

Traffic Impact Study

# Crossroads North

Colorado Springs and El Paso County, Colorado

PCD File No. SP-20-7

Prepared for:

**Pikes Peak Investments LLC**

**c/o The Equity Group**

**Kimley»Horn**

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

Traffic Engineer's Statement

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.

*Jeffrey R. Planck*

\_\_\_\_\_  
Jeffrey R. Planck, P.E., PE #53006

\_\_\_\_\_  
June 27, 2024  
Date

Developer's Statement

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

*Kelly Nelson*

\_\_\_\_\_  
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Pikes Peak Investments LLC  
c/o The Equity Group  
90 South Cascade Avenue, Suite 1500  
Colorado Springs, CO 80903

\_\_\_\_\_  
June 27, 2024  
Date

**Crossroads North**

PCD File No. SP-20-7

Colorado Springs and El Paso County, Colorado

**Prepared for**  
**Pikes Peak Investments LLC**  
**c/o The Equity Group**  
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June 2024

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## 1.0 EXECUTIVE SUMMARY

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Crossroads North is a mixed-use development proposed to be located on the northwest corner of the SH-94 and Marksheffel Road intersection in El Paso County and Colorado Springs, Colorado. Marksheffel Road within the project limits is anticipated to be annexed into the City of Colorado Springs. Crossroads North proposes to contain retail uses and a park/sports complex. Crossroads North is expected to be a 10-year build. As such, an initial phase of development was evaluated in a 2026 horizon while full buildout was evaluated in the long-term 2040 horizon.

The purpose of this study is to identify project traffic generation characteristics, to identify potential project 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 the City of Colorado Springs, El Paso County, and Colorado Department of Transportation (CDOT) standards and requirements:

- US-24 and Marksheffel Road (#1)
- SH-94/Newt Drive and US-24 (#2)
- SH-94 and Marksheffel Road (#3)

In addition, two project accesses, Nox Album Point and Marksheffel Road (#4 – North Access) and Air Lane and Marksheffel Road (#5 – South Access), were included for evaluation. Further, two internal intersections, Nox Album Point/Pro Omnibus Heights (#6) and Air Lane/Pro Omnibus Heights (#7), along public roadways proposed within Crossroads North were also included for evaluation.

Regional access to the project is provided by Interstate 25 (I-25) and US-24. Primary access to the project will be provided by SH-94 and Marksheffel Road. Direct access to the proposed project is to be provided by two project accesses located along Marksheffel Road.

Phase 1 development of the project in 2026 is expected to generate approximately 11,246 daily weekday external vehicle trips with 927 of these trips occurring during the morning peak hour and 899 trips occurring during the afternoon peak hour. With full buildout of the development by 2040, the project is expected to generate approximately 16,066 daily weekday external vehicle trips with

1,037 of these trips occurring during the morning peak hour and 1,269 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 the project. Assignment of project traffic was based upon the trip generation described previously and the distribution developed for the project area. 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 to surrounding street system.

Based on the complete analysis of the project area including existing and background traffic volumes from other sources and developments presented in this report, Kimley-Horn believes the Crossroads North development will be successfully incorporated into the existing and future roadway network. All of the area traffic combined including the proposed background traffic volume growth, project development, and expected future traffic volumes in the 2026 and 2040 full buildout horizons resulted in the following conclusions and recommendations:

**2026 Recommendations:**

- CDOT will likely require Access Permits for the intersections of SH-94/US-24 (#2) and SH-94/Marksheffel Road (#3) in association with the project.
- To maintain acceptable operations the signal timings at US-24/Marksheffel Road (#1) intersection may need to be optimized by 2026, with or without the addition of project traffic.
- The intersection of SH-94/US-24 (#2) currently operates poorly during the peak hours in the existing condition. As a regional capacity improvement, it was found that US-24 may need to provide three through lanes in each direction from the Peterson Road interchange through this intersection with SH-94 in the near-term horizon. The additional through lanes should be considered by CDOT 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 deceleration lane be constructed to maintain free right turn movements to

eastbound SH-94. For southwestbound US-24 at SH-94 (#2), the existing acceleration lane along US-24 will need to be reconstructed with 960 feet of length plus a 225-foot taper if and when US-24 is improved to provide three through lanes along westbound US-24. For northeastbound US-24 at SH-94, it is recommended that this acceleration lane be converted to the third northbound through lane as the acceleration lane is not warranted. Further, the northeastbound US-24 third through lane needs to continue for 1,200 feet plus provide a 660-foot taper based on MUTCD standards. In addition to these regional improvements, it is recommended that the existing single 900-foot left turn lane be changed to 850-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 available (mostly); however, the lane is striped out which will require restriping with a slight extension that may also need to be constructed. Also, at the intersection of US-24 and SH-94 (#2), the existing dual westbound left turn lanes on SH-94 should be converted to triple left turn lanes by restriping the inside westbound through lane to a left turn lane. The inside two westbound left turn lanes should be extended to a length of 760 feet plus a 225-foot taper per CDOT requirements. Three receiving lanes will be available with the expansion of US-24 to three westbound lanes to the Peterson Road interchange off-ramp. A traffic signal modification will be required at the intersection to incorporate all of these improvements. As requested by CDOT, an additional analysis was performed with an interchange grade separation including a westbound left turn flyover ramp condition. With this westbound left turn flyover ramp and the existing two through lanes in each direction along US-24, the intersection of SH-94 and US-24 (#2) is expected to operate acceptably with LOS D during the peak hours in 2026 and LOS E during the peak hours in 2040. With three through lanes in each direction along US-24 and the implementation of the westbound left turn flyover ramp, this intersection is expected to operate acceptably during the peak hours in 2040.

- At SH-94 and Marksheffel Road (#3), it was found that the eastbound and westbound right turns should operate with overlap phasing, while the northbound and southbound right turns should operate with free movements with acceleration lanes constructed in accordance with the CDOT State Highway Access Code. The acceleration lane along westbound SH-94 is recommended to tie into the outside through lane on the approach to US-24. The eastbound left turn lane shall be extended to a length of 750 feet with a 225-foot taper while the



westbound left turn lane should be extended to a length of 650 feet with a 225-foot taper. The eastbound and westbound right turn lanes should be extended to 600 feet. The eastbound acceleration lane from the Marksheffel Road northbound right turn should be constructed to 1,380 feet with a 300-foot taper. These improvements at this intersection may already be identified with the SH-94 improvements already being planned by CDOT.

- A traffic signal is anticipated to be needed and warranted at the Air Lane and Marksheffel Road (#5 – South Access) access intersection to Crossroads North. Therefore, a traffic signal is recommended for installation at this access intersection with development of Crossroads North. To meet Colorado Springs standards, the northbound left turn at the Air Lane and Marksheffel Road (#5 – South Access) should provide a turn lane length of 390 feet plus a 200-foot taper, whereas the southbound right turn lane should provide a lane length of 235 feet plus a 200-foot taper. Lastly, separate eastbound left turn and right turn lanes are recommended to serve exiting traffic out of Crossroads North at this access.
- The Nox Album Point and Marksheffel Road (#4 – North Access) access intersection to Crossroads North should operate as a three-quarter intersection with a R1-1 “STOP” sign installed on the eastbound approach. Based on Colorado Springs standards, the northbound left turn at the Marksheffel Road North Access (#4) should provide a turn lane length of 295 feet plus a 200-foot taper, whereas the southbound right turn lane should provide a lane length of 235 feet plus a 200-foot taper. A sensitivity analysis has been prepared later in Section 5.8 comparing the north access along Marksheffel Road as a full movement signalized intersection and a three-quarter movement unsignalized intersection.
- An internal street evaluation was conducted for the Crossroads North development area. The east/west street extending from the south access (#5) to Crossroads North along Marksheffel Road is proposed to be named Air Lane and is expected to be classified as an El Paso County Urban Non-Residential Collector roadway with a 60-foot right-of-way (ROW). Air Lane extends east/west and is proposed to connect with a north/south extending Non-Residential Collector named Pro Omnibus Heights (#7). The Air Lane and Pro Omnibus Heights (#7 – South Internal Intersection) collector to collector intersection is proposed to be located approximately 525 feet west of Marksheffel Road. The north/south extending Non-Residential Collector

Street named Pro Omnibus Heights also intersects (#6) with an east/west collector street named Nox Album Point that extends from the north access to Marksheffel Road. Nox Album Point (which connects with Marksheffel Road) is proposed to be classified as an El Paso County Urban Non-Residential Collector roadway. To meet El Paso County standards for a design speed of 35 mph, the recommended left-turn lanes and right turn lanes internal to Crossroads North should provide 135 feet of deceleration length plus 140-foot tapers while all left turn lanes and right turn lanes that require a stop will also provide a storage length (determined from ECM Table 2-30 for each location).

- To meet El Paso County standards, it is recommended that a 335-foot eastbound right turn lane be designated at Air Lane and Marksheffel Road (#5 – South Access). It is recommended that a 235-foot westbound right turn lane be designated at the Nox Album Point and Pro Omnibus Heights (#6 - North Internal Intersection). A 135-foot westbound right turn lane is recommended to be designated at the Air Lane and Pro Omnibus Heights (#7 - South Internal Intersection).

#### **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. Likewise, Marksheffel Road between US-24 and Peterson Air Force Base East Gate may need to provide three through lanes in each direction. It is recommended that traffic volumes continue to be monitored by CDOT and the City of Colorado Springs, as applicable, to determine if and when these regional improvements will be needed. It is understood that US-24 and Marksheffel Road are identified with four-lane cross-sections. If future traffic projections are realized, additional right-of-way may need to be dedicated to account for six-lane cross sections along both US-24 and Marksheffel Road within the study limits.
- To maintain acceptable operations the signal timings at SH-94/Marksheffel Road (#3) intersection may need to be optimized by 2040, with or without the addition of project traffic.
- Several extensions of auxiliary turn lanes may be needed by 2040 and should be monitored by CDOT and the City of Colorado Springs, as applicable, to determine if and when the recommended turn lane lengths will be needed.

**General Recommendations:**

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

## 2.0 INTRODUCTION

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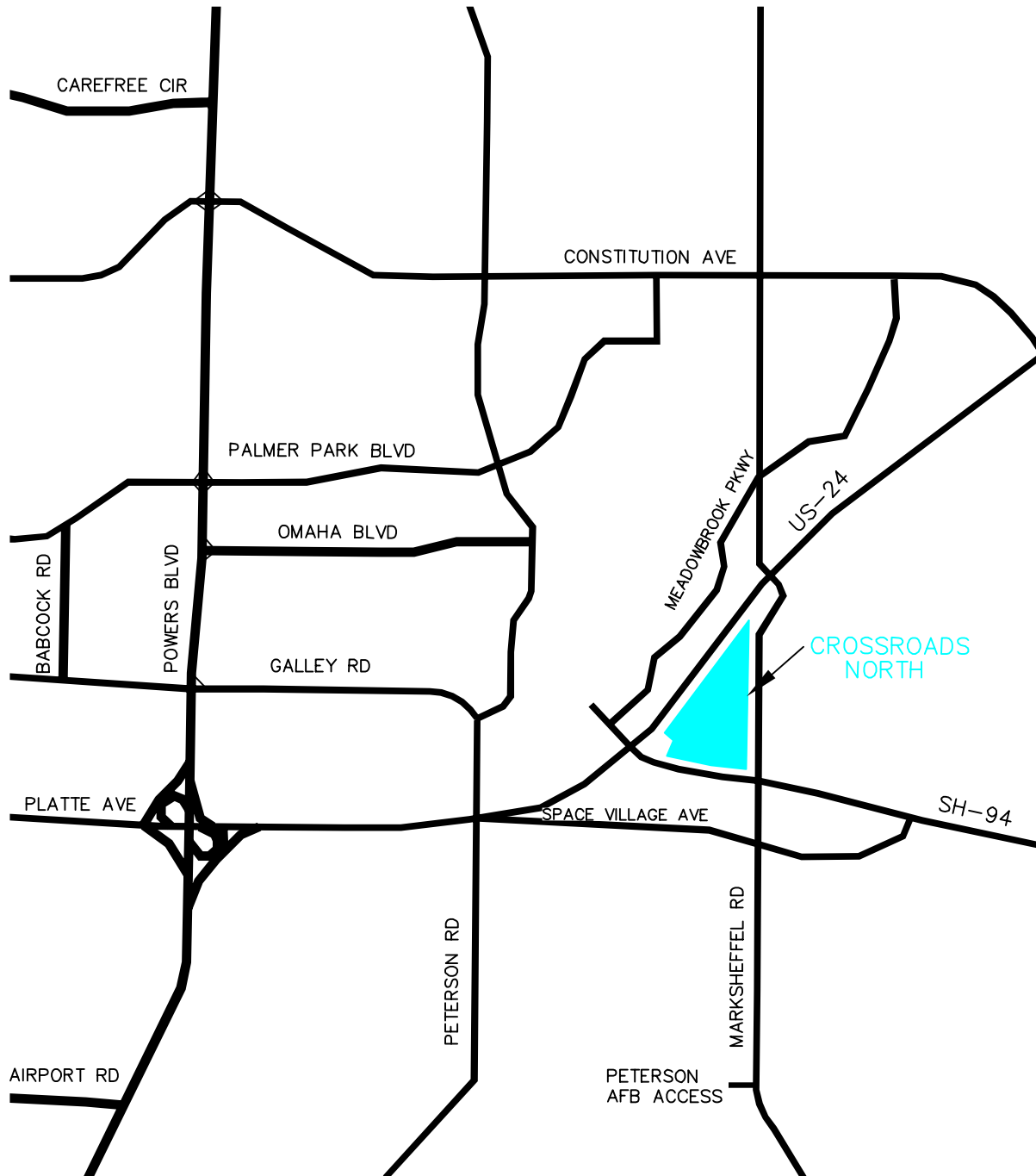
Kimley-Horn and Associates, Inc. (Kimley-Horn) has prepared this report to document the results of a Traffic Impact Study of future traffic conditions associated with the Crossroads North development to be located on the northwest corner of the SH-94 and Marksheffel Road intersection in El Paso County and Colorado Springs, Colorado. Marksheffel Road within the project limits is anticipated to be annexed into the City of Colorado Springs. Crossroads North proposes to contain retail uses and a park/sports complex. A vicinity map illustrating the location of the development area is shown in **Figure 1**. A conceptual site plan for the development area is attached in **Appendix I**. Crossroads North is proposed to be located on the northwest corner of the SH-94 and Marksheffel Road intersection. Crossroads North is expected to be a 10-year build. As such, an initial phase of development was evaluated in a five-year 2026 horizon while full buildout was evaluated in the long-term twenty-year 2040 horizon.

The purpose of this study is to identify project traffic generation characteristics, to identify potential project 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 the City of Colorado Springs, El Paso County, and Colorado Department of Transportation (CDOT) standards and requirements:

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CROSSROADS NORTH  
COLORADO SPRING, CO  
VICINITY MAP

FIGURE 1

## 3.0 EXISTING AND FUTURE CONDITIONS

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### 3.1 Existing and Future Study Area

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

### 3.2 Existing and Future Roadway Network

Regional access to the project is provided by Interstate 25 (I-25) and US-24. Primary access to the project will be provided by SH-94 and Marksheffel Road. Direct access to Crossroads North is proposed from the northern three-quarter access, Nox Album Point and Marksheffel Road (#4), and the southern full movement access, Air Lane and Marksheffel Road (#5) are located approximately 2,000 feet and 1,000 feet north of SH-94.

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 vicinity of the site. SH-94 has a 40 mile per hour speed limit at US-24, a 55-mph speed limit through the Marksheffel Road intersection and a 65-mph speed limit east of Marksheffel Road. US-24 is a CDOT Highway, categorized E-X: Expressway, Major Bypass that provides two through lanes of travel with a 55 mile per hour speed limit through the study area. Marksheffel Road provides two through lanes of travel in each direction, northbound and southbound, with a 55 mile per hour speed limit through the study area.



CROSSROADS NORTH  
COLORADO SPRINGS, CO  
SITE AREA

FIGURE 2

The US-24 and Marksheffel Road (#1) intersection is a four-leg signalized intersection. The eastbound and westbound US-24 approaches consist of dual left turn lanes, two through lanes, and a right turn lane with free movements while the northbound and southbound Marksheffel Road approaches consist of a left turn lane, two through lanes, and separate right turn lanes operating with free right turn movements.

The intersection of SH-94 and US-24 (#2) is signalized with four-legs. Both state highways run east-west, however 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 SH-94 and Marksheffel Road (#3) 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**.

### **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, heavy vehicle percentages, and bicycle counts were conducted at the intersection of US-24/Marksheffel Road (#1) on Thursday, June 4, 2020, and at the intersections of SH-94/US-24 (#2) and SH-94/Marksheffel Road (#3) on Tuesday, June 2, 2020. 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 and additional historical CDOT traffic information provided to Kimley-Horn to account for a COVID-19 adjustment for this area. Based on this information and through coordination with CDOT, the morning and afternoon peak hour counts were adjusted by 35 percent except for the counts at the intersection of SH-94 and



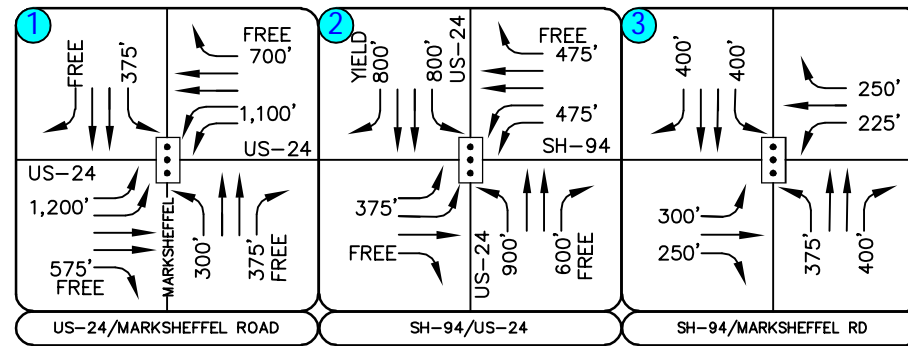
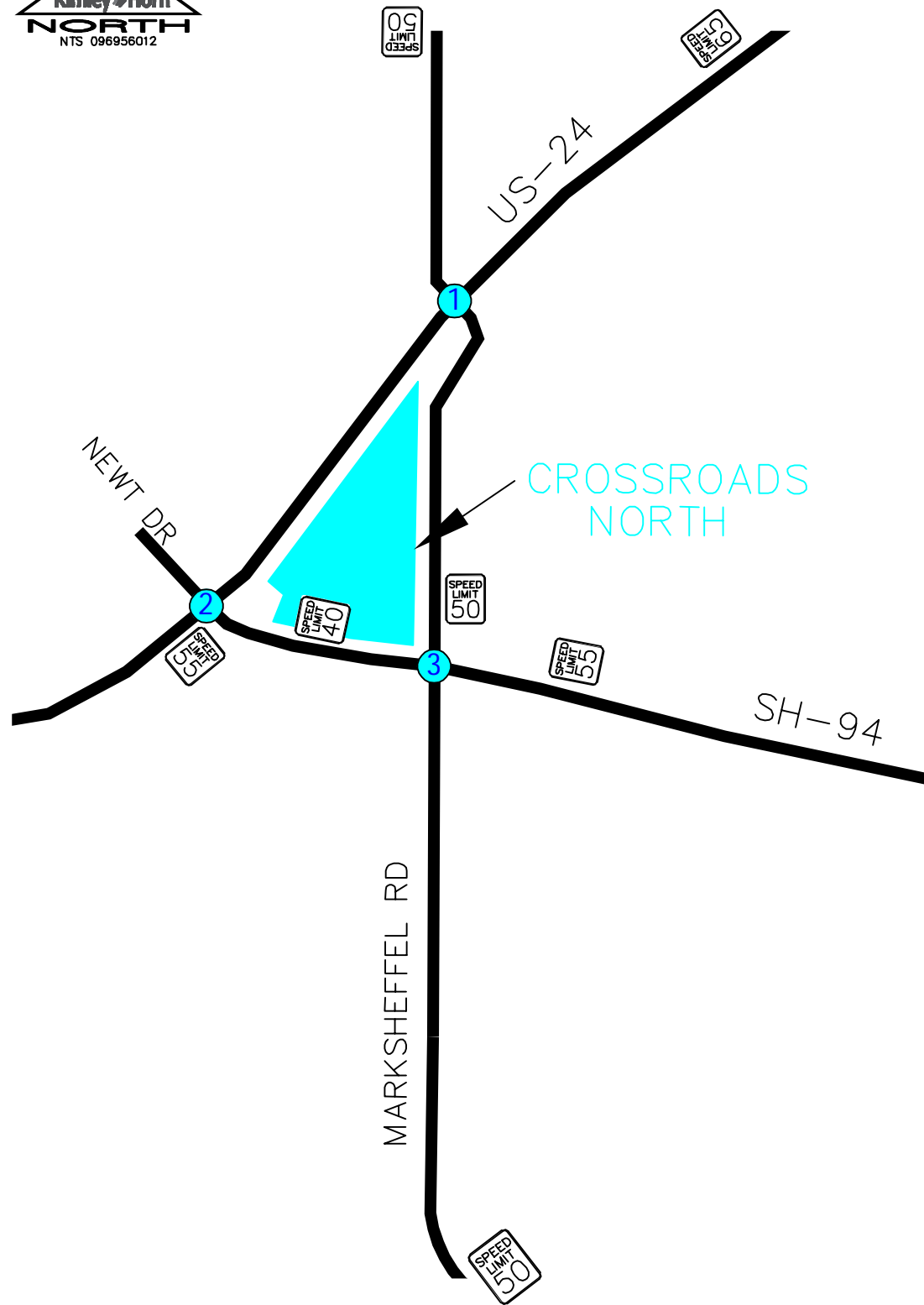
Marksheffel Road (#3) which were not adjusted in the morning peak hour but were adjusted by 44 percent for the afternoon peak hour.

Existing turning movement counts are shown in **Figure 4** while the adjusted turning movement counts are shown in **Figure 5** with count sheets and COVID-19 count adjustment data provided in **Appendix A**. It should be noted that heavy vehicle percentages are documented in the count sheets and these percentages were used in the intersection operational analysis.

### **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 2026 and long term 2040 traffic volume projections at the key intersections.

In addition to the applied annual traffic growth rates, project traffic volumes from Meadowbrook Park, Crossroads Mixed Use, and Reagan Ranch developments were included as background traffic volumes. Along with the annual growth and other background development studies, calculated trips from an additional 1,123 single family detached housing units, located in the parcels east of the southeast area of Reagan Ranch, were added to the 2040 background volumes. Further, 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. The Pikes Peak Area Council of Governments (PPACOG) 2040 traffic volume projections were used as a comparison to future traffic volume projections with this study. All future average daily traffic volume projections in this study exceed the PPACOG projections; therefore, the annual growth rate of 1.16 percent should be conservative. It should be noted that all known development traffic studies have been included in this study and this includes the Kimley-Horn traffic studies of Meadowbrook Park, Crossroads Mixed Use, and Reagan Ranch completed in the immediate area in the last five years. Background traffic volumes for 2026 and 2040 are shown in **Figures 6** and **7**, respectively.

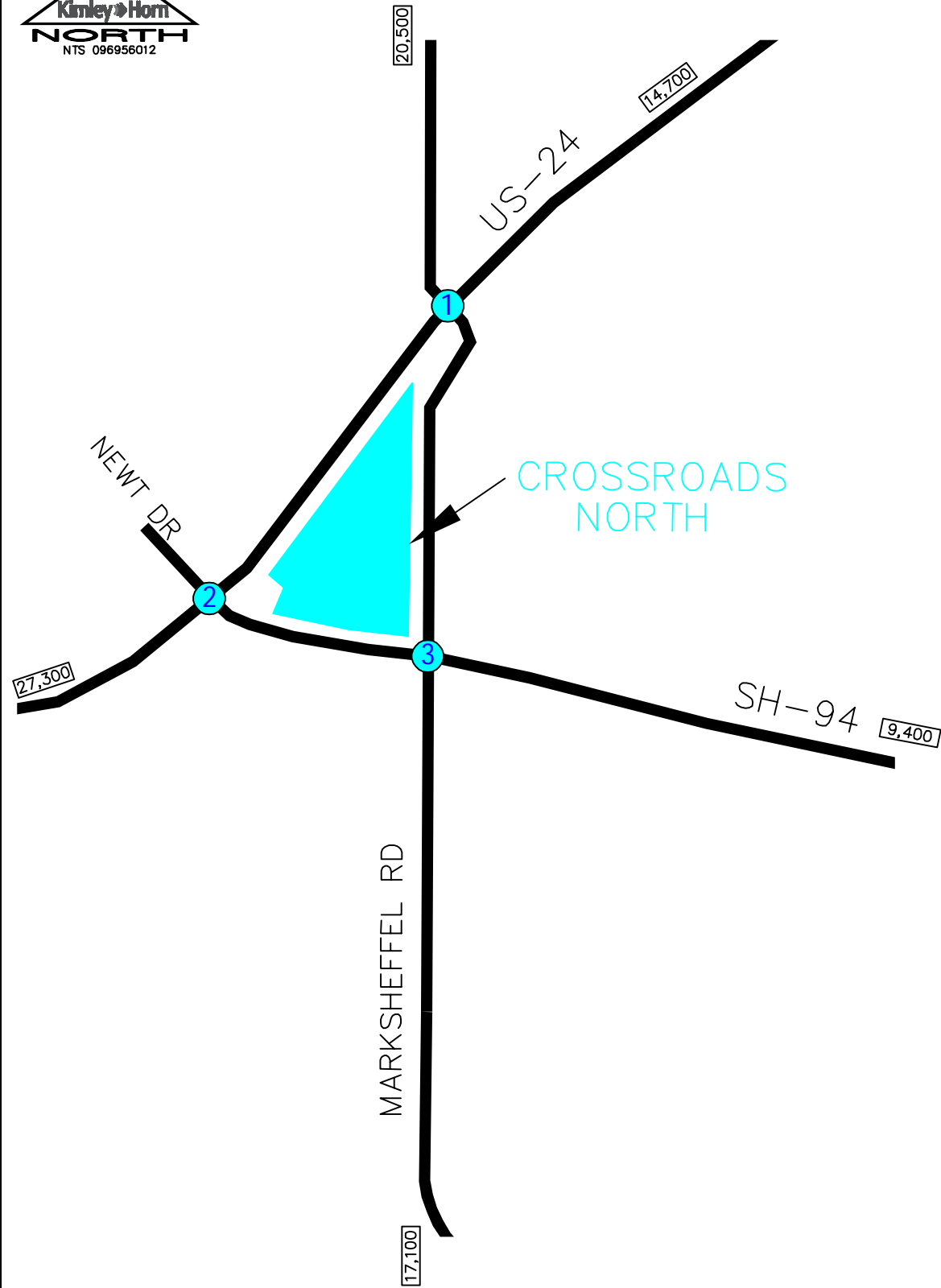


CROSSROADS NORTH  
COLORADO SPRINGS, CO  
EXISTING LANE CONFIGURATIONS AND CONTROL

**LEGEND**

- Existing Key Intersection
- Signalized Intersection
- Roadway Speed Limit
- FREE Free Right Turn Lane
- 100' Turn Lane Length (feet)

FIGURE 3

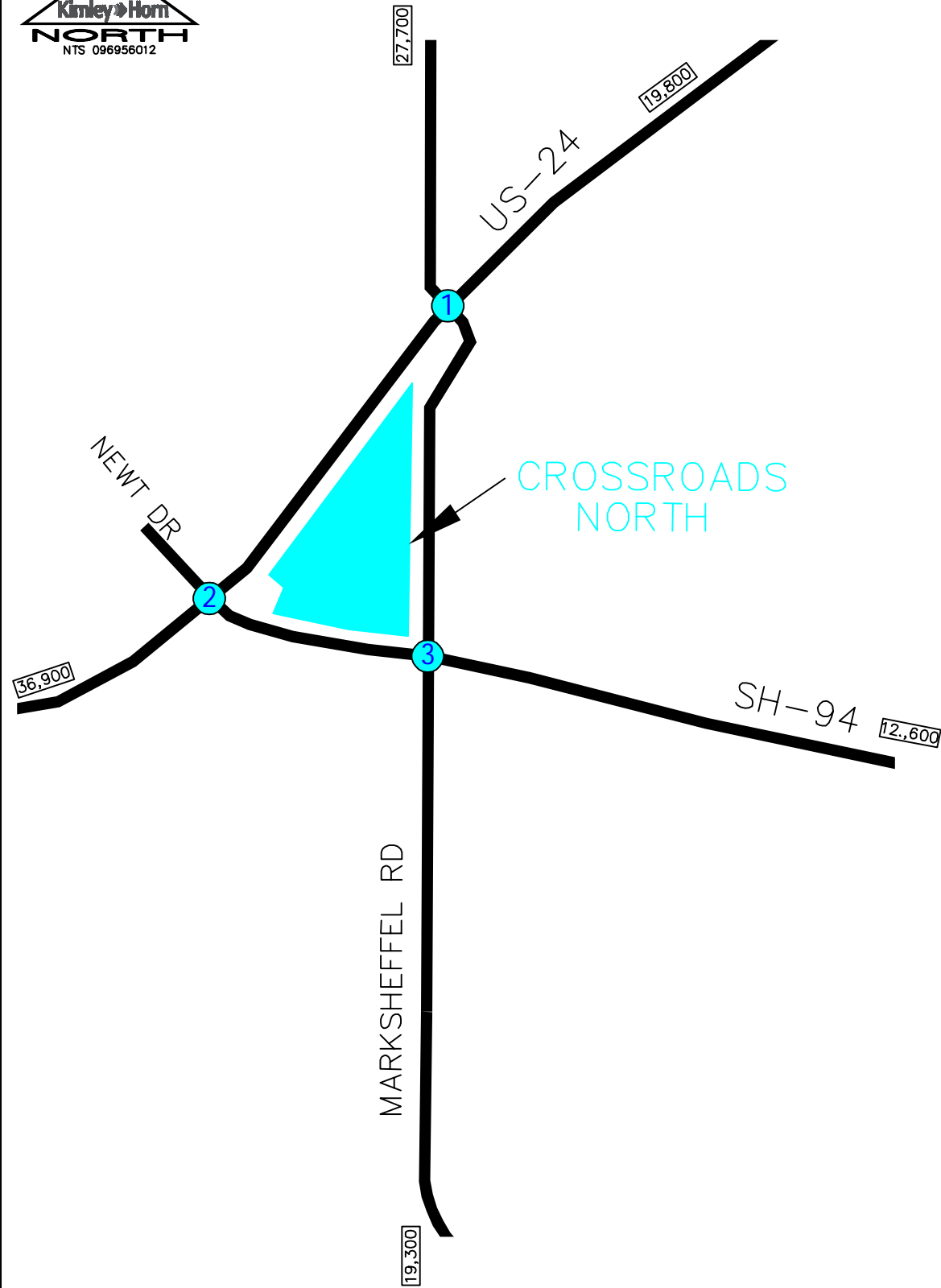


|   |  |  |
|---|--|--|
| <p><b>1</b></p> <p>MARKSHEFFEL</p> <p>522(350) ←<br/>524(410) ←<br/>7(12) ↓</p> <p>13(11) ↗<br/>820(389) ←<br/>209(104) ↘</p> <p>248(461) ↗<br/>360(815) →<br/>0(5) ↓</p> <p>1(9) ↗<br/>336(615) →<br/>40(132) ↘</p> <p>US-24</p> <p>US-24/MARKSHEFFEL ROAD</p> | <p><b>2</b></p> <p>US-24</p> <p>27(27) ↓<br/>1285(691) ←<br/>3(3) ↘</p> <p>12(21) ↗<br/>21(29) →<br/>145(176) ↓</p> <p>107(117) ↗<br/>591(1250) →<br/>281(237) ↘</p> <p>SH-94</p> <p>SH-94/US-24</p> | <p><b>3</b></p> <p>SH-94</p> <p>3(5) ↓<br/>501(398) ←<br/>256(110) ↘</p> <p>77(238) ↗<br/>297(247) ←<br/>28(27) ↘</p> <p>254(204) →<br/>54(65) ↓</p> <p>54(53) ↗<br/>270(569) →<br/>18(16) ↘</p> <p>SH-94/MARKSHEFFEL RD</p> |
|---|--|--|

CROSSROADS NORTH  
COLORADO SPRINGS, CO  
2020 EXISTING TRAFFIC VOLUMES

**LEGEND**

- Existing Key Intersection
- XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes
- Estimated Daily Traffic Volume



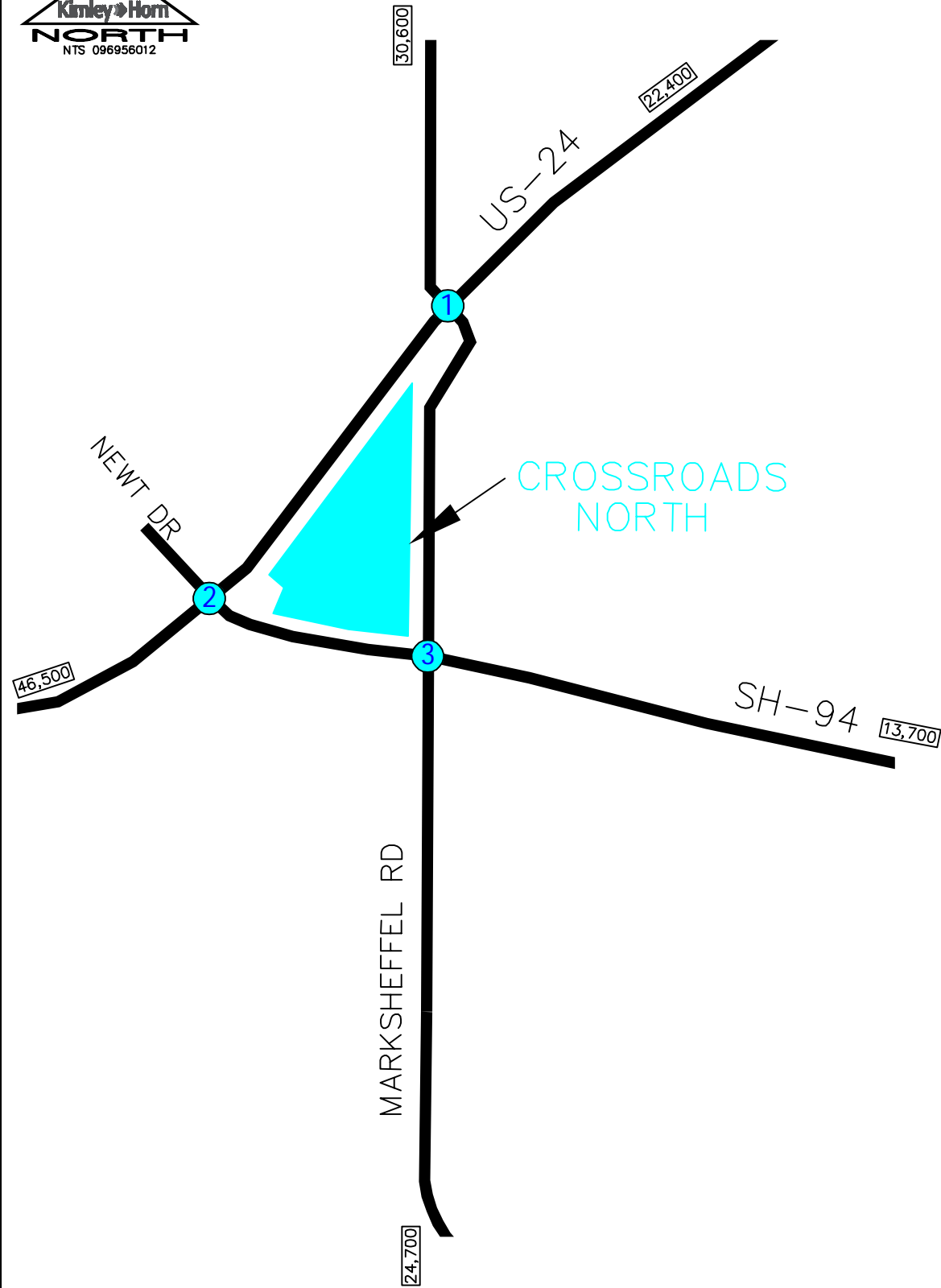
|  |  |   |
|--|--|---|
| <p><b>1</b></p> <p>MARKSHEFFEL</p> <p>705(473) ↓<br/>707(554) ↓<br/>9(16) ↓</p> <p>18(15) ↑<br/>1107(525) ↑<br/>282(140) ↑</p> <p>335(622) ↓<br/>486(1100) ↓<br/>0(7) ↓</p> <p>1(12) ↑<br/>454(830) ↑<br/>54(178) ↑</p> <p>US-24</p> | <p><b>2</b></p> <p>US-24</p> <p>36(36) ↓<br/>1735(933) ↓<br/>4(4) ↓</p> <p>16(28) ↓<br/>28(39) ↓<br/>196(238) ↓</p> <p>144(158) ↑<br/>798(1688) ↑<br/>379(320) ↑</p> <p>US-24/MARKSHEFFEL ROAD</p> | <p><b>3</b></p> <p>SH-94</p> <p>1(7) ↑<br/>39(23) ↑<br/>440(350) ↑</p> <p>3(7) ↓<br/>501(573) ↓<br/>256(158) ↓</p> <p>254(294) ↓<br/>54(94) ↓</p> <p>54(76) ↑<br/>270(819) ↑<br/>18(23) ↑</p> <p>SH-94/MARKSHEFFEL RD</p> |
|--|--|---|

**LEGEND**

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

CROSSROADS NORTH  
COLORADO SPRINGS, CO  
2020 ADJUSTED EXISTING TRAFFIC VOLUMES

FIGURE 5



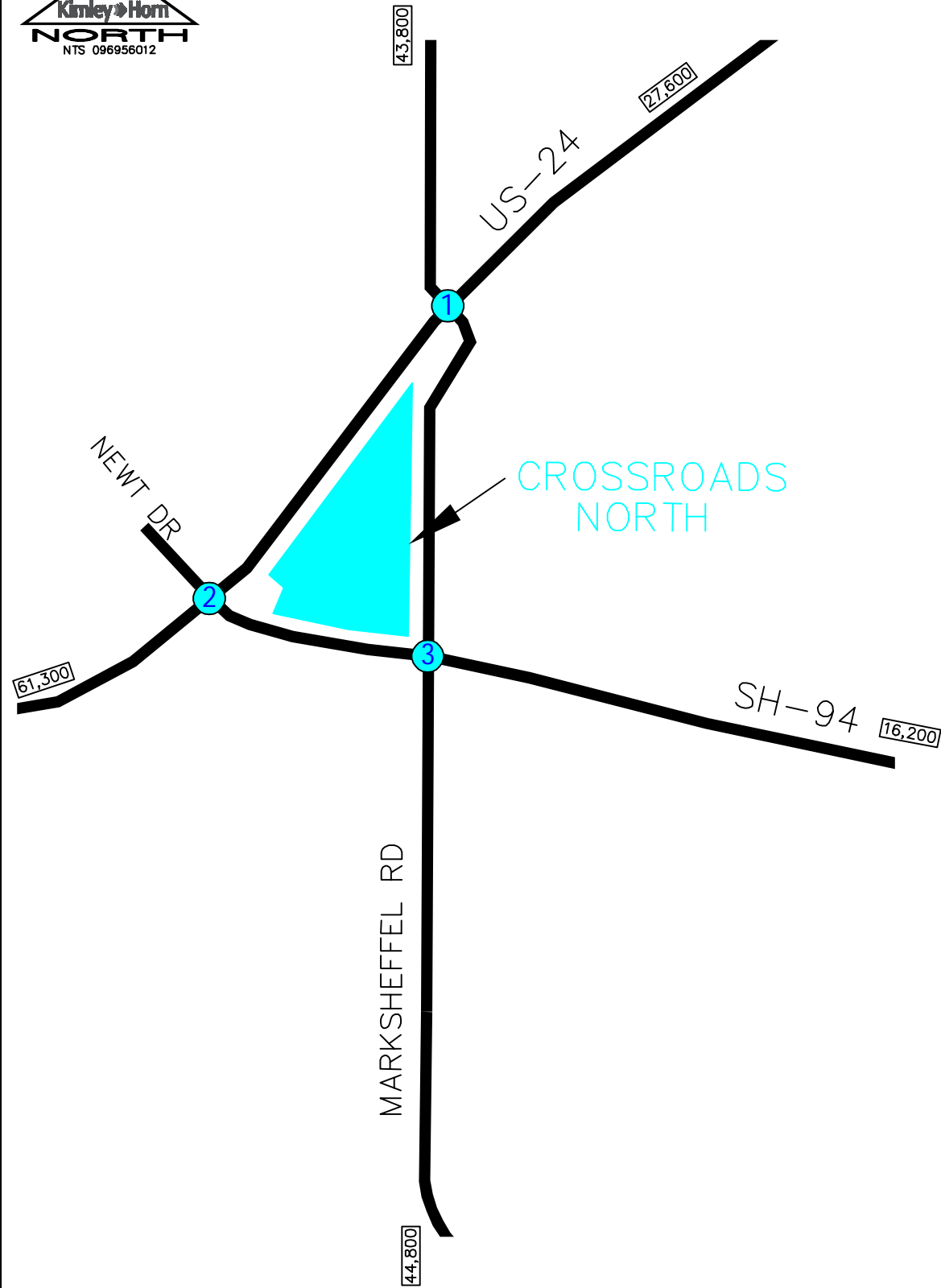
|  |   |   |
|--|---|---|
| <b>1</b><br>MARKSHEFFEL<br>760(510)<br>875(780)<br>10(20)<br>20(20)<br>1215(585)<br>325(190) | <b>2</b><br>US-24<br>65(60)<br>1860(1000)<br>5(5) | SH-94<br><b>3</b><br>5(10)<br>675(825)<br>280(175)<br>90(375)<br>345(405)<br>35(45) |
| 360(670)<br>550(1200)<br>0(10)   | 45(55)<br>90(80)<br>495(450)                      | 300(340)<br>160(265)  |
| US-24<br>US-24/MARKSHEFFEL ROAD  | SH-94<br>SH-94/US-24                              | SH-94<br>SH-94/MARKSHEFFEL RD   |

CROSSROADS NORTH  
COLORADO SPRINGS, CO  
2026 BACKGROUND TRAFFIC VOLUMES

**LEGEND**

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

FIGURE 6



|   |  |  |
|---|--|--|
| <p><b>1</b></p> <p>MARKSHEFFEL</p> <p>890(600) →<br/>1165(1330) →<br/>15(25) →</p> <p>← 25(20)<br/>← 1425(690)<br/>← 405(285)</p> | <p><b>2</b></p> <p>US-24</p> <p>80(75) →<br/>2190(1180) →<br/>10(10) →</p> <p>← 5(10)<br/>← 105(80)<br/>← 885(885)</p> | <p><b>3</b></p> <p>SH-94</p> <p>5(10) →<br/>950(1455) →<br/>330(205) →</p> <p>← 105(440)<br/>← 405(475)<br/>← 40(50)</p> |
| <p>425(785) →<br/>645(1415) →<br/>0(10) →</p> <p>5(20) →<br/>955(1620) →<br/>135(320) →</p>                                       | <p>55(65) →<br/>95(95) →<br/>555(535) →</p> <p>480(470) →<br/>1010(2130) →<br/>695(930) →</p>                          | <p>350(400) →<br/>310(665) →</p> <p>430(565) →<br/>780(1695) →<br/>30(50) →</p>  |
| US-24   | US-24  | SH-94  |
| US-24/MARKSHEFFEL ROAD  | SH-94/US-24  | SH-94/MARKSHEFFEL RD   |

CROSSROADS NORTH  
COLORADO SPRINGS, CO  
2040 BACKGROUND TRAFFIC VOLUMES

**LEGEND**

- Existing Key Intersection
- XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes
- Estimated Daily Traffic Volume

## 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*<sup>1</sup> published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses.

As mentioned previously, the project was evaluated with a 2026 horizon and a full buildout 2040 horizon. For this study, Kimley-Horn used the ITE Trip Generation Manual average rates and fitted curve equations that apply to Public Park (ITE 411), Movie Theater (ITE 444), Tire Superstore (ITE 849), Home Improvement Superstore (ITE 862), Furniture Store (ITE 890), Sit-Down Restaurant (ITE 932), Fast-Food Restaurant with Drive Through (ITE 934), and Gasoline Station with Convenience Market (ITE 960) for traffic associated with the development area of the project.

Since the project is proposed to contain a mix of uses, internal capture trips are expected to occur on site as well. These internal capture trips are shared trips from vehicles already within the internal street network. These shared trips reduce the number of total external trips and were calculated directly per the ITE procedure but were capped based on thresholds set forth by CDOT. Based on the CDOT access code, internal trip reductions cannot not exceed two percent for the AM peak or eight percent for PM peaks unless clearly justified and documented by actual studies. As such, an internal capture rate of two (2) percent was used during the morning peak hour and a rate of eight (8) percent during the afternoon peak. Phase 1 development of the project in 2026 is expected to generate approximately 11,246 daily weekday external vehicle trips with 927 of these trips occurring during the morning peak hour and 899 trips occurring during the afternoon peak hour. Calculations were based on the procedure and information provided in the ITE *Trip Generation Manual, 10<sup>th</sup> Edition – Volume 1: User's Guide and Handbook*, 2017. **Table 1** provides

---

<sup>1</sup> Institute of Transportation Engineers, *Trip Generation Manual*, Tenth Edition, Washington DC, 2017.

the estimated trip generation for Phase 1 of the project. The trip generation calculations are included in **Appendix C**.

**Table 1 – Phase 1 Project Traffic Generation**

| Use  | Quantity   | Daily         | Weekday Vehicle Trips |            |            |              |            |            |
|--|------------|---------------|-----------------------|------------|------------|--------------|------------|------------|
|  |            |               | AM Peak Hour          |            |            | PM Peak Hour |            |            |
|  |            |               | In                    | Out        | Total      | In           | Out        | Total      |
| <b>Crossroads North</b>                              |            |               |                       |            |            |              |            |            |
| Public Park (ITE 411)                                | 20 Acres   | 16            | 0                     | 0          | 0          | 1            | 1          | 2          |
| Tire Superstore (ITE 849)                            | 7,000 SF   | 144           | 6                     | 3          | 9          | 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         |
| Sit Down Restaurant (ITE 932)                        | 11,000 SF  | 1,234         | 60                    | 49         | 109        | 66           | 41         | 107        |
| Fast-Food Restaurant (ITE 934)                       | 2,500 SF   | 1,178         | 51                    | 49         | 100        | 43           | 39         | 82         |
| Gas Station Super Convenience (ITE 960)              | 6,000 SF   | 5,026         | 249                   | 250        | 499        | 208          | 208        | 416        |
| Total Crossroads North Trips                         |            | 12,222        | 500                   | 446        | 946        | 498          | 479        | 977        |
| <b>Crossroads North Trips after Internal Capture</b> |            | <b>11,246</b> | <b>490</b>            | <b>437</b> | <b>927</b> | <b>458</b>   | <b>441</b> | <b>899</b> |

With full project buildout by 2040, the development area is expected to generate approximately 16,066 daily weekday external vehicle trips with 1,037 of these trips occurring during the morning peak hour and 1,269 trips occurring during the afternoon peak hour. **Table 2** provides the estimated trip generation for full buildout of the project.

**Table 2 – Full Buildout Project Traffic Generation**

| Use  | Quantity   | Daily         | Weekday Vehicle Trips |            |              |              |            |              |
|--|------------|---------------|-----------------------|------------|--------------|--------------|------------|--------------|
|  |            |               | AM Peak Hour          |            |              | PM Peak Hour |            |              |
|  |            |               | In                    | Out        | Total        | In           | Out        | Total        |
| <b>Crossroads North</b>                              |            |               |                       |            |              |              |            |              |
| Public Park (ITE 411)                                | 20 Acres   | 16            | 0                     | 0          | 0            | 1            | 1          | 2            |
| Movie Theatre (ITE 444)                              | 52,000 SF  | 4,062         | 5                     | 6          | 11           | 302          | 19         | 321          |
| Tire Superstore (ITE 849)                            | 7,000 SF   | 144           | 6                     | 3          | 9            | 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           |
| Sit Down Restaurant (ITE 932)                        | 11,000 SF  | 1,234         | 60                    | 49         | 109          | 66           | 41         | 107          |
| Fast-Food Restaurant (ITE 934)                       | 5,000 SF   | 2,356         | 103                   | 98         | 201          | 85           | 78         | 163          |
| Gas Station Super Convenience (ITE 960)              | 6,000 SF   | 5,026         | 249                   | 250        | 499          | 208          | 208        | 416          |
| Total Crossroads North Trips                         |            | 17,462        | 557                   | 501        | 1,058        | 842          | 537        | 1,379        |
| <b>Crossroads North Trips after Internal Capture</b> |            | <b>16,066</b> | <b>546</b>            | <b>491</b> | <b>1,037</b> | <b>775</b>   | <b>494</b> | <b>1,269</b> |

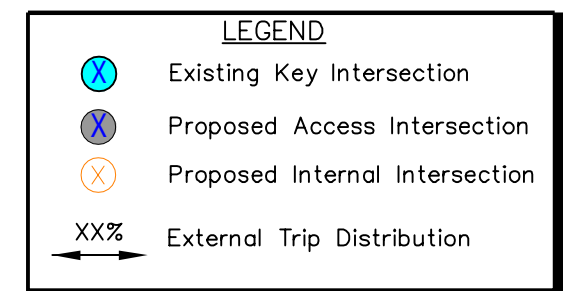
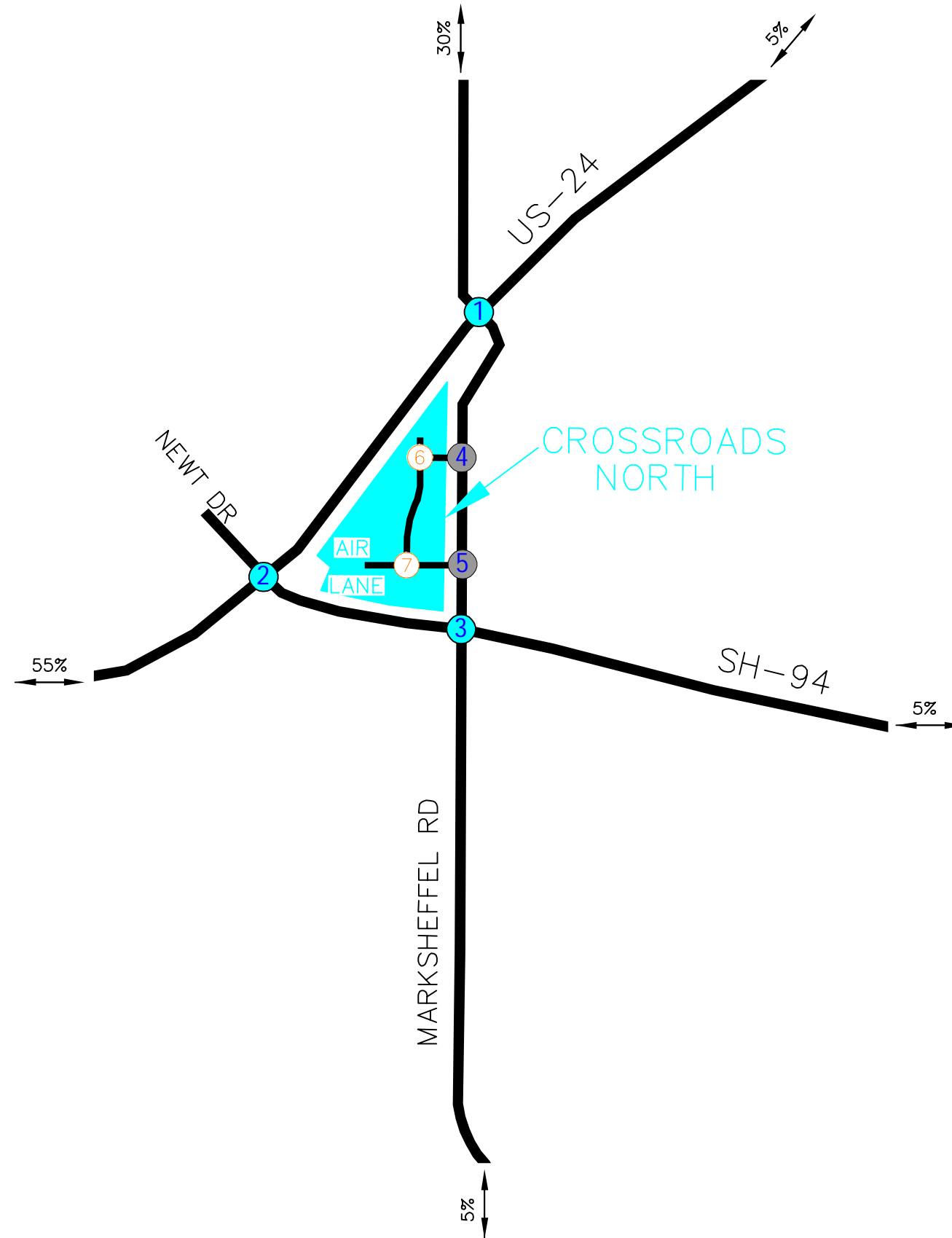


## **4.2 Trip Distribution**

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. Assignment of project traffic was based upon the trip generation described previously and the distributions developed for the project area. 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 in **Figure 8**.

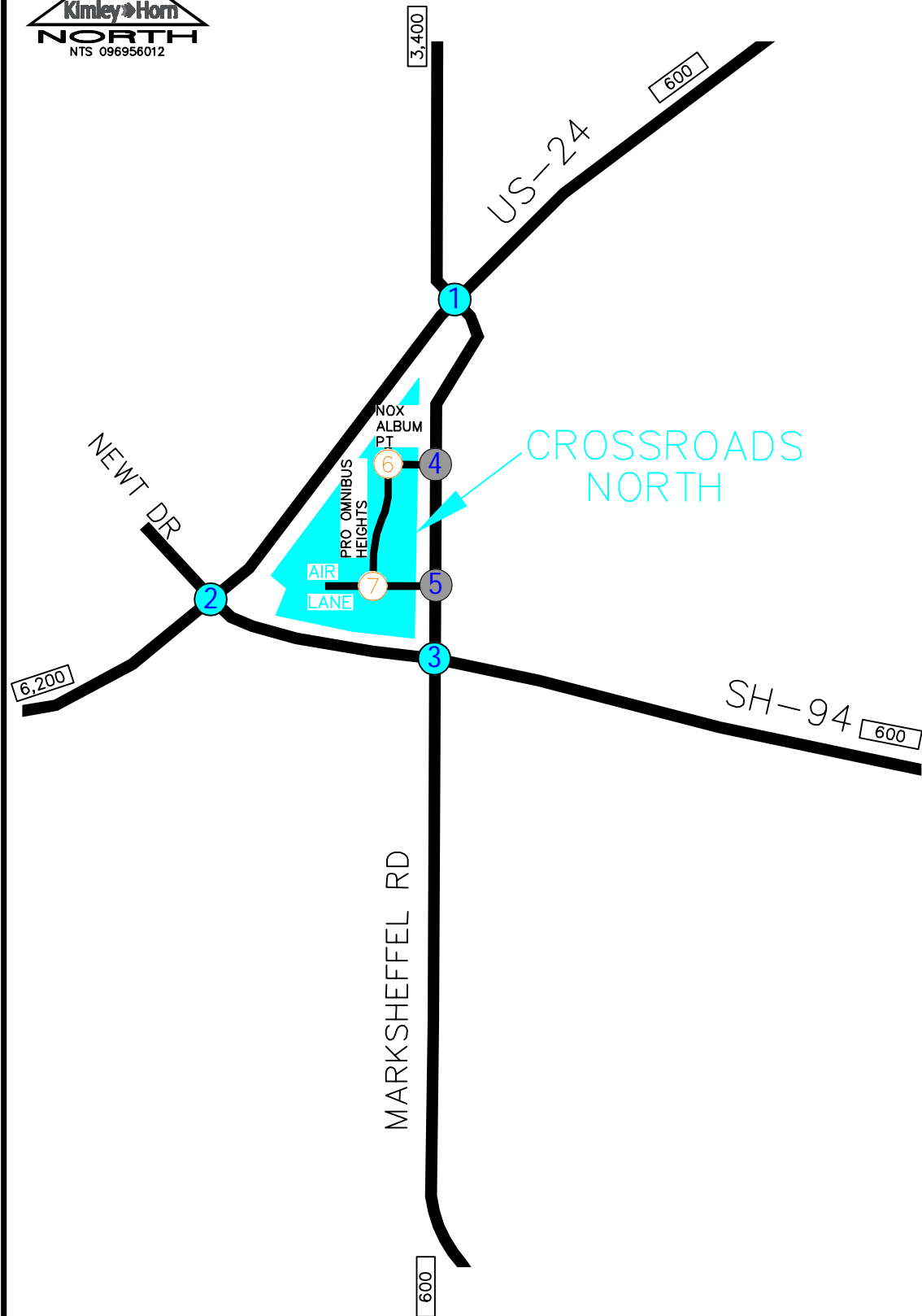
## **4.3 Traffic Assignment and Total (Background Plus Project) Traffic**

Traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1** and **Table 2**. Phase 1 project traffic assignment for the development area is shown in **Figure 9** while full buildout traffic assignment is shown in **Figure 10**. Project traffic volumes were added to the background volumes to represent estimated traffic conditions for the short term 2026 horizon and long term 2040 horizon. These background plus project (total) traffic volumes for the project are illustrated for the 2026 and 2040 horizon years in **Figures 11** and **12**, respectively.



CROSSROADS NORTH  
 COLORADO SPRINGS, CO  
 PROJECT TRIP DISTRIBUTION

FIGURE 8



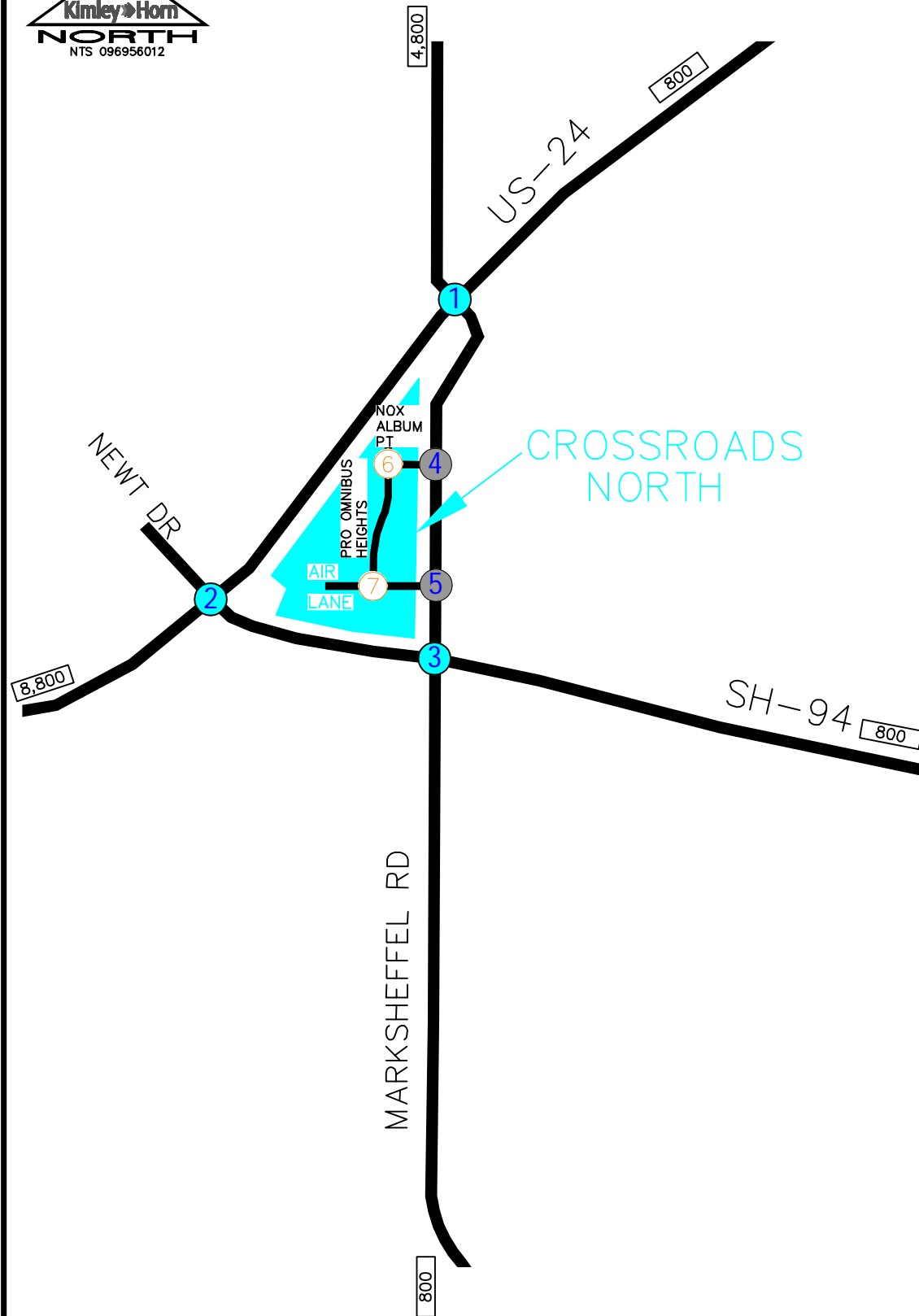
|   |  |  |                      |
|---|--|--|----------------------|
| <b>1</b><br>MARKSHEFFEL<br>← 147(137)<br>← 25(23)<br>123(115) →<br>131(132) ↑<br>22(22) → | <b>2</b><br>US-24<br>← 240(243)<br>123(115) ↑<br>147(137) →                            | <b>3</b><br>SH-94<br>← 240(243)<br>147(137) →<br>25(23) ↑<br>25(23) ↓  |                      |
| US-24/MARKSHEFFEL ROAD  |  | SH-94/US-24  | SH-94/MARKSHEFFEL RD |
| <b>4</b><br>196(183) ↓<br>98(92) ↓<br>87(88) →<br>49(46) ↑<br>153(154) →                  | <b>5</b><br>98(92) ↓<br>87(88) ↓<br>153(154) ↑<br>197(198) →<br>147(137) ↑<br>49(46) → | <b>6</b><br>22(22) ↓<br>22(22) ↓<br>49(46) ↑<br>196(183) →<br>66(66) → |                      |
| NOX ALBUM PT/MARKSHEFFEL RD   | AIR LANE/MARKSHEFFEL ROAD  | NOX ALBUM PT/PRO OMNIBUS HTS   |                      |
| <b>7</b><br>306(309) ↓<br>196(183) ↑<br>49(46) ↓<br>44(44) →                              |  |  |                      |
| AIR LANE/PRO OMNIBUS HEIGHTS  |  |  |                      |

**LEGEND**

- ⊗ Existing Key Intersection
- ⊗ Proposed Access Intersection
- ⊗ Proposed Internal Intersection
- XXX(XXX) Weekday AM(PM)  
Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

CROSSROADS NORTH  
 COLORADO SPRINGS, CO  
 2026 PROJECT TRAFFIC ASSIGNMENT

FIGURE 9



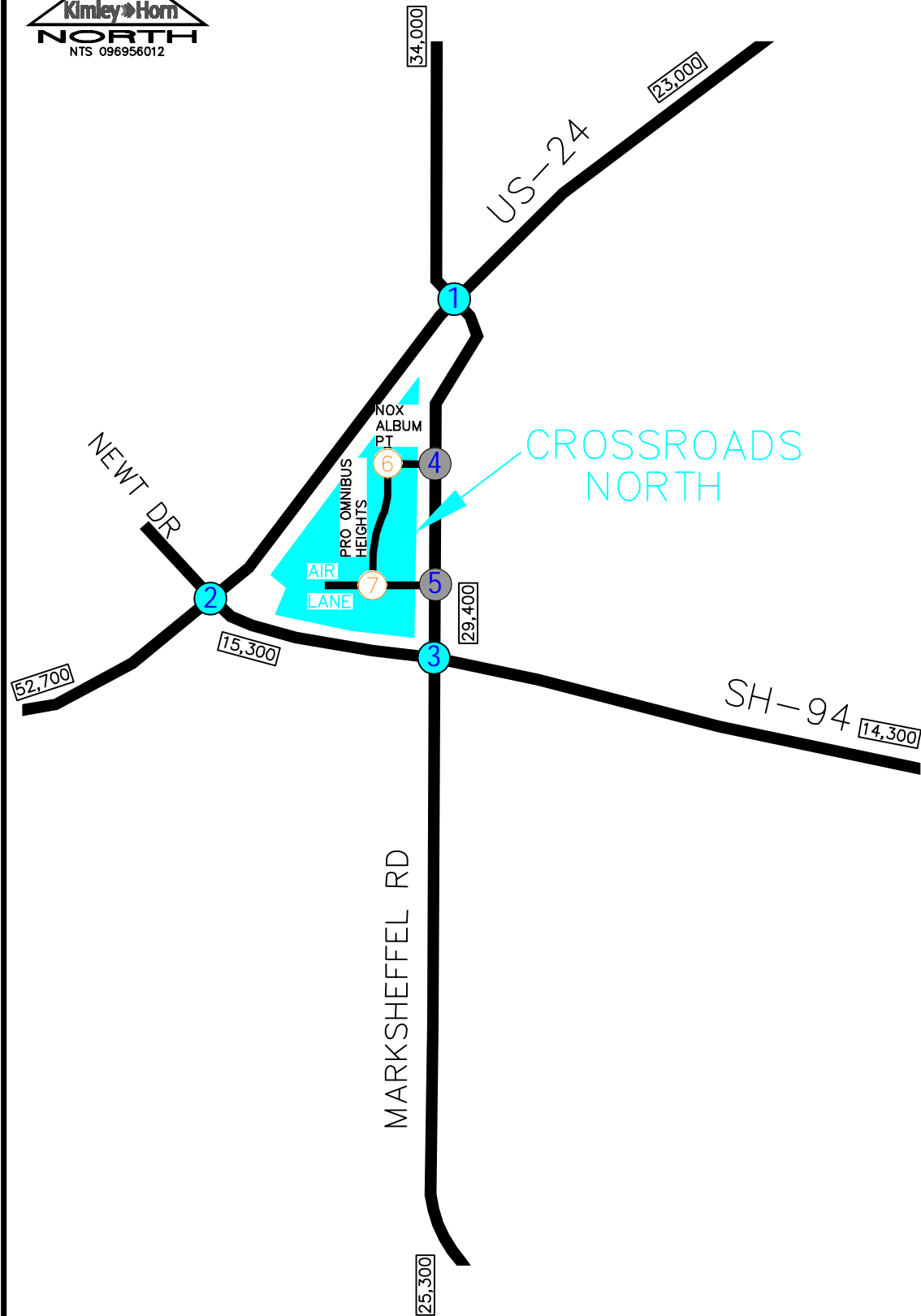
CROSSROADS NORTH  
 COLORADO SPRINGS, CO  
 2040 PROJECT TRAFFIC ASSIGNMENT

|   |  |  |
|---|--|--|
| <p><b>1</b></p> <p>MARKSHEFFEL</p> <p>← 164(233)</p> <p>← 27(39)</p> <p>137(194) →</p> <p>147(148) →</p> <p>25(25) →</p> <p>US-24</p> <p>US-24/MARKSHEFFEL ROAD</p> | <p><b>2</b></p> <p>US-24</p> <p>← 270(272)</p> <p>137(194) →</p> <p>164(233) →</p> <p>SH-94/US-24</p>  | <p><b>3</b></p> <p>SH-94</p> <p>← 270(272)</p> <p>← 25(25)</p> <p>← 25(25)</p> <p>27(39) →</p> <p>164(233) →</p> <p>27(99) →</p> <p>SH-94/MARKSHEFFEL RD</p> |
| <p><b>4</b></p> <p>← 218(310)</p> <p>← 109(155)</p> <p>98(99) →</p> <p>55(78) →</p> <p>172(173) →</p> <p>NOX ALBUM PT/MARKSHEFFEL RD</p>                            | <p><b>5</b></p> <p>← 109(155)</p> <p>← 98(99)</p> <p>172(173) →</p> <p>221(222) →</p> <p>164(233) →</p> <p>55(78) →</p> <p>AIR LANE/MARKSHEFFEL ROAD</p> | <p><b>6</b></p> <p>← 25(25)</p> <p>← 25(25)</p> <p>55(78) →</p> <p>218(310) →</p> <p>74(74) →</p> <p>NOX ALBUM PT/PRO OMNIBUS HTS</p>                        |
| <p><b>7</b></p> <p>← 344(346)</p> <p>218(310) →</p> <p>55(78) →</p> <p>49(49) →</p> <p>AIR LANE/PRO OMNIBUS HEIGHTS</p>   |  |  |

**LEGEND**

- Existing Key Intersection
- Proposed Access Intersection
- Proposed Internal Intersection
- XXX(XXX) Weekday AM(PM)  
Peak Hour Traffic Volumes
- XX,X00** Estimated Daily Traffic Volume

FIGURE 10



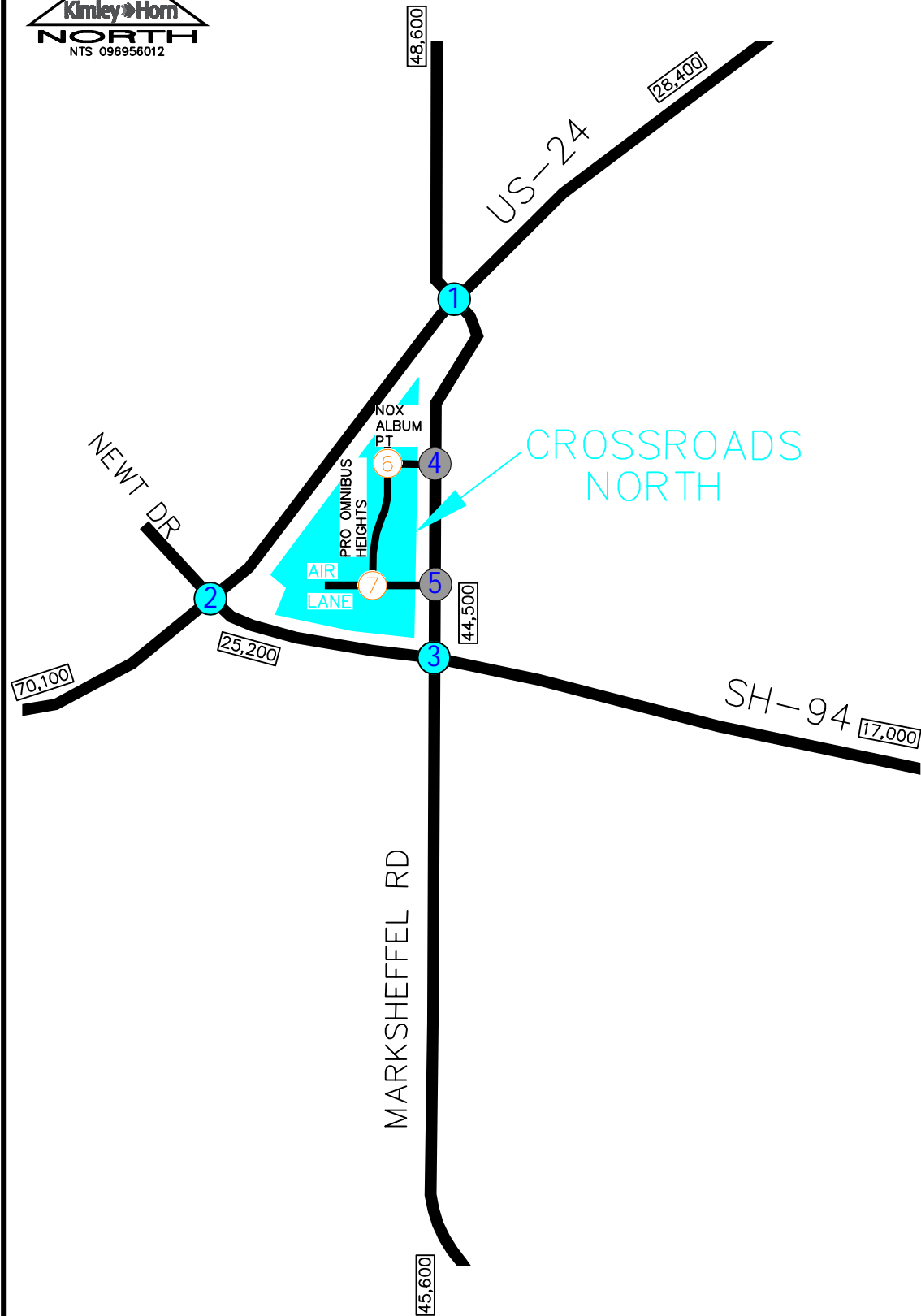
|  |  |   |
|--|--|---|
| <p><b>1</b></p> <p>MARKSHEFFEL</p> <p>760(610)<br/>1025(915)<br/>10(20)</p> <p>20(20)<br/>1215(585)<br/>350(210)</p> <p>US-24</p> <p>360(670)<br/>550(1200)<br/>125(125)</p> <p>5(15)<br/>755(1190)<br/>105(245)</p> <p>US-24/MARKSHEFFEL ROAD</p> | <p><b>2</b></p> <p>US-24</p> <p>65(60)<br/>1860(1000)<br/>5(5)</p> <p>5(10)<br/>95(65)<br/>820(740)</p> <p>SH-94</p> <p>45(55)<br/>90(80)<br/>495(450)</p> <p>425(395)<br/>985(1925)<br/>635(625)</p> <p>SH-94/US-24</p> | <p><b>3</b></p> <p>SH-94</p> <p>245(255)<br/>695(845)<br/>300(200)</p> <p>115(395)<br/>345(405)<br/>35(45)</p> <p>SH-94/MARKSHEFFEL RD</p> <p>150(140)<br/>300(340)<br/>160(265)</p> <p>190(225)<br/>470(1100)<br/>25(30)</p> |
| <p><b>4</b></p> <p>NOX ALBUM PT</p> <p>200(185)<br/>1300(1045)</p> <p>90(90)</p> <p>50(50)<br/>860(1450)</p> <p>NOX ALBUM PT/MARKSHEFFEL RD</p>  | <p><b>5</b></p> <p>AIR LANE</p> <p>100(95)<br/>1290(1040)</p> <p>155(155)<br/>200(200)</p> <p>150(140)<br/>755(1345)</p> <p>AIR LANE/MARKSHEFFEL ROAD</p>  | <p><b>6</b></p> <p>NOX ALBUM PT</p> <p>22(22)<br/>25(25)</p> <p>50(50)<br/>200(185)</p> <p>NOX ALBUM PT/PRO OMNIBUS HTS</p>   |
| <p><b>7</b></p> <p>AIR LANE</p> <p>2(2)<br/>310(310)</p> <p>2(2)<br/>45(45)</p> <p>200(185)<br/>50(50)</p> <p>AIR LANE/PRO OMNIBUS HEIGHTS</p>   |  |   |

**LEGEND**

- ⊗ Existing Key Intersection
- ⊗ Proposed Access Intersection
- ⊗ Proposed Internal Intersection
- XXX(XXX) Weekday AM(PM)  
Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

CROSSROADS NORTH  
 COLORADO SPRINGS, CO  
 2026 TOTAL TRAFFIC VOLUMES

FIGURE 11



|  |   |  |
|--|---|--|
| <p><b>1</b></p> <p>MARKSHEFFEL</p> <p>← 890(600)<br/>← 1330(1560)<br/>← 15(25)</p> <p>← 25(20)<br/>← 1425(690)<br/>← 435(325)</p> <p>US-24</p> <p>US-24/MARKSHEFFEL ROAD</p> | <p><b>2</b></p> <p>US-24</p> <p>← 80(75)<br/>← 2190(1180)<br/>← 10(10)</p> <p>← 5(10)<br/>← 105(80)<br/>← 1155(1160)</p> <p>SH-94</p> <p>SH-94/US-24</p>                | <p><b>3</b></p> <p>SH-94</p> <p>← 275(285)<br/>← 975(1480)<br/>← 355(230)</p> <p>← 135(480)<br/>← 405(475)<br/>← 40(50)</p> <p>SH-94/MARKSHEFFEL RD</p>        |
| <p><b>4</b></p> <p>NOX ALBUM PT</p> <p>← 220(310)<br/>← 1675(1760)</p> <p>← 55(80)<br/>← 1260(2125)</p> <p>NOX ALBUM PT/MARKSHEFFEL RD</p>                                   | <p><b>5</b></p> <p>AIR LANE</p> <p>← 110(155)<br/>← 1665(1705)</p> <p>← 175(175)<br/>← 225(225)</p> <p>← 165(235)<br/>← 1145(2030)</p> <p>AIR LANE/MARKSHEFFEL ROAD</p> | <p><b>6</b></p> <p>NOX ALBUM PT</p> <p>← 25(25)<br/>← 25(25)</p> <p>← 55(80)<br/>← 220(310)</p> <p>← 2(2)<br/>← 75(75)</p> <p>NOX ALBUM PT/PRO OMNIBUS HTS</p> |
| <p><b>7</b></p> <p>AIR LANE</p> <p>← 2(2)<br/>← 345(350)</p> <p>← 220(310)<br/>← 55(80)</p> <p>← 2(2)<br/>← 50(50)</p> <p>AIR LANE/PRO OMNIBUS HEIGHTS</p>                   |   |  |

**LEGEND**

- Existing Key Intersection
- Proposed Access Intersection
- Proposed Internal Intersection
- XXX(XXX) Weekday AM(PM)  
Peak Hour Traffic Volumes
- Estimated Daily Traffic Volume

CROSSROADS NORTH  
COLORADO SPRINGS, CO  
2040 TOTAL TRAFFIC VOLUMES

FIGURE 12

## 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 2026 and 2040 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is the *Highway Capacity Manual*<sup>2</sup>.

### 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, standard traffic engineering practice recommends overall intersection LOS D and movement/approach LOS E as the minimum desirable thresholds for acceptable operations. **Table 3** shows the definition of level of service for signalized and unsignalized intersections.

**Table 3 – Level of Service Definitions**

| Level of Service | Signalized Intersection<br>Average Total Control Delay<br>(sec/veh) | Unsignalized Intersection<br>Average Total Control Delay<br>(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  |

Study area intersections were analyzed based on average total control 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 the overall intersection.

<sup>2</sup> 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 cycle lengths with existing phasing and timing provided by CDOT. These signal timing sheets are included in **Appendix E**. Existing peak hour factors were used for all horizons while the recommended HCM urban area peak hour factor of 0.92 was used for the project accesses. 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 control delay and level of service.



### US-24 and Marksheffel Road (#1)

US-24 and Marksheffel Road (#1) is a four-leg signalized intersection. This intersection currently operates with a LOS D during the morning and afternoon peak hours under the existing lane configuration and signal control. With the existing lane configurations and control, this intersection is expected to continue to operate acceptably with LOS E during both peak hours in the 2026 total condition. Therefore, it is recommended that the signal at this intersection be optimized by 2026. With signal optimization, this intersection is anticipated to operate acceptably during the 2026 horizon with project traffic.

By 2040, it is anticipated that the intersection will operate with long delays during the peak hours without the addition of project traffic. To improve operations at this intersection, both US-24 and Marksheffel Road may need to provide three through lanes on all approaches. With these improvements, the intersection is anticipated to operate at LOS D during the peak hours in 2040. **Table 4** provides the results of the level of service at this intersection.

**Table 4 – US-24 and Marksheffel Road (#1) LOS Results**

| Scenario                        | AM Peak Hour            |     | PM Peak Hour            |     |
|---------------------------------|-------------------------|-----|-------------------------|-----|
|                                 | Control Delay (sec/veh) | LOS | Control Delay (sec/veh) | LOS |
| 2020 Adjusted Existing          | 47.8                    | D   | 48.5                    | D   |
| 2026 Background                 | 54.9                    | D   | 57.5                    | E   |
| 2026 Background Plus Project    | 67.6                    | E   | 68.3                    | E   |
| 2026 Background Plus Project #  | 54.9                    | D   | 54.9                    | D   |
| 2040 Background                 | 98.1                    | F   | 149.5                   | F   |
| 2040 Background Plus Project ## | 54.1                    | D   | 54.8                    | D   |

# = Optimized signal timings

## = # + Three through lanes on all approaches

### **SH-94/Newt Drive and US-24 (#2)**

SH-94/Newt Drive and US-24 (#2) is a four-leg signalized intersection. Although both highways are east-west, the traffic software at this intersection assigned US-24 as north-south based on cardinal direction of existing roadway alignments. This intersection currently operates with LOS D or better during the morning and afternoon peak hours under the existing lane configuration and signal control. With or without the completion of the development in 2026, the intersection is anticipated to operate with LOS F during the morning peak hour. 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. Acceleration lanes currently exist in both directions along US-24 from both Newt Drive and SH-94. For southwestbound US-24 at SH-94 (#2), the existing acceleration lane along US-24 will need to be reconstructed with 960 feet of length plus a 225-foot taper if and when US-24 is improved to provide three through lanes along northbound US-24. For northeastbound US-24 at SH-94, it is recommended that this acceleration lane be converted to the third northbound through lane as the acceleration lane is not warranted. Further, the northeastbound US-24 third through lane needs to continue for 1,200 feet plus provide a 660-foot taper based on MUTCD standards. Also, it is recommended that triple westbound left turns be designated by converting the inside westbound through lane to a left turn lane. It is believed that with these improvements, the intersection is at its ultimate at-grade configuration. With the ultimate configuration the intersection improves significantly and operates acceptably in 2026, but long delays may still occur during the peak hours in 2040. As such, and as requested by CDOT, an additional analysis was performed with an interchange grade separation including a westbound left turn flyover ramp condition. With this westbound left turn flyover ramp and the existing two through lanes in each direction along US-24, this intersection is expected to operate acceptably with LOS C or better during the peak hours in 2026 and LOS E or better during the peak hours in 2040. With three through lanes in each direction along US-24 and the implementation of the westbound left turn flyover ramp, this intersection is expected to operate acceptably during the peak hours in 2040. **Table 5** provides the results of the level of service at this intersection.

**Table 5 – SH-94/Newt Drive and US-24 (#2) LOS Results**

| Scenario  | AM Peak Hour            |     | PM Peak Hour            |     |
|---|-------------------------|-----|-------------------------|-----|
|   | Control Delay (sec/veh) | LOS | Control Delay (sec/veh) | LOS |
| 2020 Adjusted Existing                            | 35.3                    | D   | 24.9                    | C   |
| 2026 Background                                   | 130.4                   | F   | 46.7                    | D   |
| 2026 Background Plus Project                      | 159.4                   | F   | 78.9                    | E   |
| 2026 Background Plus Project #                    | 45.4                    | D   | 33.4                    | C   |
| 2026 Background Plus Project ##<br>(WBL Flyover)  | 25.9                    | C   | 14.4                    | B   |
| 2040 Background #                                 | 60.3                    | E   | 44.5                    | D   |
| 2040 Background Plus Project #                    | 95.4                    | F   | 82.5                    | F   |
| 2040 Background Plus Project ##<br>(WBL Flyover)  | 55.4                    | E   | 23.0                    | C   |
| 2040 Background Plus Project ###<br>(WBL Flyover) | 25.3                    | C   | 32.0                    | C   |

# = Three northbound and southbound through lanes, dual northbound left turn lanes, triple westbound left turn lanes.

## = Dual northbound left turn lanes and westbound left flyover ramp

### = Three northbound and southbound through lanes, dual northbound left turn lanes and westbound left flyover ramp

### SH-94 and Marksheffel Road (#3)

The existing intersection of SH-94 and Marksheffel Road (#3) is currently a four-leg signalized intersection. This intersection currently operates with LOS D or better during the morning and afternoon peaks hours with existing traffic volumes and lane configurations. With the completion of development in 2026, the northbound and southbound right turns at this intersection are anticipated to be a free southbound right turn due to CDOT State Highway Access Code guidelines. By completion of development in 2026, this intersection is expected to continue to operate acceptably during the peak hours with existing lane configurations and control.

By 2040, the following improvements are recommended: optimized signal timings, eastbound and westbound right turn movements to implement permissive/overlap phasing, two eastbound and westbound through lanes, and three northbound and southbound through lanes. With these improvements, this intersection is anticipated to operate acceptable with LOS D or better during the peak hours in 2040. **Table 6** provides the results of the level of service at this intersection.

**Table 6 – SH-94 and Marksheffel Road (#3) LOS Results**

| Scenario                        | AM Peak Hour            |     | PM Peak Hour            |     |
|---------------------------------|-------------------------|-----|-------------------------|-----|
|                                 | Control Delay (sec/veh) | LOS | Control Delay (sec/veh) | LOS |
| 2020 Adjusted Existing          | 32.1                    | C   | 43.2                    | D   |
| 2026 Background                 | 30.7                    | C   | 45.5                    | D   |
| 2026 Background Plus Project #  | 36.5                    | D   | 47.8                    | D   |
| 2040 Background                 | 63.6                    | E   | 203.7                   | F   |
| 2040 Background Plus Project ## | 31.5                    | C   | 46.7                    | D   |

# = NB to EB right turn acceleration lane, and SB to WB right turn acceleration lane  
 ## = Optimized signal timings, two eastbound and westbound through lanes, three northbound and southbound through lanes, NB to EB right turn acceleration lane, and SB to WB right turn acceleration lane

### **5.3 Project Access Operational Analysis**

Direct access to Crossroads North is proposed from the northern three-quarter access, Nox Album Point and Marksheffel Road (#4), and the southern full movement access, Air Lane and Marksheffel Road (#5), are located approximately 2,000 feet and 1,000 feet north of SH-94, respectively. The south access is currently proposed to be named Air Lane which will provide east-west collector roadway connectivity to Crossroads North. A sensitivity analysis has been prepared later in Section 5.8 comparing the north access along Marksheffel Road as a full movement signalized intersection and a three-quarter movement unsignalized intersection.

Based on Colorado Springs standards, 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 200 vehicles per hour at the north access and 100 vehicles per hour at the south access in 2026. Northbound left turn lanes will also be required at both of the Marksheffel Road accesses, Nox Album Point/Marksheffel Road (#4), and Air Lane/Marksheffel Road (#5). Based on Colorado Springs standards, the northbound left turn at the Nox Album Point and Marksheffel Road (#4) intersection should provide a turn lane length of 295 feet plus a 200-foot taper, whereas the southbound right turn lane should provide a lane length of 235 feet plus a 200-foot taper. Additionally, an R1-1 "STOP" sign should be installed on the exiting eastbound approach of the Nox Album Point and Marksheffel Road (#4) intersection. To meet Colorado Springs standards, the northbound left turn at the Air Lane and Marksheffel Road (#5 – South Access) intersection should provide a turn lane length of 390 feet plus a 200-foot taper, whereas the southbound right turn lane should provide a lane length of 235 feet plus a 200-foot taper.

An internal street evaluation was conducted for the Crossroads North development area. The east/west street extending from the south access (#5) to Crossroads North along Marksheffel Road is proposed to be named Air Lane and is expected to be classified as an El Paso County Urban Non-Residential Collector roadway with a 60-foot right-of-way (ROW). Air Lane extends east/west and is proposed to connect with a north/south extending Non-Residential Collector named Pro Omnibus Heights (#7). The Air Lane and Pro Omnibus Heights (#7 – South Internal Intersection) collector to collector intersection is proposed to be located approximately 525 feet west of Marksheffel Road. The north/south extending Non-Residential Collector Street named Pro

Omnibus Heights also intersects (#6) with an east/west collector street named Nox Album Point that extends from the north access to Marksheffel Road. Nox Album Point (which connects with Marksheffel Road) is proposed to be classified as an El Paso County Urban Non-Residential Collector roadway. To meet El Paso County standards for a design speed of 35 mph, the recommended left-turn lanes and right turn lanes internal to Crossroads North should provide 135 feet of deceleration length plus 140-foot tapers while all left turn lanes and right turn lanes that require a stop will also provide a storage length (determined from ECM Table 2-30 for each location).

