382	433	2431	1982	884
V/C Ratio(X)	0.14	0.91	0.63	0.54	0.61	0.21
Avail Cap(c_a), veh/h	646	575	623	2431	1982	884
HCM Platoon Ratio	1.00	1.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.09	0.09	0.90	0.90
Uniform Delay (d), s/veh	35.8	44.3	7.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	13.8	0.1	0.1	1.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	21.9	2.4	0.0	0.4	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.9	58.1	7.5	0.1	1.3	0.5
LnGrp LOS	D	E	A	A	A	A
Approach Vol, veh/h	408			1576	1402	
Approach Delay, s/veh	54.9			1.4	1.2	
Approach LOS	D			A	A	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		86.6		33.4	15.2	71.4
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s		67.5		43.5	23.5	39.5
Max Q Clear Time (g_c+I1), s		2.0		27.6	10.0	2.0
Green Ext Time (p_c), s		14.9		1.3	0.7	13.0

Intersection Summary	
HCM 6th Ctrl Delay	7.7
HCM 6th LOS	A

Notes

User approved volume balancing among the lanes for turning movement.

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	10	30	0	5	5	200	10	5	285	5
Future Vol, veh/h	5	0	10	30	0	5	5	200	10	5	285	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	11	33	0	5	5	217	11	5	310	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	558	561	313	561	558	223	315	0	0	228	0	0
Stage 1	323	323	-	233	233	-	-	-	-	-	-	-
Stage 2	235	238	-	328	325	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	440	436	727	438	438	817	1245	-	-	1340	-	-
Stage 1	689	650	-	770	712	-	-	-	-	-	-	-
Stage 2	768	708	-	685	649	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	434	433	727	429	434	817	1245	-	-	1340	-	-
Mov Cap-2 Maneuver	590	561	-	582	560	-	-	-	-	-	-	-
Stage 1	686	647	-	767	709	-	-	-	-	-	-	-
Stage 2	760	705	-	672	646	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.5	11.3	0.2	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1245	-	-	675	607	1340	-	-
HCM Lane V/C Ratio	0.004	-	-	0.024	0.063	0.004	-	-
HCM Control Delay (s)	7.9	-	-	10.5	11.3	7.7	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	10	20	0	5	10	210	35	10	355	5
Future Vol, veh/h	5	0	10	20	0	5	10	210	35	10	355	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	11	22	0	5	11	228	38	11	386	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	683	699	389	685	682	247	391	0	0	266	0	0
Stage 1	411	411	-	269	269	-	-	-	-	-	-	-
Stage 2	272	288	-	416	413	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	363	364	659	362	372	792	1168	-	-	1298	-	-
Stage 1	618	595	-	737	687	-	-	-	-	-	-	-
Stage 2	734	674	-	614	594	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	356	358	659	351	366	792	1168	-	-	1298	-	-
Mov Cap-2 Maneuver	524	504	-	514	506	-	-	-	-	-	-	-
Stage 1	612	590	-	730	681	-	-	-	-	-	-	-
Stage 2	722	668	-	599	589	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	11.8	0.3	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1168	-	-	607	553	1298	-	-
HCM Lane V/C Ratio	0.009	-	-	0.027	0.049	0.008	-	-
HCM Control Delay (s)	8.1	-	-	11.1	11.8	7.8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	0	10	30	0	5	5	225	10	5	325	5
Future Vol, veh/h	5	0	10	30	0	5	5	225	10	5	325	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	11	33	0	5	5	245	11	5	353	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	629	632	356	632	629	251	358	0	0	256	0	0
Stage 1	366	366	-	261	261	-	-	-	-	-	-	-
Stage 2	263	266	-	371	368	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	*432	417	688	*430	*420	*894	1201	-	-	*1338	-	-
Stage 1	*653	623	-	*843	*738	-	-	-	-	-	-	-
Stage 2	*843	736	-	*649	*621	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	*427	414	688	*420	*416	*894	1201	-	-	*1338	-	-
Mov Cap-2 Maneuver	*582	549	-	*570	*547	-	-	-	-	-	-	-
Stage 1	*650	621	-	*839	*735	-	-	-	-	-	-	-
Stage 2	*834	733	-	*636	*619	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	10.7	11.4	0.2	0.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1201	-	-	649	601	* 1338	-	-
HCM Lane V/C Ratio	0.005	-	-	0.025	0.063	0.004	-	-
HCM Control Delay (s)	8	0	-	10.7	11.4	7.7	-	-
HCM Lane LOS	A	A	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

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

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	5	20	0	5	10	225	35	10	405	5
Future Vol, veh/h	10	0	5	20	0	5	10	225	35	10	405	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	2	-	-	2	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	5	22	0	5	11	245	38	11	440	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	754	770	443	753	753	264	445	0	0	283	0	0
Stage 1	465	465	-	286	286	-	-	-	-	-	-	-
Stage 2	289	305	-	467	467	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
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	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	343	336	615	344	345	893	1115	-	-	1311	-	-
Stage 1	578	563	-	816	719	-	-	-	-	-	-	-
Stage 2	812	703	-	576	562	-	-	-	-	-	-	-
Platoon blocked, %	1	1		1	1	1		-	-	1	-	-
Mov Cap-1 Maneuver	336	330	615	336	339	893	1115	-	-	1311	-	-
Mov Cap-2 Maneuver	509	486	-	500	486	-	-	-	-	-	-	-
Stage 1	572	558	-	807	712	-	-	-	-	-	-	-
Stage 2	799	696	-	566	558	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.9	11.9	0.3	0.2
HCM LOS	B	B		