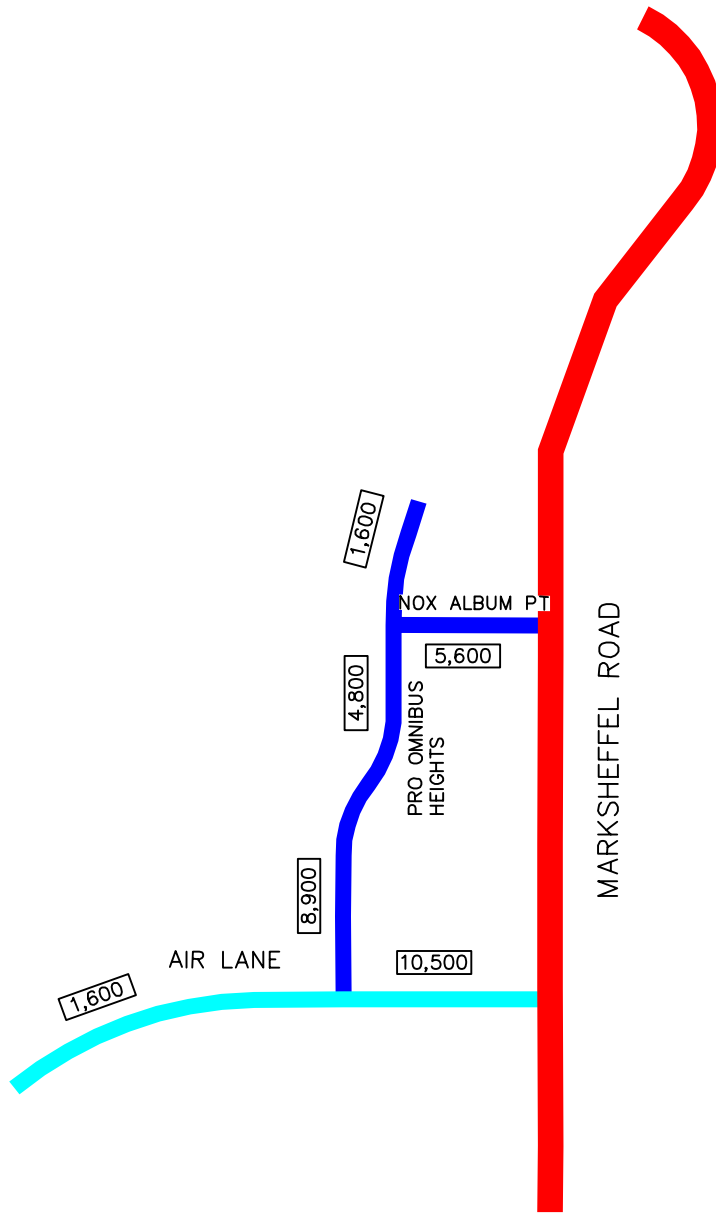
The eastbound left turn movement at the proposed Air Lane and Marksheffel Road (#5 – South Access) intersection is expected to operate with LOS F during the peak hours in 2026 under stop control. As such, a signal warrant evaluation was performed, and warrants are expected to be met at this access based on 2026 traffic volume projections. The signal warrant analysis is attached in **Appendix E**. With signal control, the Air Lane and Marksheffel Road (#5 – South Access) intersection is expected to operate acceptably with LOS A during the peak hours throughout the 2040 horizon.

With the recommended lane configurations and control, all movements at the two internal intersections, Nox Album Point/Pro Omnibus Heights (#6), and Air Lane/Pro Omnibus Heights (#7), to Crossroads North are expected to operate acceptably with LOS B or better during the peak hours throughout the 2040 horizon. **Figure 13** illustrates the street classification map for roadways internal to Crossroads North. The operational analysis at the proposed project driveways as well as the internal intersections to Crossroads North is summarized in **Table 7** for development in 2026 and for the long-term 2040 horizon. Detailed results of the operational analysis are also provided in **Appendix D**.

**Table 7 – Project Access LOS Results**

| Access and Movement  | 2026 Total Traffic      |     |                         |     | 2040 Total Traffic      |     |                         |     |
|--|-------------------------|-----|-------------------------|-----|-------------------------|-----|-------------------------|-----|
|  | AM Peak Hour            |     | PM Peak Hour            |     | AM Peak Hour            |     | PM Peak Hour            |     |
|  | Control Delay (sec/veh) | LOS | Control Delay (sec/veh) | LOS | Control Delay (sec/veh) | LOS | Control Delay (sec/veh) | LOS |
| <b>Crossroads North:<br/>Nox Album Pt &amp; Marksheffel Rd (#4)<br/>(3/4 Movements – Unsignalized)</b> |                         |     |                         |     | #                       | #   | #                       | #   |
| Northbound Left  | 15.6                    | C   | 12.9                    | B   | 12.3                    | B   | 14.9                    | B   |
| Eastbound Right  | 17.8                    | C   | 14.8                    | B   | 13.9                    | B   | 14.4                    | B   |
| <b>Crossroads North:<br/>Air Lane &amp; Marksheffel Rd (#5)</b>  |                         |     |                         |     |                         |     |                         |     |
| Northbound Left  | 18.0                    | C   | 13.8                    | B   | -                       | -   | -                       | -   |
| Eastbound Left   | 108.3                   | F   | 74.1                    | F   |                         |     |                         |     |
| Eastbound Right  | 26.3                    | D   | 19.2                    | C   |                         |     |                         |     |
| <b>Crossroads North:<br/>Air Lane &amp; Marksheffel Rd (#5 - Signal)</b>                               | 9.3                     | A   | 7.3                     | A   | #                       | #   | #                       | #   |
|  |                         |     |                         |     | 8.7                     | A   | 6.0                     | A   |
| <b>Crossroads North Internal Intersections:<br/>Nox Album Pt &amp; Pro Omnibus Heights (#6)</b>        |                         |     |                         |     |                         |     |                         |     |
| Westbound Left   | 10.6                    | B   | 10.4                    | B   | 10.8                    | B   | 11.9                    | B   |
| Westbound Right  | 8.7                     | A   | 8.7                     | A   | 8.7                     | A   | 8.8                     | A   |
| Southbound Left  | 7.4                     | A   | 7.4                     | A   | 7.4                     | A   | 7.4                     | A   |
| <b>Crossroads North Internal Intersections:<br/>Air Lane &amp; Pro Omnibus Heights (#7)</b>            |                         |     |                         |     |                         |     |                         |     |
| Eastbound Left   | 7.8                     | A   | 7.8                     | A   | 7.9                     | A   | 8.2                     | A   |
| Southbound Approach  | 12.0                    | B   | 12.0                    | B   | 12.7                    | B   | 13.2                    | B   |

# = Three northbound and southbound through lanes



**LEGEND**

- URBAN 4-LANE PRINCIPAL ARTERIAL
- URBAN NON-RESIDENTIAL COLLECTOR
- MODIFIED URBAN NON-RES. COLLECTOR
- XX,X00 ESTIMATED 2040 DAILY TRAFFIC VOLUME

NOTE: EL PASO COUNTY STREET CLASSIFICATIONS

CROSSROADS NORTH  
 EL PASO COUNTY, CO  
 CROSSROADS NORTH SITE CIRCULATION

FIGURE 13



#### **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 area 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.

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 610 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 all accesses along Marksheffel Road.

#### **5.5 Bicycle and Pedestrian Access**

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

##### Existing Bicycle, Pedestrian, and Transit Access

There are currently not any sidewalks or bicycle lanes provided along Marksheffel Road, US-24, and SH-94 within the project limits. Transit within the area is provided by Mountain Metropolitan Transit. From review of the most recent route map from August 1, 2019, there are not any transit routes that extend through the project limits.

### Future Bicycle, Pedestrian, and Transit Access

Sidewalks will be provided internal to the development area along both sides of all local and collector streets and connections will be made to Marksheffel Road. Additionally, a pedestrian amenity connection will be provided to the secondary regional trail along SH-94. Sidewalk will be provided along Marksheffel Road adjacent to the project frontage; however, bicycle lanes are not proposed along Marksheffel Road or SH-94 adjacent to the project.

### **5.6 CDOT Turn Lane Evaluation**

CDOT Access Permits will be required for the intersections of SH-94/US-24 (#2) and SH-94/Marksheffel Road (#3) in association with the 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. 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 is required for any access with a projected average daily left turn ingress volume greater than 10 with the transition taper included within the required deceleration length. If the projected peak hour left ingress turning volume is greater than 10 vehicles per hour (vph), a left turn deceleration, storage, and taper lane 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 the key intersections along SH-94. SH-94 provides one lane of travel in each direction and has a posted speed limit of 40 miles per hour at US-24, 55 miles per hour west of Marksheffel Road and 65 miles per hour east of Marksheffel Road. US-24 provides two lanes of travel in each direction and has a posted speed limit of 55 miles per hour through the SH-94

intersection. As such, turn lane requirements at the study area intersections along SH-94 to be impacted by project traffic are as follows:

### SH-94 and US-24 (#2)

#### Left Turn Deceleration Lanes:

- A westbound left turn deceleration lane exists and **is** warranted today and based on projected 2026 background plus project traffic being 820 westbound left turns during the peak hour. Since SH-94 has a category of E-X the left turn lane requirement is deceleration, storage, and taper lengths. Currently there are westbound dual left-turn lanes of approximately a 475-foot length with a 525-foot taper. Based on the 40-mile per hour speed limit, the deceleration lane length is 370 feet, plus a 150-foot taper. Since triple left turn lanes are recommended here with conversion of the inside westbound through lane to a left turn lane, the storage requirement is 275 feet per lane. Therefore, it is recommended that these two left turn lanes be constructed and designated to 645 feet plus a 200-foot taper, with the outside third left turn lane being continuous. By 2040, this turn lane may need to be 760 feet plus a 200-foot taper.
- A northbound left turn deceleration lane exists and **is** warranted along US-24 approach to Newt Drive/SH-94 today and based on projected 2026 background plus project traffic being 225 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 480 feet of storage for a total length of 1,080 feet plus 225-foot taper. However, by 2026 it is recommended that dual northbound US-24 left turn lanes be designated at this intersection. Dividing the storage in half results in 850-foot plus 225-foot taper northbound dual left turn lanes.
- A southbound US-24 left turn deceleration lane exists and **is** warranted based on existing traffic volumes. However, the storage component to the left turn lane is not required based on projected 2026 background plus project traffic being 5 southbound left turns during the peak hour and the threshold being greater than 10 vph. This southbound left turn lane

along US-24 at SH-94 currently provides approximately 800 feet of length plus a 200-foot taper. Based on the 65-mile per hour speed limit along southwestbound US-24, the required deceleration length is 500 feet plus a 300-foot taper (25:1) for this left turn lane. Therefore, no improvements are needed for this lane.

#### Right Turn Deceleration Lanes:

- A northbound right turn deceleration lane along US-24 exists and **is** warranted today and based on projected 2026 background plus project traffic being 635 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. Based on the 55-mile per hour speed limit, the deceleration lane length is 600 feet plus a 225-foot taper. Therefore, the existing northbound right turn lane meets current CDOT requirements.
- A southbound US-24 right turn deceleration lane exists and **is** warranted today and based on projected 2026 background plus project traffic being 65 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 requirements.
- A westbound right turn deceleration lane exists but **is not** warranted based on projected 2026 background plus project traffic being 10 westbound right turns during the peak hour and the threshold being greater than 10 vph. Since US-24 has a category of E-X the right turn lane requirement is deceleration, and taper lengths. The westbound right turn lane is currently 475 feet long with a 750-foot taper. Based on the 40-mile per hour speed limit, the deceleration lane length is 370 feet, plus a 150-foot taper. Therefore, the existing westbound right turn lane meets current CDOT requirements.

#### Acceleration Lanes:

- An eastbound acceleration lane along SH-94 from the US-24 northbound right turn exists and **is** warranted today and based on projected 2026 background plus project traffic being 635 northbound 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 length. Currently the eastbound acceleration lane is approximately 425 feet long with a 175-foot taper. Based on the 40-mile per hour speed limit, the acceleration lane length requirement is 380 feet plus a 145-foot taper. Therefore, no improvements are needed for this lane.
- A southwestbound right turn acceleration lane along US-24 from the Newt Drive right turn exists and **is** warranted today and based on projected 2026 background plus project traffic being 495 eastbound right turns during the peak hour and the threshold being 10 vph. 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. Based on the 55-mile per hour speed limit, the acceleration lane length requirement is 960 feet plus a 225-foot taper. This acceleration lane exists today for a length of 760 feet plus 225-foot taper; therefore, this lane should be extended from 760 feet to 960 feet.
- A northeastbound acceleration lane along US-24 from the SH-94 westbound right turn exists but **is not** warranted based on projected 2026 background plus project traffic being 10 westbound right turns during the peak hour and the threshold being greater than 10 vph. Since SH-94 has a category of E-X the right turn lane requirement is acceleration and taper length. Currently the eastbound acceleration lane is approximately 1,425 feet long with a 300-foot taper. Based on the 55-mile per hour speed limit, the acceleration lane length requirement is 960 feet plus a 225-foot taper. Therefore, no improvements are needed for this lane. However, if and when a third northbound through lane is provided along US-24 at SH-94, it is recommended that this acceleration lane be converted to the third northbound through lane as the acceleration lane is not warranted.

### SH-94 and Marksheffel Road (#3)

#### Left Turn Deceleration Lanes:

- An eastbound left turn deceleration lane exists and **is** warranted based on projected 2026 background plus project traffic being 150 eastbound left turns during the peak hour. 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 lanes are approximately 300 feet long with a 100-foot taper. Based on the 55-mile per hour speed limit, the deceleration lane length is 600 feet, plus a 225-foot taper. The storage requirement is 150 feet in 2026 and 235 feet in 2040 based on the projected left turning volume. Therefore, it is recommended that this left turn lane be constructed and designated to 750 feet plus a 225-foot taper in 2026 and 835 feet plus a 225-foot taper in 2040.
- A westbound left turn deceleration lane exists and **is** warranted today and based on projected 2026 background plus project traffic being 45 westbound left turns during the peak hour. Since SH-94 has a category of E-X the left turn lane requirement is deceleration, storage, and taper lengths. Currently the westbound left-turn lanes are approximately 225 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. The storage requirement is 50 feet based on the projected left turning volume. Therefore, it is recommended that this lane be constructed to 650 feet with a 225-foot taper.

#### Right Turn Deceleration Lanes:

- An eastbound right turn deceleration lane exists and **is** warranted today and based on projected 2026 background plus project traffic being 265 eastbound 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 plus taper length. The eastbound right turn lane is currently 250 feet long with a 200-foot taper. Based on the 55-mile per hour speed limit, the deceleration lane length requirement is 600 feet plus a 225-foot taper. Therefore, the existing eastbound right turn lane does not meet current CDOT requirements. It is recommended that this lane be constructed to 600 feet plus a 225-foot taper.

- A westbound right turn deceleration lane exists and **is** warranted today and based on projected 2026 background plus project traffic being 395 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 plus taper length. The westbound right turn lane is currently 250 feet long with a 275-foot taper. Based on the 55-mile per hour speed limit, the deceleration lane length requirement is 600 feet plus a 225-foot taper. Therefore, the existing westbound right turn lane does not meet current CDOT requirements. It is recommended that this lane be constructed to 600 feet plus a 225-foot taper.

#### Acceleration Lanes:

- An eastbound acceleration lane along SH-94 from the Marksheffel Road northbound right turn **is** warranted today and based on projected 2026 background plus project traffic being 30 northbound 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 65-mile per hour speed limit, a 1,380-foot acceleration lane with 300-foot taper is recommended.
- A westbound acceleration lane along SH-94 from the Marksheffel Road southbound right turn **is** warranted based on projected 2026 background plus project traffic being 255 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 40-mile per hour speed limit, a 380-foot acceleration lane with a 145-foot taper is required; however, 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 95<sup>th</sup> percentile queue lengths. Results are shown in the following **Table 8** with calculations provided within the level of service operational sheets of **Appendix D** for the unsignalized intersections and **Appendix F** for signalized intersections.

**Table 8 – Turn Lane Storage Length Analysis Results**

| <b>Intersection Turn Lane</b>                            | <b>Existing Turn Lane Length (feet)</b> | <b>2026 Calculated Queue Length (feet)</b> | <b>2026 Recommended Turn Lane Length (feet)</b> | <b>2040 Calculated Queue Length (feet)</b> | <b>2040 Recommended Turn Lane Length (feet)</b> |
|--|---|--|---|--|---|
| <b>US-24 (EB/WB) &amp; Marksheffel Road (NB/SB) (#1)</b> |   |  |   |  |   |
| Eastbound Left   | 1200' DL                                | 406' DL                                    | 1200' DL  | 535' DL                                    | 1200' DL  |
| Eastbound Right  | 575'                                    | FREE                                       | 575'  | 25'  | 575'  |
| Westbound Left   | 1100'                                   | 214' DL                                    | 1,100' DL (CDOT)                                | 261' DL                                    | 1,100' DL (CDOT)                                |
| Westbound Right  | 700'                                    | FREE                                       | 700'  | 25'  | 700'  |
| Northbound Left  | 300'                                    | FREE                                       | 300'  | 36'  | 300'  |
| Northbound Right   | 375'                                    | FREE                                       | 375'  | FREE                                       | 375'  |
| Southbound Left  | 375'                                    | 47'  | 375'  | 58'  | 375'  |
| Southbound Right   | C                                       | FREE                                       | C   | FREE                                       | C   |
| <b>SH-94 &amp; US-24 (#2)</b>                            |   |  |   |  |   |
| Eastbound Newt Drive Left                                | 375' DL                                 | 51'  | 375' DL   | 56'  | 375' DL   |
| Eastbound Newt Drive Right                               | C                                       | FREE                                       | C   | FREE                                       | C   |
| Westbound SH-94 Left                                     | 475' DL                                 | 385'                                       | 645' (CDOT) TL                                  | 626' TL                                    | 760' (CDOT) TL                                  |
| Westbound SH-94 Right                                    | 475'                                    | FREE                                       | 475'  | FREE                                       | 475'  |
| Northbound US-24 Left                                    | 900'                                    | 316' DL                                    | 900' DL   | 377'                                       | 900' DL   |
| Northbound US-24 Right                                   | 600'                                    | FREE                                       | 600'  | FREE                                       | 600'  |
| Southbound US-24 Left                                    | 800'                                    | 25'  | 800'  | 25'  | 800'  |
| Southbound US-24 Right                                   | 800'                                    | 25'  | 800'  | 25'  | 800'  |
| <b>SH-94 &amp; Marksheffel Road (#3)</b>                 |   |  |   |  |   |
| Eastbound Left   | 300'                                    | 244'                                       | 750' (CDOT)                                     | 348'                                       | 835' (CDOT)                                     |
| Eastbound Right  | 250'                                    | 51'  | 600' (CDOT)                                     | 599'                                       | 600' (CDOT)                                     |
| Westbound Left   | 225'                                    | 61'  | 650' (CDOT)                                     | 68'  | 650' (CDOT)                                     |
| Westbound Right  | 250'                                    | 227'                                       | 600' (CDOT)                                     | 358'                                       | 600' (CDOT)                                     |
| Northbound Left  | 375'                                    | 275'                                       | 375'  | 263' DL                                    | 375' DL   |
| Northbound Right   | 400'                                    | FREE                                       | 400'  | -  | -   |
| Southbound Left  | 400'                                    | 339'                                       | 400'  | 400'                                       | 400'  |
| Southbound Right   | 400'                                    | FREE                                       | 400'  | FREE                                       | 400'  |
| <b>Nox Album Pt &amp; Marksheffel (#4)</b>               |   |  |   |  |   |
| Eastbound Right  | DNE                                     | 25'  | C   | 25'  | C   |
| Northbound Left  | DNE                                     | 25'  | 295'+200' T (CS)                                | 25'  | 295'+200' T (CS)                                |
| Southbound Right   | DNE                                     | 25'  | 235'+200' T (CS)                                | 25'  | 235'+200' T (CS)                                |
| <b>Air Lane &amp; Marksheffel Rd (#5)</b>                |   |  |   |  |   |
| Eastbound Left   | DNE                                     | 119'                                       | C   | 124'                                       | C   |
| Eastbound Right  | DNE                                     | 79'  | 335'+140'T (EPC)                                | 128'                                       | 335'+140'T (EPC)                                |
| Northbound Left  | DNE                                     | 70'  | 390'+200' T (CS)                                | 158'                                       | 390'+200' T (CS)                                |
| Southbound Right   | DNE                                     | 25'  | 235'+200' T (CS)                                | 25'  | 235'+200' T (CS)                                |
| <b>Nox Album &amp; Pro Omnibus Ht (#6)</b>               |   |  |   |  |   |
| Westbound Left   | DNE                                     | 25'  | C   | 50'  | C   |
| Westbound Right  | DNE                                     | 25'  | 235' (EPC)                                      | 25'  | 235'(EPC)                                       |
| <b>Air Lane &amp; Pro Omnibus Hts (#7)</b>               |   |  |   |  |   |
| Westbound Right  | DNE                                     | 25'  | 135' (EPC)                                      | 25'  | 135'(EPC)                                       |

\* = Maximum Possible Length, DL = Dual Left Turn Lanes, TL = Triple Left Turn Lanes, DNE = Does Not Exist, C = Continuous Lane, FREE = Free Right Turn Movement, NA = Not Applicable, (CDOT) = CDOT Standard, (CS) = Colorado Springs Standard, (EPC) = El Paso County Standard, **Blue text = Improvement or New Turn Lane**



Turn lane lengths along Marksheffel Road were recommended based on City of Colorado Springs standards, whereas internal turn lane lengths are based on El Paso County Standards. It should be noted that 95<sup>th</sup> percentile vehicle queue lengths were recommended if they were reporting lengths longer than design standards.

Left turn lanes are warranted along El Paso County roadways when the left turning volume is greater than 25 vehicles per hour while right turn lanes are warranted when the right turning volumes is greater than 50 vehicles per hour. According to Section 3.5: Auxiliary Turn Lanes of the CDOT Access Code which the El Paso County Standards are based on, the auxiliary lanes required in the category design standards may be waived when the 20-year horizon predicted roadway volumes conflicting with the turning vehicle are below the following minimum volume thresholds. The right turn lane may be dropped if the volume if the travel lane is predicted to be below 150 directional hourly volumes (DHV). The left turn lane may be dropped if the opposing traffic is predicted to be below 100 DHV. This waiver was applied to the internal street intersections.

Based on El Paso County standards for a design speed of 35 mph, the recommended left-turn lanes and right turn lanes internal to Crossroads North should provide 135 feet of deceleration length plus 140-foot tapers while all left turn lanes and right turn lanes that require a stop will also provide a storage length (determined from ECM Table 2-30 for each location).

To meet El Paso County standards, it is recommended that a 335-foot eastbound right turn lane be designated at Air Lane and Marksheffel Road (#5 – South Access). It is recommended that a 235-foot westbound right turn lane be designated at the Nox Album Point and Pro Omnibus Heights (#6 - North Internal Intersection). A 135-foot westbound right turn lane is recommended to be designated at the Air Lane and Pro Omnibus Heights (#7 - South Internal Intersection).

## 5.8 Crossroads North: North Access Sensitivity Analysis

A sensitivity analysis within Crossroads North has been prepared comparing the north access along Marksheffel Road as a full movement signalized intersection and a three-quarter movement unsignalized intersection. As such, an intersection operational, vehicle queuing, signal progression, and safety evaluation has been analyzed and prepared comparing both access scenarios.

### Intersection Operational Analysis

A traffic operational analysis comparing the north access along Marksheffel Road as a full movement signalized intersection and as a three-quarter movement unsignalized intersection has been evaluated to determine operational differences. **Table 9** provides the results of the level of service at the two access intersections, Nox Album Point/Marksheffel Road (#4), Air Lane/Marksheffel Road (#5) for both the three-quarter and full movement access scenarios to Crossroads North.

**Table 9 – Crossroads North Access Scenarios LOS Results**

| Access and Movement  | 2026 Total Traffic      |     |                         |     | 2040 Total Traffic      |     |                         |     |
|--|-------------------------|-----|-------------------------|-----|-------------------------|-----|-------------------------|-----|
|  | AM Peak Hour            |     | PM Peak Hour            |     | AM Peak Hour            |     | PM Peak Hour            |     |
|  | Control Delay (sec/veh) | LOS | Control Delay (sec/veh) | LOS | Control Delay (sec/veh) | LOS | Control Delay (sec/veh) | LOS |
| <b>Crossroads North:<br/>Nox Album Pt &amp; Marksheffel Rd (#4)<br/>(3/4 Movements – Unsignalized)</b>         |                         |     |                         |     | #                       | #   | #                       | #   |
| Northbound Left  | 15.6                    | C   | 12.9                    | B   | 12.3                    | B   | 14.9                    | B   |
| Eastbound Right  | 17.8                    | C   | 14.8                    | B   | 13.9                    | B   | 14.4                    | B   |
| <b>Crossroads North:<br/>Nox Album Pt &amp; Marksheffel Rd (#4)<br/>(Full Movements - Signal)</b>              | 8.6                     | A   | 6.9                     | A   | 7.4                     | A   | 6.0                     | A   |
| <b>Crossroads North:<br/>Air Lane &amp; Marksheffel Rd (#5)<br/>(Signal w/ North Access 3/4<br/>Movements)</b> | 17.0                    | B   | 15.4                    | B   | 15.6                    | B   | 17.6                    | B   |
| <b>Crossroads North:<br/>Air Lane &amp; Marksheffel Rd (#5)<br/>(Signal w/ North Access Signalized)</b>        | 9.3                     | A   | 7.3                     | A   | 8.7                     | A   | 6.0                     | A   |

# = Three northbound and southbound through lanes

As shown in **Table 9**, both proposed access intersections along Marksheffel Road, Nox Album Point/Marksheffel Road (#4) and Air Lane/Marksheffel Road (#5), are expected to operate

acceptably with LOS C or better during the peak hours under both access scenarios. It should be noted that the Air Lane and Marksheffel Road (#5 – South Access) is expected to have delays increase by approximately 12 seconds (from LOS A to LOS B) during the peak hours in 2040 if the north access is unsignalized.

Vehicle Queuing Analysis

A vehicle queuing analysis comparing the north access along Marksheffel Road as a full movement signalized intersection and as a three-quarter movement unsignalized intersection has been evaluated to determine potential vehicle queuing deficiencies. **Table 10** provides the results of the 95<sup>th</sup> percentile vehicle queues at the Nox Album Point/Marksheffel Road (#4) and Air Lane/Marksheffel Road (#5) intersections for both access scenarios to Crossroads North.

**Table 10 – Crossroads North Access Scenarios Vehicle Queuing Results**

| Intersection Turn Lane  | 2026<br>Calculated<br>Queue<br>Length (feet) | 2040<br>Calculated<br>Queue<br>Length (feet) |
|---|--|--|
| <b>Crossroads North:<br/>Nox Album Pt &amp; Marksheffel Rd (#4)<br/>(3/4 Movements – Unsignalized)</b>  |  | #  |
| Eastbound Right   | 25'  | 25'  |
| Northbound Left   | 25'  | 25'  |
| <b>Crossroads North:<br/>Nox Album Pt &amp; Marksheffel Rd (#4)<br/>(Full Movements - Signal)</b>       |  | #  |
| Eastbound Left  | 145'   | 156'   |
| Eastbound Right   | 55'  | 56'  |
| Northbound Left   | 25'  | 53'  |
| Southbound Right  | 25'  | 40'  |
| <b>Crossroads North:<br/>Air Lane &amp; Marksheffel Rd (#5)<br/>(Signal w/ North Access 3/4 Mvmts)</b>  |  | #  |
| Eastbound Left  | 220'   | 244'   |
| Eastbound Right   | 73'  | 76'  |
| Northbound Left   | 83'  | 179'   |
| Southbound Right  | 32'  | 56'  |
| <b>Crossroads North:<br/>Air Lane &amp; Marksheffel Rd (#5)<br/>(Signal w/ North Access Signalized)</b> |  | #  |
| Eastbound Left  | 119'   | 124'   |
| Eastbound Right   | 79'  | 128'   |
| Northbound Left   | 70'  | 158'   |
| Southbound Right  | 25'  | 25'  |

# = Three northbound and southbound through lanes

As shown in **Table 10**, vehicle queues are relatively uniform between the two access intersections when both are signalized. Eastbound left exiting vehicle queues are more than 100 feet longer at the south access intersection when the north access intersection is stop controlled as all traffic with destinations to the north are routed through the south access.

### Signal Progression Analysis

A traffic signal progression analysis was conducted along the approximate 1.6-mile-long segment of Marksheffel Road from Meadowbrook Parkway to the north to the proposed Reagan Ranch full access to the south due to the proposed signalization of the Air Lane and Marksheffel Road (#5 – South Access) access intersection to Crossroads North, the Space Village Avenue intersection as well as one of the proposed Reagan Ranch accesses. Although the Nox Album Point and Marksheffel Road (#4) intersection is recommended as a three-quarter movement for purposes of this signal progression analysis it was included as a signalized intersection to be conservative. As such, four (4) new signalized intersections and three (3) existing signalizations for a total of seven (7) signalized intersections were evaluated for progression along this corridor. Further, a comparison evaluation was conducted with the Nox Album Point and Marksheffel Road (#4) intersection operating with stop control. In the second scenario, six (6) signalized intersections were evaluated for progression along the Marksheffel Road corridor. Additionally, two alternatives were provided based on the coordination at the US-24 and Marksheffel Road (#1) intersection. This intersection is currently coordinated east-west along US-24; therefore, an alternative analysis was provided for coordinating this intersection north-south along Marksheffel Road in the event that north-south coordination is desired in the future.

The signal progression analysis was conducted to determine if the four traffic signals proposed along Marksheffel Road would interrupt the northbound and southbound bandwidth and platooning of vehicles along Marksheffel Road. Bandwidth is the window of time within the cycle length of a traffic signal that allows vehicles to travel through coordinated intersections without stopping. The goal of signal coordination is to provide sufficient bandwidth to allow for the progression of traffic along a corridor. Intersection coordination bandwidths for the study area were estimated using *Synchro 10* and were evaluated under full buildout 2040 total traffic conditions during the weekday morning and afternoon peak hours.

With the intersections of Space Village Avenue/Marksheffel Road, Nox Album Point/Marksheffel Road (#4), Air Lane/Marksheffel Road (#5), and the Reagan Ranch Marksheffel Road Access as signalized intersections and coordinated with the intersections of Meadowbrook Parkway/Marksheffel Road, and SH-94/Marksheffel Road, and US-24/Marksheffel Road being coordinated east-west the available vehicle bandwidth through the studied Marksheffel Road corridor is anticipated to be 42 seconds northbound southbound during the morning peak hour in 2040. Likewise, the bandwidth during the afternoon peak hour is anticipated to be 43 seconds northbound and 45 seconds southbound in 2040. These bandwidths equate to a platoon efficiency of approximately 30 percent and 31/32 percent in the morning and afternoon peak hours, respectively.

With the Nox Album Point and Marksheffel Road (#4) intersection (north access) operating with stop control and US-24/Marksheffel Road being coordinated east-west, the six (6) studied signalized intersections along the Marksheffel Road corridor are expected to have an available bandwidth of 42 seconds northbound and southbound during the morning peak hour in 2040. Likewise, the bandwidth during the afternoon peak hour is anticipated to be 43 seconds northbound and 46 seconds southbound in 2040. These bandwidths equate to a platoon efficiency of approximately 30 percent and 31/33 percent in the morning and afternoon peak hours, respectively.

With the intersections of Space Village Avenue/Marksheffel Road, Nox Album Point/Marksheffel Road (#4), Air Lane/Marksheffel Road (#5), and the one Reagan Ranch Marksheffel Road Access as signalized intersections and coordinated with the intersections of Meadowbrook Parkway/Marksheffel Road, and SH-94/Marksheffel Road, and US-24/Marksheffel Road being coordinated north-south, the available vehicle bandwidth through the studied Marksheffel Road corridor is anticipated to be 42 seconds northbound southbound during the morning peak hour in 2040. Likewise, the bandwidth during the afternoon peak hour is anticipated to be 43 seconds northbound and 45 seconds southbound in 2040. These bandwidths equate to a platoon efficiency of approximately 30 percent and 31/32 percent in the morning and afternoon peak hours, respectively.

With the Nox Album Point and Marksheffel Road (#4) intersection (north access) operating with stop control and US-24/Marksheffel Road being coordinated north-south, the six (6) studied signalized intersections along the Marksheffel Road corridor are expected to have an available bandwidth of 42 seconds northbound and southbound during the morning peak hour in 2040. Likewise, the bandwidth during the afternoon peak hour is anticipated to be 43 seconds northbound and 46 seconds southbound in 2040. These bandwidths equate to a platoon efficiency of approximately 30 percent and 31/33 percent in the morning and afternoon peak hours, respectively.

The following **Table 11** summarizes the available bandwidths and platoon efficiencies for both access scenarios withing Crossroads North.

**Table 11 – Signal Progression Comparison**

| Analysis Year and Peak  | Bandwidth (seconds) |            | Platoon Efficiency (%) |            |
|---|---------------------|------------|------------------------|------------|
|   | Northbound          | Southbound | Northbound             | Southbound |
| <b>US-24 &amp; Marksheffel Road Coordinated East-West</b>                               |                     |            |                        |            |
| <b>Crossroads North: Signalized North Access (7 studied signalized intersections)</b>   |                     |            |                        |            |
| 2040 Total AM   | 42 sec.             | 42 sec.    | 30%                    | 30%        |
| 2040 Total PM   | 43 sec.             | 45 sec.    | 31%                    | 32%        |
| <b>Crossroads North: Unsignalized North Access (6 studied signalized intersections)</b> |                     |            |                        |            |
| 2040 Total AM   | 42 sec.             | 42 sec.    | 30%                    | 30%        |
| 2040 Total PM   | 43 sec.             | 46 sec.    | 31%                    | 33%        |
| <b>US-24 &amp; Marksheffel Road Coordinated North-South</b>                             |                     |            |                        |            |
| <b>Crossroads North: Signalized North Access (7 studied signalized intersections)</b>   |                     |            |                        |            |
| 2040 Total AM   | 42 sec.             | 42 sec.    | 30%                    | 30%        |
| 2040 Total PM   | 43 sec.             | 45 sec.    | 31%                    | 32%        |
| <b>Crossroads North: Unsignalized North Access (6 studied signalized intersections)</b> |                     |            |                        |            |
| 2040 Total AM   | 42 sec.             | 42 sec.    | 30%                    | 30%        |
| 2040 Total PM   | 43 sec.             | 46 sec.    | 31%                    | 33%        |

Marksheffel Road is comparable to a NR-B: Non-Rural Arterial as defined in the State of Colorado State Highway Access Code. A goal platoon efficiency for an NR-B corridor is typically 30 percent or better, which has been achieved in 2040 for both directions of travel under both access

scenarios and both coordination scenarios at the US-24/Marksheffel Road (#1) intersection. Therefore, it is believed that traffic signals at the intersections of Space Village Avenue/Marksheffel Road, Nox Album Point/Marksheffel Road (#4), Air Lane/Marksheffel Road (#5), and the one Reagan Ranch Marksheffel Road Access would maintain an acceptable platoon efficiency along the Marksheffel Road corridor if coordinated with the adjacent traffic signals. Time-space diagrams for the corridor are attached in **Appendix G**.

#### Safety Evaluation

The north access to Crossroads North along Marksheffel Road meets standards for capacity operations, vehicle queues, and signal progression under a signal control. Further, national standards are met for signal warrants, sight distance, and intersection spacing at this access.

### **5.9 Safety Analysis**

As requested by the State of Colorado Department of Transportation (CDOT) a Safety Analysis was performed for the state highway intersections in association with this project. Crash data was obtained for the most recent three-year timeframe available from January 2017 through December 2019, as provided in **Appendix H**. The following provides a discussion of the crash data and projections on an intersection-by-intersection basis.

#### **US-24 and Marksheffel Road (#1)**

A total of 35 crashes were reported at the intersection of US-24 and Marksheffel Road in the three-year study timer period. These 35 crashes resulted in 36 injuries and no fatalities. Most of the crashes occurred between two vehicles (29 crashes), with four crashes being single vehicle and two crashes including three or more vehicles. Of the 35 crashes, 24 occurred during daylight conditions, one at dawn or dusk, and 10 under dark conditions. The highest proportion of crashes were rear end (10 crashes) and approach turn (10 crashes). Additional crash types were broadside (6 crashes), sideswipe same (4 crashes), overturning (2 crashes), fixed objects (2 crashes), and sideswipe opposite (1 crash). Weather conditions were predominately nice with 31 crashes reported during no weather condition, one with rain, one with snow, one with fog, and one with wind. The crash rate is 83.79 per million vehicle miles traveled. In 2019, there were a total of 16 crashes at this intersection. With traffic volumes at this intersection anticipated to increase by 28 percent to 2026, the number of crashes at this intersection may increase to 20 per year. Recent improvements at this intersection (incorporated after the 2019 crash data) include

dual left turn lanes from US-24 to southbound Marksheffel Road, which may improve intersection operations and safety. By 2040, traffic volumes are anticipated to increase by 73 percent. Therefore, crashes may be on the order of magnitude of 28 per year in the twenty-year planning horizon. In the 2040 horizon, three through lanes are anticipated on all four approaches to this intersection.

### **US-24 and SH-94 (#2)**

A total of 24 crashes were reported at the US-24 and SH-94 intersection in the three-year study timer period. These 24 crashes resulted in 19 injuries and no fatalities. Most of the crashes occurred between two vehicles (17 crashes), with one crash being a single vehicle and six crashes including three or more vehicles. Of the 24 crashes, 16 occurred during daylight conditions, two at dawn or dusk, and six under dark conditions. The highest proportion of crashes were rear end (12 crashes). Additional crash types were broadside (6 crashes), approach turn (4 crashes), sideswipe same (1 crash), and fixed objects (1 crash). Weather conditions were predominately nice with 22 crashes reported during no weather condition, one with rain, and one with snow. The crash rate is 38.45 per million vehicle miles traveled. In 2019, there were a total of 10 crashes at this intersection. With traffic volumes at this intersection anticipated to increase by 41 percent to 2026, the number of crashes at this intersection may increase to 14 per year. Improvements proposed by 2026 include triple westbound left turn lanes, dual northbound left turn lanes, and three through lanes on US-24. By 2040, traffic volumes are anticipated to increase by 87 percent. Therefore, crashes may be on the order of magnitude of 19 per year in the twenty-year planning horizon. Grade separated features of this intersection are anticipated sometime in the future to include possibly a grade separated westbound left turn.

### **SH-94 and Marksheffel Road (#3)**

A total of 15 crashes were reported at the intersection of SH-94 and Marksheffel Road in the three-year study timer period. These 15 crashes resulted in 10 injuries and one (1) fatality. The fatal crash occurred in June of 2018 where a bus carrying 15 people turned left and collided with an eastbound through passenger car on eastbound SH-94. There was no weather, it was daylight, and the roadway was dry. No impairment was suspected for either driver and no apparent contributing factor was identified. It was noted that the both the eastbound and westbound left turns operate under permissive-only phasing. Safety could be improved of this



intersection to implement protected/permitted or protected-only eastbound and westbound left turn phasing.

Most of the crashes occurred between two vehicles (13 crashes), with one crash being a single vehicle and one crash including three or more vehicles. Of the 15 crashes, 11 occurred during daylight conditions, one at dawn or dusk, and 3 under dark conditions. The highest proportion of crashes were rear end (6 crashes) and approach turn (5 crashes). Additional crash types were broadside (3 crashes) and domestic animal (1 crash). Weather conditions were predominately nice with 14 crashes reported during no weather condition and one with wind. The crash rate is 62.75 per million vehicle miles traveled due to the fatality. In 2019, there were a total of 7 crashes at this intersection. With traffic volumes at this intersection anticipated to increase by 53 percent to 2026, the number of crashes at this intersection may increase to 11 per year. The improvements proposed by this horizon include extending the eastbound and westbound left and right turn deceleration lanes along SH-94 to meet CDOT standards. In addition, acceleration lanes are proposed. These auxiliary turn lane improvements are anticipated to improve safety of the intersection. By 2040, traffic volumes are anticipated to increase by 139 percent. Therefore, crashes may be on the order of magnitude of 17 per year in the twenty-year planning horizon. Improvements anticipated at this horizon include two eastbound and westbound through lanes along SH-94 and three northbound and southbound through lanes along Marksheffel Road. The eastbound and westbound left turns should operate with protected/permitted left turn phasing.

Although these calculate possible future crashes at the key study intersections, vehicle technology is expected to continue to evolve with connected vehicles and autonomous safety features, which is anticipated to improve roadway safety. Therefore, the number of crashes may not increase at the same rate of the traffic volume increases as identified herein.

## 5.10 Road Impact Fees

Road impact fees were evaluated based on the El Paso County Road Impact Fee Schedule. The road impact fee for the proposed Crossroads North project is expected to be \$1,807,338. Road impact fee calculations are shown in **Table 12**. During the final plat process, the project team will determine if the impact fees are paid up front or if the property will be included in one of the available public improvement districts with reduced upfront costs. The project team will determine payment methods with the final plat. The improvements along CDOT highways will be appropriately coordinated with CDOT while Marksheffel Road will be controlled by the City of Colorado Springs. The internal roadways to the project are not identified in the MTCP; therefore, it is believed that improvements identified in this study are not reimbursable under the current MTCP.

**Table 12 – Road Impact Fees**

| Use                                     | Units   | Per 1,000 SF or DU | Fee / Unit | Per Use Fee           |
|---|---------|--------------------|------------|-----------------------|
| <b>Crossroads North</b>                 |         |                    |            |                       |
| Public Park (ITE 411)                   | 50,000  | 50                 | 3,372.00   | \$168,600.00          |
| Movie Theatre (ITE 444)                 | 52,000  | 52                 | 4,958.00   | \$257,816.00          |
| Tire Superstore (ITE 849)               | 7,000   | 7                  | 4,958.00   | \$34,706.00           |
| Home Improvement Superstore (ITE 862)   | 127,000 | 127                | 4,958.00   | \$629,666.00          |
| Furniture Store (ITE 890)               | 114,000 | 114                | 4,958.00   | \$565,212.00          |
| Sit Down Restaurant (ITE 932)           | 11,000  | 11                 | 4,958.00   | \$54,538.00           |
| Fast-Food Restaurant (ITE 934)          | 5,000   | 5                  | 8,800.00   | \$44,000.00           |
| Gas Station Super Convenience (ITE 960) | 6,000   | 6                  | 8,800.00   | \$52,800.00           |
| <b>Crossroads North Road Impact Fee</b> |         |                    |            | <b>\$1,807,338.00</b> |

## 5.11 Deviations from El Paso County Standards

Traffic volume projections along Air Lane meet the characteristics of an Urban Non-Residential Collector Street. Air Lane is designed with a modified cross section within the existing 60-foot ROW. The standard cross section includes two 18-foot travel lanes, a 12-foot median within 48 feet of pavement width, two 5-foot sidewalks, two 2.5-foot curb and gutters, two 8-foot tree lawns, with two 1-foot easements on both sides. The modified Air Lane cross section includes two 11-foot eastbound egress lanes at Marksheffel Road, and a 12-foot receiving lane, two 2.5-foot curb and gutters, and 23 feet of public improvements easements (11 feet on southern side and 12 feet on northern side of modified cross section). A deviation will need to be provided for this modified urban non-residential cross section along Air Lane for the County to consider for approval.

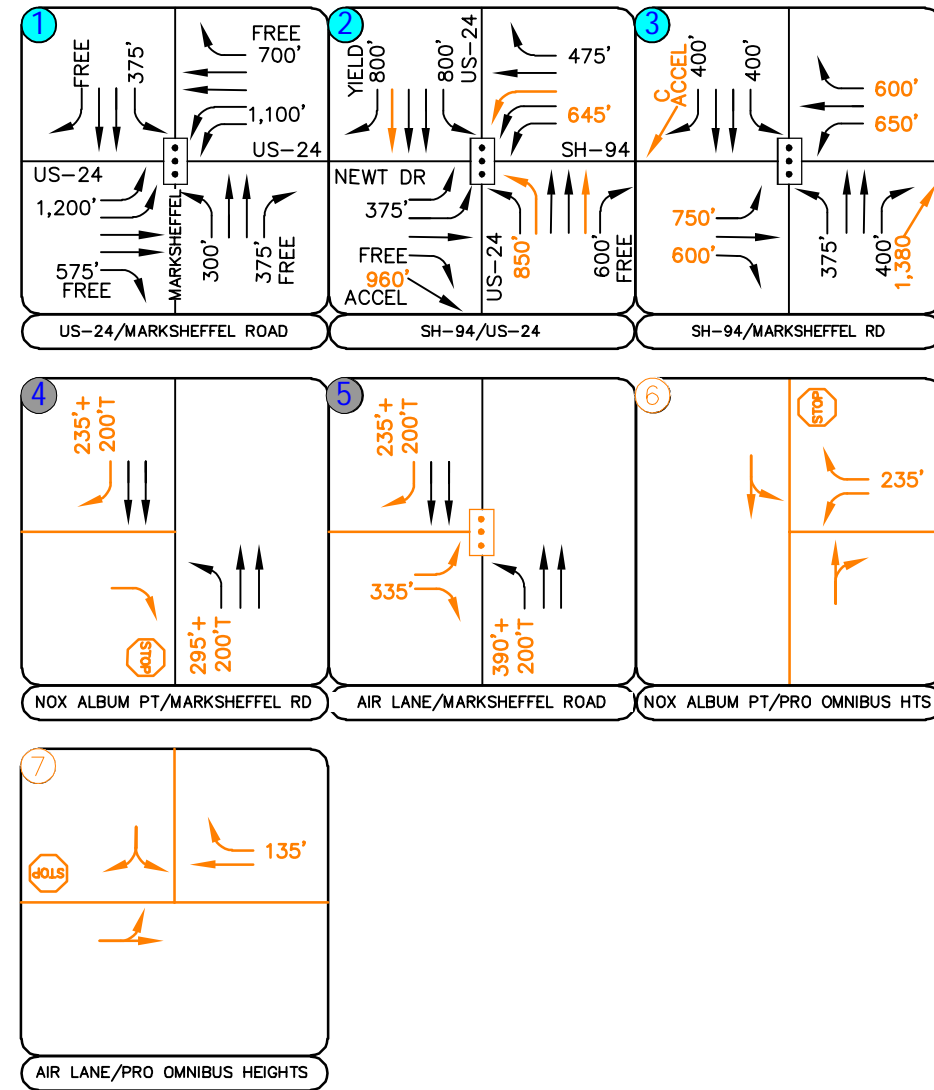
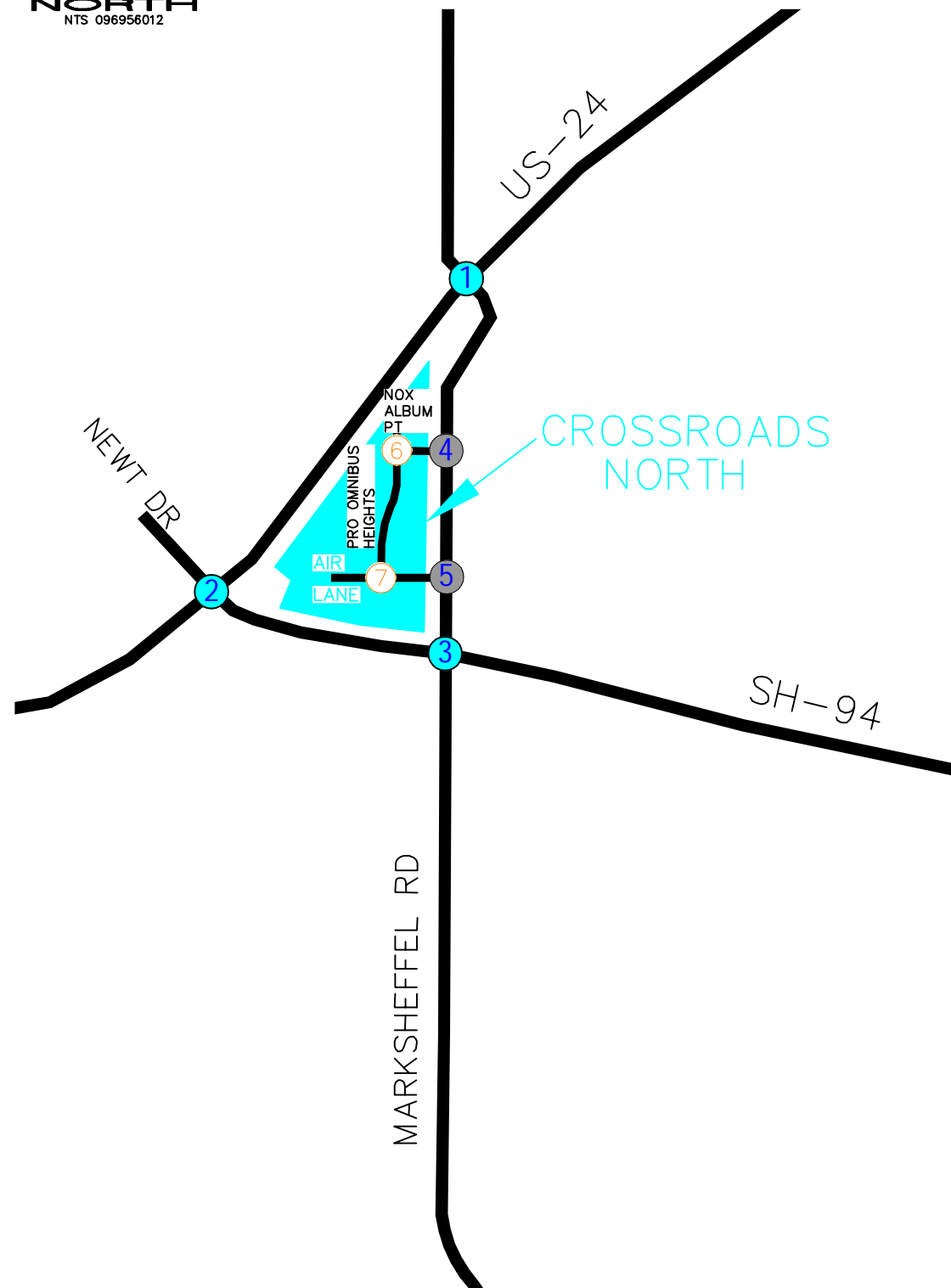
## 5.12 Improvement Summary

Based on the results of the level of service operational and turn lane analysis for the study area in the 2026 short term and 2040 long-term twenty-year horizons, anticipated improvements are identified as shown in **Figures 14** and **15**, respectively. Likewise, a recommended improvements summary table is provided in **Table 13**. The recommended improvements are based on the analysis provided for this area of Colorado Springs considering existing traffic volumes, background traffic volume growth from other development projects, and the project area. The improvements identified are not solely needed to accommodate Crossroads North, as it is the existing and background traffic volume growth that contribute to the improvement needs as well.

**Table 13 – Crossroads North Improvement Summary**

| Intersection                             | Improvements  | Horizon Year Needed | Associated Development Area |
|--|---|---------------------|-----------------------------|
| <b>US-24 &amp; Marksheffel Road (#1)</b> | Optimized signal timings  | 2026                | CDOT                        |
|  | Three through lanes on all four approaches  | 2040                | Regional                    |
| <b>SH-94 &amp; US-24 (#2)</b>            | Designate northbound dual left turn lanes with 850-foot plus 225-foot taper                                   | Full Buildout       | Crossroads Mixed Use        |
|  | Provide triple westbound left turn lanes with 645 feet plus 145-foot taper                                    | Full Buildout       | Reagan Ranch                |
|  | Extend eastbound to southwestbound right turn acceleration lane from 760 feet to 960 feet                     | Full Buildout       | Crossroads Mixed Use        |
|  | Three US-24 northbound and southbound through lanes   | Full Buildout       | Regional                    |
| <b>SH-94 &amp; Marksheffel Road (#3)</b> | Extend the 300-foot eastbound left turn lane to 750 feet with a 225-foot taper                                | Full Buildout       | Crossroads North            |
|  | Extend the 250-foot eastbound right turn lane to 600 feet with a 225-foot taper                               | Full Buildout       | Reagan Ranch                |
|  | Extend the 225-foot westbound left turn lane to 650 feet with a 225-foot taper                                | Full Buildout       | Reagan Ranch                |
|  | Extend the 250-foot westbound right turn lane to 600 feet with a 225-foot taper                               | Full Buildout       | Crossroads North            |
|  | Provide northbound to eastbound right turn acceleration lane  | Full Buildout       | Reagan Ranch                |
|  | Provide southbound to westbound right turn acceleration lane  | Full Buildout       | Crossroads North            |
|  | Optimized signal timings  | 2040                | CDOT                        |
|  | Provide northbound dual left turn lanes   | 2040                | Reagan Ranch                |
|  | Provide two through lanes both eastbound and westbound and three through lanes both northbound and southbound | 2040                | Regional                    |

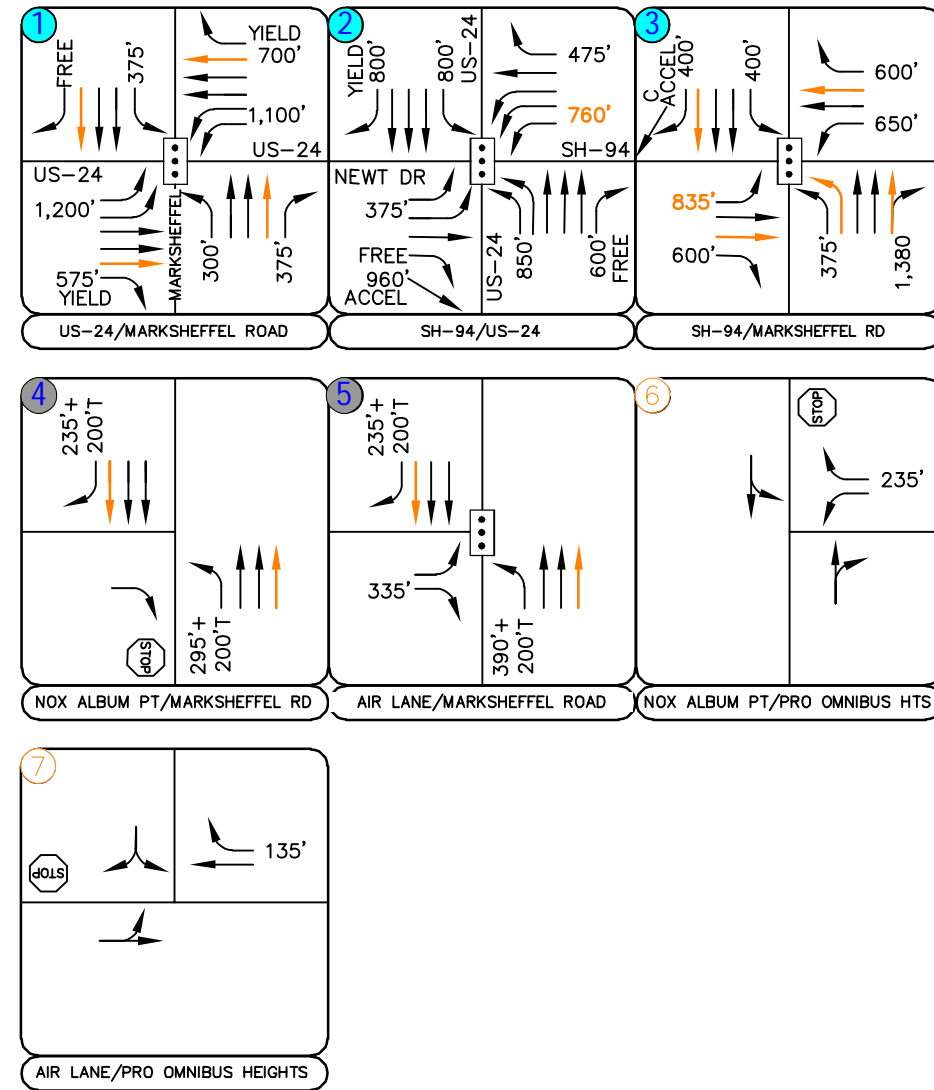
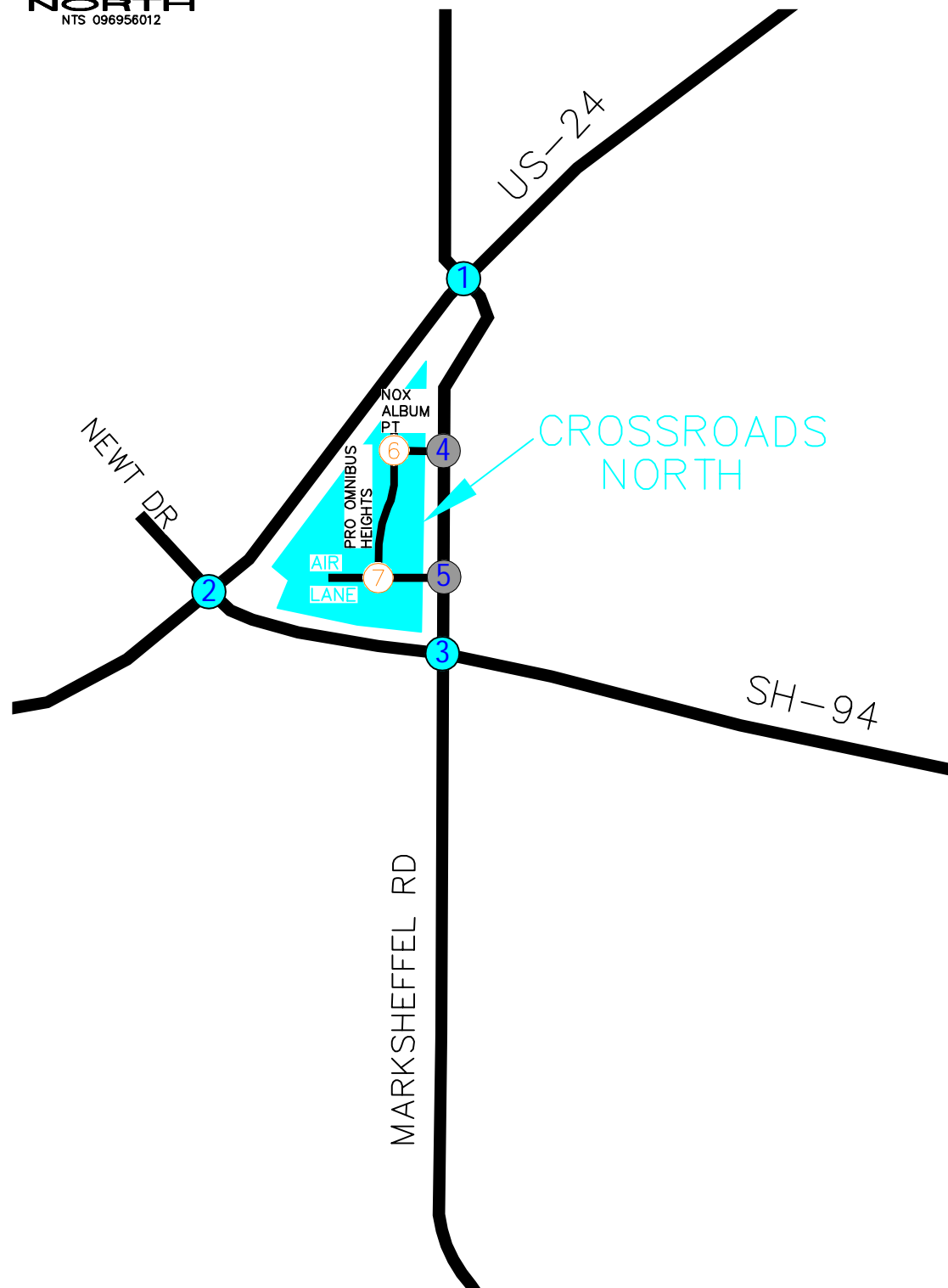
| Intersection                                   | Improvements   | Horizon Year Needed | Associated Development Area |
|--|--|---------------------|-----------------------------|
| <b>Nox Album Pt &amp; Marksheffel Rd (#4)</b>  | Provide a northbound left turn lane with 295 feet plus 200-foot taper  | Full Buildout       | Crossroads North            |
|  | Provide a southbound right turn lane with 235 feet plus 200-foot taper                                       | Full Buildout       | Crossroads North            |
|  | Eastbound approach to provide a right turn lane and a R1-1 "STOP" sign                                       | Full Buildout       | Crossroads North            |
| <b>Air Lane &amp; Marksheffel Road (#5)</b>    | Provide a northbound left turn lane with 390 feet plus 200-foot taper  | Full Buildout       | Crossroads North            |
|  | Provide a southbound right turn lane with 235 feet plus 200-foot taper                                       | Full Buildout       | Crossroads North            |
|  | Eastbound approach to provide a 335 foot right turn lane and a continuous left turn lane                     | Full Buildout       | Crossroads North            |
|  | Signalized   | Full Buildout       | Crossroads North            |
| <b>Nox Album Pt &amp; Pro Omnibus Hts (#6)</b> | Northbound and southbound approach with one shared lane for all movements                                    | Full Buildout       | Crossroads North            |
|  | Westbound approach to provide a continuous left turn lane, a 235-foot right turn lane and a R1-1 "STOP" sign | Full Buildout       | Crossroads North            |
| <b>Air Lane &amp; Pro Omnibus Hts (#7)</b>     | Southbound approach to provide one shared left/right turn lane and a R1-1 "STOP" sign                        | Full Buildout       | Crossroads North            |
|  | Eastbound approach to provide a shared left turn/through lane  | Full Buildout       | Crossroads North            |
|  | Westbound approach to provide one through lane and a 135-foot right turn lane                                | Full Buildout       | Crossroads North            |



| LEGEND |                                |       |                              |
|--------|--------------------------------|-------|------------------------------|
|        | Existing Key Intersection      |       | Signalized Intersection      |
|        | Proposed Access Intersection   |       | Stop Controlled Approach     |
|        | Proposed Internal Intersection | C     | Continuous Lane              |
|        | Improvement                    | ACCEL | Acceleration Lane            |
| T      | Taper                          |       | 100' Turn Lane Length (feet) |
| FREE   | Free Right Turn Lane           |       |                              |

CROSSROADS NORTH  
COLORADO SPRINGS, CO  
2026 RECOMMENDED LANE CONFIGURATIONS

FIGURE 14



| LEGEND |                                |  |                              |
|--------|--------------------------------|--|------------------------------|
|        | Existing Key Intersection      |  | Signalized Intersection      |
|        | Proposed Access Intersection   |  | Stop Controlled Approach     |
|        | Proposed Internal Intersection |  | C Continuous Lane            |
|        | Improvement                    |  | ACCEL Acceleration Lane      |
|        | T Taper                        |  | 100' Turn Lane Length (feet) |
|        | FREE Free Right Turn Lane      |  |                              |

CROSSROADS NORTH  
COLORADO SPRINGS, CO  
2040 RECOMMENDED LANE CONFIGURATIONS

FIGURE 15

## 6.0 CONCLUSIONS AND RECOMMENDATIONS

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Based on the complete analysis of the project area including existing and background traffic volumes from other sources and developments presented in this report, Kimley-Horn believes the Crossroads North development will be successfully incorporated into the existing and future roadway network. All of the area traffic combined including the proposed background traffic volume growth, project development, and expected future traffic volumes in the 2026 and 2040 full buildout horizons resulted in the following conclusions and recommendations:

### **2026 Recommendations:**

- CDOT will likely require Access Permits for the intersections of SH-94/US-24 (#2) and SH-94/Marksheffel Road (#3) in association with the project.
- To maintain acceptable operations the signal timings at US-24/Marksheffel Road (#1) intersection may need to be optimized by 2026, with or without the addition of project traffic.
- The intersection of SH-94/US-24 (#2) currently operates poorly during the peak hours in the existing condition. As a regional capacity improvement, it was found that US-24 may need to provide three through lanes in each direction from the Peterson Road interchange through this intersection with SH-94 in the near-term horizon. The additional through lanes should be considered by CDOT 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 deceleration lane be constructed to maintain free right turn movements to eastbound SH-94. For southwestbound US-24 at SH-94 (#2), the existing acceleration lane along US-24 will need to be reconstructed with 960 feet of length plus a 225-foot taper if and when US-24 is improved to provide three through lanes along westbound US-24. For northeastbound US-24 at SH-94, it is recommended that this acceleration lane be converted to the third northbound through lane as the acceleration lane is not warranted. Further, the northeastbound US-24 third through lane needs to continue for 1,200 feet plus provide a 660-foot taper based on MUTCD standards. In addition to these regional improvements, it is recommended that the existing single 900-foot left turn lane be changed to 850-foot 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 available (mostly); however, the lane is striped out which will require restriping with a slight extension that may also need to be constructed. Also, at the intersection of US-24 and SH-94 (#2), the existing dual westbound left turn lanes on SH-94 should be converted to triple left turn lanes by restriping the inside westbound through lane to a left turn lane. The inside two westbound left turn lanes should be extended to a length of 760 feet plus a 225-foot taper per CDOT requirements. Three receiving lanes will be available with the expansion of US-24 to three westbound lanes to the Peterson Road interchange off-ramp. A traffic signal modification will be required at the intersection to incorporate all of these improvements. As requested by CDOT, an additional analysis was performed with an interchange grade separation including a westbound left turn flyover ramp condition. With this westbound left turn flyover ramp and the existing two through lanes in each direction along US-24, the intersection of SH-94 and US-24 (#2) is expected to operate acceptably with LOS D during the peak hours in 2026 and LOS E during the peak hours in 2040. With three through lanes in each direction along US-24 and the implementation of the westbound left turn flyover ramp, this intersection is expected to operate acceptably during the peak hours in 2040.

- At SH-94 and Marksheffel Road (#3), it was found that the eastbound and westbound right turns should operate with overlap phasing, while the northbound and southbound right turns should operate with free movements with acceleration lanes constructed in accordance with the CDOT State Highway Access Code. The acceleration lane along westbound SH-94 is recommended to tie into the outside through lane on the approach to US-24. The eastbound left turn lane shall be extended to a length of 750 feet with a 225-foot taper while the westbound left turn lane should be extended to a length of 650 feet with a 225-foot taper. The eastbound and westbound right turn lanes should be extended to 600 feet. The eastbound acceleration lane from the Marksheffel Road northbound right turn should be constructed to 1,380 feet with a 300-foot taper. These improvements at this intersection may already be identified with the SH-94 improvements already being planned by CDOT.
- A traffic signal is anticipated to be needed and warranted at the Air Lane and Marksheffel Road (#5 – South Access) access intersection to Crossroads North. Therefore, a traffic signal is recommended for installation at this access intersection with development of Crossroads



North. To meet Colorado Springs standards, the northbound left turn at the Air Lane and Marksheffel Road (#5 – South Access) should provide a turn lane length of 390 feet plus a 200-foot taper, whereas the southbound right turn lane should provide a lane length of 235 feet plus a 200-foot taper. Lastly, separate eastbound left turn and right turn lanes are recommended to serve exiting traffic out of Crossroads North at this access.

- The Nox Album Point and Marksheffel Road (#4 – North Access) access intersection to Crossroads North should operate as a three-quarter intersection with a R1-1 “STOP” sign installed on the eastbound approach. Based on Colorado Springs standards, the northbound left turn at the Marksheffel Road North Access (#4) should provide a turn lane length of 295 feet plus a 200-foot taper, whereas the southbound right turn lane should provide a lane length of 235 feet plus a 200-foot taper. A sensitivity analysis has been prepared later in Section 5.8 comparing the north access along Marksheffel Road as a full movement signalized intersection and a three-quarter movement unsignalized intersection.
- An internal street evaluation was conducted for the Crossroads North development area. The east/west street extending from the south access (#5) to Crossroads North along Marksheffel Road is proposed to be named Air Lane and is expected to be classified as an El Paso County Urban Non-Residential Collector roadway with a 60-foot right-of-way (ROW). Air Lane extends east/west and is proposed to connect with a north/south extending Non-Residential Collector named Pro Omnibus Heights (#7). The Air Lane and Pro Omnibus Heights (#7 – South Internal Intersection) collector to collector intersection is proposed to be located approximately 525 feet west of Marksheffel Road. The north/south extending Non-Residential Collector Street named Pro Omnibus Heights also intersects (#6) with an east/west collector street named Nox Album Point that extends from the north access to Marksheffel Road. Nox Album Point (which connects with Marksheffel Road) is proposed to be classified as an El Paso County Urban Non-Residential Collector roadway. To meet El Paso County standards for a design speed of 35 mph, the recommended left-turn lanes and right turn lanes internal to Crossroads North should provide 135 feet of deceleration length plus 140-foot tapers while all left turn lanes and right turn lanes that require a stop will also provide a storage length (determined from ECM Table 2-30 for each location).

- To meet El Paso County standards, it is recommended that a 335-foot eastbound right turn lane be designated at Air Lane and Marksheffel Road (#5 – South Access). It is recommended that a 235-foot westbound right turn lane be designated at the Nox Album Point and Pro Omnibus Heights (#6 - North Internal Intersection). A 135-foot westbound right turn lane is recommended to be designated at the Air Lane and Pro Omnibus Heights (#7 - South Internal Intersection).

#### **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. Likewise, Marksheffel Road between US-24 and Peterson Air Force Base East Gate may need to provide three through lanes in each direction. It is recommended that traffic volumes continue to be monitored by CDOT and the City of Colorado Springs, as applicable, to determine if and when these regional improvements will be needed. It is understood that US-24 and Marksheffel Road are identified with four-lane cross-sections. If future traffic projections are realized, additional right-of-way may need to be dedicated to account for six-lane cross sections along both US-24 and Marksheffel Road within the study limits.
- To maintain acceptable operations the signal timings at SH-94/Marksheffel Road (#3) intersection may need to be optimized by 2040, with or without the addition of project traffic.
- Several extensions of auxiliary turn lanes may be needed by 2040 and should be monitored by CDOT and the City of Colorado Springs, as applicable, to determine if and when the recommended turn lane lengths will be needed.

#### **General Recommendations:**

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

# APPENDICES

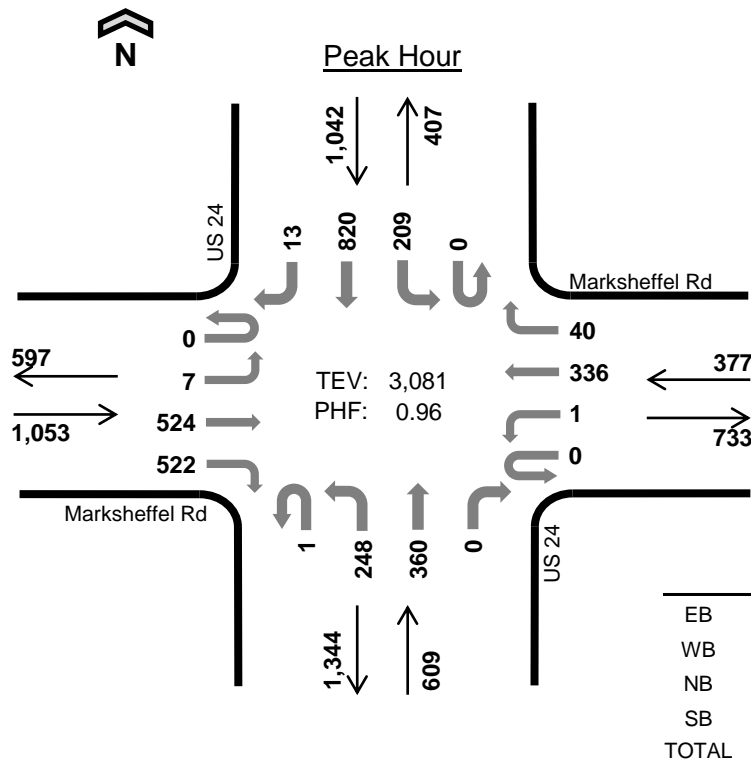
# APPENDIX A

Intersection Count Sheets

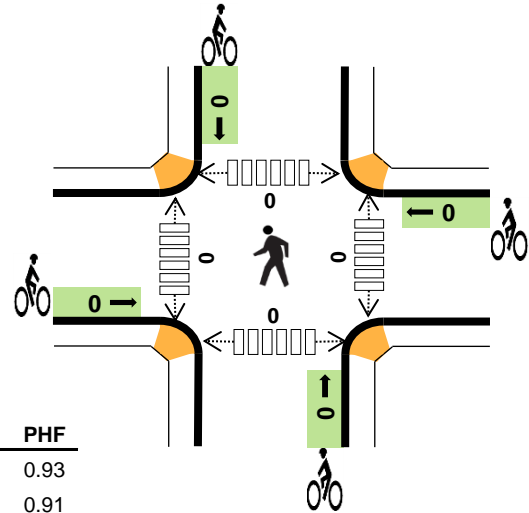
COVID-19 Count Adjustment Data



### 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

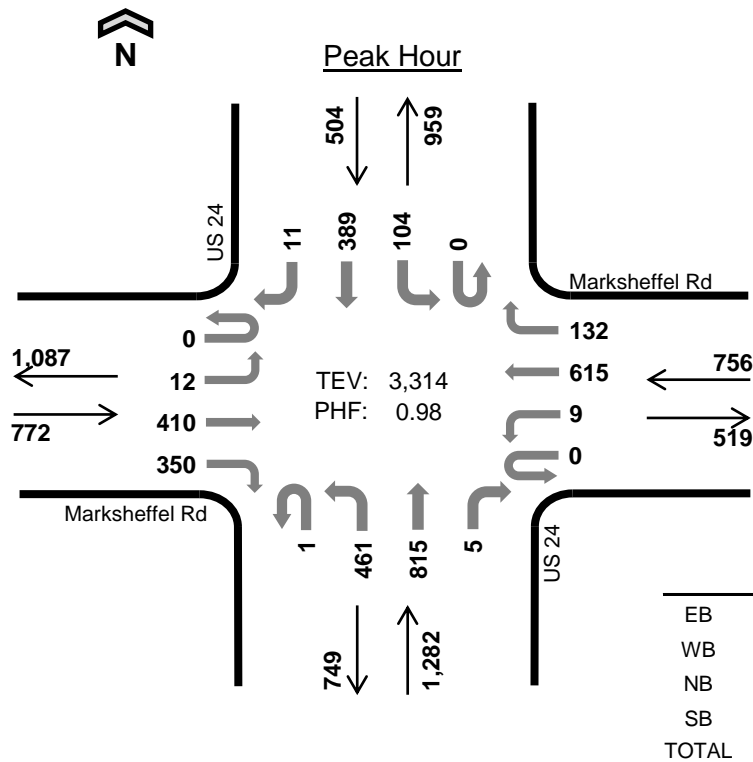
| Interval Start | Marksheffel Rd Eastbound |    |     |     | Marksheffel Rd Westbound |    |     |    | US 24 Northbound |     |     |    | US 24 Southbound |     |       |     | 15-min Total | Rolling One Hour |
|----------------|--------------------------|----|-----|-----|--------------------------|----|-----|----|------------------|-----|-----|----|------------------|-----|-------|-----|--------------|------------------|
|                | 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 |              |                  |
| 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.

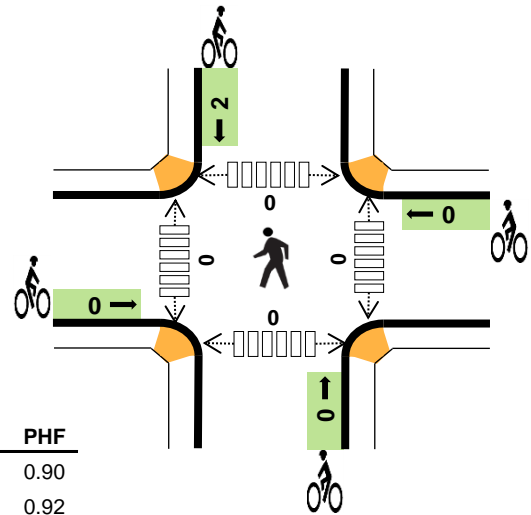
| Interval Start | Heavy Vehicle Totals |    |     |    |       | Bicycles |    |    |    |       | Pedestrians (Crossing Leg) |      |       |       |       |
|----------------|----------------------|----|-----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
|                | 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     |



### 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

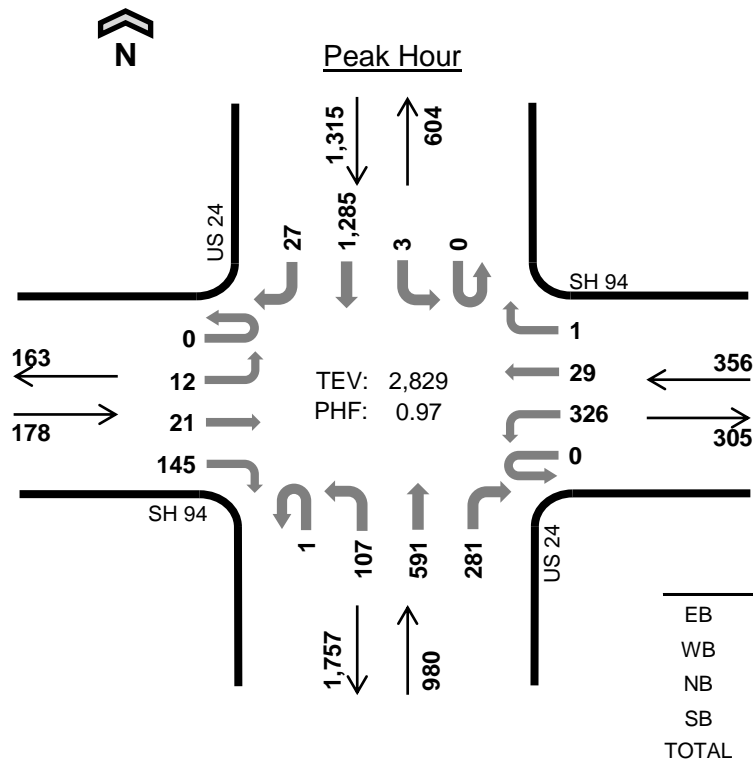
| Interval Start | Marksheffel Rd Eastbound |    |     |     | Marksheffel Rd Westbound |    |       |     | US 24 Northbound |     |       |     | US 24 Southbound |     |     |     | 15-min Total | Rolling One Hour |
|----------------|--------------------------|----|-----|-----|--------------------------|----|-------|-----|------------------|-----|-------|-----|------------------|-----|-----|-----|--------------|------------------|
|                | 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 |              |                  |
| 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.

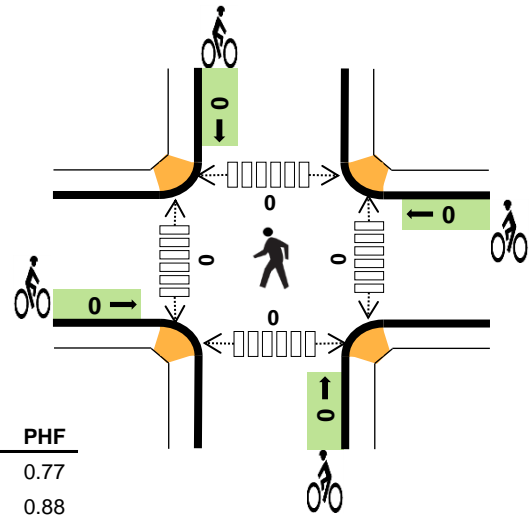
| Interval Start | Heavy Vehicle Totals |    |    |    |       | Bicycles |    |    |    |       | Pedestrians (Crossing Leg) |      |       |       |       |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
|                | 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     |



**US 24  
SH 94**



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



**Two-Hour Count Summaries**

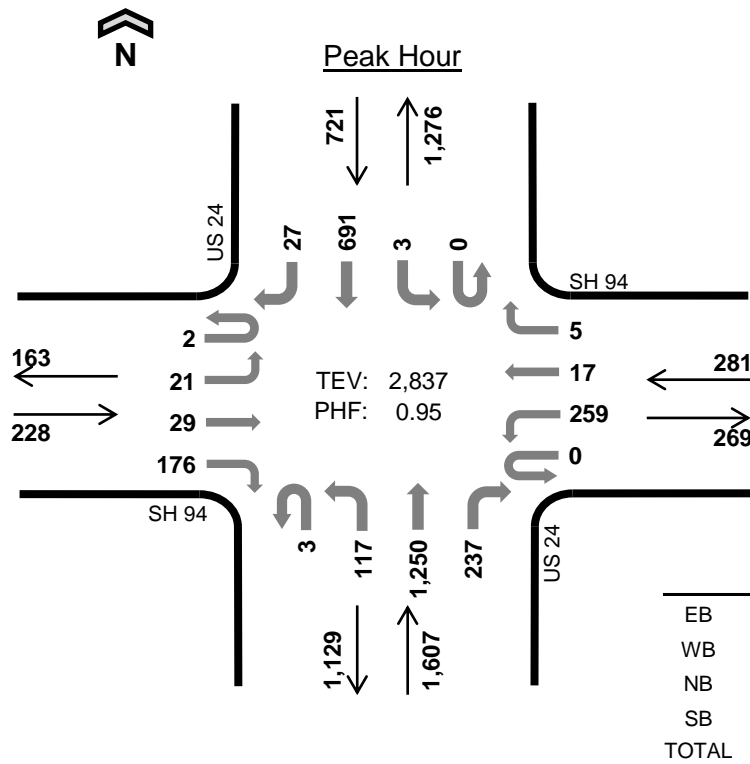
| Interval Start | SH 94     |    |    |     | SH 94     |     |    |    | US 24      |     |       |     | US 24      |    |       |    | 15-min Total | Rolling One Hour |
|----------------|-----------|----|----|-----|-----------|-----|----|----|------------|-----|-------|-----|------------|----|-------|----|--------------|------------------|
|                | Eastbound |    |    |     | Westbound |     |    |    | Northbound |     |       |     | Southbound |    |       |    |              |                  |
|                | UT        | LT | TH | RT  | UT        | LT  | TH | RT | UT         | LT  | TH    | RT  | UT         | LT | TH    | RT |              |                  |
| 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.

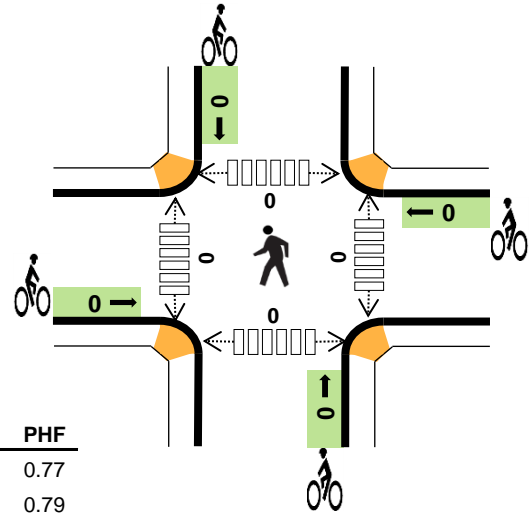
| Interval Start | Heavy Vehicle Totals |    |     |     |       | Bicycles |    |    |    |       | Pedestrians (Crossing Leg) |      |       |       |       |
|----------------|----------------------|----|-----|-----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
|                | 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     |



**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



**Two-Hour Count Summaries**

| Interval Start   | SH 94     |           |           |            | SH 94     |            |           |          | US 24      |            |              |            | US 24      |          |            |           | 15-min Total | Rolling One Hour |
|------------------|-----------|-----------|-----------|------------|-----------|------------|-----------|----------|------------|------------|--------------|------------|------------|----------|------------|-----------|--------------|------------------|
|                  | Eastbound |           |           |            | Westbound |            |           |          | Northbound |            |              |            | Southbound |          |            |           |              |                  |
|                  | UT        | LT        | TH        | RT         | UT        | LT         | TH        | RT       | UT         | LT         | TH           | RT         | UT         | LT       | TH         | RT        |              |                  |
| 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            |
| <b>5:00 PM</b>   | <b>2</b>  | <b>3</b>  | <b>11</b> | <b>58</b>  | <b>0</b>  | <b>59</b>  | <b>3</b>  | <b>2</b> | <b>1</b>   | <b>27</b>  | <b>316</b>   | <b>76</b>  | <b>0</b>   | <b>0</b> | <b>186</b> | <b>6</b>  | <b>750</b>   | <b>2,837</b>     |
| 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                |
| <b>Peak Hour</b> | <b>2</b>  | <b>21</b> | <b>29</b> | <b>176</b> | <b>0</b>  | <b>259</b> | <b>17</b> | <b>5</b> | <b>3</b>   | <b>117</b> | <b>1,250</b> | <b>237</b> | <b>0</b>   | <b>3</b> | <b>691</b> | <b>27</b> | <b>2,837</b> | <b>0</b>         |

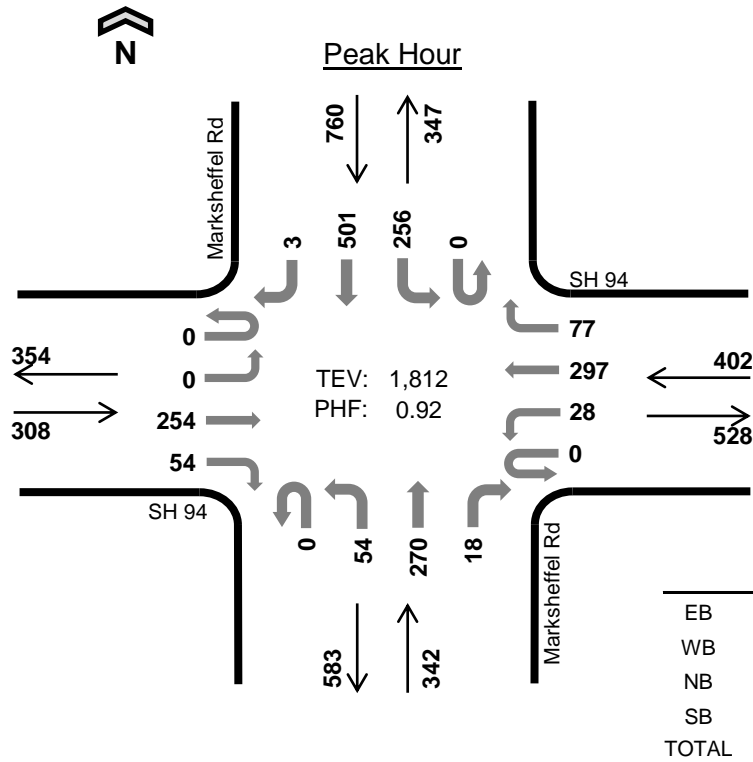
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

| 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        |
| <b>5:00 PM</b>   | <b>0</b>             | <b>3</b> | <b>4</b>  | <b>7</b>  | <b>14</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>                   | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| 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        |
| <b>Peak Hour</b> | <b>2</b>             | <b>8</b> | <b>49</b> | <b>36</b> | <b>95</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>                   | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |

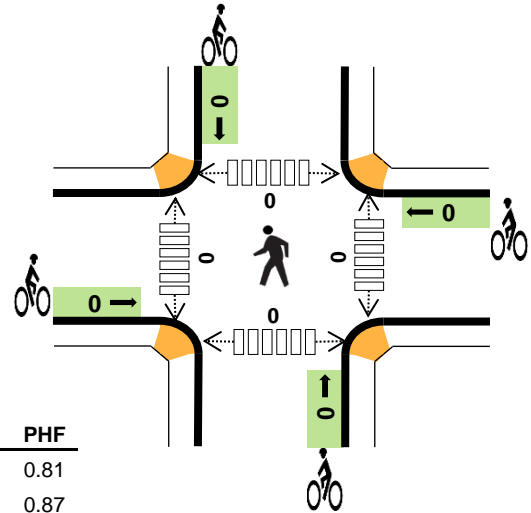




### Marksheffel Rd SH 94



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    | 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

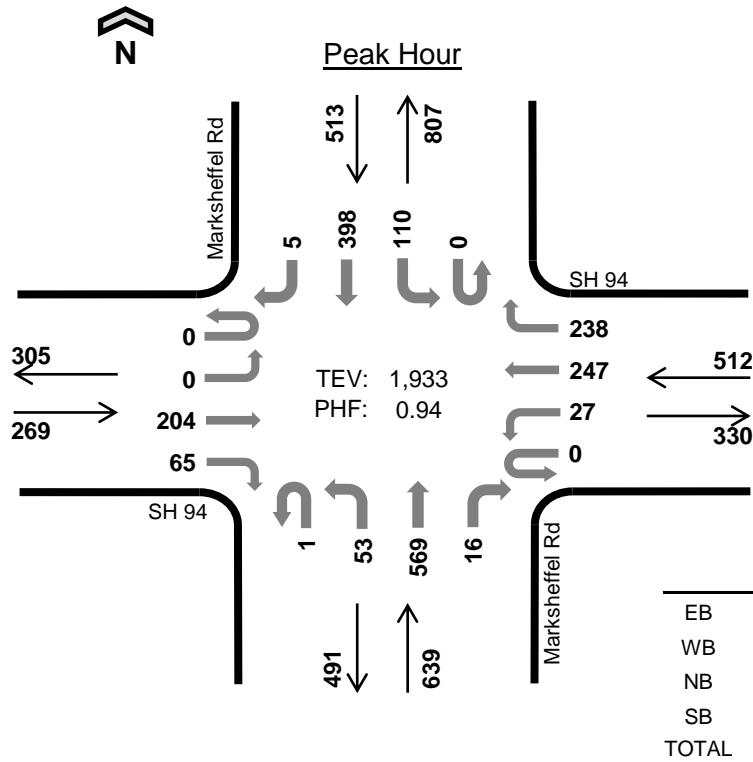
| Interval Start | SH 94 Eastbound |    |     |     | SH 94 Westbound |    |     |     | Marksheffel Rd Northbound |    |     |    | Marksheffel Rd Southbound |     |     |     | 15-min Total | Rolling One Hour |
|----------------|-----------------|----|-----|-----|-----------------|----|-----|-----|---------------------------|----|-----|----|---------------------------|-----|-----|-----|--------------|------------------|
|                | 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 |              |                  |
| 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.

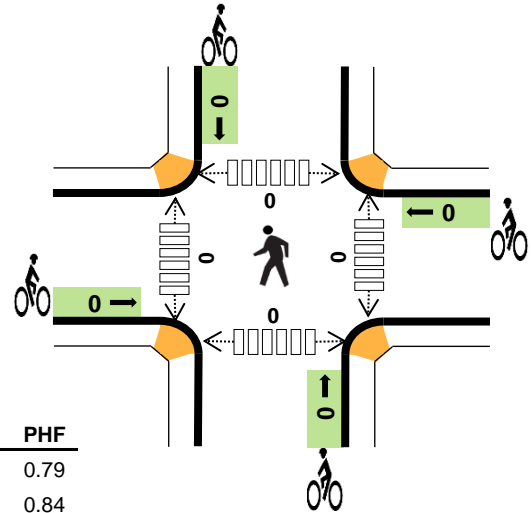
| Interval Start | Heavy Vehicle Totals |    |    |    |       | Bicycles |    |    |    |       | Pedestrians (Crossing Leg) |      |       |       |       |
|----------------|----------------------|----|----|----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
|                | 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     |



### 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 |              |                  |
| 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     |

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%      |          | Marsheffel and SH 94 |         |         |         |         |         |                    |         | Peak Hour Counts   |          | 330      |  | 118% |  |
|                      |          |         |         |         |         |         |         | Percent Difference |         | 402     |          | 89%      |          |                      |         |         |         |         |         |                    |         | Percent Difference |          | 512      |  | 161% |  |
|                      |          |         |         |         |         |         |         | Percent Difference |         | 92%     |          |          |          |                      |         |         |         |         |         | Percent Difference |         | 144%               |          |          |  |      |  |

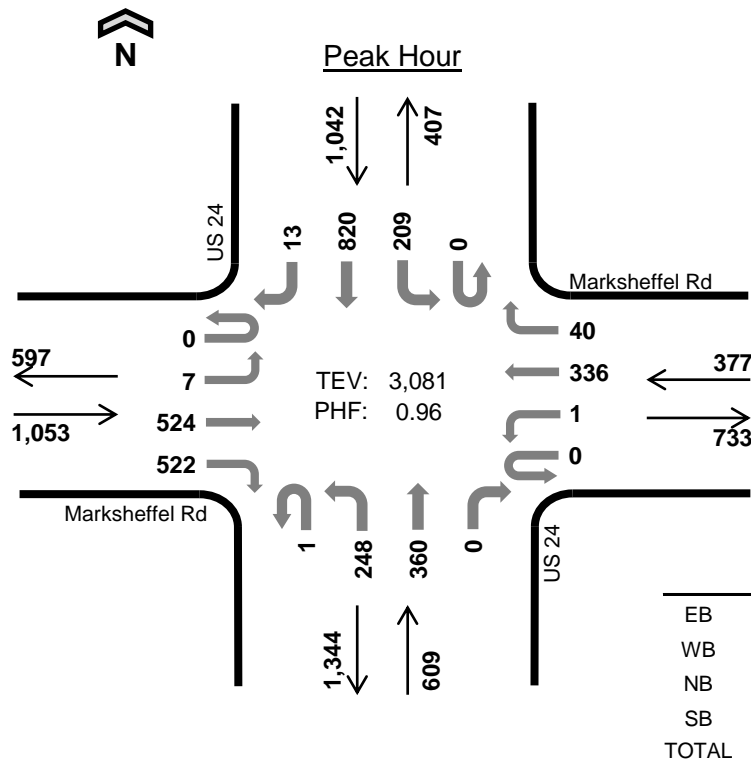
Station ID: 100851  
 Date: 2/20/2020  
 Route: 024G

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%     |          | US 24 and SH 94       |         |         |         |         |         |                    |         | Peak Hour Counts   |          | 1276     |  | 117% |  |
|                       |          |         |         |         |         |         |         | Percent Difference |         | 1315    |          | 130%     |          |                       |         |         |         |         |         |                    |         | Percent Difference |          | 721      |  | 96%  |  |
|                       |          |         |         |         |         |         |         | Percent Difference |         | 121%    |          |          |          |                       |         |         |         |         |         | Percent Difference |         | 110%               |          |          |  |      |  |
| US 24 and Marksheffel |          |         |         |         |         |         |         | Peak Hour Counts   |         | 609     |          | 99%      |          | US 24 and Marksheffel |         |         |         |         |         |                    |         | Peak Hour Counts   |          | 1282     |  | 117% |  |
|                       |          |         |         |         |         |         |         | Percent Difference |         | 1344    |          | 128%     |          |                       |         |         |         |         |         |                    |         | Percent Difference |          | 749      |  | 93%  |  |
|                       |          |         |         |         |         |         |         | Percent Difference |         | 119%    |          |          |          |                       |         |         |         |         |         | Percent Difference |         | 108%               |          |          |  |      |  |

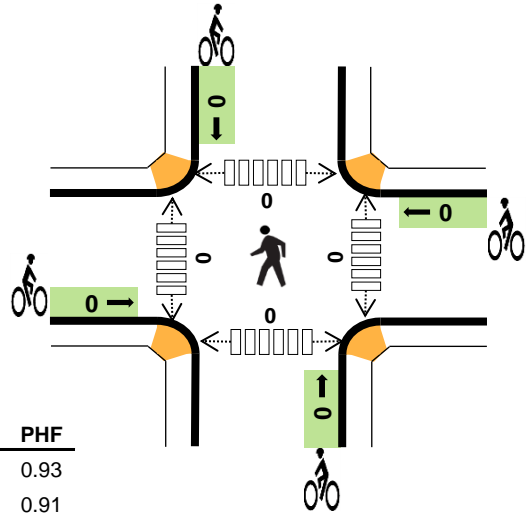


### US 24 Marksheffel Rd



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 |

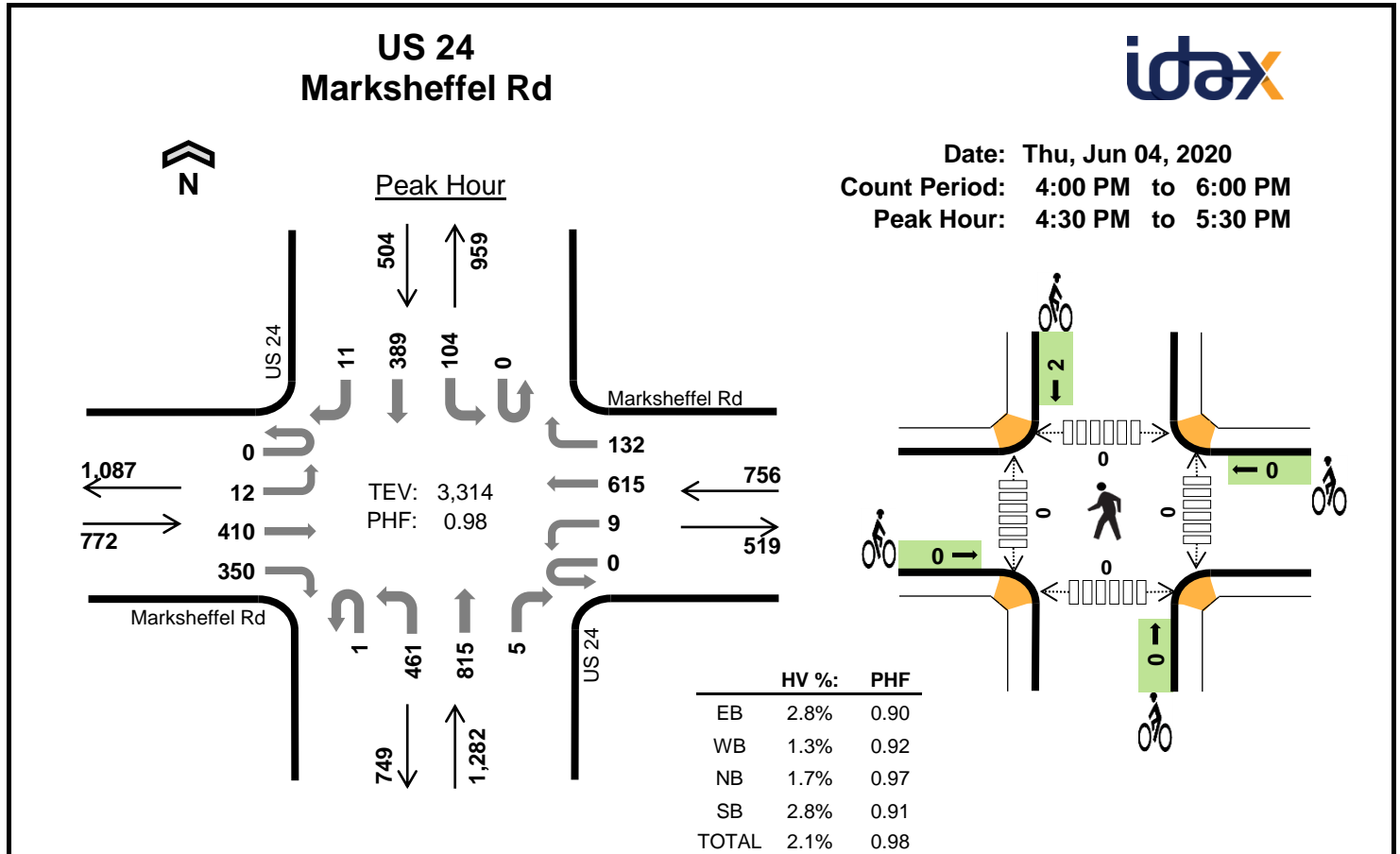


### Two-Hour Count Summaries

| Interval Start | Marksheffel Rd |    |     |     | Marksheffel Rd |    |     |    | US 24      |     |     |    | US 24      |     |       |    | 15-min Total | Rolling One Hour |
|----------------|----------------|----|-----|-----|----------------|----|-----|----|------------|-----|-----|----|------------|-----|-------|----|--------------|------------------|
|                | Eastbound      |    |     |     | Westbound      |    |     |    | Northbound |     |     |    | Southbound |     |       |    |              |                  |
|                | UT             | LT | TH  | RT  | UT             | LT | TH  | RT | UT         | LT  | TH  | RT | UT         | LT  | TH    | RT |              |                  |
| 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     |



### Two-Hour Count Summaries

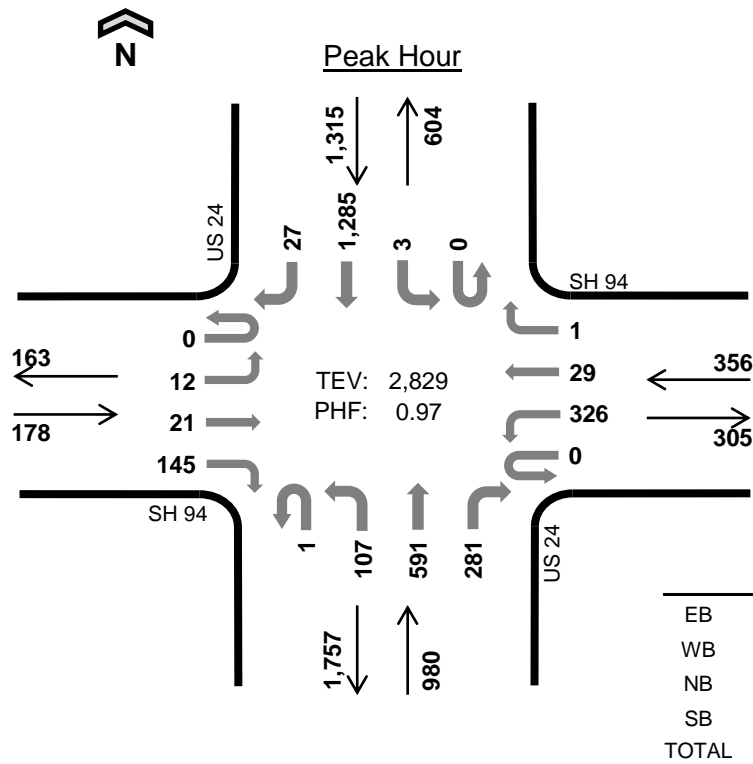
| Interval Start   | Marksheffel Rd |           |            |            | Marksheffel Rd |          |            |            | US 24      |            |            |          | US 24      |            |            |           | 15-min Total | Rolling One Hour |
|------------------|----------------|-----------|------------|------------|----------------|----------|------------|------------|------------|------------|------------|----------|------------|------------|------------|-----------|--------------|------------------|
|                  | Eastbound      |           |            |            | Westbound      |          |            |            | Northbound |            |            |          | Southbound |            |            |           |              |                  |
|                  | UT             | LT        | TH         | RT         | UT             | LT       | TH         | RT         | UT         | LT         | TH         | RT       | UT         | LT         | TH         | RT        |              |                  |
| 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                |
| <b>4:30 PM</b>   | <b>0</b>       | <b>4</b>  | <b>92</b>  | <b>73</b>  | <b>0</b>       | <b>4</b> | <b>165</b> | <b>37</b>  | <b>0</b>   | <b>119</b> | <b>207</b> | <b>0</b> | <b>0</b>   | <b>23</b>  | <b>100</b> | <b>2</b>  | <b>826</b>   | <b>0</b>         |
| 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            |
| <b>5:15 PM</b>   | <b>0</b>       | <b>0</b>  | <b>105</b> | <b>93</b>  | <b>0</b>       | <b>2</b> | <b>148</b> | <b>27</b>  | <b>0</b>   | <b>118</b> | <b>213</b> | <b>0</b> | <b>0</b>   | <b>37</b>  | <b>98</b>  | <b>3</b>  | <b>844</b>   | <b>3,314</b>     |
| 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                |
| <b>Peak Hour</b> | <b>0</b>       | <b>12</b> | <b>410</b> | <b>350</b> | <b>0</b>       | <b>9</b> | <b>615</b> | <b>132</b> | <b>1</b>   | <b>461</b> | <b>815</b> | <b>5</b> | <b>0</b>   | <b>104</b> | <b>389</b> | <b>11</b> | <b>3,314</b> | <b>0</b>         |

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

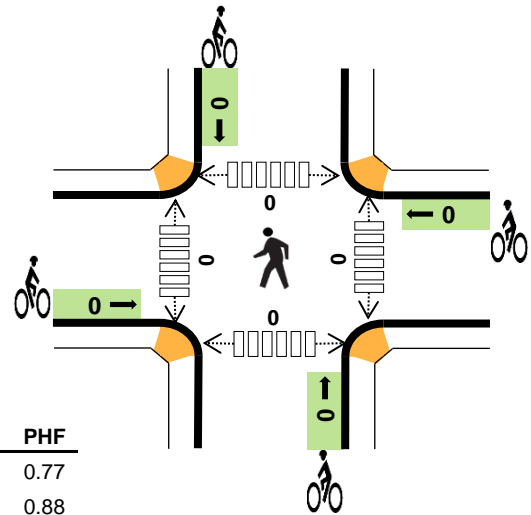
| Interval Start   | Heavy Vehicle Totals |           |           |           |           | Bicycles |          |          |          |          | Pedestrians (Crossing Leg) |          |          |          |          |
|------------------|----------------------|-----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------------------------|----------|----------|----------|----------|
|                  | 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        |
| <b>4:30 PM</b>   | <b>4</b>             | <b>4</b>  | <b>6</b>  | <b>6</b>  | <b>20</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>1</b> | <b>1</b> | <b>0</b>                   | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| 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        |
| <b>5:15 PM</b>   | <b>5</b>             | <b>2</b>  | <b>4</b>  | <b>4</b>  | <b>15</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>1</b> | <b>1</b> | <b>0</b>                   | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| 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        |
| <b>Peak Hour</b> | <b>22</b>            | <b>10</b> | <b>22</b> | <b>14</b> | <b>68</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>2</b> | <b>2</b> | <b>0</b>                   | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |



**US 24  
SH 94**



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



**Two-Hour Count Summaries**

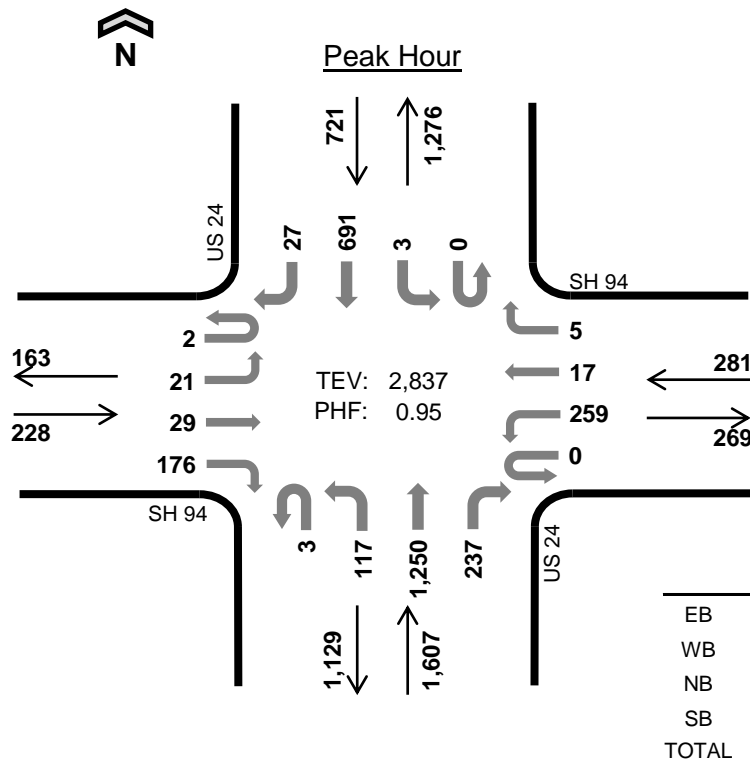
| Interval Start | SH 94     |    |    |     | SH 94     |     |    |    | US 24      |     |       |     | US 24      |    |       |    | 15-min Total | Rolling One Hour |
|----------------|-----------|----|----|-----|-----------|-----|----|----|------------|-----|-------|-----|------------|----|-------|----|--------------|------------------|
|                | Eastbound |    |    |     | Westbound |     |    |    | Northbound |     |       |     | Southbound |    |       |    |              |                  |
|                | UT        | LT | TH | RT  | UT        | LT  | TH | RT | UT         | LT  | TH    | RT  | UT         | LT | TH    | RT |              |                  |
| 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.

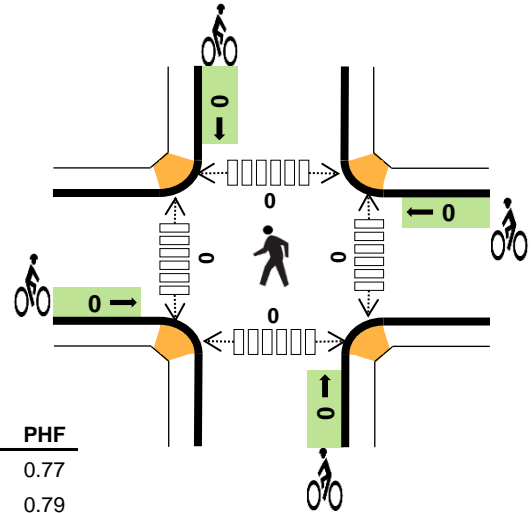
| Interval Start | Heavy Vehicle Totals |    |     |     |       | Bicycles |    |    |    |       | Pedestrians (Crossing Leg) |      |       |       |       |
|----------------|----------------------|----|-----|-----|-------|----------|----|----|----|-------|----------------------------|------|-------|-------|-------|
|                | 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     |



**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



**Two-Hour Count Summaries**

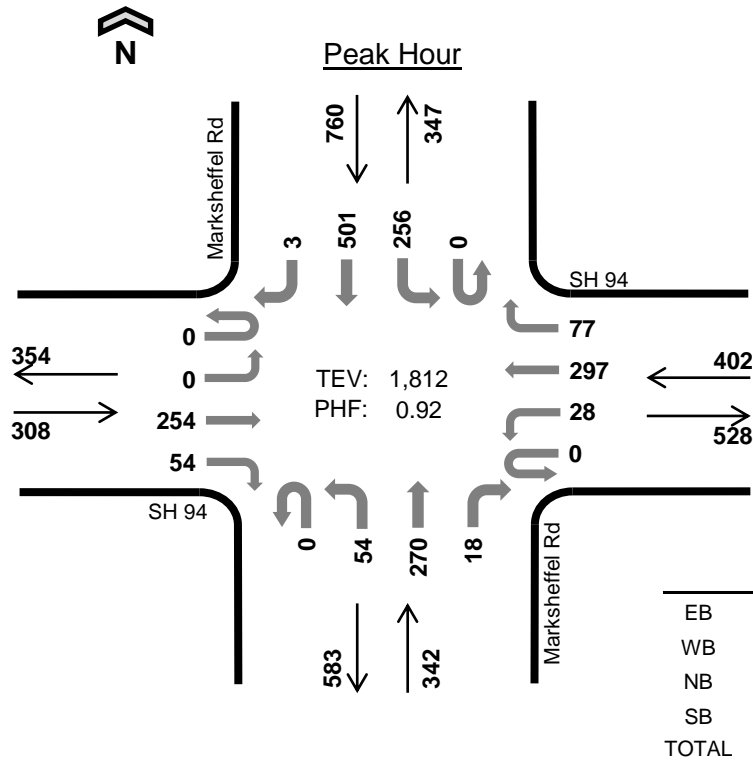
| Interval Start   | SH 94 Eastbound |           |           |            | SH 94 Westbound |            |           |          | US 24 Northbound |            |              |            | US 24 Southbound |          |            |           | 15-min Total | Rolling One Hour |
|------------------|-----------------|-----------|-----------|------------|-----------------|------------|-----------|----------|------------------|------------|--------------|------------|------------------|----------|------------|-----------|--------------|------------------|
|                  | 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       |              |                  |
| 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            |
| <b>5:00 PM</b>   | <b>2</b>        | <b>3</b>  | <b>11</b> | <b>58</b>  | <b>0</b>        | <b>59</b>  | <b>3</b>  | <b>2</b> | <b>1</b>         | <b>27</b>  | <b>316</b>   | <b>76</b>  | <b>0</b>         | <b>0</b> | <b>186</b> | <b>6</b>  | <b>750</b>   | <b>2,837</b>     |
| 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                |
| <b>Peak Hour</b> | <b>2</b>        | <b>21</b> | <b>29</b> | <b>176</b> | <b>0</b>        | <b>259</b> | <b>17</b> | <b>5</b> | <b>3</b>         | <b>117</b> | <b>1,250</b> | <b>237</b> | <b>0</b>         | <b>3</b> | <b>691</b> | <b>27</b> | <b>2,837</b> | <b>0</b>         |

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

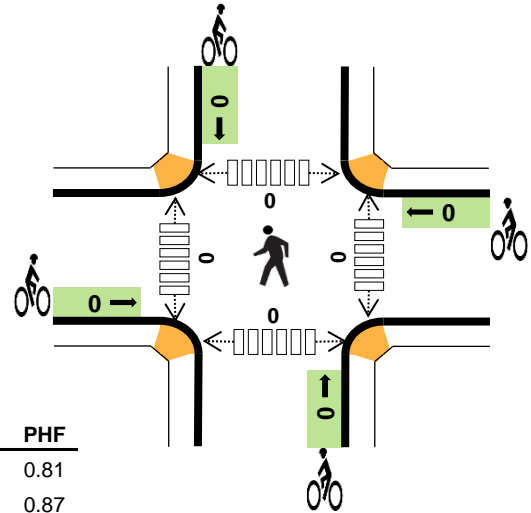
| Interval Start   | Heavy Vehicle Totals |          |           |           |           | Bicycles |          |          |          |          | Pedestrians (Crossing Leg) |          |          |          |          |
|------------------|----------------------|----------|-----------|-----------|-----------|----------|----------|----------|----------|----------|----------------------------|----------|----------|----------|----------|
|                  | 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        |
| <b>5:00 PM</b>   | <b>0</b>             | <b>3</b> | <b>4</b>  | <b>7</b>  | <b>14</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>                   | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |
| 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        |
| <b>Peak Hour</b> | <b>2</b>             | <b>8</b> | <b>49</b> | <b>36</b> | <b>95</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b>                   | <b>0</b> | <b>0</b> | <b>0</b> | <b>0</b> |



### Marksheffel Rd SH 94



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    | 8.1%  | 0.81 |
| WB    | 5.5%  | 0.87 |
| NB    | 4.7%  | 0.82 |
| SB    | 2.6%  | 0.87 |
| TOTAL | 4.6%  | 0.92 |

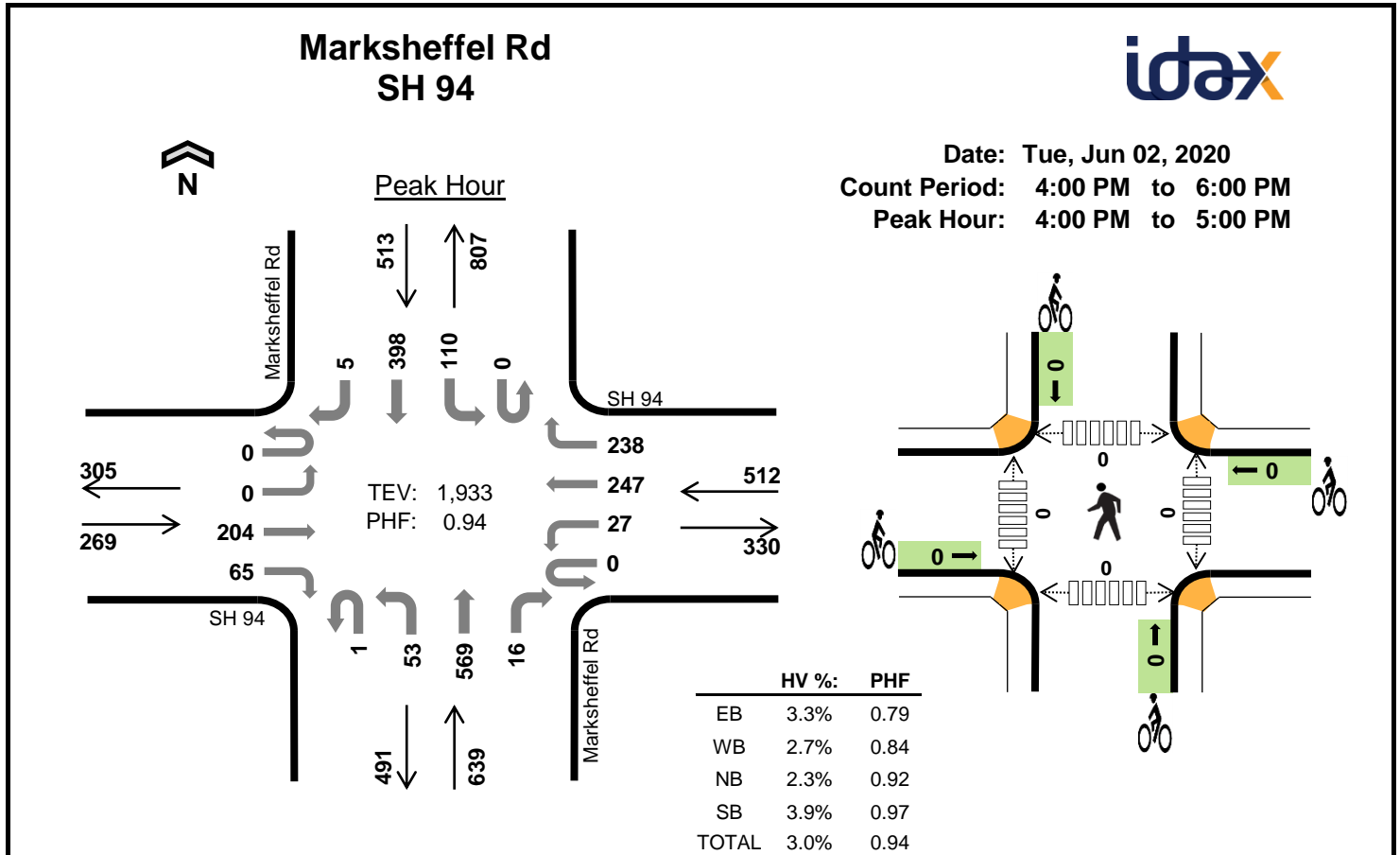
#### Two-Hour Count Summaries

| 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 |              |                  |
| 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     |





#### 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 |              |                  |
| 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     |

# APPENDIX B

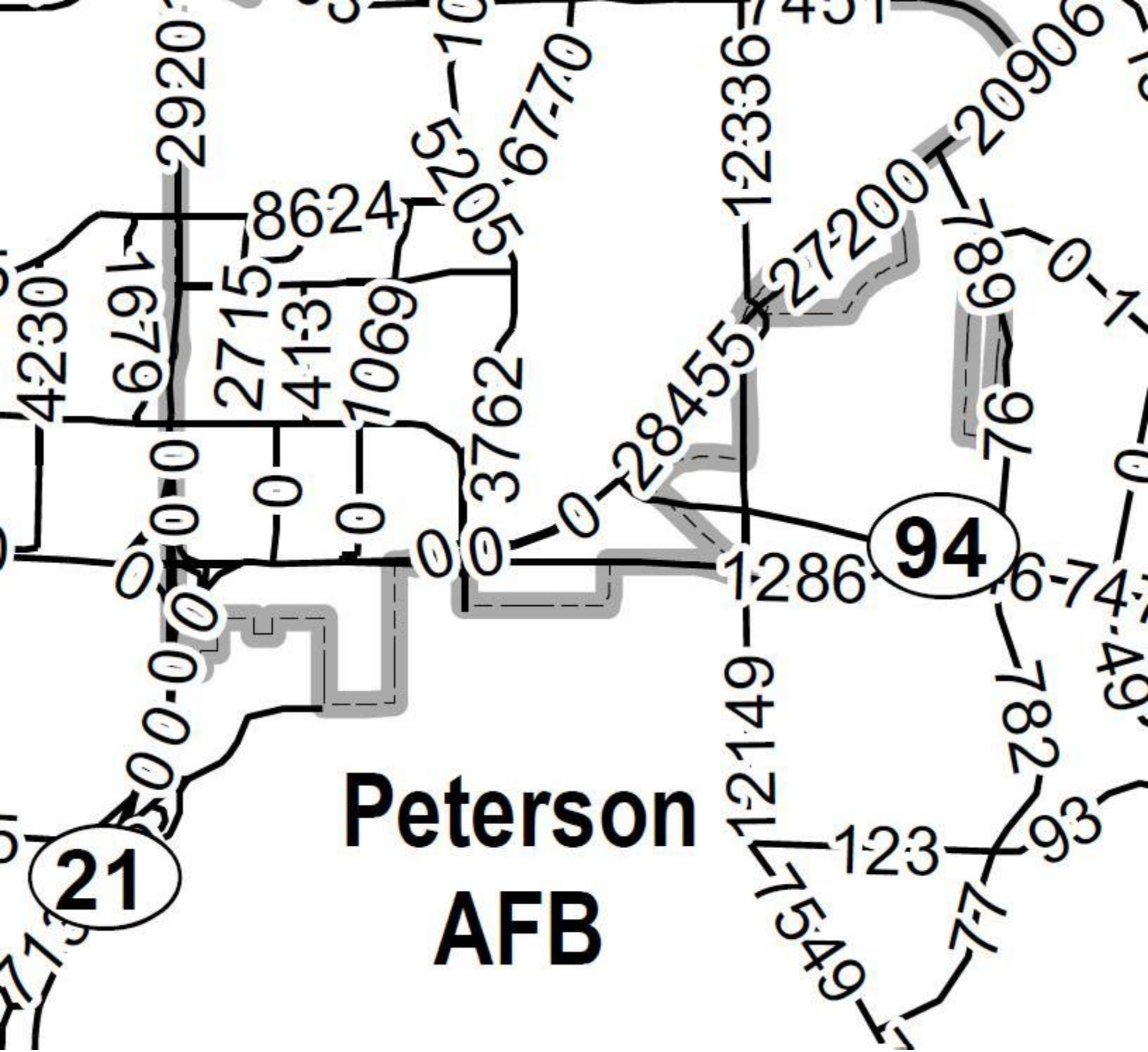
CDOT Annual Traffic Data

2040 PPACOG Traffic Model

Reagan Ranch Traffic Projection

| ROUTE | REFPT | ENDREFPT | LENGTH | YR20FACTOR | DHV  | LOCATION                                     |
|-------|-------|----------|--------|------------|------|--|
| 094A  | 0.548 | 1        | 0.47   | 1.33       | 13.5 | ON SH 94 E/O MARKSHEFFEL RD COLORADO SPRINGS |
| 094A  | 1     | 8.085    | 7.077  | 1.25       | 12.5 | ON SH 94 E/O SPACE VILLAGE AVE CR 2804       |

| 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%              |



2040 PPACOG MODEL

# APPENDIX C

## Trip Generation Worksheets

Crossroads North Phase 1 Trip Generation Summary

| Use  | Quantity   | Daily         | Weekday Vehicle Trips |            |            |              |            |            |
|--|------------|---------------|-----------------------|------------|------------|--------------|------------|------------|
|  |            |               | AM Peak Hour          |            |            | PM Peak Hour |            |            |
|  |            |               | In                    | Out        | Total      | In           | Out        | Total      |
| <b>Crossroads North</b>                              |            |               |                       |            |            |              |            |            |
| Public Park (ITE 411)                                | 20 Acres   | 16            | 0                     | 0          | 0          | 1            | 1          | 2          |
| Tire Superstore (ITE 849)                            | 7,000 SF   | 144           | 6                     | 3          | 9          | 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         |
| Sit Down Restaurant (ITE 932)                        | 11,000 SF  | 1,234         | 60                    | 49         | 109        | 66           | 41         | 107        |
| Fast-Food Restaurant (ITE 934)                       | 2,500 SF   | 1,178         | 51                    | 49         | 100        | 43           | 39         | 82         |
| Gas Station Super Convenience (ITE 960)              | 6,000 SF   | 5,026         | 249                   | 250        | 499        | 208          | 208        | 416        |
| Total Crossroads North Trips                         |            | 12,222        | 500                   | 446        | 946        | 498          | 479        | 977        |
| <b>Crossroads North Trips after Internal Capture</b> |            | <b>11,246</b> | <b>490</b>            | <b>437</b> | <b>927</b> | <b>458</b>   | <b>441</b> | <b>899</b> |

Crossroads North Full Buildout Trip Generation Summary

| Use  | Quantity   | Daily         | Weekday Vehicle Trips |            |              |              |            |              |
|--|------------|---------------|-----------------------|------------|--------------|--------------|------------|--------------|
|  |            |               | AM Peak Hour          |            |              | PM Peak Hour |            |              |
|  |            |               | In                    | Out        | Total        | In           | Out        | Total        |
| <b>Crossroads North</b>                              |            |               |                       |            |              |              |            |              |
| Public Park (ITE 411)                                | 20 Acres   | 16            | 0                     | 0          | 0            | 1            | 1          | 2            |
| Movie Theatre (ITE 444)                              | 52,000 SF  | 4,062         | 5                     | 6          | 11           | 302          | 19         | 321          |
| Tire Superstore (ITE 849)                            | 7,000 SF   | 144           | 6                     | 3          | 9            | 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           |
| Sit Down Restaurant (ITE 932)                        | 11,000 SF  | 1,234         | 60                    | 49         | 109          | 66           | 41         | 107          |
| Fast-Food Restaurant (ITE 934)                       | 5,000 SF   | 2,356         | 103                   | 98         | 201          | 85           | 78         | 163          |
| Gas Station Super Convenience (ITE 960)              | 6,000 SF   | 5,026         | 249                   | 250        | 499          | 208          | 208        | 416          |
| Total Crossroads North Trips                         |            | 17,462        | 557                   | 501        | 1,058        | 842          | 537        | 1,379        |
| <b>Crossroads North Trips after Internal Capture</b> |            | <b>16,066</b> | <b>546</b>            | <b>491</b> | <b>1,037</b> | <b>775</b>   | <b>494</b> | <b>1,269</b> |

Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North - Phase 1)  
 Subject Trip Generation - Public Park  
 Designed by JRP Date February 08, 2021 Job No. 096956015  
 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)  
 Independent Variable - Acres (X)

Acres 20  
 $X = 20$   
 T = Average Vehicle Trip Ends

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

Directional Distribution: 59% ent. 41% exit.  
 $T = 0$  Average Vehicle Trip Ends  
 $(T) = 0.02 (X)$   
 $(T) = 0.02 * (20.0)$   
 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)

Directional Distribution: 55% ent. 45% exit.  
 $T = 2$  Average Vehicle Trip Ends  
 $(T) = 0.11 (X)$   
 $(T) = 0.11 * (20.0)$   
 1 entering 1 exiting  
 1 + 1 = 2

### Weekday (400 Series page 2)

Average Weekday  
 Directional Distribution: 50% entering, 50% exiting  
 $T = 16$  Average Vehicle Trip Ends  
 $T = 0.78 * (X)$   
 $T = 0.78 * 20$   
 8 entering 8 exiting  
 8 + 8 = 16



Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North Phase 1)  
 Subject Trip Generation for Tire Superstore  
 Designed by JRP Date February 08, 2021 Job No. 096956015  
 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 = **7,000** Square Feet

X = 7.000

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 =                       | 9        | Average Vehicle Trip Ends |
| T = 1.34 *   | 7.000 | 6                         | entering | 3 exiting                 |
|              |       | 6                         | +        | 3 = 9                     |

### 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 =                       | 15       | Average Vehicle Trip Ends |
| T = 2.11 *   | 7.000 | 7                         | entering | 8 exiting                 |
|              |       | 7                         | +        | 8 = 15                    |

### Weekday (800 Series Page 261)

|                 |       |                           |               |                           |
|-----------------|-------|---------------------------|---------------|---------------------------|
| Average Weekday |       | Directional Distribution: | 50% entering, | 50% exiting               |
| T = 20.37 (X)   |       | T =                       | 144           | Average Vehicle Trip Ends |
| T = 20.37*      | 7.000 | 72                        | entering      | 72 exiting                |
|                 |       | 72                        | +             | 72 = 144                  |

Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North Phase 1)  
 Subject Trip Generation for Home Improvements Superstore  
 Designed by JRP Date February 08, 2021 Job No. 096956015  
 Checked by \_\_\_\_\_ Date \_\_\_\_\_ Sheet No. \_\_\_\_\_ of \_\_\_\_\_

## 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 =                       | 199        | Average Vehicle Trip Ends |
| T = 1.57 *   | 127.000 | 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 =                       | 296         | Average Vehicle Trip Ends |
| T = 2.33 *   | 127.000 | 145 entering              | 151 exiting |                           |
|              |         | 145 + 151 =               | 296         |                           |

### Weekday (800 Series Page 436)

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

Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North Phase 1)  
 Subject Trip Generation for Furniture Store  
 Designed by JRP Date February 08, 2021 Job No. 096956015  
 Checked by \_\_\_\_\_ Date \_\_\_\_\_ Sheet No. \_\_\_\_\_ of \_\_\_\_\_

## **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)**

|                |         |                           |                           |           |
|----------------|---------|---------------------------|---------------------------|-----------|
| (T) = 0.26 (X) |         | Directional Distribution: | 71% ent.                  | 29% exit. |
| (T) = 0.26 *   | (114.0) | T = 30                    | Average Vehicle Trip Ends |           |
|                |         | 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)**

|                |         |                           |                           |           |
|----------------|---------|---------------------------|---------------------------|-----------|
| (T) = 0.52 (X) |         | Directional Distribution: | 47% ent.                  | 53% exit. |
| (T) = 0.52 *   | (114.0) | T = 59                    | Average Vehicle Trip Ends |           |
|                |         | 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       |

Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North Phase 1)  
 Subject Trip Generation for High-Turnover (Sit-Down) Restaurant  
 Designed by TES Date June 24, 2020 Job No. 096956015  
 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 |

Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North Phase 1)  
 Subject Trip Generation for Fast-Food Restaurant with Drive-Through Window  
 Designed by JRP Date February 08, 2021 Job No. 096956015  
 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 = **2,500** Square Feet

X = 2.500

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  
 T = 40.19 (X)  
 T = 40.19 \* 2.500

Directional Distribution: 51% ent. 49% exit.  
 T = 100 Average Vehicle Trip Ends  
 51 entering 49 exiting  
 51 + 49 = 100

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

Average Weekday  
 T = 32.67 (X)  
 T = 32.67 \* 2.500

Directional Distribution: 52% ent. 48% exit.  
 T = 82 Average Vehicle Trip Ends  
 43 entering 39 exiting  
 43 + 39 (\*) = 82

### **Weekday (900 Series page 157)**

Average Weekday  
 T = 470.95 (X)  
 T = 470.95 \* 2.500

Directional Distribution: 50% entering, 50% exiting  
 T = 1178 Average Vehicle Trip Ends  
 589 entering 589 exiting  
 589 + 589 = 1178

### **Saturday Peak Hour of Generator (900 Series page 163)**

T = 54.86 (X)  
 T = 54.86 \* 2.500

Directional Distribution: 51% ent. 49% exit.  
 T = 137 Average Vehicle Trip Ends  
 70 entering 67 exiting  
 70 + 67 = 137

### **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        | 26  | 25          | 51             |     |                                    |
| PM Peak        | 22  | 20          | 41             |     |                                    |
| Daily          | 295 | 295         | 590            |     | 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        | 25  | 24      | 49             |     |                                    |
| PM Peak        | 22  | 20      | 41             |     |                                    |
| Daily          | 294 | 294     | 588            |     | PM Peak Hour Rate Applied to Daily |

Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North Phase 1)  
 Subject Trip Generation for Super Convenience Market/Gas Station  
 Designed by JRP Date February 08, 2021 Job No. 096956015  
 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 = **6,000** Square Feet

X = 6.000

T = Average Vehicle Trip Ends

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

|               |       |                           |                           |           |
|---------------|-------|---------------------------|---------------------------|-----------|
|               |       | Directional Distribution: | 50% ent.                  | 50% exit. |
| T = 83.14 (X) |       | T = 499                   | Average Vehicle Trip Ends |           |
| T = 83.14 *   | 6.000 | 249 entering              | 250                       | exiting   |
|               |       | 249 + 250 =               | 499                       |           |

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

|               |       |                           |                           |           |
|---------------|-------|---------------------------|---------------------------|-----------|
|               |       | Directional Distribution: | 50% ent.                  | 50% exit. |
| T = 69.28 (X) |       | T = 416                   | Average Vehicle Trip Ends |           |
| T = 69.28 *   | 6.000 | 208 entering              | 208                       | exiting   |
|               |       | 208 + 208 =               | 416                       |           |

### Weekday (800 Series page 335)

|                 |       |                           |                           |             |
|-----------------|-------|---------------------------|---------------------------|-------------|
|                 |       | Directional Distribution: | 50% entering,             | 50% exiting |
| Average Weekday |       | T = 5026                  | Average Vehicle Trip Ends |             |
| T = 837.58 (X)  |       | 2513 entering             | 2513                      | exiting     |
| T = 837.58 *    | 6.000 | 2513 + 2513 =             | 5026                      |             |

### 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          | * Utilized ITE 945 pass-by calculations |             |
| AM Peak        | 95   | 95          | 190            |   |             |
| PM Peak        | 92   | 92          | 183            |   |             |
| Daily          | 1106 | 1106        | 2212           | 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        | 154  | 155     | 309            |                                    |         |
| PM Peak        | 116  | 116     | 233            |                                    |         |
| Daily          | 1407 | 1407    | 2814           | PM Peak Hour Rate Applied to Daily |         |

Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North)  
 Subject Trip Generation - Public Park  
 Designed by JRP Date February 08, 2021 Job No. 096956015  
 Checked by \_\_\_\_\_ Date \_\_\_\_\_ Sheet No. 1 of 1

**TRIP GENERATION MANUAL TECHNIQUES**

P

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

Acres 20  
 X = 20  
 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) |        | Directional Distribution: | 59% ent.                  | 41% exit. |
| (T) = 0.02 *   | (20.0) | 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) |        | Directional Distribution: | 55% ent.                  | 45% exit. |
| (T) = 0.11 *   | (20.0) | T = 2                     | Average Vehicle Trip Ends |           |
|                |        | 1 entering                | 1 exiting                 |           |
|                |        | 1 + 1                     | =                         | 2         |

**Weekday (400 Series page 2)**

|                 |    |                           |                           |    |
|-----------------|----|---------------------------|---------------------------|----|
| Average Weekday |    | Directional Distribution: | 50% entering, 50% exiting |    |
| T = 0.78* (X)   |    | T = 16                    | Average Vehicle Trip Ends |    |
| T = 0.78 *      | 20 | 8 entering                | 8 exiting                 |    |
|                 |    | 8 + 8                     | =                         | 16 |

Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North)  
 Subject Trip Generation for Movie Theater  
 Designed by JRP Date February 08, 2021 Job No. 096956015  
 Checked by \_\_\_\_\_ Date \_\_\_\_\_ Sheet No. \_\_\_\_\_ of \_\_\_\_\_

## 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 = 11                    | Average Vehicle Trip Ends |           |
| T = 0.22 *   | 52 | 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 = 321                   | Average Vehicle Trip Ends |          |
| T = 6.17 *   | 52 | 302 entering              | 19                        | exiting  |
|              |    | 302 + 19 =                | 321                       |          |

### Weekday (400 Series Page 110)

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



Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North)  
 Subject Trip Generation for Tire Superstore  
 Designed by JRP Date February 08, 2021 Job No. 096956015  
 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 = **7,000** Square Feet

X = 7.000

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 =                       | 9        | Average Vehicle Trip Ends |
| T = 1.34 *   | 7.000 | 6                         | entering | 3 exiting                 |
|              |       | 6                         | +        | 3 = 9                     |

### 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 =                       | 15       | Average Vehicle Trip Ends |
| T = 2.11 *   | 7.000 | 7                         | entering | 8 exiting                 |
|              |       | 7                         | +        | 8 = 15                    |

### Weekday (800 Series Page 261)

|                 |       |                           |               |                           |
|-----------------|-------|---------------------------|---------------|---------------------------|
| Average Weekday |       | Directional Distribution: | 50% entering, | 50% exiting               |
| T = 20.37 (X)   |       | T =                       | 144           | Average Vehicle Trip Ends |
| T = 20.37*      | 7.000 | 72                        | entering      | 72 exiting                |
|                 |       | 72                        | +             | 72 = 144                  |

Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North)  
 Subject Trip Generation for Home Improvements Superstore  
 Designed by JRP Date February 08, 2021 Job No. 096956015  
 Checked by \_\_\_\_\_ Date \_\_\_\_\_ Sheet No. \_\_\_\_\_ of \_\_\_\_\_

## 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 =                       | 199        | Average Vehicle Trip Ends |
| T = 1.57 *   | 127.000 | 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 =                       | 296      | Average Vehicle Trip Ends |
| T = 2.33 *   | 127.000 | 145                       | entering | 151 exiting               |
|              |         | 145                       | +        | 151 = 296                 |

### Weekday (800 Series Page 436)

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

Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North)  
 Subject Trip Generation for Furniture Store  
 Designed by JRP Date ### February 08, 2021 Job No. 096956015  
 Checked by \_\_\_\_\_ Date \_\_\_\_\_ Sheet No. \_\_\_\_\_ of \_\_\_\_\_

## **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)**

|                |         |                           |                           |           |
|----------------|---------|---------------------------|---------------------------|-----------|
| (T) = 0.26 (X) |         | Directional Distribution: | 71% ent.                  | 29% exit. |
| (T) = 0.26 *   | (114.0) | T = 30                    | Average Vehicle Trip Ends |           |
|                |         | 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)**

|                |         |                           |                           |           |
|----------------|---------|---------------------------|---------------------------|-----------|
| (T) = 0.52 (X) |         | Directional Distribution: | 47% ent.                  | 53% exit. |
| (T) = 0.52 *   | (114.0) | T = 59                    | Average Vehicle Trip Ends |           |
|                |         | 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       |

Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North)  
 Subject Trip Generation for High-Turnover (Sit-Down) Restaurant  
 Designed by TES Date June 24, 2020 Job No. 096956015  
 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 |

Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North)  
 Subject Trip Generation for Fast-Food Restaurant with Drive-Through Window  
 Designed by JRP Date February 08, 2021 Job No. 096956015  
 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 = **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 158)**

Average Weekday  
 T = 40.19 (X)  
 T = 40.19 \* 5.000

Directional Distribution: 51% ent. 49% exit.  
 T = 201 Average Vehicle Trip Ends  
 103 entering 98 exiting  
 103 + 98 (\*) = 201

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

Average Weekday  
 T = 32.67 (X)  
 T = 32.67 \* 5.000

Directional Distribution: 52% ent. 48% exit.  
 T = 163 Average Vehicle Trip Ends  
 85 entering 78 exiting  
 85 + 78 = 163

### **Weekday (900 Series page 157)**

Average Weekday  
 T = 470.95 (X)  
 T = 470.95 \* 5.000

Directional Distribution: 50% entering, 50% exiting  
 T = 2356 Average Vehicle Trip Ends  
 1178 entering 1178 exiting  
 1178 + 1178 = 2356

### **Saturday Peak Hour of Generator (900 Series page 163)**

T = 54.86 (X)  
 T = 54.86 \* 5.000

Directional Distribution: 51% ent. 49% exit.  
 T = 274 Average Vehicle Trip Ends  
 140 entering 134 exiting  
 140 + 134 = 274

### **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        | 53  | 50          | 103            |                                    |             |
| PM Peak        | 43  | 39          | 82             |                                    |             |
| Daily          | 589 | 589         | 1178           | 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        | 50  | 48      | 98             |                                    |         |
| PM Peak        | 43  | 39      | 82             |                                    |         |
| Daily          | 589 | 589     | 1178           | PM Peak Hour Rate Applied to Daily |         |

Project Crossroads-Meadowbrook-Reagan Ranch (Crossroads North)  
 Subject Trip Generation for Super Convenience Market/Gas Station  
 Designed by JRP Date February 08, 2021 Job No. 096956015  
 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 = **6,000** Square Feet  
 X = 6.000  
 T = Average Vehicle Trip Ends

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

|               |       |                           |                           |           |
|---------------|-------|---------------------------|---------------------------|-----------|
|               |       | Directional Distribution: | 50% ent.                  | 50% exit. |
| T = 83.14 (X) |       | T = 499                   | Average Vehicle Trip Ends |           |
| T = 83.14 *   | 6.000 | 249 entering              | 250                       | exiting   |
|               |       | 249 + 250 =               | 499                       |           |

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

|               |       |                           |                           |           |
|---------------|-------|---------------------------|---------------------------|-----------|
|               |       | Directional Distribution: | 50% ent.                  | 50% exit. |
| T = 69.28 (X) |       | T = 416                   | Average Vehicle Trip Ends |           |
| T = 69.28 *   | 6.000 | 208 entering              | 208                       | exiting   |
|               |       | 208 + 208 =               | 416                       |           |

**Weekday (800 Series page 335)**

|                 |       |                           |                           |         |
|-----------------|-------|---------------------------|---------------------------|---------|
|                 |       | Directional Distribution: | 50% entering, 50% exiting |         |
| Average Weekday |       | T = 5026                  | Average Vehicle Trip Ends |         |
| T = 837.58 (X)  |       | 2513 entering             | 2513                      | exiting |
| T = 837.58 *    | 6.000 | 2513 + 2513 =             | 5026                      |         |

**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          | * Utilized ITE 945 pass-by calculations |             |
| AM Peak        | 95   | 95          | 190            |   |             |
| PM Peak        | 92   | 92          | 183            |   |             |
| Daily          | 1106 | 1106        | 2212           | 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        | 154  | 155     | 309            |                                    |         |
| PM Peak        | 116  | 116     | 233            |                                    |         |
| Daily          | 1407 | 1407    | 2814           | PM Peak Hour Rate Applied to Daily |         |

# APPENDIX D

## Intersection Analysis Worksheets

Timings

2: Marksheffel Rd & US-24



| Lane Group           | EBL   | EBT   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↔↔    | ↑↑    | ↔↔    | ↑↑    | ↔     | ↔     | ↑↑    | ↔     | ↔     | ↑↑    | ↔     |
| Traffic Volume (vph) | 335   | 486   | 282   | 1107  | 18    | 1     | 454   | 54    | 9     | 707   | 705   |
| Future Volume (vph)  | 335   | 486   | 282   | 1107  | 18    | 1     | 454   | 54    | 9     | 707   | 705   |
| Turn Type            | Prot  | NA    | Prot  | NA    | Free  | Prot  | NA    | Free  | Prot  | NA    | Free  |
| Protected Phases     | 5     | 2     | 1     | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Permitted Phases     |       |       |       |       | Free  |       |       | Free  |       |       | Free  |
| Detector Phase       | 5     | 2     | 1     | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 6.0   | 20.0  | 6.0   | 20.0  |       | 4.0   | 6.0   |       | 5.0   | 6.0   |       |
| Minimum Split (s)    | 12.5  | 27.0  | 12.5  | 27.0  |       | 10.5  | 12.0  |       | 11.5  | 12.0  |       |
| Total Split (s)      | 23.0  | 45.0  | 35.0  | 57.0  |       | 15.0  | 45.0  |       | 15.0  | 45.0  |       |
| Total Split (%)      | 16.4% | 32.1% | 25.0% | 40.7% |       | 10.7% | 32.1% |       | 10.7% | 32.1% |       |
| Yellow Time (s)      | 3.5   | 6.0   | 3.5   | 6.0   |       | 3.5   | 4.5   |       | 3.5   | 4.5   |       |
| All-Red Time (s)     | 3.0   | 1.0   | 3.0   | 1.0   |       | 3.0   | 1.5   |       | 3.0   | 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)  | 6.5   | 7.0   | 6.5   | 7.0   |       | 6.5   | 6.0   |       | 6.5   | 6.0   |       |
| Lead/Lag             | Lead  | Lag   | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       |
| Lead-Lag Optimize?   | Yes   | Yes   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       |
| Recall Mode          | None  | C-Max | None  | C-Max |       | None  | None  |       | None  | None  |       |
| Act Effct Green (s)  | 21.6  | 66.2  | 16.6  | 61.2  | 140.0 | 4.7   | 35.0  | 140.0 | 5.6   | 35.4  | 140.0 |
| Actuated g/C Ratio   | 0.15  | 0.47  | 0.12  | 0.44  | 1.00  | 0.03  | 0.25  | 1.00  | 0.04  | 0.25  | 1.00  |
| v/c Ratio            | 0.72  | 0.33  | 0.74  | 0.76  | 0.01  | 0.02  | 0.54  | 0.04  | 0.13  | 0.86  | 0.48  |
| Control Delay        | 78.3  | 19.7  | 70.7  | 38.6  | 0.0   | 68.0  | 66.6  | 0.0   | 68.9  | 60.1  | 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   |
| Total Delay          | 78.3  | 19.7  | 70.7  | 38.6  | 0.0   | 68.0  | 66.6  | 0.0   | 68.9  | 60.1  | 1.1   |
| LOS                  | E     | B     | E     | D     | A     | E     | E     | A     | E     | E     | A     |
| Approach Delay       |       | 43.6  |       | 44.5  |       |       | 59.6  |       |       | 30.9  |       |
| Approach LOS         |       | D     |       | D     |       |       | E     |       |       | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 110 (79%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 41.5  
 Intersection LOS: D  
 Intersection Capacity Utilization 76.0%  
 ICU Level of Service D  
 Analysis Period (min) 15

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





# HCM 6th Signalized Intersection Summary

2020 Adjusted Existing AM.syn

## 2: Marksheffel Rd & US-24

11/10/2023



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL   | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|-------|------|------|------|------|------|
| Lane Configurations          | ↔↔   | ↑↑   | ↔    | ↔↔   | ↑↑   | ↔    | ↔     | ↑↑   | ↔    | ↔    | ↑↑   | ↔    |
| Traffic Volume (veh/h)       | 335  | 486  | 0    | 282  | 1107 | 18   | 1     | 454  | 54   | 9    | 707  | 705  |
| Future Volume (veh/h)        | 335  | 486  | 0    | 282  | 1107 | 18   | 1     | 454  | 54   | 9    | 707  | 705  |
| 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       | 1737 | 1737 | 1737 | 1841 | 1841 | 1841 | 1856  | 1856 | 1856 | 1811 | 1811 | 1811 |
| Adj Flow Rate, veh/h         | 349  | 506  | 0    | 294  | 1153 | 0    | 1     | 473  | 0    | 9    | 736  | 0    |
| Peak Hour Factor             | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96  | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, %         | 11   | 11   | 11   | 4    | 4    | 4    | 3     | 3    | 3    | 6    | 6    | 6    |
| Cap, veh/h                   | 378  | 1560 |      | 349  | 1600 |      | 2     | 806  |      | 18   | 819  |      |
| Arrive On Green              | 0.12 | 0.47 | 0.00 | 0.10 | 0.46 | 0.00 | 0.00  | 0.23 | 0.00 | 0.01 | 0.24 | 0.00 |
| Sat Flow, veh/h              | 3209 | 3300 | 1472 | 3401 | 3497 | 1560 | 1767  | 3526 | 1572 | 1725 | 3441 | 1535 |
| Grp Volume(v), veh/h         | 349  | 506  | 0    | 294  | 1153 | 0    | 1     | 473  | 0    | 9    | 736  | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1605 | 1650 | 1472 | 1700 | 1749 | 1560 | 1767  | 1763 | 1572 | 1725 | 1721 | 1535 |
| Q Serve(g_s), s              | 15.1 | 13.4 | 0.0  | 11.9 | 37.4 | 0.0  | 0.1   | 16.7 | 0.0  | 0.7  | 29.0 | 0.0  |
| Cycle Q Clear(g_c), s        | 15.1 | 13.4 | 0.0  | 11.9 | 37.4 | 0.0  | 0.1   | 16.7 | 0.0  | 0.7  | 29.0 | 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       | 378  | 1560 |      | 349  | 1600 |      | 2     | 806  |      | 18   | 819  |      |
| V/C Ratio(X)                 | 0.92 | 0.32 |      | 0.84 | 0.72 |      | 0.52  | 0.59 |      | 0.49 | 0.90 |      |
| Avail Cap(c_a), veh/h        | 378  | 1560 |      | 692  | 1600 |      | 107   | 982  |      | 105  | 959  |      |
| 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 | 0.84 | 0.84 | 0.00 |
| Uniform Delay (d), s/veh     | 61.1 | 23.0 | 0.0  | 61.7 | 30.8 | 0.0  | 69.9  | 48.1 | 0.0  | 68.9 | 51.7 | 0.0  |
| Incr Delay (d2), s/veh       | 28.6 | 0.6  | 0.0  | 2.1  | 2.8  | 0.0  | 62.8  | 0.3  | 0.0  | 6.4  | 8.0  | 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     | 7.7  | 5.4  | 0.0  | 5.3  | 16.3 | 0.0  | 0.1   | 7.4  | 0.0  | 0.4  | 13.4 | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |       |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 89.7 | 23.6 | 0.0  | 63.8 | 33.6 | 0.0  | 132.7 | 48.4 | 0.0  | 75.2 | 59.7 | 0.0  |
| LnGrp LOS                    | F    | C    |      | E    | C    |      | F     | D    |      | E    | E    |      |
| Approach Vol, veh/h          |      | 855  |      |      | 1447 |      |       | 474  |      |      | 745  |      |
| Approach Delay, s/veh        |      | 50.6 |      |      | 39.7 |      |       | 48.5 |      |      | 59.9 |      |
| Approach LOS                 |      | D    |      |      | D    |      |       | D    |      |      | E    |      |
| Timer - Assigned Phs         | 1    | 2    | 3    | 4    | 5    | 6    | 7     | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 20.9 | 73.2 | 6.7  | 39.3 | 23.0 | 71.0 | 8.0   | 38.0 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0  | 6.5  | 6.0  | 6.5  | 7.0  | 6.5   | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 28.5 | 38.0 | 8.5  | 39.0 | 16.5 | 50.0 | 8.5   | 39.0 |      |      |      |      |
| Max Q Clear Time (g_c+l1), s | 13.9 | 15.4 | 2.1  | 31.0 | 17.1 | 39.4 | 2.7   | 18.7 |      |      |      |      |
| Green Ext Time (p_c), s      | 0.5  | 2.3  | 0.0  | 2.3  | 0.0  | 4.4  | 0.0   | 2.1  |      |      |      |      |

### Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 47.8 |
| HCM 6th LOS        | D    |

### Notes

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

Timings

2: Marksheffel Rd & US-24

| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |      |       |       |      |       |       |
| Traffic Volume (vph) | 622   | 1100  | 7     | 140   | 525   | 15    | 12   | 830   | 178   | 16   | 554   | 473   |
| Future Volume (vph)  | 622   | 1100  | 7     | 140   | 525   | 15    | 12   | 830   | 178   | 16   | 554   | 473   |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | Prot | NA    | Free  | Prot | NA    | Free  |
| Protected Phases     | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  |      |       | Free  |      |       | Free  |
| Detector Phase       | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Switch Phase         |       |       |       |       |       |       |      |       |       |      |       |       |
| Minimum Initial (s)  | 6.0   | 20.0  |       | 6.0   | 20.0  |       | 4.0  | 6.0   |       | 5.0  | 6.0   |       |
| Minimum Split (s)    | 12.5  | 27.5  |       | 12.5  | 27.5  |       | 10.5 | 12.5  |       | 11.5 | 12.0  |       |
| Total Split (s)      | 41.0  | 58.0  |       | 20.0  | 37.0  |       | 13.0 | 49.0  |       | 13.0 | 49.0  |       |
| Total Split (%)      | 29.3% | 41.4% |       | 14.3% | 26.4% |       | 9.3% | 35.0% |       | 9.3% | 35.0% |       |
| Yellow Time (s)      | 3.5   | 6.0   |       | 3.5   | 6.0   |       | 3.5  | 4.5   |       | 3.5  | 4.5   |       |
| All-Red Time (s)     | 3.0   | 1.0   |       | 3.0   | 1.0   |       | 3.0  | 1.5   |       | 3.0  | 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)  | 6.5   | 7.0   |       | 6.5   | 7.0   |       | 6.5  | 6.0   |       | 6.5  | 6.0   |       |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lag  | Lead  |       | Lag  | Lead  |       |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes  | Yes   |       | Yes  | Yes   |       |
| Recall Mode          | None  | C-Max |       | None  | C-Max |       | None | None  |       | None | None  |       |
| Act Effect Green (s) | 32.3  | 66.6  | 140.0 | 10.3  | 44.5  | 140.0 | 9.6  | 38.4  | 140.0 | 5.8  | 34.3  | 140.0 |
| Actuated g/C Ratio   | 0.23  | 0.48  | 1.00  | 0.07  | 0.32  | 1.00  | 0.07 | 0.27  | 1.00  | 0.04 | 0.24  | 1.00  |
| v/c Ratio            | 0.80  | 0.67  | 0.00  | 0.57  | 0.48  | 0.01  | 0.10 | 0.87  | 0.11  | 0.22 | 0.66  | 0.31  |
| Control Delay        | 45.0  | 51.3  | 0.0   | 71.6  | 43.1  | 0.0   | 67.0 | 83.1  | 0.1   | 72.1 | 51.8  | 0.5   |
| 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          | 45.0  | 51.3  | 0.0   | 71.6  | 43.1  | 0.0   | 67.0 | 83.1  | 0.1   | 72.1 | 51.8  | 0.5   |
| LOS                  | D     | D     | A     | E     | D     | A     | E    | F     | A     | E    | D     | A     |
| Approach Delay       |       | 48.8  |       |       | 48.1  |       |      | 68.4  |       |      | 28.8  |       |
| Approach LOS         |       | D     |       |       | D     |       |      | E     |       |      | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 68 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.87  
 Intersection Signal Delay: 48.5  
 Intersection LOS: D  
 Intersection Capacity Utilization 74.6%  
 ICU Level of Service D  
 Analysis Period (min) 15

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



HCM 6th Signalized Intersection Summary  
2: Marksheffel Rd & US-24

2020 Adjusted Existing PM.syn  
11/09/2023



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↖↗   | ↖↖   | ↗    | ↖↗   | ↖↖   | ↗    | ↖    | ↖↖   | ↗    | ↖    | ↖↖   | ↗    |
| Traffic Volume (veh/h)       | 622  | 1100 | 7    | 140  | 525  | 15   | 12   | 830  | 178  | 16   | 554  | 473  |
| Future Volume (veh/h)        | 622  | 1100 | 7    | 140  | 525  | 15   | 12   | 830  | 178  | 16   | 554  | 473  |
| 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 | 1870 | 1870 | 1870 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h         | 635  | 1122 | 0    | 143  | 536  | 0    | 12   | 847  | 0    | 16   | 565  | 0    |
| Peak Hour Factor             | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 3    | 3    | 3    | 2    | 2    | 2    | 3    | 3    | 3    |
| Cap, veh/h                   | 735  | 1696 |      | 192  | 1130 |      | 167  | 940  |      | 29   | 660  |      |
| Arrive On Green              | 0.21 | 0.48 | 0.00 | 0.06 | 0.32 | 0.00 | 0.09 | 0.26 | 0.00 | 0.02 | 0.19 | 0.00 |
| Sat Flow, veh/h              | 3456 | 3554 | 1585 | 3428 | 3526 | 1572 | 1781 | 3554 | 1585 | 1767 | 3526 | 1572 |
| Grp Volume(v), veh/h         | 635  | 1122 | 0    | 143  | 536  | 0    | 12   | 847  | 0    | 16   | 565  | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1728 | 1777 | 1585 | 1714 | 1763 | 1572 | 1781 | 1777 | 1585 | 1767 | 1763 | 1572 |
| Q Serve(g_s), s              | 24.8 | 33.8 | 0.0  | 5.8  | 17.1 | 0.0  | 0.9  | 32.2 | 0.0  | 1.3  | 21.7 | 0.0  |
| Cycle Q Clear(g_c), s        | 24.8 | 33.8 | 0.0  | 5.8  | 17.1 | 0.0  | 0.9  | 32.2 | 0.0  | 1.3  | 21.7 | 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       | 735  | 1696 |      | 192  | 1130 |      | 167  | 940  |      | 29   | 660  |      |
| V/C Ratio(X)                 | 0.86 | 0.66 |      | 0.75 | 0.47 |      | 0.07 | 0.90 |      | 0.55 | 0.86 |      |
| Avail Cap(c_a), veh/h        | 852  | 1696 |      | 331  | 1130 |      | 167  | 1091 |      | 82   | 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 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.94 | 0.94 | 0.00 |
| Uniform Delay (d), s/veh     | 53.2 | 28.0 | 0.0  | 65.1 | 38.1 | 0.0  | 57.9 | 49.7 | 0.0  | 68.3 | 55.1 | 0.0  |
| Incr Delay (d2), s/veh       | 9.8  | 2.0  | 0.0  | 2.2  | 1.4  | 0.0  | 0.1  | 8.6  | 0.0  | 5.5  | 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     | 11.8 | 14.8 | 0.0  | 2.6  | 7.7  | 0.0  | 0.4  | 15.4 | 0.0  | 0.6  | 9.8  | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 63.0 | 30.0 | 0.0  | 67.3 | 39.5 | 0.0  | 57.9 | 58.3 | 0.0  | 73.8 | 56.8 | 0.0  |
| LnGrp LOS                    | E    | C    |      | E    | D    |      | E    | E    |      | E    | E    |      |
| Approach Vol, veh/h          |      | 1757 |      |      | 679  |      |      | 859  |      |      | 581  |      |
| Approach Delay, s/veh        |      | 41.9 |      |      | 45.4 |      |      | 58.3 |      |      | 57.3 |      |
| Approach LOS                 |      | D    |      |      | D    |      |      | E    |      |      | E    |      |
| Timer - Assigned Phs         | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 14.3 | 73.8 | 19.6 | 32.2 | 36.3 | 51.9 | 8.8  | 43.0 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0  | 6.5  | 6.0  | 6.5  | 7.0  | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 13.5 | 51.0 | 6.5  | 43.0 | 34.5 | 30.0 | 6.5  | 43.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 7.8  | 35.8 | 2.9  | 23.7 | 26.8 | 19.1 | 3.3  | 34.2 |      |      |      |      |
| Green Ext Time (p_c), s      | 0.1  | 5.2  | 0.0  | 2.5  | 2.9  | 1.9  | 0.0  | 2.8  |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 48.5 |
| HCM 6th LOS        | D    |

Notes

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

Timings

2: Marksheffel Rd & US-24



| Lane Group           | EBL   | EBT   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↔↔    | ↑↑    | ↔↔    | ↑↑    | ↔     | ↔     | ↑↑    | ↔     | ↔     | ↑↑    | ↔     |
| Traffic Volume (vph) | 360   | 550   | 325   | 1215  | 20    | 5     | 625   | 85    | 10    | 875   | 760   |
| Future Volume (vph)  | 360   | 550   | 325   | 1215  | 20    | 5     | 625   | 85    | 10    | 875   | 760   |
| Turn Type            | Prot  | NA    | Prot  | NA    | Free  | Prot  | NA    | Free  | Prot  | NA    | Free  |
| Protected Phases     | 5     | 2     | 1     | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Permitted Phases     |       |       |       |       | Free  |       |       | Free  |       |       | Free  |
| Detector Phase       | 5     | 2     | 1     | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 6.0   | 20.0  | 6.0   | 20.0  |       | 4.0   | 6.0   |       | 5.0   | 6.0   |       |
| Minimum Split (s)    | 12.5  | 27.0  | 12.5  | 27.0  |       | 10.5  | 12.0  |       | 11.5  | 12.0  |       |
| Total Split (s)      | 23.0  | 45.0  | 35.0  | 57.0  |       | 15.0  | 45.0  |       | 15.0  | 45.0  |       |
| Total Split (%)      | 16.4% | 32.1% | 25.0% | 40.7% |       | 10.7% | 32.1% |       | 10.7% | 32.1% |       |
| Yellow Time (s)      | 3.5   | 6.0   | 3.5   | 6.0   |       | 3.5   | 4.5   |       | 3.5   | 4.5   |       |
| All-Red Time (s)     | 3.0   | 1.0   | 3.0   | 1.0   |       | 3.0   | 1.5   |       | 3.0   | 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)  | 6.5   | 7.0   | 6.5   | 7.0   |       | 6.5   | 6.0   |       | 6.5   | 6.0   |       |
| Lead/Lag             | Lead  | Lag   | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       |
| Lead-Lag Optimize?   | Yes   | Yes   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       |
| Recall Mode          | None  | C-Max | None  | C-Max |       | None  | None  |       | None  | None  |       |
| Act Effct Green (s)  | 23.2  | 56.9  | 18.5  | 52.2  | 140.0 | 5.0   | 42.5  | 140.0 | 5.6   | 42.7  | 140.0 |
| Actuated g/C Ratio   | 0.17  | 0.41  | 0.13  | 0.37  | 1.00  | 0.04  | 0.30  | 1.00  | 0.04  | 0.30  | 1.00  |
| v/c Ratio            | 0.72  | 0.43  | 0.77  | 0.98  | 0.01  | 0.08  | 0.61  | 0.06  | 0.15  | 0.88  | 0.52  |
| Control Delay        | 81.0  | 23.8  | 70.1  | 63.9  | 0.0   | 57.2  | 63.8  | 0.1   | 69.2  | 56.6  | 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   |
| Total Delay          | 81.0  | 23.8  | 70.1  | 63.9  | 0.0   | 57.2  | 63.8  | 0.1   | 69.2  | 56.6  | 1.3   |
| LOS                  | F     | C     | E     | E     | A     | E     | E     | A     | E     | E     | A     |
| Approach Delay       |       | 46.4  |       | 64.4  |       |       | 56.1  |       |       | 31.1  |       |
| Approach LOS         |       | D     |       | E     |       |       | E     |       |       | C     |       |

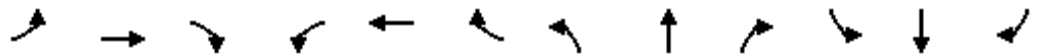
Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 110 (79%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.98  
 Intersection Signal Delay: 48.5  
 Intersection Capacity Utilization 84.3%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service E

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



2: Marksheffel Rd & US-24



| Movement                     | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↔↔    | ↑↑   | ↗    | ↔↔   | ↑↑   | ↗    | ↖    | ↑↑   | ↗    | ↖    | ↑↑   | ↗    |
| Traffic Volume (veh/h)       | 360   | 550  | 0    | 325  | 1215 | 20   | 5    | 625  | 85   | 10   | 875  | 760  |
| Future Volume (veh/h)        | 360   | 550  | 0    | 325  | 1215 | 20   | 5    | 625  | 85   | 10   | 875  | 760  |
| 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       | 1737  | 1737 | 1737 | 1841 | 1841 | 1841 | 1856 | 1856 | 1856 | 1811 | 1811 | 1811 |
| Adj Flow Rate, veh/h         | 375   | 573  | 0    | 339  | 1266 | 0    | 5    | 651  | 0    | 10   | 911  | 0    |
| Peak Hour Factor             | 0.96  | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, %         | 11    | 11   | 11   | 4    | 4    | 4    | 3    | 3    | 3    | 6    | 6    | 6    |
| Cap, veh/h                   | 378   | 1374 |      | 395  | 1450 |      | 9    | 953  |      | 20   | 952  |      |
| Arrive On Green              | 0.12  | 0.42 | 0.00 | 0.12 | 0.41 | 0.00 | 0.01 | 0.27 | 0.00 | 0.01 | 0.28 | 0.00 |
| Sat Flow, veh/h              | 3209  | 3300 | 1472 | 3401 | 3497 | 1560 | 1767 | 3526 | 1572 | 1725 | 3441 | 1535 |
| Grp Volume(v), veh/h         | 375   | 573  | 0    | 339  | 1266 | 0    | 5    | 651  | 0    | 10   | 911  | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1605  | 1650 | 1472 | 1700 | 1749 | 1560 | 1767 | 1763 | 1572 | 1725 | 1721 | 1535 |
| Q Serve(g_s), s              | 16.3  | 17.2 | 0.0  | 13.7 | 46.5 | 0.0  | 0.4  | 23.1 | 0.0  | 0.8  | 36.5 | 0.0  |
| Cycle Q Clear(g_c), s        | 16.3  | 17.2 | 0.0  | 13.7 | 46.5 | 0.0  | 0.4  | 23.1 | 0.0  | 0.8  | 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       | 378   | 1374 |      | 395  | 1450 |      | 9    | 953  |      | 20   | 952  |      |
| V/C Ratio(X)                 | 0.99  | 0.42 |      | 0.86 | 0.87 |      | 0.56 | 0.68 |      | 0.50 | 0.96 |      |
| Avail Cap(c_a), veh/h        | 378   | 1374 |      | 692  | 1450 |      | 107  | 982  |      | 105  | 959  |      |
| 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 | 0.74 | 0.74 | 0.00 |
| Uniform Delay (d), s/veh     | 61.7  | 28.8 | 0.0  | 60.8 | 37.6 | 0.0  | 69.5 | 45.7 | 0.0  | 68.8 | 49.8 | 0.0  |
| Incr Delay (d2), s/veh       | 44.0  | 0.9  | 0.0  | 2.2  | 7.5  | 0.0  | 18.8 | 1.5  | 0.0  | 5.3  | 15.6 | 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     | 9.0   | 7.0  | 0.0  | 6.0  | 21.2 | 0.0  | 0.2  | 10.4 | 0.0  | 0.4  | 17.7 | 0.0  |
| Unsig. Movement Delay, s/veh |       |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 105.7 | 29.8 | 0.0  | 62.9 | 45.1 | 0.0  | 88.3 | 47.2 | 0.0  | 74.1 | 65.4 | 0.0  |
| LnGrp LOS                    | F     | C    |      | E    | D    |      | F    | D    |      | E    | E    |      |
| Approach Vol, veh/h          |       | 948  |      |      | 1605 |      |      | 656  |      |      | 921  |      |
| Approach Delay, s/veh        |       | 59.8 |      |      | 48.9 |      |      | 47.6 |      |      | 65.5 |      |
| Approach LOS                 |       | E    |      |      | D    |      |      | D    |      |      | E    |      |
| Timer - Assigned Phs         | 1     | 2    | 3    | 4    | 5    | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 22.7  | 65.3 | 7.2  | 44.7 | 23.0 | 65.1 | 8.1  | 43.8 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5   | 7.0  | 6.5  | 6.0  | 6.5  | 7.0  | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 28.5  | 38.0 | 8.5  | 39.0 | 16.5 | 50.0 | 8.5  | 39.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 15.7  | 19.2 | 2.4  | 38.5 | 18.3 | 48.5 | 2.8  | 25.1 |      |      |      |      |
| Green Ext Time (p_c), s      | 0.5   | 2.6  | 0.0  | 0.3  | 0.0  | 1.0  | 0.0  | 2.6  |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 54.9 |
| HCM 6th LOS        | D    |

Notes

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

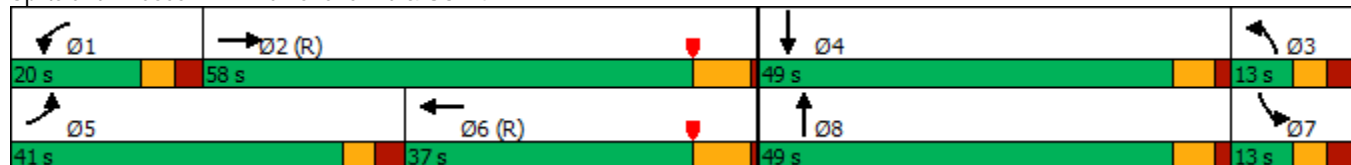


| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations  | ↖↗    | ↑↑    | ↖     | ↖↗    | ↑↑    | ↖     | ↖    | ↑↑    | ↖     | ↖    | ↑↑    | ↖     |
| Traffic Volume (vph) | 670   | 1200  | 10    | 190   | 585   | 20    | 15   | 1060  | 225   | 20   | 780   | 510   |
| Future Volume (vph)  | 670   | 1200  | 10    | 190   | 585   | 20    | 15   | 1060  | 225   | 20   | 780   | 510   |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | Prot | NA    | Free  | Prot | NA    | Free  |
| Protected Phases     | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  |      |       | Free  |      |       | Free  |
| Detector Phase       | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Switch Phase         |       |       |       |       |       |       |      |       |       |      |       |       |
| Minimum Initial (s)  | 6.0   | 20.0  |       | 6.0   | 20.0  |       | 4.0  | 6.0   |       | 5.0  | 6.0   |       |
| Minimum Split (s)    | 12.5  | 27.5  |       | 12.5  | 27.5  |       | 10.5 | 12.5  |       | 11.5 | 12.0  |       |
| Total Split (s)      | 41.0  | 58.0  |       | 20.0  | 37.0  |       | 13.0 | 49.0  |       | 13.0 | 49.0  |       |
| Total Split (%)      | 29.3% | 41.4% |       | 14.3% | 26.4% |       | 9.3% | 35.0% |       | 9.3% | 35.0% |       |
| Yellow Time (s)      | 3.5   | 6.0   |       | 3.5   | 6.0   |       | 3.5  | 4.5   |       | 3.5  | 4.5   |       |
| All-Red Time (s)     | 3.0   | 1.0   |       | 3.0   | 1.0   |       | 3.0  | 1.5   |       | 3.0  | 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)  | 6.5   | 7.0   |       | 6.5   | 7.0   |       | 6.5  | 6.0   |       | 6.5  | 6.0   |       |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lag  | Lead  |       | Lag  | Lead  |       |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes  | Yes   |       | Yes  | Yes   |       |
| Recall Mode          | None  | C-Max |       | None  | C-Max |       | None | None  |       | None | None  |       |
| Act Effct Green (s)  | 33.2  | 58.1  | 140.0 | 11.7  | 36.6  | 140.0 | 6.1  | 43.0  | 140.0 | 5.8  | 45.0  | 140.0 |
| Actuated g/C Ratio   | 0.24  | 0.42  | 1.00  | 0.08  | 0.26  | 1.00  | 0.04 | 0.31  | 1.00  | 0.04 | 0.32  | 1.00  |
| v/c Ratio            | 0.84  | 0.83  | 0.01  | 0.68  | 0.65  | 0.01  | 0.20 | 1.00  | 0.15  | 0.28 | 0.71  | 0.33  |
| Control Delay        | 44.3  | 65.3  | 0.0   | 74.6  | 51.6  | 0.0   | 76.6 | 86.7  | 0.1   | 74.3 | 46.0  | 0.6   |
| 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          | 44.3  | 65.3  | 0.0   | 74.6  | 51.6  | 0.0   | 76.6 | 86.7  | 0.1   | 74.3 | 46.0  | 0.6   |
| LOS                  | D     | E     | A     | E     | D     | A     | E    | F     | A     | E    | D     | A     |
| Approach Delay       |       | 57.4  |       |       | 55.9  |       |      | 71.5  |       |      | 28.8  |       |
| Approach LOS         |       | E     |       |       | E     |       |      | E     |       |      | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 68 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.00  
 Intersection Signal Delay: 53.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 84.1%  
 ICU Level of Service E  
 Analysis Period (min) 15

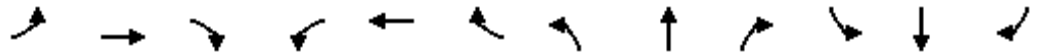
Splits and Phases: 2: Marksheffel Rd & US-24



HCM 6th Signalized Intersection Summary  
 2: Marksheffel Rd & US-24

2026 Background PM.syn

11/09/2023



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↖↗   | ↑↑   | ↖    | ↖↗   | ↑↑   | ↖    | ↖    | ↑↑   | ↖    | ↖    | ↑↑   | ↖    |
| Traffic Volume (veh/h)       | 670  | 1200 | 10   | 190  | 585  | 20   | 15   | 1060 | 225  | 20   | 780  | 510  |
| Future Volume (veh/h)        | 670  | 1200 | 10   | 190  | 585  | 20   | 15   | 1060 | 225  | 20   | 780  | 510  |
| 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 | 1870 | 1870 | 1870 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h         | 684  | 1224 | 0    | 194  | 597  | 0    | 15   | 1082 | 0    | 20   | 796  | 0    |
| Peak Hour Factor             | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 3    | 3    | 3    | 2    | 2    | 2    | 3    | 3    | 3    |
| Cap, veh/h                   | 773  | 1482 |      | 243  | 931  |      | 131  | 1091 |      | 34   | 892  |      |
| Arrive On Green              | 0.22 | 0.42 | 0.00 | 0.07 | 0.26 | 0.00 | 0.07 | 0.31 | 0.00 | 0.02 | 0.25 | 0.00 |
| Sat Flow, veh/h              | 3456 | 3554 | 1585 | 3428 | 3526 | 1572 | 1781 | 3554 | 1585 | 1767 | 3526 | 1572 |
| Grp Volume(v), veh/h         | 684  | 1224 | 0    | 194  | 597  | 0    | 15   | 1082 | 0    | 20   | 796  | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1728 | 1777 | 1585 | 1714 | 1763 | 1572 | 1781 | 1777 | 1585 | 1767 | 1763 | 1572 |
| Q Serve(g_s), s              | 26.8 | 42.9 | 0.0  | 7.8  | 21.0 | 0.0  | 1.1  | 42.5 | 0.0  | 1.6  | 30.5 | 0.0  |
| Cycle Q Clear(g_c), s        | 26.8 | 42.9 | 0.0  | 7.8  | 21.0 | 0.0  | 1.1  | 42.5 | 0.0  | 1.6  | 30.5 | 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       | 773  | 1482 |      | 243  | 931  |      | 131  | 1091 |      | 34   | 892  |      |
| V/C Ratio(X)                 | 0.88 | 0.83 |      | 0.80 | 0.64 |      | 0.11 | 0.99 |      | 0.59 | 0.89 |      |
| Avail Cap(c_a), veh/h        | 852  | 1482 |      | 331  | 931  |      | 131  | 1091 |      | 82   | 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 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.88 | 0.88 | 0.00 |
| Uniform Delay (d), s/veh     | 52.6 | 36.3 | 0.0  | 64.1 | 45.6 | 0.0  | 60.6 | 48.3 | 0.0  | 68.1 | 50.5 | 0.0  |
| Incr Delay (d2), s/veh       | 11.5 | 5.4  | 0.0  | 6.6  | 3.4  | 0.0  | 0.1  | 25.0 | 0.0  | 5.1  | 6.6  | 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     | 12.9 | 19.6 | 0.0  | 3.6  | 9.7  | 0.0  | 0.5  | 22.5 | 0.0  | 0.8  | 14.3 | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 64.1 | 41.7 | 0.0  | 70.6 | 49.0 | 0.0  | 60.7 | 73.3 | 0.0  | 73.2 | 57.1 | 0.0  |
| LnGrp LOS                    | E    | D    |      | E    | D    |      | E    | E    |      | E    | E    |      |
| Approach Vol, veh/h          |      | 1908 |      |      | 791  |      |      | 1097 |      |      | 816  |      |
| Approach Delay, s/veh        |      | 49.7 |      |      | 54.3 |      |      | 73.2 |      |      | 57.5 |      |
| Approach LOS                 |      | D    |      |      | D    |      |      | E    |      |      | E    |      |
| Timer - Assigned Phs         | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 16.4 | 65.4 | 16.8 | 41.4 | 37.8 | 44.0 | 9.2  | 49.0 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0  | 6.5  | 6.0  | 6.5  | 7.0  | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 13.5 | 51.0 | 6.5  | 43.0 | 34.5 | 30.0 | 6.5  | 43.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 9.8  | 44.9 | 3.1  | 32.5 | 28.8 | 23.0 | 3.6  | 44.5 |      |      |      |      |
| Green Ext Time (p_c), s      | 0.1  | 3.2  | 0.0  | 2.9  | 2.5  | 1.7  | 0.0  | 0.0  |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 57.5 |
| HCM 6th LOS        | E    |