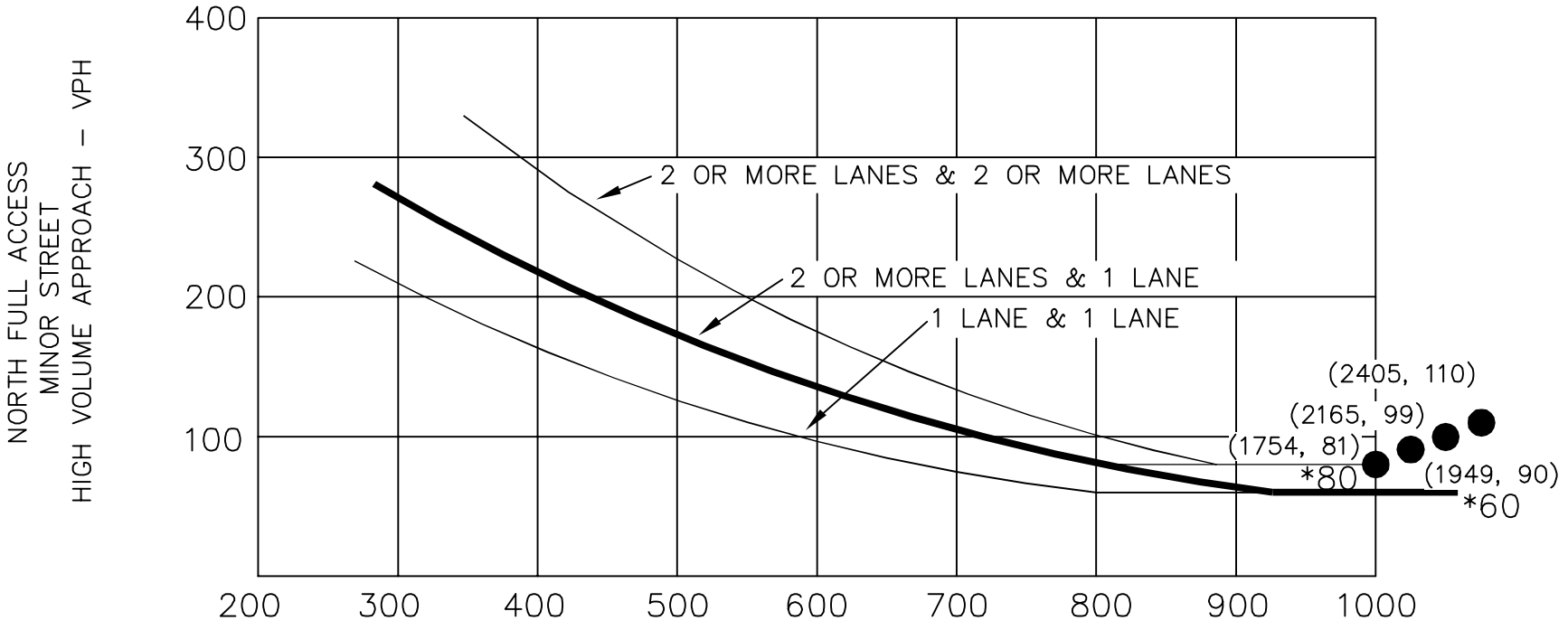
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1115	-	-	540	548	1311	-	-
HCM Lane V/C Ratio	0.01	-	-	0.03	0.05	0.008	-	-
HCM Control Delay (s)	8.3	-	-	11.9	11.9	7.8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-

APPENDIX E

Signal Warrant Analysis

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (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 FOR A MINOR STREET APPROACHING WITH ONE LANE.

MARKSHEFFEL RD AND NORTH FULL ACCESS
CROSSROADS–MEADOWBROOK
FOUR HOUR VOLUME WARRANT

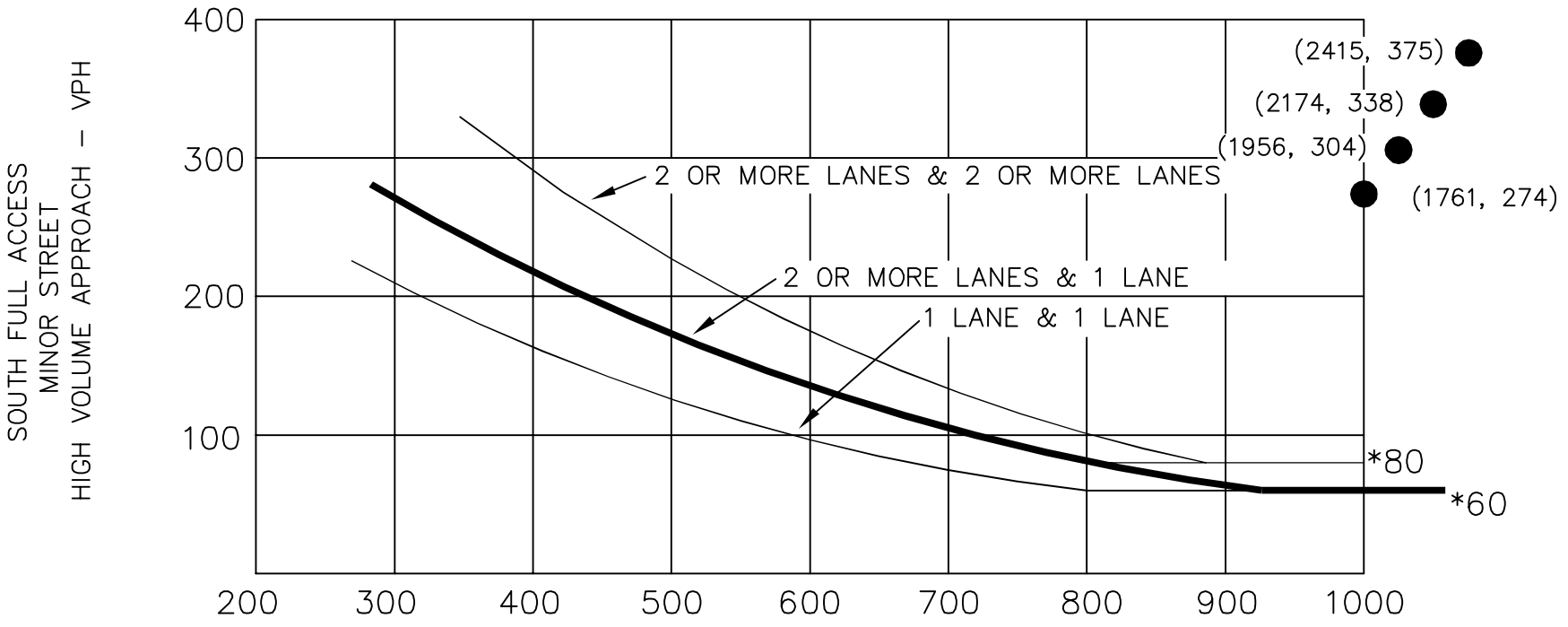
● 2025 PM Peak Hour Traffic Volume Projections

Source: Manual of Uniform Traffic Control Devices 2009

Kimley»Horn

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (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 FOR A MINOR STREET APPROACHING WITH ONE LANE.