Notes

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

Timings  
2: Marksheffel Rd & US-24

2026 Total AM.syn  
11/10/2023

| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph) | 360   | 550   | 125   | 350   | 1215  | 20    | 5     | 755   | 105   | 10    | 1025  | 760   |
| Future Volume (vph)  | 360   | 550   | 125   | 350   | 1215  | 20    | 5     | 755   | 105   | 10    | 1025  | 760   |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | Prot  | NA    | Free  | Prot  | NA    | Free  |
| Protected Phases     | 5     | 2     |       | 1     | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  |       |       | Free  |       |       | Free  |
| Detector Phase       | 5     | 2     |       | 1     | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 6.0   | 20.0  |       | 6.0   | 20.0  |       | 4.0   | 6.0   |       | 5.0   | 6.0   |       |
| Minimum Split (s)    | 12.5  | 27.0  |       | 12.5  | 27.0  |       | 10.5  | 12.0  |       | 11.5  | 12.0  |       |
| Total Split (s)      | 23.0  | 45.0  |       | 35.0  | 57.0  |       | 15.0  | 45.0  |       | 15.0  | 45.0  |       |
| Total Split (%)      | 16.4% | 32.1% |       | 25.0% | 40.7% |       | 10.7% | 32.1% |       | 10.7% | 32.1% |       |
| Yellow Time (s)      | 3.5   | 6.0   |       | 3.5   | 6.0   |       | 3.5   | 4.5   |       | 3.5   | 4.5   |       |
| All-Red Time (s)     | 3.0   | 1.0   |       | 3.0   | 1.0   |       | 3.0   | 1.5   |       | 3.0   | 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)  | 6.5   | 7.0   |       | 6.5   | 7.0   |       | 6.5   | 6.0   |       | 6.5   | 6.0   |       |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       |
| Recall Mode          | None  | C-Max |       | None  | C-Max |       | None  | None  |       | None  | None  |       |
| Act Effect Green (s) | 16.5  | 47.0  | 140.0 | 19.5  | 50.0  | 140.0 | 5.0   | 51.3  | 140.0 | 5.6   | 51.5  | 140.0 |
| Actuated g/C Ratio   | 0.12  | 0.34  | 1.00  | 0.14  | 0.36  | 1.00  | 0.04  | 0.37  | 1.00  | 0.04  | 0.37  | 1.00  |
| v/c Ratio            | 1.01  | 0.53  | 0.09  | 0.78  | 1.02  | 0.01  | 0.08  | 0.61  | 0.07  | 0.15  | 0.85  | 0.52  |
| Control Delay        | 125.6 | 29.4  | 0.1   | 69.7  | 75.3  | 0.0   | 60.6  | 43.6  | 0.1   | 69.2  | 48.6  | 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          | 125.6 | 29.4  | 0.1   | 69.7  | 75.3  | 0.0   | 60.6  | 43.6  | 0.1   | 69.2  | 48.6  | 1.3   |
| LOS                  | F     | C     | A     | E     | E     | A     | E     | D     | A     | E     | D     | A     |
| Approach Delay       |       | 59.4  |       |       | 73.1  |       |       | 38.4  |       |       | 28.7  |       |
| Approach LOS         |       | E     |       |       | E     |       |       | D     |       |       | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 110 (79%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.02  
 Intersection Signal Delay: 49.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 88.4%  
 ICU Level of Service E  
 Analysis Period (min) 15

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



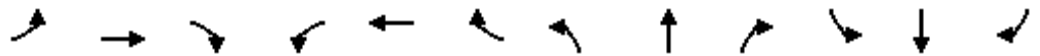


HCM 6th Signalized Intersection Summary

2026 Total AM.syn

11/10/2023

2: Marksheffel Rd & US-24



| Movement                     | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
|------------------------------|-------|------|------|------|------|------|------|------|------|------|-------|------|
| Lane Configurations          | ↔↔    | ↑↑   | ↗    | ↔↔   | ↑↑   | ↗    | ↗    | ↑↑   | ↗    | ↗    | ↑↑    | ↗    |
| Traffic Volume (veh/h)       | 360   | 550  | 125  | 350  | 1215 | 20   | 5    | 755  | 105  | 10   | 1025  | 760  |
| Future Volume (veh/h)        | 360   | 550  | 125  | 350  | 1215 | 20   | 5    | 755  | 105  | 10   | 1025  | 760  |
| 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       | 1737  | 1737 | 1737 | 1841 | 1841 | 1841 | 1856 | 1856 | 1856 | 1811 | 1811  | 1811 |
| Adj Flow Rate, veh/h         | 375   | 573  | 0    | 365  | 1266 | 0    | 5    | 786  | 0    | 10   | 1068  | 0    |
| Peak Hour Factor             | 0.96  | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96  | 0.96 |
| Percent Heavy Veh, %         | 11    | 11   | 11   | 4    | 4    | 4    | 3    | 3    | 3    | 6    | 6     | 6    |
| Cap, veh/h                   | 378   | 1343 |      | 421  | 1444 |      | 9    | 959  |      | 20   | 959   |      |
| Arrive On Green              | 0.12  | 0.41 | 0.00 | 0.12 | 0.41 | 0.00 | 0.01 | 0.27 | 0.00 | 0.01 | 0.28  | 0.00 |
| Sat Flow, veh/h              | 3209  | 3300 | 1472 | 3401 | 3497 | 1560 | 1767 | 3526 | 1572 | 1725 | 3441  | 1535 |
| Grp Volume(v), veh/h         | 375   | 573  | 0    | 365  | 1266 | 0    | 5    | 786  | 0    | 10   | 1068  | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1605  | 1650 | 1472 | 1700 | 1749 | 1560 | 1767 | 1763 | 1572 | 1725 | 1721  | 1535 |
| Q Serve(g_s), s              | 16.3  | 17.4 | 0.0  | 14.7 | 46.6 | 0.0  | 0.4  | 29.2 | 0.0  | 0.8  | 39.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 16.3  | 17.4 | 0.0  | 14.7 | 46.6 | 0.0  | 0.4  | 29.2 | 0.0  | 0.8  | 39.0  | 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       | 378   | 1343 |      | 421  | 1444 |      | 9    | 959  |      | 20   | 959   |      |
| V/C Ratio(X)                 | 0.99  | 0.43 |      | 0.87 | 0.88 |      | 0.56 | 0.82 |      | 0.50 | 1.11  |      |
| Avail Cap(c_a), veh/h        | 378   | 1343 |      | 692  | 1444 |      | 107  | 982  |      | 105  | 959   |      |
| 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 | 0.67 | 0.67  | 0.00 |
| Uniform Delay (d), s/veh     | 61.7  | 29.8 | 0.0  | 60.2 | 37.8 | 0.0  | 69.5 | 47.7 | 0.0  | 68.8 | 50.5  | 0.0  |
| Incr Delay (d2), s/veh       | 44.0  | 1.0  | 0.0  | 3.4  | 7.8  | 0.0  | 18.8 | 5.1  | 0.0  | 4.8  | 61.6  | 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     | 9.0   | 7.2  | 0.0  | 6.6  | 21.4 | 0.0  | 0.2  | 13.5 | 0.0  | 0.4  | 24.9  | 0.0  |
| Unsig. Movement Delay, s/veh |       |      |      |      |      |      |      |      |      |      |       |      |
| LnGrp Delay(d),s/veh         | 105.7 | 30.8 | 0.0  | 63.6 | 45.6 | 0.0  | 88.3 | 52.8 | 0.0  | 73.6 | 112.1 | 0.0  |
| LnGrp LOS                    | F     | C    |      | E    | D    |      | F    | D    |      | E    | F     |      |
| Approach Vol, veh/h          |       | 948  |      |      | 1631 |      |      | 791  |      |      | 1078  |      |
| Approach Delay, s/veh        |       | 60.4 |      |      | 49.6 |      |      | 53.0 |      |      | 111.7 |      |
| Approach LOS                 |       | E    |      |      | D    |      |      | D    |      |      | F     |      |
| Timer - Assigned Phs         | 1     | 2    | 3    | 4    | 5    | 6    | 7    | 8    |      |      |       |      |
| Phs Duration (G+Y+Rc), s     | 23.8  | 64.0 | 7.2  | 45.0 | 23.0 | 64.8 | 8.1  | 44.1 |      |      |       |      |
| Change Period (Y+Rc), s      | 6.5   | 7.0  | 6.5  | 6.0  | 6.5  | 7.0  | 6.5  | 6.0  |      |      |       |      |
| Max Green Setting (Gmax), s  | 28.5  | 38.0 | 8.5  | 39.0 | 16.5 | 50.0 | 8.5  | 39.0 |      |      |       |      |
| Max Q Clear Time (g_c+I1), s | 16.7  | 19.4 | 2.4  | 41.0 | 18.3 | 48.6 | 2.8  | 31.2 |      |      |       |      |
| Green Ext Time (p_c), s      | 0.6   | 2.6  | 0.0  | 0.0  | 0.0  | 0.9  | 0.0  | 2.4  |      |      |       |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 67.6 |
| HCM 6th LOS        | E    |

Notes

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

Timings

2: Marksheffel Rd & US-24

| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |      |       |       |      |       |       |
| Traffic Volume (vph) | 670   | 1200  | 125   | 210   | 585   | 20    | 15   | 1190  | 245   | 20   | 915   | 510   |
| Future Volume (vph)  | 670   | 1200  | 125   | 210   | 585   | 20    | 15   | 1190  | 245   | 20   | 915   | 510   |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | Prot | NA    | Free  | Prot | NA    | Free  |
| Protected Phases     | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  |      |       | Free  |      |       | Free  |
| Detector Phase       | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Switch Phase         |       |       |       |       |       |       |      |       |       |      |       |       |
| Minimum Initial (s)  | 6.0   | 20.0  |       | 6.0   | 20.0  |       | 4.0  | 6.0   |       | 5.0  | 6.0   |       |
| Minimum Split (s)    | 12.5  | 27.5  |       | 12.5  | 27.5  |       | 10.5 | 12.5  |       | 11.5 | 12.0  |       |
| Total Split (s)      | 41.0  | 58.0  |       | 20.0  | 37.0  |       | 13.0 | 49.0  |       | 13.0 | 49.0  |       |
| Total Split (%)      | 29.3% | 41.4% |       | 14.3% | 26.4% |       | 9.3% | 35.0% |       | 9.3% | 35.0% |       |
| Yellow Time (s)      | 3.5   | 6.0   |       | 3.5   | 6.0   |       | 3.5  | 4.5   |       | 3.5  | 4.5   |       |
| All-Red Time (s)     | 3.0   | 1.0   |       | 3.0   | 1.0   |       | 3.0  | 1.5   |       | 3.0  | 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)  | 6.5   | 7.0   |       | 6.5   | 7.0   |       | 6.5  | 6.0   |       | 6.5  | 6.0   |       |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lag  | Lead  |       | Lag  | Lead  |       |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes  | Yes   |       | Yes  | Yes   |       |
| Recall Mode          | None  | C-Max |       | None  | C-Max |       | None | None  |       | None | None  |       |
| Act Effct Green (s)  | 33.2  | 57.6  | 140.0 | 12.2  | 36.6  | 140.0 | 5.6  | 43.0  | 140.0 | 5.8  | 45.5  | 140.0 |
| Actuated g/C Ratio   | 0.24  | 0.41  | 1.00  | 0.09  | 0.26  | 1.00  | 0.04 | 0.31  | 1.00  | 0.04 | 0.32  | 1.00  |
| v/c Ratio            | 0.84  | 0.84  | 0.08  | 0.72  | 0.65  | 0.01  | 0.21 | 1.12  | 0.16  | 0.28 | 0.82  | 0.33  |
| Control Delay        | 42.3  | 64.4  | 0.0   | 76.5  | 51.6  | 0.0   | 74.2 | 117.7 | 0.1   | 74.3 | 50.6  | 0.6   |
| 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          | 42.3  | 64.4  | 0.0   | 76.5  | 51.6  | 0.0   | 74.2 | 117.7 | 0.1   | 74.3 | 50.6  | 0.6   |
| LOS                  | D     | E     | A     | E     | D     | A     | E    | F     | A     | E    | D     | A     |
| Approach Delay       |       | 52.9  |       |       | 56.8  |       |      | 97.4  |       |      | 33.3  |       |
| Approach LOS         |       | D     |       |       | E     |       |      | F     |       |      | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 68 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.12  
 Intersection Signal Delay: 59.8  
 Intersection LOS: E  
 Intersection Capacity Utilization 88.3%  
 ICU Level of Service E  
 Analysis Period (min) 15

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



HCM 6th Signalized Intersection Summary  
 2: Marksheffel Rd & US-24

2026 Total PM.syn  
 11/09/2023



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT   | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|-------|------|------|------|------|
| Lane Configurations          | ↔↔   | ↑↑   | ↗    | ↔↔   | ↑↑   | ↗    | ↖    | ↑↑    | ↗    | ↖    | ↑↑   | ↗    |
| Traffic Volume (veh/h)       | 670  | 1200 | 125  | 210  | 585  | 20   | 15   | 1190  | 245  | 20   | 915  | 510  |
| Future Volume (veh/h)        | 670  | 1200 | 125  | 210  | 585  | 20   | 15   | 1190  | 245  | 20   | 915  | 510  |
| 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 | 1870 | 1870  | 1870 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h         | 684  | 1224 | 0    | 214  | 597  | 0    | 15   | 1214  | 0    | 20   | 934  | 0    |
| Peak Hour Factor             | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98  | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 3    | 3    | 3    | 2    | 2     | 2    | 3    | 3    | 3    |
| Cap, veh/h                   | 773  | 1462 |      | 262  | 931  |      | 71   | 1091  |      | 34   | 1010 |      |
| Arrive On Green              | 0.22 | 0.41 | 0.00 | 0.08 | 0.26 | 0.00 | 0.04 | 0.31  | 0.00 | 0.02 | 0.29 | 0.00 |
| Sat Flow, veh/h              | 3456 | 3554 | 1585 | 3428 | 3526 | 1572 | 1781 | 3554  | 1585 | 1767 | 3526 | 1572 |
| Grp Volume(v), veh/h         | 684  | 1224 | 0    | 214  | 597  | 0    | 15   | 1214  | 0    | 20   | 934  | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1728 | 1777 | 1585 | 1714 | 1763 | 1572 | 1781 | 1777  | 1585 | 1767 | 1763 | 1572 |
| Q Serve(g_s), s              | 26.8 | 43.3 | 0.0  | 8.6  | 21.0 | 0.0  | 1.1  | 43.0  | 0.0  | 1.6  | 36.0 | 0.0  |
| Cycle Q Clear(g_c), s        | 26.8 | 43.3 | 0.0  | 8.6  | 21.0 | 0.0  | 1.1  | 43.0  | 0.0  | 1.6  | 36.0 | 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       | 773  | 1462 |      | 262  | 931  |      | 71   | 1091  |      | 34   | 1010 |      |
| V/C Ratio(X)                 | 0.88 | 0.84 |      | 0.82 | 0.64 |      | 0.21 | 1.11  |      | 0.59 | 0.92 |      |
| Avail Cap(c_a), veh/h        | 852  | 1462 |      | 331  | 931  |      | 83   | 1091  |      | 82   | 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 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00  | 0.00 | 0.84 | 0.84 | 0.00 |
| Uniform Delay (d), s/veh     | 52.6 | 37.0 | 0.0  | 63.7 | 45.6 | 0.0  | 65.1 | 48.5  | 0.0  | 68.1 | 48.5 | 0.0  |
| Incr Delay (d2), s/veh       | 11.5 | 5.9  | 0.0  | 9.5  | 3.4  | 0.0  | 0.5  | 63.5  | 0.0  | 4.9  | 10.4 | 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     | 12.9 | 19.9 | 0.0  | 4.1  | 9.7  | 0.0  | 0.5  | 28.6  | 0.0  | 0.8  | 17.3 | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |       |      |      |      |      |
| LnGrp Delay(d),s/veh         | 64.1 | 42.9 | 0.0  | 73.2 | 49.0 | 0.0  | 65.6 | 112.0 | 0.0  | 73.0 | 58.9 | 0.0  |
| LnGrp LOS                    | E    | D    |      | E    | D    |      | E    | F     |      | E    | E    |      |
| Approach Vol, veh/h          |      | 1908 |      |      | 811  |      |      | 1229  |      |      | 954  |      |
| Approach Delay, s/veh        |      | 50.5 |      |      | 55.4 |      |      | 111.4 |      |      | 59.2 |      |
| Approach LOS                 |      | D    |      |      | E    |      |      | F     |      |      | E    |      |
| Timer - Assigned Phs         | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8     |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 17.2 | 64.6 | 12.1 | 46.1 | 37.8 | 44.0 | 9.2  | 49.0  |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0  | 6.5  | 6.0  | 6.5  | 7.0  | 6.5  | 6.0   |      |      |      |      |
| Max Green Setting (Gmax), s  | 13.5 | 51.0 | 6.5  | 43.0 | 34.5 | 30.0 | 6.5  | 43.0  |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 10.6 | 45.3 | 3.1  | 38.0 | 28.8 | 23.0 | 3.6  | 45.0  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.1  | 3.1  | 0.0  | 2.1  | 2.5  | 1.7  | 0.0  | 0.0   |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 68.3 |
| HCM 6th LOS        | E    |

Notes

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

Timings

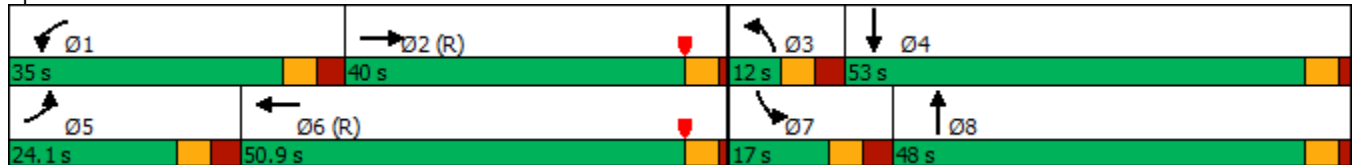
2: Marksheffel Rd & US-24

| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |      |       |       |       |       |       |
| Traffic Volume (vph) | 360   | 550   | 125   | 350   | 1215  | 20    | 5    | 755   | 105   | 10    | 1025  | 760   |
| Future Volume (vph)  | 360   | 550   | 125   | 350   | 1215  | 20    | 5    | 755   | 105   | 10    | 1025  | 760   |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | Prot | NA    | Free  | Prot  | NA    | Free  |
| Protected Phases     | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7     | 4     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  |      |       | Free  |       |       | Free  |
| Detector Phase       | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7     | 4     |       |
| Switch Phase         |       |       |       |       |       |       |      |       |       |       |       |       |
| Minimum Initial (s)  | 6.0   | 20.0  |       | 6.0   | 20.0  |       | 4.0  | 6.0   |       | 5.0   | 6.0   |       |
| Minimum Split (s)    | 12.5  | 27.0  |       | 12.5  | 27.0  |       | 10.5 | 12.0  |       | 11.5  | 12.0  |       |
| Total Split (s)      | 24.1  | 40.0  |       | 35.0  | 50.9  |       | 12.0 | 48.0  |       | 17.0  | 53.0  |       |
| Total Split (%)      | 17.2% | 28.6% |       | 25.0% | 36.4% |       | 8.6% | 34.3% |       | 12.1% | 37.9% |       |
| Yellow Time (s)      | 3.5   | 3.5   |       | 3.5   | 3.5   |       | 3.5  | 3.5   |       | 3.5   | 3.5   |       |
| All-Red Time (s)     | 3.0   | 1.0   |       | 3.0   | 1.0   |       | 3.0  | 1.5   |       | 3.0   | 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)  | 6.5   | 4.5   |       | 6.5   | 4.5   |       | 6.5  | 5.0   |       | 6.5   | 5.0   |       |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lead | Lag   |       | Lead  | Lag   |       |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes  | Yes   |       | Yes   | Yes   |       |
| Recall Mode          | None  | C-Max |       | None  | C-Max |       | None | None  |       | None  | None  |       |
| Act Effect Green (s) | 22.4  | 53.6  | 140.0 | 19.5  | 50.8  | 140.0 | 4.9  | 48.1  | 140.0 | 5.6   | 48.4  | 140.0 |
| Actuated g/C Ratio   | 0.16  | 0.38  | 1.00  | 0.14  | 0.36  | 1.00  | 0.04 | 0.34  | 1.00  | 0.04  | 0.35  | 1.00  |
| v/c Ratio            | 0.74  | 0.46  | 0.09  | 0.78  | 1.01  | 0.01  | 0.08 | 0.65  | 0.07  | 0.15  | 0.91  | 0.52  |
| Control Delay        | 88.4  | 25.8  | 0.1   | 69.7  | 71.2  | 0.0   | 66.0 | 45.4  | 0.1   | 69.2  | 55.2  | 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          | 88.4  | 25.8  | 0.1   | 69.7  | 71.2  | 0.0   | 66.0 | 45.4  | 0.1   | 69.2  | 55.2  | 1.3   |
| LOS                  | F     | C     | A     | E     | E     | A     | E    | D     | A     | E     | E     | A     |
| Approach Delay       |       | 44.5  |       |       | 70.0  |       |      | 40.1  |       |       | 32.4  |       |
| Approach LOS         |       | D     |       |       | E     |       |      | D     |       |       | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 112.5 (80%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.01  
 Intersection Signal Delay: 47.3  
 Intersection LOS: D  
 Intersection Capacity Utilization 85.5%  
 ICU Level of Service E  
 Analysis Period (min) 15

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

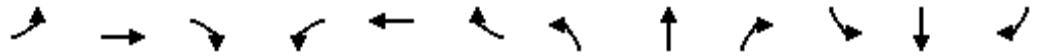


HCM 6th Signalized Intersection Summary

2026 Total AM Improved.syn

2: Marksheffel Rd & US-24

11/10/2023



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↔↔   | ↑↑   | ↗    | ↔↔   | ↑↑   | ↗    | ↖    | ↑↑   | ↗    | ↖    | ↑↑   | ↗    |
| Traffic Volume (veh/h)       | 360  | 550  | 125  | 350  | 1215 | 20   | 5    | 755  | 105  | 10   | 1025 | 760  |
| Future Volume (veh/h)        | 360  | 550  | 125  | 350  | 1215 | 20   | 5    | 755  | 105  | 10   | 1025 | 760  |
| 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       | 1737 | 1737 | 1737 | 1841 | 1841 | 1841 | 1856 | 1856 | 1856 | 1811 | 1811 | 1811 |
| Adj Flow Rate, veh/h         | 375  | 573  | 0    | 365  | 1266 | 0    | 5    | 786  | 0    | 10   | 1068 | 0    |
| Peak Hour Factor             | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, %         | 11   | 11   | 11   | 4    | 4    | 4    | 3    | 3    | 3    | 6    | 6    | 6    |
| Cap, veh/h                   | 403  | 1256 |      | 421  | 1325 |      | 9    | 1140 |      | 20   | 1135 |      |
| Arrive On Green              | 0.13 | 0.38 | 0.00 | 0.12 | 0.38 | 0.00 | 0.01 | 0.32 | 0.00 | 0.01 | 0.33 | 0.00 |
| Sat Flow, veh/h              | 3209 | 3300 | 1472 | 3401 | 3497 | 1560 | 1767 | 3526 | 1572 | 1725 | 3441 | 1535 |
| Grp Volume(v), veh/h         | 375  | 573  | 0    | 365  | 1266 | 0    | 5    | 786  | 0    | 10   | 1068 | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1605 | 1650 | 1472 | 1700 | 1749 | 1560 | 1767 | 1763 | 1572 | 1725 | 1721 | 1535 |
| Q Serve(g_s), s              | 16.2 | 18.2 | 0.0  | 14.7 | 49.3 | 0.0  | 0.4  | 27.2 | 0.0  | 0.8  | 42.2 | 0.0  |
| Cycle Q Clear(g_c), s        | 16.2 | 18.2 | 0.0  | 14.7 | 49.3 | 0.0  | 0.4  | 27.2 | 0.0  | 0.8  | 42.2 | 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       | 403  | 1256 |      | 421  | 1325 |      | 9    | 1140 |      | 20   | 1135 |      |
| V/C Ratio(X)                 | 0.93 | 0.46 |      | 0.87 | 0.96 |      | 0.56 | 0.69 |      | 0.50 | 0.94 |      |
| Avail Cap(c_a), veh/h        | 403  | 1256 |      | 692  | 1325 |      | 69   | 1140 |      | 129  | 1180 |      |
| 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 | 0.67 | 0.67 | 0.00 |
| Uniform Delay (d), s/veh     | 60.6 | 32.5 | 0.0  | 60.2 | 42.3 | 0.0  | 69.5 | 41.2 | 0.0  | 68.8 | 45.6 | 0.0  |
| Incr Delay (d2), s/veh       | 28.6 | 1.2  | 0.0  | 3.4  | 16.2 | 0.0  | 18.8 | 1.5  | 0.0  | 4.8  | 10.1 | 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     | 8.2  | 7.6  | 0.0  | 6.6  | 24.1 | 0.0  | 0.2  | 12.1 | 0.0  | 0.4  | 19.5 | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 89.2 | 33.7 | 0.0  | 63.6 | 58.5 | 0.0  | 88.3 | 42.7 | 0.0  | 73.6 | 55.7 | 0.0  |
| LnGrp LOS                    | F    | C    |      | E    | E    |      | F    | D    |      | E    | E    |      |
| Approach Vol, veh/h          |      | 948  |      |      | 1631 |      |      | 791  |      |      | 1078 |      |
| Approach Delay, s/veh        |      | 55.6 |      |      | 59.7 |      |      | 43.0 |      |      | 55.9 |      |
| Approach LOS                 |      | E    |      |      | E    |      |      | D    |      |      | E    |      |
| Timer - Assigned Phs         | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 23.8 | 57.8 | 7.2  | 51.2 | 24.1 | 57.5 | 8.1  | 50.3 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 4.5  | 6.5  | 5.0  | 6.5  | 4.5  | 6.5  | 5.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 28.5 | 35.5 | 5.5  | 48.0 | 17.6 | 46.4 | 10.5 | 43.0 |      |      |      |      |
| Max Q Clear Time (g_c+l1), s | 16.7 | 20.2 | 2.4  | 44.2 | 18.2 | 51.3 | 2.8  | 29.2 |      |      |      |      |
| Green Ext Time (p_c), s      | 0.6  | 2.4  | 0.0  | 1.9  | 0.0  | 0.0  | 0.0  | 3.3  |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 54.9 |
| HCM 6th LOS        | D    |

Notes

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

Timings

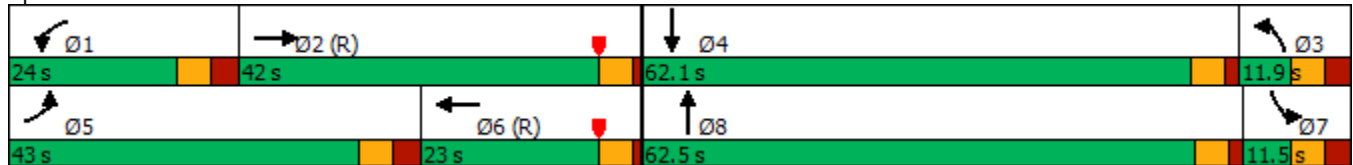
2: Marksheffel Rd & US-24

| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations  | ↖↗    | ↕     | ↗     | ↖↗    | ↕     | ↗     | ↖    | ↕     | ↗     | ↖    | ↕     | ↗     |
| Traffic Volume (vph) | 670   | 1200  | 125   | 210   | 585   | 20    | 15   | 1190  | 245   | 20   | 915   | 510   |
| Future Volume (vph)  | 670   | 1200  | 125   | 210   | 585   | 20    | 15   | 1190  | 245   | 20   | 915   | 510   |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | Prot | NA    | Free  | Prot | NA    | Free  |
| Protected Phases     | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  |      |       | Free  |      |       | Free  |
| Detector Phase       | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Switch Phase         |       |       |       |       |       |       |      |       |       |      |       |       |
| Minimum Initial (s)  | 6.0   | 20.0  |       | 6.0   | 18.0  |       | 4.0  | 6.0   |       | 5.0  | 6.0   |       |
| Minimum Split (s)    | 12.5  | 27.5  |       | 12.5  | 22.5  |       | 10.5 | 12.5  |       | 11.5 | 12.0  |       |
| Total Split (s)      | 43.0  | 42.0  |       | 24.0  | 23.0  |       | 11.9 | 62.5  |       | 11.5 | 62.1  |       |
| Total Split (%)      | 30.7% | 30.0% |       | 17.1% | 16.4% |       | 8.5% | 44.6% |       | 8.2% | 44.4% |       |
| Yellow Time (s)      | 3.5   | 3.5   |       | 3.5   | 3.5   |       | 3.5  | 3.5   |       | 3.5  | 3.5   |       |
| All-Red Time (s)     | 3.0   | 1.0   |       | 3.0   | 1.0   |       | 3.0  | 1.5   |       | 3.0  | 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)  | 6.5   | 4.5   |       | 6.5   | 4.5   |       | 6.5  | 5.0   |       | 6.5  | 5.0   |       |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lag  | Lead  |       | Lag  | Lead  |       |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes  | Yes   |       | Yes  | Yes   |       |
| Recall Mode          | None  | C-Max |       | None  | C-Max |       | None | None  |       | None | None  |       |
| Act Effct Green (s)  | 34.2  | 49.9  | 140.0 | 13.2  | 28.8  | 140.0 | 7.7  | 53.8  | 140.0 | 5.2  | 53.6  | 140.0 |
| Actuated g/C Ratio   | 0.24  | 0.36  | 1.00  | 0.09  | 0.21  | 1.00  | 0.06 | 0.38  | 1.00  | 0.04 | 0.38  | 1.00  |
| v/c Ratio            | 0.82  | 0.97  | 0.08  | 0.67  | 0.83  | 0.01  | 0.15 | 0.89  | 0.16  | 0.31 | 0.70  | 0.33  |
| Control Delay        | 58.6  | 83.5  | 0.1   | 71.6  | 64.0  | 0.0   | 66.1 | 50.6  | 0.2   | 78.2 | 39.8  | 0.6   |
| 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          | 58.6  | 83.5  | 0.1   | 71.6  | 64.0  | 0.0   | 66.1 | 50.6  | 0.2   | 78.2 | 39.8  | 0.6   |
| LOS                  | E     | F     | A     | E     | E     | A     | E    | D     | A     | E    | D     | A     |
| Approach Delay       |       | 69.9  |       |       | 64.4  |       |      | 42.2  |       |      | 26.5  |       |
| Approach LOS         |       | E     |       |       | E     |       |      | D     |       |      | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 70.5 (50%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.97  
 Intersection Signal Delay: 51.1  
 Intersection LOS: D  
 Intersection Capacity Utilization 85.4%  
 ICU Level of Service E  
 Analysis Period (min) 15

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



HCM 6th Signalized Intersection Summary

2026 Total PM Improved.syn

2: Marksheffel Rd & US-24

11/10/2023



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↖↗   | ↑↑   | ↖    | ↖↗   | ↑↑   | ↖    | ↖    | ↑↑   | ↖    | ↖    | ↑↑   | ↖    |
| Traffic Volume (veh/h)       | 670  | 1200 | 125  | 210  | 585  | 20   | 15   | 1190 | 245  | 20   | 915  | 510  |
| Future Volume (veh/h)        | 670  | 1200 | 125  | 210  | 585  | 20   | 15   | 1190 | 245  | 20   | 915  | 510  |
| 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 | 1870 | 1870 | 1870 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h         | 684  | 1224 | 0    | 214  | 597  | 0    | 15   | 1214 | 0    | 20   | 934  | 0    |
| Peak Hour Factor             | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 3    | 3    | 3    | 2    | 2    | 2    | 3    | 3    | 3    |
| Cap, veh/h                   | 787  | 1317 |      | 265  | 776  |      | 164  | 1322 |      | 34   | 1056 |      |
| Arrive On Green              | 0.23 | 0.37 | 0.00 | 0.08 | 0.22 | 0.00 | 0.09 | 0.37 | 0.00 | 0.02 | 0.30 | 0.00 |
| Sat Flow, veh/h              | 3456 | 3554 | 1585 | 3428 | 3526 | 1572 | 1781 | 3554 | 1585 | 1767 | 3526 | 1572 |
| Grp Volume(v), veh/h         | 684  | 1224 | 0    | 214  | 597  | 0    | 15   | 1214 | 0    | 20   | 934  | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1728 | 1777 | 1585 | 1714 | 1763 | 1572 | 1781 | 1777 | 1585 | 1767 | 1763 | 1572 |
| Q Serve(g_s), s              | 26.7 | 46.3 | 0.0  | 8.6  | 22.3 | 0.0  | 1.1  | 45.6 | 0.0  | 1.6  | 35.3 | 0.0  |
| Cycle Q Clear(g_c), s        | 26.7 | 46.3 | 0.0  | 8.6  | 22.3 | 0.0  | 1.1  | 45.6 | 0.0  | 1.6  | 35.3 | 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       | 787  | 1317 |      | 265  | 776  |      | 164  | 1322 |      | 34   | 1056 |      |
| V/C Ratio(X)                 | 0.87 | 0.93 |      | 0.81 | 0.77 |      | 0.09 | 0.92 |      | 0.59 | 0.88 |      |
| Avail Cap(c_a), veh/h        | 901  | 1317 |      | 429  | 776  |      | 164  | 1460 |      | 63   | 1438 |      |
| 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 | 0.84 | 0.84 | 0.00 |
| Uniform Delay (d), s/veh     | 52.0 | 42.3 | 0.0  | 63.6 | 51.3 | 0.0  | 58.2 | 41.9 | 0.0  | 68.1 | 46.7 | 0.0  |
| Incr Delay (d2), s/veh       | 9.6  | 12.8 | 0.0  | 2.2  | 7.2  | 0.0  | 0.1  | 8.6  | 0.0  | 4.9  | 3.6  | 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     | 12.6 | 22.5 | 0.0  | 3.8  | 10.6 | 0.0  | 0.5  | 21.4 | 0.0  | 0.8  | 16.0 | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 61.7 | 55.1 | 0.0  | 65.8 | 58.5 | 0.0  | 58.3 | 50.5 | 0.0  | 73.0 | 50.4 | 0.0  |
| LnGrp LOS                    | E    | E    |      | E    | E    |      | E    | D    |      | E    | D    |      |
| Approach Vol, veh/h          |      | 1908 |      |      | 811  |      |      | 1229 |      |      | 954  |      |
| Approach Delay, s/veh        |      | 57.5 |      |      | 60.4 |      |      | 50.6 |      |      | 50.8 |      |
| Approach LOS                 |      | E    |      |      | E    |      |      | D    |      |      | D    |      |
| Timer - Assigned Phs         | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 17.3 | 56.4 | 19.4 | 46.9 | 38.4 | 35.3 | 9.2  | 57.1 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 4.5  | 6.5  | 5.0  | 6.5  | 4.5  | 6.5  | 5.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 17.5 | 37.5 | 5.4  | 57.1 | 36.5 | 18.5 | 5.0  | 57.5 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 10.6 | 48.3 | 3.1  | 37.3 | 28.7 | 24.3 | 3.6  | 47.6 |      |      |      |      |
| Green Ext Time (p_c), s      | 0.2  | 0.0  | 0.0  | 4.6  | 3.2  | 0.0  | 0.0  | 4.5  |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 54.9 |
| HCM 6th LOS        | D    |

Notes

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

Timings

2: Marksheffel Rd & US-24

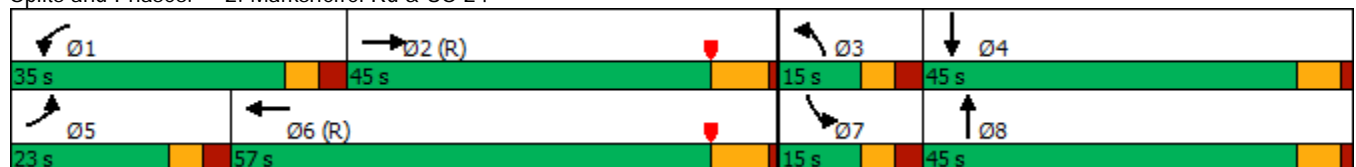


| Lane Group           | EBL   | EBT   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↔↔    | ↑↑    | ↔↔    | ↑↑    | ↔     | ↔     | ↑↑    | ↔     | ↔     | ↑↑    | ↔     |
| Traffic Volume (vph) | 425   | 645   | 405   | 1425  | 25    | 5     | 955   | 135   | 15    | 1165  | 890   |
| Future Volume (vph)  | 425   | 645   | 405   | 1425  | 25    | 5     | 955   | 135   | 15    | 1165  | 890   |
| Turn Type            | Prot  | NA    | Prot  | NA    | Free  | Prot  | NA    | Free  | Prot  | NA    | Free  |
| Protected Phases     | 5     | 2     | 1     | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Permitted Phases     |       |       |       |       | Free  |       |       | Free  |       |       | Free  |
| Detector Phase       | 5     | 2     | 1     | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 6.0   | 20.0  | 6.0   | 20.0  |       | 4.0   | 6.0   |       | 5.0   | 6.0   |       |
| Minimum Split (s)    | 12.5  | 27.0  | 12.5  | 27.0  |       | 10.5  | 12.0  |       | 11.5  | 12.0  |       |
| Total Split (s)      | 23.0  | 45.0  | 35.0  | 57.0  |       | 15.0  | 45.0  |       | 15.0  | 45.0  |       |
| Total Split (%)      | 16.4% | 32.1% | 25.0% | 40.7% |       | 10.7% | 32.1% |       | 10.7% | 32.1% |       |
| Yellow Time (s)      | 3.5   | 6.0   | 3.5   | 6.0   |       | 3.5   | 4.5   |       | 3.5   | 4.5   |       |
| All-Red Time (s)     | 3.0   | 1.0   | 3.0   | 1.0   |       | 3.0   | 1.5   |       | 3.0   | 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)  | 6.5   | 7.0   | 6.5   | 7.0   |       | 6.5   | 6.0   |       | 6.5   | 6.0   |       |
| Lead/Lag             | Lead  | Lag   | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       |
| Lead-Lag Optimize?   | Yes   | Yes   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       |
| Recall Mode          | None  | C-Max | None  | C-Max |       | None  | None  |       | None  | None  |       |
| Act Effct Green (s)  | 16.5  | 44.6  | 21.9  | 50.0  | 140.0 | 5.0   | 48.5  | 140.0 | 6.0   | 51.5  | 140.0 |
| Actuated g/C Ratio   | 0.12  | 0.32  | 0.16  | 0.36  | 1.00  | 0.04  | 0.35  | 1.00  | 0.04  | 0.37  | 1.00  |
| v/c Ratio            | 1.19  | 0.65  | 0.80  | 1.20  | 0.02  | 0.08  | 0.82  | 0.09  | 0.22  | 0.97  | 0.61  |
| Control Delay        | 175.7 | 34.4  | 68.9  | 136.7 | 0.0   | 43.4  | 58.6  | 0.1   | 71.1  | 62.3  | 1.8   |
| 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          | 175.7 | 34.4  | 68.9  | 136.7 | 0.0   | 43.4  | 58.6  | 0.1   | 71.1  | 62.3  | 1.8   |
| LOS                  | F     | C     | E     | F     | A     | D     | E     | A     | E     | E     | A     |
| Approach Delay       |       | 90.5  |       | 120.0 |       |       | 51.3  |       |       | 36.4  |       |
| Approach LOS         |       | F     |       | F     |       |       | D     |       |       | D     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 110 (79%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.20  
 Intersection Signal Delay: 74.0  
 Intersection Capacity Utilization 100.0%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service F

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







| Movement                     | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT   | SBR  |
|------------------------------|-------|------|------|------|------|------|------|------|------|------|-------|------|
| Lane Configurations          | ↖↗    | ↖↖   | ↗    | ↖↗   | ↖↖   | ↗    | ↖    | ↖↖   | ↗    | ↖    | ↖↖    | ↗    |
| Traffic Volume (veh/h)       | 425   | 645  | 0    | 405  | 1425 | 25   | 5    | 955  | 135  | 15   | 1165  | 890  |
| Future Volume (veh/h)        | 425   | 645  | 0    | 405  | 1425 | 25   | 5    | 955  | 135  | 15   | 1165  | 890  |
| 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       | 1737  | 1737 | 1737 | 1841 | 1841 | 1841 | 1856 | 1856 | 1856 | 1811 | 1811  | 1811 |
| Adj Flow Rate, veh/h         | 443   | 672  | 0    | 422  | 1484 | 0    | 5    | 995  | 0    | 16   | 1214  | 0    |
| Peak Hour Factor             | 0.96  | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96  | 0.96 |
| Percent Heavy Veh, %         | 11    | 11   | 11   | 4    | 4    | 4    | 3    | 3    | 3    | 6    | 6     | 6    |
| Cap, veh/h                   | 378   | 1250 |      | 478  | 1404 |      | 9    | 982  |      | 29   | 998   |      |
| Arrive On Green              | 0.12  | 0.38 | 0.00 | 0.14 | 0.40 | 0.00 | 0.01 | 0.28 | 0.00 | 0.02 | 0.29  | 0.00 |
| Sat Flow, veh/h              | 3209  | 3300 | 1472 | 3401 | 3497 | 1560 | 1767 | 3526 | 1572 | 1725 | 3441  | 1535 |
| Grp Volume(v), veh/h         | 443   | 672  | 0    | 422  | 1484 | 0    | 5    | 995  | 0    | 16   | 1214  | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1605  | 1650 | 1472 | 1700 | 1749 | 1560 | 1767 | 1763 | 1572 | 1725 | 1721  | 1535 |
| Q Serve(g_s), s              | 16.5  | 22.2 | 0.0  | 17.0 | 56.2 | 0.0  | 0.4  | 39.0 | 0.0  | 1.3  | 40.6  | 0.0  |
| Cycle Q Clear(g_c), s        | 16.5  | 22.2 | 0.0  | 17.0 | 56.2 | 0.0  | 0.4  | 39.0 | 0.0  | 1.3  | 40.6  | 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       | 378   | 1250 |      | 478  | 1404 |      | 9    | 982  |      | 29   | 998   |      |
| V/C Ratio(X)                 | 1.17  | 0.54 |      | 0.88 | 1.06 |      | 0.56 | 1.01 |      | 0.56 | 1.22  |      |
| Avail Cap(c_a), veh/h        | 378   | 1250 |      | 692  | 1404 |      | 107  | 982  |      | 105  | 998   |      |
| 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 | 0.53 | 0.53  | 0.00 |
| Uniform Delay (d), s/veh     | 61.8  | 33.9 | 0.0  | 59.0 | 41.9 | 0.0  | 69.5 | 50.5 | 0.0  | 68.3 | 49.7  | 0.0  |
| Incr Delay (d2), s/veh       | 101.7 | 1.7  | 0.0  | 7.0  | 40.8 | 0.0  | 18.8 | 32.0 | 0.0  | 3.4  | 102.4 | 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     | 12.1  | 9.3  | 0.0  | 7.8  | 31.9 | 0.0  | 0.2  | 21.5 | 0.0  | 0.6  | 31.6  | 0.0  |
| Unsig. Movement Delay, s/veh |       |      |      |      |      |      |      |      |      |      |       |      |
| LnGrp Delay(d),s/veh         | 163.5 | 35.6 | 0.0  | 66.1 | 82.7 | 0.0  | 88.3 | 82.5 | 0.0  | 71.7 | 152.1 | 0.0  |
| LnGrp LOS                    | F     | D    |      | E    | F    |      | F    | F    |      | E    | F     |      |
| Approach Vol, veh/h          |       | 1115 |      |      | 1906 |      |      | 1000 |      |      | 1230  |      |
| Approach Delay, s/veh        |       | 86.4 |      |      | 79.0 |      |      | 82.5 |      |      | 151.1 |      |
| Approach LOS                 |       | F    |      |      | E    |      |      | F    |      |      | F     |      |
| Timer - Assigned Phs         | 1     | 2    | 3    | 4    | 5    | 6    | 7    | 8    |      |      |       |      |
| Phs Duration (G+Y+Rc), s     | 26.2  | 60.0 | 7.2  | 46.6 | 23.0 | 63.2 | 8.8  | 45.0 |      |      |       |      |
| Change Period (Y+Rc), s      | 6.5   | 7.0  | 6.5  | 6.0  | 6.5  | 7.0  | 6.5  | 6.0  |      |      |       |      |
| Max Green Setting (Gmax), s  | 28.5  | 38.0 | 8.5  | 39.0 | 16.5 | 50.0 | 8.5  | 39.0 |      |      |       |      |
| Max Q Clear Time (g_c+I1), s | 19.0  | 24.2 | 2.4  | 42.6 | 18.5 | 58.2 | 3.3  | 41.0 |      |      |       |      |
| Green Ext Time (p_c), s      | 0.6   | 2.8  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |      |      |       |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 98.1 |
| HCM 6th LOS        | F    |

Notes

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

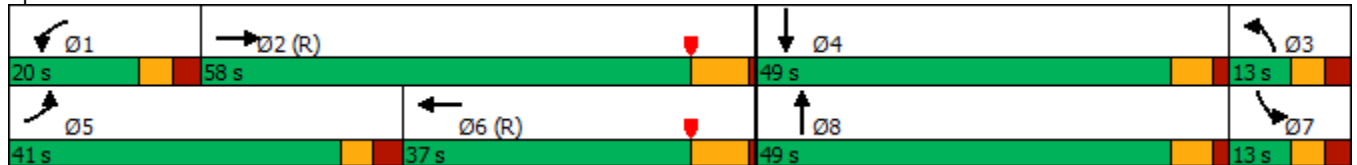
Timings  
2: Marksheffel Rd & US-24

| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |      |       |       |      |       |       |
| Traffic Volume (vph) | 785   | 1415  | 10    | 285   | 690   | 20    | 20   | 1620  | 320   | 25   | 1330  | 600   |
| Future Volume (vph)  | 785   | 1415  | 10    | 285   | 690   | 20    | 20   | 1620  | 320   | 25   | 1330  | 600   |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | Prot | NA    | Free  | Prot | NA    | Free  |
| Protected Phases     | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  |      |       | Free  |      |       | Free  |
| Detector Phase       | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Switch Phase         |       |       |       |       |       |       |      |       |       |      |       |       |
| Minimum Initial (s)  | 6.0   | 20.0  |       | 6.0   | 20.0  |       | 4.0  | 6.0   |       | 5.0  | 6.0   |       |
| Minimum Split (s)    | 12.5  | 27.5  |       | 12.5  | 27.5  |       | 10.5 | 12.5  |       | 11.5 | 12.0  |       |
| Total Split (s)      | 41.0  | 58.0  |       | 20.0  | 37.0  |       | 13.0 | 49.0  |       | 13.0 | 49.0  |       |
| Total Split (%)      | 29.3% | 41.4% |       | 14.3% | 26.4% |       | 9.3% | 35.0% |       | 9.3% | 35.0% |       |
| Yellow Time (s)      | 3.5   | 6.0   |       | 3.5   | 6.0   |       | 3.5  | 4.5   |       | 3.5  | 4.5   |       |
| All-Red Time (s)     | 3.0   | 1.0   |       | 3.0   | 1.0   |       | 3.0  | 1.5   |       | 3.0  | 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)  | 6.5   | 7.0   |       | 6.5   | 7.0   |       | 6.5  | 6.0   |       | 6.5  | 6.0   |       |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lag  | Lead  |       | Lag  | Lead  |       |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes  | Yes   |       | Yes  | Yes   |       |
| Recall Mode          | None  | C-Max |       | None  | C-Max |       | None | None  |       | None | None  |       |
| Act Effect Green (s) | 35.8  | 55.9  | 140.0 | 13.8  | 33.9  | 140.0 | 5.8  | 43.0  | 140.0 | 6.0  | 43.0  | 140.0 |
| Actuated g/C Ratio   | 0.26  | 0.40  | 1.00  | 0.10  | 0.24  | 1.00  | 0.04 | 0.31  | 1.00  | 0.04 | 0.31  | 1.00  |
| v/c Ratio            | 0.91  | 1.02  | 0.01  | 0.87  | 0.83  | 0.01  | 0.27 | 1.52  | 0.21  | 0.35 | 1.26  | 0.39  |
| Control Delay        | 53.1  | 90.5  | 0.0   | 87.2  | 60.5  | 0.0   | 83.8 | 281.3 | 0.2   | 77.8 | 165.4 | 0.7   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0   | 0.0   | 0.0  | 0.0   | 0.0   |
| Total Delay          | 53.1  | 90.5  | 0.0   | 87.2  | 60.5  | 0.0   | 83.8 | 281.3 | 0.2   | 77.8 | 165.4 | 0.7   |
| LOS                  | D     | F     | A     | F     | E     | A     | F    | F     | A     | E    | F     | A     |
| Approach Delay       |       | 76.8  |       |       | 66.9  |       |      | 233.4 |       |      | 113.8 |       |
| Approach LOS         |       | E     |       |       | E     |       |      | F     |       |      | F     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 68 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.52  
 Intersection Signal Delay: 128.7  
 Intersection LOS: F  
 Intersection Capacity Utilization 108.3%  
 ICU Level of Service G  
 Analysis Period (min) 15

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



# HCM 6th Signalized Intersection Summary

2040 Background PM.syn

## 2: Marksheffel Rd & US-24

11/10/2023



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT   | NBR  | SBL  | SBT   | SBR  |
|------------------------------|------|------|------|------|------|------|------|-------|------|------|-------|------|
| Lane Configurations          | ↖↗   | ↖↖   | ↗    | ↖↗   | ↖↖   | ↗    | ↖    | ↖↖    | ↗    | ↖    | ↖↖    | ↗    |
| Traffic Volume (veh/h)       | 785  | 1415 | 10   | 285  | 690  | 20   | 20   | 1620  | 320  | 25   | 1330  | 600  |
| Future Volume (veh/h)        | 785  | 1415 | 10   | 285  | 690  | 20   | 20   | 1620  | 320  | 25   | 1330  | 600  |
| 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 | 1870 | 1870  | 1870 | 1856 | 1856  | 1856 |
| Adj Flow Rate, veh/h         | 801  | 1444 | 0    | 291  | 704  | 0    | 20   | 1653  | 0    | 26   | 1357  | 0    |
| Peak Hour Factor             | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98  | 0.98 | 0.98 | 0.98  | 0.98 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 3    | 3    | 3    | 2    | 2     | 2    | 3    | 3     | 3    |
| Cap, veh/h                   | 846  | 1379 |      | 331  | 845  |      | 40   | 1091  |      | 40   | 1083  |      |
| Arrive On Green              | 0.24 | 0.39 | 0.00 | 0.10 | 0.24 | 0.00 | 0.02 | 0.31  | 0.00 | 0.02 | 0.31  | 0.00 |
| Sat Flow, veh/h              | 3456 | 3554 | 1585 | 3428 | 3526 | 1572 | 1781 | 3554  | 1585 | 1767 | 3526  | 1572 |
| Grp Volume(v), veh/h         | 801  | 1444 | 0    | 291  | 704  | 0    | 20   | 1653  | 0    | 26   | 1357  | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1728 | 1777 | 1585 | 1714 | 1763 | 1572 | 1781 | 1777  | 1585 | 1767 | 1763  | 1572 |
| Q Serve(g_s), s              | 31.9 | 54.3 | 0.0  | 11.7 | 26.6 | 0.0  | 1.6  | 43.0  | 0.0  | 2.0  | 43.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 31.9 | 54.3 | 0.0  | 11.7 | 26.6 | 0.0  | 1.6  | 43.0  | 0.0  | 2.0  | 43.0  | 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       | 846  | 1379 |      | 331  | 845  |      | 40   | 1091  |      | 40   | 1083  |      |
| V/C Ratio(X)                 | 0.95 | 1.05 |      | 0.88 | 0.83 |      | 0.49 | 1.51  |      | 0.65 | 1.25  |      |
| Avail Cap(c_a), veh/h        | 852  | 1379 |      | 331  | 845  |      | 83   | 1091  |      | 82   | 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 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00  | 0.00 | 0.62 | 0.62  | 0.00 |
| Uniform Delay (d), s/veh     | 52.0 | 42.8 | 0.0  | 62.5 | 50.6 | 0.0  | 67.6 | 48.5  | 0.0  | 67.9 | 48.5  | 0.0  |
| Incr Delay (d2), s/veh       | 19.6 | 37.6 | 0.0  | 22.1 | 9.5  | 0.0  | 3.4  | 236.3 | 0.0  | 4.0  | 118.8 | 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     | 16.1 | 30.8 | 0.0  | 6.1  | 12.8 | 0.0  | 0.7  | 54.7  | 0.0  | 1.0  | 36.7  | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |       |      |      |       |      |
| LnGrp Delay(d),s/veh         | 71.5 | 80.5 | 0.0  | 84.6 | 60.0 | 0.0  | 71.0 | 284.8 | 0.0  | 71.9 | 167.3 | 0.0  |
| LnGrp LOS                    | E    | F    |      | F    | E    |      | E    | F     |      | E    | F     |      |
| Approach Vol, veh/h          |      | 2245 |      |      | 995  |      |      | 1673  |      |      | 1383  |      |
| Approach Delay, s/veh        |      | 77.3 |      |      | 67.2 |      |      | 282.2 |      |      | 165.5 |      |
| Approach LOS                 |      | E    |      |      | E    |      |      | F     |      |      | F     |      |
| Timer - Assigned Phs         | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8     |      |      |       |      |
| Phs Duration (G+Y+Rc), s     | 20.0 | 61.3 | 9.7  | 49.0 | 40.8 | 40.6 | 9.7  | 49.0  |      |      |       |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0  | 6.5  | 6.0  | 6.5  | 7.0  | 6.5  | 6.0   |      |      |       |      |
| Max Green Setting (Gmax), s  | 13.5 | 51.0 | 6.5  | 43.0 | 34.5 | 30.0 | 6.5  | 43.0  |      |      |       |      |
| Max Q Clear Time (g_c+I1), s | 13.7 | 56.3 | 3.6  | 45.0 | 33.9 | 28.6 | 4.0  | 45.0  |      |      |       |      |
| Green Ext Time (p_c), s      | 0.0  | 0.0  | 0.0  | 0.0  | 0.4  | 0.5  | 0.0  | 0.0   |      |      |       |      |

### Intersection Summary

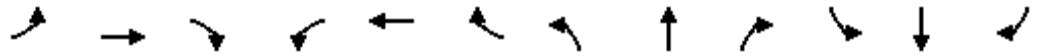
|                    |       |
|--------------------|-------|
| HCM 6th Ctrl Delay | 149.5 |
| HCM 6th LOS        | F     |

### Notes

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

Timings

2: Marksheffel Rd & US-24

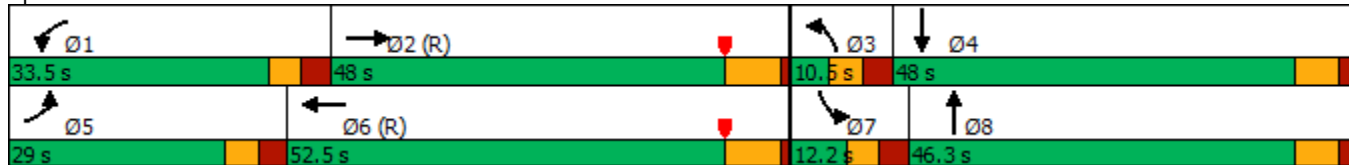


| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations  | ↖↗    | ↑↑↑   | ↗     | ↖↗    | ↑↑↑   | ↗     | ↖    | ↑↑↑   | ↗     | ↖    | ↑↑↑   | ↗     |
| Traffic Volume (vph) | 425   | 645   | 140   | 435   | 1425  | 25    | 5    | 1100  | 160   | 15   | 1330  | 890   |
| Future Volume (vph)  | 425   | 645   | 140   | 435   | 1425  | 25    | 5    | 1100  | 160   | 15   | 1330  | 890   |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | Prot | NA    | Free  | Prot | NA    | Free  |
| Protected Phases     | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  |      |       | Free  |      |       | Free  |
| Detector Phase       | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Switch Phase         |       |       |       |       |       |       |      |       |       |      |       |       |
| Minimum Initial (s)  | 6.0   | 20.0  |       | 6.0   | 20.0  |       | 4.0  | 6.0   |       | 5.0  | 6.0   |       |
| Minimum Split (s)    | 12.5  | 27.0  |       | 12.5  | 27.0  |       | 10.5 | 12.0  |       | 11.5 | 12.0  |       |
| Total Split (s)      | 29.0  | 48.0  |       | 33.5  | 52.5  |       | 10.5 | 46.3  |       | 12.2 | 48.0  |       |
| Total Split (%)      | 20.7% | 34.3% |       | 23.9% | 37.5% |       | 7.5% | 33.1% |       | 8.7% | 34.3% |       |
| Yellow Time (s)      | 3.5   | 6.0   |       | 3.5   | 6.0   |       | 3.5  | 4.5   |       | 3.5  | 4.5   |       |
| All-Red Time (s)     | 3.0   | 1.0   |       | 3.0   | 1.0   |       | 3.0  | 1.5   |       | 3.0  | 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)  | 6.5   | 7.0   |       | 6.5   | 7.0   |       | 6.5  | 6.0   |       | 6.5  | 6.0   |       |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lead | Lag   |       | Lead | Lag   |       |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes  | Yes   |       | Yes  | Yes   |       |
| Recall Mode          | None  | C-Max |       | None  | C-Max |       | None | None  |       | None | None  |       |
| Act Effect Green (s) | 23.6  | 49.7  | 140.0 | 22.8  | 48.8  | 140.0 | 4.0  | 43.2  | 140.0 | 5.4  | 46.0  | 140.0 |
| Actuated g/C Ratio   | 0.17  | 0.36  | 1.00  | 0.16  | 0.35  | 1.00  | 0.03 | 0.31  | 1.00  | 0.04 | 0.33  | 1.00  |
| v/c Ratio            | 0.83  | 0.41  | 0.10  | 0.83  | 0.85  | 0.02  | 0.10 | 0.74  | 0.11  | 0.25 | 0.86  | 0.61  |
| Control Delay        | 91.8  | 26.4  | 0.1   | 69.9  | 48.7  | 0.0   | 56.8 | 49.8  | 0.1   | 74.3 | 50.4  | 1.8   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0   | 0.0   | 0.0  | 0.0   | 0.0   |
| Total Delay          | 91.8  | 26.4  | 0.1   | 69.9  | 48.7  | 0.0   | 56.8 | 49.8  | 0.1   | 74.3 | 50.4  | 1.8   |
| LOS                  | F     | C     | A     | E     | D     | A     | E    | D     | A     | E    | D     | A     |
| Approach Delay       |       | 46.3  |       |       | 52.9  |       |      | 43.6  |       |      | 31.2  |       |
| Approach LOS         |       | D     |       |       | D     |       |      | D     |       |      | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 110 (79%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.86  
 Intersection Signal Delay: 42.6  
 Intersection LOS: D  
 Intersection Capacity Utilization 81.6%  
 ICU Level of Service D  
 Analysis Period (min) 15

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



# HCM 6th Signalized Intersection Summary

2040 Total AM.syn

11/10/2023

## 2: Marksheffel Rd & US-24



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↔↔   | ↑↑↑  | ↔    | ↔↔   | ↑↑↑  | ↔    | ↔    | ↑↑↑  | ↔    | ↔    | ↑↑↑  | ↔    |
| Traffic Volume (veh/h)       | 425  | 645  | 140  | 435  | 1425 | 25   | 5    | 1100 | 160  | 15   | 1330 | 890  |
| Future Volume (veh/h)        | 425  | 645  | 140  | 435  | 1425 | 25   | 5    | 1100 | 160  | 15   | 1330 | 890  |
| 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       | 1737 | 1737 | 1737 | 1841 | 1841 | 1841 | 1856 | 1856 | 1856 | 1811 | 1811 | 1811 |
| Adj Flow Rate, veh/h         | 443  | 672  | 0    | 453  | 1484 | 0    | 5    | 1146 | 0    | 16   | 1385 | 0    |
| Peak Hour Factor             | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 | 0.96 |
| Percent Heavy Veh, %         | 11   | 11   | 11   | 4    | 4    | 4    | 3    | 3    | 3    | 6    | 6    | 6    |
| Cap, veh/h                   | 493  | 1725 |      | 507  | 1806 |      | 9    | 1443 |      | 29   | 1465 |      |
| Arrive On Green              | 0.15 | 0.36 | 0.00 | 0.15 | 0.36 | 0.00 | 0.00 | 0.09 | 0.00 | 0.02 | 0.30 | 0.00 |
| Sat Flow, veh/h              | 3209 | 4742 | 1472 | 3401 | 5025 | 1560 | 1767 | 5066 | 1572 | 1725 | 4944 | 1535 |
| Grp Volume(v), veh/h         | 443  | 672  | 0    | 453  | 1484 | 0    | 5    | 1146 | 0    | 16   | 1385 | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1605 | 1581 | 1472 | 1700 | 1675 | 1560 | 1767 | 1689 | 1572 | 1725 | 1648 | 1535 |
| Q Serve(g_s), s              | 19.0 | 14.7 | 0.0  | 18.3 | 37.6 | 0.0  | 0.4  | 31.0 | 0.0  | 1.3  | 38.3 | 0.0  |
| Cycle Q Clear(g_c), s        | 19.0 | 14.7 | 0.0  | 18.3 | 37.6 | 0.0  | 0.4  | 31.0 | 0.0  | 1.3  | 38.3 | 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       | 493  | 1725 |      | 507  | 1806 |      | 9    | 1443 |      | 29   | 1465 |      |
| V/C Ratio(X)                 | 0.90 | 0.39 |      | 0.89 | 0.82 |      | 0.56 | 0.79 |      | 0.56 | 0.95 |      |
| Avail Cap(c_a), veh/h        | 516  | 1725 |      | 656  | 1806 |      | 50   | 1458 |      | 70   | 1483 |      |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l)           | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.95 | 0.95 | 0.00 | 0.41 | 0.41 | 0.00 |
| Uniform Delay (d), s/veh     | 58.2 | 33.0 | 0.0  | 58.5 | 40.8 | 0.0  | 69.7 | 59.4 | 0.0  | 68.3 | 48.2 | 0.0  |
| Incr Delay (d2), s/veh       | 19.4 | 0.7  | 0.0  | 10.5 | 4.4  | 0.0  | 18.0 | 2.7  | 0.0  | 2.6  | 6.1  | 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     | 9.0  | 5.8  | 0.0  | 8.6  | 16.2 | 0.0  | 0.2  | 14.5 | 0.0  | 0.6  | 16.5 | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 77.6 | 33.7 | 0.0  | 68.9 | 45.1 | 0.0  | 87.7 | 62.1 | 0.0  | 71.0 | 54.3 | 0.0  |
| LnGrp LOS                    | E    | C    |      | E    | D    |      | F    | E    |      | E    | D    |      |
| Approach Vol, veh/h          |      | 1115 |      |      | 1937 |      |      | 1151 |      |      | 1401 |      |
| Approach Delay, s/veh        |      | 51.1 |      |      | 50.7 |      |      | 62.2 |      |      | 54.5 |      |
| Approach LOS                 |      | D    |      |      | D    |      |      | E    |      |      | D    |      |
| Timer - Assigned Phs         | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 27.4 | 57.9 | 7.2  | 47.5 | 28.0 | 57.3 | 8.8  | 45.9 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0  | 6.5  | 6.0  | 6.5  | 7.0  | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 27.0 | 41.0 | 4.0  | 42.0 | 22.5 | 45.5 | 5.7  | 40.3 |      |      |      |      |
| Max Q Clear Time (g_c+l1), s | 20.3 | 16.7 | 2.4  | 40.3 | 21.0 | 39.6 | 3.3  | 33.0 |      |      |      |      |
| Green Ext Time (p_c), s      | 0.6  | 3.3  | 0.0  | 1.1  | 0.5  | 3.7  | 0.0  | 3.4  |      |      |      |      |

### Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 54.1 |
| HCM 6th LOS        | D    |

### Notes

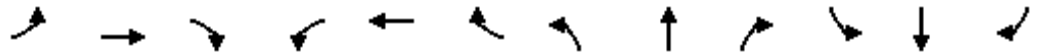
Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Timings

2040 Total PM.syn

2: Marksheffel Rd & US-24

11/10/2023

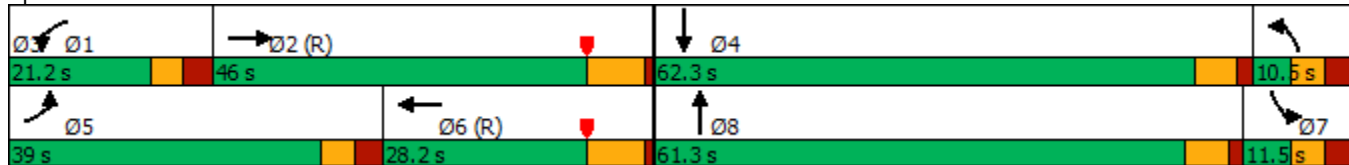


| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL  | NBT   | NBR   | SBL  | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|------|-------|-------|------|-------|-------|
| Lane Configurations  | ↔↔    | ↑↑↑   | ↗     | ↔↔    | ↑↑↑   | ↗     | ↖    | ↑↑↑   | ↗     | ↖    | ↑↑↑   | ↗     |
| Traffic Volume (vph) | 785   | 1415  | 205   | 325   | 690   | 20    | 20   | 1765  | 345   | 25   | 1560  | 600   |
| Future Volume (vph)  | 785   | 1415  | 205   | 325   | 690   | 20    | 20   | 1765  | 345   | 25   | 1560  | 600   |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | Prot | NA    | Free  | Prot | NA    | Free  |
| Protected Phases     | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  |      |       | Free  |      |       | Free  |
| Detector Phase       | 5     | 2     |       | 1     | 6     |       | 3    | 8     |       | 7    | 4     |       |
| Switch Phase         |       |       |       |       |       |       |      |       |       |      |       |       |
| Minimum Initial (s)  | 6.0   | 20.0  |       | 6.0   | 20.0  |       | 4.0  | 6.0   |       | 5.0  | 6.0   |       |
| Minimum Split (s)    | 12.5  | 27.5  |       | 12.5  | 27.5  |       | 10.5 | 12.5  |       | 11.5 | 12.0  |       |
| Total Split (s)      | 39.0  | 46.0  |       | 21.2  | 28.2  |       | 10.5 | 61.3  |       | 11.5 | 62.3  |       |
| Total Split (%)      | 27.9% | 32.9% |       | 15.1% | 20.1% |       | 7.5% | 43.8% |       | 8.2% | 44.5% |       |
| Yellow Time (s)      | 3.5   | 6.0   |       | 3.5   | 6.0   |       | 3.5  | 4.5   |       | 3.5  | 4.5   |       |
| All-Red Time (s)     | 3.0   | 1.0   |       | 3.0   | 1.0   |       | 3.0  | 1.5   |       | 3.0  | 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)  | 6.5   | 7.0   |       | 6.5   | 7.0   |       | 6.5  | 6.0   |       | 6.5  | 6.0   |       |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lag  | Lead  |       | Lag  | Lead  |       |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes  | Yes   |       | Yes  | Yes   |       |
| Recall Mode          | None  | C-Max |       | None  | C-Max |       | None | None  |       | None | None  |       |
| Act Effct Green (s)  | 36.3  | 43.6  | 140.0 | 15.4  | 22.6  | 140.0 | 4.8  | 54.6  | 140.0 | 5.0  | 54.8  | 140.0 |
| Actuated g/C Ratio   | 0.26  | 0.31  | 1.00  | 0.11  | 0.16  | 1.00  | 0.03 | 0.39  | 1.00  | 0.04 | 0.39  | 1.00  |
| v/c Ratio            | 0.90  | 0.91  | 0.13  | 0.89  | 0.87  | 0.01  | 0.33 | 0.91  | 0.22  | 0.42 | 0.81  | 0.39  |
| Control Delay        | 58.2  | 77.1  | 0.1   | 86.7  | 69.4  | 0.0   | 74.2 | 43.8  | 0.3   | 86.2 | 41.7  | 0.7   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0  | 0.0   | 0.0   | 0.0  | 0.0   | 0.0   |
| Total Delay          | 58.2  | 77.1  | 0.1   | 86.7  | 69.4  | 0.0   | 74.2 | 43.8  | 0.3   | 86.2 | 41.7  | 0.7   |
| LOS                  | E     | E     | A     | F     | E     | A     | E    | D     | A     | F    | D     | A     |
| Approach Delay       |       | 64.4  |       |       | 73.5  |       |      | 37.0  |       |      | 31.0  |       |
| Approach LOS         |       | E     |       |       | E     |       |      | D     |       |      | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 68 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Yellow  
 Natural Cycle: 120  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 48.7  
 Intersection LOS: D  
 Intersection Capacity Utilization 89.4%  
 ICU Level of Service E  
 Analysis Period (min) 15

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



HCM 6th Signalized Intersection Summary  
 2: Marksheffel Rd & US-24

2040 Total PM.syn  
 11/10/2023



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↔↔   | ↑↑↑  | ↗    | ↔↔   | ↑↑↑  | ↗    | ↖    | ↑↑↑  | ↗    | ↖    | ↑↑↑  | ↗    |
| Traffic Volume (veh/h)       | 785  | 1415 | 205  | 325  | 690  | 20   | 20   | 1765 | 345  | 25   | 1560 | 600  |
| Future Volume (veh/h)        | 785  | 1415 | 205  | 325  | 690  | 20   | 20   | 1765 | 345  | 25   | 1560 | 600  |
| 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 | 1870 | 1870 | 1870 | 1856 | 1856 | 1856 |
| Adj Flow Rate, veh/h         | 801  | 1444 | 0    | 332  | 704  | 0    | 20   | 1801 | 0    | 26   | 1592 | 0    |
| Peak Hour Factor             | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 3    | 3    | 3    | 2    | 2    | 2    | 3    | 3    | 3    |
| Cap, veh/h                   | 802  | 1569 |      | 360  | 913  |      | 78   | 1937 |      | 40   | 1813 |      |
| Arrive On Green              | 0.23 | 0.31 | 0.00 | 0.11 | 0.18 | 0.00 | 0.06 | 0.50 | 0.00 | 0.02 | 0.36 | 0.00 |
| Sat Flow, veh/h              | 3456 | 5106 | 1585 | 3428 | 5066 | 1572 | 1781 | 5106 | 1585 | 1767 | 5066 | 1572 |
| Grp Volume(v), veh/h         | 801  | 1444 | 0    | 332  | 704  | 0    | 20   | 1801 | 0    | 26   | 1592 | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1728 | 1702 | 1585 | 1714 | 1689 | 1572 | 1781 | 1702 | 1585 | 1767 | 1689 | 1572 |
| Q Serve(g_s), s              | 32.4 | 38.2 | 0.0  | 13.4 | 18.5 | 0.0  | 1.5  | 46.1 | 0.0  | 2.0  | 41.2 | 0.0  |
| Cycle Q Clear(g_c), s        | 32.4 | 38.2 | 0.0  | 13.4 | 18.5 | 0.0  | 1.5  | 46.1 | 0.0  | 2.0  | 41.2 | 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       | 802  | 1569 |      | 360  | 913  |      | 78   | 1937 |      | 40   | 1813 |      |
| V/C Ratio(X)                 | 1.00 | 0.92 |      | 0.92 | 0.77 |      | 0.26 | 0.93 |      | 0.65 | 0.88 |      |
| Avail Cap(c_a), veh/h        | 802  | 1569 |      | 360  | 913  |      | 78   | 2017 |      | 63   | 2037 |      |
| HCM Platoon Ratio            | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.33 | 1.33 | 1.33 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 | 0.84 | 0.84 | 0.00 | 0.47 | 0.47 | 0.00 |
| Uniform Delay (d), s/veh     | 53.7 | 46.8 | 0.0  | 62.1 | 54.6 | 0.0  | 63.7 | 33.0 | 0.0  | 67.9 | 42.1 | 0.0  |
| Incr Delay (d2), s/veh       | 31.4 | 10.3 | 0.0  | 28.2 | 6.3  | 0.0  | 0.5  | 6.8  | 0.0  | 3.0  | 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     | 17.5 | 17.6 | 0.0  | 7.3  | 8.4  | 0.0  | 0.7  | 18.7 | 0.0  | 1.0  | 17.4 | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 85.1 | 57.1 | 0.0  | 90.3 | 60.9 | 0.0  | 64.2 | 39.8 | 0.0  | 70.9 | 44.0 | 0.0  |
| LnGrp LOS                    | F    | E    |      | F    | E    |      | E    | D    |      | E    | D    |      |
| Approach Vol, veh/h          |      | 2245 |      |      | 1036 |      |      | 1821 |      |      | 1618 |      |
| Approach Delay, s/veh        |      | 67.1 |      |      | 70.3 |      |      | 40.1 |      |      | 44.4 |      |
| Approach LOS                 |      | E    |      |      | E    |      |      | D    |      |      | D    |      |
| Timer - Assigned Phs         | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 21.2 | 50.0 | 12.7 | 56.1 | 39.0 | 32.2 | 9.7  | 59.1 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0  | 6.5  | 6.0  | 6.5  | 7.0  | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 14.7 | 39.0 | 4.0  | 56.3 | 32.5 | 21.2 | 5.0  | 55.3 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 15.4 | 40.2 | 3.5  | 43.2 | 34.4 | 20.5 | 4.0  | 48.1 |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 0.0  | 0.0  | 6.9  | 0.0  | 0.3  | 0.0  | 5.0  |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 54.8 |
| HCM 6th LOS        | D    |

Notes

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

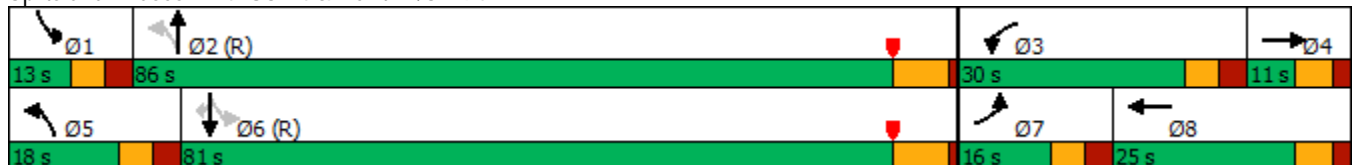
Timings  
4: US-24 & Newt Dr/SH-94

| Lane Group           | EBL   | EBT  | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |      |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph) | 16    | 28   | 196   | 440   | 39    | 1     | 144   | 798   | 379   | 4     | 1735  | 36    |
| Future Volume (vph)  | 16    | 28   | 196   | 440   | 39    | 1     | 144   | 798   | 379   | 4     | 1735  | 36    |
| Turn Type            | Prot  | NA   | Free  | Prot  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4    |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |      | Free  |       |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4    |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |      |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0  |       | 5.0   | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0 |       | 11.5  | 24.0  |       | 12.5  | 29.0  |       | 12.5  | 29.0  | 29.0  |
| Total Split (s)      | 16.0  | 11.0 |       | 30.0  | 25.0  |       | 18.0  | 86.0  |       | 13.0  | 81.0  | 81.0  |
| Total Split (%)      | 11.4% | 7.9% |       | 21.4% | 17.9% |       | 12.9% | 61.4% |       | 9.3%  | 57.9% | 57.9% |
| Yellow Time (s)      | 3.5   | 4.0  |       | 3.5   | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0  |       | 3.0   | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0  |       | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0  |       | 6.5   | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  | Lag  |       | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   | Yes  |       | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None |       | None  | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 6.2   | 5.0  | 140.0 | 22.2  | 23.9  | 140.0 | 98.0  | 95.2  | 140.0 | 87.0  | 80.5  | 80.5  |
| Actuated g/C Ratio   | 0.04  | 0.04 | 1.00  | 0.16  | 0.17  | 1.00  | 0.70  | 0.68  | 1.00  | 0.62  | 0.58  | 0.58  |
| v/c Ratio            | 0.11  | 0.45 | 0.13  | 0.85  | 0.07  | 0.00  | 0.84  | 0.37  | 0.27  | 0.01  | 0.91  | 0.04  |
| Control Delay        | 65.4  | 88.2 | 0.2   | 73.1  | 39.1  | 0.0   | 68.5  | 11.5  | 0.4   | 7.5   | 48.8  | 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          | 65.4  | 88.2 | 0.2   | 73.1  | 39.1  | 0.0   | 68.5  | 11.5  | 0.4   | 7.5   | 48.8  | 0.1   |
| LOS                  | E     | F    | A     | E     | D     | A     | E     | B     | A     | A     | D     | A     |
| Approach Delay       |       | 14.7 |       |       | 70.2  |       |       | 14.5  |       |       | 47.7  |       |
| Approach LOS         |       | B    |       |       | E     |       |       | B     |       |       | D     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.91  
 Intersection Signal Delay: 37.0  
 Intersection LOS: D  
 Intersection Capacity Utilization 91.4%  
 ICU Level of Service F  
 Analysis Period (min) 15

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





# HCM 6th Signalized Intersection Summary

2020 Adjusted Existing AM.syn

## 4: US-24 & Newt Dr/SH-94

11/09/2023



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↖↗   | ↑    | ↖    | ↖↗   | ↑↑   | ↖    | ↖    | ↑↑   | ↖    | ↖    | ↑↑   | ↖    |
| Traffic Volume (veh/h)       | 16   | 28   | 196  | 440  | 39   | 1    | 144  | 798  | 379  | 4    | 1735 | 36   |
| Future Volume (veh/h)        | 16   | 28   | 196  | 440  | 39   | 1    | 144  | 798  | 379  | 4    | 1735 | 36   |
| Initial Q (Qb), veh          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No   |      |      | No   |      |      | No   |      |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 1826 | 1826 | 1826 | 1841 | 1841 | 1841 | 1752 | 1752 | 1752 | 1811 | 1811 | 1811 |
| Adj Flow Rate, veh/h         | 16   | 29   | 0    | 454  | 40   | 0    | 148  | 823  | 0    | 4    | 1789 | 0    |
| Peak Hour Factor             | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, %         | 5    | 5    | 5    | 4    | 4    | 4    | 10   | 10   | 10   | 6    | 6    | 6    |
| Cap, veh/h                   | 45   | 63   |      | 508  | 596  |      | 171  | 2078 |      | 385  | 1983 |      |
| Arrive On Green              | 0.01 | 0.03 | 0.00 | 0.15 | 0.17 | 0.00 | 0.05 | 0.62 | 0.00 | 0.01 | 0.58 | 0.00 |
| Sat Flow, veh/h              | 3374 | 1826 | 1547 | 3401 | 3497 | 1560 | 1668 | 3328 | 1485 | 1725 | 3441 | 1535 |
| Grp Volume(v), veh/h         | 16   | 29   | 0    | 454  | 40   | 0    | 148  | 823  | 0    | 4    | 1789 | 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              | 0.7  | 2.2  | 0.0  | 18.3 | 1.3  | 0.0  | 5.5  | 17.3 | 0.0  | 0.1  | 64.2 | 0.0  |
| Cycle Q Clear(g_c), s        | 0.7  | 2.2  | 0.0  | 18.3 | 1.3  | 0.0  | 5.5  | 17.3 | 0.0  | 0.1  | 64.2 | 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       | 45   | 63   |      | 508  | 596  |      | 171  | 2078 |      | 385  | 1983 |      |
| V/C Ratio(X)                 | 0.36 | 0.46 |      | 0.89 | 0.07 |      | 0.87 | 0.40 |      | 0.01 | 0.90 |      |
| Avail Cap(c_a), veh/h        | 229  | 65   |      | 571  | 596  |      | 218  | 2078 |      | 454  | 1983 |      |
| 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(l)           | 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     | 68.5 | 66.3 | 0.0  | 58.5 | 48.7 | 0.0  | 35.0 | 13.1 | 0.0  | 12.6 | 26.2 | 0.0  |
| Incr Delay (d2), s/veh       | 4.8  | 5.2  | 0.0  | 11.3 | 0.0  | 0.0  | 24.2 | 0.6  | 0.0  | 0.0  | 7.2  | 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     | 0.3  | 1.1  | 0.0  | 8.7  | 0.6  | 0.0  | 4.1  | 6.6  | 0.0  | 0.1  | 27.3 | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 73.3 | 71.5 | 0.0  | 69.7 | 48.7 | 0.0  | 59.3 | 13.7 | 0.0  | 12.6 | 33.3 | 0.0  |
| LnGrp LOS                    | E    | E    |      | E    | D    |      | E    | B    |      | B    | C    |      |
| Approach Vol, veh/h          |      | 45   |      |      | 494  |      |      | 971  |      |      | 1793 |      |
| Approach Delay, s/veh        |      | 72.1 |      |      | 68.0 |      |      | 20.6 |      |      | 33.3 |      |
| Approach LOS                 |      | E    |      |      | E    |      |      | C    |      |      | C    |      |
| Timer - Assigned Phs         | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 7.4  | 94.4 | 27.4 | 10.8 | 14.1 | 87.7 | 8.4  | 29.9 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0  | 6.5  | 6.0  | 6.5  | 7.0  | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 6.5  | 79.0 | 23.5 | 5.0  | 11.5 | 74.0 | 9.5  | 19.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.1  | 19.3 | 20.3 | 4.2  | 7.5  | 66.2 | 2.7  | 3.3  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 7.3  | 0.6  | 0.0  | 0.1  | 6.4  | 0.0  | 0.1  |      |      |      |      |

### Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 35.3 |
| HCM 6th LOS        | D    |

### Notes

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

Timings  
4: US-24 & Newt Dr/SH-94

2020 Adjusted Existing PM.syn

11/09/2023

| Lane Group           | EBL   | EBT  | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |      |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph) | 28    | 39   | 238   | 350   | 23    | 7     | 158   | 1688  | 320   | 4     | 933   | 36    |
| Future Volume (vph)  | 28    | 39   | 238   | 350   | 23    | 7     | 158   | 1688  | 320   | 4     | 933   | 36    |
| Turn Type            | Prot  | NA   | Free  | Prot  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4    |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |      | Free  |       |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4    |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |      |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0  |       | 5.0   | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0 |       | 11.5  | 11.0  |       | 13.0  | 30.0  |       | 13.0  | 30.0  | 30.0  |
| Total Split (s)      | 20.0  | 13.0 |       | 30.0  | 23.0  |       | 20.0  | 84.0  |       | 13.0  | 77.0  | 77.0  |
| Total Split (%)      | 14.3% | 9.3% |       | 21.4% | 16.4% |       | 14.3% | 60.0% |       | 9.3%  | 55.0% | 55.0% |
| Yellow Time (s)      | 3.5   | 4.0  |       | 3.5   | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0  |       | 3.0   | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0  |       | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0  |       | 6.5   | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  | Lag  |       | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   | Yes  |       | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None |       | None  | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 5.7   | 7.4  | 140.0 | 19.3  | 23.2  | 140.0 | 96.6  | 93.6  | 140.0 | 86.7  | 80.2  | 80.2  |
| Actuated g/C Ratio   | 0.04  | 0.05 | 1.00  | 0.14  | 0.17  | 1.00  | 0.69  | 0.67  | 1.00  | 0.62  | 0.57  | 0.57  |
| v/c Ratio            | 0.21  | 0.41 | 0.16  | 0.79  | 0.04  | 0.00  | 0.47  | 0.76  | 0.21  | 0.03  | 0.50  | 0.04  |
| Control Delay        | 68.1  | 76.8 | 0.2   | 61.6  | 42.0  | 0.0   | 13.1  | 20.6  | 0.3   | 5.0   | 9.4   | 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          | 68.1  | 76.8 | 0.2   | 61.6  | 42.0  | 0.0   | 13.1  | 20.6  | 0.3   | 5.0   | 9.4   | 0.1   |
| LOS                  | E     | E    | A     | E     | D     | A     | B     | C     | A     | A     | A     | A     |
| Approach Delay       |       | 16.1 |       |       | 59.3  |       |       | 17.1  |       |       | 9.1   |       |
| Approach LOS         |       | B    |       |       | E     |       |       | B     |       |       | A     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.79  
 Intersection Signal Delay: 19.1  
 Intersection LOS: B  
 Intersection Capacity Utilization 84.6%  
 ICU Level of Service E  
 Analysis Period (min) 15

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



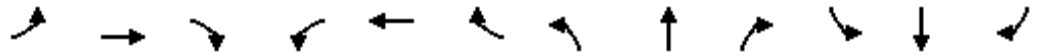
HCM 6th Signalized Intersection Summary  
4: US-24 & Newt Dr/SH-94

2020 Adjusted Existing PM.syn  
11/09/2023



| Movement  | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|---|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations   | ↖↗   | ↑    | ↖    | ↖↗   | ↑↑   | ↖    | ↖    | ↑↑   | ↖    | ↖    | ↑↑   | ↖    |
| Traffic Volume (veh/h)  | 28   | 39   | 238  | 350  | 23   | 7    | 158  | 1688 | 320  | 4    | 933  | 36   |
| Future Volume (veh/h)   | 28   | 39   | 238  | 350  | 23   | 7    | 158  | 1688 | 320  | 4    | 933  | 36   |
| Initial Q (Qb), veh   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)   | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach   |      | No   |      |      | No   |      |      | No   |      |      | No   |      |
| Adj Sat Flow, veh/h/ln  | 1870 | 1870 | 1870 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h  | 29   | 41   | 0    | 368  | 24   | 0    | 166  | 1777 | 0    | 4    | 982  | 0    |
| Peak Hour Factor  | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %  | 2    | 2    | 2    | 3    | 3    | 3    | 3    | 3    | 3    | 5    | 5    | 5    |
| Cap, veh/h  | 67   | 66   |      | 421  | 489  |      | 396  | 2292 |      | 139  | 2105 |      |
| Arrive On Green   | 0.02 | 0.04 | 0.00 | 0.12 | 0.14 | 0.00 | 0.05 | 0.65 | 0.00 | 0.01 | 0.61 | 0.00 |
| Sat Flow, veh/h   | 3456 | 1870 | 1585 | 3428 | 3526 | 1572 | 1767 | 3526 | 1572 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h  | 29   | 41   | 0    | 368  | 24   | 0    | 166  | 1777 | 0    | 4    | 982  | 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   | 1.2  | 3.0  | 0.0  | 14.8 | 0.8  | 0.0  | 4.8  | 49.8 | 0.0  | 0.1  | 21.7 | 0.0  |
| Cycle Q Clear(g_c), s   | 1.2  | 3.0  | 0.0  | 14.8 | 0.8  | 0.0  | 4.8  | 49.8 | 0.0  | 0.1  | 21.7 | 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  | 67   | 66   |      | 421  | 489  |      | 396  | 2292 |      | 139  | 2105 |      |
| V/C Ratio(X)  | 0.43 | 0.62 |      | 0.87 | 0.05 |      | 0.42 | 0.78 |      | 0.03 | 0.47 |      |
| Avail Cap(c_a), veh/h   | 333  | 94   |      | 575  | 489  |      | 478  | 2292 |      | 209  | 2105 |      |
| 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 | 0.92 | 0.92 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh  | 67.9 | 66.6 | 0.0  | 60.3 | 52.3 | 0.0  | 11.3 | 17.3 | 0.0  | 17.4 | 15.1 | 0.0  |
| Incr Delay (d2), s/veh  | 1.7  | 9.3  | 0.0  | 8.0  | 0.0  | 0.0  | 0.3  | 2.6  | 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  | 1.6  | 0.0  | 6.9  | 0.4  | 0.0  | 1.9  | 20.0 | 0.0  | 0.0  | 8.7  | 0.0  |
| Unsig. Movement Delay, s/veh  |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh  | 69.5 | 76.0 | 0.0  | 68.3 | 52.3 | 0.0  | 11.5 | 19.9 | 0.0  | 17.5 | 15.8 | 0.0  |
| LnGrp LOS   | E    | E    |      | E    | D    |      | B    | B    |      | B    | B    |      |
| Approach Vol, veh/h   |      | 70   |      |      | 392  |      |      | 1943 |      |      | 986  |      |
| Approach Delay, s/veh   |      | 73.3 |      |      | 67.3 |      |      | 19.2 |      |      | 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  | 7.4  | 98.0 | 23.7 | 10.9 | 13.4 | 91.9 | 9.2  | 25.4 |      |      |      |      |
| Change Period (Y+Rc), s   | 6.5  | 7.0  | 6.5  | 6.0  | 6.5  | 7.0  | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s   | 6.5  | 77.0 | 23.5 | 7.0  | 13.5 | 70.0 | 13.5 | 17.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s  | 2.1  | 51.8 | 16.8 | 5.0  | 6.8  | 23.7 | 3.2  | 2.8  |      |      |      |      |
| Green Ext Time (p_c), s   | 0.0  | 11.9 | 0.4  | 0.0  | 0.1  | 5.6  | 0.0  | 0.0  |      |      |      |      |
| <b>Intersection Summary</b>   |      |      |      |      |      |      |      |      |      |      |      |      |
| HCM 6th Ctrl Delay  |      |      |      | 24.9 |      |      |      |      |      |      |      |      |
| HCM 6th LOS   |      |      |      | C    |      |      |      |      |      |      |      |      |
| <b>Notes</b>  |      |      |      |      |      |      |      |      |      |      |      |      |
| Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay. |      |      |      |      |      |      |      |      |      |      |      |      |