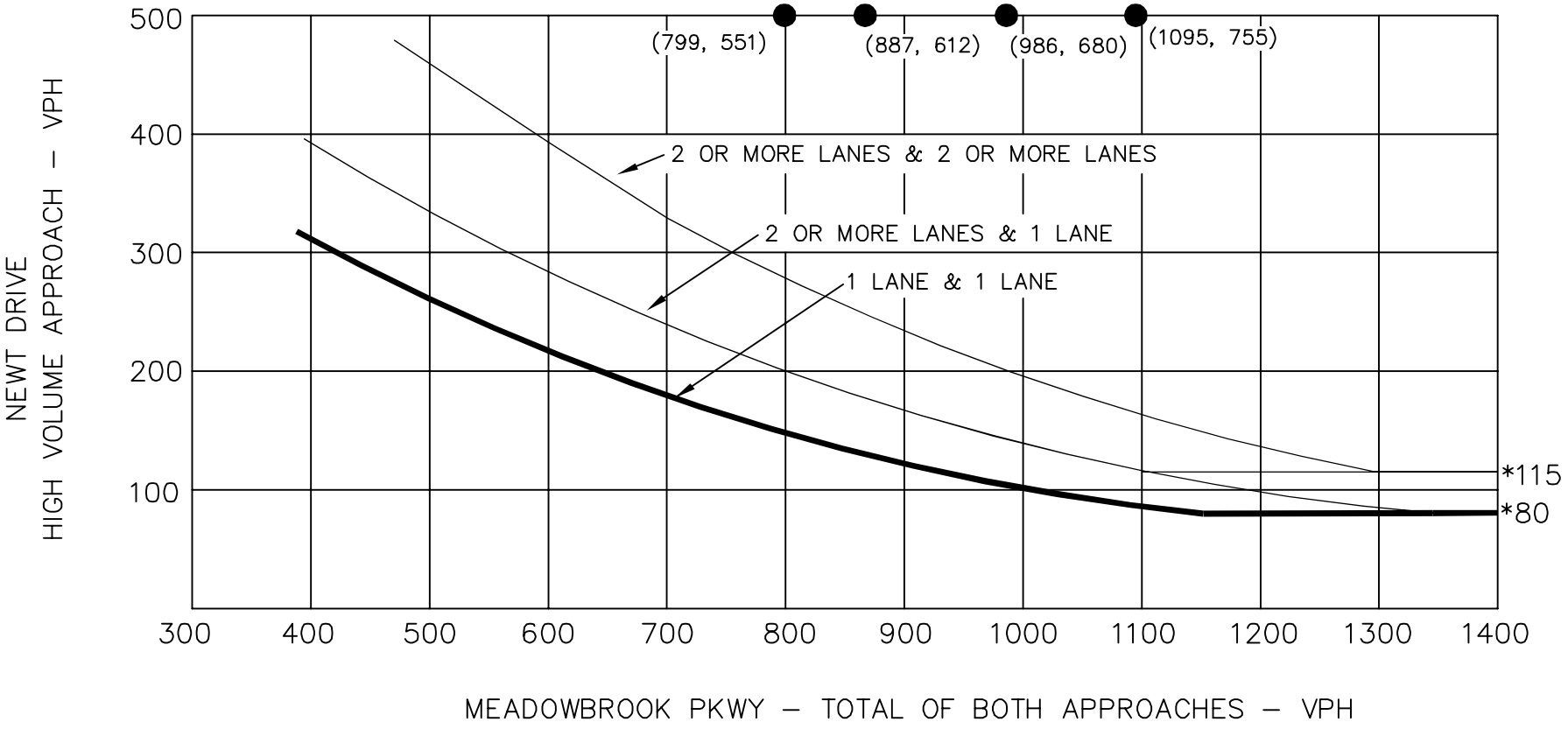
MARKSHEFFEL RD AND SOUTH FULL ACCESS
CROSSROADS–MEADOWBROOK
FOUR HOUR VOLUME WARRANT

● 2025 PM Peak Hour Traffic Volume Projections

Source: Manual of Uniform Traffic Control Devices 2009

Kimley»Horn

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME



* 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 FOR A MINOR STREET APPROACHING WITH ONE LANE.

CROSSROADS–MEADOBROOK
NEWT DR AND MEADOWBROK PKWY
FOUR HOUR VOLUME WARRANT

● 2025 PM Traffic Volume Projections

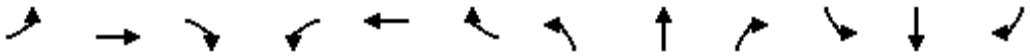
Source: Manual of Uniform Traffic Control Devices 2009

APPENDIX FIGURE E1

Kimley»Horn

APPENDIX F

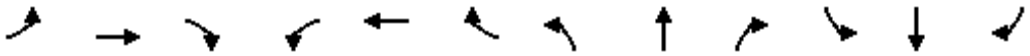
Queueing Analysis Worksheets



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	201	11	38	38	22	27	33	870	16	11	1516	272
v/c Ratio	0.61	0.06	0.16	0.24	0.20	0.12	0.20	0.35	0.01	0.03	0.61	0.23
Control Delay	59.7	46.8	1.5	43.3	57.6	1.2	9.4	8.4	0.0	6.9	10.4	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	46.8	1.5	43.3	57.6	1.2	9.4	8.4	0.0	6.9	10.4	1.3
Queue Length 50th (ft)	77	8	0	24	17	0	14	194	0	2	310	0
Queue Length 95th (ft)	117	26	0	53	44	0	m21	177	m0	10	417	28
Internal Link Dist (ft)		333			407			398			517	
Turn Bay Length (ft)	150		150	250		200	425			350		350
Base Capacity (vph)	373	374	385	159	279	349	167	2470	1138	401	2494	1188
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.54	0.03	0.10	0.24	0.08	0.08	0.20	0.35	0.01	0.03	0.61	0.23

Intersection Summary

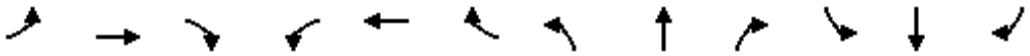
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	293	11	49	22	16	33	43	1435	71	38	1027	255
v/c Ratio	0.66	0.05	0.18	0.14	0.16	0.16	0.13	0.57	0.06	0.21	0.42	0.22
Control Delay	57.0	44.3	3.4	38.4	56.9	1.6	8.4	13.8	1.2	12.3	9.1	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.0	44.3	3.4	38.4	56.9	1.6	8.4	13.8	1.2	12.3	9.1	1.5
Queue Length 50th (ft)	112	8	0	13	12	0	17	331	3	10	178	0
Queue Length 95th (ft)	154	25	10	34	35	0	m24	304	m10	35	257	30
Internal Link Dist (ft)		333			407			398			517	
Turn Bay Length (ft)	150		150	250		200	425			350		350
Base Capacity (vph)	572	450	447	194	279	349	326	2508	1159	180	2460	1175
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.02	0.11	0.11	0.06	0.09	0.13	0.57	0.06	0.21	0.42	0.22