Timings  
4: US-24 & Newt Dr/SH-94



| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖↗    | ↑     | ↖     | ↖↗    | ↑↑    | ↖     | ↖     | ↑↑    | ↖     | ↖     | ↑↑    | ↖     |
| Traffic Volume (vph) | 45    | 90    | 495   | 580   | 95    | 5     | 425   | 860   | 485   | 5     | 1860  | 65    |
| Future Volume (vph)  | 45    | 90    | 495   | 580   | 95    | 5     | 425   | 860   | 485   | 5     | 1860  | 65    |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 11.5  | 24.0  |       | 12.5  | 29.0  |       | 12.5  | 29.0  | 29.0  |
| Total Split (s)      | 16.0  | 11.0  |       | 30.0  | 25.0  |       | 18.0  | 86.0  |       | 13.0  | 81.0  | 81.0  |
| Total Split (%)      | 11.4% | 7.9%  |       | 21.4% | 17.9% |       | 12.9% | 61.4% |       | 9.3%  | 57.9% | 57.9% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 3.5   | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 3.0   | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.5   | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 7.3   | 5.0   | 140.0 | 23.5  | 23.6  | 140.0 | 92.3  | 89.5  | 140.0 | 80.5  | 74.0  | 74.0  |
| Actuated g/C Ratio   | 0.05  | 0.04  | 1.00  | 0.17  | 0.17  | 1.00  | 0.66  | 0.64  | 1.00  | 0.58  | 0.53  | 0.53  |
| v/c Ratio            | 0.26  | 1.45  | 0.33  | 1.06  | 0.17  | 0.00  | 2.37  | 0.42  | 0.34  | 0.01  | 1.07  | 0.08  |
| Control Delay        | 67.0  | 316.0 | 0.6   | 119.0 | 55.4  | 0.0   | 653.3 | 13.8  | 0.6   | 6.6   | 78.8  | 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          | 67.0  | 316.0 | 0.6   | 119.0 | 55.4  | 0.0   | 653.3 | 13.8  | 0.6   | 6.6   | 78.8  | 1.4   |
| LOS                  | E     | F     | A     | F     | E     | A     | F     | B     | A     | A     | E     | A     |
| Approach Delay       |       | 50.5  |       |       | 109.3 |       |       | 163.7 |       |       | 76.1  |       |
| Approach LOS         |       | D     |       |       | F     |       |       | F     |       |       | E     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 2.37  
 Intersection Signal Delay: 108.3  
 Intersection LOS: F  
 Intersection Capacity Utilization 114.4%  
 ICU Level of Service H  
 Analysis Period (min) 15

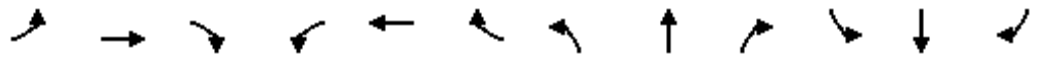
Splits and Phases: 4: US-24 & Newt Dr/SH-94



HCM 6th Signalized Intersection Summary  
 4: US-24 & Newt Dr/SH-94

2026 Background AM.syn

11/09/2023



| Movement                     | EBL  | EBT   | EBR  | WBL  | WBT  | WBR  | NBL   | NBT   | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|-------|------|------|------|------|-------|-------|------|------|------|------|
| Lane Configurations          | ↖↗   | ↑     | ↖    | ↖↗   | ↑↑   | ↖    | ↖     | ↑↑    | ↖    | ↖    | ↑↑   | ↖    |
| Traffic Volume (veh/h)       | 45   | 90    | 495  | 580  | 95   | 5    | 425   | 860   | 485  | 5    | 1860 | 65   |
| Future Volume (veh/h)        | 45   | 90    | 495  | 580  | 95   | 5    | 425   | 860   | 485  | 5    | 1860 | 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         | 46   | 93    | 0    | 598  | 98   | 0    | 438   | 887   | 0    | 5    | 1918 | 0    |
| Peak Hour Factor             | 0.97 | 0.97  | 0.97 | 0.97 | 0.97 | 0.97 | 0.97  | 0.97  | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, %         | 5    | 5     | 5    | 4    | 4    | 4    | 10    | 10    | 10   | 6    | 6    | 6    |
| Cap, veh/h                   | 80   | 65    |      | 571  | 629  |      | 188   | 2008  |      | 343  | 1819 |      |
| Arrive On Green              | 0.02 | 0.04  | 0.00 | 0.28 | 0.30 | 0.00 | 0.08  | 0.60  | 0.00 | 0.01 | 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         | 46   | 93    | 0    | 598  | 98   | 0    | 438   | 887   | 0    | 5    | 1918 | 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  | 5.0   | 0.0  | 23.5 | 2.9  | 0.0  | 11.5  | 20.2  | 0.0  | 0.2  | 74.0 | 0.0  |
| Cycle Q Clear(g_c), s        | 1.9  | 5.0   | 0.0  | 23.5 | 2.9  | 0.0  | 11.5  | 20.2  | 0.0  | 0.2  | 74.0 | 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       | 80   | 65    |      | 571  | 629  |      | 188   | 2008  |      | 343  | 1819 |      |
| V/C Ratio(X)                 | 0.57 | 1.43  |      | 1.05 | 0.16 |      | 2.32  | 0.44  |      | 0.01 | 1.05 |      |
| Avail Cap(c_a), veh/h        | 229  | 65    |      | 571  | 629  |      | 188   | 2008  |      | 410  | 1819 |      |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.00 | 1.67 | 1.67 | 1.67 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l)           | 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     | 67.6 | 67.5  | 0.0  | 50.4 | 41.2 | 0.0  | 48.4  | 15.0  | 0.0  | 15.4 | 33.0 | 0.0  |
| Incr Delay (d2), s/veh       | 6.3  | 259.9 | 0.0  | 44.5 | 0.1  | 0.0  | 612.1 | 0.7   | 0.0  | 0.0  | 37.2 | 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     | 0.9  | 7.0   | 0.0  | 12.7 | 1.2  | 0.0  | 35.5  | 7.8   | 0.0  | 0.1  | 39.2 | 0.0  |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |      |       |       |      |      |      |      |
| LnGrp Delay(d),s/veh         | 73.9 | 327.4 | 0.0  | 94.8 | 41.3 | 0.0  | 660.4 | 15.7  | 0.0  | 15.5 | 70.2 | 0.0  |
| LnGrp LOS                    | E    | F     |      | F    | D    |      | F     | B     |      | B    | F    |      |
| Approach Vol, veh/h          |      | 139   |      |      | 696  |      |       | 1325  |      |      | 1923 |      |
| Approach Delay, s/veh        |      | 243.5 |      |      | 87.3 |      |       | 228.9 |      |      | 70.0 |      |
| Approach LOS                 |      | F     |      |      | F    |      |       | F     |      |      | E    |      |
| Timer - Assigned Phs         | 1    | 2     | 3    | 4    | 5    | 6    | 7     | 8     |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 7.6  | 91.4  | 30.0 | 11.0 | 18.0 | 81.0 | 9.8   | 31.2  |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0   | 6.5  | 6.0  | 6.5  | 7.0  | 6.5   | 6.0   |      |      |      |      |
| Max Green Setting (Gmax), s  | 6.5  | 79.0  | 23.5 | 5.0  | 11.5 | 74.0 | 9.5   | 19.0  |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.2  | 22.2  | 25.5 | 7.0  | 13.5 | 76.0 | 3.9   | 4.9   |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 8.1   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0   | 0.4   |      |      |      |      |

Intersection Summary

|                    |       |
|--------------------|-------|
| HCM 6th Ctrl Delay | 130.4 |
| HCM 6th LOS        | F     |

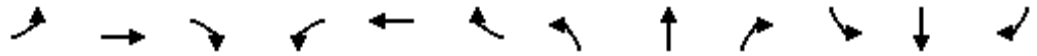
Notes

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

Timings

4: US-24 & Newt Dr/SH-94

11/09/2023



| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖↗    | ↑     | ↖     | ↖↗    | ↑↑    | ↖     | ↖     | ↑↑    | ↖     | ↖     | ↑↑    | ↖     |
| Traffic Volume (vph) | 55    | 80    | 450   | 500   | 65    | 10    | 395   | 1810  | 490   | 5     | 1000  | 60    |
| Future Volume (vph)  | 55    | 80    | 450   | 500   | 65    | 10    | 395   | 1810  | 490   | 5     | 1000  | 60    |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 11.5  | 11.0  |       | 13.0  | 30.0  |       | 13.0  | 30.0  | 30.0  |
| Total Split (s)      | 20.0  | 13.0  |       | 30.0  | 23.0  |       | 20.0  | 84.0  |       | 13.0  | 77.0  | 77.0  |
| Total Split (%)      | 14.3% | 9.3%  |       | 21.4% | 16.4% |       | 14.3% | 60.0% |       | 9.3%  | 55.0% | 55.0% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 3.5   | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 3.0   | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.5   | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 6.8   | 7.4   | 140.0 | 23.1  | 26.0  | 140.0 | 90.5  | 87.5  | 140.0 | 76.5  | 70.0  | 70.0  |
| Actuated g/C Ratio   | 0.05  | 0.05  | 1.00  | 0.16  | 0.19  | 1.00  | 0.65  | 0.62  | 1.00  | 0.55  | 0.50  | 0.50  |
| v/c Ratio            | 0.35  | 0.86  | 0.30  | 0.94  | 0.10  | 0.01  | 1.26  | 0.87  | 0.33  | 0.04  | 0.61  | 0.07  |
| Control Delay        | 69.7  | 122.5 | 0.5   | 75.4  | 52.0  | 0.0   | 160.0 | 27.6  | 0.6   | 5.4   | 12.9  | 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          | 69.7  | 122.5 | 0.5   | 75.4  | 52.0  | 0.0   | 160.0 | 27.6  | 0.6   | 5.4   | 12.9  | 0.1   |
| LOS                  | E     | F     | A     | E     | D     | A     | F     | C     | A     | A     | B     | A     |
| Approach Delay       |       | 23.6  |       |       | 71.4  |       |       | 42.1  |       |       | 12.2  |       |
| Approach LOS         |       | C     |       |       | E     |       |       | D     |       |       | B     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.26  
 Intersection Signal Delay: 36.9  
 Intersection Capacity Utilization 92.2%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service F

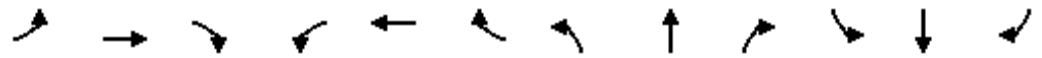
Splits and Phases: 4: US-24 & Newt Dr/SH-94



HCM 6th Signalized Intersection Summary  
 4: US-24 & Newt Dr/SH-94

2026 Background PM.syn

11/09/2023



| Movement                     | EBL  | EBT   | EBR  | WBL  | WBT  | WBR  | NBL   | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|-------|------|------|------|------|-------|------|------|------|------|------|
| Lane Configurations          | ↖↗   | ↑     | ↖    | ↖↗   | ↑↑   | ↖    | ↖     | ↑↑   | ↖    | ↖    | ↑↑   | ↖    |
| Traffic Volume (veh/h)       | 55   | 80    | 450  | 500  | 65   | 10   | 395   | 1810 | 490  | 5    | 1000 | 60   |
| Future Volume (veh/h)        | 55   | 80    | 450  | 500  | 65   | 10   | 395   | 1810 | 490  | 5    | 1000 | 60   |
| Initial Q (Qb), veh          | 0    | 0     | 0    | 0    | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |       | 1.00 | 1.00 |      | 1.00 | 1.00  |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No    |      |      | No   |      |       | No   |      |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 1870 | 1870  | 1870 | 1856 | 1856 | 1856 | 1856  | 1856 | 1856 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h         | 58   | 84    | 0    | 526  | 68   | 0    | 416   | 1905 | 0    | 5    | 1053 | 0    |
| Peak Hour Factor             | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 3    | 3    | 3    | 3     | 3    | 3    | 5    | 5    | 5    |
| Cap, veh/h                   | 96   | 94    |      | 569  | 663  |      | 373   | 2083 |      | 90   | 1742 |      |
| Arrive On Green              | 0.03 | 0.05  | 0.00 | 0.17 | 0.19 | 0.00 | 0.10  | 0.59 | 0.00 | 0.01 | 0.50 | 0.00 |
| Sat Flow, veh/h              | 3456 | 1870  | 1585 | 3428 | 3526 | 1572 | 1767  | 3526 | 1572 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h         | 58   | 84    | 0    | 526  | 68   | 0    | 416   | 1905 | 0    | 5    | 1053 | 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              | 2.3  | 6.3   | 0.0  | 21.2 | 2.2  | 0.0  | 13.5  | 67.3 | 0.0  | 0.2  | 30.4 | 0.0  |
| Cycle Q Clear(g_c), s        | 2.3  | 6.3   | 0.0  | 21.2 | 2.2  | 0.0  | 13.5  | 67.3 | 0.0  | 0.2  | 30.4 | 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       | 96   | 94    |      | 569  | 663  |      | 373   | 2083 |      | 90   | 1742 |      |
| V/C Ratio(X)                 | 0.60 | 0.90  |      | 0.93 | 0.10 |      | 1.11  | 0.91 |      | 0.06 | 0.60 |      |
| Avail Cap(c_a), veh/h        | 333  | 94    |      | 575  | 663  |      | 373   | 2083 |      | 158  | 1742 |      |
| 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(l)           | 1.00 | 1.00  | 0.00 | 0.70 | 0.70 | 0.00 | 1.00  | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh     | 67.3 | 66.1  | 0.0  | 57.5 | 47.1 | 0.0  | 25.8  | 25.5 | 0.0  | 27.9 | 24.9 | 0.0  |
| Incr Delay (d2), s/veh       | 2.2  | 61.1  | 0.0  | 15.7 | 0.0  | 0.0  | 81.2  | 7.7  | 0.0  | 0.1  | 1.6  | 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  | 4.6   | 0.0  | 10.4 | 1.0  | 0.0  | 15.2  | 29.2 | 0.0  | 0.1  | 12.8 | 0.0  |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |      |       |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 69.5 | 127.3 | 0.0  | 73.2 | 47.1 | 0.0  | 107.0 | 33.2 | 0.0  | 28.0 | 26.5 | 0.0  |
| LnGrp LOS                    | E    | F     |      | E    | D    |      | F     | C    |      | C    | C    |      |
| Approach Vol, veh/h          |      | 142   |      |      | 594  |      |       | 2321 |      |      | 1058 |      |
| Approach Delay, s/veh        |      | 103.7 |      |      | 70.2 |      |       | 46.4 |      |      | 26.5 |      |
| Approach LOS                 |      | F     |      |      | E    |      |       | D    |      |      | C    |      |
| Timer - Assigned Phs         | 1    | 2     | 3    | 4    | 5    | 6    | 7     | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 7.6  | 89.7  | 29.7 | 13.0 | 20.0 | 77.3 | 10.4  | 32.3 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0   | 6.5  | 6.0  | 6.5  | 7.0  | 6.5   | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 6.5  | 77.0  | 23.5 | 7.0  | 13.5 | 70.0 | 13.5  | 17.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.2  | 69.3  | 23.2 | 8.3  | 15.5 | 32.4 | 4.3   | 4.2  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 5.7   | 0.1  | 0.0  | 0.0  | 6.1  | 0.0   | 0.1  |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 46.7 |
| HCM 6th LOS        | D    |

Notes

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

Timings  
4: US-24 & Newt Dr/SH-94

2026 Total AM.syn  
11/09/2023

| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph) | 45    | 90    | 495   | 820   | 95    | 5     | 425   | 985   | 635   | 5     | 1860  | 65    |
| Future Volume (vph)  | 45    | 90    | 495   | 820   | 95    | 5     | 425   | 985   | 635   | 5     | 1860  | 65    |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 11.5  | 24.0  |       | 12.5  | 29.0  |       | 12.5  | 29.0  | 29.0  |
| Total Split (s)      | 16.0  | 11.0  |       | 30.0  | 25.0  |       | 18.0  | 86.0  |       | 13.0  | 81.0  | 81.0  |
| Total Split (%)      | 11.4% | 7.9%  |       | 21.4% | 17.9% |       | 12.9% | 61.4% |       | 9.3%  | 57.9% | 57.9% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 3.5   | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 3.0   | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.5   | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 7.3   | 5.0   | 140.0 | 23.5  | 23.6  | 140.0 | 92.3  | 89.5  | 140.0 | 80.5  | 74.0  | 74.0  |
| Actuated g/C Ratio   | 0.05  | 0.04  | 1.00  | 0.17  | 0.17  | 1.00  | 0.66  | 0.64  | 1.00  | 0.58  | 0.53  | 0.53  |
| v/c Ratio            | 0.26  | 1.45  | 0.33  | 1.50  | 0.17  | 0.00  | 2.37  | 0.48  | 0.45  | 0.02  | 1.07  | 0.08  |
| Control Delay        | 67.0  | 316.0 | 0.6   | 274.2 | 52.5  | 0.0   | 653.3 | 14.7  | 1.0   | 6.6   | 77.4  | 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          | 67.0  | 316.0 | 0.6   | 274.2 | 52.5  | 0.0   | 653.3 | 14.7  | 1.0   | 6.6   | 77.4  | 1.4   |
| LOS                  | E     | F     | A     | F     | D     | A     | F     | B     | A     | A     | E     | A     |
| Approach Delay       |       | 50.5  |       |       | 249.8 |       |       | 143.1 |       |       | 74.7  |       |
| Approach LOS         |       | D     |       |       | F     |       |       | F     |       |       | E     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 2.37  
 Intersection Signal Delay: 126.4  
 Intersection LOS: F  
 Intersection Capacity Utilization 121.3%  
 ICU Level of Service H  
 Analysis Period (min) 15

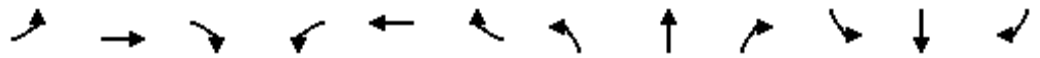
Splits and Phases: 4: US-24 & Newt Dr/SH-94





HCM 6th Signalized Intersection Summary  
 4: US-24 & Newt Dr/SH-94

2026 Total AM.syn  
 11/09/2023



| Movement                     | EBL  | EBT   | EBR  | WBL   | WBT   | WBR  | NBL   | NBT   | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|-------|------|-------|-------|------|-------|-------|------|------|------|------|
| Lane Configurations          | ↖↗   | ↑     | ↖    | ↖↗    | ↑↑    | ↖    | ↖     | ↑↑    | ↖    | ↖    | ↑↑   | ↖    |
| Traffic Volume (veh/h)       | 45   | 90    | 495  | 820   | 95    | 5    | 425   | 985   | 635  | 5    | 1860 | 65   |
| Future Volume (veh/h)        | 45   | 90    | 495  | 820   | 95    | 5    | 425   | 985   | 635  | 5    | 1860 | 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         | 46   | 93    | 0    | 845   | 98    | 0    | 438   | 1015  | 0    | 5    | 1918 | 0    |
| Peak Hour Factor             | 0.97 | 0.97  | 0.97 | 0.97  | 0.97  | 0.97 | 0.97  | 0.97  | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, %         | 5    | 5     | 5    | 4     | 4     | 4    | 10    | 10    | 10   | 6    | 6    | 6    |
| Cap, veh/h                   | 80   | 65    |      | 571   | 629   |      | 188   | 2008  |      | 295  | 1819 |      |
| Arrive On Green              | 0.02 | 0.04  | 0.00 | 0.28  | 0.30  | 0.00 | 0.08  | 0.60  | 0.00 | 0.01 | 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         | 46   | 93    | 0    | 845   | 98    | 0    | 438   | 1015  | 0    | 5    | 1918 | 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  | 5.0   | 0.0  | 23.5  | 2.9   | 0.0  | 11.5  | 24.4  | 0.0  | 0.2  | 74.0 | 0.0  |
| Cycle Q Clear(g_c), s        | 1.9  | 5.0   | 0.0  | 23.5  | 2.9   | 0.0  | 11.5  | 24.4  | 0.0  | 0.2  | 74.0 | 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       | 80   | 65    |      | 571   | 629   |      | 188   | 2008  |      | 295  | 1819 |      |
| V/C Ratio(X)                 | 0.57 | 1.43  |      | 1.48  | 0.16  |      | 2.32  | 0.51  |      | 0.02 | 1.05 |      |
| Avail Cap(c_a), veh/h        | 229  | 65    |      | 571   | 629   |      | 188   | 2008  |      | 362  | 1819 |      |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.00 | 1.67  | 1.67  | 1.67 | 1.00  | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l)           | 1.00 | 1.00  | 0.00 | 0.83  | 0.83  | 0.00 | 1.00  | 1.00  | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh     | 67.6 | 67.5  | 0.0  | 50.4  | 41.2  | 0.0  | 48.4  | 15.9  | 0.0  | 15.8 | 33.0 | 0.0  |
| Incr Delay (d2), s/veh       | 6.3  | 259.9 | 0.0  | 223.9 | 0.1   | 0.0  | 612.1 | 0.9   | 0.0  | 0.0  | 37.2 | 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     | 0.9  | 7.0   | 0.0  | 26.9  | 1.3   | 0.0  | 35.5  | 9.4   | 0.0  | 0.1  | 39.2 | 0.0  |
| Unsig. Movement Delay, s/veh |      |       |      |       |       |      |       |       |      |      |      |      |
| LnGrp Delay(d),s/veh         | 73.9 | 327.4 | 0.0  | 274.2 | 41.3  | 0.0  | 660.4 | 16.8  | 0.0  | 15.8 | 70.2 | 0.0  |
| LnGrp LOS                    | E    | F     |      | F     | D     |      | F     | B     |      | B    | F    |      |
| Approach Vol, veh/h          |      | 139   |      |       | 943   |      |       | 1453  |      |      | 1923 |      |
| Approach Delay, s/veh        |      | 243.5 |      |       | 250.0 |      |       | 210.8 |      |      | 70.0 |      |
| Approach LOS                 |      | F     |      |       | F     |      |       | F     |      |      | E    |      |
| Timer - Assigned Phs         | 1    | 2     | 3    | 4     | 5     | 6    | 7     | 8     |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 7.6  | 91.4  | 30.0 | 11.0  | 18.0  | 81.0 | 9.8   | 31.2  |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0   | 6.5  | 6.0   | 6.5   | 7.0  | 6.5   | 6.0   |      |      |      |      |
| Max Green Setting (Gmax), s  | 6.5  | 79.0  | 23.5 | 5.0   | 11.5  | 74.0 | 9.5   | 19.0  |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.2  | 26.4  | 25.5 | 7.0   | 13.5  | 76.0 | 3.9   | 4.9   |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 9.8   | 0.0  | 0.0   | 0.0   | 0.0  | 0.0   | 0.4   |      |      |      |      |

| Intersection Summary |       |  |  |  |  |  |  |  |  |  |  |  |
|----------------------|-------|--|--|--|--|--|--|--|--|--|--|--|
| HCM 6th Ctrl Delay   | 159.4 |  |  |  |  |  |  |  |  |  |  |  |
| HCM 6th LOS          | F     |  |  |  |  |  |  |  |  |  |  |  |

Notes

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

Timings  
4: US-24 & Newt Dr/SH-94

2026 Total PM.syn  
11/09/2023

| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph) | 55    | 80    | 450   | 740   | 65    | 10    | 395   | 1925  | 625   | 5     | 1000  | 60    |
| Future Volume (vph)  | 55    | 80    | 450   | 740   | 65    | 10    | 395   | 1925  | 625   | 5     | 1000  | 60    |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 11.5  | 11.0  |       | 13.0  | 30.0  |       | 13.0  | 30.0  | 30.0  |
| Total Split (s)      | 20.0  | 13.0  |       | 30.0  | 23.0  |       | 20.0  | 84.0  |       | 13.0  | 77.0  | 77.0  |
| Total Split (%)      | 14.3% | 9.3%  |       | 21.4% | 16.4% |       | 14.3% | 60.0% |       | 9.3%  | 55.0% | 55.0% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 3.5   | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 3.0   | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.5   | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 6.8   | 7.0   | 140.0 | 23.5  | 26.0  | 140.0 | 90.5  | 87.5  | 140.0 | 76.5  | 70.0  | 70.0  |
| Actuated g/C Ratio   | 0.05  | 0.05  | 1.00  | 0.17  | 0.19  | 1.00  | 0.65  | 0.62  | 1.00  | 0.55  | 0.50  | 0.50  |
| v/c Ratio            | 0.35  | 0.90  | 0.30  | 1.37  | 0.10  | 0.01  | 1.26  | 0.93  | 0.42  | 0.04  | 0.61  | 0.07  |
| Control Delay        | 69.7  | 134.6 | 0.5   | 219.5 | 53.9  | 0.0   | 160.0 | 32.2  | 0.8   | 5.4   | 12.9  | 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          | 69.7  | 134.6 | 0.5   | 219.5 | 53.9  | 0.0   | 160.0 | 32.2  | 0.8   | 5.4   | 12.9  | 0.1   |
| LOS                  | E     | F     | A     | F     | D     | A     | F     | C     | A     | A     | B     | A     |
| Approach Delay       |       | 25.3  |       |       | 203.5 |       |       | 42.7  |       |       | 12.1  |       |
| Approach LOS         |       | C     |       |       | F     |       |       | D     |       |       | B     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.37  
 Intersection Signal Delay: 59.0  
 Intersection Capacity Utilization 102.2%  
 Analysis Period (min) 15

Intersection LOS: E  
 ICU Level of Service G

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

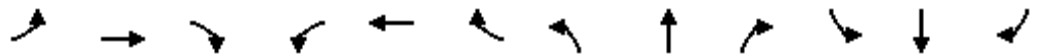


HCM 6th Signalized Intersection Summary

2026 Total PM.syn

4: US-24 & Newt Dr/SH-94

11/09/2023



| Movement                     | EBL  | EBT   | EBR  | WBL   | WBT   | WBR  | NBL   | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|-------|------|-------|-------|------|-------|------|------|------|------|------|
| Lane Configurations          | ↖↗   | ↑     | ↖    | ↖↗    | ↑↑    | ↖    | ↖     | ↑↑   | ↖    | ↖    | ↑↑   | ↖    |
| Traffic Volume (veh/h)       | 55   | 80    | 450  | 740   | 65    | 10   | 395   | 1925 | 625  | 5    | 1000 | 60   |
| Future Volume (veh/h)        | 55   | 80    | 450  | 740   | 65    | 10   | 395   | 1925 | 625  | 5    | 1000 | 60   |
| Initial Q (Qb), veh          | 0    | 0     | 0    | 0     | 0     | 0    | 0     | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |       | 1.00 | 1.00  |       | 1.00 | 1.00  |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00  | 1.00 | 1.00  | 1.00  | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No    |      |       | No    |      |       | No   |      |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 1870 | 1870  | 1870 | 1856  | 1856  | 1856 | 1856  | 1856 | 1856 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h         | 58   | 84    | 0    | 779   | 68    | 0    | 416   | 2026 | 0    | 5    | 1053 | 0    |
| Peak Hour Factor             | 0.95 | 0.95  | 0.95 | 0.95  | 0.95  | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 3     | 3     | 3    | 3     | 3    | 3    | 5    | 5    | 5    |
| Cap, veh/h                   | 96   | 94    |      | 575   | 670   |      | 372   | 2076 |      | 71   | 1735 |      |
| Arrive On Green              | 0.03 | 0.05  | 0.00 | 0.17  | 0.19  | 0.00 | 0.10  | 0.59 | 0.00 | 0.01 | 0.50 | 0.00 |
| Sat Flow, veh/h              | 3456 | 1870  | 1585 | 3428  | 3526  | 1572 | 1767  | 3526 | 1572 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h         | 58   | 84    | 0    | 779   | 68    | 0    | 416   | 2026 | 0    | 5    | 1053 | 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              | 2.3  | 6.3   | 0.0  | 23.5  | 2.2   | 0.0  | 13.5  | 77.8 | 0.0  | 0.2  | 30.5 | 0.0  |
| Cycle Q Clear(g_c), s        | 2.3  | 6.3   | 0.0  | 23.5  | 2.2   | 0.0  | 13.5  | 77.8 | 0.0  | 0.2  | 30.5 | 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       | 96   | 94    |      | 575   | 670   |      | 372   | 2076 |      | 71   | 1735 |      |
| V/C Ratio(X)                 | 0.60 | 0.90  |      | 1.35  | 0.10  |      | 1.12  | 0.98 |      | 0.07 | 0.61 |      |
| Avail Cap(c_a), veh/h        | 333  | 94    |      | 575   | 670   |      | 372   | 2076 |      | 139  | 1735 |      |
| 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 | 0.76  | 0.76  | 0.00 | 1.00  | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh     | 67.3 | 66.1  | 0.0  | 58.3  | 46.8  | 0.0  | 25.9  | 27.8 | 0.0  | 32.6 | 25.1 | 0.0  |
| Incr Delay (d2), s/veh       | 2.2  | 61.1  | 0.0  | 167.8 | 0.0   | 0.0  | 82.9  | 14.8 | 0.0  | 0.2  | 1.6  | 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  | 4.6   | 0.0  | 23.6  | 1.0   | 0.0  | 15.3  | 35.5 | 0.0  | 0.1  | 12.9 | 0.0  |
| Unsig. Movement Delay, s/veh |      |       |      |       |       |      |       |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 69.5 | 127.3 | 0.0  | 226.0 | 46.9  | 0.0  | 108.8 | 42.7 | 0.0  | 32.8 | 26.7 | 0.0  |
| LnGrp LOS                    | E    | F     |      | F     | D     |      | F     | D    |      | C    | C    |      |
| Approach Vol, veh/h          |      | 142   |      |       | 847   |      |       | 2442 |      |      | 1058 |      |
| Approach Delay, s/veh        |      | 103.7 |      |       | 211.6 |      |       | 53.9 |      |      | 26.7 |      |
| Approach LOS                 |      | F     |      |       | F     |      |       | D    |      |      | C    |      |
| Timer - Assigned Phs         | 1    | 2     | 3    | 4     | 5     | 6    | 7     | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 7.6  | 89.4  | 30.0 | 13.0  | 20.0  | 77.0 | 10.4  | 32.6 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0   | 6.5  | 6.0   | 6.5   | 7.0  | 6.5   | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 6.5  | 77.0  | 23.5 | 7.0   | 13.5  | 70.0 | 13.5  | 17.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.2  | 79.8  | 25.5 | 8.3   | 15.5  | 32.5 | 4.3   | 4.2  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 0.0   | 0.0  | 0.0   | 0.0   | 6.1  | 0.0   | 0.1  |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 78.9 |
| HCM 6th LOS        | E    |

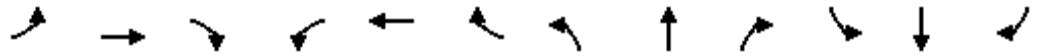
Notes

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

Timings

4: US-24 & Newt Dr/SH-94

11/09/2023



| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖↗    | ↑     | ↖     | ↖↗↘   | ↑     | ↖     | ↖↗    | ↖↗↘   | ↖     | ↖     | ↖↗↘   | ↖     |
| Traffic Volume (vph) | 45    | 90    | 495   | 820   | 95    | 5     | 425   | 985   | 635   | 5     | 1860  | 65    |
| Future Volume (vph)  | 45    | 90    | 495   | 820   | 95    | 5     | 425   | 985   | 635   | 5     | 1860  | 65    |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 11.5  | 24.0  |       | 12.5  | 29.0  |       | 12.5  | 29.0  | 29.0  |
| Total Split (s)      | 16.0  | 11.0  |       | 30.0  | 25.0  |       | 18.0  | 86.0  |       | 13.0  | 81.0  | 81.0  |
| Total Split (%)      | 11.4% | 7.9%  |       | 21.4% | 17.9% |       | 12.9% | 61.4% |       | 9.3%  | 57.9% | 57.9% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 3.5   | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 3.0   | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.5   | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 7.3   | 5.0   | 140.0 | 23.5  | 23.6  | 140.0 | 92.3  | 89.5  | 140.0 | 80.5  | 74.0  | 74.0  |
| Actuated g/C Ratio   | 0.05  | 0.04  | 1.00  | 0.17  | 0.17  | 1.00  | 0.66  | 0.64  | 1.00  | 0.58  | 0.53  | 0.53  |
| v/c Ratio            | 0.26  | 1.45  | 0.33  | 1.03  | 0.32  | 0.00  | 1.22  | 0.34  | 0.45  | 0.02  | 0.74  | 0.08  |
| Control Delay        | 67.0  | 316.0 | 0.6   | 101.3 | 55.8  | 0.0   | 155.2 | 12.4  | 1.0   | 6.6   | 35.1  | 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          | 67.0  | 316.0 | 0.6   | 101.3 | 55.8  | 0.0   | 155.2 | 12.4  | 1.0   | 6.6   | 35.1  | 1.4   |
| LOS                  | E     | F     | A     | F     | E     | A     | F     | B     | A     | A     | D     | A     |
| Approach Delay       |       | 50.5  |       |       | 96.1  |       |       | 38.5  |       |       | 33.9  |       |
| Approach LOS         |       | D     |       |       | F     |       |       | D     |       |       | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.45  
 Intersection Signal Delay: 47.9  
 Intersection Capacity Utilization 86.6%  
 Analysis Period (min) 15

Intersection LOS: D  
 ICU Level of Service E

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



HCM 6th Signalized Intersection Summary

2026 Total AM Improved.syn

11/09/2023

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)       | 45   | 90    | 495  | 820  | 95   | 5    | 425  | 985  | 635  | 5    | 1860 | 65   |
| Future Volume (veh/h)        | 45   | 90    | 495  | 820  | 95   | 5    | 425  | 985  | 635  | 5    | 1860 | 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         | 46   | 93    | 0    | 845  | 98   | 0    | 438  | 1015 | 0    | 5    | 1918 | 0    |
| Peak Hour Factor             | 0.97 | 0.97  | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, %         | 5    | 5     | 5    | 4    | 4    | 4    | 10   | 10   | 10   | 6    | 6    | 6    |
| Cap, veh/h                   | 80   | 65    |      | 830  | 331  |      | 466  | 2884 |      | 331  | 2613 |      |
| Arrive On Green              | 0.02 | 0.04  | 0.00 | 0.28 | 0.30 | 0.00 | 0.08 | 0.60 | 0.00 | 0.01 | 0.53 | 0.00 |
| Sat Flow, veh/h              | 3374 | 1826  | 1547 | 4944 | 1841 | 1560 | 3237 | 4782 | 1485 | 1725 | 4944 | 1535 |
| Grp Volume(v), veh/h         | 46   | 93    | 0    | 845  | 98   | 0    | 438  | 1015 | 0    | 5    | 1918 | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1687 | 1826  | 1547 | 1648 | 1841 | 1560 | 1618 | 1594 | 1485 | 1725 | 1648 | 1535 |
| Q Serve(g_s), s              | 1.9  | 5.0   | 0.0  | 23.5 | 5.7  | 0.0  | 10.1 | 15.0 | 0.0  | 0.2  | 41.8 | 0.0  |
| Cycle Q Clear(g_c), s        | 1.9  | 5.0   | 0.0  | 23.5 | 5.7  | 0.0  | 10.1 | 15.0 | 0.0  | 0.2  | 41.8 | 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       | 80   | 65    |      | 830  | 331  |      | 466  | 2884 |      | 331  | 2613 |      |
| V/C Ratio(X)                 | 0.57 | 1.43  |      | 1.02 | 0.30 |      | 0.94 | 0.35 |      | 0.02 | 0.73 |      |
| Avail Cap(c_a), veh/h        | 229  | 65    |      | 830  | 331  |      | 466  | 2884 |      | 398  | 2613 |      |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.00 | 1.67 | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 1.00 | 1.00  | 0.00 | 0.83 | 0.83 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh     | 67.6 | 67.5  | 0.0  | 50.4 | 42.2 | 0.0  | 33.7 | 14.0 | 0.0  | 15.2 | 25.4 | 0.0  |
| Incr Delay (d2), s/veh       | 6.3  | 259.9 | 0.0  | 33.1 | 0.4  | 0.0  | 27.2 | 0.3  | 0.0  | 0.0  | 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     | 0.9  | 7.0   | 0.0  | 11.4 | 2.6  | 0.0  | 5.8  | 5.5  | 0.0  | 0.1  | 16.6 | 0.0  |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 73.9 | 327.4 | 0.0  | 83.5 | 42.6 | 0.0  | 60.9 | 14.3 | 0.0  | 15.2 | 27.3 | 0.0  |
| LnGrp LOS                    | E    | F     |      | F    | D    |      | E    | B    |      | B    | C    |      |
| Approach Vol, veh/h          |      | 139   |      |      | 943  |      |      | 1453 |      |      | 1923 |      |
| Approach Delay, s/veh        |      | 243.5 |      |      | 79.3 |      |      | 28.4 |      |      | 27.3 |      |
| Approach LOS                 |      | F     |      |      | E    |      |      | C    |      |      | C    |      |
| Timer - Assigned Phs         | 1    | 2     | 3    | 4    | 5    | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 7.6  | 91.4  | 30.0 | 11.0 | 18.0 | 81.0 | 9.8  | 31.2 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0   | 6.5  | 6.0  | 6.5  | 7.0  | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 6.5  | 79.0  | 23.5 | 5.0  | 11.5 | 74.0 | 9.5  | 19.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.2  | 17.0  | 25.5 | 7.0  | 12.1 | 43.8 | 3.9  | 7.7  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 9.6   | 0.0  | 0.0  | 0.0  | 19.1 | 0.0  | 0.3  |      |      |      |      |

Intersection Summary

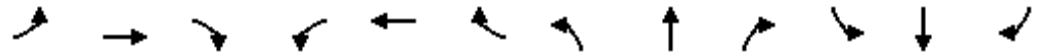
|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 45.4 |
| HCM 6th LOS        | D    |

Notes

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

Timings

4: US-24 & Newt Dr/SH-94



| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖↗    | ↑     | ↖     | ↖↗↘   | ↑     | ↖     | ↖↗    | ↑↑↑   | ↖     | ↖     | ↑↑↑   | ↖     |
| Traffic Volume (vph) | 55    | 80    | 450   | 740   | 65    | 10    | 395   | 1925  | 625   | 5     | 1000  | 60    |
| Future Volume (vph)  | 55    | 80    | 450   | 740   | 65    | 10    | 395   | 1925  | 625   | 5     | 1000  | 60    |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 11.5  | 11.0  |       | 13.0  | 30.0  |       | 13.0  | 30.0  | 30.0  |
| Total Split (s)      | 20.0  | 13.0  |       | 30.0  | 23.0  |       | 20.0  | 84.0  |       | 13.0  | 77.0  | 77.0  |
| Total Split (%)      | 14.3% | 9.3%  |       | 21.4% | 16.4% |       | 14.3% | 60.0% |       | 9.3%  | 55.0% | 55.0% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 3.5   | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 3.0   | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.5   | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 6.8   | 7.2   | 140.0 | 23.3  | 26.0  | 140.0 | 90.5  | 87.5  | 140.0 | 78.7  | 72.2  | 72.2  |
| Actuated g/C Ratio   | 0.05  | 0.05  | 1.00  | 0.17  | 0.19  | 1.00  | 0.65  | 0.62  | 1.00  | 0.56  | 0.52  | 0.52  |
| v/c Ratio            | 0.35  | 0.88  | 0.30  | 0.95  | 0.20  | 0.01  | 0.62  | 0.64  | 0.42  | 0.04  | 0.41  | 0.07  |
| Control Delay        | 69.7  | 129.6 | 0.5   | 79.5  | 55.9  | 0.0   | 14.2  | 18.3  | 0.8   | 5.2   | 9.4   | 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          | 69.7  | 129.6 | 0.5   | 79.5  | 55.9  | 0.0   | 14.2  | 18.3  | 0.8   | 5.2   | 9.4   | 0.1   |
| LOS                  | E     | F     | A     | E     | E     | A     | B     | B     | A     | A     | A     | A     |
| Approach Delay       |       | 24.6  |       |       | 76.6  |       |       | 14.0  |       |       | 8.9   |       |
| Approach LOS         |       | C     |       |       | E     |       |       | B     |       |       | A     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.95  
 Intersection Signal Delay: 23.6  
 Intersection LOS: C  
 Intersection Capacity Utilization 79.2%  
 ICU Level of Service D  
 Analysis Period (min) 15

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



HCM 6th Signalized Intersection Summary  
 4: US-24 & Newt Dr/SH-94

2026 Total PM Improved.syn  
 11/09/2023



| Movement                     | EBL  | EBT   | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|-------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↖↗   | ↑     | ↖    | ↖↗↘  | ↑    | ↖    | ↖↗   | ↑↑↑  | ↖    | ↖    | ↑↑↑  | ↖    |
| Traffic Volume (veh/h)       | 55   | 80    | 450  | 740  | 65   | 10   | 395  | 1925 | 625  | 5    | 1000 | 60   |
| Future Volume (veh/h)        | 55   | 80    | 450  | 740  | 65   | 10   | 395  | 1925 | 625  | 5    | 1000 | 60   |
| Initial Q (Qb), veh          | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)          | 1.00 |       | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj             | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach        |      | No    |      |      | No   |      |      | No   |      |      | No   |      |
| Adj Sat Flow, veh/h/ln       | 1870 | 1870  | 1870 | 1856 | 1856 | 1856 | 1856 | 1856 | 1856 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h         | 58   | 84    | 0    | 779  | 68   | 0    | 416  | 2026 | 0    | 5    | 1053 | 0    |
| Peak Hour Factor             | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 3    | 3    | 3    | 3    | 3    | 3    | 5    | 5    | 5    |
| Cap, veh/h                   | 96   | 94    |      | 837  | 352  |      | 756  | 2983 |      | 129  | 2621 |      |
| Arrive On Green              | 0.03 | 0.05  | 0.00 | 0.06 | 0.06 | 0.00 | 0.07 | 0.59 | 0.00 | 0.01 | 0.53 | 0.00 |
| Sat Flow, veh/h              | 3456 | 1870  | 1585 | 4983 | 1856 | 1572 | 3428 | 5066 | 1572 | 1739 | 4985 | 1547 |
| Grp Volume(v), veh/h         | 58   | 84    | 0    | 779  | 68   | 0    | 416  | 2026 | 0    | 5    | 1053 | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1728 | 1870  | 1585 | 1661 | 1856 | 1572 | 1714 | 1689 | 1572 | 1739 | 1662 | 1547 |
| Q Serve(g_s), s              | 2.3  | 6.3   | 0.0  | 21.8 | 4.9  | 0.0  | 7.5  | 38.4 | 0.0  | 0.2  | 17.8 | 0.0  |
| Cycle Q Clear(g_c), s        | 2.3  | 6.3   | 0.0  | 21.8 | 4.9  | 0.0  | 7.5  | 38.4 | 0.0  | 0.2  | 17.8 | 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       | 96   | 94    |      | 837  | 352  |      | 756  | 2983 |      | 129  | 2621 |      |
| V/C Ratio(X)                 | 0.60 | 0.90  |      | 0.93 | 0.19 |      | 0.55 | 0.68 |      | 0.04 | 0.40 |      |
| Avail Cap(c_a), veh/h        | 333  | 94    |      | 837  | 352  |      | 845  | 2983 |      | 197  | 2621 |      |
| 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 | 0.76 | 0.76 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh     | 67.3 | 66.1  | 0.0  | 65.3 | 55.4 | 0.0  | 14.4 | 19.7 | 0.0  | 18.5 | 20.0 | 0.0  |
| Incr Delay (d2), s/veh       | 2.2  | 61.1  | 0.0  | 13.5 | 0.1  | 0.0  | 0.2  | 1.3  | 0.0  | 0.0  | 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     | 1.1  | 4.6   | 0.0  | 10.8 | 2.4  | 0.0  | 2.9  | 15.1 | 0.0  | 0.1  | 7.0  | 0.0  |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 69.5 | 127.3 | 0.0  | 78.8 | 55.5 | 0.0  | 14.6 | 21.0 | 0.0  | 18.5 | 20.4 | 0.0  |
| LnGrp LOS                    | E    | F     |      | E    | E    |      | B    | C    |      | B    | C    |      |
| Approach Vol, veh/h          |      | 142   |      |      | 847  |      |      | 2442 |      |      | 1058 |      |
| Approach Delay, s/veh        |      | 103.7 |      |      | 76.9 |      |      | 19.9 |      |      | 20.4 |      |
| Approach LOS                 |      | F     |      |      | E    |      |      | B    |      |      | C    |      |
| Timer - Assigned Phs         | 1    | 2     | 3    | 4    | 5    | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 7.6  | 89.4  | 30.0 | 13.0 | 16.4 | 80.6 | 10.4 | 32.6 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0   | 6.5  | 6.0  | 6.5  | 7.0  | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 6.5  | 77.0  | 23.5 | 7.0  | 13.5 | 70.0 | 13.5 | 17.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.2  | 40.4  | 23.8 | 8.3  | 9.5  | 19.8 | 4.3  | 6.9  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 15.9  | 0.0  | 0.0  | 0.4  | 6.1  | 0.0  | 0.1  |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 33.4 |
| HCM 6th LOS        | C    |

Notes

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

Timings  
4: US-24 & Newt Dr/SH-94

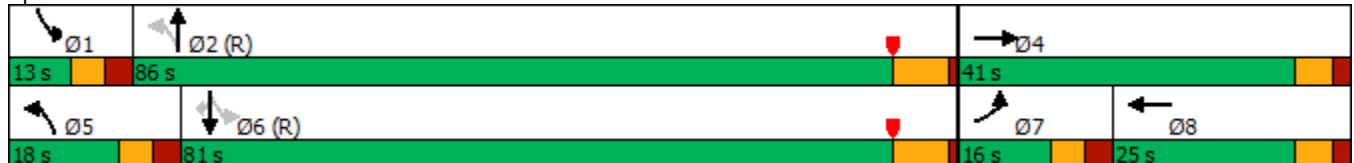


| Lane Group           | EBL   | EBT   | EBR   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖↗    | ↑     | ↖     | ↕↕    | ↖     | ↖↗    | ↕↕    | ↖     | ↖     | ↕↕    | ↖     |
| Traffic Volume (vph) | 45    | 90    | 495   | 95    | 5     | 425   | 985   | 635   | 5     | 1860  | 65    |
| Future Volume (vph)  | 45    | 90    | 495   | 95    | 5     | 425   | 985   | 635   | 5     | 1860  | 65    |
| Turn Type            | Prot  | NA    | Free  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 24.0  |       | 12.5  | 29.0  |       | 12.5  | 29.0  | 29.0  |
| Total Split (s)      | 16.0  | 41.0  |       | 25.0  |       | 18.0  | 86.0  |       | 13.0  | 81.0  | 81.0  |
| Total Split (%)      | 11.4% | 29.3% |       | 17.9% |       | 12.9% | 61.4% |       | 9.3%  | 57.9% | 57.9% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  |       |       | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   |       |       | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effect Green (s) | 7.3   | 20.9  | 140.0 | 9.5   | 140.0 | 106.4 | 103.6 | 140.0 | 94.6  | 88.1  | 88.1  |
| Actuated g/C Ratio   | 0.05  | 0.15  | 1.00  | 0.07  | 1.00  | 0.76  | 0.74  | 1.00  | 0.68  | 0.63  | 0.63  |
| v/c Ratio            | 0.26  | 0.34  | 0.33  | 0.42  | 0.00  | 1.22  | 0.42  | 0.45  | 0.01  | 0.90  | 0.07  |
| Control Delay        | 67.0  | 54.9  | 0.6   | 80.6  | 0.0   | 158.2 | 8.8   | 1.0   | 4.0   | 35.6  | 1.9   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 67.0  | 54.9  | 0.6   | 80.6  | 0.0   | 158.2 | 8.8   | 1.0   | 4.0   | 35.6  | 1.9   |
| LOS                  | E     | D     | A     | F     | A     | F     | A     | A     | A     | D     | A     |
| Approach Delay       |       | 13.1  |       | 76.7  |       |       | 37.4  |       |       | 34.4  |       |
| Approach LOS         |       | B     |       | E     |       |       | D     |       |       | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 140  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.22  
 Intersection Signal Delay: 33.8  
 Intersection Capacity Utilization 87.7%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service E

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


































HCM 6th Signalized Intersection Summary  
4: US-24 & Newt Dr/SH-94

2026 Total AM Improved\_4 WBL Flyover.syn

11/09/2023

|   |    |  |  |  |    |  |   |    |  |    |    |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement  | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations   |   |  |  |   |   |  |   |   |  |   |   |  |
| Traffic Volume (veh/h)  | 45  | 90  | 495   | 0   | 95  | 5   | 425   | 985   | 635   | 5   | 1860  | 65  |
| Future Volume (veh/h)   | 45  | 90  | 495   | 0   | 95  | 5   | 425   | 985   | 635   | 5   | 1860  | 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  | 0   | 1841  | 1841  | 1752  | 1752  | 1752  | 1811  | 1811  | 1811  |
| Adj Flow Rate, veh/h  | 46  | 93  | 0   | 0   | 98  | 0   | 438   | 1015  | 0   | 5   | 1918  | 0   |
| Peak Hour Factor  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  |
| Percent Heavy Veh, %  | 5   | 5   | 5   | 0   | 4   | 4   | 10  | 10  | 10  | 6   | 6   | 6   |
| Cap, veh/h  | 80  | 208   |   | 0   | 154   |   | 471   | 2460  |   | 400   | 2286  |   |
| Arrive On Green   | 0.02  | 0.11  | 0.00  | 0.00  | 0.09  | 0.00  | 0.08  | 0.74  | 0.00  | 0.01  | 0.66  | 0.00  |
| Sat Flow, veh/h   | 3374  | 1826  | 1547  | 0   | 3589  | 1560  | 3237  | 3328  | 1485  | 1725  | 3441  | 1535  |
| Grp Volume(v), veh/h  | 46  | 93  | 0   | 0   | 98  | 0   | 438   | 1015  | 0   | 5   | 1918  | 0   |
| Grp Sat Flow(s),veh/h/ln  | 1687  | 1826  | 1547  | 0   | 1749  | 1560  | 1618  | 1664  | 1485  | 1725  | 1721  | 1535  |
| Q Serve(g_s), s   | 1.9   | 6.7   | 0.0   | 0.0   | 3.8   | 0.0   | 9.8   | 16.0  | 0.0   | 0.1   | 59.2  | 0.0   |
| Cycle Q Clear(g_c), s   | 1.9   | 6.7   | 0.0   | 0.0   | 3.8   | 0.0   | 9.8   | 16.0  | 0.0   | 0.1   | 59.2  | 0.0   |
| Prop In Lane  | 1.00  |   | 1.00  | 0.00  |   | 1.00  | 1.00  |   | 1.00  | 1.00  |   | 1.00  |
| Lane Grp Cap(c), veh/h  | 80  | 208   |   | 0   | 154   |   | 471   | 2460  |   | 400   | 2286  |   |
| V/C Ratio(X)  | 0.57  | 0.45  |   | 0.00  | 0.64  |   | 0.93  | 0.41  |   | 0.01  | 0.84  |   |
| Avail Cap(c_a), veh/h   | 229   | 456   |   | 0   | 475   |   | 471   | 2460  |   | 467   | 2286  |   |
| HCM Platoon Ratio   | 1.00  | 1.00  | 1.00  | 1.00  | 2.00  | 2.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Upstream Filter(I)  | 1.00  | 1.00  | 0.00  | 0.00  | 0.83  | 0.00  | 1.00  | 1.00  | 0.00  | 1.00  | 1.00  | 0.00  |
| Uniform Delay (d), s/veh  | 67.6  | 57.9  | 0.0   | 0.0   | 62.8  | 0.0   | 41.5  | 6.9   | 0.0   | 7.7   | 17.8  | 0.0   |
| Incr Delay (d2), s/veh  | 6.3   | 1.5   | 0.0   | 0.0   | 3.6   | 0.0   | 25.0  | 0.5   | 0.0   | 0.0   | 3.9   | 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  | 0.9   | 3.2   | 0.0   | 0.0   | 1.7   | 0.0   | 9.3   | 5.5   | 0.0   | 0.1   | 23.2  | 0.0   |
| Unsig. Movement Delay, s/veh  |   |   |   |   |   |   |   |   |   |   |   |   |
| LnGrp Delay(d),s/veh  | 73.9  | 59.4  | 0.0   | 0.0   | 66.4  | 0.0   | 66.5  | 7.4   | 0.0   | 7.7   | 21.7  | 0.0   |
| LnGrp LOS   | E   | E   |   | A   | E   |   | E   | A   |   | A   | C   |   |
| Approach Vol, veh/h   |   | 139   |   |   | 98  |   |   | 1453  |   |   | 1923  |   |
| Approach Delay, s/veh   |   | 64.2  |   |   | 66.4  |   |   | 25.2  |   |   | 21.7  |   |
| Approach LOS  |   | E   |   |   | E   |   |   | C   |   |   | C   |   |
| Timer - Assigned Phs  | 1   | 2   |   | 4   | 5   | 6   | 7   | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s  | 7.6   | 110.5   |   | 22.0  | 18.0  | 100.0   | 9.8   | 12.1  |   |   |   |   |
| Change Period (Y+Rc), s   | 6.5   | 7.0   |   | 6.0   | 6.5   | 7.0   | 6.5   | 6.0   |   |   |   |   |
| Max Green Setting (Gmax), s   | 6.5   | 79.0  |   | 35.0  | 11.5  | 74.0  | 9.5   | 19.0  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s  | 2.1   | 18.0  |   | 8.7   | 11.8  | 61.2  | 3.9   | 5.8   |   |   |   |   |
| Green Ext Time (p_c), s   | 0.0   | 9.9   |   | 0.4   | 0.0   | 10.4  | 0.0   | 0.4   |   |   |   |   |
| <b>Intersection Summary</b>   |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 6th Ctrl Delay  |   |   |   | 25.9  |   |   |   |   |   |   |   |   |
| HCM 6th LOS   |   |   |   | C   |   |   |   |   |   |   |   |   |
| <b>Notes</b>  |   |   |   |   |   |   |   |   |   |   |   |   |
| Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay. |   |   |   |   |   |   |   |   |   |   |   |   |

Timings  
4: US-24 & Newt Dr/SH-94



| Lane Group           | EBL   | EBT   | EBR   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖↗    | ↑     | ↖     | ↕     | ↖     | ↖↗    | ↕     | ↖     | ↖     | ↕     | ↖     |
| Traffic Volume (vph) | 55    | 80    | 450   | 65    | 10    | 395   | 1925  | 625   | 5     | 1000  | 60    |
| Future Volume (vph)  | 55    | 80    | 450   | 65    | 10    | 395   | 1925  | 625   | 5     | 1000  | 60    |
| Turn Type            | Prot  | NA    | Free  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 11.0  |       | 13.0  | 30.0  |       | 13.0  | 30.0  | 30.0  |
| Total Split (s)      | 20.0  | 43.0  |       | 23.0  |       | 20.0  | 84.0  |       | 13.0  | 77.0  | 77.0  |
| Total Split (%)      | 14.3% | 30.7% |       | 16.4% |       | 14.3% | 60.0% |       | 9.3%  | 55.0% | 55.0% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  |       |       | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   |       |       | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 6.8   | 18.6  | 140.0 | 7.6   | 140.0 | 108.7 | 105.9 | 140.0 | 99.4  | 92.9  | 92.9  |
| Actuated g/C Ratio   | 0.05  | 0.13  | 1.00  | 0.05  | 1.00  | 0.78  | 0.76  | 1.00  | 0.71  | 0.66  | 0.66  |
| v/c Ratio            | 0.35  | 0.34  | 0.30  | 0.36  | 0.01  | 0.54  | 0.76  | 0.42  | 0.04  | 0.46  | 0.06  |
| Control Delay        | 69.7  | 57.0  | 0.5   | 69.0  | 0.0   | 7.2   | 14.4  | 0.8   | 3.0   | 6.0   | 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   |
| Total Delay          | 69.7  | 57.0  | 0.5   | 69.0  | 0.0   | 7.2   | 14.4  | 0.8   | 3.0   | 6.0   | 0.1   |
| LOS                  | E     | E     | A     | E     | A     | A     | B     | A     | A     | A     | A     |
| Approach Delay       |       | 14.7  |       | 59.4  |       |       | 10.6  |       |       | 5.7   |       |
| Approach LOS         |       | B     |       | E     |       |       | B     |       |       | A     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.76  
 Intersection Signal Delay: 10.8  
 Intersection Capacity Utilization 82.7%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service E

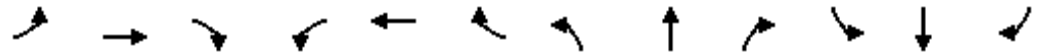
Splits and Phases: 4: US-24 & Newt Dr/SH-94



HCM 6th Signalized Intersection Summary  
 4: US-24 & Newt Dr/SH-94

2026 Total PM Improved\_4 WBL Flyover.syn

11/09/2023



| Movement  | EBL  | EBT   | EBR  | WBL  | WBT  | WBR   | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|---|------|-------|------|------|------|-------|------|------|------|------|------|------|
| Lane Configurations   | ↖↗   | ↑     | ↗    |      | ↑↑   | ↗     | ↖↗   | ↑↑   | ↗    | ↖    | ↑↑   | ↗    |
| Traffic Volume (veh/h)  | 55   | 80    | 450  | 0    | 65   | 10    | 395  | 1925 | 625  | 5    | 1000 | 60   |
| Future Volume (veh/h)   | 55   | 80    | 450  | 0    | 65   | 10    | 395  | 1925 | 625  | 5    | 1000 | 60   |
| Initial Q (Qb), veh   | 0    | 0     | 0    | 0    | 0    | 0     | 0    | 0    | 0    | 0    | 0    | 0    |
| Ped-Bike Adj(A_pbT)   | 1.00 |       | 1.00 | 1.00 |      | 1.00  | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Parking Bus, Adj  | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Work Zone On Approach   |      | No    |      |      | No   |       |      | No   |      |      | No   |      |
| Adj Sat Flow, veh/h/ln  | 1870 | 1870  | 1870 | 0    | 1856 | 1856  | 1856 | 1856 | 1856 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h  | 58   | 84    | 0    | 0    | 68   | 0     | 416  | 2026 | 0    | 5    | 1053 | 0    |
| Peak Hour Factor  | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %  | 2    | 2     | 2    | 0    | 3    | 3     | 3    | 3    | 3    | 5    | 5    | 5    |
| Cap, veh/h  | 96   | 206   |      | 0    | 126  |       | 864  | 2620 |      | 146  | 2428 |      |
| Arrive On Green   | 0.03 | 0.11  | 0.00 | 0.00 | 0.04 | 0.00  | 0.05 | 0.74 | 0.00 | 0.01 | 0.70 | 0.00 |
| Sat Flow, veh/h   | 3456 | 1870  | 1585 | 0    | 3618 | 1572  | 3428 | 3526 | 1572 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h  | 58   | 84    | 0    | 0    | 68   | 0     | 416  | 2026 | 0    | 5    | 1053 | 0    |
| Grp Sat Flow(s),veh/h/ln  | 1728 | 1870  | 1585 | 0    | 1763 | 1572  | 1714 | 1763 | 1572 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s   | 2.3  | 5.9   | 0.0  | 0.0  | 2.7  | 0.0   | 4.6  | 48.6 | 0.0  | 0.1  | 18.3 | 0.0  |
| Cycle Q Clear(g_c), s   | 2.3  | 5.9   | 0.0  | 0.0  | 2.7  | 0.0   | 4.6  | 48.6 | 0.0  | 0.1  | 18.3 | 0.0  |
| Prop In Lane  | 1.00 |       | 1.00 | 0.00 |      | 1.00  | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Lane Grp Cap(c), veh/h  | 96   | 206   |      | 0    | 126  |       | 864  | 2620 |      | 146  | 2428 |      |
| V/C Ratio(X)  | 0.60 | 0.41  |      | 0.00 | 0.54 |       | 0.48 | 0.77 |      | 0.03 | 0.43 |      |
| Avail Cap(c_a), veh/h   | 333  | 494   |      | 0    | 428  |       | 1020 | 2620 |      | 213  | 2428 |      |
| 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(l)  | 1.00 | 1.00  | 0.00 | 0.00 | 0.76 | 0.00  | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh  | 67.3 | 58.1  | 0.0  | 0.0  | 66.4 | 0.0   | 6.9  | 10.9 | 0.0  | 12.6 | 9.1  | 0.0  |
| Incr Delay (d2), s/veh  | 2.2  | 1.3   | 0.0  | 0.0  | 1.0  | 0.0   | 0.2  | 2.3  | 0.0  | 0.0  | 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  | 1.1  | 2.9   | 0.0  | 0.0  | 1.2  | 0.0   | 1.5  | 17.7 | 0.0  | 0.0  | 6.8  | 0.0  |
| Unsig. Movement Delay, s/veh  |      |       |      |      |      |       |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh  | 69.5 | 59.4  | 0.0  | 0.0  | 67.4 | 0.0   | 7.0  | 13.1 | 0.0  | 12.7 | 9.6  | 0.0  |
| LnGrp LOS   | E    | E     |      | A    | E    |       | A    | B    |      | B    | A    |      |
| Approach Vol, veh/h   |      | 142   |      |      | 68   |       |      | 2442 |      |      | 1058 |      |
| Approach Delay, s/veh   |      | 63.5  |      |      | 67.4 |       |      | 12.1 |      |      | 9.6  |      |
| Approach LOS  |      | E     |      |      | E    |       |      | B    |      |      | A    |      |
| Timer - Assigned Phs  | 1    | 2     |      | 4    | 5    | 6     | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s  | 7.6  | 111.0 |      | 21.4 | 13.6 | 105.0 | 10.4 | 11.0 |      |      |      |      |
| Change Period (Y+Rc), s   | 6.5  | 7.0   |      | 6.0  | 6.5  | 7.0   | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s   | 6.5  | 77.0  |      | 37.0 | 13.5 | 70.0  | 13.5 | 17.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s  | 2.1  | 50.6  |      | 7.9  | 6.6  | 20.3  | 4.3  | 4.7  |      |      |      |      |
| Green Ext Time (p_c), s   | 0.0  | 14.7  |      | 0.4  | 0.5  | 6.2   | 0.0  | 0.1  |      |      |      |      |
| <b>Intersection Summary</b>   |      |       |      |      |      |       |      |      |      |      |      |      |
| HCM 6th Ctrl Delay  |      |       | 14.4 |      |      |       |      |      |      |      |      |      |
| HCM 6th LOS   |      |       | B    |      |      |       |      |      |      |      |      |      |
| <b>Notes</b>  |      |       |      |      |      |       |      |      |      |      |      |      |
| Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay. |      |       |      |      |      |       |      |      |      |      |      |      |

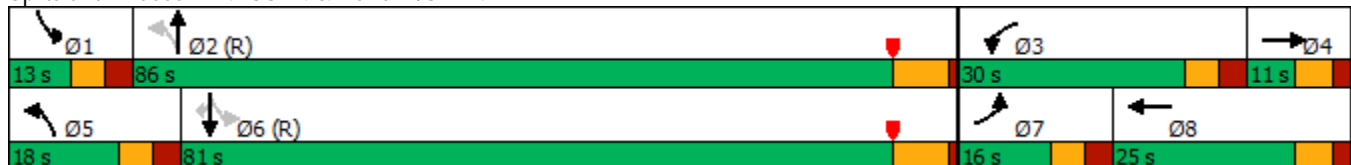
Timings  
4: US-24 & Newt Dr/SH-94

| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph) | 55    | 95    | 555   | 885   | 105   | 5     | 480   | 1010  | 695   | 10    | 2190  | 80    |
| Future Volume (vph)  | 55    | 95    | 555   | 885   | 105   | 5     | 480   | 1010  | 695   | 10    | 2190  | 80    |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 11.5  | 24.0  |       | 12.5  | 29.0  |       | 12.5  | 29.0  | 29.0  |
| Total Split (s)      | 16.0  | 11.0  |       | 30.0  | 25.0  |       | 18.0  | 86.0  |       | 13.0  | 81.0  | 81.0  |
| Total Split (%)      | 11.4% | 7.9%  |       | 21.4% | 17.9% |       | 12.9% | 61.4% |       | 9.3%  | 57.9% | 57.9% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 3.5   | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 3.0   | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.5   | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 7.7   | 5.0   | 140.0 | 23.5  | 23.2  | 140.0 | 92.2  | 89.4  | 140.0 | 80.6  | 74.0  | 74.0  |
| Actuated g/C Ratio   | 0.06  | 0.04  | 1.00  | 0.17  | 0.17  | 1.00  | 0.66  | 0.64  | 1.00  | 0.58  | 0.53  | 0.53  |
| v/c Ratio            | 0.31  | 1.53  | 0.37  | 1.11  | 0.36  | 0.00  | 1.38  | 0.35  | 0.49  | 0.03  | 0.87  | 0.09  |
| Control Delay        | 67.5  | 345.0 | 0.7   | 125.5 | 65.5  | 0.0   | 218.3 | 12.6  | 1.2   | 6.6   | 39.3  | 2.1   |
| 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          | 67.5  | 345.0 | 0.7   | 125.5 | 65.5  | 0.0   | 218.3 | 12.6  | 1.2   | 6.6   | 39.3  | 2.1   |
| LOS                  | E     | F     | A     | F     | E     | A     | F     | B     | A     | A     | D     | A     |
| Approach Delay       |       | 52.3  |       |       | 118.5 |       |       | 54.2  |       |       | 37.9  |       |
| Approach LOS         |       | D     |       |       | F     |       |       | D     |       |       | D     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.53  
 Intersection Signal Delay: 58.3  
 Intersection Capacity Utilization 95.8%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service F

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



HCM 6th Signalized Intersection Summary  
 4: US-24 & Newt Dr/SH-94

2040 Background AM.syn  
 11/10/2023



| Movement                     | EBL   | EBT   | EBR  | WBL  | WBT  | WBR  | NBL   | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|-------|-------|------|------|------|------|-------|------|------|------|------|------|
| Lane Configurations          |       |       |      |      |      |      |       |      |      |      |      |      |
| Traffic Volume (veh/h)       | 55    | 95    | 555  | 885  | 105  | 5    | 480   | 1010 | 695  | 10   | 2190 | 80   |
| Future Volume (veh/h)        | 55    | 95    | 555  | 885  | 105  | 5    | 480   | 1010 | 695  | 10   | 2190 | 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       | 1826  | 1826  | 1826 | 1841 | 1841 | 1841 | 1752  | 1752 | 1752 | 1811 | 1811 | 1811 |
| Adj Flow Rate, veh/h         | 57    | 98    | 0    | 912  | 108  | 0    | 495   | 1041 | 0    | 10   | 2258 | 0    |
| Peak Hour Factor             | 0.97  | 0.97  | 0.97 | 0.97 | 0.97 | 0.97 | 0.97  | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, %         | 5     | 5     | 5    | 4    | 4    | 4    | 10    | 10   | 10   | 6    | 6    | 6    |
| Cap, veh/h                   | 94    | 65    |      | 830  | 323  |      | 409   | 2855 |      | 330  | 2613 |      |
| Arrive On Green              | 0.03  | 0.04  | 0.00 | 0.28 | 0.29 | 0.00 | 0.08  | 0.60 | 0.00 | 0.01 | 0.53 | 0.00 |
| Sat Flow, veh/h              | 3374  | 1826  | 1547 | 4944 | 1841 | 1560 | 3237  | 4782 | 1485 | 1725 | 4944 | 1535 |
| Grp Volume(v), veh/h         | 57    | 98    | 0    | 912  | 108  | 0    | 495   | 1041 | 0    | 10   | 2258 | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1687  | 1826  | 1547 | 1648 | 1841 | 1560 | 1618  | 1594 | 1485 | 1725 | 1648 | 1535 |
| Q Serve(g_s), s              | 2.3   | 5.0   | 0.0  | 23.5 | 6.4  | 0.0  | 11.5  | 15.7 | 0.0  | 0.4  | 55.5 | 0.0  |
| Cycle Q Clear(g_c), s        | 2.3   | 5.0   | 0.0  | 23.5 | 6.4  | 0.0  | 11.5  | 15.7 | 0.0  | 0.4  | 55.5 | 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       | 94    | 65    |      | 830  | 323  |      | 409   | 2855 |      | 330  | 2613 |      |
| V/C Ratio(X)                 | 0.61  | 1.50  |      | 1.10 | 0.33 |      | 1.21  | 0.36 |      | 0.03 | 0.86 |      |
| Avail Cap(c_a), veh/h        | 229   | 65    |      | 830  | 323  |      | 409   | 2855 |      | 386  | 2613 |      |
| HCM Platoon Ratio            | 1.00  | 1.00  | 1.00 | 1.67 | 1.67 | 1.67 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 1.00  | 1.00  | 0.00 | 0.09 | 0.09 | 0.00 | 1.00  | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh     | 67.3  | 67.5  | 0.0  | 50.4 | 43.0 | 0.0  | 43.0  | 14.5 | 0.0  | 14.9 | 28.6 | 0.0  |
| Incr Delay (d2), s/veh       | 6.1   | 290.5 | 0.0  | 46.6 | 0.1  | 0.0  | 115.6 | 0.4  | 0.0  | 0.0  | 4.1  | 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     | 1.1   | 7.6   | 0.0  | 12.5 | 2.8  | 0.0  | 10.3  | 5.8  | 0.0  | 0.2  | 22.4 | 0.0  |
| Unsig. Movement Delay, s/veh |       |       |      |      |      |      |       |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 73.4  | 358.0 | 0.0  | 97.0 | 43.1 | 0.0  | 158.5 | 14.9 | 0.0  | 14.9 | 32.7 | 0.0  |
| LnGrp LOS                    | E     | F     |      | F    | D    |      | F     | B    |      | B    | C    |      |
| Approach Vol, veh/h          | 155   |       | 1020 |      |      |      | 1536  |      | 2268 |      |      |      |
| Approach Delay, s/veh        | 253.4 |       | 91.3 |      |      |      | 61.2  |      | 32.7 |      |      |      |
| Approach LOS                 | F     |       | F    |      |      |      | E     |      | C    |      |      |      |
| Timer - Assigned Phs         | 1     | 2     | 3    | 4    | 5    | 6    | 7     | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 8.4   | 90.6  | 30.0 | 11.0 | 18.0 | 81.0 | 10.4  | 30.6 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5   | 7.0   | 6.5  | 6.0  | 6.5  | 7.0  | 6.5   | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 6.5   | 79.0  | 23.5 | 5.0  | 11.5 | 74.0 | 9.5   | 19.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.4   | 17.7  | 25.5 | 7.0  | 13.5 | 57.5 | 4.3   | 8.4  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0   | 10.0  | 0.0  | 0.0  | 0.0  | 13.9 | 0.0   | 0.3  |      |      |      |      |

**Intersection Summary**

HCM 6th Ctrl Delay 60.3  
 HCM 6th LOS E

**Notes**

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

Timings  
4: US-24 & Newt Dr/SH-94

| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph) | 65    | 95    | 535   | 885   | 80    | 10    | 470   | 2130  | 930   | 10    | 1180  | 75    |
| Future Volume (vph)  | 65    | 95    | 535   | 885   | 80    | 10    | 470   | 2130  | 930   | 10    | 1180  | 75    |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 11.5  | 11.0  |       | 13.0  | 30.0  |       | 13.0  | 30.0  | 30.0  |
| Total Split (s)      | 20.0  | 13.0  |       | 30.0  | 23.0  |       | 20.0  | 84.0  |       | 13.0  | 77.0  | 77.0  |
| Total Split (%)      | 14.3% | 9.3%  |       | 21.4% | 16.4% |       | 14.3% | 60.0% |       | 9.3%  | 55.0% | 55.0% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 3.5   | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 3.0   | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.5   | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 7.2   | 7.0   | 140.0 | 23.5  | 25.6  | 140.0 | 90.5  | 85.0  | 140.0 | 77.5  | 71.0  | 71.0  |
| Actuated g/C Ratio   | 0.05  | 0.05  | 1.00  | 0.17  | 0.18  | 1.00  | 0.65  | 0.61  | 1.00  | 0.55  | 0.51  | 0.51  |
| v/c Ratio            | 0.39  | 1.08  | 0.36  | 1.12  | 0.25  | 0.01  | 0.83  | 0.73  | 0.62  | 0.09  | 0.50  | 0.09  |
| Control Delay        | 70.1  | 175.4 | 0.6   | 108.7 | 58.3  | 0.0   | 25.6  | 22.2  | 1.9   | 5.8   | 10.0  | 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   | 0.0   |
| Total Delay          | 70.1  | 175.4 | 0.6   | 108.7 | 58.3  | 0.0   | 25.6  | 22.2  | 1.9   | 5.8   | 10.0  | 0.2   |
| LOS                  | E     | F     | A     | F     | E     | A     | C     | C     | A     | A     | A     | A     |
| Approach Delay       |       | 31.0  |       |       | 103.4 |       |       | 17.3  |       |       | 9.4   |       |
| Approach LOS         |       | C     |       |       | F     |       |       | B     |       |       | A     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.12  
 Intersection Signal Delay: 30.2  
 Intersection LOS: C  
 Intersection Capacity Utilization 85.9%  
 ICU Level of Service E  
 Analysis Period (min) 15

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



# HCM 6th Signalized Intersection Summary

## 4: US-24 & Newt Dr/SH-94

2040 Background PM.syn

11/10/2023



| Movement                     | EBL  | EBT   | EBR  | WBL   | WBT   | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|-------|------|-------|-------|------|------|------|------|------|------|------|
| Lane Configurations          | ↗↘   | ↑     | ↗    | ↗↘↙   | ↑     | ↗    | ↗↘   | ↑↑↑  | ↗    | ↘    | ↑↑↑  | ↗    |
| Traffic Volume (veh/h)       | 65   | 95    | 535  | 885   | 80    | 10   | 470  | 2130 | 930  | 10   | 1180 | 75   |
| Future Volume (veh/h)        | 65   | 95    | 535  | 885   | 80    | 10   | 470  | 2130 | 930  | 10   | 1180 | 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         | 68   | 100   | 0    | 932   | 84    | 0    | 495  | 2242 | 0    | 11   | 1242 | 0    |
| Peak Hour Factor             | 0.95 | 0.95  | 0.95 | 0.95  | 0.95  | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 3     | 3     | 3    | 3    | 3    | 3    | 5    | 5    | 5    |
| Cap, veh/h                   | 109  | 94    |      | 837   | 346   |      | 689  | 2946 |      | 119  | 2563 |      |
| Arrive On Green              | 0.03 | 0.05  | 0.00 | 0.06  | 0.06  | 0.00 | 0.08 | 0.58 | 0.00 | 0.01 | 0.51 | 0.00 |
| Sat Flow, veh/h              | 3456 | 1870  | 1585 | 4983  | 1856  | 1572 | 3428 | 5066 | 1572 | 1739 | 4985 | 1547 |
| Grp Volume(v), veh/h         | 68   | 100   | 0    | 932   | 84    | 0    | 495  | 2242 | 0    | 11   | 1242 | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1728 | 1870  | 1585 | 1661  | 1856  | 1572 | 1714 | 1689 | 1572 | 1739 | 1662 | 1547 |
| Q Serve(g_s), s              | 2.7  | 7.0   | 0.0  | 23.5  | 6.0   | 0.0  | 9.2  | 46.5 | 0.0  | 0.4  | 22.6 | 0.0  |
| Cycle Q Clear(g_c), s        | 2.7  | 7.0   | 0.0  | 23.5  | 6.0   | 0.0  | 9.2  | 46.5 | 0.0  | 0.4  | 22.6 | 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       | 109  | 94    |      | 837   | 346   |      | 689  | 2946 |      | 119  | 2563 |      |
| V/C Ratio(X)                 | 0.62 | 1.07  |      | 1.11  | 0.24  |      | 0.72 | 0.76 |      | 0.09 | 0.48 |      |
| Avail Cap(c_a), veh/h        | 333  | 94    |      | 837   | 346   |      | 738  | 2946 |      | 173  | 2563 |      |
| 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(l)           | 1.00 | 1.00  | 0.00 | 0.09  | 0.09  | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh     | 67.0 | 66.5  | 0.0  | 66.1  | 56.3  | 0.0  | 17.5 | 22.0 | 0.0  | 20.9 | 22.0 | 0.0  |
| Incr Delay (d2), s/veh       | 2.1  | 113.1 | 0.0  | 53.2  | 0.0   | 0.0  | 2.6  | 1.9  | 0.0  | 0.1  | 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     | 1.2  | 6.3   | 0.0  | 14.7  | 2.9   | 0.0  | 3.8  | 18.5 | 0.0  | 0.2  | 9.0  | 0.0  |
| Unsig. Movement Delay, s/veh |      |       |      |       |       |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 69.1 | 179.6 | 0.0  | 119.3 | 56.3  | 0.0  | 20.0 | 23.9 | 0.0  | 21.0 | 22.7 | 0.0  |
| LnGrp LOS                    | E    | F     |      | F     | E     |      | C    | C    |      | C    | C    |      |
| Approach Vol, veh/h          |      | 168   |      |       | 1016  |      |      | 2737 |      |      | 1253 |      |
| Approach Delay, s/veh        |      | 134.9 |      |       | 114.1 |      |      | 23.2 |      |      | 22.6 |      |
| Approach LOS                 |      | F     |      |       | F     |      |      | C    |      |      | C    |      |
| Timer - Assigned Phs         | 1    | 2     | 3    | 4     | 5     | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 8.6  | 88.4  | 30.0 | 13.0  | 18.0  | 79.0 | 10.9 | 32.1 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0   | 6.5  | 6.0   | 6.5   | 7.0  | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 6.5  | 77.0  | 23.5 | 7.0   | 13.5  | 70.0 | 13.5 | 17.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.4  | 48.5  | 25.5 | 9.0   | 11.2  | 24.6 | 4.7  | 8.0  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 16.4  | 0.0  | 0.0   | 0.3   | 7.7  | 0.0  | 0.1  |      |      |      |      |

### Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 44.5 |
| HCM 6th LOS        | D    |

### Notes

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

Timings  
4: US-24 & Newt Dr/SH-94

2040 Total AM.syn  
11/10/2023

| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph) | 55    | 95    | 555   | 1155  | 105   | 5     | 480   | 1150  | 855   | 10    | 2190  | 80    |
| Future Volume (vph)  | 55    | 95    | 555   | 1155  | 105   | 5     | 480   | 1150  | 855   | 10    | 2190  | 80    |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 11.5  | 24.0  |       | 12.5  | 29.0  |       | 12.5  | 29.0  | 29.0  |
| Total Split (s)      | 16.0  | 11.0  |       | 30.0  | 25.0  |       | 18.0  | 86.0  |       | 13.0  | 81.0  | 81.0  |
| Total Split (%)      | 11.4% | 7.9%  |       | 21.4% | 17.9% |       | 12.9% | 61.4% |       | 9.3%  | 57.9% | 57.9% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 3.5   | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 3.0   | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.5   | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 7.7   | 5.0   | 140.0 | 23.5  | 23.2  | 140.0 | 92.2  | 89.4  | 140.0 | 80.6  | 74.0  | 74.0  |
| Actuated g/C Ratio   | 0.06  | 0.04  | 1.00  | 0.17  | 0.17  | 1.00  | 0.66  | 0.64  | 1.00  | 0.58  | 0.53  | 0.53  |
| v/c Ratio            | 0.31  | 1.53  | 0.37  | 1.45  | 0.36  | 0.00  | 1.38  | 0.39  | 0.60  | 0.03  | 0.87  | 0.09  |
| Control Delay        | 67.5  | 345.0 | 0.7   | 255.3 | 51.7  | 0.0   | 218.3 | 13.1  | 1.8   | 6.9   | 43.1  | 2.9   |
| 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          | 67.5  | 345.0 | 0.7   | 255.3 | 51.7  | 0.0   | 218.3 | 13.1  | 1.8   | 6.9   | 43.1  | 2.9   |
| LOS                  | E     | F     | A     | F     | D     | A     | F     | B     | A     | A     | D     | A     |
| Approach Delay       |       | 52.3  |       |       | 237.5 |       |       | 48.9  |       |       | 41.6  |       |
| Approach LOS         |       | D     |       |       | F     |       |       | D     |       |       | D     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.53  
 Intersection Signal Delay: 82.2  
 Intersection LOS: F  
 Intersection Capacity Utilization 100.9%  
 ICU Level of Service G  
 Analysis Period (min) 15

























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





HCM 6th Signalized Intersection Summary  
4: US-24 & Newt Dr/SH-94

2040 Total AM.syn  
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|                              |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement                     | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations          |  |  |  |  |  |  |   |  |  |  |  |  |
| Traffic Volume (veh/h)       | 55  | 95  | 555   | 1155  | 105   | 5   | 480   | 1150  | 855   | 10  | 2190  | 80  |
| Future Volume (veh/h)        | 55  | 95  | 555   | 1155  | 105   | 5   | 480   | 1150  | 855   | 10  | 2190  | 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       | 1826  | 1826  | 1826  | 1841  | 1841  | 1841  | 1752  | 1752  | 1752  | 1811  | 1811  | 1811  |
| Adj Flow Rate, veh/h         | 57  | 98  | 0   | 1191  | 108   | 0   | 495   | 1186  | 0   | 10  | 2258  | 0   |
| Peak Hour Factor             | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  | 0.97  |
| Percent Heavy Veh, %         | 5   | 5   | 5   | 4   | 4   | 4   | 10  | 10  | 10  | 6   | 6   | 6   |
| Cap, veh/h                   | 94  | 65  |   | 830   | 323   |   | 409   | 2855  |   | 287   | 2613  |   |
| Arrive On Green              | 0.03  | 0.04  | 0.00  | 0.28  | 0.29  | 0.00  | 0.08  | 0.60  | 0.00  | 0.01  | 0.53  | 0.00  |
| Sat Flow, veh/h              | 3374  | 1826  | 1547  | 4944  | 1841  | 1560  | 3237  | 4782  | 1485  | 1725  | 4944  | 1535  |
| Grp Volume(v), veh/h         | 57  | 98  | 0   | 1191  | 108   | 0   | 495   | 1186  | 0   | 10  | 2258  | 0   |
| Grp Sat Flow(s),veh/h/ln     | 1687  | 1826  | 1547  | 1648  | 1841  | 1560  | 1618  | 1594  | 1485  | 1725  | 1648  | 1535  |
| Q Serve(g_s), s              | 2.3   | 5.0   | 0.0   | 23.5  | 6.4   | 0.0   | 11.5  | 18.6  | 0.0   | 0.4   | 55.5  | 0.0   |
| Cycle Q Clear(g_c), s        | 2.3   | 5.0   | 0.0   | 23.5  | 6.4   | 0.0   | 11.5  | 18.6  | 0.0   | 0.4   | 55.5  | 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       | 94  | 65  |   | 830   | 323   |   | 409   | 2855  |   | 287   | 2613  |   |
| V/C Ratio(X)                 | 0.61  | 1.50  |   | 1.44  | 0.33  |   | 1.21  | 0.42  |   | 0.03  | 0.86  |   |
| Avail Cap(c_a), veh/h        | 229   | 65  |   | 830   | 323   |   | 409   | 2855  |   | 344   | 2613  |   |
| HCM Platoon Ratio            | 1.00  | 1.00  | 1.00  | 1.67  | 1.67  | 1.67  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Upstream Filter(l)           | 1.00  | 1.00  | 0.00  | 0.86  | 0.86  | 0.00  | 1.00  | 1.00  | 0.00  | 1.00  | 1.00  | 0.00  |
| Uniform Delay (d), s/veh     | 67.3  | 67.5  | 0.0   | 50.4  | 43.0  | 0.0   | 43.0  | 15.1  | 0.0   | 15.0  | 28.6  | 0.0   |
| Incr Delay (d2), s/veh       | 6.1   | 290.5   | 0.0   | 201.8   | 0.5   | 0.0   | 115.6   | 0.4   | 0.0   | 0.0   | 4.1   | 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     | 1.1   | 7.6   | 0.0   | 24.4  | 2.9   | 0.0   | 10.3  | 6.8   | 0.0   | 0.2   | 22.4  | 0.0   |
| Unsig. Movement Delay, s/veh |   |   |   |   |   |   |   |   |   |   |   |   |
| LnGrp Delay(d),s/veh         | 73.4  | 358.0   | 0.0   | 252.2   | 43.6  | 0.0   | 158.5   | 15.6  | 0.0   | 15.1  | 32.7  | 0.0   |
| LnGrp LOS                    | E   | F   |   | F   | D   |   | F   | B   |   | B   | C   |   |
| Approach Vol, veh/h          |   | 155   |   |   | 1299  |   |   | 1681  |   |   | 2268  |   |
| Approach Delay, s/veh        |   | 253.4   |   |   | 234.9   |   |   | 57.7  |   |   | 32.7  |   |
| Approach LOS                 |   | F   |   |   | F   |   |   | E   |   |   | C   |   |
| Timer - Assigned Phs         | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s     | 8.4   | 90.6  | 30.0  | 11.0  | 18.0  | 81.0  | 10.4  | 30.6  |   |   |   |   |
| Change Period (Y+Rc), s      | 6.5   | 7.0   | 6.5   | 6.0   | 6.5   | 7.0   | 6.5   | 6.0   |   |   |   |   |
| Max Green Setting (Gmax), s  | 6.5   | 79.0  | 23.5  | 5.0   | 11.5  | 74.0  | 9.5   | 19.0  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s | 2.4   | 20.6  | 25.5  | 7.0   | 13.5  | 57.5  | 4.3   | 8.4   |   |   |   |   |
| Green Ext Time (p_c), s      | 0.0   | 12.1  | 0.0   | 0.0   | 0.0   | 13.9  | 0.0   | 0.3   |   |   |   |   |

| Intersection Summary |  |  |  |      |  |  |  |  |  |  |  |  |
|----------------------|--|--|--|------|--|--|--|--|--|--|--|--|
| HCM 6th Ctrl Delay   |  |  |  | 95.4 |  |  |  |  |  |  |  |  |
| HCM 6th LOS          |  |  |  | F    |  |  |  |  |  |  |  |  |