Intersection Summary

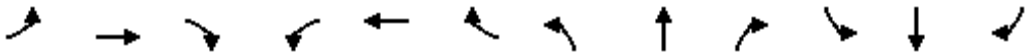
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	217	11	43	49	27	33	38	1022	22	11	1788	310
v/c Ratio	0.62	0.06	0.19	0.26	0.24	0.19	0.40	0.43	0.02	0.04	0.75	0.27
Control Delay	58.7	47.8	2.4	40.6	58.2	2.3	29.8	10.7	1.2	7.8	15.1	1.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.7	47.8	2.4	40.6	58.2	2.3	29.8	10.7	1.2	7.8	15.1	1.5
Queue Length 50th (ft)	84	8	0	31	20	0	14	195	0	3	440	0
Queue Length 95th (ft)	122	26	4	62	51	0	m21	238	m1	10	616	31
Internal Link Dist (ft)		333			407			398			517	
Turn Bay Length (ft)	150		150	250		200	425			350		350
Base Capacity (vph)	424	345	362	219	279	310	94	2371	1084	313	2393	1163
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.03	0.12	0.22	0.10	0.11	0.40	0.43	0.02	0.04	0.75	0.27

Intersection Summary

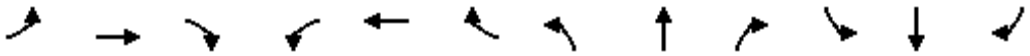
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	326	16	60	22	16	43	49	1685	82	49	1196	283
v/c Ratio	0.69	0.05	0.19	0.13	0.16	0.20	0.20	0.70	0.07	0.47	0.51	0.25
Control Delay	56.7	43.1	5.2	36.4	56.9	2.1	12.4	18.0	1.2	31.5	11.4	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.7	43.1	5.2	36.4	56.9	2.1	12.4	18.0	1.2	31.5	11.4	1.6
Queue Length 50th (ft)	125	11	0	13	12	0	15	381	2	17	231	0
Queue Length 95th (ft)	168	31	20	33	35	0	m24	m443	m3	#87	331	33
Internal Link Dist (ft)		333			407			398			517	
Turn Bay Length (ft)	150		150	250		200	425			350		350
Base Capacity (vph)	657	393	401	300	279	349	240	2405	1116	104	2359	1146
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.04	0.15	0.07	0.06	0.12	0.20	0.70	0.07	0.47	0.51	0.25

Intersection Summary

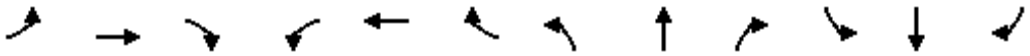
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	11	812	715	5	549	87	344	527	210	319	1144	21
v/c Ratio	0.11	0.82	0.47	0.06	0.58	0.06	0.72	0.42	0.14	0.63	0.88	0.01
Control Delay	45.6	41.0	1.4	56.0	38.3	0.1	44.4	58.1	0.2	21.2	45.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.6	41.0	1.4	56.0	38.3	0.1	44.4	58.1	0.2	21.2	45.1	0.0
Queue Length 50th (ft)	8	282	4	3	195	0	146	228	0	116	423	0
Queue Length 95th (ft)	m11	273	17	m16	m208	m0	186	288	0	228	#774	0
Internal Link Dist (ft)		711			1080			2518			924	
Turn Bay Length (ft)	375			300		375	1000		575	1000		700
Base Capacity (vph)	104	1106	1524	78	1139	1568	604	1266	1455	559	1303	1553
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.73	0.47	0.06	0.48	0.06	0.57	0.42	0.14	0.57	0.88	0.01

Intersection Summary

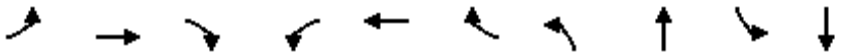
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	16	658	446	16	870	201	557	1026	314	185	538	16
v/c Ratio	0.18	0.65	0.28	0.12	0.79	0.13	0.78	0.81	0.20	0.66	0.57	0.01
Control Delay	49.4	38.2	0.4	51.3	52.4	0.1	27.1	49.1	0.0	42.6	43.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	38.2	0.4	51.3	52.4	0.1	27.1	49.1	0.0	42.6	43.6	0.0
Queue Length 50th (ft)	12	161	0	11	315	0	188	450	0	65	177	0
Queue Length 95th (ft)	m30	250	0	m14	m314	m0	m205	m401	m0	#322	#408	0
Internal Link Dist (ft)		711			1080			2518			924	
Turn Bay Length (ft)	375			300		375	1000		575	1000		700
Base Capacity (vph)	88	1305	1568	137	1327	1583	944	1263	1583	281	947	1568
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.18	0.50	0.28	0.12	0.66	0.13	0.59	0.81	0.20	0.66	0.57	0.01

Intersection Summary

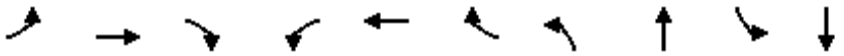
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	16	946	849	5	636	98	409	834	372	1378
v/c Ratio	0.15	0.84	0.56	0.06	0.62	0.06	0.75	0.65	0.81	0.88
Control Delay	56.3	43.3	2.1	60.0	45.0	0.1	55.9	40.3	39.8	47.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	43.3	2.1	60.0	45.0	0.1	55.9	40.3	39.8	47.8
Queue Length 50th (ft)	11	239	9	3	226	0	156	198	185	364
Queue Length 95th (ft)	m14	365	24	m7	328	m0	201	#309	#419	#658
Internal Link Dist (ft)		711			1080			2518		924
Turn Bay Length (ft)	375			300		375	1000		1000	
Base Capacity (vph)	104	1211	1524	78	1212	1568	736	1275	476	1562
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.78	0.56	0.06	0.52	0.06	0.56	0.65	0.78	0.88

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



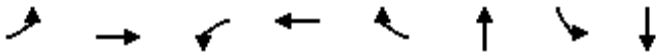
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	22	755	527	16	1016	234	660	1525	207	658
v/c Ratio	0.24	0.61	0.34	0.11	0.80	0.15	0.81	1.05	0.72	0.76
Control Delay	49.4	37.1	0.5	41.9	29.1	0.2	27.1	71.2	51.4	55.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	49.4	37.1	0.5	41.9	29.1	0.2	27.1	71.2	51.4	55.1
Queue Length 50th (ft)	16	128	0	11	269	0	282	~520	113	~202
Queue Length 95th (ft)	m32	293	0	m28	326	0	m266	m#492	#359	#415
Internal Link Dist (ft)		711			1080			2518		924
Turn Bay Length (ft)	375			300		375	1000		1000	
Base Capacity (vph)	91	1495	1568	144	1471	1583	972	1449	288	864
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.51	0.34	0.11	0.69	0.15	0.68	1.05	0.72	0.76

Intersection Summary

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

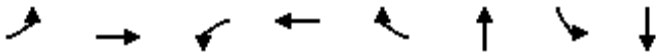
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	11	49	549	16	136	544	239	103
v/c Ratio	0.03	0.10	0.81	0.03	0.27	0.44	0.52	0.09
Control Delay	30.6	32.2	51.5	30.7	6.5	3.1	16.4	8.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.6	32.2	51.5	30.7	6.5	3.1	16.4	8.0
Queue Length 50th (ft)	6	29	204	9	0	25	88	25
Queue Length 95th (ft)	20	57	257	26	46	78	183	52
Internal Link Dist (ft)		163		610		142		169
Turn Bay Length (ft)	50		100				50	
Base Capacity (vph)	423	566	796	566	576	1247	462	1189
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	0.03	0.09	0.69	0.03	0.24	0.44	0.52	0.09

Intersection Summary



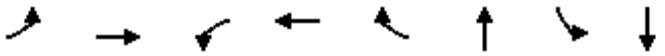
Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	16	43	701	54	130	783	272	136
v/c Ratio	0.05	0.09	1.04	0.11	0.26	0.63	0.93	0.11
Control Delay	32.9	33.5	79.6	38.2	11.8	6.5	59.3	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	33.5	79.6	38.2	11.8	6.5	59.3	7.6
Queue Length 50th (ft)	9	25	~187	23	10	105	172	34
Queue Length 95th (ft)	28	55	m#387	m35	m33	211	#375	58
Internal Link Dist (ft)		163		610		142		169
Turn Bay Length (ft)	50		100				50	
Base Capacity (vph)	350	485	673	476	499	1245	292	1206
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	0.09	1.04	0.11	0.26	0.63	0.93	0.11

Intersection Summary

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

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

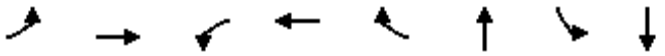
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	11	54	549	22	163	544	283	103
v/c Ratio	0.04	0.14	0.99	0.06	0.35	0.42	0.55	0.08
Control Delay	38.1	39.5	83.5	38.2	8.2	2.0	13.0	5.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.1	39.5	83.5	38.2	8.2	2.0	13.0	5.2
Queue Length 50th (ft)	7	34	220	14	0	17	92	21
Queue Length 95th (ft)	23	70	#338	37	57	50	169	37
Internal Link Dist (ft)		163		610		142		169
Turn Bay Length (ft)	50		100				50	
Base Capacity (vph)	294	395	554	395	464	1307	517	1271
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	0.14	0.99	0.06	0.35	0.42	0.55	0.08

Intersection Summary

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



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	SBL	SBT
Lane Group Flow (vph)	16	49	701	60	147	783	321	141
v/c Ratio	0.05	0.11	1.12	0.13	0.30	0.62	1.03	0.11
Control Delay	34.5	35.2	101.4	36.2	9.8	5.6	81.0	6.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	35.2	101.4	36.2	9.8	5.6	81.0	6.7
Queue Length 50th (ft)	9	29	~297	25	7	84	~265	32
Queue Length 95th (ft)	28	62	m#401	m38	m34	181	#448	55
Internal Link Dist (ft)		163		610		142		169
Turn Bay Length (ft)	50		100				50	
Base Capacity (vph)	327	455	628	447	489	1272	312	1232
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	0.11	1.12	0.13	0.30	0.62	1.03	0.11

Intersection Summary

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

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

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	54	120	592	799	141	5	552	979	541	5	1771
v/c Ratio	0.33	0.68	0.38	1.07	0.14	0.00	1.08	0.45	0.37	0.03	1.07
Control Delay	74.1	84.2	0.7	107.4	40.7	0.0	119.4	28.6	0.7	19.8	90.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.1	84.2	0.7	107.4	40.7	0.0	119.4	28.6	0.7	19.8	90.7
Queue Length 50th (ft)	26	115	0	~444	55	0	~308	236	0	2	~709
Queue Length 95th (ft)	51	183	0	#575	83	0	#428	287	0	10	#840
Internal Link Dist (ft)		610			2306			785			727
Turn Bay Length (ft)	375			475		475	900		600	800	
Base Capacity (vph)	182	217	1538	747	1026	1553	513	2180	1468	191	1652
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.30	0.55	0.38	1.07	0.14	0.00	1.08	0.45	0.37	0.03	1.07

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	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	76	163	761	707	158	11	698	1828	552	5	962
v/c Ratio	0.42	0.70	0.48	1.00	0.15	0.01	0.78	0.91	0.35	0.04	1.09
Control Delay	70.3	59.4	0.8	75.7	28.8	0.0	48.3	42.2	0.6	15.2	95.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	70.3	59.4	0.8	75.7	28.8	0.0	48.3	42.2	0.6	15.2	95.2
Queue Length 50th (ft)	31	120	0	256	42	0	259	487	0	3	~310
Queue Length 95th (ft)	m46	m169	m0	#410	64	m0	330	#618	0	m3	#446
Internal Link Dist (ft)		610			2306			785			727
Turn Bay Length (ft)	375			475		475	900		600	800	
Base Capacity (vph)	185	279	1583	708	1096	1568	892	2012	1568	131	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.58	0.48	1.00	0.14	0.01	0.78	0.91	0.35	0.04	1.09

Intersection Summary

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

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

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	54	125	630	886	152	5	577	1124	608	10	2104
v/c Ratio	0.33	0.68	0.41	1.27	0.16	0.00	1.29	0.50	0.41	0.06	1.16
Control Delay	74.0	83.0	0.8	181.4	42.1	0.0	195.9	28.5	0.9	19.6	122.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	74.0	83.0	0.8	181.4	42.1	0.0	195.9	28.5	0.9	19.6	122.2
Queue Length 50th (ft)	26	120	0	~562	61	0	~369	274	0	4	~898
Queue Length 95th (ft)	51	188	0	#695	90	0	#491	334	0	15	#1038
Internal Link Dist (ft)		610			2306			785			727
Turn Bay Length (ft)	375			475		475	900		600	800	
Base Capacity (vph)	184	234	1538	695	998	1553	447	2239	1468	175	1807
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.53	0.41	1.27	0.15	0.00	1.29	0.50	0.41	0.06	1.16

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.

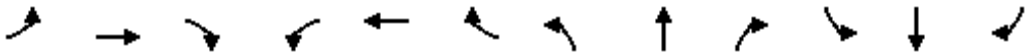
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	76	174	804	766	163	11	724	2115	604	5	1130
v/c Ratio	0.42	0.73	0.51	1.13	0.16	0.01	0.79	1.04	0.39	0.04	1.31
Control Delay	68.8	61.4	0.8	102.9	19.6	0.0	47.7	65.8	0.7	13.4	176.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	68.8	61.4	0.8	102.9	19.6	0.0	47.7	65.8	0.7	13.4	176.2
Queue Length 50th (ft)	31	129	0	~342	39	0	268	~658	0	1	~436
Queue Length 95th (ft)	m46	m175	m0	m#353	m49	m0	340	#773	0	m2	#554
Internal Link Dist (ft)		610			2306			785			727
Turn Bay Length (ft)	375			475		475	900		600	800	
Base Capacity (vph)	185	279	1583	680	1069	1568	920	2039	1568	132	865
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.41	0.62	0.51	1.13	0.15	0.01	0.79	1.04	0.39	0.04	1.31