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

Timings  
4: US-24 & Newt Dr/SH-94

2040 Total PM.syn  
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| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph) | 65    | 95    | 535   | 1160  | 80    | 10    | 470   | 2325  | 1165  | 10    | 1180  | 75    |
| Future Volume (vph)  | 65    | 95    | 535   | 1160  | 80    | 10    | 470   | 2325  | 1165  | 10    | 1180  | 75    |
| Turn Type            | Prot  | NA    | Free  | Prot  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 3     | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 11.5  | 11.0  |       | 13.0  | 30.0  |       | 13.0  | 30.0  | 30.0  |
| Total Split (s)      | 20.0  | 13.0  |       | 30.0  | 23.0  |       | 20.0  | 84.0  |       | 13.0  | 77.0  | 77.0  |
| Total Split (%)      | 14.3% | 9.3%  |       | 21.4% | 16.4% |       | 14.3% | 60.0% |       | 9.3%  | 55.0% | 55.0% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 3.5   | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 3.0   | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.5   | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 7.2   | 7.0   | 140.0 | 23.5  | 25.6  | 140.0 | 90.5  | 85.0  | 140.0 | 77.5  | 71.0  | 71.0  |
| Actuated g/C Ratio   | 0.05  | 0.05  | 1.00  | 0.17  | 0.18  | 1.00  | 0.65  | 0.61  | 1.00  | 0.55  | 0.51  | 0.51  |
| v/c Ratio            | 0.39  | 1.08  | 0.36  | 1.47  | 0.25  | 0.01  | 0.83  | 0.80  | 0.78  | 0.09  | 0.50  | 0.09  |
| Control Delay        | 70.1  | 175.4 | 0.6   | 258.9 | 62.6  | 0.0   | 25.6  | 24.6  | 4.0   | 6.3   | 10.4  | 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   | 0.0   |
| Total Delay          | 70.1  | 175.4 | 0.6   | 258.9 | 62.6  | 0.0   | 25.6  | 24.6  | 4.0   | 6.3   | 10.4  | 0.2   |
| LOS                  | E     | F     | A     | F     | E     | A     | C     | C     | A     | A     | B     | A     |
| Approach Delay       |       | 31.0  |       |       | 244.2 |       |       | 18.7  |       |       | 9.7   |       |
| Approach LOS         |       | C     |       |       | F     |       |       | B     |       |       | A     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.47  
 Intersection Signal Delay: 57.6  
 Intersection Capacity Utilization 94.9%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service F

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



# HCM 6th Signalized Intersection Summary

2040 Total PM.syn

## 4: US-24 & Newt Dr/SH-94

11/10/2023



| Movement                     | EBL  | EBT   | EBR  | WBL   | WBT   | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|-------|------|-------|-------|------|------|------|------|------|------|------|
| Lane Configurations          |      |       |      |       |       |      |      |      |      |      |      |      |
| Traffic Volume (veh/h)       | 65   | 95    | 535  | 1160  | 80    | 10   | 470  | 2325 | 1165 | 10   | 1180 | 75   |
| Future Volume (veh/h)        | 65   | 95    | 535  | 1160  | 80    | 10   | 470  | 2325 | 1165 | 10   | 1180 | 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         | 68   | 100   | 0    | 1221  | 84    | 0    | 495  | 2447 | 0    | 11   | 1242 | 0    |
| Peak Hour Factor             | 0.95 | 0.95  | 0.95 | 0.95  | 0.95  | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 3     | 3     | 3    | 3    | 3    | 3    | 5    | 5    | 5    |
| Cap, veh/h                   | 109  | 94    |      | 837   | 346   |      | 689  | 2946 |      | 103  | 2563 |      |
| Arrive On Green              | 0.03 | 0.05  | 0.00 | 0.06  | 0.06  | 0.00 | 0.08 | 0.58 | 0.00 | 0.01 | 0.51 | 0.00 |
| Sat Flow, veh/h              | 3456 | 1870  | 1585 | 4983  | 1856  | 1572 | 3428 | 5066 | 1572 | 1739 | 4985 | 1547 |
| Grp Volume(v), veh/h         | 68   | 100   | 0    | 1221  | 84    | 0    | 495  | 2447 | 0    | 11   | 1242 | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1728 | 1870  | 1585 | 1661  | 1856  | 1572 | 1714 | 1689 | 1572 | 1739 | 1662 | 1547 |
| Q Serve(g_s), s              | 2.7  | 7.0   | 0.0  | 23.5  | 6.0   | 0.0  | 9.2  | 54.7 | 0.0  | 0.4  | 22.6 | 0.0  |
| Cycle Q Clear(g_c), s        | 2.7  | 7.0   | 0.0  | 23.5  | 6.0   | 0.0  | 9.2  | 54.7 | 0.0  | 0.4  | 22.6 | 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       | 109  | 94    |      | 837   | 346   |      | 689  | 2946 |      | 103  | 2563 |      |
| V/C Ratio(X)                 | 0.62 | 1.07  |      | 1.46  | 0.24  |      | 0.72 | 0.83 |      | 0.11 | 0.48 |      |
| Avail Cap(c_a), veh/h        | 333  | 94    |      | 837   | 346   |      | 738  | 2946 |      | 158  | 2563 |      |
| 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(l)           | 1.00 | 1.00  | 0.00 | 0.46  | 0.46  | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh     | 67.0 | 66.5  | 0.0  | 66.1  | 56.3  | 0.0  | 17.5 | 23.7 | 0.0  | 23.6 | 22.0 | 0.0  |
| Incr Delay (d2), s/veh       | 2.1  | 113.1 | 0.0  | 209.9 | 0.1   | 0.0  | 2.6  | 2.9  | 0.0  | 0.2  | 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     | 1.2  | 6.3   | 0.0  | 26.8  | 2.9   | 0.0  | 3.8  | 21.9 | 0.0  | 0.2  | 9.0  | 0.0  |
| Unsig. Movement Delay, s/veh |      |       |      |       |       |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 69.1 | 179.6 | 0.0  | 276.1 | 56.4  | 0.0  | 20.0 | 26.6 | 0.0  | 23.8 | 22.7 | 0.0  |
| LnGrp LOS                    | E    | F     |      | F     | E     |      | C    | C    |      | C    | C    |      |
| Approach Vol, veh/h          |      | 168   |      |       | 1305  |      |      | 2942 |      |      | 1253 |      |
| Approach Delay, s/veh        |      | 134.9 |      |       | 261.9 |      |      | 25.5 |      |      | 22.7 |      |
| Approach LOS                 |      | F     |      |       | F     |      |      | C    |      |      | C    |      |
| Timer - Assigned Phs         | 1    | 2     | 3    | 4     | 5     | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 8.6  | 88.4  | 30.0 | 13.0  | 18.0  | 79.0 | 10.9 | 32.1 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0   | 6.5  | 6.0   | 6.5   | 7.0  | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 6.5  | 77.0  | 23.5 | 7.0   | 13.5  | 70.0 | 13.5 | 17.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.4  | 56.7  | 25.5 | 9.0   | 11.2  | 24.6 | 4.7  | 8.0  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 14.5  | 0.0  | 0.0   | 0.3   | 7.7  | 0.0  | 0.1  |      |      |      |      |

### Intersection Summary

HCM 6th Ctrl Delay 82.5

HCM 6th LOS F

### Notes

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

Timings  
4: US-24 & Newt Dr/SH-94



| Lane Group           | EBL   | EBT   | EBR   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖↗    | ↑     | ↖     | ↕     | ↖     | ↖↗    | ↕     | ↖     | ↖     | ↕     | ↖     |
| Traffic Volume (vph) | 55    | 95    | 555   | 105   | 5     | 480   | 1150  | 855   | 10    | 2190  | 80    |
| Future Volume (vph)  | 55    | 95    | 555   | 105   | 5     | 480   | 1150  | 855   | 10    | 2190  | 80    |
| Turn Type            | Prot  | NA    | Free  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 24.0  |       | 12.5  | 29.0  |       | 12.5  | 29.0  | 29.0  |
| Total Split (s)      | 16.0  | 41.0  |       | 25.0  |       | 18.0  | 86.0  |       | 13.0  | 81.0  | 81.0  |
| Total Split (%)      | 11.4% | 29.3% |       | 17.9% |       | 12.9% | 61.4% |       | 9.3%  | 57.9% | 57.9% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  |       |       | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   |       |       | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 7.7   | 21.7  | 140.0 | 9.9   | 140.0 | 105.6 | 102.8 | 140.0 | 93.9  | 87.3  | 87.3  |
| Actuated g/C Ratio   | 0.06  | 0.16  | 1.00  | 0.07  | 1.00  | 0.75  | 0.73  | 1.00  | 0.67  | 0.62  | 0.62  |
| v/c Ratio            | 0.31  | 0.35  | 0.37  | 0.44  | 0.00  | 1.38  | 0.49  | 0.60  | 0.03  | 1.06  | 0.08  |
| Control Delay        | 67.5  | 54.3  | 0.7   | 72.6  | 0.0   | 222.1 | 10.1  | 1.8   | 4.1   | 66.4  | 2.5   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 67.5  | 54.3  | 0.7   | 72.6  | 0.0   | 222.1 | 10.1  | 1.8   | 4.1   | 66.4  | 2.5   |
| LOS                  | E     | D     | A     | E     | A     | F     | B     | A     | A     | E     | A     |
| Approach Delay       |       | 13.2  |       | 69.4  |       |       | 48.2  |       |       | 63.9  |       |
| Approach LOS         |       | B     |       | E     |       |       | D     |       |       | E     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.38  
 Intersection Signal Delay: 50.6  
 Intersection Capacity Utilization 98.7%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service F

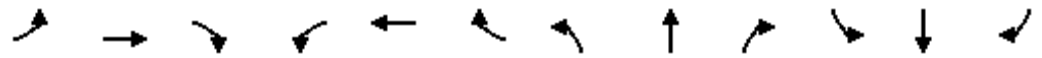
Splits and Phases: 4: US-24 & Newt Dr/SH-94



HCM 6th Signalized Intersection Summary  
4: US-24 & Newt Dr/SH-94

2040 Total AM\_4 WBL Flyover.syn

11/10/2023



| Movement                     | EBL  | EBT   | EBR  | WBL  | WBT  | WBR  | NBL   | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|-------|------|------|------|------|-------|------|------|------|------|------|
| Lane Configurations          | ↖↗   | ↑     | ↖    |      | ↑↑   | ↖    | ↖↗    | ↑↑   | ↖    | ↖    | ↑↑   | ↖    |
| Traffic Volume (veh/h)       | 55   | 95    | 555  | 0    | 105  | 5    | 480   | 1150 | 855  | 10   | 2190 | 80   |
| Future Volume (veh/h)        | 55   | 95    | 555  | 0    | 105  | 5    | 480   | 1150 | 855  | 10   | 2190 | 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       | 1826 | 1826  | 1826 | 0    | 1841 | 1841 | 1752  | 1752 | 1752 | 1811 | 1811 | 1811 |
| Adj Flow Rate, veh/h         | 57   | 98    | 0    | 0    | 108  | 0    | 495   | 1186 | 0    | 10   | 2258 | 0    |
| Peak Hour Factor             | 0.97 | 0.97  | 0.97 | 0.97 | 0.97 | 0.97 | 0.97  | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, %         | 5    | 5     | 5    | 0    | 4    | 4    | 10    | 10   | 10   | 6    | 6    | 6    |
| Cap, veh/h                   | 94   | 221   |      | 0    | 164  |      | 370   | 2415 |      | 338  | 2262 |      |
| Arrive On Green              | 0.03 | 0.12  | 0.00 | 0.00 | 0.09 | 0.00 | 0.08  | 0.73 | 0.00 | 0.01 | 0.66 | 0.00 |
| Sat Flow, veh/h              | 3374 | 1826  | 1547 | 0    | 3589 | 1560 | 3237  | 3328 | 1485 | 1725 | 3441 | 1535 |
| Grp Volume(v), veh/h         | 57   | 98    | 0    | 0    | 108  | 0    | 495   | 1186 | 0    | 10   | 2258 | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1687 | 1826  | 1547 | 0    | 1749 | 1560 | 1618  | 1664 | 1485 | 1725 | 1721 | 1535 |
| Q Serve(g_s), s              | 2.3  | 7.0   | 0.0  | 0.0  | 4.2  | 0.0  | 11.5  | 21.3 | 0.0  | 0.3  | 91.6 | 0.0  |
| Cycle Q Clear(g_c), s        | 2.3  | 7.0   | 0.0  | 0.0  | 4.2  | 0.0  | 11.5  | 21.3 | 0.0  | 0.3  | 91.6 | 0.0  |
| Prop In Lane                 | 1.00 |       | 1.00 | 0.00 |      | 1.00 | 1.00  |      | 1.00 | 1.00 |      | 1.00 |
| Lane Grp Cap(c), veh/h       | 94   | 221   |      | 0    | 164  |      | 370   | 2415 |      | 338  | 2262 |      |
| V/C Ratio(X)                 | 0.61 | 0.44  |      | 0.00 | 0.66 |      | 1.34  | 0.49 |      | 0.03 | 1.00 |      |
| Avail Cap(c_a), veh/h        | 229  | 456   |      | 0    | 475  |      | 370   | 2415 |      | 394  | 2262 |      |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.00 | 1.00 | 2.00 | 2.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 1.00 | 1.00  | 0.00 | 0.00 | 0.09 | 0.00 | 1.00  | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh     | 67.3 | 57.1  | 0.0  | 0.0  | 62.3 | 0.0  | 53.0  | 8.2  | 0.0  | 8.1  | 23.9 | 0.0  |
| Incr Delay (d2), s/veh       | 6.1  | 1.4   | 0.0  | 0.0  | 0.4  | 0.0  | 169.8 | 0.7  | 0.0  | 0.0  | 18.5 | 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     | 1.1  | 3.3   | 0.0  | 0.0  | 1.8  | 0.0  | 15.3  | 7.4  | 0.0  | 0.1  | 40.1 | 0.0  |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |      |       |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 73.4 | 58.5  | 0.0  | 0.0  | 62.7 | 0.0  | 222.8 | 8.9  | 0.0  | 8.2  | 42.5 | 0.0  |
| LnGrp LOS                    | E    | E     |      | A    | E    |      | F     | A    |      | A    | D    |      |
| Approach Vol, veh/h          |      | 155   |      |      | 108  |      |       | 1681 |      |      | 2268 |      |
| Approach Delay, s/veh        |      | 64.0  |      |      | 62.7 |      |       | 71.9 |      |      | 42.3 |      |
| Approach LOS                 |      | E     |      |      | E    |      |       | E    |      |      | D    |      |
| Timer - Assigned Phs         | 1    | 2     |      | 4    | 5    | 6    | 7     | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 8.4  | 108.6 |      | 23.0 | 18.0 | 99.0 | 10.4  | 12.6 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0   |      | 6.0  | 6.5  | 7.0  | 6.5   | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 6.5  | 79.0  |      | 35.0 | 11.5 | 74.0 | 9.5   | 19.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.3  | 23.3  |      | 9.0  | 13.5 | 93.6 | 4.3   | 6.2  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 12.6  |      | 0.5  | 0.0  | 0.0  | 0.0   | 0.4  |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 55.4 |
| HCM 6th LOS        | E    |

Notes

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

Timings  
4: US-24 & Newt Dr/SH-94



| Lane Group           | EBL   | EBT   | EBR   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖↗    | ↑     | ↖     | ↑↑    | ↖     | ↖↗    | ↑↑    | ↖     | ↖     | ↑↑    | ↖     |
| Traffic Volume (vph) | 65    | 95    | 535   | 80    | 10    | 470   | 2325  | 1165  | 10    | 1180  | 75    |
| Future Volume (vph)  | 65    | 95    | 535   | 80    | 10    | 470   | 2325  | 1165  | 10    | 1180  | 75    |
| Turn Type            | Prot  | NA    | Free  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 11.0  |       | 13.0  | 30.0  |       | 13.0  | 30.0  | 30.0  |
| Total Split (s)      | 20.0  | 43.0  |       | 23.0  |       | 20.0  | 84.0  |       | 13.0  | 77.0  | 77.0  |
| Total Split (%)      | 14.3% | 30.7% |       | 16.4% |       | 14.3% | 60.0% |       | 9.3%  | 55.0% | 55.0% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  |       |       | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   |       |       | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effect Green (s) | 7.2   | 19.7  | 140.0 | 8.3   | 140.0 | 107.8 | 102.3 | 140.0 | 92.4  | 85.9  | 85.9  |
| Actuated g/C Ratio   | 0.05  | 0.14  | 1.00  | 0.06  | 1.00  | 0.77  | 0.73  | 1.00  | 0.66  | 0.61  | 0.61  |
| v/c Ratio            | 0.39  | 0.38  | 0.36  | 0.41  | 0.01  | 0.69  | 0.96  | 0.78  | 0.09  | 0.59  | 0.08  |
| Control Delay        | 70.1  | 57.2  | 0.6   | 63.0  | 0.0   | 13.2  | 29.0  | 4.0   | 4.8   | 9.0   | 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   |
| Total Delay          | 70.1  | 57.2  | 0.6   | 63.0  | 0.0   | 13.2  | 29.0  | 4.0   | 4.8   | 9.0   | 0.1   |
| LOS                  | E     | E     | A     | E     | A     | B     | C     | A     | A     | A     | A     |
| Approach Delay       |       | 14.8  |       | 55.7  |       |       | 19.8  |       |       | 8.5   |       |
| Approach LOS         |       | B     |       | E     |       |       | B     |       |       | A     |       |

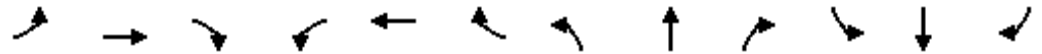
Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 130  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 17.4  
 Intersection Capacity Utilization 94.0%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service F

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



HCM 6th Signalized Intersection Summary  
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)  | 65   | 95    | 535  | 0    | 80   | 10    | 470  | 2325 | 1165 | 10   | 1180 | 75   |
| Future Volume (veh/h)   | 65   | 95    | 535  | 0    | 80   | 10    | 470  | 2325 | 1165 | 10   | 1180 | 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 | 0    | 1856 | 1856  | 1856 | 1856 | 1856 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h  | 68   | 100   | 0    | 0    | 84   | 0     | 495  | 2447 | 0    | 11   | 1242 | 0    |
| Peak Hour Factor  | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95  | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %  | 2    | 2     | 2    | 0    | 3    | 3     | 3    | 3    | 3    | 5    | 5    | 5    |
| Cap, veh/h  | 109  | 219   |      | 0    | 138  |       | 745  | 2568 |      | 93   | 2372 |      |
| Arrive On Green   | 0.03 | 0.12  | 0.00 | 0.00 | 0.01 | 0.00  | 0.06 | 0.73 | 0.00 | 0.01 | 0.68 | 0.00 |
| Sat Flow, veh/h   | 3456 | 1870  | 1585 | 0    | 3618 | 1572  | 3428 | 3526 | 1572 | 1739 | 3469 | 1547 |
| Grp Volume(v), veh/h  | 68   | 100   | 0    | 0    | 84   | 0     | 495  | 2447 | 0    | 11   | 1242 | 0    |
| Grp Sat Flow(s),veh/h/ln  | 1728 | 1870  | 1585 | 0    | 1763 | 1572  | 1714 | 1763 | 1572 | 1739 | 1735 | 1547 |
| Q Serve(g_s), s   | 2.7  | 7.0   | 0.0  | 0.0  | 3.3  | 0.0   | 5.8  | 86.3 | 0.0  | 0.3  | 24.7 | 0.0  |
| Cycle Q Clear(g_c), s   | 2.7  | 7.0   | 0.0  | 0.0  | 3.3  | 0.0   | 5.8  | 86.3 | 0.0  | 0.3  | 24.7 | 0.0  |
| Prop In Lane  | 1.00 |       | 1.00 | 0.00 |      | 1.00  | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Lane Grp Cap(c), veh/h  | 109  | 219   |      | 0    | 138  |       | 745  | 2568 |      | 93   | 2372 |      |
| V/C Ratio(X)  | 0.62 | 0.46  |      | 0.00 | 0.61 |       | 0.66 | 0.95 |      | 0.12 | 0.52 |      |
| Avail Cap(c_a), veh/h   | 333  | 494   |      | 0    | 428  |       | 871  | 2568 |      | 147  | 2372 |      |
| HCM Platoon Ratio   | 1.00 | 1.00  | 1.00 | 1.00 | 0.33 | 0.33  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l)  | 1.00 | 1.00  | 0.00 | 0.00 | 0.09 | 0.00  | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh  | 67.0 | 57.6  | 0.0  | 0.0  | 68.0 | 0.0   | 10.7 | 16.9 | 0.0  | 31.3 | 10.9 | 0.0  |
| Incr Delay (d2), s/veh  | 2.1  | 1.5   | 0.0  | 0.0  | 0.1  | 0.0   | 1.0  | 9.7  | 0.0  | 0.2  | 0.8  | 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  | 1.2  | 3.4   | 0.0  | 0.0  | 1.5  | 0.0   | 2.7  | 34.2 | 0.0  | 0.2  | 9.4  | 0.0  |
| Unsig. Movement Delay, s/veh  |      |       |      |      |      |       |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh  | 69.1 | 59.1  | 0.0  | 0.0  | 68.2 | 0.0   | 11.7 | 26.6 | 0.0  | 31.5 | 11.7 | 0.0  |
| LnGrp LOS   | E    | E     |      | A    | E    |       | B    | C    |      | C    | B    |      |
| Approach Vol, veh/h   |      | 168   |      |      | 84   |       |      | 2942 |      |      | 1253 |      |
| Approach Delay, s/veh   |      | 63.1  |      |      | 68.2 |       |      | 24.1 |      |      | 11.9 |      |
| Approach LOS  |      | E     |      |      | E    |       |      | C    |      |      | B    |      |
| Timer - Assigned Phs  | 1    | 2     |      | 4    | 5    | 6     | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s  | 8.6  | 109.0 |      | 22.4 | 14.9 | 102.7 | 10.9 | 11.5 |      |      |      |      |
| Change Period (Y+Rc), s   | 6.5  | 7.0   |      | 6.0  | 6.5  | 7.0   | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s   | 6.5  | 77.0  |      | 37.0 | 13.5 | 70.0  | 13.5 | 17.0 |      |      |      |      |
| Max Q Clear Time (g_c+l1), s  | 2.3  | 88.3  |      | 9.0  | 7.8  | 26.7  | 4.7  | 5.3  |      |      |      |      |
| Green Ext Time (p_c), s   | 0.0  | 0.0   |      | 0.5  | 0.6  | 7.9   | 0.0  | 0.2  |      |      |      |      |
| <b>Intersection Summary</b>   |      |       |      |      |      |       |      |      |      |      |      |      |
| HCM 6th Ctrl Delay  |      |       |      | 23.0 |      |       |      |      |      |      |      |      |
| HCM 6th LOS   |      |       |      | C    |      |       |      |      |      |      |      |      |
| <b>Notes</b>  |      |       |      |      |      |       |      |      |      |      |      |      |
| Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay. |      |       |      |      |      |       |      |      |      |      |      |      |

Timings  
4: US-24 & Newt Dr/SH-94

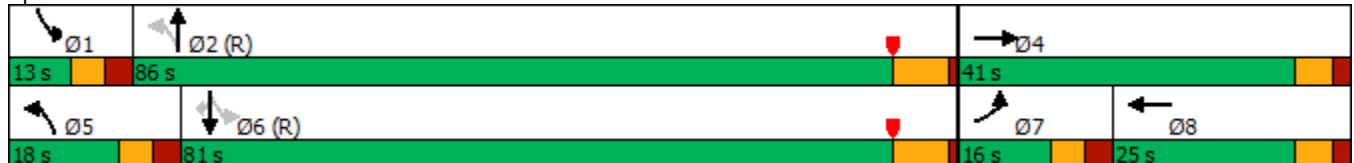


| Lane Group           | EBL   | EBT   | EBR   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖↗    | ↑     | ↖     | ↑↑    | ↖     | ↖↗    | ↑↑↑   | ↖     | ↖     | ↑↑↑   | ↖     |
| Traffic Volume (vph) | 55    | 95    | 555   | 105   | 5     | 480   | 1150  | 855   | 10    | 2190  | 80    |
| Future Volume (vph)  | 55    | 95    | 555   | 105   | 5     | 480   | 1150  | 855   | 10    | 2190  | 80    |
| Turn Type            | Prot  | NA    | Free  | NA    | Free  | pm+pt | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7     | 4     |       | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |       |       | Free  |       | Free  | 2     |       | Free  | 6     |       | 6     |
| Detector Phase       | 7     | 4     |       | 8     |       | 5     | 2     |       | 1     | 6     | 6     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 4.0   | 5.0   |       | 5.0   |       | 6.0   | 22.0  |       | 6.0   | 22.0  | 22.0  |
| Minimum Split (s)    | 10.5  | 11.0  |       | 24.0  |       | 12.5  | 29.0  |       | 12.5  | 29.0  | 29.0  |
| Total Split (s)      | 16.0  | 41.0  |       | 25.0  |       | 18.0  | 86.0  |       | 13.0  | 81.0  | 81.0  |
| Total Split (%)      | 11.4% | 29.3% |       | 17.9% |       | 12.9% | 61.4% |       | 9.3%  | 57.9% | 57.9% |
| Yellow Time (s)      | 3.5   | 4.0   |       | 4.0   |       | 3.5   | 6.0   |       | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 3.0   | 2.0   |       | 2.0   |       | 3.0   | 1.0   |       | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   |       | 0.0   |       | 0.0   | 0.0   |       | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 6.5   | 6.0   |       | 6.0   |       | 6.5   | 7.0   |       | 6.5   | 7.0   | 7.0   |
| Lead/Lag             | Lead  |       |       | Lag   |       | Lead  | Lag   |       | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   | Yes   |       |       | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  |       | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 7.7   | 21.7  | 140.0 | 9.9   | 140.0 | 105.6 | 102.8 | 140.0 | 93.9  | 87.3  | 87.3  |
| Actuated g/C Ratio   | 0.06  | 0.16  | 1.00  | 0.07  | 1.00  | 0.75  | 0.73  | 1.00  | 0.67  | 0.62  | 0.62  |
| v/c Ratio            | 0.31  | 0.35  | 0.37  | 0.44  | 0.00  | 1.38  | 0.34  | 0.60  | 0.03  | 0.74  | 0.08  |
| Control Delay        | 67.5  | 54.3  | 0.7   | 72.5  | 0.0   | 222.1 | 8.1   | 1.8   | 4.1   | 26.6  | 2.5   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 67.5  | 54.3  | 0.7   | 72.5  | 0.0   | 222.1 | 8.1   | 1.8   | 4.1   | 26.6  | 2.5   |
| LOS                  | E     | D     | A     | E     | A     | F     | A     | A     | A     | C     | A     |
| Approach Delay       |       | 13.2  |       | 69.3  |       |       | 47.3  |       |       | 25.7  |       |
| Approach LOS         |       | B     |       | E     |       |       | D     |       |       | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 52 (37%), Referenced to phase 2:NBTL and 6:SBTL, Start of Yellow  
 Natural Cycle: 110  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.38  
 Intersection Signal Delay: 34.6  
 Intersection Capacity Utilization 80.5%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service D

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



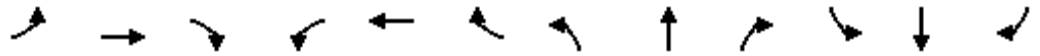


HCM 6th Signalized Intersection Summary

2040 Total AM\_4 WBL Flyover\_Imp.syn

4: US-24 & Newt Dr/SH-94

11/10/2023



| Movement                     | EBL  | EBT   | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|-------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↔↔   | ↑     | ↗    |      | ↑↑   | ↗    | ↔↔   | ↑↑↑  | ↗    | ↖    | ↑↑↑  | ↗    |
| Traffic Volume (veh/h)       | 55   | 95    | 555  | 0    | 105  | 5    | 480  | 1150 | 855  | 10   | 2190 | 80   |
| Future Volume (veh/h)        | 55   | 95    | 555  | 0    | 105  | 5    | 480  | 1150 | 855  | 10   | 2190 | 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       | 1826 | 1826  | 1826 | 0    | 1841 | 1841 | 1752 | 1752 | 1752 | 1811 | 1811 | 1811 |
| Adj Flow Rate, veh/h         | 57   | 98    | 0    | 0    | 108  | 0    | 495  | 1186 | 0    | 10   | 2258 | 0    |
| Peak Hour Factor             | 0.97 | 0.97  | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 | 0.97 |
| Percent Heavy Veh, %         | 5    | 5     | 5    | 0    | 4    | 4    | 10   | 10   | 10   | 6    | 6    | 6    |
| Cap, veh/h                   | 94   | 221   |      | 0    | 164  |      | 481  | 3470 |      | 366  | 3250 |      |
| Arrive On Green              | 0.03 | 0.12  | 0.00 | 0.00 | 0.09 | 0.00 | 0.08 | 0.73 | 0.00 | 0.01 | 0.66 | 0.00 |
| Sat Flow, veh/h              | 3374 | 1826  | 1547 | 0    | 3589 | 1560 | 3237 | 4782 | 1485 | 1725 | 4944 | 1535 |
| Grp Volume(v), veh/h         | 57   | 98    | 0    | 0    | 108  | 0    | 495  | 1186 | 0    | 10   | 2258 | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1687 | 1826  | 1547 | 0    | 1749 | 1560 | 1618 | 1594 | 1485 | 1725 | 1648 | 1535 |
| Q Serve(g_s), s              | 2.3  | 7.0   | 0.0  | 0.0  | 4.2  | 0.0  | 11.5 | 12.7 | 0.0  | 0.3  | 40.3 | 0.0  |
| Cycle Q Clear(g_c), s        | 2.3  | 7.0   | 0.0  | 0.0  | 4.2  | 0.0  | 11.5 | 12.7 | 0.0  | 0.3  | 40.3 | 0.0  |
| Prop In Lane                 | 1.00 |       | 1.00 | 0.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Lane Grp Cap(c), veh/h       | 94   | 221   |      | 0    | 164  |      | 481  | 3470 |      | 366  | 3250 |      |
| V/C Ratio(X)                 | 0.61 | 0.44  |      | 0.00 | 0.66 |      | 1.03 | 0.34 |      | 0.03 | 0.69 |      |
| Avail Cap(c_a), veh/h        | 229  | 456   |      | 0    | 475  |      | 481  | 3470 |      | 422  | 3250 |      |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.00 | 1.00 | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l)           | 1.00 | 1.00  | 0.00 | 0.00 | 0.09 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh     | 67.3 | 57.1  | 0.0  | 0.0  | 62.3 | 0.0  | 40.2 | 7.0  | 0.0  | 7.7  | 15.1 | 0.0  |
| Incr Delay (d2), s/veh       | 6.1  | 1.4   | 0.0  | 0.0  | 0.4  | 0.0  | 48.9 | 0.3  | 0.0  | 0.0  | 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     | 1.1  | 3.3   | 0.0  | 0.0  | 1.8  | 0.0  | 11.8 | 4.2  | 0.0  | 0.1  | 14.8 | 0.0  |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 73.4 | 58.5  | 0.0  | 0.0  | 62.7 | 0.0  | 89.1 | 7.3  | 0.0  | 7.7  | 16.4 | 0.0  |
| LnGrp LOS                    | E    | E     |      | A    | E    |      | F    | A    |      | A    | B    |      |
| Approach Vol, veh/h          |      | 155   |      |      | 108  |      |      | 1681 |      |      | 2268 |      |
| Approach Delay, s/veh        |      | 64.0  |      |      | 62.7 |      |      | 31.4 |      |      | 16.3 |      |
| Approach LOS                 |      | E     |      |      | E    |      |      | C    |      |      | B    |      |
| Timer - Assigned Phs         | 1    | 2     |      | 4    | 5    | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 8.4  | 108.6 |      | 23.0 | 18.0 | 99.0 | 10.4 | 12.6 |      |      |      |      |
| Change Period (Y+Rc), s      | 6.5  | 7.0   |      | 6.0  | 6.5  | 7.0  | 6.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 6.5  | 79.0  |      | 35.0 | 11.5 | 74.0 | 9.5  | 19.0 |      |      |      |      |
| Max Q Clear Time (g_c+l1), s | 2.3  | 14.7  |      | 9.0  | 13.5 | 42.3 | 4.3  | 6.2  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 12.2  |      | 0.5  | 0.0  | 23.6 | 0.0  | 0.4  |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 25.3 |
| HCM 6th LOS        | C    |

Notes

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

Timings  
4: US-24 & Newt Dr/SH-94

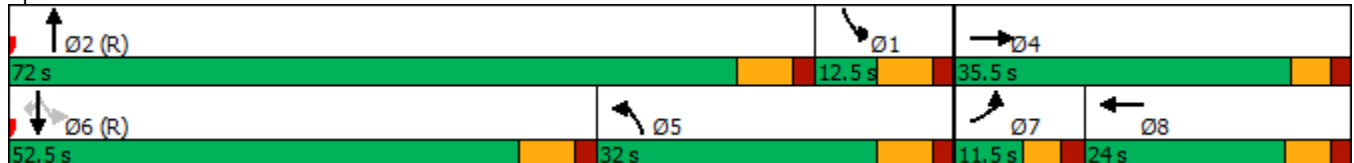


| Lane Group           | EBL  | EBT   | EBR   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖↖   | ↑     | ↗     | ↑↑    | ↗     | ↖↖    | ↑↑↑   | ↗     | ↖     | ↑↑↑   | ↗     |
| Traffic Volume (vph) | 65   | 95    | 535   | 80    | 10    | 470   | 2325  | 1165  | 10    | 1180  | 75    |
| Future Volume (vph)  | 65   | 95    | 535   | 80    | 10    | 470   | 2325  | 1165  | 10    | 1180  | 75    |
| Turn Type            | Prot | NA    | Free  | NA    | Free  | Prot  | NA    | Free  | pm+pt | NA    | Perm  |
| Protected Phases     | 7    | 4     |       | 8     |       | 5     | 2     |       | 1     | 6     |       |
| Permitted Phases     |      |       | Free  |       | Free  |       |       | Free  | 6     |       | 6     |
| Detector Phase       | 7    | 4     |       | 8     |       | 5     | 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   |
| Minimum Split (s)    | 11.5 | 24.5  |       | 24.0  |       | 12.0  | 25.0  |       | 12.5  | 25.5  | 25.5  |
| Total Split (s)      | 11.5 | 35.5  |       | 24.0  |       | 32.0  | 72.0  |       | 12.5  | 52.5  | 52.5  |
| Total Split (%)      | 9.6% | 29.6% |       | 20.0% |       | 26.7% | 60.0% |       | 10.4% | 43.8% | 43.8% |
| Yellow Time (s)      | 3.5  | 3.5   |       | 4.0   |       | 5.0   | 5.0   |       | 5.0   | 5.0   | 5.0   |
| All-Red Time (s)     | 2.0  | 2.0   |       | 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)  | 5.5  | 5.5   |       | 6.0   |       | 7.0   | 7.0   |       | 7.0   | 7.0   | 7.0   |
| Lead/Lag             | Lead |       |       | Lag   |       | Lag   | Lead  |       | Lag   | Lead  | Lead  |
| Lead-Lag Optimize?   | Yes  |       |       | Yes   |       | Yes   | Yes   |       | Yes   | Yes   | Yes   |
| Recall Mode          | None | None  |       | None  |       | None  | C-Max |       | None  | C-Max | C-Max |
| Act Effct Green (s)  | 6.6  | 18.7  | 120.0 | 8.4   | 120.0 | 22.0  | 86.3  | 120.0 | 65.3  | 59.8  | 59.8  |
| Actuated g/C Ratio   | 0.06 | 0.16  | 1.00  | 0.07  | 1.00  | 0.18  | 0.72  | 1.00  | 0.54  | 0.50  | 0.50  |
| v/c Ratio            | 0.36 | 0.34  | 0.36  | 0.34  | 0.01  | 0.80  | 0.68  | 0.78  | 0.08  | 0.50  | 0.09  |
| Control Delay        | 60.5 | 47.1  | 0.6   | 57.6  | 0.0   | 56.7  | 11.9  | 4.0   | 11.9  | 27.5  | 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   |
| Total Delay          | 60.5 | 47.1  | 0.6   | 57.6  | 0.0   | 56.7  | 11.9  | 4.0   | 11.9  | 27.5  | 1.6   |
| LOS                  | E    | D     | A     | E     | A     | E     | B     | A     | B     | C     | A     |
| Approach Delay       |      | 12.5  |       | 50.9  |       |       | 14.9  |       |       | 25.8  |       |
| Approach LOS         |      | B     |       | D     |       |       | B     |       |       | C     |       |

Intersection Summary

Cycle Length: 120  
 Actuated Cycle Length: 120  
 Offset: 55.9 (47%), Referenced to phase 2:NBT and 6:SBTL, Start of Green  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.80  
 Intersection Signal Delay: 17.5  
 Intersection Capacity Utilization 73.9%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service D

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



HCM 6th Signalized Intersection Summary  
4: US-24 & Newt Dr/SH-94

2040 Total PM\_4 WBL Flyover\_Imp.syn

11/10/2023



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↖↗   | ↑    | ↗    |      | ↑↑   | ↗    | ↖↗   | ↑↑↑  | ↗    | ↖    | ↑↑↑  | ↗    |
| Traffic Volume (veh/h)       | 65   | 95   | 535  | 0    | 80   | 10   | 470  | 2325 | 1165 | 10   | 1180 | 75   |
| Future Volume (veh/h)        | 65   | 95   | 535  | 0    | 80   | 10   | 470  | 2325 | 1165 | 10   | 1180 | 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 | 0    | 1856 | 1856 | 1856 | 1856 | 1856 | 1826 | 1826 | 1826 |
| Adj Flow Rate, veh/h         | 68   | 100  | 0    | 0    | 84   | 0    | 495  | 2447 | 0    | 11   | 1242 | 0    |
| Peak Hour Factor             | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 | 0.95 |
| Percent Heavy Veh, %         | 2    | 2    | 2    | 0    | 3    | 3    | 3    | 3    | 3    | 5    | 5    | 5    |
| Cap, veh/h                   | 129  | 235  |      | 0    | 149  |      | 1127 | 2744 |      | 349  | 1890 |      |
| Arrive On Green              | 0.04 | 0.13 | 0.00 | 0.00 | 0.04 | 0.00 | 0.33 | 0.54 | 0.00 | 0.17 | 0.38 | 0.00 |
| Sat Flow, veh/h              | 3456 | 1870 | 1585 | 0    | 3618 | 1572 | 3428 | 5066 | 1572 | 1739 | 4985 | 1547 |
| Grp Volume(v), veh/h         | 68   | 100  | 0    | 0    | 84   | 0    | 495  | 2447 | 0    | 11   | 1242 | 0    |
| Grp Sat Flow(s),veh/h/ln     | 1728 | 1870 | 1585 | 0    | 1763 | 1572 | 1714 | 1689 | 1572 | 1739 | 1662 | 1547 |
| Q Serve(g_s), s              | 2.3  | 5.9  | 0.0  | 0.0  | 2.8  | 0.0  | 13.6 | 51.4 | 0.0  | 0.0  | 24.7 | 0.0  |
| Cycle Q Clear(g_c), s        | 2.3  | 5.9  | 0.0  | 0.0  | 2.8  | 0.0  | 13.6 | 51.4 | 0.0  | 0.0  | 24.7 | 0.0  |
| Prop In Lane                 | 1.00 |      | 1.00 | 0.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 1.00 |
| Lane Grp Cap(c), veh/h       | 129  | 235  |      | 0    | 149  |      | 1127 | 2744 |      | 349  | 1890 |      |
| V/C Ratio(X)                 | 0.53 | 0.43 |      | 0.00 | 0.56 |      | 0.44 | 0.89 |      | 0.03 | 0.66 |      |
| Avail Cap(c_a), veh/h        | 173  | 468  |      | 0    | 529  |      | 1127 | 2744 |      | 349  | 1890 |      |
| 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 | 0.00 | 0.09 | 0.00 | 1.00 | 1.00 | 0.00 | 1.00 | 1.00 | 0.00 |
| Uniform Delay (d), s/veh     | 56.7 | 48.5 | 0.0  | 0.0  | 56.4 | 0.0  | 31.6 | 24.4 | 0.0  | 41.7 | 30.8 | 0.0  |
| Incr Delay (d2), s/veh       | 3.3  | 1.2  | 0.0  | 0.0  | 0.3  | 0.0  | 0.3  | 4.9  | 0.0  | 0.0  | 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     | 1.1  | 2.9  | 0.0  | 0.0  | 1.3  | 0.0  | 5.7  | 20.8 | 0.0  | 0.3  | 10.1 | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 60.0 | 49.7 | 0.0  | 0.0  | 56.7 | 0.0  | 31.9 | 29.3 | 0.0  | 41.8 | 32.6 | 0.0  |
| LnGrp LOS                    | E    | D    |      | A    | E    |      | C    | C    |      | D    | C    |      |
| Approach Vol, veh/h          | 168  |      | 84   |      |      |      | 2942 |      |      | 1253 |      |      |
| Approach Delay, s/veh        | 53.9 |      | 56.7 |      |      |      | 29.7 |      |      | 32.7 |      |      |
| Approach LOS                 | D    |      | E    |      |      |      | C    |      |      | C    |      |      |
| Timer - Assigned Phs         | 1    | 2    | 4    |      | 5    | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     | 26.9 | 72.0 | 21.1 |      | 46.4 | 52.5 | 10.0 | 11.1 |      |      |      |      |
| Change Period (Y+Rc), s      | 7.0  | 7.0  | * 6  |      | 7.0  | 7.0  | 5.5  | 6.0  |      |      |      |      |
| Max Green Setting (Gmax), s  | 5.5  | 65.0 | * 30 |      | 25.0 | 45.5 | 6.0  | 18.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s | 2.0  | 53.4 | 7.9  |      | 15.6 | 26.7 | 4.3  | 4.8  |      |      |      |      |
| Green Ext Time (p_c), s      | 0.0  | 10.5 | 0.4  |      | 1.3  | 8.9  | 0.0  | 0.3  |      |      |      |      |

**Intersection Summary**

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 32.0 |
| 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.

Timings

5: Marksheffel Rd & SH-94

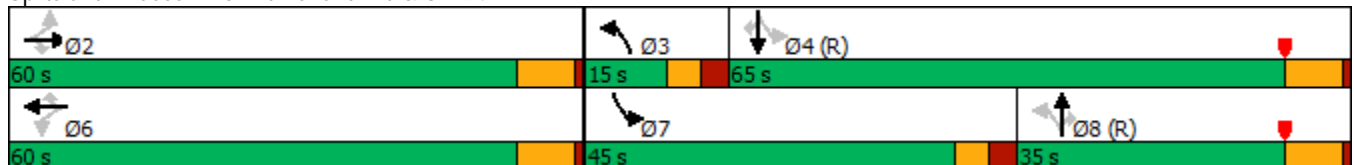


| Lane Group           | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↑     | ↗     | ↖     | ↑     | ↗     | ↖     | ↑↑    | ↗     | ↖     | ↑↑    | ↗     |
| 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     | 2     |       |       | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Permitted Phases     |       | 2     | 6     |       | 6     | 8     |       | 8     | 4     |       | 4     |
| Detector Phase       | 2     | 2     | 6     | 6     | 6     | 3     | 8     | 8     | 7     | 4     | 4     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 5.0   | 10.0  | 10.0  | 6.0   | 10.0  | 10.0  |
| Minimum Split (s)    | 27.0  | 27.0  | 27.0  | 27.0  | 27.0  | 11.5  | 17.0  | 17.0  | 12.5  | 17.0  | 17.0  |
| Total Split (s)      | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 15.0  | 35.0  | 35.0  | 45.0  | 65.0  | 65.0  |
| Total Split (%)      | 42.9% | 42.9% | 42.9% | 42.9% | 42.9% | 10.7% | 25.0% | 25.0% | 32.1% | 46.4% | 46.4% |
| Yellow Time (s)      | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   |
| 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 | None  | C-Min | C-Min |
| Act Effct Green (s)  | 32.7  | 32.7  | 32.7  | 32.7  | 32.7  | 79.9  | 72.1  | 72.1  | 93.6  | 82.0  | 82.0  |
| Actuated g/C Ratio   | 0.23  | 0.23  | 0.23  | 0.23  | 0.23  | 0.57  | 0.52  | 0.52  | 0.67  | 0.59  | 0.59  |
| v/c Ratio            | 0.67  | 0.13  | 0.20  | 0.77  | 0.18  | 0.12  | 0.17  | 0.02  | 0.38  | 0.27  | 0.00  |
| Control Delay        | 54.6  | 1.0   | 43.1  | 62.3  | 1.8   | 11.1  | 20.5  | 0.1   | 22.1  | 28.2  | 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          | 54.6  | 1.0   | 43.1  | 62.3  | 1.8   | 11.1  | 20.5  | 0.1   | 22.1  | 28.2  | 0.0   |
| LOS                  | D     | A     | D     | E     | A     | B     | C     | A     | C     | C     | A     |
| Approach Delay       | 45.2  |       |       | 49.3  |       |       | 17.9  |       |       | 26.1  |       |
| Approach LOS         | D     |       |       | D     |       |       | B     |       |       | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 19 (14%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.77  
 Intersection Signal Delay: 32.9  
 Intersection Capacity Utilization 64.7%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service C

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



HCM 6th Signalized Intersection Summary  
 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    | 276   | -104  | 30   | 323  | -25   | 59   | 293  | 20   | 278  | 545  | 3    |
| 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                   | 51   | 379   | 321   | 123  | 385  | 326   | 558  | 1931 | 861  | 746  | 2147 | 958  |
| Arrive On Green              | 0.00 | 0.07  | 0.00  | 0.21 | 0.21 | 0.00  | 0.03 | 0.56 | 0.56 | 0.08 | 0.61 | 0.61 |
| Sat Flow, veh/h              | 1030 | 1781  | 1510  | 1174 | 1811 | 1535  | 1739 | 3469 | 1547 | 1767 | 3526 | 1572 |
| Grp Volume(v), veh/h         | 0    | 276   | -104  | 30   | 323  | -25   | 59   | 293  | 20   | 278  | 545  | 3    |
| Grp Sat Flow(s),veh/h/ln     | 1030 | 1781  | 1510  | 1174 | 1811 | 1535  | 1739 | 1735 | 1547 | 1767 | 1763 | 1572 |
| Q Serve(g_s), s              | 0.0  | 21.3  | 0.0   | 3.4  | 23.9 | 0.0   | 2.0  | 5.7  | 0.8  | 9.0  | 10.0 | 0.1  |
| Cycle Q Clear(g_c), s        | 0.0  | 21.3  | 0.0   | 24.7 | 23.9 | 0.0   | 2.0  | 5.7  | 0.8  | 9.0  | 10.0 | 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       | 51   | 379   | 321   | 123  | 385  | 326   | 558  | 1931 | 861  | 746  | 2147 | 958  |
| V/C Ratio(X)                 | 0.00 | 0.73  | -0.32 | 0.24 | 0.84 | -0.08 | 0.11 | 0.15 | 0.02 | 0.37 | 0.25 | 0.00 |
| Avail Cap(c_a), veh/h        | 222  | 674   | 572   | 318  | 686  | 581   | 608  | 1931 | 861  | 1083 | 2147 | 958  |
| HCM Platoon Ratio            | 0.33 | 0.33  | 0.33  | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 0.00 | 0.97  | 0.00  | 1.00 | 1.00 | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 0.0  | 61.1  | 0.0   | 63.4 | 52.8 | 0.0   | 12.3 | 15.0 | 13.9 | 10.2 | 12.7 | 10.7 |
| Incr Delay (d2), s/veh       | 0.0  | 3.7   | 0.0   | 1.5  | 6.9  | 0.0   | 0.1  | 0.2  | 0.0  | 0.3  | 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  | 10.6  | 0.0   | 1.1  | 11.6 | 0.0   | 0.8  | 2.3  | 0.3  | 3.5  | 4.1  | 0.0  |
| Unsig. Movement Delay, s/veh |      |       |       |      |      |       |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 0.0  | 64.8  | 0.0   | 64.8 | 59.7 | 0.0   | 12.4 | 15.2 | 14.0 | 10.5 | 12.9 | 10.7 |
| LnGrp LOS                    | A    | E     | A     | E    | E    | A     | B    | B    | B    | B    | B    | B    |
| Approach Vol, veh/h          |      | 172   |       |      | 328  |       |      | 372  |      |      | 826  |      |
| Approach Delay, s/veh        |      | 104.1 |       |      | 64.7 |       |      | 14.7 |      |      | 12.1 |      |
| Approach LOS                 |      | F     |       |      | E    |       |      | B    |      |      | B    |      |
| Timer - Assigned Phs         |      | 2     | 3     | 4    |      | 6     | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     |      | 36.8  | 11.0  | 92.2 |      | 36.8  | 18.3 | 84.9 |      |      |      |      |
| Change Period (Y+Rc), s      |      | 7.0   | 6.5   | 7.0  |      | 7.0   | 6.5  | 7.0  |      |      |      |      |
| Max Green Setting (Gmax), s  |      | 53.0  | 8.5   | 58.0 |      | 53.0  | 38.5 | 28.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s |      | 23.3  | 4.0   | 12.0 |      | 26.7  | 11.0 | 7.7  |      |      |      |      |
| Green Ext Time (p_c), s      |      | 2.5   | 0.0   | 10.8 |      | 3.1   | 0.8  | 4.1  |      |      |      |      |

**Intersection Summary**

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 32.1 |
| HCM 6th LOS        | C    |

Timings  
5: Marksheffel Rd & SH-94

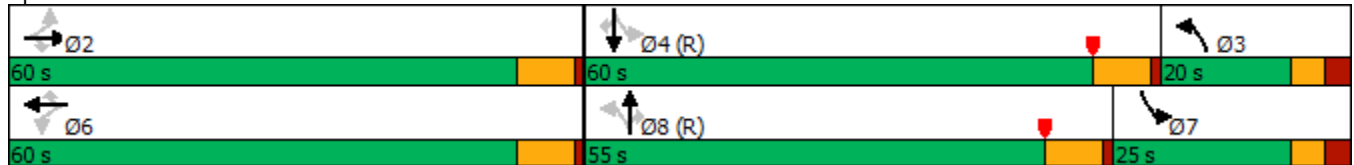
|                      | →     | ↘     | ↙     | ←     | ↖     | ↗     | ↑     | ↘     | ↙     | ↓     | ↖     |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group           | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | 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     | 2     |       |       | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Permitted Phases     |       | 2     | 6     |       | 6     | 8     |       | 8     | 4     |       | 4     |
| Detector Phase       | 2     | 2     | 6     | 6     | 6     | 3     | 8     | 8     | 7     | 4     | 4     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 5.0   | 10.0  | 10.0  | 6.0   | 10.0  | 10.0  |
| Minimum Split (s)    | 27.5  | 27.5  | 27.5  | 27.5  | 27.5  | 11.5  | 17.5  | 17.5  | 12.5  | 17.5  | 17.5  |
| Total Split (s)      | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 20.0  | 55.0  | 55.0  | 25.0  | 60.0  | 60.0  |
| Total Split (%)      | 42.9% | 42.9% | 42.9% | 42.9% | 42.9% | 14.3% | 39.3% | 39.3% | 17.9% | 42.9% | 42.9% |
| Yellow Time (s)      | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   |
| Lead/Lag             |       |       |       |       |       | Lag   | Lead  | Lead  | Lag   | Lead  | Lead  |
| Lead-Lag Optimize?   |       |       |       |       |       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode          | Max   | Max   | None  | None  | None  | None  | C-Min | C-Min | None  | C-Min | C-Min |
| Act Effct Green (s)  | 61.6  | 61.6  | 61.6  | 61.6  | 61.6  | 64.1  | 45.7  | 45.7  | 49.1  | 36.4  | 36.4  |
| Actuated g/C Ratio   | 0.44  | 0.44  | 0.44  | 0.44  | 0.44  | 0.46  | 0.33  | 0.33  | 0.35  | 0.26  | 0.26  |
| v/c Ratio            | 0.39  | 0.13  | 0.10  | 0.47  | 0.44  | 0.19  | 0.75  | 0.04  | 0.83  | 0.68  | 0.02  |
| Control Delay        | 26.5  | 3.8   | 26.9  | 31.4  | 9.6   | 24.1  | 46.7  | 0.1   | 61.3  | 25.7  | 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          | 26.5  | 3.8   | 26.9  | 31.4  | 9.6   | 24.1  | 46.7  | 0.1   | 61.3  | 25.7  | 0.0   |
| LOS                  | C     | A     | C     | C     | A     | C     | D     | A     | E     | C     | A     |
| Approach Delay       | 21.0  |       |       | 21.1  |       |       | 43.7  |       |       | 33.1  |       |
| Approach LOS         | C     |       |       | C     |       |       | D     |       |       | C     |       |

**Intersection Summary**

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 66 (47%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.83  
 Intersection Signal Delay: 31.7  
 Intersection Capacity Utilization 80.9%  
 Analysis Period (min) 15

Intersection LOS: C  
 ICU Level of Service D

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



HCM 6th Signalized Intersection Summary

2020 Adjusted Existing PM.syn

11/09/2023

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       | 1856 | 1856 | 1856  | 1856 | 1856 | 1856 | 1870 | 1870 | 1870 | 1841 | 1841 | 1841 |
| Adj Flow Rate, veh/h         | 0    | 313  | -60   | 41   | 379  | 259  | 81   | 871  | 24   | 168  | 610  | 7    |
| Peak Hour Factor             | 0.94 | 0.94 | 0.94  | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, %         | 3    | 3    | 3     | 3    | 3    | 3    | 2    | 2    | 2    | 4    | 4    | 4    |
| Cap, veh/h                   | 51   | 702  | 595   | 405  | 702  | 595  | 516  | 1092 | 487  | 359  | 867  | 387  |
| Arrive On Green              | 0.00 | 0.76 | 0.00  | 0.38 | 0.38 | 0.38 | 0.23 | 0.31 | 0.31 | 0.17 | 0.25 | 0.25 |
| Sat Flow, veh/h              | 784  | 1856 | 1572  | 1118 | 1856 | 1572 | 1781 | 3554 | 1585 | 1753 | 3497 | 1560 |
| Grp Volume(v), veh/h         | 0    | 313  | -60   | 41   | 379  | 259  | 81   | 871  | 24   | 168  | 610  | 7    |
| Grp Sat Flow(s),veh/h/ln     | 784  | 1856 | 1572  | 1118 | 1856 | 1572 | 1781 | 1777 | 1585 | 1753 | 1749 | 1560 |
| Q Serve(g_s), s              | 0.0  | 8.7  | 0.0   | 3.6  | 22.3 | 17.2 | 0.0  | 31.5 | 1.5  | 6.6  | 22.2 | 0.5  |
| Cycle Q Clear(g_c), s        | 0.0  | 8.7  | 0.0   | 12.3 | 22.3 | 17.2 | 0.0  | 31.5 | 1.5  | 6.6  | 22.2 | 0.5  |
| 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       | 51   | 702  | 595   | 405  | 702  | 595  | 516  | 1092 | 487  | 359  | 867  | 387  |
| V/C Ratio(X)                 | 0.00 | 0.45 | -0.10 | 0.10 | 0.54 | 0.44 | 0.16 | 0.80 | 0.05 | 0.47 | 0.70 | 0.02 |
| Avail Cap(c_a), veh/h        | 51   | 702  | 595   | 405  | 702  | 595  | 516  | 1218 | 543  | 359  | 1324 | 591  |
| 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 | 0.00  | 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  | 11.6 | 0.0   | 33.9 | 34.0 | 32.4 | 37.9 | 44.5 | 34.1 | 49.8 | 48.0 | 39.8 |
| Incr Delay (d2), s/veh       | 0.0  | 2.0  | 0.0   | 0.2  | 1.1  | 0.7  | 0.1  | 6.1  | 0.2  | 0.9  | 4.8  | 0.1  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 0.0  | 3.2  | 0.0   | 1.0  | 10.3 | 6.7  | 2.2  | 14.8 | 0.6  | 5.3  | 10.3 | 0.2  |
| Unsig. Movement Delay, s/veh |      |      |       |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 0.0  | 13.6 | 0.0   | 34.1 | 35.1 | 33.1 | 38.1 | 50.6 | 34.3 | 50.8 | 52.7 | 39.9 |
| LnGrp LOS                    | A    | B    | A     | C    | D    | C    | D    | D    | C    | D    | D    | D    |
| Approach Vol, veh/h          |      | 253  |       |      | 679  |      |      | 976  |      |      | 785  |      |
| Approach Delay, s/veh        |      | 16.8 |       |      | 34.2 |      |      | 49.1 |      |      | 52.2 |      |
| Approach LOS                 |      | B    |       |      | C    |      |      | D    |      |      | D    |      |
| Timer - Assigned Phs         |      | 2    | 3     | 4    |      | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     |      | 60.0 | 38.3  | 41.7 |      | 60.0 | 30.0 | 50.0 |      |      |      |      |
| Change Period (Y+Rc), s      |      | 7.0  | 6.5   | 7.0  |      | 7.0  | 6.5  | 7.0  |      |      |      |      |
| Max Green Setting (Gmax), s  |      | 53.0 | 13.5  | 53.0 |      | 53.0 | 18.5 | 48.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s |      | 10.7 | 2.0   | 24.2 |      | 24.3 | 8.6  | 33.5 |      |      |      |      |
| Green Ext Time (p_c), s      |      | 3.0  | 0.1   | 10.4 |      | 5.5  | 0.3  | 9.5  |      |      |      |      |
| <b>Intersection Summary</b>  |      |      |       |      |      |      |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 43.2  |      |      |      |      |      |      |      |      |      |
| HCM 6th LOS                  |      |      | D     |      |      |      |      |      |      |      |      |      |

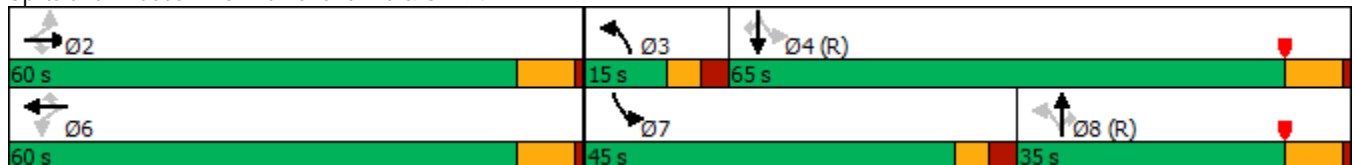
Timings  
5: Marksheffel Rd & SH-94

|                      | →     | ↘     | ↙     | ←     | ↖     | ↗     | ↑     | ↘     | ↙     | ↓     | ↖     |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group           | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  | ↑     | ↗     | ↙     | ↑     | ↗     | ↙     | ↑↑    | ↗     | ↙     | ↑↑    | ↗     |
| Traffic Volume (vph) | 300   | 160   | 35    | 345   | 90    | 190   | 445   | 25    | 280   | 675   | 5     |
| Future Volume (vph)  | 300   | 160   | 35    | 345   | 90    | 190   | 445   | 25    | 280   | 675   | 5     |
| Turn Type            | NA    | Perm  | Perm  | NA    | Perm  | pm+pt | NA    | Perm  | pm+pt | NA    | Perm  |
| Protected Phases     | 2     |       |       | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Permitted Phases     |       | 2     | 6     |       | 6     | 8     |       | 8     | 4     |       | 4     |
| Detector Phase       | 2     | 2     | 6     | 6     | 6     | 3     | 8     | 8     | 7     | 4     | 4     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 5.0   | 10.0  | 10.0  | 6.0   | 10.0  | 10.0  |
| Minimum Split (s)    | 27.0  | 27.0  | 27.0  | 27.0  | 27.0  | 11.5  | 17.0  | 17.0  | 12.5  | 17.0  | 17.0  |
| Total Split (s)      | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 15.0  | 35.0  | 35.0  | 45.0  | 65.0  | 65.0  |
| Total Split (%)      | 42.9% | 42.9% | 42.9% | 42.9% | 42.9% | 10.7% | 25.0% | 25.0% | 32.1% | 46.4% | 46.4% |
| Yellow Time (s)      | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   |
| 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 | None  | C-Min | C-Min |
| Act Effct Green (s)  | 37.0  | 37.0  | 37.0  | 37.0  | 37.0  | 79.9  | 65.8  | 65.8  | 85.3  | 68.9  | 68.9  |
| Actuated g/C Ratio   | 0.26  | 0.26  | 0.26  | 0.26  | 0.26  | 0.57  | 0.47  | 0.47  | 0.61  | 0.49  | 0.49  |
| v/c Ratio            | 0.70  | 0.33  | 0.25  | 0.79  | 0.20  | 0.47  | 0.30  | 0.03  | 0.52  | 0.43  | 0.01  |
| Control Delay        | 50.5  | 5.9   | 41.8  | 59.8  | 2.8   | 16.3  | 25.9  | 0.1   | 25.5  | 31.4  | 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          | 50.5  | 5.9   | 41.8  | 59.8  | 2.8   | 16.3  | 25.9  | 0.1   | 25.5  | 31.4  | 0.0   |
| LOS                  | D     | A     | D     | E     | A     | B     | C     | A     | C     | C     | A     |
| Approach Delay       | 35.0  |       |       | 47.5  |       |       | 22.2  |       |       | 29.5  |       |
| Approach LOS         | C     |       |       | D     |       |       | C     |       |       | C     |       |

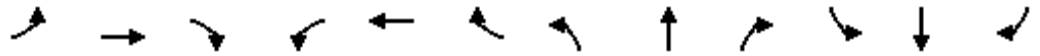
Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 19 (14%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow  
 Natural Cycle: 60  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.79  
 Intersection Signal Delay: 31.9  
 Intersection Capacity Utilization 75.4%  
 Analysis Period (min) 15  
 Intersection LOS: C  
 ICU Level of Service D

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    | 300  | 160  | 35   | 345  | 90    | 190  | 445  | 25   | 280  | 675  | 5    |
| Future Volume (veh/h)        | 0    | 300  | 160  | 35   | 345  | 90    | 190  | 445  | 25   | 280  | 675  | 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    | 326  | 11   | 38   | 375  | -11   | 207  | 484  | 27   | 304  | 734  | 5    |
| 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                   | 51   | 452  | 383  | 127  | 459  | 389   | 451  | 1728 | 771  | 599  | 1901 | 848  |
| Arrive On Green              | 0.00 | 0.08 | 0.08 | 0.25 | 0.25 | 0.00  | 0.06 | 0.50 | 0.50 | 0.10 | 0.54 | 0.54 |
| Sat Flow, veh/h              | 969  | 1781 | 1510 | 1010 | 1811 | 1535  | 1739 | 3469 | 1547 | 1767 | 3526 | 1572 |
| Grp Volume(v), veh/h         | 0    | 326  | 11   | 38   | 375  | -11   | 207  | 484  | 27   | 304  | 734  | 5    |
| Grp Sat Flow(s),veh/h/ln     | 969  | 1781 | 1510 | 1010 | 1811 | 1535  | 1739 | 1735 | 1547 | 1767 | 1763 | 1572 |
| Q Serve(g_s), s              | 0.0  | 25.0 | 0.9  | 5.1  | 27.3 | 0.0   | 8.3  | 11.4 | 1.2  | 11.4 | 17.0 | 0.2  |
| Cycle Q Clear(g_c), s        | 0.0  | 25.0 | 0.9  | 30.0 | 27.3 | 0.0   | 8.3  | 11.4 | 1.2  | 11.4 | 17.0 | 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       | 51   | 452  | 383  | 127  | 459  | 389   | 451  | 1728 | 771  | 599  | 1901 | 848  |
| V/C Ratio(X)                 | 0.00 | 0.72 | 0.03 | 0.30 | 0.82 | -0.03 | 0.46 | 0.28 | 0.04 | 0.51 | 0.39 | 0.01 |
| Avail Cap(c_a), veh/h        | 173  | 674  | 572  | 254  | 686  | 581   | 451  | 1728 | 771  | 905  | 1901 | 848  |
| HCM Platoon Ratio            | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l)           | 0.00 | 0.85 | 0.85 | 1.00 | 1.00 | 0.00  | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 0.0  | 59.3 | 48.3 | 62.2 | 49.2 | 0.0   | 16.1 | 20.5 | 18.0 | 13.8 | 18.8 | 14.9 |
| Incr Delay (d2), s/veh       | 0.0  | 2.6  | 0.0  | 1.8  | 6.1  | 0.0   | 0.7  | 0.4  | 0.1  | 0.7  | 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  | 12.4 | 0.4  | 1.4  | 13.1 | 0.0   | 3.4  | 4.8  | 0.5  | 4.6  | 7.1  | 0.1  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |       |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 0.0  | 62.0 | 48.3 | 64.1 | 55.3 | 0.0   | 16.8 | 20.9 | 18.0 | 14.5 | 19.4 | 14.9 |
| LnGrp LOS                    | A    | E    | D    | E    | E    | A     | B    | C    | B    | B    | B    | B    |
| Approach Vol, veh/h          |      | 337  |      |      | 402  |       |      | 718  |      |      | 1043 |      |
| Approach Delay, s/veh        |      | 61.5 |      |      | 57.6 |       |      | 19.6 |      |      | 17.9 |      |
| Approach LOS                 |      | E    |      |      | E    |       |      | B    |      |      | B    |      |
| Timer - Assigned Phs         |      | 2    | 3    | 4    |      | 6     | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     |      | 42.5 | 15.0 | 82.5 |      | 42.5  | 20.8 | 76.7 |      |      |      |      |
| Change Period (Y+Rc), s      |      | 7.0  | 6.5  | 7.0  |      | 7.0   | 6.5  | 7.0  |      |      |      |      |
| Max Green Setting (Gmax), s  |      | 53.0 | 8.5  | 58.0 |      | 53.0  | 38.5 | 28.0 |      |      |      |      |
| Max Q Clear Time (g_c+l1), s |      | 27.0 | 10.3 | 19.0 |      | 32.0  | 13.4 | 13.4 |      |      |      |      |
| Green Ext Time (p_c), s      |      | 3.0  | 0.0  | 14.7 |      | 3.5   | 0.9  | 5.8  |      |      |      |      |
| <b>Intersection Summary</b>  |      |      |      |      |      |       |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 30.7 |      |      |       |      |      |      |      |      |      |
| HCM 6th LOS                  |      |      | C    |      |      |       |      |      |      |      |      |      |

Timings  
5: Marksheffel Rd & SH-94

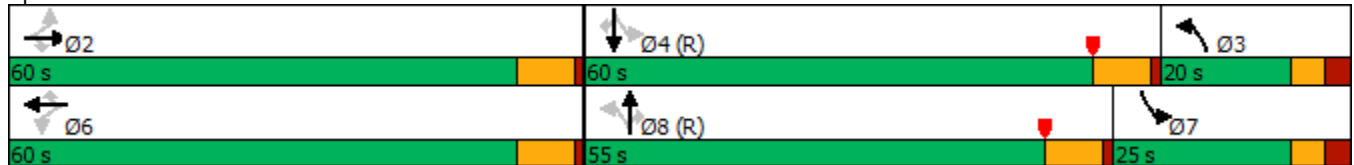


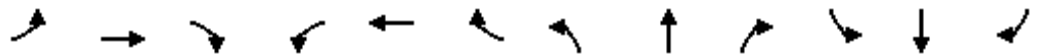
| Lane Group           | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↑     | ↗     | ↘     | ↑     | ↗     | ↘     | ↑↑    | ↗     | ↘     | ↑↑    | ↗     |
| Traffic Volume (vph) | 340   | 265   | 45    | 405   | 375   | 225   | 1075  | 30    | 175   | 825   | 10    |
| Future Volume (vph)  | 340   | 265   | 45    | 405   | 375   | 225   | 1075  | 30    | 175   | 825   | 10    |
| Turn Type            | NA    | Perm  | Perm  | NA    | Perm  | pm+pt | NA    | Perm  | pm+pt | NA    | Perm  |
| Protected Phases     | 2     |       |       | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Permitted Phases     |       | 2     | 6     |       | 6     | 8     |       | 8     | 4     |       | 4     |
| Detector Phase       | 2     | 2     | 6     | 6     | 6     | 3     | 8     | 8     | 7     | 4     | 4     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 5.0   | 10.0  | 10.0  | 6.0   | 10.0  | 10.0  |
| Minimum Split (s)    | 27.5  | 27.5  | 27.5  | 27.5  | 27.5  | 11.5  | 17.5  | 17.5  | 12.5  | 17.5  | 17.5  |
| Total Split (s)      | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 20.0  | 55.0  | 55.0  | 25.0  | 60.0  | 60.0  |
| Total Split (%)      | 42.9% | 42.9% | 42.9% | 42.9% | 42.9% | 14.3% | 39.3% | 39.3% | 17.9% | 42.9% | 42.9% |
| Yellow Time (s)      | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   |
| Lead/Lag             |       |       |       |       |       | Lag   | Lead  | Lead  | Lag   | Lead  | Lead  |
| Lead-Lag Optimize?   |       |       |       |       |       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode          | Max   | Max   | None  | None  | None  | None  | C-Min | C-Min | None  | C-Min | C-Min |
| Act Effct Green (s)  | 55.7  | 55.7  | 55.7  | 55.7  | 55.7  | 63.5  | 48.0  | 48.0  | 65.0  | 48.7  | 48.7  |
| Actuated g/C Ratio   | 0.40  | 0.40  | 0.40  | 0.40  | 0.40  | 0.45  | 0.34  | 0.34  | 0.46  | 0.35  | 0.35  |
| v/c Ratio            | 0.49  | 0.36  | 0.16  | 0.59  | 0.52  | 0.82  | 0.94  | 0.05  | 0.75  | 0.73  | 0.02  |
| Control Delay        | 30.2  | 3.0   | 30.5  | 37.9  | 14.4  | 66.8  | 60.1  | 0.2   | 47.0  | 21.8  | 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          | 30.2  | 3.0   | 30.5  | 37.9  | 14.4  | 66.8  | 60.1  | 0.2   | 47.0  | 21.8  | 0.0   |
| LOS                  | C     | A     | C     | D     | B     | E     | E     | A     | D     | C     | A     |
| Approach Delay       | 18.3  |       |       | 26.8  |       |       | 59.9  |       |       | 26.0  |       |
| Approach LOS         | B     |       |       | C     |       |       | E     |       |       | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 66 (47%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow  
 Natural Cycle: 80  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.94  
 Intersection Signal Delay: 36.9  
 Intersection LOS: D  
 Intersection Capacity Utilization 93.9%  
 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)       | 0    | 340  | 265  | 45   | 405  | 375  | 225  | 1075 | 30   | 175  | 825  | 10   |
| Future Volume (veh/h)        | 0    | 340  | 265  | 45   | 405  | 375  | 225  | 1075 | 30   | 175  | 825  | 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    | 362  | 122  | 48   | 431  | 293  | 239  | 1144 | 32   | 186  | 878  | 11   |
| Peak Hour Factor             | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, %         | 3    | 3    | 3    | 3    | 3    | 3    | 2    | 2    | 2    | 4    | 4    | 4    |
| Cap, veh/h                   | 51   | 702  | 595  | 323  | 702  | 595  | 380  | 1212 | 541  | 292  | 1137 | 507  |
| Arrive On Green              | 0.00 | 0.76 | 0.76 | 0.38 | 0.38 | 0.38 | 0.15 | 0.34 | 0.34 | 0.13 | 0.33 | 0.33 |
| Sat Flow, veh/h              | 724  | 1856 | 1572 | 904  | 1856 | 1572 | 1781 | 3554 | 1585 | 1753 | 3497 | 1560 |
| Grp Volume(v), veh/h         | 0    | 362  | 122  | 48   | 431  | 293  | 239  | 1144 | 32   | 186  | 878  | 11   |
| Grp Sat Flow(s),veh/h/ln     | 724  | 1856 | 1572 | 904  | 1856 | 1572 | 1781 | 1777 | 1585 | 1753 | 1749 | 1560 |
| Q Serve(g_s), s              | 0.0  | 10.9 | 3.1  | 5.5  | 26.3 | 19.9 | 8.2  | 43.8 | 1.9  | 9.3  | 31.7 | 0.7  |
| Cycle Q Clear(g_c), s        | 0.0  | 10.9 | 3.1  | 16.4 | 26.3 | 19.9 | 8.2  | 43.8 | 1.9  | 9.3  | 31.7 | 0.7  |
| 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       | 51   | 702  | 595  | 323  | 702  | 595  | 380  | 1212 | 541  | 292  | 1137 | 507  |
| V/C Ratio(X)                 | 0.00 | 0.52 | 0.20 | 0.15 | 0.61 | 0.49 | 0.63 | 0.94 | 0.06 | 0.64 | 0.77 | 0.02 |
| Avail Cap(c_a), veh/h        | 51   | 702  | 595  | 323  | 702  | 595  | 380  | 1218 | 543  | 292  | 1324 | 591  |
| 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 | 0.92 | 0.92 | 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  | 11.9 | 10.9 | 36.1 | 35.2 | 33.2 | 50.3 | 44.8 | 31.0 | 55.1 | 42.6 | 32.1 |
| Incr Delay (d2), s/veh       | 0.0  | 2.5  | 0.7  | 0.3  | 1.9  | 0.9  | 3.3  | 15.4 | 0.2  | 4.6  | 5.1  | 0.1  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 0.0  | 3.7  | 1.2  | 1.3  | 12.3 | 7.8  | 8.0  | 21.8 | 0.8  | 6.5  | 14.5 | 0.3  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 0.0  | 14.4 | 11.7 | 36.4 | 37.1 | 34.1 | 53.6 | 60.2 | 31.2 | 59.6 | 47.7 | 32.2 |
| LnGrp LOS                    | A    | B    | B    | D    | D    | C    | D    | E    | C    | E    | D    | C    |
| Approach Vol, veh/h          |      | 484  |      |      | 772  |      |      | 1415 |      |      | 1075 |      |
| Approach Delay, s/veh        |      | 13.7 |      |      | 35.9 |      |      | 58.5 |      |      | 49.6 |      |
| Approach LOS                 |      | B    |      |      | D    |      |      | E    |      |      | D    |      |
| Timer - Assigned Phs         |      | 2    | 3    | 4    |      | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     |      | 60.0 | 27.5 | 52.5 |      | 60.0 | 25.2 | 54.8 |      |      |      |      |
| Change Period (Y+Rc), s      |      | 7.0  | 6.5  | 7.0  |      | 7.0  | 6.5  | 7.0  |      |      |      |      |
| Max Green Setting (Gmax), s  |      | 53.0 | 13.5 | 53.0 |      | 53.0 | 18.5 | 48.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s |      | 12.9 | 10.2 | 33.7 |      | 28.3 | 11.3 | 45.8 |      |      |      |      |
| Green Ext Time (p_c), s      |      | 4.3  | 0.2  | 11.8 |      | 6.3  | 0.3  | 2.0  |      |      |      |      |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 45.5 |      |      |      |      |      |      |      |      |      |
| HCM 6th LOS                  |      |      | D    |      |      |      |      |      |      |      |      |      |

Timings

5: Marksheffel Rd & SH-94

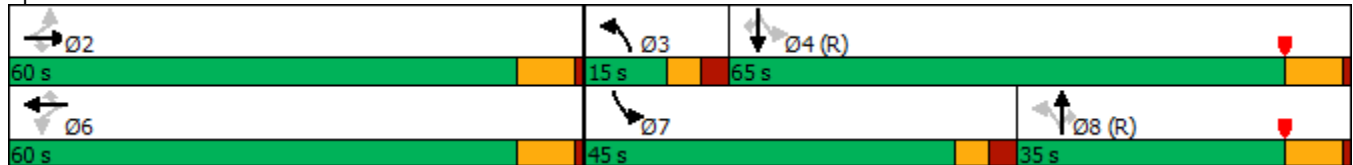
| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  |       |       |       |       |       |       |       |       |       |       |       |       |
| Traffic Volume (vph) | 150   | 300   | 160   | 35    | 345   | 115   | 190   | 470   | 25    | 300   | 695   | 245   |
| Future Volume (vph)  | 150   | 300   | 160   | 35    | 345   | 115   | 190   | 470   | 25    | 300   | 695   | 245   |
| Turn Type            | Perm  | NA    | Perm  | Perm  | NA    | Perm  | pm+pt | NA    | Perm  | pm+pt | NA    | Perm  |
| Protected Phases     |       | 2     |       |       | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Permitted Phases     | 2     |       | 2     | 6     |       | 6     | 8     |       | 8     | 4     |       | 4     |
| Detector Phase       | 2     | 2     | 2     | 6     | 6     | 6     | 3     | 8     | 8     | 7     | 4     | 4     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 5.0   | 10.0  | 10.0  | 6.0   | 10.0  | 10.0  |
| Minimum Split (s)    | 27.0  | 27.0  | 27.0  | 27.0  | 27.0  | 27.0  | 11.5  | 17.0  | 17.0  | 12.5  | 17.0  | 17.0  |
| Total Split (s)      | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 15.0  | 35.0  | 35.0  | 45.0  | 65.0  | 65.0  |
| Total Split (%)      | 42.9% | 42.9% | 42.9% | 42.9% | 42.9% | 42.9% | 10.7% | 25.0% | 25.0% | 32.1% | 46.4% | 46.4% |
| Yellow Time (s)      | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   |
| 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  | None  | C-Min | C-Min | None  | C-Min | C-Min |
| Act Effct Green (s)  | 41.7  | 41.7  | 41.7  | 41.7  | 41.7  | 41.7  | 70.6  | 58.5  | 58.5  | 82.0  | 66.2  | 66.2  |
| Actuated g/C Ratio   | 0.30  | 0.30  | 0.30  | 0.30  | 0.30  | 0.30  | 0.50  | 0.42  | 0.42  | 0.59  | 0.47  | 0.47  |
| v/c Ratio            | 1.06  | 0.62  | 0.31  | 0.20  | 0.70  | 0.23  | 0.53  | 0.36  | 0.04  | 0.60  | 0.46  | 0.30  |
| Control Delay        | 127.7 | 44.2  | 5.4   | 35.2  | 50.0  | 5.1   | 24.8  | 32.5  | 0.1   | 27.8  | 33.1  | 9.5   |
| 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          | 127.7 | 44.2  | 5.4   | 35.2  | 50.0  | 5.1   | 24.8  | 32.5  | 0.1   | 27.8  | 33.1  | 9.5   |
| LOS                  | F     | D     | A     | D     | D     | A     | C     | C     | A     | C     | C     | A     |
| Approach Delay       |       | 54.6  |       |       | 38.5  |       |       | 29.2  |       |       | 27.2  |       |
| Approach LOS         |       | D     |       |       | D     |       |       | C     |       |       | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 19 (14%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow  
 Natural Cycle: 65  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.06  
 Intersection Signal Delay: 35.0  
 Intersection Capacity Utilization 87.5%  
 Analysis Period (min) 15

Intersection LOS: C  
 ICU Level of Service E

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



HCM 6th Signalized Intersection Summary

2026 Total AM.syn

5: Marksheffel Rd & SH-94

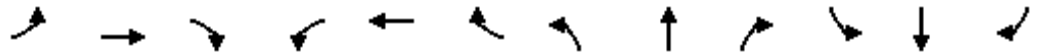
11/09/2023



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↖    | ↑    | ↗    | ↖    | ↑    | ↗    | ↖    | ↑↑   | ↗    | ↖    | ↑↑   | ↗    |
| Traffic Volume (veh/h)       | 150  | 300  | 160  | 35   | 345  | 115  | 190  | 470  | 25   | 300  | 695  | 245  |
| Future Volume (veh/h)        | 150  | 300  | 160  | 35   | 345  | 115  | 190  | 470  | 25   | 300  | 695  | 245  |
| 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         | 163  | 326  | 11   | 38   | 375  | 16   | 207  | 511  | 27   | 326  | 755  | 266  |
| 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                   | 235  | 644  | 546  | 243  | 654  | 555  | 306  | 1247 | 556  | 500  | 1521 | 679  |
| Arrive On Green              | 0.12 | 0.12 | 0.12 | 0.36 | 0.36 | 0.36 | 0.06 | 0.36 | 0.36 | 0.13 | 0.43 | 0.43 |
| Sat Flow, veh/h              | 946  | 1781 | 1510 | 1010 | 1811 | 1535 | 1739 | 3469 | 1547 | 1767 | 3526 | 1572 |
| Grp Volume(v), veh/h         | 163  | 326  | 11   | 38   | 375  | 16   | 207  | 511  | 27   | 326  | 755  | 266  |
| Grp Sat Flow(s),veh/h/ln     | 946  | 1781 | 1510 | 1010 | 1811 | 1535 | 1739 | 1735 | 1547 | 1767 | 1763 | 1572 |
| Q Serve(g_s), s              | 23.9 | 24.0 | 0.9  | 4.4  | 23.3 | 0.9  | 8.5  | 15.5 | 1.6  | 15.6 | 21.7 | 16.2 |
| Cycle Q Clear(g_c), s        | 47.3 | 24.0 | 0.9  | 28.4 | 23.3 | 0.9  | 8.5  | 15.5 | 1.6  | 15.6 | 21.7 | 16.2 |
| 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       | 235  | 644  | 546  | 243  | 654  | 555  | 306  | 1247 | 556  | 500  | 1521 | 679  |
| V/C Ratio(X)                 | 0.69 | 0.51 | 0.02 | 0.16 | 0.57 | 0.03 | 0.68 | 0.41 | 0.05 | 0.65 | 0.50 | 0.39 |
| Avail Cap(c_a), veh/h        | 252  | 674  | 572  | 261  | 686  | 581  | 306  | 1247 | 556  | 751  | 1521 | 679  |
| HCM Platoon Ratio            | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 0.80 | 0.80 | 0.80 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 71.8 | 49.9 | 39.8 | 47.7 | 36.0 | 28.9 | 30.5 | 33.7 | 29.2 | 22.7 | 28.8 | 27.2 |
| Incr Delay (d2), s/veh       | 6.7  | 0.7  | 0.0  | 0.4  | 1.4  | 0.0  | 5.8  | 1.0  | 0.2  | 1.4  | 1.2  | 1.7  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 6.6  | 11.7 | 0.3  | 1.2  | 10.6 | 0.4  | 2.3  | 6.8  | 0.6  | 6.7  | 9.5  | 6.5  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 78.5 | 50.7 | 39.8 | 48.2 | 37.4 | 28.9 | 36.3 | 34.7 | 29.4 | 24.1 | 29.9 | 28.9 |
| LnGrp LOS                    | E    | D    | D    | D    | D    | C    | D    | C    | C    | C    | C    | C    |
| Approach Vol, veh/h          |      | 500  |      |      | 429  |      |      | 745  |      |      | 1347 |      |
| Approach Delay, s/veh        |      | 59.5 |      |      | 38.0 |      |      | 34.9 |      |      | 28.3 |      |
| Approach LOS                 |      | E    |      |      | D    |      |      | C    |      |      | C    |      |
| Timer - Assigned Phs         |      | 2    | 3    | 4    |      | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     |      | 57.6 | 15.0 | 67.4 |      | 57.6 | 25.1 | 57.3 |      |      |      |      |
| Change Period (Y+Rc), s      |      | 7.0  | 6.5  | 7.0  |      | 7.0  | 6.5  | 7.0  |      |      |      |      |
| Max Green Setting (Gmax), s  |      | 53.0 | 8.5  | 58.0 |      | 53.0 | 38.5 | 28.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s |      | 49.3 | 10.5 | 23.7 |      | 30.4 | 17.6 | 17.5 |      |      |      |      |
| Green Ext Time (p_c), s      |      | 1.3  | 0.0  | 18.0 |      | 3.6  | 1.0  | 4.8  |      |      |      |      |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |      |      |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      |      | 36.5 |      |      |      |      |      |      |      |      |
| HCM 6th LOS                  |      |      |      | D    |      |      |      |      |      |      |      |      |

Timings

5: Marksheffel Rd & SH-94

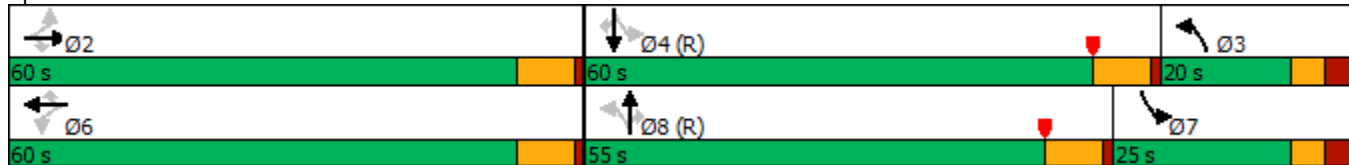


| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↑     | ↗     | ↖     | ↑     | ↗     | ↖     | ↑↑    | ↗     | ↖     | ↑↑    | ↗     |
| Traffic Volume (vph) | 140   | 340   | 265   | 45    | 405   | 395   | 225   | 1100  | 30    | 200   | 845   | 255   |
| Future Volume (vph)  | 140   | 340   | 265   | 45    | 405   | 395   | 225   | 1100  | 30    | 200   | 845   | 255   |
| Turn Type            | Perm  | NA    | Perm  | Perm  | NA    | Perm  | pm+pt | NA    | Perm  | pm+pt | NA    | Perm  |
| Protected Phases     |       | 2     |       |       | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Permitted Phases     | 2     |       | 2     | 6     |       | 6     | 8     |       | 8     | 4     |       | 4     |
| Detector Phase       | 2     | 2     | 2     | 6     | 6     | 6     | 3     | 8     | 8     | 7     | 4     | 4     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 5.0   | 10.0  | 10.0  | 6.0   | 10.0  | 10.0  |
| Minimum Split (s)    | 27.5  | 27.5  | 27.5  | 27.5  | 27.5  | 27.5  | 11.5  | 17.5  | 17.5  | 12.5  | 17.5  | 17.5  |
| Total Split (s)      | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 20.0  | 55.0  | 55.0  | 25.0  | 60.0  | 60.0  |
| Total Split (%)      | 42.9% | 42.9% | 42.9% | 42.9% | 42.9% | 42.9% | 14.3% | 39.3% | 39.3% | 17.9% | 42.9% | 42.9% |
| Yellow Time (s)      | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   |
| Lead/Lag             |       |       |       |       |       |       | Lag   | Lead  | Lead  | Lag   | Lead  | Lead  |
| Lead-Lag Optimize?   |       |       |       |       |       |       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode          | Max   | Max   | Max   | None  | None  | None  | None  | C-Min | C-Min | None  | C-Min | C-Min |
| Act Effct Green (s)  | 54.3  | 54.3  | 54.3  | 54.3  | 54.3  | 54.3  | 62.6  | 48.0  | 48.0  | 68.8  | 51.1  | 51.1  |
| Actuated g/C Ratio   | 0.39  | 0.39  | 0.39  | 0.39  | 0.39  | 0.39  | 0.45  | 0.34  | 0.34  | 0.49  | 0.36  | 0.36  |
| v/c Ratio            | 0.65  | 0.51  | 0.36  | 0.17  | 0.60  | 0.55  | 0.86  | 0.96  | 0.05  | 0.80  | 0.71  | 0.38  |
| Control Delay        | 45.7  | 31.9  | 3.4   | 31.0  | 39.0  | 16.2  | 73.5  | 63.8  | 0.2   | 56.5  | 25.2  | 3.4   |
| 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          | 45.7  | 31.9  | 3.4   | 31.0  | 39.0  | 16.2  | 73.5  | 63.8  | 0.2   | 56.5  | 25.2  | 3.4   |
| LOS                  | D     | C     | A     | C     | D     | B     | E     | E     | A     | E     | C     | A     |
| Approach Delay       |       | 24.3  |       |       | 27.9  |       |       | 64.0  |       |       | 25.7  |       |
| Approach LOS         |       | C     |       |       | C     |       |       | E     |       |       | C     |       |

























Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 66 (47%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.96  
 Intersection Signal Delay: 38.1  
 Intersection LOS: D  
 Intersection Capacity Utilization 102.4%  
 ICU Level of Service G  
 Analysis Period (min) 15