Intersection Summary

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

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

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

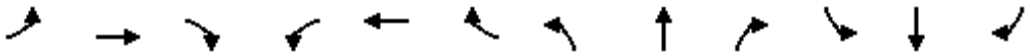


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	179	359	98	33	408	152	98	348	22	353	609	353
v/c Ratio	1.12	0.63	0.17	0.17	0.70	0.26	0.25	0.28	0.03	0.57	0.39	0.23
Control Delay	136.7	34.5	0.6	26.7	41.2	4.5	18.2	32.8	0.1	14.3	17.1	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	136.7	34.5	0.6	26.7	41.2	4.5	18.2	32.8	0.1	14.3	17.1	0.3
Queue Length 50th (ft)	~154	184	0	18	272	0	33	101	0	93	103	0
Queue Length 95th (ft)	#264	217	0	38	325	39	76	183	0	157	198	0
Internal Link Dist (ft)		2306			1405			5693			958	
Turn Bay Length (ft)	300		250	225		250	375		400	400		400
Base Capacity (vph)	215	762	732	268	776	746	409	1233	644	692	1575	1568
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.47	0.13	0.12	0.53	0.20	0.24	0.28	0.03	0.51	0.39	0.23

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.

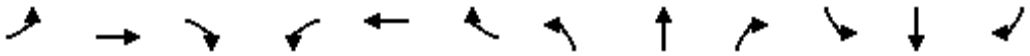


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	272	424	158	49	500	489	136	995	27	232	660	366
v/c Ratio	1.15	0.53	0.20	0.17	0.62	0.60	0.45	0.88	0.05	1.09	0.58	0.24
Control Delay	133.1	22.9	1.6	22.6	30.4	15.8	24.3	49.4	0.2	113.2	31.9	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	133.1	22.9	1.6	22.6	30.4	15.8	24.3	49.4	0.2	113.2	31.9	0.3
Queue Length 50th (ft)	~249	183	0	23	294	141	60	383	0	~154	251	0
Queue Length 95th (ft)	#426	339	18	51	411	252	101	#498	0	#313	287	0
Internal Link Dist (ft)		2306			1405			5693			958	
Turn Bay Length (ft)	300		250	225		250	375		400	400		400
Base Capacity (vph)	237	804	772	296	804	818	313	1126	562	212	1135	1553
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.15	0.53	0.20	0.17	0.62	0.60	0.43	0.88	0.05	1.09	0.58	0.24

Intersection Summary

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

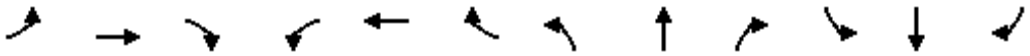
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	179	413	109	43	473	168	109	408	27	408	717	353
v/c Ratio	0.58	0.54	0.15	0.16	0.89	0.29	0.41	0.57	0.06	0.81	0.61	0.46
Control Delay	59.2	27.6	1.4	31.0	59.3	4.0	27.7	49.0	0.2	49.7	35.2	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.2	27.6	1.4	31.0	59.3	4.0	27.7	49.0	0.2	49.7	35.2	7.9
Queue Length 50th (ft)	69	221	0	24	337	0	50	163	0	190	184	14
Queue Length 95th (ft)	106	305	13	53	#501	36	90	#237	0	#374	260	115
Internal Link Dist (ft)		2306			1405			5693			958	
Turn Bay Length (ft)	300		250	225		250	375		400	400		400
Base Capacity (vph)	364	835	788	302	583	624	279	710	465	525	1180	762
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.49	0.14	0.14	0.81	0.27	0.39	0.57	0.06	0.78	0.61	0.46

Intersection Summary

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

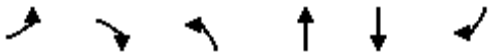


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	272	489	174	54	576	565	152	1174	33	263	778	366
v/c Ratio	1.06	0.67	0.24	0.27	1.10	0.96	0.50	0.93	0.05	1.23	0.63	0.24
Control Delay	127.2	32.8	5.3	38.1	111.3	57.3	22.7	50.6	0.1	169.0	30.2	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	127.2	32.8	5.3	38.1	111.3	57.3	22.7	50.6	0.1	169.0	30.2	0.3
Queue Length 50th (ft)	~120	259	5	33	~507	305	62	456	0	~195	222	0
Queue Length 95th (ft)	#211	388	41	71	#728	#541	103	#595	0	#371	273	0
Internal Link Dist (ft)		2306			1405			5693			958	
Turn Bay Length (ft)	300		250	225		250	375		400	400		400
Base Capacity (vph)	257	731	726	198	522	586	330	1265	647	213	1235	1553
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.67	0.24	0.27	1.10	0.96	0.46	0.93	0.05	1.23	0.63	0.24

Intersection Summary

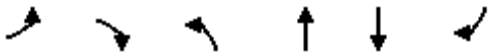
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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



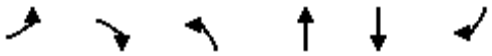
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	54	109	92	1516	880	212
v/c Ratio	0.41	0.50	0.18	0.50	0.29	0.15
Control Delay	61.2	17.4	4.2	6.8	2.7	1.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	17.4	4.2	6.8	2.7	1.1
Queue Length 50th (ft)	41	0	17	212	65	6
Queue Length 95th (ft)	81	55	35	528	113	29
Internal Link Dist (ft)	194			890	666	
Turn Bay Length (ft)			150			
Base Capacity (vph)	331	385	501	3007	3007	1377
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.28	0.18	0.50	0.29	0.15

Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	60	120	136	1043	1114	321
v/c Ratio	0.43	0.51	0.35	0.35	0.37	0.23
Control Delay	61.6	16.9	9.1	5.1	3.7	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	16.9	9.1	5.1	3.7	1.3
Queue Length 50th (ft)	45	0	33	134	85	4
Queue Length 95th (ft)	88	57	99	201	165	43
Internal Link Dist (ft)	194			890	666	
Turn Bay Length (ft)			150			150
Base Capacity (vph)	302	369	386	2995	2995	1389
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.33	0.35	0.35	0.37	0.23

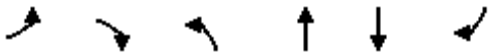
Intersection Summary



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	54	109	92	1793	1022	212
v/c Ratio	0.41	0.50	0.21	0.60	0.34	0.15
Control Delay	61.2	17.4	4.1	6.0	8.0	3.3
Queue Delay	0.0	0.0	0.0	0.3	0.0	0.0
Total Delay	61.2	17.4	4.1	6.3	8.0	3.3
Queue Length 50th (ft)	41	0	17	227	234	32
Queue Length 95th (ft)	81	55	m32	497	m254	m59
Internal Link Dist (ft)	194			890	666	
Turn Bay Length (ft)			150			
Base Capacity (vph)	287	348	430	3007	3007	1377
Starvation Cap Reductn	0	0	0	536	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.31	0.21	0.73	0.34	0.15