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



5: Marksheffel Rd & SH-94

|                              |  |  |  |  |  |  |   |  |  |  |  |  |
|------------------------------|---|---|---|---|---|---|---|---|---|---|---|---|
| Movement                     | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations          |  |  |  |  |  |  |  |  |  |  |  |  |
| Traffic Volume (veh/h)       | 140   | 340   | 265   | 45  | 405   | 395   | 225   | 1100  | 30  | 200   | 845   | 255   |
| Future Volume (veh/h)        | 140   | 340   | 265   | 45  | 405   | 395   | 225   | 1100  | 30  | 200   | 845   | 255   |
| 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         | 149   | 362   | 122   | 48  | 431   | 314   | 239   | 1170  | 32  | 213   | 899   | 271   |
| Peak Hour Factor             | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  | 0.94  |
| Percent Heavy Veh, %         | 3   | 3   | 3   | 3   | 3   | 3   | 2   | 2   | 2   | 4   | 4   | 4   |
| Cap, veh/h                   | 187   | 702   | 595   | 298   | 702   | 595   | 345   | 1217  | 543   | 292   | 1191  | 531   |
| Arrive On Green              | 0.63  | 0.63  | 0.63  | 0.38  | 0.38  | 0.38  | 0.13  | 0.34  | 0.34  | 0.13  | 0.34  | 0.34  |
| Sat Flow, veh/h              | 710   | 1856  | 1572  | 904   | 1856  | 1572  | 1781  | 3554  | 1585  | 1753  | 3497  | 1560  |
| Grp Volume(v), veh/h         | 149   | 362   | 122   | 48  | 431   | 314   | 239   | 1170  | 32  | 213   | 899   | 271   |
| Grp Sat Flow(s),veh/h/ln     | 710   | 1856  | 1572  | 904   | 1856  | 1572  | 1781  | 1777  | 1585  | 1753  | 1749  | 1560  |
| Q Serve(g_s), s              | 26.7  | 14.9  | 4.6   | 5.7   | 26.3  | 21.7  | 9.2   | 45.2  | 1.9   | 11.4  | 31.9  | 19.4  |
| Cycle Q Clear(g_c), s        | 53.0  | 14.9  | 4.6   | 20.6  | 26.3  | 21.7  | 9.2   | 45.2  | 1.9   | 11.4  | 31.9  | 19.4  |
| 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       | 187   | 702   | 595   | 298   | 702   | 595   | 345   | 1217  | 543   | 292   | 1191  | 531   |
| V/C Ratio(X)                 | 0.80  | 0.52  | 0.20  | 0.16  | 0.61  | 0.53  | 0.69  | 0.96  | 0.06  | 0.73  | 0.76  | 0.51  |
| Avail Cap(c_a), veh/h        | 187   | 702   | 595   | 298   | 702   | 595   | 345   | 1218  | 543   | 292   | 1324  | 591   |
| 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)           | 0.88  | 0.88  | 0.88  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  | 1.00  |
| Uniform Delay (d), s/veh     | 40.1  | 18.7  | 16.8  | 39.2  | 35.2  | 33.8  | 52.6  | 45.1  | 30.9  | 56.0  | 41.0  | 36.9  |
| Incr Delay (d2), s/veh       | 26.1  | 2.4   | 0.7   | 0.4   | 1.9   | 1.2   | 5.9   | 18.1  | 0.2   | 8.9   | 4.5   | 3.5   |
| 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     | 6.3   | 5.6   | 1.7   | 1.3   | 12.3  | 8.5   | 8.4   | 22.9  | 0.8   | 7.9   | 14.5  | 8.0   |
| Unsig. Movement Delay, s/veh |   |   |   |   |   |   |   |   |   |   |   |   |
| LnGrp Delay(d),s/veh         | 66.2  | 21.1  | 17.5  | 39.5  | 37.1  | 34.9  | 58.5  | 63.2  | 31.1  | 64.9  | 45.5  | 40.3  |
| LnGrp LOS                    | E   | C   | B   | D   | D   | C   | E   | E   | C   | E   | D   | D   |
| Approach Vol, veh/h          |   | 633   |   |   | 793   |   |   | 1441  |   |   | 1383  |   |
| Approach Delay, s/veh        |   | 31.0  |   |   | 36.4  |   |   | 61.7  |   |   | 47.5  |   |
| Approach LOS                 |   | C   |   |   | D   |   |   | E   |   |   | D   |   |
| Timer - Assigned Phs         |   | 2   | 3   | 4   |   | 6   | 7   | 8   |   |   |   |   |
| Phs Duration (G+Y+Rc), s     |   | 60.0  | 25.3  | 54.7  |   | 60.0  | 25.1  | 54.9  |   |   |   |   |
| Change Period (Y+Rc), s      |   | 7.0   | 6.5   | 7.0   |   | 7.0   | 6.5   | 7.0   |   |   |   |   |
| Max Green Setting (Gmax), s  |   | 53.0  | 13.5  | 53.0  |   | 53.0  | 18.5  | 48.0  |   |   |   |   |
| Max Q Clear Time (g_c+I1), s |   | 55.0  | 11.2  | 33.9  |   | 28.3  | 13.4  | 47.2  |   |   |   |   |
| Green Ext Time (p_c), s      |   | 0.0   | 0.2   | 13.7  |   | 6.4   | 0.3   | 0.7   |   |   |   |   |
| <b>Intersection Summary</b>  |   |   |   |   |   |   |   |   |   |   |   |   |
| HCM 6th Ctrl Delay           |   |   |   | 47.8  |   |   |   |   |   |   |   |   |
| HCM 6th LOS                  |   |   |   | D   |   |   |   |   |   |   |   |   |

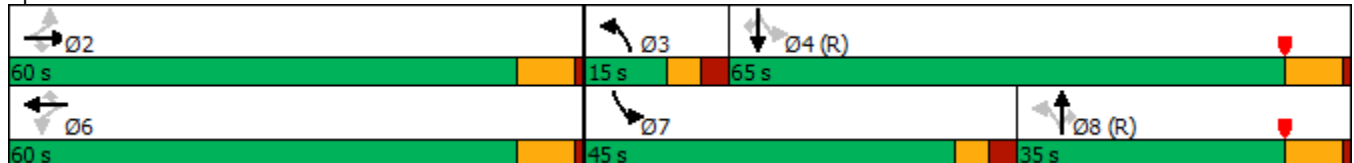
Timings  
5: Marksheffel Rd & SH-94

|                      | →     | ↘     | ↙     | ←     | ↖     | ↗     | ↑     | ↘     | ↙     | ↓     | ↖     |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Group           | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
| Lane Configurations  | ↑     | ↗     | ↙     | ↑     | ↗     | ↙     | ↑↑    | ↗     | ↙     | ↑↑    | ↗     |
| Traffic Volume (vph) | 350   | 310   | 40    | 405   | 105   | 430   | 780   | 30    | 330   | 950   | 5     |
| Future Volume (vph)  | 350   | 310   | 40    | 405   | 105   | 430   | 780   | 30    | 330   | 950   | 5     |
| Turn Type            | NA    | Perm  | Perm  | NA    | Perm  | pm+pt | NA    | Perm  | pm+pt | NA    | Perm  |
| Protected Phases     | 2     |       |       | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Permitted Phases     |       | 2     | 6     |       | 6     | 8     |       | 8     | 4     |       | 4     |
| Detector Phase       | 2     | 2     | 6     | 6     | 6     | 3     | 8     | 8     | 7     | 4     | 4     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 5.0   | 10.0  | 10.0  | 6.0   | 10.0  | 10.0  |
| Minimum Split (s)    | 27.0  | 27.0  | 27.0  | 27.0  | 27.0  | 11.5  | 17.0  | 17.0  | 12.5  | 17.0  | 17.0  |
| Total Split (s)      | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 15.0  | 35.0  | 35.0  | 45.0  | 65.0  | 65.0  |
| Total Split (%)      | 42.9% | 42.9% | 42.9% | 42.9% | 42.9% | 10.7% | 25.0% | 25.0% | 32.1% | 46.4% | 46.4% |
| Yellow Time (s)      | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   |
| 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 | None  | C-Min | C-Min |
| Act Effct Green (s)  | 42.2  | 42.2  | 42.2  | 42.2  | 42.2  | 68.2  | 49.8  | 49.8  | 78.8  | 58.0  | 58.0  |
| Actuated g/C Ratio   | 0.30  | 0.30  | 0.30  | 0.30  | 0.30  | 0.49  | 0.36  | 0.36  | 0.56  | 0.41  | 0.41  |
| v/c Ratio            | 0.72  | 0.58  | 0.27  | 0.81  | 0.21  | 1.37  | 0.69  | 0.05  | 0.79  | 0.71  | 0.01  |
| Control Delay        | 48.1  | 18.4  | 39.0  | 57.2  | 3.9   | 214.7 | 44.6  | 0.1   | 59.2  | 41.3  | 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          | 48.1  | 18.4  | 39.0  | 57.2  | 3.9   | 214.7 | 44.6  | 0.1   | 59.2  | 41.3  | 0.0   |
| LOS                  | D     | B     | D     | E     | A     | F     | D     | A     | E     | D     | A     |
| Approach Delay       | 34.1  |       |       | 45.7  |       |       | 102.5 |       |       | 45.7  |       |
| Approach LOS         | C     |       |       | D     |       |       | F     |       |       | D     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 19 (14%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow  
 Natural Cycle: 90  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.37  
 Intersection Signal Delay: 62.5  
 Intersection Capacity Utilization 100.4%  
 Analysis Period (min) 15  
 Intersection LOS: E  
 ICU Level of Service G

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

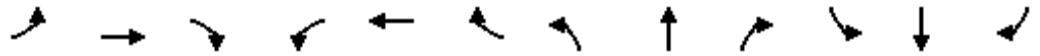




HCM 6th Signalized Intersection Summary  
5: Marksheffel Rd & SH-94

2040 Background AM.syn

11/10/2023



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL   | NBT   | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|-------|-------|------|------|------|------|
| Lane Configurations          | ↖    | ↑    | ↗    | ↖    | ↑    | ↗    | ↖     | ↑↑    | ↗    | ↖    | ↑↑   | ↗    |
| Traffic Volume (veh/h)       | 0    | 350  | 310  | 40   | 405  | 105  | 430   | 780   | 30   | 330  | 950  | 5    |
| Future Volume (veh/h)        | 0    | 350  | 310  | 40   | 405  | 105  | 430   | 780   | 30   | 330  | 950  | 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    | 380  | 174  | 43   | 440  | 5    | 467   | 848   | 33   | 359  | 1033 | 5    |
| 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                   | 51   | 530  | 449  | 126  | 539  | 456  | 333   | 1460  | 651  | 410  | 1747 | 779  |
| Arrive On Green              | 0.00 | 0.10 | 0.10 | 0.30 | 0.30 | 0.30 | 0.02  | 0.14  | 0.14 | 0.18 | 0.66 | 0.66 |
| Sat Flow, veh/h              | 900  | 1781 | 1510 | 827  | 1811 | 1535 | 1739  | 3469  | 1547 | 1767 | 3526 | 1572 |
| Grp Volume(v), veh/h         | 0    | 380  | 174  | 43   | 440  | 5    | 467   | 848   | 33   | 359  | 1033 | 5    |
| Grp Sat Flow(s),veh/h/ln     | 900  | 1781 | 1510 | 827  | 1811 | 1535 | 1739  | 1735  | 1547 | 1767 | 1763 | 1572 |
| Q Serve(g_s), s              | 0.0  | 29.0 | 15.1 | 7.0  | 31.6 | 0.3  | 8.5   | 32.1  | 2.6  | 15.9 | 22.9 | 0.2  |
| Cycle Q Clear(g_c), s        | 0.0  | 29.0 | 15.1 | 36.0 | 31.6 | 0.3  | 8.5   | 32.1  | 2.6  | 15.9 | 22.9 | 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       | 51   | 530  | 449  | 126  | 539  | 456  | 333   | 1460  | 651  | 410  | 1747 | 779  |
| V/C Ratio(X)                 | 0.00 | 0.72 | 0.39 | 0.34 | 0.82 | 0.01 | 1.40  | 0.58  | 0.05 | 0.87 | 0.59 | 0.01 |
| Avail Cap(c_a), veh/h        | 124  | 674  | 572  | 193  | 686  | 581  | 333   | 1460  | 651  | 657  | 1747 | 779  |
| HCM Platoon Ratio            | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 0.33  | 0.33  | 0.33 | 1.33 | 1.33 | 1.33 |
| Upstream Filter(l)           | 0.00 | 0.76 | 0.76 | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 | 0.86 | 0.86 | 0.86 |
| Uniform Delay (d), s/veh     | 0.0  | 57.4 | 51.2 | 61.1 | 45.6 | 34.7 | 38.0  | 48.7  | 36.0 | 23.6 | 16.0 | 12.1 |
| Incr Delay (d2), s/veh       | 0.0  | 2.5  | 0.6  | 2.3  | 6.9  | 0.0  | 198.2 | 1.7   | 0.1  | 6.8  | 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     | 0.0  | 14.3 | 6.2  | 1.6  | 15.2 | 0.1  | 26.2  | 15.4  | 1.0  | 6.6  | 8.3  | 0.1  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |       |       |      |      |      |      |
| LnGrp Delay(d),s/veh         | 0.0  | 60.0 | 51.8 | 63.3 | 52.6 | 34.7 | 236.2 | 50.4  | 36.2 | 30.3 | 17.2 | 12.1 |
| LnGrp LOS                    | A    | E    | D    | E    | D    | C    | F     | D     | D    | C    | B    | B    |
| Approach Vol, veh/h          |      | 554  |      |      | 488  |      |       | 1348  |      |      | 1397 |      |
| Approach Delay, s/veh        |      | 57.4 |      |      | 53.3 |      |       | 114.4 |      |      | 20.6 |      |
| Approach LOS                 |      | E    |      |      | D    |      |       | F     |      |      | C    |      |
| Timer - Assigned Phs         |      | 2    | 3    | 4    |      | 6    | 7     | 8     |      |      |      |      |
| Phs Duration (G+Y+Rc), s     |      | 48.6 | 15.0 | 76.4 |      | 48.6 | 25.4  | 65.9  |      |      |      |      |
| Change Period (Y+Rc), s      |      | 7.0  | 6.5  | 7.0  |      | 7.0  | 6.5   | 7.0   |      |      |      |      |
| Max Green Setting (Gmax), s  |      | 53.0 | 8.5  | 58.0 |      | 53.0 | 38.5  | 28.0  |      |      |      |      |
| Max Q Clear Time (g_c+I1), s |      | 31.0 | 10.5 | 24.9 |      | 38.0 | 17.9  | 34.1  |      |      |      |      |
| Green Ext Time (p_c), s      |      | 4.3  | 0.0  | 19.8 |      | 3.7  | 1.1   | 0.0   |      |      |      |      |
| <b>Intersection Summary</b>  |      |      |      |      |      |      |       |       |      |      |      |      |
| HCM 6th Ctrl Delay           |      |      | 63.6 |      |      |      |       |       |      |      |      |      |
| HCM 6th LOS                  |      |      | E    |      |      |      |       |       |      |      |      |      |

Timings  
5: Marksheffel Rd & SH-94

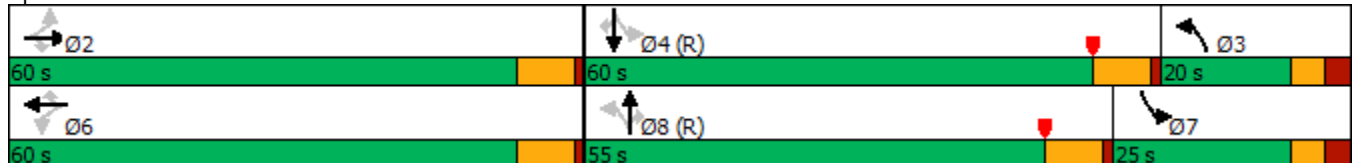


| Lane Group           | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | NBR   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↑     | ↗     | ↖     | ↑     | ↗     | ↖     | ↑↑    | ↗     | ↖     | ↑↑    | ↗     |
| Traffic Volume (vph) | 400   | 665   | 50    | 475   | 440   | 565   | 1695  | 50    | 205   | 1455  | 10    |
| Future Volume (vph)  | 400   | 665   | 50    | 475   | 440   | 565   | 1695  | 50    | 205   | 1455  | 10    |
| Turn Type            | NA    | Perm  | Perm  | NA    | Perm  | pm+pt | NA    | Perm  | pm+pt | NA    | Perm  |
| Protected Phases     | 2     |       |       | 6     |       | 3     | 8     |       | 7     | 4     |       |
| Permitted Phases     |       | 2     | 6     |       | 6     | 8     |       | 8     | 4     |       | 4     |
| Detector Phase       | 2     | 2     | 6     | 6     | 6     | 3     | 8     | 8     | 7     | 4     | 4     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 5.0   | 10.0  | 10.0  | 6.0   | 10.0  | 10.0  |
| Minimum Split (s)    | 27.5  | 27.5  | 27.5  | 27.5  | 27.5  | 11.5  | 17.5  | 17.5  | 12.5  | 17.5  | 17.5  |
| Total Split (s)      | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 20.0  | 55.0  | 55.0  | 25.0  | 60.0  | 60.0  |
| Total Split (%)      | 42.9% | 42.9% | 42.9% | 42.9% | 42.9% | 14.3% | 39.3% | 39.3% | 17.9% | 42.9% | 42.9% |
| Yellow Time (s)      | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   | 6.5   | 7.0   | 7.0   |
| Lead/Lag             |       |       |       |       |       | Lag   | Lead  | Lead  | Lag   | Lead  | Lead  |
| Lead-Lag Optimize?   |       |       |       |       |       | Yes   | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode          | Max   | Max   | None  | None  | None  | None  | C-Min | C-Min | None  | C-Min | C-Min |
| Act Effct Green (s)  | 53.0  | 53.0  | 53.0  | 53.0  | 53.0  | 62.0  | 48.0  | 48.0  | 72.0  | 53.0  | 53.0  |
| Actuated g/C Ratio   | 0.38  | 0.38  | 0.38  | 0.38  | 0.38  | 0.44  | 0.34  | 0.34  | 0.51  | 0.38  | 0.38  |
| v/c Ratio            | 0.61  | 0.95  | 0.24  | 0.72  | 0.63  | 2.68  | 1.49  | 0.09  | 0.78  | 1.18  | 0.02  |
| Control Delay        | 35.2  | 45.4  | 33.4  | 44.4  | 20.7  | 779.7 | 252.2 | 3.3   | 45.0  | 118.1 | 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   |
| Total Delay          | 35.2  | 45.4  | 33.4  | 44.4  | 20.7  | 779.7 | 252.2 | 3.3   | 45.0  | 118.1 | 0.0   |
| LOS                  | D     | D     | C     | D     | C     | F     | F     | A     | D     | F     | A     |
| Approach Delay       | 41.6  |       |       | 33.0  |       |       | 375.9 |       |       | 108.4 |       |
| Approach LOS         | D     |       |       | C     |       |       | F     |       |       | F     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 66 (47%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow  
 Natural Cycle: 150  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 2.68  
 Intersection Signal Delay: 187.3  
 Intersection Capacity Utilization 130.2%  
 Analysis Period (min) 15  
 Intersection LOS: F  
 ICU Level of Service H

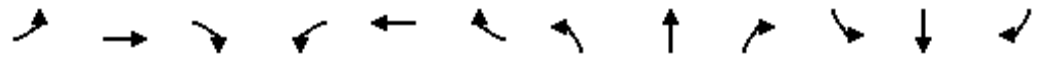
Splits and Phases: 5: Marksheffel Rd & SH-94



HCM 6th Signalized Intersection Summary  
 5: Marksheffel Rd & SH-94

2040 Background PM.syn

11/10/2023



| Movement                     | EBL  | EBT  | EBR   | WBL  | WBT  | WBR  | NBL   | NBT   | NBR  | SBL  | SBT   | SBR  |
|------------------------------|------|------|-------|------|------|------|-------|-------|------|------|-------|------|
| Lane Configurations          | ↖    | ↑    | ↗     | ↖    | ↑    | ↗    | ↖     | ↑↑    | ↗    | ↖    | ↑↑    | ↗    |
| Traffic Volume (veh/h)       | 0    | 400  | 665   | 50   | 475  | 440  | 565   | 1695  | 50   | 205  | 1455  | 10   |
| Future Volume (veh/h)        | 0    | 400  | 665   | 50   | 475  | 440  | 565   | 1695  | 50   | 205  | 1455  | 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    | 426  | 547   | 53   | 505  | 362  | 601   | 1803  | 53   | 218  | 1548  | 11   |
| Peak Hour Factor             | 0.94 | 0.94 | 0.94  | 0.94 | 0.94 | 0.94 | 0.94  | 0.94  | 0.94 | 0.94 | 0.94  | 0.94 |
| Percent Heavy Veh, %         | 3    | 3    | 3     | 3    | 3    | 3    | 2     | 2     | 2    | 4    | 4     | 4    |
| Cap, veh/h                   | 51   | 702  | 595   | 190  | 702  | 595  | 223   | 1218  | 543  | 283  | 1324  | 591  |
| Arrive On Green              | 0.00 | 0.63 | 0.63  | 0.38 | 0.38 | 0.38 | 0.13  | 0.46  | 0.46 | 0.13 | 0.38  | 0.38 |
| Sat Flow, veh/h              | 633  | 1856 | 1572  | 573  | 1856 | 1572 | 1781  | 3554  | 1585 | 1753 | 3497  | 1560 |
| Grp Volume(v), veh/h         | 0    | 426  | 547   | 53   | 505  | 362  | 601   | 1803  | 53   | 218  | 1548  | 11   |
| Grp Sat Flow(s),veh/h/ln     | 633  | 1856 | 1572  | 573  | 1856 | 1572 | 1781  | 1777  | 1585 | 1753 | 1749  | 1560 |
| Q Serve(g_s), s              | 0.0  | 19.2 | 42.7  | 10.8 | 32.5 | 26.0 | 13.5  | 48.0  | 2.7  | 12.6 | 53.0  | 0.6  |
| Cycle Q Clear(g_c), s        | 0.0  | 19.2 | 42.7  | 30.0 | 32.5 | 26.0 | 13.5  | 48.0  | 2.7  | 12.6 | 53.0  | 0.6  |
| 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       | 51   | 702  | 595   | 190  | 702  | 595  | 223   | 1218  | 543  | 283  | 1324  | 591  |
| V/C Ratio(X)                 | 0.00 | 0.61 | 0.92  | 0.28 | 0.72 | 0.61 | 2.69  | 1.48  | 0.10 | 0.77 | 1.17  | 0.02 |
| Avail Cap(c_a), veh/h        | 51   | 702  | 595   | 190  | 702  | 595  | 223   | 1218  | 543  | 283  | 1324  | 591  |
| HCM Platoon Ratio            | 1.67 | 1.67 | 1.67  | 1.00 | 1.00 | 1.00 | 1.33  | 1.33  | 1.33 | 1.00 | 1.00  | 1.00 |
| Upstream Filter(I)           | 0.00 | 0.70 | 0.70  | 1.00 | 1.00 | 1.00 | 1.00  | 1.00  | 1.00 | 0.86 | 0.86  | 0.86 |
| Uniform Delay (d), s/veh     | 0.0  | 19.5 | 23.9  | 44.4 | 37.1 | 35.1 | 59.5  | 38.1  | 25.7 | 56.7 | 43.5  | 27.2 |
| Incr Delay (d2), s/veh       | 0.0  | 2.7  | 16.5  | 1.1  | 3.9  | 2.1  | 774.3 | 220.4 | 0.4  | 10.6 | 83.5  | 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  | 7.1  | 15.1  | 1.6  | 15.5 | 10.4 | 55.4  | 56.7  | 1.1  | 7.9  | 38.0  | 0.2  |
| Unsig. Movement Delay, s/veh |      |      |       |      |      |      |       |       |      |      |       |      |
| LnGrp Delay(d),s/veh         | 0.0  | 22.2 | 40.4  | 45.5 | 41.0 | 37.2 | 833.8 | 258.5 | 26.1 | 67.3 | 127.0 | 27.3 |
| LnGrp LOS                    | A    | C    | D     | D    | D    | D    | F     | F     | C    | E    | F     | C    |
| Approach Vol, veh/h          |      | 973  |       |      | 920  |      |       | 2457  |      |      | 1777  |      |
| Approach Delay, s/veh        |      | 32.4 |       |      | 39.8 |      |       | 394.2 |      |      | 119.1 |      |
| Approach LOS                 |      | C    |       |      | D    |      |       | F     |      |      | F     |      |
| Timer - Assigned Phs         |      | 2    | 3     | 4    |      | 6    | 7     | 8     |      |      |       |      |
| Phs Duration (G+Y+Rc), s     |      | 60.0 | 20.0  | 60.0 |      | 60.0 | 25.0  | 55.0  |      |      |       |      |
| Change Period (Y+Rc), s      |      | 7.0  | 6.5   | 7.0  |      | 7.0  | 6.5   | 7.0   |      |      |       |      |
| Max Green Setting (Gmax), s  |      | 53.0 | 13.5  | 53.0 |      | 53.0 | 18.5  | 48.0  |      |      |       |      |
| Max Q Clear Time (g_c+I1), s |      | 44.7 | 15.5  | 55.0 |      | 34.5 | 14.6  | 50.0  |      |      |       |      |
| Green Ext Time (p_c), s      |      | 4.2  | 0.0   | 0.0  |      | 7.1  | 0.2   | 0.0   |      |      |       |      |
| <b>Intersection Summary</b>  |      |      |       |      |      |      |       |       |      |      |       |      |
| HCM 6th Ctrl Delay           |      |      | 203.7 |      |      |      |       |       |      |      |       |      |
| HCM 6th LOS                  |      |      | F     |      |      |      |       |       |      |      |       |      |

Timings  
5: Marksheffel Rd & SH-94

2040 Total AM.syn  
11/10/2023

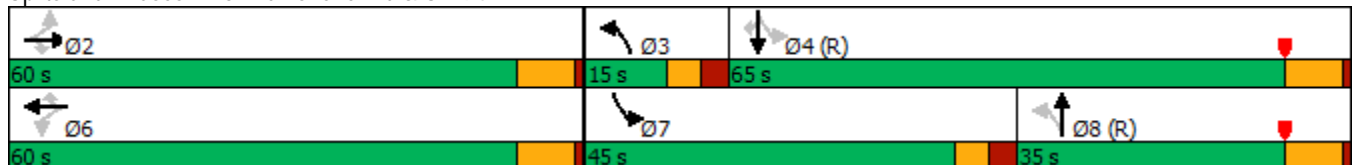


| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↗     | ↘     | ↖     | ↗     | ↘     | ↖     | ↗     | ↘     | ↗     | ↘     |
| Traffic Volume (vph) | 165   | 350   | 310   | 40    | 405   | 135   | 430   | 810   | 355   | 975   | 275   |
| Future Volume (vph)  | 165   | 350   | 310   | 40    | 405   | 135   | 430   | 810   | 355   | 975   | 275   |
| Turn Type            | Perm  | NA    | Perm  | Perm  | NA    | Perm  | pm+pt | NA    | pm+pt | NA    | Perm  |
| Protected Phases     |       | 2     |       |       | 6     |       | 3     | 8     | 7     | 4     |       |
| Permitted Phases     | 2     |       | 2     | 6     |       | 6     | 8     |       | 4     |       | 4     |
| Detector Phase       | 2     | 2     | 2     | 6     | 6     | 6     | 3     | 8     | 7     | 4     | 4     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 5.0   | 10.0  | 6.0   | 10.0  | 10.0  |
| Minimum Split (s)    | 27.0  | 27.0  | 27.0  | 27.0  | 27.0  | 27.0  | 11.5  | 17.0  | 12.5  | 17.0  | 17.0  |
| Total Split (s)      | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 60.0  | 15.0  | 35.0  | 45.0  | 65.0  | 65.0  |
| Total Split (%)      | 42.9% | 42.9% | 42.9% | 42.9% | 42.9% | 42.9% | 10.7% | 25.0% | 32.1% | 46.4% | 46.4% |
| Yellow Time (s)      | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 3.5   | 6.0   | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 3.0   | 1.0   | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 6.5   | 7.0   | 6.5   | 7.0   | 7.0   |
| Lead/Lag             |       |       |       |       |       |       | Lead  | Lag   | Lead  | Lag   | Lag   |
| Lead-Lag Optimize?   |       |       |       |       |       |       | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode          | None  | None  | None  | None  | None  | None  | None  | C-Min | None  | C-Min | C-Min |
| Act Effect Green (s) | 41.3  | 41.3  | 41.3  | 41.3  | 41.3  | 41.3  | 67.1  | 49.2  | 80.3  | 59.6  | 59.6  |
| Actuated g/C Ratio   | 0.30  | 0.30  | 0.30  | 0.30  | 0.30  | 0.30  | 0.48  | 0.35  | 0.57  | 0.43  | 0.43  |
| v/c Ratio            | 0.85  | 0.39  | 0.59  | 0.18  | 0.44  | 0.27  | 0.64  | 0.53  | 0.78  | 0.49  | 0.38  |
| Control Delay        | 70.1  | 37.5  | 18.7  | 34.3  | 40.1  | 5.5   | 28.2  | 36.5  | 45.3  | 44.9  | 24.9  |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 70.1  | 37.5  | 18.7  | 34.3  | 40.1  | 5.5   | 28.2  | 36.5  | 45.3  | 44.9  | 24.9  |
| LOS                  | E     | D     | B     | C     | D     | A     | C     | D     | D     | D     | C     |
| Approach Delay       |       | 37.0  |       |       | 31.6  |       |       | 33.7  |       | 41.6  |       |
| Approach LOS         |       | D     |       |       | C     |       |       | C     |       | D     |       |

Intersection Summary

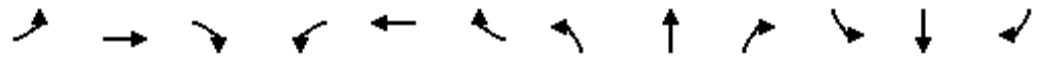
Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 19 (14%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow  
 Natural Cycle: 70  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.85  
 Intersection Signal Delay: 37.0  
 Intersection Capacity Utilization 92.2%  
 Analysis Period (min) 15  
 Intersection LOS: D  
 ICU Level of Service F

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



HCM 6th Signalized Intersection Summary  
 5: Marksheffel Rd & SH-94

2040 Total AM.syn  
 11/10/2023



| Movement                     | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Configurations          | ↘    | ↑↑   | ↗    | ↘    | ↑↑   | ↗    | ↘↗   | ↑↑↗  |      | ↘    | ↑↑↑  | ↗    |
| Traffic Volume (veh/h)       | 165  | 350  | 310  | 40   | 405  | 135  | 430  | 810  | 30   | 355  | 975  | 275  |
| Future Volume (veh/h)        | 165  | 350  | 310  | 40   | 405  | 135  | 430  | 810  | 30   | 355  | 975  | 275  |
| 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  | 380  | 174  | 43   | 440  | 38   | 467  | 880  | 0    | 386  | 1060 | 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                   | 264  | 1151 | 513  | 247  | 1170 | 522  | 656  | 1721 |      | 468  | 2294 |      |
| Arrive On Green              | 0.11 | 0.11 | 0.11 | 0.34 | 0.34 | 0.34 | 0.04 | 0.23 | 0.00 | 0.34 | 0.91 | 0.00 |
| Sat Flow, veh/h              | 873  | 3385 | 1510 | 827  | 3441 | 1535 | 3374 | 5149 | 0    | 1767 | 5066 | 1572 |
| Grp Volume(v), veh/h         | 179  | 380  | 174  | 43   | 440  | 38   | 467  | 880  | 0    | 386  | 1060 | 0    |
| Grp Sat Flow(s),veh/h/ln     | 873  | 1692 | 1510 | 827  | 1721 | 1535 | 1687 | 1662 | 0    | 1767 | 1689 | 1572 |
| Q Serve(g_s), s              | 28.3 | 14.5 | 14.9 | 5.9  | 13.5 | 2.3  | 8.5  | 21.5 | 0.0  | 20.5 | 4.8  | 0.0  |
| Cycle Q Clear(g_c), s        | 41.9 | 14.5 | 14.9 | 20.4 | 13.5 | 2.3  | 8.5  | 21.5 | 0.0  | 20.5 | 4.8  | 0.0  |
| Prop In Lane                 | 1.00 |      | 1.00 | 1.00 |      | 1.00 | 1.00 |      | 0.00 | 1.00 |      | 1.00 |
| Lane Grp Cap(c), veh/h       | 264  | 1151 | 513  | 247  | 1170 | 522  | 656  | 1721 |      | 468  | 2294 |      |
| V/C Ratio(X)                 | 0.68 | 0.33 | 0.34 | 0.17 | 0.38 | 0.07 | 0.71 | 0.51 |      | 0.82 | 0.46 |      |
| Avail Cap(c_a), veh/h        | 297  | 1281 | 572  | 279  | 1303 | 581  | 656  | 1721 |      | 657  | 2294 |      |
| HCM Platoon Ratio            | 0.33 | 0.33 | 0.33 | 1.00 | 1.00 | 1.00 | 0.67 | 0.67 | 0.67 | 2.00 | 2.00 | 2.00 |
| Upstream Filter(I)           | 0.67 | 0.67 | 0.67 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 0.00 | 0.83 | 0.83 | 0.00 |
| Uniform Delay (d), s/veh     | 66.3 | 47.4 | 47.6 | 43.0 | 35.0 | 31.3 | 31.4 | 43.5 | 0.0  | 19.4 | 3.8  | 0.0  |
| Incr Delay (d2), s/veh       | 4.2  | 0.2  | 0.4  | 0.5  | 0.3  | 0.1  | 3.6  | 1.1  | 0.0  | 5.0  | 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     | 7.0  | 6.6  | 6.1  | 1.2  | 5.8  | 0.9  | 2.6  | 9.5  | 0.0  | 6.7  | 1.3  | 0.0  |
| Unsig. Movement Delay, s/veh |      |      |      |      |      |      |      |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 70.5 | 47.6 | 48.0 | 43.5 | 35.2 | 31.3 | 35.0 | 44.6 | 0.0  | 24.4 | 4.4  | 0.0  |
| LnGrp LOS                    | E    | D    | D    | D    | D    | C    | C    | D    |      | C    | A    |      |
| Approach Vol, veh/h          |      | 733  |      |      | 521  |      |      | 1347 |      |      | 1446 |      |
| Approach Delay, s/veh        |      | 53.3 |      |      | 35.6 |      |      | 41.3 |      |      | 9.7  |      |
| Approach LOS                 |      | D    |      |      | D    |      |      | D    |      |      | A    |      |
| Timer - Assigned Phs         |      | 2    | 3    | 4    |      | 6    | 7    | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     |      | 54.6 | 15.0 | 70.4 |      | 54.6 | 30.0 | 55.3 |      |      |      |      |
| Change Period (Y+Rc), s      |      | 7.0  | 6.5  | 7.0  |      | 7.0  | 6.5  | 7.0  |      |      |      |      |
| Max Green Setting (Gmax), s  |      | 53.0 | 8.5  | 58.0 |      | 53.0 | 38.5 | 28.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s |      | 43.9 | 10.5 | 6.8  |      | 22.4 | 22.5 | 23.5 |      |      |      |      |
| Green Ext Time (p_c), s      |      | 3.7  | 0.0  | 25.2 |      | 5.1  | 1.1  | 3.4  |      |      |      |      |

Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 31.5 |
| HCM 6th LOS        | C    |

Notes

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

Timings  
5: Marksheffel Rd & SH-94

2040 Total PM.syn  
11/10/2023

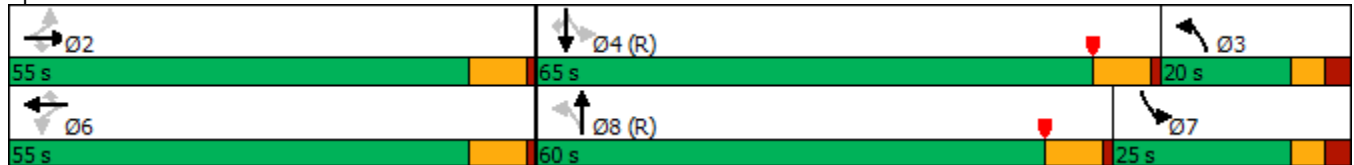


| Lane Group           | EBL   | EBT   | EBR   | WBL   | WBT   | WBR   | NBL   | NBT   | SBL   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↘     | ↗     | ↘     | ↘     | ↗     | ↘     | ↘     | ↗     | ↘     | ↗     | ↘     |
| Traffic Volume (vph) | 235   | 400   | 665   | 50    | 475   | 480   | 565   | 1735  | 230   | 1480  | 285   |
| Future Volume (vph)  | 235   | 400   | 665   | 50    | 475   | 480   | 565   | 1735  | 230   | 1480  | 285   |
| Turn Type            | Perm  | NA    | Perm  | Perm  | NA    | Perm  | pm+pt | NA    | pm+pt | NA    | Perm  |
| Protected Phases     |       | 2     |       |       | 6     |       | 3     | 8     | 7     | 4     |       |
| Permitted Phases     | 2     |       | 2     | 6     |       | 6     | 8     |       | 4     |       | 4     |
| Detector Phase       | 2     | 2     | 2     | 6     | 6     | 6     | 3     | 8     | 7     | 4     | 4     |
| Switch Phase         |       |       |       |       |       |       |       |       |       |       |       |
| Minimum Initial (s)  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 20.0  | 5.0   | 10.0  | 6.0   | 10.0  | 10.0  |
| Minimum Split (s)    | 27.5  | 27.5  | 27.5  | 27.5  | 27.5  | 27.5  | 11.5  | 17.5  | 12.5  | 17.5  | 17.5  |
| Total Split (s)      | 55.0  | 55.0  | 55.0  | 55.0  | 55.0  | 55.0  | 20.0  | 60.0  | 25.0  | 65.0  | 65.0  |
| Total Split (%)      | 39.3% | 39.3% | 39.3% | 39.3% | 39.3% | 39.3% | 14.3% | 42.9% | 17.9% | 46.4% | 46.4% |
| Yellow Time (s)      | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 6.0   | 3.5   | 6.0   | 3.5   | 6.0   | 6.0   |
| All-Red Time (s)     | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 1.0   | 3.0   | 1.0   | 3.0   | 1.0   | 1.0   |
| Lost Time Adjust (s) | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Lost Time (s)  | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 7.0   | 6.5   | 7.0   | 6.5   | 7.0   | 7.0   |
| Lead/Lag             |       |       |       |       |       |       | Lag   | Lead  | Lag   | Lead  | Lead  |
| Lead-Lag Optimize?   |       |       |       |       |       |       | Yes   | Yes   | Yes   | Yes   | Yes   |
| Recall Mode          | Max   | Max   | Max   | None  | None  | None  | None  | C-Min | None  | C-Min | C-Min |
| Act Effect Green (s) | 48.0  | 48.0  | 48.0  | 48.0  | 48.0  | 48.0  | 67.0  | 53.0  | 77.0  | 58.0  | 58.0  |
| Actuated g/C Ratio   | 0.34  | 0.34  | 0.34  | 0.34  | 0.34  | 0.34  | 0.48  | 0.38  | 0.55  | 0.41  | 0.41  |
| v/c Ratio            | 1.04  | 0.35  | 1.03  | 0.19  | 0.42  | 0.75  | 1.38  | 0.99  | 0.87  | 0.76  | 0.42  |
| Control Delay        | 103.4 | 37.7  | 68.2  | 34.7  | 36.6  | 30.0  | 208.1 | 46.6  | 57.2  | 26.3  | 14.3  |
| 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          | 103.4 | 37.7  | 68.2  | 34.7  | 36.6  | 30.0  | 208.1 | 46.6  | 57.2  | 26.3  | 14.3  |
| LOS                  | F     | D     | E     | C     | D     | C     | F     | D     | E     | C     | B     |
| Approach Delay       |       | 65.2  |       |       | 33.4  |       |       | 85.4  |       | 28.2  |       |
| Approach LOS         |       | E     |       |       | C     |       |       | F     |       | C     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 66 (47%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow  
 Natural Cycle: 100  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 1.38  
 Intersection Signal Delay: 56.4  
 Intersection LOS: E  
 Intersection Capacity Utilization 103.9%  
 ICU Level of Service G  
 Analysis Period (min) 15

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



# HCM 6th Signalized Intersection Summary

## 5: Marksheffel Rd & SH-94

2040 Total PM.syn

11/10/2023



| Movement                     | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL   | NBT  | NBR  | SBL  | SBT  | SBR  |
|------------------------------|-------|------|------|------|------|------|-------|------|------|------|------|------|
| Lane Configurations          |       |      |      |      |      |      |       |      |      |      |      |      |
| Traffic Volume (veh/h)       | 235   | 400  | 665  | 50   | 475  | 480  | 565   | 1735 | 50   | 230  | 1480 | 285  |
| Future Volume (veh/h)        | 235   | 400  | 665  | 50   | 475  | 480  | 565   | 1735 | 50   | 230  | 1480 | 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       | 1856  | 1856 | 1856 | 1856 | 1856 | 1856 | 1870  | 1870 | 1870 | 1841 | 1841 | 1841 |
| Adj Flow Rate, veh/h         | 250   | 426  | 361  | 53   | 505  | 245  | 601   | 1846 | 0    | 245  | 1574 | 0    |
| Peak Hour Factor             | 0.94  | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 | 0.94  | 0.94 | 0.94 | 0.94 | 0.94 | 0.94 |
| Percent Heavy Veh, %         | 3     | 3    | 3    | 3    | 3    | 3    | 2     | 2    | 2    | 4    | 4    | 4    |
| Cap, veh/h                   | 216   | 1209 | 539  | 241  | 1209 | 539  | 550   | 1926 |      | 299  | 2011 |      |
| Arrive On Green              | 0.57  | 0.57 | 0.57 | 0.34 | 0.34 | 0.34 | 0.22  | 0.75 | 0.00 | 0.13 | 0.40 | 0.00 |
| Sat Flow, veh/h              | 707   | 3526 | 1572 | 683  | 3526 | 1572 | 3456  | 5274 | 0    | 1753 | 5025 | 1560 |
| Grp Volume(v), veh/h         | 250   | 426  | 361  | 53   | 505  | 245  | 601   | 1846 | 0    | 245  | 1574 | 0    |
| Grp Sat Flow(s),veh/h/ln     | 707   | 1763 | 1572 | 683  | 1763 | 1572 | 1728  | 1702 | 0    | 1753 | 1675 | 1560 |
| Q Serve(g_s), s              | 32.6  | 9.1  | 22.3 | 8.5  | 15.4 | 17.0 | 15.5  | 44.9 | 0.0  | 13.6 | 38.3 | 0.0  |
| Cycle Q Clear(g_c), s        | 48.0  | 9.1  | 22.3 | 17.6 | 15.4 | 17.0 | 15.5  | 44.9 | 0.0  | 13.6 | 38.3 | 0.0  |
| Prop In Lane                 | 1.00  |      | 1.00 | 1.00 |      | 1.00 | 1.00  |      | 0.00 | 1.00 |      | 1.00 |
| Lane Grp Cap(c), veh/h       | 216   | 1209 | 539  | 241  | 1209 | 539  | 550   | 1926 |      | 299  | 2011 |      |
| V/C Ratio(X)                 | 1.16  | 0.35 | 0.67 | 0.22 | 0.42 | 0.45 | 1.09  | 0.96 |      | 0.82 | 0.78 |      |
| Avail Cap(c_a), veh/h        | 216   | 1209 | 539  | 241  | 1209 | 539  | 550   | 1933 |      | 299  | 2082 |      |
| HCM Platoon Ratio            | 1.67  | 1.67 | 1.67 | 1.00 | 1.00 | 1.00 | 2.00  | 2.00 | 2.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(I)           | 0.50  | 0.50 | 0.50 | 1.00 | 1.00 | 1.00 | 1.00  | 1.00 | 0.00 | 0.80 | 0.80 | 0.00 |
| Uniform Delay (d), s/veh     | 41.5  | 21.6 | 24.4 | 39.5 | 35.3 | 35.8 | 51.3  | 16.2 | 0.0  | 56.4 | 36.7 | 0.0  |
| Incr Delay (d2), s/veh       | 93.8  | 0.4  | 3.3  | 0.6  | 0.3  | 0.9  | 65.8  | 12.8 | 0.0  | 13.3 | 2.5  | 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     | 13.0  | 3.5  | 7.4  | 1.5  | 6.7  | 6.7  | 13.4  | 10.7 | 0.0  | 9.5  | 16.1 | 0.0  |
| Unsig. Movement Delay, s/veh |       |      |      |      |      |      |       |      |      |      |      |      |
| LnGrp Delay(d),s/veh         | 135.3 | 22.0 | 27.7 | 40.2 | 35.6 | 36.7 | 117.1 | 29.0 | 0.0  | 69.7 | 39.2 | 0.0  |
| LnGrp LOS                    | F     | C    | C    | D    | D    | D    | F     | C    |      | E    | D    |      |
| Approach Vol, veh/h          |       | 1037 |      |      | 803  |      |       | 2447 |      |      | 1819 |      |
| Approach Delay, s/veh        |       | 51.3 |      |      | 36.2 |      |       | 50.7 |      |      | 43.3 |      |
| Approach LOS                 |       | D    |      |      | D    |      |       | D    |      |      | D    |      |
| Timer - Assigned Phs         |       | 2    | 3    | 4    |      | 6    | 7     | 8    |      |      |      |      |
| Phs Duration (G+Y+Rc), s     |       | 55.0 | 22.0 | 63.0 |      | 55.0 | 25.2  | 59.8 |      |      |      |      |
| Change Period (Y+Rc), s      |       | 7.0  | 6.5  | 7.0  |      | 7.0  | 6.5   | 7.0  |      |      |      |      |
| Max Green Setting (Gmax), s  |       | 48.0 | 13.5 | 58.0 |      | 48.0 | 18.5  | 53.0 |      |      |      |      |
| Max Q Clear Time (g_c+I1), s |       | 50.0 | 17.5 | 40.3 |      | 19.6 | 15.6  | 46.9 |      |      |      |      |
| Green Ext Time (p_c), s      |       | 0.0  | 0.0  | 15.7 |      | 7.4  | 0.2   | 5.9  |      |      |      |      |

### Intersection Summary

|                    |      |
|--------------------|------|
| HCM 6th Ctrl Delay | 46.7 |
| HCM 6th LOS        | D    |

### Notes

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

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.7  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      | ↖    | ↗    | ↖    | ↕↕   | ↕↕   | ↗    |
| Traffic Vol, veh/h       | 90   | 90   | 50   | 775  | 1300 | 200  |
| Future Vol, veh/h        | 90   | 90   | 50   | 775  | 1300 | 200  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 200  | 0    | 300  | -    | -    | 250  |
| Veh in Median Storage, # | 1    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 5    | 5    | 2    |
| Mvmt Flow                | 98   | 98   | 54   | 842  | 1413 | 217  |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |   |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 1942   | 707    | 1630   | 0 | - | 0 |
| Stage 1              | 1413   | -      | -      | - | - | - |
| Stage 2              | 529    | -      | -      | - | - | - |
| 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   | *~ 80  | 378    | 394    | - | - | - |
| Stage 1              | *191   | -      | -      | - | - | - |
| Stage 2              | *720   | -      | -      | - | - | - |
| Platoon blocked, %   | 1      |        |        | - | - | - |
| Mov Cap-1 Maneuver   | *~ 69  | 378    | 394    | - | - | - |
| Mov Cap-2 Maneuver   | *139   | -      | -      | - | - | - |
| Stage 1              | *165   | -      | -      | - | - | - |
| Stage 2              | *720   | -      | -      | - | - | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 47.3 | 0.9 | 0  |
| HCM LOS              | E    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | EBLn2 | SBT | SBR |
|-----------------------|-------|-----|-------|-------|-----|-----|
| Capacity (veh/h)      | 394   | -   | 139   | 378   | -   | -   |
| HCM Lane V/C Ratio    | 0.138 | -   | 0.704 | 0.259 | -   | -   |
| HCM Control Delay (s) | 15.6  | -   | 76.7  | 17.8  | -   | -   |
| HCM Lane LOS          | C     | -   | F     | C     | -   | -   |
| HCM 95th %tile Q(veh) | 0.5   | -   | 4     | 1     | -   | -   |

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



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 2.7  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      | ↖    | ↗    | ↖    | ↕    | ↕    | ↗    |
| Traffic Vol, veh/h       | 90   | 90   | 50   | 1365 | 1045 | 185  |
| Future Vol, veh/h        | 90   | 90   | 50   | 1365 | 1045 | 185  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 200  | 0    | 300  | -    | -    | 250  |
| Veh in Median Storage, # | 1    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 3    | 3    | 2    |
| Mvmt Flow                | 98   | 98   | 54   | 1484 | 1136 | 201  |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |   |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 1986   | 568    | 1337   | 0 | - | 0 |
| Stage 1              | 1136   | -      | -      | - | - | - |
| Stage 2              | 850    | -      | -      | - | - | - |
| 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   | ~ 53   | 466    | 512    | - | - | - |
| Stage 1              | 268    | -      | -      | - | - | - |
| Stage 2              | 379    | -      | -      | - | - | - |
| Platoon blocked, %   |        |        |        | - | - | - |
| Mov Cap-1 Maneuver   | ~ 47   | 466    | 512    | - | - | - |
| Mov Cap-2 Maneuver   | 154    | -      | -      | - | - | - |
| Stage 1              | 240    | -      | -      | - | - | - |
| Stage 2              | 379    | -      | -      | - | - | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 38.5 | 0.5 | 0  |
| HCM LOS              | E    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | EBLn2 | SBT | SBR |
|-----------------------|-------|-----|-------|-------|-----|-----|
| Capacity (veh/h)      | 512   | -   | 154   | 466   | -   | -   |
| HCM Lane V/C Ratio    | 0.106 | -   | 0.635 | 0.21  | -   | -   |
| HCM Control Delay (s) | 12.9  | -   | 62.1  | 14.8  | -   | -   |
| HCM Lane LOS          | B     | -   | F     | B     | -   | -   |
| HCM 95th %tile Q(veh) | 0.4   | -   | 3.5   | 0.8   | -   | -   |

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

Timings

9: Marksheffel Rd & CRN North Full Access



| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↗     | ↖     | ↑↑    | ↑↑    | ↗     |
| Traffic Volume (vph) | 90    | 90    | 50    | 775   | 1300  | 200   |
| Future Volume (vph)  | 90    | 90    | 50    | 775   | 1300  | 200   |
| 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)      | 28.0  | 28.0  | 13.0  | 112.0 | 99.0  | 99.0  |
| Total Split (%)      | 20.0% | 20.0% | 9.3%  | 80.0% | 70.7% | 70.7% |
| 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 Effect Green (s) | 13.1  | 13.1  | 117.9 | 117.9 | 109.2 | 109.2 |
| Actuated g/C Ratio   | 0.09  | 0.09  | 0.84  | 0.84  | 0.78  | 0.78  |
| v/c Ratio            | 0.59  | 0.42  | 0.18  | 0.29  | 0.53  | 0.17  |
| Control Delay        | 74.9  | 15.6  | 2.7   | 1.7   | 21.5  | 6.8   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 74.9  | 15.6  | 2.7   | 1.7   | 21.5  | 6.8   |
| LOS                  | E     | B     | A     | A     | C     | A     |
| Approach Delay       | 45.3  |       |       | 1.8   | 19.5  |       |
| Approach LOS         | D     |       |       | A     | B     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 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: 0.59  
 Intersection Signal Delay: 15.5  
 Intersection LOS: B  
 Intersection Capacity Utilization 54.0%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 9: Marksheffel Rd & CRN North Full Access



HCM 6th Signalized Intersection Summary  
 9: Marksheffel Rd & CRN North Full Access

2026 Total AM Improved.syn  
 11/09/2023



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR   |
|------------------------------|------|-------|------|------|------|-------|
| Lane Configurations          |      |       |      |      |      |       |
| Traffic Volume (veh/h)       | 90   | 90    | 50   | 775  | 1300 | 200   |
| Future Volume (veh/h)        | 90   | 90    | 50   | 775  | 1300 | 200   |
| 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 | 1826 | 1826 | 1870  |
| Adj Flow Rate, veh/h         | 98   | 98    | 54   | 842  | 1413 | 217   |
| Peak Hour Factor             | 0.92 | 0.92  | 0.92 | 0.92 | 0.92 | 0.92  |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 5    | 5    | 2     |
| Cap, veh/h                   | 139  | 124   | 309  | 2975 | 2755 | 1259  |
| Arrive On Green              | 0.08 | 0.08  | 0.06 | 1.00 | 0.79 | 0.79  |
| Sat Flow, veh/h              | 1781 | 1585  | 1781 | 3561 | 3561 | 1585  |
| Grp Volume(v), veh/h         | 98   | 98    | 54   | 842  | 1413 | 217   |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585  | 1781 | 1735 | 1735 | 1585  |
| Q Serve(g_s), s              | 7.5  | 8.5   | 0.7  | 0.0  | 19.8 | 4.6   |
| Cycle Q Clear(g_c), s        | 7.5  | 8.5   | 0.7  | 0.0  | 19.8 | 4.6   |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 1.00  |
| Lane Grp Cap(c), veh/h       | 139  | 124   | 309  | 2975 | 2755 | 1259  |
| V/C Ratio(X)                 | 0.70 | 0.79  | 0.17 | 0.28 | 0.51 | 0.17  |
| Avail Cap(c_a), veh/h        | 299  | 266   | 361  | 2975 | 2755 | 1259  |
| HCM Platoon Ratio            | 1.00 | 1.00  | 2.00 | 2.00 | 1.00 | 1.00  |
| Upstream Filter(l)           | 1.00 | 1.00  | 0.96 | 0.96 | 1.00 | 1.00  |
| Uniform Delay (d), s/veh     | 62.9 | 63.4  | 3.8  | 0.0  | 5.0  | 3.4   |
| Incr Delay (d2), s/veh       | 6.3  | 10.7  | 0.3  | 0.2  | 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     | 3.7  | 7.7   | 0.2  | 0.1  | 6.4  | 1.4   |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |       |
| LnGrp Delay(d),s/veh         | 69.3 | 74.1  | 4.0  | 0.2  | 5.7  | 3.7   |
| LnGrp LOS                    | E    | E     | A    | A    | A    | A     |
| Approach Vol, veh/h          |      |       |      | 896  | 1630 |       |
| Approach Delay, s/veh        |      |       |      | 0.5  | 5.4  |       |
| Approach LOS                 |      |       |      | A    | A    |       |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6     |
| Phs Duration (G+Y+Rc), s     |      | 124.6 |      | 15.4 | 8.9  | 115.7 |
| Change Period (Y+Rc), s      |      | 4.5   |      | 4.5  | 4.5  | 4.5   |
| Max Green Setting (Gmax), s  |      | 107.5 |      | 23.5 | 8.5  | 94.5  |
| Max Q Clear Time (g_c+I1), s |      | 2.0   |      | 10.5 | 2.7  | 21.8  |
| Green Ext Time (p_c), s      |      | 7.5   |      | 0.4  | 0.0  | 19.6  |
| <b>Intersection Summary</b>  |      |       |      |      |      |       |
| HCM 6th Ctrl Delay           |      |       | 8.6  |      |      |       |
| HCM 6th LOS                  |      |       | A    |      |      |       |

Timings

9: Marksheffel Rd & CRN North Full Access



| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↗     | ↖     | ↑↑    | ↑↑    | ↗     |
| Traffic Volume (vph) | 90    | 90    | 50    | 1365  | 1045  | 185   |
| Future Volume (vph)  | 90    | 90    | 50    | 1365  | 1045  | 185   |
| 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)      | 30.0  | 30.0  | 14.0  | 110.0 | 96.0  | 96.0  |
| Total Split (%)      | 21.4% | 21.4% | 10.0% | 78.6% | 68.6% | 68.6% |
| 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 Effect Green (s) | 13.1  | 13.1  | 117.9 | 117.9 | 109.2 | 109.2 |
| Actuated g/C Ratio   | 0.09  | 0.09  | 0.84  | 0.84  | 0.78  | 0.78  |
| v/c Ratio            | 0.59  | 0.42  | 0.14  | 0.50  | 0.42  | 0.16  |
| Control Delay        | 74.9  | 15.5  | 3.9   | 5.1   | 4.0   | 0.6   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 74.9  | 15.5  | 3.9   | 5.1   | 4.0   | 0.6   |
| LOS                  | E     | B     | A     | A     | A     | A     |
| Approach Delay       | 45.2  |       |       | 5.1   | 3.5   |       |
| Approach LOS         | D     |       |       | A     | A     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 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: 0.59  
 Intersection Signal Delay: 7.0  
 Intersection LOS: A  
 Intersection Capacity Utilization 50.2%  
 ICU Level of Service A  
 Analysis Period (min) 15

Splits and Phases: 9: Marksheffel Rd & CRN North Full Access



HCM 6th Signalized Intersection Summary  
 9: Marksheffel Rd & CRN North Full Access

2026 Total PM Improved.syn

11/09/2023



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR   |
|------------------------------|------|-------|------|------|------|-------|
| Lane Configurations          |      |       |      |      |      |       |
| Traffic Volume (veh/h)       | 90   | 90    | 50   | 1365 | 1045 | 185   |
| Future Volume (veh/h)        | 90   | 90    | 50   | 1365 | 1045 | 185   |
| 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 | 1856 | 1856 | 1870  |
| Adj Flow Rate, veh/h         | 98   | 98    | 54   | 1484 | 1136 | 201   |
| Peak Hour Factor             | 0.92 | 0.92  | 0.92 | 0.92 | 0.92 | 0.92  |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 3    | 3    | 2     |
| Cap, veh/h                   | 140  | 124   | 392  | 3023 | 2799 | 1258  |
| Arrive On Green              | 0.08 | 0.08  | 0.06 | 1.00 | 0.79 | 0.79  |
| Sat Flow, veh/h              | 1781 | 1585  | 1781 | 3618 | 3618 | 1585  |
| Grp Volume(v), veh/h         | 98   | 98    | 54   | 1484 | 1136 | 201   |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585  | 1781 | 1763 | 1763 | 1585  |
| Q Serve(g_s), s              | 7.5  | 8.5   | 0.7  | 0.0  | 13.7 | 4.2   |
| Cycle Q Clear(g_c), s        | 7.5  | 8.5   | 0.7  | 0.0  | 13.7 | 4.2   |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 1.00  |
| Lane Grp Cap(c), veh/h       | 140  | 124   | 392  | 3023 | 2799 | 1258  |
| V/C Ratio(X)                 | 0.70 | 0.79  | 0.14 | 0.49 | 0.41 | 0.16  |
| Avail Cap(c_a), veh/h        | 324  | 289   | 457  | 3023 | 2799 | 1258  |
| HCM Platoon Ratio            | 1.00 | 1.00  | 2.00 | 2.00 | 1.00 | 1.00  |
| Upstream Filter(l)           | 1.00 | 1.00  | 0.87 | 0.87 | 1.00 | 1.00  |
| Uniform Delay (d), s/veh     | 62.9 | 63.4  | 2.8  | 0.0  | 4.4  | 3.4   |
| Incr Delay (d2), s/veh       | 6.3  | 10.5  | 0.1  | 0.5  | 0.4  | 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     | 3.7  | 7.7   | 0.2  | 0.2  | 4.5  | 1.3   |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |       |
| LnGrp Delay(d),s/veh         | 69.2 | 73.9  | 2.9  | 0.5  | 4.8  | 3.7   |
| LnGrp LOS                    | E    | E     | A    | A    | A    | A     |
| Approach Vol, veh/h          |      |       |      | 1538 | 1337 |       |
| Approach Delay, s/veh        |      |       |      | 0.6  | 4.7  |       |
| Approach LOS                 |      |       |      | A    | A    |       |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6     |
| Phs Duration (G+Y+Rc), s     |      | 124.5 |      | 15.5 | 8.9  | 115.6 |
| Change Period (Y+Rc), s      |      | 4.5   |      | 4.5  | 4.5  | 4.5   |
| Max Green Setting (Gmax), s  |      | 105.5 |      | 25.5 | 9.5  | 91.5  |
| Max Q Clear Time (g_c+I1), s |      | 2.0   |      | 10.5 | 2.7  | 15.7  |
| Green Ext Time (p_c), s      |      | 19.9  |      | 0.5  | 0.0  | 13.2  |
| <b>Intersection Summary</b>  |      |       |      |      |      |       |
| HCM 6th Ctrl Delay           |      |       | 6.9  |      |      |       |
| HCM 6th LOS                  |      |       | A    |      |      |       |

Timings  
 9: Marksheffel Rd & CRN North Full Access



| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↗     | ↖     | ↑↑↑   | ↑↑↑   | ↗     |
| Traffic Volume (vph) | 100   | 100   | 55    | 1160  | 1675  | 220   |
| Future Volume (vph)  | 100   | 100   | 55    | 1160  | 1675  | 220   |
| 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)      | 28.0  | 28.0  | 13.0  | 112.0 | 99.0  | 99.0  |
| Total Split (%)      | 20.0% | 20.0% | 9.3%  | 80.0% | 70.7% | 70.7% |
| 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 Effect Green (s) | 13.9  | 13.9  | 117.1 | 117.1 | 108.3 | 108.3 |
| Actuated g/C Ratio   | 0.10  | 0.10  | 0.84  | 0.84  | 0.77  | 0.77  |
| v/c Ratio            | 0.62  | 0.43  | 0.27  | 0.31  | 0.48  | 0.19  |
| Control Delay        | 75.3  | 14.8  | 9.7   | 1.4   | 19.9  | 7.6   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 75.3  | 14.8  | 9.7   | 1.4   | 19.9  | 7.6   |
| LOS                  | E     | B     | A     | A     | B     | A     |
| Approach Delay       | 45.1  |       |       | 1.8   | 18.5  |       |
| Approach LOS         | D     |       |       | A     | B     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 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: 0.62  
 Intersection Signal Delay: 14.0  
 Intersection Capacity Utilization 53.3%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service A

Splits and Phases: 9: Marksheffel Rd & CRN North Full Access



HCM 6th Signalized Intersection Summary  
 9: Marksheffel Rd & CRN North Full Access

2040 Total AM.syn  
 11/10/2023



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR   |
|------------------------------|------|-------|------|------|------|-------|
| Lane Configurations          |      |       |      |      |      |       |
| Traffic Volume (veh/h)       | 100  | 100   | 55   | 1160 | 1675 | 220   |
| Future Volume (veh/h)        | 100  | 100   | 55   | 1160 | 1675 | 220   |
| 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 | 1826 | 1826 | 1870  |
| Adj Flow Rate, veh/h         | 109  | 109   | 60   | 1261 | 1821 | 239   |
| Peak Hour Factor             | 0.92 | 0.92  | 0.92 | 0.92 | 0.92 | 0.92  |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 5    | 5    | 2     |
| Cap, veh/h                   | 152  | 135   | 243  | 4239 | 3918 | 1246  |
| Arrive On Green              | 0.09 | 0.09  | 0.06 | 1.00 | 0.79 | 0.79  |
| Sat Flow, veh/h              | 1781 | 1585  | 1781 | 5149 | 5149 | 1585  |
| Grp Volume(v), veh/h         | 109  | 109   | 60   | 1261 | 1821 | 239   |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585  | 1781 | 1662 | 1662 | 1585  |
| Q Serve(g_s), s              | 8.3  | 9.5   | 0.8  | 0.0  | 17.2 | 5.3   |
| Cycle Q Clear(g_c), s        | 8.3  | 9.5   | 0.8  | 0.0  | 17.2 | 5.3   |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 1.00  |
| Lane Grp Cap(c), veh/h       | 152  | 135   | 243  | 4239 | 3918 | 1246  |
| V/C Ratio(X)                 | 0.72 | 0.81  | 0.25 | 0.30 | 0.46 | 0.19  |
| Avail Cap(c_a), veh/h        | 299  | 266   | 294  | 4239 | 3918 | 1246  |
| HCM Platoon Ratio            | 1.00 | 1.00  | 2.00 | 2.00 | 1.00 | 1.00  |
| Upstream Filter(l)           | 1.00 | 1.00  | 0.96 | 0.96 | 0.56 | 0.56  |
| Uniform Delay (d), s/veh     | 62.4 | 62.9  | 3.8  | 0.0  | 5.1  | 3.8   |
| Incr Delay (d2), s/veh       | 6.2  | 10.6  | 0.5  | 0.2  | 0.2  | 0.2   |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   |
| %ile BackOfQ(50%),veh/ln     | 4.1  | 8.5   | 0.2  | 0.1  | 5.3  | 1.6   |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |       |
| LnGrp Delay(d),s/veh         | 68.6 | 73.5  | 4.3  | 0.2  | 5.3  | 4.0   |
| LnGrp LOS                    | E    | E     | A    | A    | A    | A     |
| Approach Vol, veh/h          | 218  |       |      | 1321 | 2060 |       |
| Approach Delay, s/veh        | 71.1 |       |      | 0.4  | 5.1  |       |
| Approach LOS                 | E    |       |      | A    | A    |       |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6     |
| Phs Duration (G+Y+Rc), s     |      | 123.6 |      | 16.4 | 9.0  | 114.5 |
| Change Period (Y+Rc), s      |      | 4.5   |      | 4.5  | 4.5  | 4.5   |
| Max Green Setting (Gmax), s  |      | 107.5 |      | 23.5 | 8.5  | 94.5  |
| Max Q Clear Time (g_c+I1), s |      | 2.0   |      | 11.5 | 2.8  | 19.2  |
| Green Ext Time (p_c), s      |      | 13.7  |      | 0.5  | 0.0  | 29.8  |
| <b>Intersection Summary</b>  |      |       |      |      |      |       |
| HCM 6th Ctrl Delay           |      |       | 7.4  |      |      |       |
| HCM 6th LOS                  |      |       | A    |      |      |       |

Timings  
 9: Marksheffel Rd & CRN North Full Access

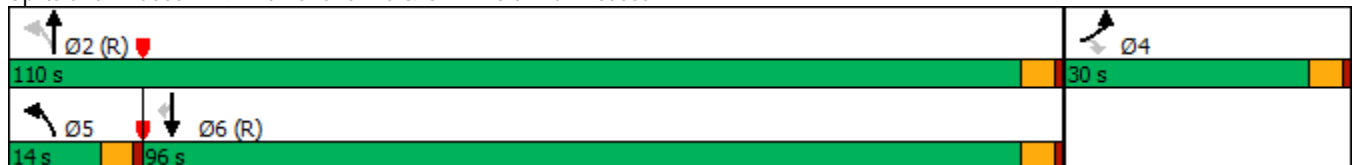


| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↗     | ↖     | ↑↑↑   | ↑↑↑   | ↗     |
| Traffic Volume (vph) | 100   | 100   | 80    | 2025  | 1760  | 310   |
| Future Volume (vph)  | 100   | 100   | 80    | 2025  | 1760  | 310   |
| 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)      | 30.0  | 30.0  | 14.0  | 110.0 | 96.0  | 96.0  |
| Total Split (%)      | 21.4% | 21.4% | 10.0% | 78.6% | 68.6% | 68.6% |
| 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 Effect Green (s) | 13.9  | 13.9  | 117.1 | 117.1 | 105.6 | 105.6 |
| Actuated g/C Ratio   | 0.10  | 0.10  | 0.84  | 0.84  | 0.75  | 0.75  |
| v/c Ratio            | 0.62  | 0.43  | 0.42  | 0.52  | 0.50  | 0.26  |
| Control Delay        | 75.2  | 14.8  | 14.0  | 5.0   | 5.9   | 1.2   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 75.2  | 14.8  | 14.0  | 5.0   | 5.9   | 1.2   |
| LOS                  | E     | B     | B     | A     | A     | A     |
| Approach Delay       | 45.0  |       |       | 5.3   | 5.2   |       |
| Approach LOS         | D     |       |       | A     | A     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 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: 0.62  
 Intersection Signal Delay: 7.1  
 Intersection Capacity Utilization 55.2%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 9: Marksheffel Rd & CRN North Full Access





HCM 6th Signalized Intersection Summary  
 9: Marksheffel Rd & CRN North Full Access

2040 Total PM.syn  
 11/10/2023



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR   |
|------------------------------|------|-------|------|------|------|-------|
| Lane Configurations          |      |       |      |      |      |       |
| Traffic Volume (veh/h)       | 100  | 100   | 80   | 2025 | 1760 | 310   |
| Future Volume (veh/h)        | 100  | 100   | 80   | 2025 | 1760 | 310   |
| 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 | 1856 | 1856 | 1870  |
| Adj Flow Rate, veh/h         | 109  | 109   | 87   | 2201 | 1913 | 337   |
| Peak Hour Factor             | 0.92 | 0.92  | 0.92 | 0.92 | 0.92 | 0.92  |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 3    | 3    | 2     |
| Cap, veh/h                   | 152  | 136   | 223  | 4307 | 3969 | 1242  |
| Arrive On Green              | 0.09 | 0.09  | 0.07 | 1.00 | 0.78 | 0.78  |
| Sat Flow, veh/h              | 1781 | 1585  | 1781 | 5233 | 5233 | 1585  |
| Grp Volume(v), veh/h         | 109  | 109   | 87   | 2201 | 1913 | 337   |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585  | 1781 | 1689 | 1689 | 1585  |
| Q Serve(g_s), s              | 8.3  | 9.5   | 1.2  | 0.0  | 18.4 | 8.2   |
| Cycle Q Clear(g_c), s        | 8.3  | 9.5   | 1.2  | 0.0  | 18.4 | 8.2   |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 1.00  |
| Lane Grp Cap(c), veh/h       | 152  | 136   | 223  | 4307 | 3969 | 1242  |
| V/C Ratio(X)                 | 0.72 | 0.80  | 0.39 | 0.51 | 0.48 | 0.27  |
| Avail Cap(c_a), veh/h        | 324  | 289   | 282  | 4307 | 3969 | 1242  |
| HCM Platoon Ratio            | 1.00 | 1.00  | 2.00 | 2.00 | 1.00 | 1.00  |
| Upstream Filter(l)           | 1.00 | 1.00  | 0.84 | 0.84 | 0.28 | 0.28  |
| Uniform Delay (d), s/veh     | 62.3 | 62.9  | 4.9  | 0.0  | 5.3  | 4.2   |
| Incr Delay (d2), s/veh       | 6.1  | 10.5  | 0.9  | 0.4  | 0.1  | 0.2   |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   |
| %ile BackOfQ(50%),veh/ln     | 4.1  | 8.5   | 0.5  | 0.1  | 5.7  | 2.4   |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |       |
| LnGrp Delay(d),s/veh         | 68.5 | 73.3  | 5.8  | 0.4  | 5.4  | 4.3   |
| LnGrp LOS                    | E    | E     | A    | A    | A    | A     |
| Approach Vol, veh/h          |      |       |      | 2288 | 2250 |       |
| Approach Delay, s/veh        |      |       |      | 0.6  | 5.2  |       |
| Approach LOS                 |      |       |      | A    | A    |       |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6     |
| Phs Duration (G+Y+Rc), s     |      | 123.5 |      | 16.5 | 9.3  | 114.2 |
| Change Period (Y+Rc), s      |      | 4.5   |      | 4.5  | 4.5  | 4.5   |
| Max Green Setting (Gmax), s  |      | 105.5 |      | 25.5 | 9.5  | 91.5  |
| Max Q Clear Time (g_c+I1), s |      | 2.0   |      | 11.5 | 3.2  | 20.4  |
| Green Ext Time (p_c), s      |      | 44.1  |      | 0.5  | 0.1  | 33.3  |
| <b>Intersection Summary</b>  |      |       |      |      |      |       |
| HCM 6th Ctrl Delay           |      |       | 6.0  |      |      |       |
| HCM 6th LOS                  |      |       | A    |      |      |       |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 6.1  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      | ↖    | ↗    | ↖    | ↕    | ↕    | ↗    |
| Traffic Vol, veh/h       | 70   | 200  | 150  | 755  | 1290 | 100  |
| Future Vol, veh/h        | 70   | 200  | 150  | 755  | 1290 | 100  |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 200  | 0    | 300  | -    | -    | 250  |
| Veh in Median Storage, # | 1    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 5    | 5    | 2    |
| Mvmt Flow                | 76   | 217  | 163  | 821  | 1402 | 109  |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |   |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 2139   | 701    | 1511   | 0 | - | 0 |
| Stage 1              | 1402   | -      | -      | - | - | - |
| Stage 2              | 737    | -      | -      | - | - | - |
| 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   | *~ 52  | 381    | 439    | - | - | - |
| Stage 1              | *193   | -      | -      | - | - | - |
| Stage 2              | *720   | -      | -      | - | - | - |
| Platoon blocked, %   | 1      |        |        | - | - | - |
| Mov Cap-1 Maneuver   | *~ 33  | 381    | 439    | - | - | - |
| Mov Cap-2 Maneuver   | *101   | -      | -      | - | - | - |
| Stage 1              | *121   | -      | -      | - | - | - |
| Stage 2              | *720   | -      | -      | - | - | - |

| Approach             | EB   | NB | SB |
|----------------------|------|----|----|
| HCM Control Delay, s | 47.6 | 3  | 0  |
| HCM LOS              | E    |    |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | EBLn2 | SBT | SBR |
|-----------------------|-------|-----|-------|-------|-----|-----|
| Capacity (veh/h)      | 439   | -   | 101   | 381   | -   | -   |
| HCM Lane V/C Ratio    | 0.371 | -   | 0.753 | 0.571 | -   | -   |
| HCM Control Delay (s) | 18    | -   | 108.3 | 26.3  | -   | -   |
| HCM Lane LOS          | C     | -   | F     | D     | -   | -   |
| HCM 95th %tile Q(veh) | 1.7   | -   | 4     | 3.4   | -   | -   |

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

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 3.8  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      | ↖    | ↗    | ↖    | ↕    | ↕    | ↗    |
| Traffic Vol, veh/h       | 70   | 200  | 140  | 1345 | 1040 | 95   |
| Future Vol, veh/h        | 70   | 200  | 140  | 1345 | 1040 | 95   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 200  | 0    | 300  | -    | -    | 250  |
| Veh in Median Storage, # | 1    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 3    | 3    | 2    |
| Mvmt Flow                | 76   | 217  | 152  | 1462 | 1130 | 103  |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |   |
|----------------------|--------|--------|--------|---|---|---|
| Conflicting Flow All | 2165   | 565    | 1233   | 0 | - | 0 |
| Stage 1              | 1130   | -      | -      | - | - | - |
| Stage 2              | 1035   | -      | -      | - | - | - |
| 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   | ~ 40   | 468    | 561    | - | - | - |
| Stage 1              | 270    | -      | -      | - | - | - |
| Stage 2              | 303    | -      | -      | - | - | - |
| Platoon blocked, %   |        |        |        | - | - | - |
| Mov Cap-1 Maneuver   | ~ 29   | 468    | 561    | - | - | - |
| Mov Cap-2 Maneuver   | 122    | -      | -      | - | - | - |
| Stage 1              | 197    | -      | -      | - | - | - |
| Stage 2              | 303    | -      | -      | - | - | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 33.4 | 1.3 | 0  |
| HCM LOS              | D    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | EBLn2 | SBT | SBR |
|-----------------------|-------|-----|-------|-------|-----|-----|
| Capacity (veh/h)      | 561   | -   | 122   | 468   | -   | -   |
| HCM Lane V/C Ratio    | 0.271 | -   | 0.624 | 0.465 | -   | -   |
| HCM Control Delay (s) | 13.8  | -   | 74.1  | 19.2  | -   | -   |
| HCM Lane LOS          | B     | -   | F     | C     | -   | -   |
| HCM 95th %tile Q(veh) | 1.1   | -   | 3.2   | 2.4   | -   | -   |

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

Timings

10: Marksheffel Rd & Airl Lane (CRN South Full Access)



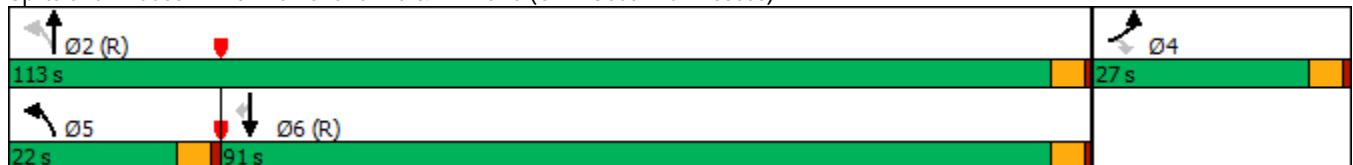
| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↗     | ↖     | ↑↑    | ↑↑    | ↗     |
| Traffic Volume (vph) | 70    | 200   | 150   | 755   | 1290  | 100   |
| Future Volume (vph)  | 70    | 200   | 150   | 755   | 1290  | 100   |
| 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)      | 27.0  | 27.0  | 22.0  | 113.0 | 91.0  | 91.0  |
| Total Split (%)      | 19.3% | 19.3% | 15.7% | 80.7% | 65.0% | 65.0% |
| 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   | Lag   |
| Lead-Lag Optimize?   |       |       | Yes   |       | Yes   | Yes   |
| Recall Mode          | None  | None  | None  | C-Max | C-Max | C-Max |
| Act Effect Green (s) | 11.4  | 11.4  | 119.6 | 119.6 | 107.0 | 107.0 |
| Actuated g/C Ratio   | 0.08  | 0.08  | 0.85  | 0.85  | 0.76  | 0.76  |
| v/c Ratio            | 0.53  | 0.66  | 0.50  | 0.28  | 0.53  | 0.09  |
| Control Delay        | 74.3  | 17.5  | 16.6  | 1.9   | 3.8   | 0.8   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 74.3  | 17.5  | 16.6  | 1.9   | 3.8   | 0.8   |
| LOS                  | E     | B     | B     | A     | A     | A     |
| Approach Delay       | 32.2  |       |       | 4.3   | 3.6   |       |
| Approach LOS         | C     |       |       | A     | A     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 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: 0.66  
 Intersection Signal Delay: 6.9  
 Intersection Capacity Utilization 59.4%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 10: Marksheffel Rd & Airl Lane (CRN South Full Access)



HCM 6th Signalized Intersection Summary  
 10: Marksheffel Rd & Airl Lane (CRN South Full Access)

2026 Total AM Improved.syn

11/09/2023



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR   |
|------------------------------|------|-------|------|------|------|-------|
| Lane Configurations          |      |       |      |      |      |       |
| Traffic Volume (veh/h)       | 70   | 200   | 150  | 755  | 1290 | 100   |
| Future Volume (veh/h)        | 70   | 200   | 150  | 755  | 1290 | 100   |
| 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 | 1826 | 1826 | 1870  |
| Adj Flow Rate, veh/h         | 76   | 217   | 163  | 821  | 1402 | 109   |
| Peak Hour Factor             | 0.92 | 0.92  | 0.92 | 0.92 | 0.92 | 0.92  |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 5    | 5    | 2     |
| Cap, veh/h                   | 268  | 238   | 372  | 2725 | 2470 | 1128  |
| Arrive On Green              | 0.15 | 0.15  | 0.08 | 1.00 | 1.00 | 1.00  |
| Sat Flow, veh/h              | 1781 | 1585  | 1781 | 3561 | 3561 | 1585  |
| Grp Volume(v), veh/h         | 76   | 217   | 163  | 821  | 1402 | 109   |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585  | 1781 | 1735 | 1735 | 1585  |
| Q Serve(g_s), s              | 5.3  | 18.9  | 3.5  | 0.0  | 0.0  | 0.0   |
| Cycle Q Clear(g_c), s        | 5.3  | 18.9  | 3.5  | 0.0  | 0.0  | 0.0   |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 1.00  |
| Lane Grp Cap(c), veh/h       | 268  | 238   | 372  | 2725 | 2470 | 1128  |
| V/C Ratio(X)                 | 0.28 | 0.91  | 0.44 | 0.30 | 0.57 | 0.10  |
| Avail Cap(c_a), veh/h        | 286  | 255   | 521  | 2725 | 2470 | 1128  |
| HCM Platoon Ratio            | 1.00 | 1.00  | 2.00 | 2.00 | 2.00 | 2.00  |
| Upstream Filter(l)           | 1.00 | 1.00  | 0.87 | 0.87 | 0.84 | 0.84  |
| Uniform Delay (d), s/veh     | 52.8 | 58.6  | 4.0  | 0.0  | 0.0  | 0.0   |
| Incr Delay (d2), s/veh       | 0.6  | 32.7  | 0.7  | 0.2  | 0.8  | 0.1   |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   |
| %ile BackOfQ(50%),veh/ln     | 2.4  | 17.8  | 1.1  | 0.1  | 0.3  | 0.0   |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |       |
| LnGrp Delay(d),s/veh         | 53.4 | 91.3  | 4.7  | 0.2  | 0.8  | 0.1   |
| LnGrp LOS                    | D    | F     | A    | A    | A    | A     |
| Approach Vol, veh/h          | 293  |       |      | 984  | 1511 |       |
| Approach Delay, s/veh        | 81.4 |       |      | 1.0  | 0.8  |       |
| Approach LOS                 | F    |       |      | A    | A    |       |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6     |
| Phs Duration (G+Y+Rc), s     |      | 114.5 |      | 25.5 | 10.3 | 104.2 |
| Change Period (Y+Rc), s      |      | 4.5   |      | 4.5  | 4.5  | 4.5   |
| Max Green Setting (Gmax), s  |      | 108.5 |      | 22.5 | 17.5 | 86.5  |
| Max Q Clear Time (g_c+I1), s |      | 2.0   |      | 20.9 | 5.5  | 2.0   |
| Green Ext Time (p_c), s      |      | 7.3   |      | 0.2  | 0.3  | 18.5  |
| <b>Intersection Summary</b>  |      |       |      |      |      |       |
| HCM 6th Ctrl Delay           |      |       | 9.3  |      |      |       |
| HCM 6th LOS                  |      |       | A    |      |      |       |

Timings

10: Marksheffel Rd & Airl Lane (CRN South Full Access)



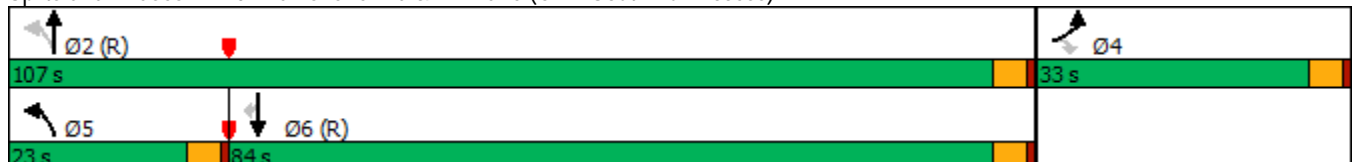
| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↗     | ↖     | ↑↑    | ↑↑    | ↗     |
| Traffic Volume (vph) | 70    | 200   | 140   | 1345  | 1040  | 95    |
| Future Volume (vph)  | 70    | 200   | 140   | 1345  | 1040  | 95    |
| 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)      | 33.0  | 33.0  | 23.0  | 107.0 | 84.0  | 84.0  |
| Total Split (%)      | 23.6% | 23.6% | 16.4% | 76.4% | 60.0% | 60.0% |
| 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   | Lag   |
| Lead-Lag Optimize?   |       |       | Yes   |       | Yes   | Yes   |
| Recall Mode          | None  | None  | None  | C-Max | C-Max | C-Max |
| Act Effect Green (s) | 11.4  | 11.4  | 119.6 | 119.6 | 107.6 | 107.6 |
| Actuated g/C Ratio   | 0.08  | 0.08  | 0.85  | 0.85  | 0.77  | 0.77  |
| v/c Ratio            | 0.53  | 0.66  | 0.37  | 0.49  | 0.42  | 0.08  |
| Control Delay        | 74.3  | 17.5  | 5.1   | 3.1   | 1.0   | 0.1   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 74.3  | 17.5  | 5.1   | 3.1   | 1.0   | 0.1   |
| LOS                  | E     | B     | A     | A     | A     | A     |
| Approach Delay       | 32.2  |       |       | 3.3   | 1.0   |       |
| Approach LOS         | C     |       |       | A     | A     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 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: 0.66  
 Intersection Signal Delay: 5.1  
 Intersection Capacity Utilization 51.9%  
 Analysis Period (min) 15

Intersection LOS: A  
 ICU Level of Service A

Splits and Phases: 10: Marksheffel Rd & Airl Lane (CRN South Full Access)



HCM 6th Signalized Intersection Summary  
 10: Marksheffel Rd & Airl Lane (CRN South Full Access)

2026 Total PM Improved.syn

11/09/2023



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR   |
|------------------------------|------|-------|------|------|------|-------|
| Lane Configurations          |      |       |      |      |      |       |
| Traffic Volume (veh/h)       | 70   | 200   | 140  | 1345 | 1040 | 95    |
| Future Volume (veh/h)        | 70   | 200   | 140  | 1345 | 1040 | 95    |
| 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 | 1856 | 1856 | 1870  |
| Adj Flow Rate, veh/h         | 76   | 217   | 152  | 1462 | 1130 | 103   |
| Peak Hour Factor             | 0.92 | 0.92  | 0.92 | 0.92 | 0.92 | 0.92  |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 3    | 3    | 2     |
| Cap, veh/h                   | 272  | 242   | 442  | 2760 | 2510 | 1129  |
| Arrive On Green              | 0.15 | 0.15  | 0.05 | 1.00 | 1.00 | 1.00  |
| Sat Flow, veh/h              | 1781 | 1585  | 1781 | 3618 | 3618 | 1585  |
| Grp Volume(v), veh/h         | 76   | 217   | 152  | 1462 | 1130 | 103   |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585  | 1781 | 1763 | 1763 | 1585  |
| Q Serve(g_s), s              | 5.3  | 18.8  | 3.1  | 0.0  | 0.0  | 0.0   |
| Cycle Q Clear(g_c), s        | 5.3  | 18.8  | 3.1  | 0.0  | 0.0  | 0.0   |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 1.00  |
| Lane Grp Cap(c), veh/h       | 272  | 242   | 442  | 2760 | 2510 | 1129  |
| V/C Ratio(X)                 | 0.28 | 0.90  | 0.34 | 0.53 | 0.45 | 0.09  |
| Avail Cap(c_a), veh/h        | 363  | 323   | 609  | 2760 | 2510 | 1129  |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.33 | 1.33 | 2.00 | 2.00  |
| Upstream Filter(I)           | 1.00 | 1.00  | 0.43 | 0.43 | 0.91 | 0.91  |
| Uniform Delay (d), s/veh     | 52.5 | 58.2  | 4.2  | 0.0  | 0.0  | 0.0   |
| Incr Delay (d2), s/veh       | 0.6  | 21.4  | 0.2  | 0.3  | 0.5  | 0.1   |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   |
| %ile BackOfQ(50%),veh/ln     | 2.4  | 17.0  | 1.0  | 0.1  | 0.2  | 0.0   |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |       |
| LnGrp Delay(d),s/veh         | 53.0 | 79.6  | 4.4  | 0.3  | 0.5  | 0.1   |
| LnGrp LOS                    | D    | E     | A    | A    | A    | A     |
| Approach Vol, veh/h          | 293  |       |      | 1614 | 1233 |       |
| Approach Delay, s/veh        | 72.7 |       |      | 0.7  | 0.5  |       |
| Approach LOS                 | E    |       |      | A    | A    |       |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6     |
| Phs Duration (G+Y+Rc), s     |      | 114.1 |      | 25.9 | 9.9  | 104.2 |
| Change Period (Y+Rc), s      |      | 4.5   |      | 4.5  | 4.5  | 4.5   |
| Max Green Setting (Gmax), s  |      | 102.5 |      | 28.5 | 18.5 | 79.5  |
| Max Q Clear Time (g_c+I1), s |      | 2.0   |      | 20.8 | 5.1  | 2.0   |
| Green Ext Time (p_c), s      |      | 19.3  |      | 0.6  | 0.3  | 12.4  |
| <b>Intersection Summary</b>  |      |       |      |      |      |       |
| HCM 6th Ctrl Delay           |      |       | 7.3  |      |      |       |
| HCM 6th LOS                  |      |       | A    |      |      |       |

Timings  
 10: Marksheffel Rd & Airl Lane (CRN South Full Access)