Intersection Summary

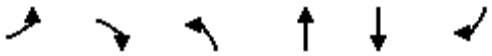
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	60	120	136	1228	1283	321
v/c Ratio	0.43	0.51	0.43	0.41	0.43	0.23
Control Delay	61.6	16.9	12.5	6.0	4.8	1.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.6	16.9	12.5	6.0	4.8	1.6
Queue Length 50th (ft)	45	0	28	132	173	22
Queue Length 95th (ft)	88	57	109	365	225	m35
Internal Link Dist (ft)	194			890	666	
Turn Bay Length (ft)			150			150
Base Capacity (vph)	272	345	318	2995	2995	1389
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.35	0.43	0.41	0.43	0.23

Intersection Summary

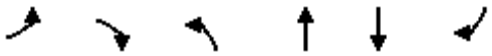
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	54	321	179	1554	870	120
v/c Ratio	0.36	0.76	0.34	0.52	0.33	0.10
Control Delay	56.3	18.4	4.9	5.8	2.8	0.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.3	18.4	4.9	5.8	2.8	0.3
Queue Length 50th (ft)	41	6	15	102	40	0
Queue Length 95th (ft)	77	93	m78	431	66	4
Internal Link Dist (ft)	256			958	890	
Turn Bay Length (ft)			150			150
Base Capacity (vph)	656	783	609	2969	2604	1188
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.41	0.29	0.52	0.33	0.10

Intersection Summary

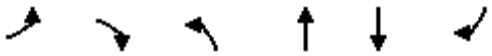
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	60	348	272	1120	1049	185
v/c Ratio	0.39	0.76	0.55	0.38	0.43	0.16
Control Delay	57.2	16.7	4.6	0.7	5.8	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.2	16.7	4.6	0.7	5.8	2.5
Queue Length 50th (ft)	45	0	23	7	52	1
Queue Length 95th (ft)	83	89	m8	m11	150	19
Internal Link Dist (ft)	256			958	890	
Turn Bay Length (ft)			150			150
Base Capacity (vph)	774	888	623	2963	2450	1124
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.39	0.44	0.38	0.43	0.16

Intersection Summary

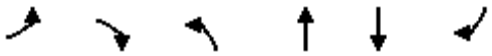
m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	54	321	179	1832	1011	120
v/c Ratio	0.31	0.80	0.38	0.63	0.40	0.10
Control Delay	52.4	24.7	6.8	7.8	4.6	1.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.4	24.7	6.8	7.8	4.6	1.9
Queue Length 50th (ft)	40	34	21	195	38	0
Queue Length 95th (ft)	74	125	m64	376	137	12
Internal Link Dist (ft)	256			958	890	
Turn Bay Length (ft)			150			150
Base Capacity (vph)	715	803	519	2927	2521	1149
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.40	0.34	0.63	0.40	0.10

Intersection Summary

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



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	60	348	272	1304	1217	185
v/c Ratio	0.39	0.76	0.60	0.44	0.51	0.17
Control Delay	57.4	16.8	9.1	6.6	6.2	2.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	16.8	9.1	6.6	6.2	2.5
Queue Length 50th (ft)	45	0	88	210	52	0
Queue Length 95th (ft)	83	89	m97	m258	303	24
Internal Link Dist (ft)	256			958	890	
Turn Bay Length (ft)			150			150
Base Capacity (vph)	641	795	553	2964	2386	1096
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.44	0.49	0.44	0.51	0.17

Intersection Summary

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

APPENDIX G

Conceptual Site Plan

CROSSROADS
(M.O.B SITE)

Kimley»Horn

EQUITY

NORTH

MEADOWBROOK PARKWAY

MEADOWBROOK PARKWAY

MEADOWBROOK PARKWAY

HIGHWAY 24

HIGHWAY 24

N. MARKSHEFFEL RD

COLORADO HWY 94

e Earth

	SITE DATA				
	USE	SITE AREA	BUILDING AREA	PARKING	SITE UTILIZATION
A	HOME IMPROVEMENT	11.40 AC	127,000 SF	425	25.6%
B	FURNITURE	9.33 AC	114,000 SF	350	23.0%
C	THEATER	8.00 AC	52,000 SF	388	14.92%
D	RESTAURANT	3.00 AC	11,000 SF	132	8.42%
E	GAS/CONVENIENCE	2.00 AC	5,000 SF	27	5.74%
F	FAST FOOD	1.35 AC	3,800 SF	41	6.46%
G	TIRE CENTER	1.30 AC	7,200 SF	26	12.71%
H	FAST FOOD	1.25 AC	2,800 SF	45	5.2%
	UNASSIGNED	2.74 AC	-	-	-
	ROAD R.O.W	.76 AC	-	-	-
	W.Q. DETENTION	2.50 AC	-	-	-
	TOTAL	44.68 AC	322,800 SF	1,434	102.05%

COLORADO HWY 94

CDOT LICENSE REQUEST

U.S. HIGHWAY 24

N. MARKSHEFFEL RD

FENCE

SPORTS FIELDS

796,318 sf

D

A
HOME IMPROVMENT
127,000 SF
425 P.S. REQ

B
FURNITURE
114,000 SF
350 P.S. REQ

C
THEATER
52,000 SF
388 P.S. REQ

W.Q. DETENTION

E

F

G

H

NORTH

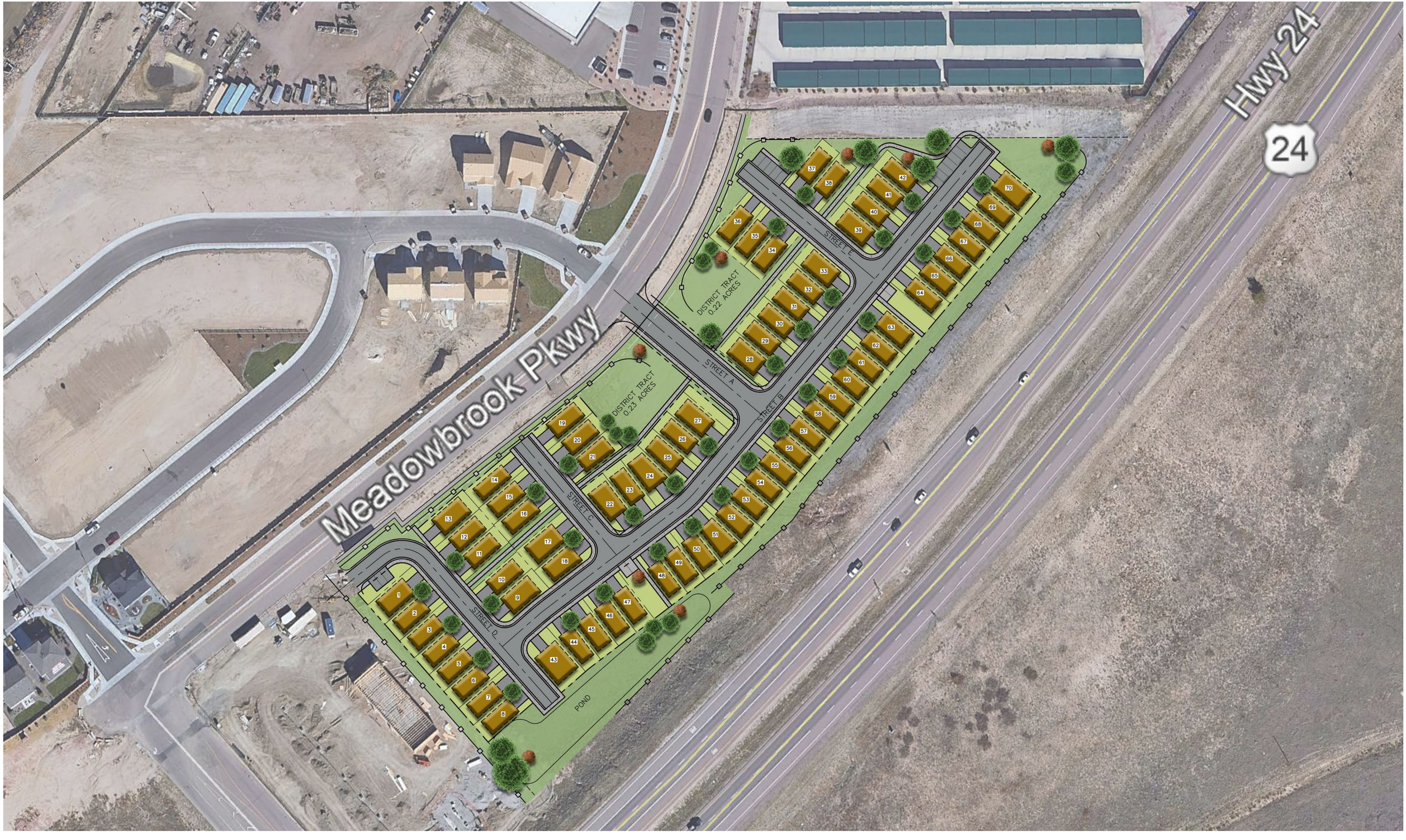
SCALE: 1" = 100'

0 50' 100' 200'

Kimley»Horn

CROSSROADS NORTH - CONCEPT PLAN

EQUITY



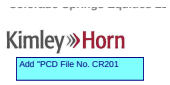
MEADOWBROOK PARK
AUGUST 2020 • CONTACT: JIM HOUK (719-284-7280)

THE EQUITY GROUP
COLORADO SPRINGS, COLORADO

Kimley»Horn

TIS V_1 - redlines.pdf Markup Summary

dsdlaforce (27)



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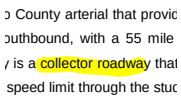
Add the Developer's Statement:

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

_____
_____
[Name, Title]
Date
[Business Name]
[Address]



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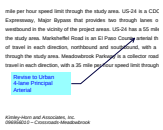

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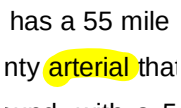
Revise to Urban 4-lane Principal Arterial



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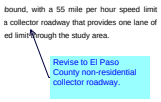

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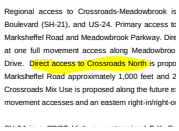
Revise to El Paso County non-residential collector roadway.



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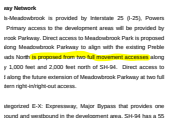

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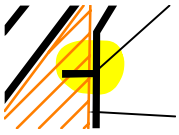
see comment on Figure 8 (page 24)



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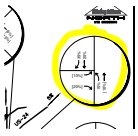

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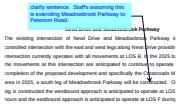
1. Revise intersection to RI/RO only. See the Marksheffel Road Access Management Plan (PCD File No. AMP06001) It identifies a future RI/RO, not full movement access approximately 2,000 ft north of SH-94.

2. A deviation request for this proposed access is required. This does not meet the 1/2 mile intersection spacing along an urban principal arterial (ECM Section 2.2.5.B1). Staff recommends the applicant & traffic engineer review the deviation request submitted with Hillcrest Commercial Park (PCD File No. PUD165) and the condition of approval associated with the deviation request.



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clarify sentence. Staff's assuming this is extending Meadowbrook Parkway to Peterson Road.

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both full movement accesses

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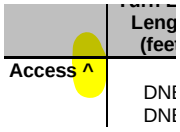
Provide analysis/recommendation regarding the NBLT on Marksheffel Rd to Air Lane. What is the required storage/taper and is the existing NBLT sufficient.

Provide analysis/recommendation regarding whether or not a SBRT acceleration lane at the two access points is warranted.



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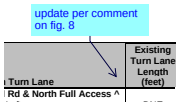

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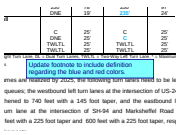
update per comment on fig. 8



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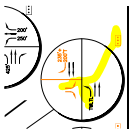
Update footnote to include definition regarding the blue and red colors.



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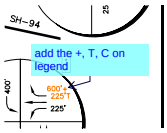
See comment on Fig 8



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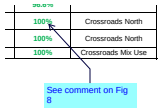

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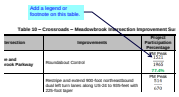
See comment on Fig 8



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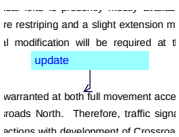

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update

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1. Identify the projected ADT for Air Lane (southern access, 60' ROW corridor) and provide street classification recommendation regarding Air Lane. Engineering Criteria Manual (ECM) Chapter 2 Table 2-6 and 2-7 includes the design ADT for the given street functional classification.

2. Provide internal street road classification for Meadowbrook Plaza and state if these are planned to be public or private roads.

2. Provide a discussion regarding the MTCP Corridor preservation plan. The MTCP identifies Marksheffel Rd as a 6-lane Expressway. Identify the existing ROW, required ROW and, if applicable, the ROW preservation.

3. Read the Road Impact Fee Implementation Document specifically Appendix 2. Identify any improvements affected by the development that may be an eligible intersection improvement or eligible roadway improvement. Staff is thinking of the Roundabout.
Be advised: Initiating a credit request and entering into a credit agreement with the County is the applicants responsibility. If the applicant intends to move forward with such request then they need to coordinate with the Principal Transportation Planner for the EPC Department of Public Works.