2040 Total AM.syn  
 11/10/2023



| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↗     | ↖     | ↑↑↑   | ↑↑↑   | ↗     |
| Traffic Volume (vph) | 75    | 225   | 165   | 1145  | 1665  | 110   |
| Future Volume (vph)  | 75    | 225   | 165   | 1145  | 1665  | 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)      | 27.0  | 27.0  | 22.0  | 113.0 | 91.0  | 91.0  |
| Total Split (%)      | 19.3% | 19.3% | 15.7% | 80.7% | 65.0% | 65.0% |
| 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   | Lag   |
| Lead-Lag Optimize?   |       |       | Yes   |       | Yes   | Yes   |
| Recall Mode          | None  | None  | None  | C-Max | C-Max | C-Max |
| Act Effect Green (s) | 12.6  | 12.6  | 118.4 | 118.4 | 102.7 | 102.7 |
| Actuated g/C Ratio   | 0.09  | 0.09  | 0.85  | 0.85  | 0.73  | 0.73  |
| v/c Ratio            | 0.51  | 0.76  | 0.66  | 0.30  | 0.50  | 0.10  |
| Control Delay        | 70.8  | 28.6  | 46.2  | 1.0   | 4.6   | 1.3   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 70.8  | 28.6  | 46.2  | 1.0   | 4.6   | 1.3   |
| LOS                  | E     | C     | D     | A     | A     | A     |
| Approach Delay       | 39.2  |       |       | 6.7   | 4.4   |       |
| Approach LOS         | D     |       |       | A     | A     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 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: 0.76  
 Intersection Signal Delay: 8.4  
 Intersection Capacity Utilization 56.7%  
 Analysis Period (min) 15  
 Intersection LOS: A  
 ICU Level of Service B

Splits and Phases: 10: Marksheffel Rd & Airl Lane (CRN South Full Access)





HCM 6th Signalized Intersection Summary  
 10: Marksheffel Rd & Airl Lane (CRN South Full Access)

2040 Total AM.syn  
 11/10/2023



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR   |
|------------------------------|------|-------|------|------|------|-------|
| Lane Configurations          |      |       |      |      |      |       |
| Traffic Volume (veh/h)       | 75   | 225   | 165  | 1145 | 1665 | 110   |
| Future Volume (veh/h)        | 75   | 225   | 165  | 1145 | 1665 | 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 | 1826 | 1826 | 1870  |
| Adj Flow Rate, veh/h         | 82   | 245   | 179  | 1245 | 1810 | 120   |
| Peak Hour Factor             | 0.92 | 0.92  | 0.92 | 0.92 | 0.92 | 0.92  |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 5    | 5    | 2     |
| Cap, veh/h                   | 286  | 255   | 294  | 3863 | 3474 | 1105  |
| Arrive On Green              | 0.16 | 0.16  | 0.09 | 1.00 | 1.00 | 1.00  |
| Sat Flow, veh/h              | 1781 | 1585  | 1781 | 5149 | 5149 | 1585  |
| Grp Volume(v), veh/h         | 82   | 245   | 179  | 1245 | 1810 | 120   |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585  | 1781 | 1662 | 1662 | 1585  |
| Q Serve(g_s), s              | 5.7  | 21.5  | 4.1  | 0.0  | 0.0  | 0.0   |
| Cycle Q Clear(g_c), s        | 5.7  | 21.5  | 4.1  | 0.0  | 0.0  | 0.0   |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 1.00  |
| Lane Grp Cap(c), veh/h       | 286  | 255   | 294  | 3863 | 3474 | 1105  |
| V/C Ratio(X)                 | 0.29 | 0.96  | 0.61 | 0.32 | 0.52 | 0.11  |
| Avail Cap(c_a), veh/h        | 286  | 255   | 435  | 3863 | 3474 | 1105  |
| HCM Platoon Ratio            | 1.00 | 1.00  | 2.00 | 2.00 | 2.00 | 2.00  |
| Upstream Filter(l)           | 1.00 | 1.00  | 0.82 | 0.82 | 0.88 | 0.88  |
| Uniform Delay (d), s/veh     | 51.7 | 58.3  | 4.5  | 0.0  | 0.0  | 0.0   |
| Incr Delay (d2), s/veh       | 0.5  | 45.7  | 1.7  | 0.2  | 0.5  | 0.2   |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   |
| %ile BackOfQ(50%),veh/ln     | 2.6  | 20.8  | 1.4  | 0.1  | 0.2  | 0.1   |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |       |
| LnGrp Delay(d),s/veh         | 52.2 | 104.0 | 6.1  | 0.2  | 0.5  | 0.2   |
| LnGrp LOS                    | D    | F     | A    | A    | A    | A     |
| Approach Vol, veh/h          | 327  |       |      | 1424 | 1930 |       |
| Approach Delay, s/veh        | 91.0 |       |      | 0.9  | 0.5  |       |
| Approach LOS                 | F    |       |      | A    | A    |       |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6     |
| Phs Duration (G+Y+Rc), s     |      | 113.0 |      | 27.0 | 10.9 | 102.1 |
| Change Period (Y+Rc), s      |      | 4.5   |      | 4.5  | 4.5  | 4.5   |
| Max Green Setting (Gmax), s  |      | 108.5 |      | 22.5 | 17.5 | 86.5  |
| Max Q Clear Time (g_c+I1), s |      | 2.0   |      | 23.5 | 6.1  | 2.0   |
| Green Ext Time (p_c), s      |      | 13.4  |      | 0.0  | 0.4  | 28.6  |
| <b>Intersection Summary</b>  |      |       |      |      |      |       |
| HCM 6th Ctrl Delay           |      |       | 8.7  |      |      |       |
| HCM 6th LOS                  |      |       | A    |      |      |       |

Timings  
 10: Marksheffel Rd & Airl Lane (CRN South Full Access)

2040 Total PM.syn  
 11/10/2023

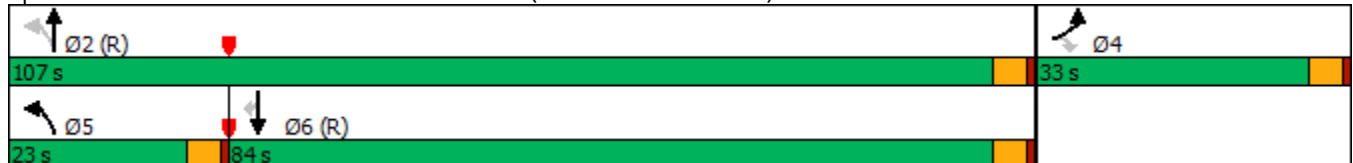


| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↗     | ↖     | ↑↑↑   | ↑↑↑   | ↗     |
| Traffic Volume (vph) | 75    | 225   | 235   | 2030  | 1705  | 155   |
| Future Volume (vph)  | 75    | 225   | 235   | 2030  | 1705  | 155   |
| 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)      | 33.0  | 33.0  | 23.0  | 107.0 | 84.0  | 84.0  |
| Total Split (%)      | 23.6% | 23.6% | 16.4% | 76.4% | 60.0% | 60.0% |
| 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   | Lag   |
| Lead-Lag Optimize?   |       |       | Yes   |       | Yes   | Yes   |
| Recall Mode          | None  | None  | None  | C-Max | C-Max | C-Max |
| Act Effect Green (s) | 12.3  | 12.3  | 118.7 | 118.7 | 94.8  | 94.8  |
| Actuated g/C Ratio   | 0.09  | 0.09  | 0.85  | 0.85  | 0.68  | 0.68  |
| v/c Ratio            | 0.53  | 0.73  | 0.73  | 0.52  | 0.54  | 0.15  |
| Control Delay        | 72.3  | 24.2  | 30.7  | 4.0   | 1.6   | 0.3   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 72.3  | 24.2  | 30.7  | 4.0   | 1.6   | 0.3   |
| LOS                  | E     | C     | C     | A     | A     | A     |
| Approach Delay       | 36.3  |       |       | 6.8   | 1.5   |       |
| Approach LOS         | D     |       |       | A     | A     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 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: 0.73  
 Intersection Signal Delay: 6.6  
 Intersection LOS: A  
 Intersection Capacity Utilization 61.4%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 10: Marksheffel Rd & Airl Lane (CRN South Full Access)



HCM 6th Signalized Intersection Summary  
 10: Marksheffel Rd & Airl Lane (CRN South Full Access)

2040 Total PM.syn  
 11/10/2023



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|-------|------|------|------|------|
| Lane Configurations          |      |       |      |      |      |      |
| Traffic Volume (veh/h)       | 75   | 225   | 235  | 2030 | 1705 | 155  |
| Future Volume (veh/h)        | 75   | 225   | 235  | 2030 | 1705 | 155  |
| 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 | 1856 | 1856 | 1870 |
| Adj Flow Rate, veh/h         | 82   | 245   | 255  | 2207 | 1853 | 168  |
| Peak Hour Factor             | 0.92 | 0.92  | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 3    | 3    | 2    |
| Cap, veh/h                   | 302  | 269   | 303  | 3880 | 3405 | 1065 |
| Arrive On Green              | 0.17 | 0.17  | 0.08 | 1.00 | 1.00 | 1.00 |
| Sat Flow, veh/h              | 1781 | 1585  | 1781 | 5233 | 5233 | 1585 |
| Grp Volume(v), veh/h         | 82   | 245   | 255  | 2207 | 1853 | 168  |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585  | 1781 | 1689 | 1689 | 1585 |
| Q Serve(g_s), s              | 5.6  | 21.3  | 6.1  | 0.0  | 0.0  | 0.0  |
| Cycle Q Clear(g_c), s        | 5.6  | 21.3  | 6.1  | 0.0  | 0.0  | 0.0  |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 1.00 |
| Lane Grp Cap(c), veh/h       | 302  | 269   | 303  | 3880 | 3405 | 1065 |
| V/C Ratio(X)                 | 0.27 | 0.91  | 0.84 | 0.57 | 0.54 | 0.16 |
| Avail Cap(c_a), veh/h        | 363  | 323   | 429  | 3880 | 3405 | 1065 |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.33 | 1.33 | 2.00 | 2.00 |
| Upstream Filter(l)           | 1.00 | 1.00  | 0.10 | 0.10 | 0.86 | 0.86 |
| Uniform Delay (d), s/veh     | 50.6 | 57.1  | 11.2 | 0.0  | 0.0  | 0.0  |
| Incr Delay (d2), s/veh       | 0.5  | 25.8  | 1.1  | 0.1  | 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     | 2.6  | 19.4  | 2.8  | 0.0  | 0.2  | 0.1  |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |      |
| LnGrp Delay(d),s/veh         | 51.1 | 82.9  | 12.3 | 0.1  | 0.5  | 0.3  |
| LnGrp LOS                    | D    | F     | B    | A    | A    | A    |
| Approach Vol, veh/h          | 327  |       |      | 2462 | 2021 |      |
| Approach Delay, s/veh        | 74.9 |       |      | 1.3  | 0.5  |      |
| Approach LOS                 | E    |       |      | A    | A    |      |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 111.7 |      | 28.3 | 13.1 | 98.6 |
| Change Period (Y+Rc), s      |      | 4.5   |      | 4.5  | 4.5  | 4.5  |
| Max Green Setting (Gmax), s  |      | 102.5 |      | 28.5 | 18.5 | 79.5 |
| Max Q Clear Time (g_c+l1), s |      | 2.0   |      | 23.3 | 8.1  | 2.0  |
| Green Ext Time (p_c), s      |      | 44.0  |      | 0.5  | 0.5  | 29.9 |
| <b>Intersection Summary</b>  |      |       |      |      |      |      |
| HCM 6th Ctrl Delay           |      |       | 6.0  |      |      |      |
| HCM 6th LOS                  |      |       | A    |      |      |      |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 7.4  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 200  | 50   | 2    | 70   | 25   | 22   |
| Future Vol, veh/h        | 200  | 50   | 2    | 70   | 25   | 22   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | 185  | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | 1    | -    | -    | 1    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 217  | 54   | 2    | 76   | 27   | 24   |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 118    | 40     | 0      | 0 | 78    | 0 |
| Stage 1              | 40     | -      | -      | - | -     | - |
| Stage 2              | 78     | -      | -      | - | -     | - |
| Critical Hdwy        | 6.42   | 6.22   | -      | - | 4.12  | - |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | -     | - |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | -     | - |
| Follow-up Hdwy       | 3.518  | 3.318  | -      | - | 2.218 | - |
| Pot Cap-1 Maneuver   | 878    | 1031   | -      | - | 1520  | - |
| Stage 1              | 982    | -      | -      | - | -     | - |
| Stage 2              | 945    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - |       |   |
| Mov Cap-1 Maneuver   | 862    | 1031   | -      | - | 1520  | - |
| Mov Cap-2 Maneuver   | 862    | -      | -      | - | -     | - |
| Stage 1              | 982    | -      | -      | - | -     | - |
| Stage 2              | 928    | -      | -      | - | -     | - |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 10.2 | 0  | 3.9 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 862   | 1031  | 1520  |
| HCM Lane V/C Ratio    | -   | -        | 0.252 | 0.053 | 0.018 |
| HCM Control Delay (s) | -   | -        | 10.6  | 8.7   | 7.4   |
| HCM Lane LOS          | -   | -        | B     | A     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 1     | 0.2   | 0.1   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 7.2  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 185  | 50   | 2    | 70   | 25   | 22   |
| Future Vol, veh/h        | 185  | 50   | 2    | 70   | 25   | 22   |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Stop | Stop | Free | Free | Free | Free |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | 0    | 235  | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | 1    | -    | -    | 1    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 201  | 54   | 2    | 76   | 27   | 24   |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 118    | 40     | 0      | 0 | 78    | 0 |
| Stage 1              | 40     | -      | -      | - | -     | - |
| Stage 2              | 78     | -      | -      | - | -     | - |
| Critical Hdwy        | 6.42   | 6.22   | -      | - | 4.12  | - |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | -     | - |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | -     | - |
| Follow-up Hdwy       | 3.518  | 3.318  | -      | - | 2.218 | - |
| Pot Cap-1 Maneuver   | 878    | 1031   | -      | - | 1520  | - |
| Stage 1              | 982    | -      | -      | - | -     | - |
| Stage 2              | 945    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - |       |   |
| Mov Cap-1 Maneuver   | 862    | 1031   | -      | - | 1520  | - |
| Mov Cap-2 Maneuver   | 862    | -      | -      | - | -     | - |
| Stage 1              | 982    | -      | -      | - | -     | - |
| Stage 2              | 928    | -      | -      | - | -     | - |

| Approach             | WB | NB | SB  |
|----------------------|----|----|-----|
| HCM Control Delay, s | 10 | 0  | 3.9 |
| HCM LOS              | B  |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 862   | 1031  | 1520  |
| HCM Lane V/C Ratio    | -   | -        | 0.233 | 0.053 | 0.018 |
| HCM Control Delay (s) | -   | -        | 10.4  | 8.7   | 7.4   |
| HCM Lane LOS          | -   | -        | B     | A     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 0.9   | 0.2   | 0.1   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 7.6  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 220  | 55   | 2    | 75   | 25   | 25   |
| Future Vol, veh/h        | 220  | 55   | 2    | 75   | 25   | 25   |
| 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    | 235  | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | 1    | -    | -    | 1    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 239  | 60   | 2    | 82   | 27   | 27   |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 124    | 43     | 0      | 0 | 84    | 0 |
| Stage 1              | 43     | -      | -      | - | -     | - |
| Stage 2              | 81     | -      | -      | - | -     | - |
| Critical Hdwy        | 6.42   | 6.22   | -      | - | 4.12  | - |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | -     | - |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | -     | - |
| Follow-up Hdwy       | 3.518  | 3.318  | -      | - | 2.218 | - |
| Pot Cap-1 Maneuver   | 871    | 1027   | -      | - | 1513  | - |
| Stage 1              | 979    | -      | -      | - | -     | - |
| Stage 2              | 942    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - |       | - |
| Mov Cap-1 Maneuver   | 855    | 1027   | -      | - | 1513  | - |
| Mov Cap-2 Maneuver   | 855    | -      | -      | - | -     | - |
| Stage 1              | 979    | -      | -      | - | -     | - |
| Stage 2              | 925    | -      | -      | - | -     | - |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 10.4 | 0  | 3.7 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |
|-----------------------|-----|----------|-------|-------|-------|
| Capacity (veh/h)      | -   | -        | 855   | 1027  | 1513  |
| HCM Lane V/C Ratio    | -   | -        | 0.28  | 0.058 | 0.018 |
| HCM Control Delay (s) | -   | -        | 10.8  | 8.7   | 7.4   |
| HCM Lane LOS          | -   | -        | B     | A     | A     |
| HCM 95th %tile Q(veh) | -   | -        | 1.1   | 0.2   | 0.1   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 8.9  |      |      |      |      |      |
| Movement                 | WBL  | WBR  | NBT  | NBR  | SBL  | SBT  |
| Lane Configurations      |      |      |      |      |      |      |
| Traffic Vol, veh/h       | 310  | 80   | 2    | 75   | 25   | 25   |
| Future Vol, veh/h        | 310  | 80   | 2    | 75   | 25   | 25   |
| 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    | 235  | -    | -    | -    | -    |
| Veh in Median Storage, # | 0    | -    | 1    | -    | -    | 1    |
| Grade, %                 | 0    | -    | 0    | -    | -    | 0    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 337  | 87   | 2    | 82   | 27   | 27   |

| Major/Minor          | Minor1 | Major1 | Major2 |   |       |   |
|----------------------|--------|--------|--------|---|-------|---|
| Conflicting Flow All | 124    | 43     | 0      | 0 | 84    | 0 |
| Stage 1              | 43     | -      | -      | - | -     | - |
| Stage 2              | 81     | -      | -      | - | -     | - |
| Critical Hdwy        | 6.42   | 6.22   | -      | - | 4.12  | - |
| Critical Hdwy Stg 1  | 5.42   | -      | -      | - | -     | - |
| Critical Hdwy Stg 2  | 5.42   | -      | -      | - | -     | - |
| Follow-up Hdwy       | 3.518  | 3.318  | -      | - | 2.218 | - |
| Pot Cap-1 Maneuver   | 871    | 1027   | -      | - | 1513  | - |
| Stage 1              | 979    | -      | -      | - | -     | - |
| Stage 2              | 942    | -      | -      | - | -     | - |
| Platoon blocked, %   |        |        | -      | - |       |   |
| Mov Cap-1 Maneuver   | 855    | 1027   | -      | - | 1513  | - |
| Mov Cap-2 Maneuver   | 855    | -      | -      | - | -     | - |
| Stage 1              | 979    | -      | -      | - | -     | - |
| Stage 2              | 925    | -      | -      | - | -     | - |

| Approach             | WB   | NB | SB  |
|----------------------|------|----|-----|
| HCM Control Delay, s | 11.3 | 0  | 3.7 |
| HCM LOS              | B    |    |     |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | WBLn2 | SBL   | SBT   |   |
|-----------------------|-----|----------|-------|-------|-------|---|
| Capacity (veh/h)      | -   | -        | 855   | 1027  | 1513  | - |
| HCM Lane V/C Ratio    | -   | -        | 0.394 | 0.085 | 0.018 | - |
| HCM Control Delay (s) | -   | -        | 11.9  | 8.8   | 7.4   | 0 |
| HCM Lane LOS          | -   | -        | B     | A     | A     | A |
| HCM 95th %tile Q(veh) | -   | -        | 1.9   | 0.3   | 0.1   | - |

| Intersection             |        |        |        |      |       |       |
|--------------------------|--------|--------|--------|------|-------|-------|
| Int Delay, s/veh         | 6.2    |        |        |      |       |       |
| Movement                 | EBL    | EBT    | WBT    | WBR  | SBL   | SBR   |
| Lane Configurations      |        | ↕      | ↑      | ↗    | ↘     |       |
| Traffic Vol, veh/h       | 2      | 45     | 50     | 200  | 310   | 2     |
| Future Vol, veh/h        | 2      | 45     | 50     | 200  | 310   | 2     |
| Conflicting Peds, #/hr   | 0      | 0      | 0      | 0    | 0     | 0     |
| Sign Control             | Free   | Free   | Free   | Free | Stop  | Stop  |
| RT Channelized           | -      | None   | -      | None | -     | None  |
| Storage Length           | -      | -      | -      | 150  | -     | -     |
| Veh in Median Storage, # | -      | 0      | 0      | -    | 1     | -     |
| Grade, %                 | -      | 0      | 0      | -    | 0     | -     |
| Peak Hour Factor         | 92     | 92     | 92     | 92   | 92    | 92    |
| Heavy Vehicles, %        | 2      | 2      | 2      | 2    | 2     | 2     |
| Mvmt Flow                | 2      | 49     | 54     | 217  | 337   | 2     |
| Major/Minor              | Major1 | Major2 | Minor2 |      |       |       |
| Conflicting Flow All     | 271    | 0      | -      | 0    | 107   | 54    |
| Stage 1                  | -      | -      | -      | -    | 54    | -     |
| Stage 2                  | -      | -      | -      | -    | 53    | -     |
| Critical Hdwy            | 4.12   | -      | -      | -    | 6.42  | 6.22  |
| Critical Hdwy Stg 1      | -      | -      | -      | -    | 5.42  | -     |
| Critical Hdwy Stg 2      | -      | -      | -      | -    | 5.42  | -     |
| Follow-up Hdwy           | 2.218  | -      | -      | -    | 3.518 | 3.318 |
| Pot Cap-1 Maneuver       | 1292   | -      | -      | -    | 891   | 1013  |
| Stage 1                  | -      | -      | -      | -    | 969   | -     |
| Stage 2                  | -      | -      | -      | -    | 970   | -     |
| Platoon blocked, %       | -      | -      | -      | -    | -     | -     |
| Mov Cap-1 Maneuver       | 1292   | -      | -      | -    | 889   | 1013  |
| Mov Cap-2 Maneuver       | -      | -      | -      | -    | 848   | -     |
| Stage 1                  | -      | -      | -      | -    | 967   | -     |
| Stage 2                  | -      | -      | -      | -    | 970   | -     |
| Approach                 | EB     | WB     | SB     |      |       |       |
| HCM Control Delay, s     | 0.3    | 0      | 12     |      |       |       |
| HCM LOS                  |        |        | B      |      |       |       |
| Minor Lane/Major Mvmt    | EBL    | EBT    | WBT    | WBR  | SBLn1 |       |
| Capacity (veh/h)         | 1292   | -      | -      | -    | 849   |       |
| HCM Lane V/C Ratio       | 0.002  | -      | -      | -    | 0.399 |       |
| HCM Control Delay (s)    | 7.8    | 0      | -      | -    | 12    |       |
| HCM Lane LOS             | A      | A      | -      | -    | B     |       |
| HCM 95th %tile Q(veh)    | 0      | -      | -      | -    | 1.9   |       |



| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 6.3  |      |      |      |      |      |
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      |      | ↕    | ↑    | ↗    | ↘    |      |
| Traffic Vol, veh/h       | 2    | 45   | 50   | 185  | 310  | 2    |
| Future Vol, veh/h        | 2    | 45   | 50   | 185  | 310  | 2    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | 135  | -    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 1    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 2    | 49   | 54   | 201  | 337  | 2    |

| Major/Minor          | Major1 | Major2 | Minor2 |       |       |
|----------------------|--------|--------|--------|-------|-------|
| Conflicting Flow All | 255    | 0      | 0      | 107   | 54    |
| Stage 1              | -      | -      | -      | 54    | -     |
| Stage 2              | -      | -      | -      | 53    | -     |
| Critical Hdwy        | 4.12   | -      | -      | 6.42  | 6.22  |
| Critical Hdwy Stg 1  | -      | -      | -      | 5.42  | -     |
| Critical Hdwy Stg 2  | -      | -      | -      | 5.42  | -     |
| Follow-up Hdwy       | 2.218  | -      | -      | 3.518 | 3.318 |
| Pot Cap-1 Maneuver   | 1310   | -      | -      | 891   | 1013  |
| Stage 1              | -      | -      | -      | 969   | -     |
| Stage 2              | -      | -      | -      | 970   | -     |
| Platoon blocked, %   | -      | -      | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1310   | -      | -      | 889   | 1013  |
| Mov Cap-2 Maneuver   | -      | -      | -      | 848   | -     |
| Stage 1              | -      | -      | -      | 967   | -     |
| Stage 2              | -      | -      | -      | 970   | -     |

| Approach             | EB  | WB | SB |
|----------------------|-----|----|----|
| HCM Control Delay, s | 0.3 | 0  | 12 |
| HCM LOS              |     |    | B  |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1310  | -   | -   | -   | 849   |
| HCM Lane V/C Ratio    | 0.002 | -   | -   | -   | 0.399 |
| HCM Control Delay (s) | 7.8   | 0   | -   | -   | 12    |
| HCM Lane LOS          | A     | A   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 1.9   |

**Intersection**

Int Delay, s/veh 6.6

| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
|--------------------------|------|------|------|------|------|------|
| Lane Configurations      |      | ↕    | ↑    | ↗    | ↘    |      |
| Traffic Vol, veh/h       | 2    | 50   | 55   | 220  | 345  | 2    |
| Future Vol, veh/h        | 2    | 50   | 55   | 220  | 345  | 2    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | 135  | -    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 1    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 2    | 54   | 60   | 239  | 375  | 2    |

**Major/Minor**

|                      | Major1 | Major2 | Minor2 |       |       |
|----------------------|--------|--------|--------|-------|-------|
| Conflicting Flow All | 299    | 0      | 0      | 118   | 60    |
| Stage 1              | -      | -      | -      | 60    | -     |
| Stage 2              | -      | -      | -      | 58    | -     |
| Critical Hdwy        | 4.12   | -      | -      | 6.42  | 6.22  |
| Critical Hdwy Stg 1  | -      | -      | -      | 5.42  | -     |
| Critical Hdwy Stg 2  | -      | -      | -      | 5.42  | -     |
| Follow-up Hdwy       | 2.218  | -      | -      | 3.518 | 3.318 |
| Pot Cap-1 Maneuver   | 1262   | -      | -      | 878   | 1005  |
| Stage 1              | -      | -      | -      | 963   | -     |
| Stage 2              | -      | -      | -      | 965   | -     |
| Platoon blocked, %   | -      | -      | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1262   | -      | -      | 876   | 1005  |
| Mov Cap-2 Maneuver   | -      | -      | -      | 839   | -     |
| Stage 1              | -      | -      | -      | 961   | -     |
| Stage 2              | -      | -      | -      | 965   | -     |

**Approach**

|                      | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.3 | 0  | 12.7 |
| HCM LOS              |     |    | B    |

**Minor Lane/Major Mvmt**

|                       | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1262  | -   | -   | -   | 840   |
| HCM Lane V/C Ratio    | 0.002 | -   | -   | -   | 0.449 |
| HCM Control Delay (s) | 7.9   | 0   | -   | -   | 12.7  |
| HCM Lane LOS          | A     | A   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 2.3   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 5.9  |      |      |      |      |      |
| Movement                 | EBL  | EBT  | WBT  | WBR  | SBL  | SBR  |
| Lane Configurations      |      | ↕    | ↑    | ↗    | ↘    |      |
| Traffic Vol, veh/h       | 2    | 50   | 80   | 310  | 350  | 2    |
| Future Vol, veh/h        | 2    | 50   | 80   | 310  | 350  | 2    |
| Conflicting Peds, #/hr   | 0    | 0    | 0    | 0    | 0    | 0    |
| Sign Control             | Free | Free | Free | Free | Stop | Stop |
| RT Channelized           | -    | None | -    | None | -    | None |
| Storage Length           | -    | -    | -    | 135  | -    | -    |
| Veh in Median Storage, # | -    | 0    | 0    | -    | 1    | -    |
| Grade, %                 | -    | 0    | 0    | -    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 2    | 2    | 2    |
| Mvmt Flow                | 2    | 54   | 87   | 337  | 380  | 2    |

| Major/Minor          | Major1 | Major2 | Minor2 |       |       |
|----------------------|--------|--------|--------|-------|-------|
| Conflicting Flow All | 424    | 0      | 0      | 145   | 87    |
| Stage 1              | -      | -      | -      | 87    | -     |
| Stage 2              | -      | -      | -      | 58    | -     |
| Critical Hdwy        | 4.12   | -      | -      | 6.42  | 6.22  |
| Critical Hdwy Stg 1  | -      | -      | -      | 5.42  | -     |
| Critical Hdwy Stg 2  | -      | -      | -      | 5.42  | -     |
| Follow-up Hdwy       | 2.218  | -      | -      | 3.518 | 3.318 |
| Pot Cap-1 Maneuver   | 1135   | -      | -      | 847   | 971   |
| Stage 1              | -      | -      | -      | 936   | -     |
| Stage 2              | -      | -      | -      | 965   | -     |
| Platoon blocked, %   | -      | -      | -      | -     | -     |
| Mov Cap-1 Maneuver   | 1135   | -      | -      | 845   | 971   |
| Mov Cap-2 Maneuver   | -      | -      | -      | 818   | -     |
| Stage 1              | -      | -      | -      | 934   | -     |
| Stage 2              | -      | -      | -      | 965   | -     |

| Approach             | EB  | WB | SB   |
|----------------------|-----|----|------|
| HCM Control Delay, s | 0.3 | 0  | 13.2 |
| HCM LOS              |     |    | B    |

| Minor Lane/Major Mvmt | EBL   | EBT | WBT | WBR | SBLn1 |
|-----------------------|-------|-----|-----|-----|-------|
| Capacity (veh/h)      | 1135  | -   | -   | -   | 819   |
| HCM Lane V/C Ratio    | 0.002 | -   | -   | -   | 0.467 |
| HCM Control Delay (s) | 8.2   | 0   | -   | -   | 13.2  |
| HCM Lane LOS          | A     | A   | -   | -   | B     |
| HCM 95th %tile Q(veh) | 0     | -   | -   | -   | 2.5   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 1    |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      | ↗    | ↘    | ↕    | ↕    | ↗    |
| Traffic Vol, veh/h       | 0    | 90   | 50   | 860  | 1300 | 200  |
| Future Vol, veh/h        | 0    | 90   | 50   | 860  | 1300 | 200  |
| 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    | 300  | -    | -    | 250  |
| Veh in Median Storage, # | 1    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 5    | 5    | 2    |
| Mvmt Flow                | 0    | 98   | 54   | 935  | 1413 | 217  |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |
|----------------------|--------|--------|--------|---|---|
| Conflicting Flow All | -      | 707    | 1630   | 0 | 0 |
| Stage 1              | -      | -      | -      | - | - |
| Stage 2              | -      | -      | -      | - | - |
| Critical Hdwy        | -      | 6.94   | 4.14   | - | - |
| Critical Hdwy Stg 1  | -      | -      | -      | - | - |
| Critical Hdwy Stg 2  | -      | -      | -      | - | - |
| Follow-up Hdwy       | -      | 3.32   | 2.22   | - | - |
| Pot Cap-1 Maneuver   | 0      | 378    | 394    | - | - |
| Stage 1              | 0      | -      | -      | - | - |
| Stage 2              | 0      | -      | -      | - | - |
| Platoon blocked, %   |        |        |        | - | - |
| Mov Cap-1 Maneuver   | -      | 378    | 394    | - | - |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | - |
| Stage 1              | -      | -      | -      | - | - |
| Stage 2              | -      | -      | -      | - | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 17.8 | 0.9 | 0  |
| HCM LOS              | C    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 394   | -   | 378   | -   | -   |
| HCM Lane V/C Ratio    | 0.138 | -   | 0.259 | -   | -   |
| HCM Control Delay (s) | 15.6  | -   | 17.8  | -   | -   |
| HCM Lane LOS          | C     | -   | C     | -   | -   |
| HCM 95th %tile Q(veh) | 0.5   | -   | 1     | -   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.7  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      | ↗    | ↘    | ↑↑   | ↑↑   | ↗    |
| Traffic Vol, veh/h       | 0    | 90   | 50   | 1450 | 1045 | 185  |
| Future Vol, veh/h        | 0    | 90   | 50   | 1450 | 1045 | 185  |
| 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    | 300  | -    | -    | 250  |
| Veh in Median Storage, # | 1    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 3    | 3    | 2    |
| Mvmt Flow                | 0    | 98   | 54   | 1576 | 1136 | 201  |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |
|----------------------|--------|--------|--------|---|---|
| Conflicting Flow All | -      | 568    | 1337   | 0 | 0 |
| Stage 1              | -      | -      | -      | - | - |
| Stage 2              | -      | -      | -      | - | - |
| Critical Hdwy        | -      | 6.94   | 4.14   | - | - |
| Critical Hdwy Stg 1  | -      | -      | -      | - | - |
| Critical Hdwy Stg 2  | -      | -      | -      | - | - |
| Follow-up Hdwy       | -      | 3.32   | 2.22   | - | - |
| Pot Cap-1 Maneuver   | 0      | 466    | 512    | - | - |
| Stage 1              | 0      | -      | -      | - | - |
| Stage 2              | 0      | -      | -      | - | - |
| Platoon blocked, %   |        |        |        | - | - |
| Mov Cap-1 Maneuver   | -      | 466    | 512    | - | - |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | - |
| Stage 1              | -      | -      | -      | - | - |
| Stage 2              | -      | -      | -      | - | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 14.8 | 0.4 | 0  |
| HCM LOS              | B    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 512   | -   | 466   | -   | -   |
| HCM Lane V/C Ratio    | 0.106 | -   | 0.21  | -   | -   |
| HCM Control Delay (s) | 12.9  | -   | 14.8  | -   | -   |
| HCM Lane LOS          | B     | -   | B     | -   | -   |
| HCM 95th %tile Q(veh) | 0.4   | -   | 0.8   | -   | -   |

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.6  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      | ↗    | ↘    | ↑↑↑  | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 100  | 55   | 1260 | 1675 | 220  |
| Future Vol, veh/h        | 0    | 100  | 55   | 1260 | 1675 | 220  |
| 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    | 300  | -    | -    | 250  |
| Veh in Median Storage, # | 1    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 5    | 5    | 2    |
| Mvmt Flow                | 0    | 109  | 60   | 1370 | 1821 | 239  |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |
|----------------------|--------|--------|--------|---|---|
| Conflicting Flow All | -      | 911    | 2060   | 0 | 0 |
| Stage 1              | -      | -      | -      | - | - |
| Stage 2              | -      | -      | -      | - | - |
| Critical Hdwy        | -      | 7.14   | 5.34   | - | - |
| Critical Hdwy Stg 1  | -      | -      | -      | - | - |
| Critical Hdwy Stg 2  | -      | -      | -      | - | - |
| Follow-up Hdwy       | -      | 3.92   | 3.12   | - | - |
| Pot Cap-1 Maneuver   | 0      | *514   | 556    | - | - |
| Stage 1              | 0      | -      | -      | - | - |
| Stage 2              | 0      | -      | -      | - | - |
| Platoon blocked, %   |        | 1      | 1      | - | - |
| Mov Cap-1 Maneuver   | -      | *514   | 556    | - | - |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | - |
| Stage 1              | -      | -      | -      | - | - |
| Stage 2              | -      | -      | -      | - | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 13.9 | 0.5 | 0  |
| HCM LOS              | B    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 556   | -   | 514   | -   | -   |
| HCM Lane V/C Ratio    | 0.108 | -   | 0.211 | -   | -   |
| HCM Control Delay (s) | 12.3  | -   | 13.9  | -   | -   |
| HCM Lane LOS          | B     | -   | B     | -   | -   |
| HCM 95th %tile Q(veh) | 0.4   | -   | 0.8   | -   | -   |

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

| Intersection             |      |      |      |      |      |      |
|--------------------------|------|------|------|------|------|------|
| Int Delay, s/veh         | 0.6  |      |      |      |      |      |
| Movement                 | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
| Lane Configurations      |      | ↗    | ↘    | ↑↑↑  | ↑↑↑  | ↗    |
| Traffic Vol, veh/h       | 0    | 100  | 80   | 2125 | 1760 | 310  |
| Future Vol, veh/h        | 0    | 100  | 80   | 2125 | 1760 | 310  |
| 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    | 300  | -    | -    | 250  |
| Veh in Median Storage, # | 1    | -    | -    | 0    | 0    | -    |
| Grade, %                 | 0    | -    | -    | 0    | 0    | -    |
| Peak Hour Factor         | 92   | 92   | 92   | 92   | 92   | 92   |
| Heavy Vehicles, %        | 2    | 2    | 2    | 3    | 3    | 2    |
| Mvmt Flow                | 0    | 109  | 87   | 2310 | 1913 | 337  |

| Major/Minor          | Minor2 | Major1 | Major2 |   |   |
|----------------------|--------|--------|--------|---|---|
| Conflicting Flow All | -      | 957    | 2250   | 0 | 0 |
| Stage 1              | -      | -      | -      | - | - |
| Stage 2              | -      | -      | -      | - | - |
| Critical Hdwy        | -      | 7.14   | 5.34   | - | - |
| Critical Hdwy Stg 1  | -      | -      | -      | - | - |
| Critical Hdwy Stg 2  | -      | -      | -      | - | - |
| Follow-up Hdwy       | -      | 3.92   | 3.12   | - | - |
| Pot Cap-1 Maneuver   | 0      | *492   | 449    | - | - |
| Stage 1              | 0      | -      | -      | - | - |
| Stage 2              | 0      | -      | -      | - | - |
| Platoon blocked, %   |        | 1      | 1      | - | - |
| Mov Cap-1 Maneuver   | -      | *492   | 449    | - | - |
| Mov Cap-2 Maneuver   | -      | -      | -      | - | - |
| Stage 1              | -      | -      | -      | - | - |
| Stage 2              | -      | -      | -      | - | - |

| Approach             | EB   | NB  | SB |
|----------------------|------|-----|----|
| HCM Control Delay, s | 14.4 | 0.5 | 0  |
| HCM LOS              | B    |     |    |

| Minor Lane/Major Mvmt | NBL   | NBT | EBLn1 | SBT | SBR |
|-----------------------|-------|-----|-------|-----|-----|
| Capacity (veh/h)      | 449   | -   | 492   | -   | -   |
| HCM Lane V/C Ratio    | 0.194 | -   | 0.221 | -   | -   |
| HCM Control Delay (s) | 14.9  | -   | 14.4  | -   | -   |
| HCM Lane LOS          | B     | -   | B     | -   | -   |
| HCM 95th %tile Q(veh) | 0.7   | -   | 0.8   | -   | -   |

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

Timings

10: Marksheffel Rd & Airl Lane (CRN South Full Access)

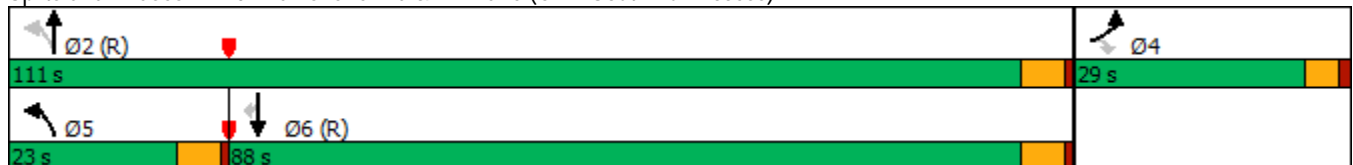


| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↗     | ↖     | ↑↑    | ↑↑    | ↗     |
| Traffic Volume (vph) | 155   | 200   | 150   | 755   | 1290  | 100   |
| Future Volume (vph)  | 155   | 200   | 150   | 755   | 1290  | 100   |
| 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)    | 23.0  | 23.0  | 10.5  | 23.5  | 23.5  | 23.5  |
| Total Split (s)      | 29.0  | 29.0  | 23.0  | 111.0 | 88.0  | 88.0  |
| Total Split (%)      | 20.7% | 20.7% | 16.4% | 79.3% | 62.9% | 62.9% |
| Yellow Time (s)      | 3.5   | 3.5   | 4.5   | 4.5   | 4.5   | 4.5   |
| All-Red Time (s)     | 1.5   | 1.5   | 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)  | 5.0   | 5.0   | 5.5   | 5.5   | 5.5   | 5.5   |
| Lead/Lag             |       |       | Lead  |       | Lag   | Lag   |
| Lead-Lag Optimize?   |       |       | Yes   |       | Yes   | Yes   |
| Recall Mode          | None  | None  | None  | C-Max | C-Max | C-Max |
| Act Effect Green (s) | 18.3  | 18.3  | 111.2 | 111.2 | 96.5  | 96.5  |
| Actuated g/C Ratio   | 0.13  | 0.13  | 0.79  | 0.79  | 0.69  | 0.69  |
| v/c Ratio            | 0.73  | 0.55  | 0.55  | 0.30  | 0.59  | 0.10  |
| Control Delay        | 75.9  | 11.8  | 22.5  | 3.3   | 17.0  | 2.7   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 75.9  | 11.8  | 22.5  | 3.3   | 17.0  | 2.7   |
| LOS                  | E     | B     | C     | A     | B     | A     |
| Approach Delay       | 39.8  |       |       | 6.5   | 16.0  |       |
| Approach LOS         | D     |       |       | A     | B     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.73  
 Intersection Signal Delay: 15.9  
 Intersection Capacity Utilization 65.9%  
 Analysis Period (min) 15  
 Intersection LOS: B  
 ICU Level of Service C

Splits and Phases: 10: Marksheffel Rd & Airl Lane (CRN South Full Access)





HCM 6th Signalized Intersection Summary  
 10: Marksheffel Rd & Airl Lane (CRN South Full Access)

2026 Total AM Three Quarter.syn

11/10/2023



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR   |
|------------------------------|------|-------|------|------|------|-------|
| Lane Configurations          |      |       |      |      |      |       |
| Traffic Volume (veh/h)       | 155  | 200   | 150  | 755  | 1290 | 100   |
| Future Volume (veh/h)        | 155  | 200   | 150  | 755  | 1290 | 100   |
| 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 | 1826 | 1826 | 1870  |
| Adj Flow Rate, veh/h         | 168  | 217   | 163  | 821  | 1402 | 109   |
| Peak Hour Factor             | 0.92 | 0.92  | 0.92 | 0.92 | 0.92 | 0.92  |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 5    | 5    | 2     |
| Cap, veh/h                   | 270  | 241   | 295  | 2682 | 2395 | 1094  |
| Arrive On Green              | 0.15 | 0.15  | 0.09 | 1.00 | 0.69 | 0.69  |
| Sat Flow, veh/h              | 1781 | 1585  | 1781 | 3561 | 3561 | 1585  |
| Grp Volume(v), veh/h         | 168  | 217   | 163  | 821  | 1402 | 109   |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585  | 1781 | 1735 | 1735 | 1585  |
| Q Serve(g_s), s              | 12.4 | 18.8  | 3.8  | 0.0  | 29.4 | 3.2   |
| Cycle Q Clear(g_c), s        | 12.4 | 18.8  | 3.8  | 0.0  | 29.4 | 3.2   |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 1.00  |
| Lane Grp Cap(c), veh/h       | 270  | 241   | 295  | 2682 | 2395 | 1094  |
| V/C Ratio(X)                 | 0.62 | 0.90  | 0.55 | 0.31 | 0.59 | 0.10  |
| Avail Cap(c_a), veh/h        | 305  | 272   | 440  | 2682 | 2395 | 1094  |
| HCM Platoon Ratio            | 1.00 | 1.00  | 2.00 | 2.00 | 1.00 | 1.00  |
| Upstream Filter(l)           | 1.00 | 1.00  | 0.87 | 0.87 | 1.00 | 1.00  |
| Uniform Delay (d), s/veh     | 55.6 | 58.3  | 10.8 | 0.0  | 11.3 | 7.2   |
| Incr Delay (d2), s/veh       | 3.2  | 28.5  | 1.4  | 0.3  | 1.1  | 0.2   |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   |
| %ile BackOfQ(50%),veh/ln     | 5.8  | 17.5  | 1.8  | 0.1  | 11.1 | 1.1   |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |       |
| LnGrp Delay(d),s/veh         | 58.8 | 86.9  | 12.2 | 0.3  | 12.3 | 7.4   |
| LnGrp LOS                    | E    | F     | B    | A    | B    | A     |
| Approach Vol, veh/h          | 385  |       |      | 984  | 1511 |       |
| Approach Delay, s/veh        | 74.6 |       |      | 2.2  | 12.0 |       |
| Approach LOS                 | E    |       |      | A    | B    |       |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6     |
| Phs Duration (G+Y+Rc), s     |      | 113.7 |      | 26.3 | 11.6 | 102.2 |
| Change Period (Y+Rc), s      |      | 5.5   |      | 5.0  | 5.5  | 5.5   |
| Max Green Setting (Gmax), s  |      | 105.5 |      | 24.0 | 17.5 | 82.5  |
| Max Q Clear Time (g_c+l1), s |      | 2.0   |      | 20.8 | 5.8  | 31.4  |
| Green Ext Time (p_c), s      |      | 7.3   |      | 0.4  | 0.3  | 17.1  |
| <b>Intersection Summary</b>  |      |       |      |      |      |       |
| HCM 6th Ctrl Delay           |      |       | 17.0 |      |      |       |
| HCM 6th LOS                  |      |       | B    |      |      |       |

Timings

10: Marksheffel Rd & Airl Lane (CRN South Full Access)



| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↗     | ↖     | ↑↑    | ↑↑    | ↗     |
| Traffic Volume (vph) | 155   | 200   | 140   | 1345  | 1040  | 95    |
| Future Volume (vph)  | 155   | 200   | 140   | 1345  | 1040  | 95    |
| 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)    | 23.0  | 23.0  | 10.5  | 23.5  | 23.5  | 23.5  |
| Total Split (s)      | 35.0  | 35.0  | 23.0  | 105.0 | 82.0  | 82.0  |
| Total Split (%)      | 25.0% | 25.0% | 16.4% | 75.0% | 58.6% | 58.6% |
| Yellow Time (s)      | 3.5   | 3.5   | 4.5   | 4.5   | 4.5   | 4.5   |
| All-Red Time (s)     | 1.5   | 1.5   | 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)  | 5.0   | 5.0   | 5.5   | 5.5   | 5.5   | 5.5   |
| Lead/Lag             |       |       | Lead  |       | Lag   | Lag   |
| Lead-Lag Optimize?   |       |       | Yes   |       | Yes   | Yes   |
| Recall Mode          | None  | None  | None  | C-Max | C-Max | C-Max |
| Act Effect Green (s) | 18.6  | 18.6  | 110.9 | 110.9 | 97.1  | 97.1  |
| Actuated g/C Ratio   | 0.13  | 0.13  | 0.79  | 0.79  | 0.69  | 0.69  |
| v/c Ratio            | 0.72  | 0.55  | 0.40  | 0.53  | 0.47  | 0.09  |
| Control Delay        | 74.6  | 11.6  | 8.7   | 5.8   | 1.9   | 0.1   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 74.6  | 11.6  | 8.7   | 5.8   | 1.9   | 0.1   |
| LOS                  | E     | B     | A     | A     | A     | A     |
| Approach Delay       | 39.1  |       |       | 6.1   | 1.7   |       |
| Approach LOS         | D     |       |       | A     | A     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 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: 0.72  
 Intersection Signal Delay: 8.3  
 Intersection LOS: A  
 Intersection Capacity Utilization 58.4%  
 ICU Level of Service B  
 Analysis Period (min) 15

Splits and Phases: 10: Marksheffel Rd & Airl Lane (CRN South Full Access)



HCM 6th Signalized Intersection Summary  
 10: Marksheffel Rd & Airl Lane (CRN South Full Access)

2026 Total PM Three Quarter.syn

11/10/2023



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR   |
|------------------------------|------|-------|------|------|------|-------|
| Lane Configurations          |      |       |      |      |      |       |
| Traffic Volume (veh/h)       | 155  | 200   | 140  | 1345 | 1040 | 95    |
| Future Volume (veh/h)        | 155  | 200   | 140  | 1345 | 1040 | 95    |
| 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 | 1856 | 1856 | 1870  |
| Adj Flow Rate, veh/h         | 168  | 217   | 152  | 1462 | 1130 | 103   |
| Peak Hour Factor             | 0.92 | 0.92  | 0.92 | 0.92 | 0.92 | 0.92  |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 3    | 3    | 2     |
| Cap, veh/h                   | 275  | 245   | 369  | 2716 | 2436 | 1095  |
| Arrive On Green              | 0.15 | 0.15  | 0.04 | 0.77 | 0.69 | 0.69  |
| Sat Flow, veh/h              | 1781 | 1585  | 1781 | 3618 | 3618 | 1585  |
| Grp Volume(v), veh/h         | 168  | 217   | 152  | 1462 | 1130 | 103   |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585  | 1781 | 1763 | 1763 | 1585  |
| Q Serve(g_s), s              | 12.3 | 18.8  | 3.3  | 22.8 | 20.4 | 3.0   |
| Cycle Q Clear(g_c), s        | 12.3 | 18.8  | 3.3  | 22.8 | 20.4 | 3.0   |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 1.00  |
| Lane Grp Cap(c), veh/h       | 275  | 245   | 369  | 2716 | 2436 | 1095  |
| V/C Ratio(X)                 | 0.61 | 0.89  | 0.41 | 0.54 | 0.46 | 0.09  |
| Avail Cap(c_a), veh/h        | 382  | 340   | 520  | 2716 | 2436 | 1095  |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00  |
| Upstream Filter(l)           | 1.00 | 1.00  | 0.43 | 0.43 | 1.00 | 1.00  |
| Uniform Delay (d), s/veh     | 55.2 | 58.0  | 7.7  | 6.3  | 9.8  | 7.1   |
| Incr Delay (d2), s/veh       | 2.2  | 18.2  | 0.3  | 0.3  | 0.6  | 0.2   |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0   |
| %ile BackOfQ(50%),veh/ln     | 5.7  | 16.8  | 1.2  | 7.7  | 7.8  | 1.1   |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |       |
| LnGrp Delay(d),s/veh         | 57.4 | 76.1  | 8.0  | 6.6  | 10.5 | 7.3   |
| LnGrp LOS                    | E    | E     | A    | A    | B    | A     |
| Approach Vol, veh/h          | 385  |       |      | 1614 | 1233 |       |
| Approach Delay, s/veh        | 68.0 |       |      | 6.8  | 10.2 |       |
| Approach LOS                 | E    |       |      | A    | B    |       |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6     |
| Phs Duration (G+Y+Rc), s     |      | 113.3 |      | 26.7 | 11.1 | 102.2 |
| Change Period (Y+Rc), s      |      | 5.5   |      | 5.0  | 5.5  | 5.5   |
| Max Green Setting (Gmax), s  |      | 99.5  |      | 30.0 | 17.5 | 76.5  |
| Max Q Clear Time (g_c+I1), s |      | 24.8  |      | 20.8 | 5.3  | 22.4  |
| Green Ext Time (p_c), s      |      | 18.8  |      | 0.9  | 0.3  | 12.0  |
| <b>Intersection Summary</b>  |      |       |      |      |      |       |
| HCM 6th Ctrl Delay           |      |       | 15.4 |      |      |       |
| HCM 6th LOS                  |      |       | B    |      |      |       |

Timings

10: Marksheffel Rd & Airl Lane (CRN South Full Access)



| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↗     | ↖     | ↑↑↑   | ↑↑↑   | ↗     |
| Traffic Volume (vph) | 175   | 225   | 165   | 1145  | 1665  | 110   |
| Future Volume (vph)  | 175   | 225   | 165   | 1145  | 1665  | 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)    | 23.0  | 23.0  | 10.5  | 23.5  | 23.5  | 23.5  |
| Total Split (s)      | 33.0  | 33.0  | 28.0  | 107.0 | 79.0  | 79.0  |
| Total Split (%)      | 23.6% | 23.6% | 20.0% | 76.4% | 56.4% | 56.4% |
| Yellow Time (s)      | 3.5   | 3.5   | 4.5   | 4.5   | 4.5   | 4.5   |
| All-Red Time (s)     | 1.5   | 1.5   | 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)  | 5.0   | 5.0   | 5.5   | 5.5   | 5.5   | 5.5   |
| Lead/Lag             |       |       | Lead  |       | Lag   | Lag   |
| Lead-Lag Optimize?   |       |       | Yes   |       | Yes   | Yes   |
| Recall Mode          | None  | None  | None  | C-Max | C-Max | C-Max |
| Act Effect Green (s) | 20.2  | 20.2  | 109.3 | 109.3 | 90.3  | 90.3  |
| Actuated g/C Ratio   | 0.14  | 0.14  | 0.78  | 0.78  | 0.64  | 0.64  |
| v/c Ratio            | 0.75  | 0.56  | 0.66  | 0.32  | 0.57  | 0.11  |
| Control Delay        | 74.4  | 10.9  | 51.6  | 2.3   | 14.8  | 3.2   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 74.4  | 10.9  | 51.6  | 2.3   | 14.8  | 3.2   |
| LOS                  | E     | B     | D     | A     | B     | A     |
| Approach Delay       | 38.6  |       |       | 8.5   | 14.1  |       |
| Approach LOS         | D     |       |       | A     | B     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 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: 0.75  
 Intersection Signal Delay: 14.8  
 Intersection LOS: B  
 Intersection Capacity Utilization 64.3%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 10: Marksheffel Rd & Airl Lane (CRN South Full Access)



HCM 6th Signalized Intersection Summary  
 10: Marksheffel Rd & Airl Lane (CRN South Full Access)

2040 Total AM Three Quarter.syn

11/10/2023



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|-------|------|------|------|------|
| Lane Configurations          |      |       |      |      |      |      |
| Traffic Volume (veh/h)       | 175  | 225   | 165  | 1145 | 1665 | 110  |
| Future Volume (veh/h)        | 175  | 225   | 165  | 1145 | 1665 | 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 | 1826 | 1826 | 1870 |
| Adj Flow Rate, veh/h         | 190  | 245   | 179  | 1245 | 1810 | 120  |
| Peak Hour Factor             | 0.92 | 0.92  | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 5    | 5    | 2    |
| Cap, veh/h                   | 304  | 271   | 249  | 3760 | 3317 | 1055 |
| Arrive On Green              | 0.17 | 0.17  | 0.10 | 1.00 | 0.67 | 0.67 |
| Sat Flow, veh/h              | 1781 | 1585  | 1781 | 5149 | 5149 | 1585 |
| Grp Volume(v), veh/h         | 190  | 245   | 179  | 1245 | 1810 | 120  |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585  | 1781 | 1662 | 1662 | 1585 |
| Q Serve(g_s), s              | 13.9 | 21.2  | 4.5  | 0.0  | 26.7 | 3.8  |
| Cycle Q Clear(g_c), s        | 13.9 | 21.2  | 4.5  | 0.0  | 26.7 | 3.8  |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 1.00 |
| Lane Grp Cap(c), veh/h       | 304  | 271   | 249  | 3760 | 3317 | 1055 |
| V/C Ratio(X)                 | 0.62 | 0.91  | 0.72 | 0.33 | 0.55 | 0.11 |
| Avail Cap(c_a), veh/h        | 356  | 317   | 447  | 3760 | 3317 | 1055 |
| HCM Platoon Ratio            | 1.00 | 1.00  | 2.00 | 2.00 | 1.00 | 1.00 |
| Upstream Filter(l)           | 1.00 | 1.00  | 0.82 | 0.82 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 53.9 | 56.9  | 15.8 | 0.0  | 12.3 | 8.5  |
| Incr Delay (d2), s/veh       | 2.6  | 25.6  | 3.2  | 0.2  | 0.6  | 0.2  |
| Initial Q Delay(d3),s/veh    | 0.0  | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  |
| %ile BackOfQ(50%),veh/ln     | 6.5  | 19.3  | 3.5  | 0.1  | 9.8  | 1.4  |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |      |
| LnGrp Delay(d),s/veh         | 56.5 | 82.5  | 19.0 | 0.2  | 12.9 | 8.7  |
| LnGrp LOS                    | E    | F     | B    | A    | B    | A    |
| Approach Vol, veh/h          | 435  |       |      | 1424 | 1930 |      |
| Approach Delay, s/veh        | 71.2 |       |      | 2.6  | 12.7 |      |
| Approach LOS                 | E    |       |      | A    | B    |      |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 111.1 |      | 28.9 | 12.4 | 98.7 |
| Change Period (Y+Rc), s      |      | 5.5   |      | 5.0  | 5.5  | 5.5  |
| Max Green Setting (Gmax), s  |      | 101.5 |      | 28.0 | 22.5 | 73.5 |
| Max Q Clear Time (g_c+l1), s |      | 2.0   |      | 23.2 | 6.5  | 28.7 |
| Green Ext Time (p_c), s      |      | 13.4  |      | 0.7  | 0.4  | 22.9 |
| <b>Intersection Summary</b>  |      |       |      |      |      |      |
| HCM 6th Ctrl Delay           |      |       | 15.6 |      |      |      |
| HCM 6th LOS                  |      |       | B    |      |      |      |

Timings  
 10: Marksheffel Rd & Airl Lane (CRN South Full Access)

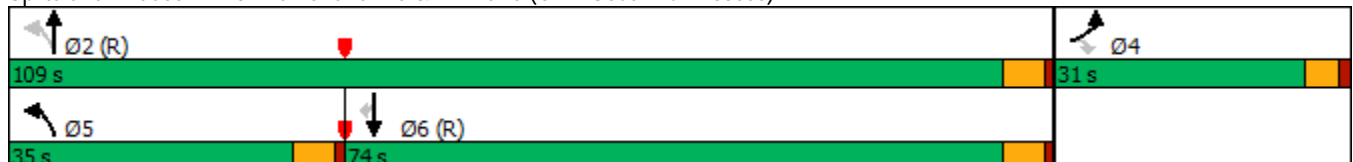


| Lane Group           | EBL   | EBR   | NBL   | NBT   | SBT   | SBR   |
|----------------------|-------|-------|-------|-------|-------|-------|
| Lane Configurations  | ↖     | ↗     | ↖     | ↑↑↑   | ↑↑↑   | ↗     |
| Traffic Volume (vph) | 175   | 225   | 235   | 2030  | 1705  | 155   |
| Future Volume (vph)  | 175   | 225   | 235   | 2030  | 1705  | 155   |
| 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)    | 23.0  | 23.0  | 10.5  | 23.5  | 23.5  | 23.5  |
| Total Split (s)      | 31.0  | 31.0  | 35.0  | 109.0 | 74.0  | 74.0  |
| Total Split (%)      | 22.1% | 22.1% | 25.0% | 77.9% | 52.9% | 52.9% |
| Yellow Time (s)      | 3.5   | 3.5   | 4.5   | 4.5   | 4.5   | 4.5   |
| All-Red Time (s)     | 1.5   | 1.5   | 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)  | 5.0   | 5.0   | 5.5   | 5.5   | 5.5   | 5.5   |
| Lead/Lag             |       |       | Lead  |       | Lag   | Lag   |
| Lead-Lag Optimize?   |       |       | Yes   |       | Yes   | Yes   |
| Recall Mode          | None  | None  | None  | C-Max | C-Max | C-Max |
| Act Effect Green (s) | 20.0  | 20.0  | 109.5 | 109.5 | 84.0  | 84.0  |
| Actuated g/C Ratio   | 0.14  | 0.14  | 0.78  | 0.78  | 0.60  | 0.60  |
| v/c Ratio            | 0.75  | 0.56  | 0.76  | 0.56  | 0.61  | 0.17  |
| Control Delay        | 75.7  | 11.1  | 34.9  | 10.8  | 8.2   | 1.1   |
| Queue Delay          | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   | 0.0   |
| Total Delay          | 75.7  | 11.1  | 34.9  | 10.8  | 8.2   | 1.1   |
| LOS                  | E     | B     | C     | B     | A     | A     |
| Approach Delay       | 39.3  |       |       | 13.3  | 7.6   |       |
| Approach LOS         | D     |       |       | B     | A     |       |

Intersection Summary

Cycle Length: 140  
 Actuated Cycle Length: 140  
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBT, Start of Green  
 Natural Cycle: 75  
 Control Type: Actuated-Coordinated  
 Maximum v/c Ratio: 0.76  
 Intersection Signal Delay: 13.3  
 Intersection LOS: B  
 Intersection Capacity Utilization 69.0%  
 ICU Level of Service C  
 Analysis Period (min) 15

Splits and Phases: 10: Marksheffel Rd & Airl Lane (CRN South Full Access)



HCM 6th Signalized Intersection Summary  
 10: Marksheffel Rd & Airl Lane (CRN South Full Access)

2040 Total PM Three Quarter.syn

11/10/2023



| Movement                     | EBL  | EBR   | NBL  | NBT  | SBT  | SBR  |
|------------------------------|------|-------|------|------|------|------|
| Lane Configurations          |      |       |      |      |      |      |
| Traffic Volume (veh/h)       | 175  | 225   | 235  | 2030 | 1705 | 155  |
| Future Volume (veh/h)        | 175  | 225   | 235  | 2030 | 1705 | 155  |
| 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 | 1856 | 1856 | 1870 |
| Adj Flow Rate, veh/h         | 190  | 245   | 255  | 2207 | 1853 | 168  |
| Peak Hour Factor             | 0.92 | 0.92  | 0.92 | 0.92 | 0.92 | 0.92 |
| Percent Heavy Veh, %         | 2    | 2     | 2    | 3    | 3    | 2    |
| Cap, veh/h                   | 302  | 268   | 284  | 3828 | 3223 | 1008 |
| Arrive On Green              | 0.17 | 0.17  | 0.08 | 0.76 | 0.64 | 0.64 |
| Sat Flow, veh/h              | 1781 | 1585  | 1781 | 5233 | 5233 | 1585 |
| Grp Volume(v), veh/h         | 190  | 245   | 255  | 2207 | 1853 | 168  |
| Grp Sat Flow(s),veh/h/ln     | 1781 | 1585  | 1781 | 1689 | 1689 | 1585 |
| Q Serve(g_s), s              | 13.9 | 21.3  | 8.5  | 26.4 | 29.4 | 6.0  |
| Cycle Q Clear(g_c), s        | 13.9 | 21.3  | 8.5  | 26.4 | 29.4 | 6.0  |
| Prop In Lane                 | 1.00 | 1.00  | 1.00 |      |      | 1.00 |
| Lane Grp Cap(c), veh/h       | 302  | 268   | 284  | 3828 | 3223 | 1008 |
| V/C Ratio(X)                 | 0.63 | 0.91  | 0.90 | 0.58 | 0.58 | 0.17 |
| Avail Cap(c_a), veh/h        | 331  | 294   | 517  | 3828 | 3223 | 1008 |
| HCM Platoon Ratio            | 1.00 | 1.00  | 1.00 | 1.00 | 1.00 | 1.00 |
| Upstream Filter(l)           | 1.00 | 1.00  | 0.10 | 0.10 | 1.00 | 1.00 |
| Uniform Delay (d), s/veh     | 54.1 | 57.1  | 29.4 | 7.4  | 14.6 | 10.4 |
| Incr Delay (d2), s/veh       | 3.3  | 29.6  | 1.2  | 0.1  | 0.8  | 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     | 6.5  | 19.6  | 9.0  | 8.7  | 11.2 | 2.2  |
| Unsig. Movement Delay, s/veh |      |       |      |      |      |      |
| LnGrp Delay(d),s/veh         | 57.4 | 86.7  | 30.5 | 7.5  | 15.4 | 10.7 |
| LnGrp LOS                    | E    | F     | C    | A    | B    | B    |
| Approach Vol, veh/h          | 435  |       |      | 2462 | 2021 |      |
| Approach Delay, s/veh        | 73.9 |       |      | 9.9  | 15.0 |      |
| Approach LOS                 | E    |       |      | A    | B    |      |
| Timer - Assigned Phs         |      | 2     |      | 4    | 5    | 6    |
| Phs Duration (G+Y+Rc), s     |      | 111.3 |      | 28.7 | 16.7 | 94.6 |
| Change Period (Y+Rc), s      |      | 5.5   |      | 5.0  | 5.5  | 5.5  |
| Max Green Setting (Gmax), s  |      | 103.5 |      | 26.0 | 29.5 | 68.5 |
| Max Q Clear Time (g_c+l1), s |      | 28.4  |      | 23.3 | 10.5 | 31.4 |
| Green Ext Time (p_c), s      |      | 39.0  |      | 0.4  | 0.7  | 21.7 |
| <b>Intersection Summary</b>  |      |       |      |      |      |      |
| HCM 6th Ctrl Delay           |      |       | 17.6 |      |      |      |
| HCM 6th LOS                  |      |       | B    |      |      |      |

# APPENDIX E

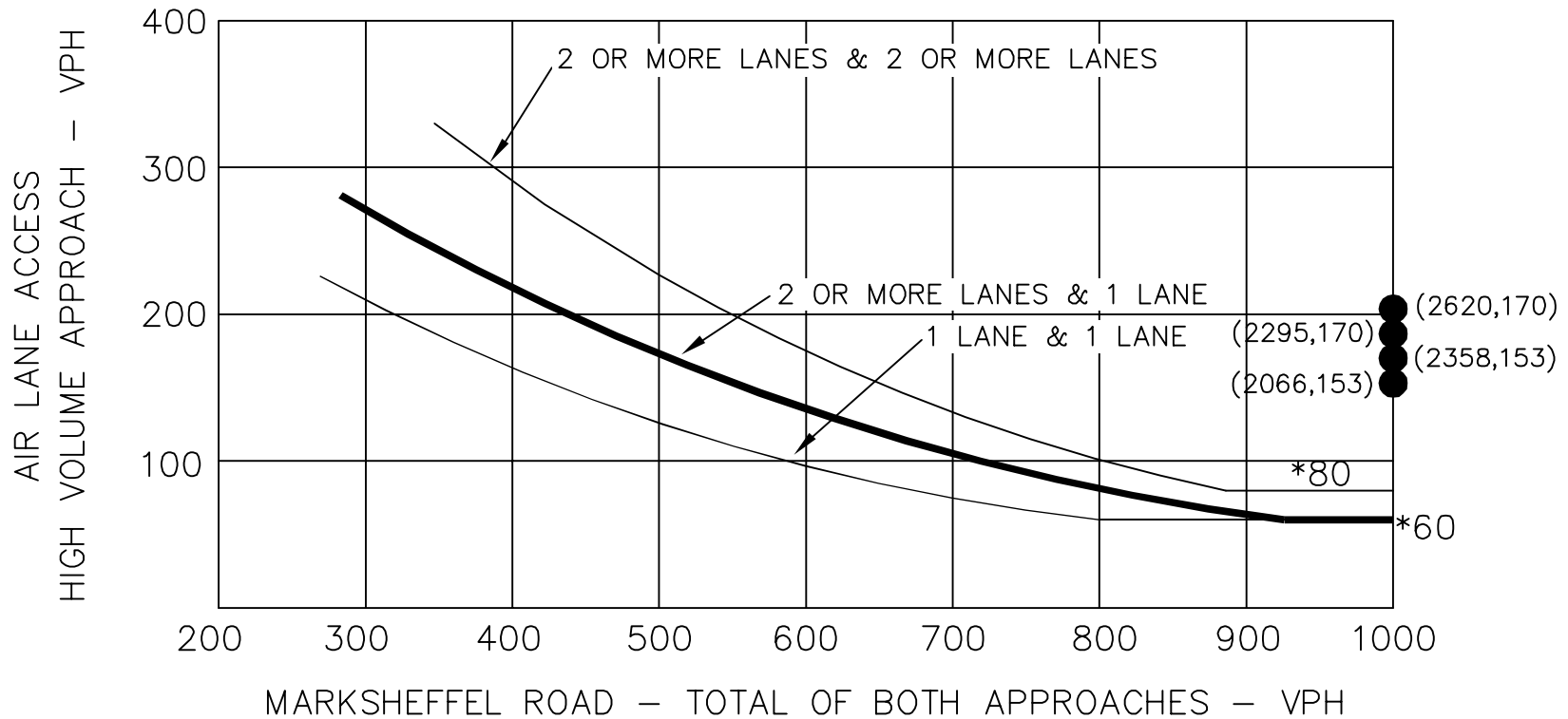
Signal Warrant Analysis

Signal Timings



## WARRANT 2 - FOUR HOUR VEHICULAR VOLUME (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



MARKSHEFFEL ROAD  
AND AIR LANE ACCESS  
SIGNAL WARRANT ANALYSIS  
FOUR HOUR VOLUME WARRANT

\* 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.

● 2026 TOTAL TRAFFIC DATA POINT WITH PROJECT

Source: Manual of Uniform Traffic Control Devices 2009





|                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ped Service Limit | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Pre Green         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pre Clearance     | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

|                    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phases             | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  |
| Pre Clearance 2    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Red Clear Ext Max  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Red Clear Ext Pass | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Jump         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Adv Warning Ext    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Phase Options**

|                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
|---------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| Phases              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Enable              | X | X | X | X | X | X | X | X |   |    |    |    |    |    |    |    |    |    |    |    |
| Auto Flash Ent.     |   | X |   |   |   | X |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Auto Flash Exit     |   | X |   |   |   | X |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Non Actuated I      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Non Actuated II     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Non Lock Mem        | X | X | X | X | X | X | X | X |   |    |    |    |    |    |    |    |    |    |    |    |
| Min Veh Recall      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Max Veh Recall      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Recall          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Soft Veh Recall     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Dual Entry          |   |   |   | X |   |   |   | X |   |    |    |    |    |    |    |    |    |    |    |    |
| Sim Gap Dis         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Guaranteed Pass     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Act Rest Walk       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Cond Service        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Add Initial         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Clr During Yel  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Clr During Red  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Cond Reservice      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Yel Min Override    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| No Startup Call     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Adv. Warn Flasher   |   | X |   |   |   | X |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| No Ped Str Up Call  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Clr OVTG        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Flash Exit Call     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Flash Exit Ped Call |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| MinGreen2           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| MaxGreen2           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| MaxGreen3           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped2                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Clear Pre Clear |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped NA+ Mode        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Red Rest            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Serve Evy Oth Even  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Serve Evy Oth Odd   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Coord Ped Yield     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Recycle         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Coutdown            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |

**No Serve Phases**

|            |                 |            |                 |            |                 |            |                 |
|------------|-----------------|------------|-----------------|------------|-----------------|------------|-----------------|
| Sequence 1 |                 | Sequence 2 |                 | Sequence 3 |                 | Sequence 4 |                 |
| Ph.        | No Serve Phases | Ph.        | No Serve Phases | Ph.        | No Serve Phases | Ph.        | No Serve Phases |
| 1          |                 | 1          |                 | 1          |                 | 1          |                 |
| 2          |                 | 2          |                 | 2          |                 | 2          |                 |

|   |  |   |  |   |  |   |  |
|---|--|---|--|---|--|---|--|
| 3 |  | 3 |  | 3 |  | 3 |  |
| 4 |  | 4 |  | 4 |  | 4 |  |
| 5 |  | 5 |  | 5 |  | 5 |  |
| 6 |  | 6 |  | 6 |  | 6 |  |
| 7 |  | 7 |  | 7 |  | 7 |  |
| 8 |  | 8 |  | 8 |  | 8 |  |

| Sequence 1 |  | Sequence 2 |  | Sequence 3 |  | Sequence 4 |  |
|------------|--|------------|--|------------|--|------------|--|
| 9          |  | 9          |  | 9          |  | 9          |  |
| 10         |  | 10         |  | 10         |  | 10         |  |
| 11         |  | 11         |  | 11         |  | 11         |  |
| 12         |  | 12         |  | 12         |  | 12         |  |
| 13         |  | 13         |  | 13         |  | 13         |  |
| 14         |  | 14         |  | 14         |  | 14         |  |
| 15         |  | 15         |  | 15         |  | 15         |  |
| 16         |  | 16         |  | 16         |  | 16         |  |

**Phase Configuration**

| Ph. | Startup       | Ring | Concurrent | Startup Min | Description |
|-----|---------------|------|------------|-------------|-------------|
| 1   | Phase Not On  | 1    | 5,6        | 0           |             |
| 2   | Green No Walk | 1    | 5,6        | 0           |             |
| 3   | Phase Not On  | 1    | 7,8        | 0           |             |
| 4   | Phase Not On  | 1    | 7,8        | 0           |             |
| 5   | Phase Not On  | 2    | 1,2        | 0           |             |
| 6   | Green No Walk | 2    | 1,2        | 0           |             |
| 7   | Phase Not On  | 2    | 3,4        | 0           |             |
| 8   | Phase Not On  | 2    | 3,4        | 0           |             |
| 9   | None          | 0    |            | 0           |             |
| 10  | None          | 0    |            | 0           |             |
| 11  | None          | 0    |            | 0           |             |
| 12  | None          | 0    |            | 0           |             |
| 13  | None          | 0    |            | 0           |             |
| 14  | None          | 0    |            | 0           |             |
| 15  | None          | 0    |            | 0           |             |
| 16  | None          | 0    |            | 0           |             |
| 17  | None          | 0    |            | 0           |             |
| 18  | None          | 0    |            | 0           |             |
| 19  | None          | 0    |            | 0           |             |
| 20  | None          | 0    |            | 0           |             |

**Sequence Configuration**

| Sequence 1 |             | Sequence 2 |             | Sequence 3 |             | Sequence 4 |             |
|------------|-------------|------------|-------------|------------|-------------|------------|-------------|
| Ring       | Phases      | Ring       | Phases      | Ring       | Phases      | Ring       | Phases      |
| 1          | 1,2,a,3,4,b | 1          | 1,2,a,4,3,b | 1          | 1,2,a,3,4,b | 1          | 2,1,a,4,3,b |
| 2          | 5,6,a,7,8,b | 2          | 5,6,a,8,7,b | 2          | 5,6,a,7,8,b | 2          | 5,6,a,7,8,b |
| 3          |             | 3          |             | 3          |             | 3          |             |
| 4          |             | 4          |             | 4          |             | 4          |             |
| 5          |             | 5          |             | 5          |             | 5          |             |
| 6          |             | 6          |             | 6          |             | 6          |             |
| 7          |             | 7          |             | 7          |             | 7          |             |
| 8          |             | 8          |             | 8          |             | 8          |             |
| 9          |             | 9          |             | 9          |             | 9          |             |
| 10         |             | 10         |             | 10         |             | 10         |             |
| 11         |             | 11         |             | 11         |             | 11         |             |
| 12         |             | 12         |             | 12         |             | 12         |             |
| 13         |             | 13         |             | 13         |             | 13         |             |
| 14         |             | 14         |             | 14         |             | 14         |             |

|    |  |
|----|--|
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 15 |  |
| 16 |  |

**Sequence 5**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,3,4,b |
| 2    | 6,5,a,7,8,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |

**Sequence 6**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,3,4,b |
| 2    | 6,5,a,7,8,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |

**Sequence 7**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,4,3,b |
| 2    | 6,5,a,7,8,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |

**Sequence 8**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,4,3,b |
| 2    | 6,5,a,7,8,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |

**Sequence 5**

|    |  |
|----|--|
| 7  |  |
| 8  |  |
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 6**

|    |  |
|----|--|
| 7  |  |
| 8  |  |
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 7**

|    |  |
|----|--|
| 7  |  |
| 8  |  |
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 8**

|    |  |
|----|--|
| 7  |  |
| 8  |  |
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 9**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,3,4,b |
| 2    | 5,6,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |
| 13   |             |
| 14   |             |
| 15   |             |
| 16   |             |

**Sequence 10**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,3,4,b |
| 2    | 5,6,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |
| 13   |             |
| 14   |             |
| 15   |             |
| 16   |             |

**Sequence 11**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,4,3,b |
| 2    | 5,6,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |
| 13   |             |
| 14   |             |
| 15   |             |
| 16   |             |

**Sequence 12**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,4,3,b |
| 2    | 5,6,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |
| 13   |             |
| 14   |             |
| 15   |             |
| 16   |             |

**Sequence 13**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,3,4,b |
| 2    | 6,5,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |

**Sequence 14**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,3,4,b |
| 2    | 6,5,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |

**Sequence 15**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,4,3,b |
| 2    | 6,5,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |

**Sequence 16**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,4,3,b |
| 2    | 6,5,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |

|    |  |
|----|--|
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 17**

| Ring | Phases |
|------|--------|
| 1    |        |
| 2    |        |
| 3    |        |
| 4    |        |
| 5    |        |
| 6    |        |
| 7    |        |
| 8    |        |

**Sequence 18**

| Ring | Phases |
|------|--------|
| 1    |        |
| 2    |        |
| 3    |        |
| 4    |        |
| 5    |        |
| 6    |        |
| 7    |        |
| 8    |        |

**Sequence 19**

| Ring | Phases |
|------|--------|
| 1    |        |
| 2    |        |
| 3    |        |
| 4    |        |
| 5    |        |
| 6    |        |
| 7    |        |
| 8    |        |

**Sequence 20**

| Ring | Phases |
|------|--------|
| 1    |        |
| 2    |        |
| 3    |        |
| 4    |        |
| 5    |        |
| 6    |        |
| 7    |        |
| 8    |        |

**Sequence 17**

|    |  |
|----|--|
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 18**

|    |  |
|----|--|
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 19**

|    |  |
|----|--|
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 20**

|    |  |
|----|--|
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Global Phase Recalls**

| Phase         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |  |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| Min           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Max           | X |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Ped           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
| Act Walk Rest |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |

**Global Veh Det Diagnostics**

|                       |         |
|-----------------------|---------|
| Global No Activity    | 0       |
| Global Max Presence   | 0       |
| Global Erractic Count | 0       |
| Global Failed Recall  | None    |
| Detector Reset Enable | Enabled |

**Global Ped Det Diagnostics**

|                       |   |
|-----------------------|---|
| Global No Activity    | 0 |
| Global Max Presence   | 0 |
| Global Erractic Count | 0 |

**Global Pri/Pre Det Diag**

|                       |   |
|-----------------------|---|
| Global No Activity    | 0 |
| Global Max Presence   | 0 |
| Global Erractic Count | 0 |

**Vehicle Detection Parameters**

| Det. | Call Phs | Call Ped | Call Ovl | Add Call Phases | Sw Phs | Delay | Extend | Queue Limit | Ext Hold | No Activity | Max Pres | Erratic Counts | Failed Time | Failed Recall | Fail Link | Description |
|------|----------|----------|----------|-----------------|--------|-------|--------|-------------|----------|-------------|----------|----------------|-------------|---------------|-----------|-------------|
| 1    | 1        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 2    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 3    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 4    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 5    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 6    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 7    | 3        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 8    | 4        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 9    | 4        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 10   | 7        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 11   | 4        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 12   | 4        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 13   | 1        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 14   | 3        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 15   | 5        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |

|    |   |   |   |  |   |     |     |   |     |   |   |   |   |      |   |  |
|----|---|---|---|--|---|-----|-----|---|-----|---|---|---|---|------|---|--|
| 16 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 17 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 18 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 19 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 20 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 21 | 7 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 22 | 8 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 23 | 8 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 24 | 3 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 25 | 8 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 26 | 8 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 27 | 5 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 28 | 7 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 29 | 0 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 30 | 0 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 31 | 0 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 32 | 0 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |

| Det. | Call | Call | Call | Add Call Phases | Sw  |       |        | Queue Limit | Ext Hold | No Activity | Max Pres | Erratic Counts | Failed Time | Failed Recall | Fail Link | Description |
|------|------|------|------|-----------------|-----|-------|--------|-------------|----------|-------------|----------|----------------|-------------|---------------|-----------|-------------|
|      | Phs  | Ped  | Ovl  |                 | Phs | Delay | Extend |             |          |             |          |                |             |               |           |             |
| 33   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 34   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 35   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 36   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 37   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 38   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 39   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 40   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 41   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 42   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 43   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 44   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 45   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 46   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 47   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 48   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 49   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 50   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 51   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 52   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 53   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 54   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 55   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 56   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 57   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 58   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 59   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 60   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 61   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 62   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 63   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 64   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 65   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 66   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 67   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 68   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 69   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |

|    |   |   |   |   |   |     |     |   |     |   |   |   |   |   |   |      |   |
|----|---|---|---|---|---|-----|-----|---|-----|---|---|---|---|---|---|------|---|
| 70 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | None | 0 |
| 71 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | None | 0 |
| 72 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | None | 0 |

**Vehicle Detection Options**

| Detector         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| Volume Detector  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Occupancy        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Yellow Lock Call |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Red Lock call    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Extend           | X | X | X | X | X | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| Added Initial    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Queue            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Call             | X | X | X | X | X | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| Terminate        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Min Green 2      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Protected Perm   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Disable Dly Lead |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Disable TS2 Diag |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |

| Detector         | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Volume Detector  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Occupancy        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yellow Lock Call |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Red Lock call    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Extend           | X  | X  | X  | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |
| Added Initial    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Queue            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Call             | X  | X  | X  | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |
| Terminate        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Min Green 2      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Protected Perm   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Disable Dly Lead |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Disable TS2 Diag |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

| Detector         | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Volume Detector  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Occupancy        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yellow Lock Call |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Red Lock call    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Extend           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Added Initial    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Queue            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Call             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Terminate        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Min Green 2      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Protected Perm   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Disable Dly Lead |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Disable TS2 Diag |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

| Detector         | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 |
|------------------|----|----|----|----|----|----|----|----|----|----|----|----|
| Volume Detector  |    |    |    |    |    |    |    |    |    |    |    |    |
| Occupancy        |    |    |    |    |    |    |    |    |    |    |    |    |
| Yellow Lock Call |    |    |    |    |    |    |    |    |    |    |    |    |
| Red Lock call    |    |    |    |    |    |    |    |    |    |    |    |    |
| Extend           |    |    |    |    |    |    |    |    |    |    |    |    |
| Added Initial    |    |    |    |    |    |    |    |    |    |    |    |    |
| Queue            |    |    |    |    |    |    |    |    |    |    |    |    |

|                        |   |
|------------------------|---|
| Data Collection Period | 0 |
| Number of Periods      | 1 |



|                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Call             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Terminate        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Min Green 2      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Protected Perm   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Disable Dly Lead |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Disable TS2 Diag |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Speed Detectors**

| Det | Enable | Type   | Units  | Min | Max | Car Length | Det Length | Trail Det | Trap Length |
|-----|--------|--------|--------|-----|-----|------------|------------|-----------|-------------|
|     |        |        |        | Log | Log |            |            |           |             |
| 1   |        | Single | Inches | 5   | 80  | 0          | 0          | 0         | 0           |
| 2   |        | Single | Inches | 5   | 80  | 0          | 0          | 0         | 0           |
| 3   |        | Single | Inches | 5   | 80  | 0          | 0          | 0         | 0           |
| 4   |        | Single | Inches | 5   | 80  | 0          | 0          | 0         | 0           |
| 5   |        | Single | Inches | 5   | 80  | 0          | 0          | 0         | 0           |
| 6   |        | Single | Inches | 5   | 80  | 0          | 0          | 0         | 0           |
| 7   |        | Single | Inches | 5   | 80  | 0          | 0          | 0         | 0           |
| 8   |        | Single | Inches | 5   | 80  | 0          | 0          | 0         | 0           |

**Pedestrian Detectors**

| Det | Call Phs | Call Ovlp | Add Call Phs | Walk 2 | Clear 2 | No Act | Max Pres | Erratic Count |
|-----|----------|-----------|--------------|--------|---------|--------|----------|---------------|
|     |          |           |              |        |         |        |          |               |
| 2   | 2        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 3   | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 4   | 4        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 5   | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 6   | 6        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 7   | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 8   | 8        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 9   | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 10  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 11  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 12  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 13  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 14  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 15  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 16  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 17  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 18  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 19  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 20  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |

| Det | Call Phs | Call Ovlp | Add Call Phs | Walk 2 | Clear 2 | No Act | Max Pres | Erratic Count |
|-----|----------|-----------|--------------|--------|---------|--------|----------|---------------|
|     |          |           |              |        |         |        |          |               |
| 22  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 23  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 24  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 25  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 26  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 27  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 28  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 29  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 30  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 31  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 32  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 33  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 34  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 35  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 36  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 37  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 38  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 39  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |
| 40  | 0        | 0         |              | 0      | 0       | 0      | 0        | 0             |

**Pri/Pre Detectors**

| Det | Description | Low Call | High Call | Low | high | Lead/Trail | Arrival Time | Pri Delay | Delay | Ext | Min On | Pri Ovlp | No Act | Max Pres | Erratic Count |
|-----|-------------|----------|-----------|-----|------|------------|--------------|-----------|-------|-----|--------|----------|--------|----------|---------------|
|     |             |          |           | Num | Num  |            |              |           |       |     |        |          |        |          |               |
| 1   |             | None     | None      | 0   | 0    | None       | 0            | 0         | 0     | 0   | 0      |          | 0      | 0        | 0             |
| 2   |             | None     | None      | 0   | 0    | None       | 0            | 0         | 0     | 0   | 0      |          | 0      | 0        | 0             |
| 3   |             | None     | None      | 0   | 0    | None       | 0            | 0         | 0     | 0   | 0      |          | 0      | 0        | 0             |
| 4   |             | None     | None      | 0   | 0    | None       | 0            | 0         | 0     | 0   | 0      |          | 0      | 0        | 0             |
| 5   |             | None     | None      | 0   | 0    | None       | 0            | 0         | 0     | 0   | 0      |          | 0      | 0        | 0             |
| 6   |             | None     | None      | 0   | 0    | None       | 0            | 0         | 0     | 0   | 0      |          | 0      | 0        | 0             |
| 7   |             | None     | None      | 0   | 0    | None       | 0            | 0         | 0     | 0   | 0      |          | 0      | 0        | 0             |
| 8   |             | None     | None      | 0   | 0    | None       | 0            | 0         | 0     | 0   | 0      |          | 0      | 0        | 0             |

**Overlaps**

| OLP | Enabled  | Type        | Included Phs | Modifier Phs | Modifier Ovlps | Neg Phases | Inhibit Neg Phs | Neg Ovlps |
|-----|----------|-------------|--------------|--------------|----------------|------------|-----------------|-----------|
| 1   | Enabled  | FYA - 4 Sec | 2            | 1            |                |            |                 |           |
| 2   | Disabled | Off         |              |              |                |            |                 |           |

|    |          |             |   |   |  |  |  |  |
|----|----------|-------------|---|---|--|--|--|--|
| 3  | Disabled | FYA - 4 Sec | 4 | 3 |  |  |  |  |
| 4  | Disabled | Off         |   |   |  |  |  |  |
| 5  | Enabled  | FYA - 4 Sec | 6 | 5 |  |  |  |  |
| 6  | Disabled | Off         |   |   |  |  |  |  |
| 7  | Disabled | FYA - 4 Sec | 8 | 7 |  |  |  |  |
| 8  | Disabled | Off         |   |   |  |  |  |  |
| 9  | Disabled | Off         |   |   |  |  |  |  |
| 10 | Disabled | Off         |   |   |  |  |  |  |
| 11 | Disabled | Off         |   |   |  |  |  |  |
| 12 | Disabled | Off         |   |   |  |  |  |  |
| 13 | Disabled | Off         |   |   |  |  |  |  |
| 14 | Disabled | Off         |   |   |  |  |  |  |
| 15 | Disabled | Off         |   |   |  |  |  |  |
| 16 | Disabled | Off         |   |   |  |  |  |  |

| OLP | TrG Omit Phs | Negative Peds | Neg Ped Ovlp | Grn Sup Phs | N Ped Phs Calls | Description |
|-----|--------------|---------------|--------------|-------------|-----------------|-------------|
| 1   |              |               |              |             |                 |             |
| 2   |              |               |              |             |                 |             |
| 3   |              |               |              |             |                 |             |
| 4   |              |               |              |             |                 |             |
| 5   |              |               |              |             |                 |             |
| 6   |              |               |              |             |                 |             |

| OLP | TrG Omit Phs | Negative Peds | Neg Ped Ovlp | Grn Sup Phs | N Ped Phs Calls | Description |
|-----|--------------|---------------|--------------|-------------|-----------------|-------------|
| 7   |              |               |              |             |                 |             |
| 8   |              |               |              |             |                 |             |
| 9   |              |               |              |             |                 |             |
| 10  |              |               |              |             |                 |             |
| 11  |              |               |              |             |                 |             |
| 12  |              |               |              |             |                 |             |
| 13  |              |               |              |             |                 |             |
| 14  |              |               |              |             |                 |             |
| 15  |              |               |              |             |                 |             |
| 16  |              |               |              |             |                 |             |

| OLP | Trail GRN | Trail YEL | Trail RED | Walk 1 | Ped Clr 1 | Walk 2 | Ped Clr 2 |       |       | Min Green | Mx Grn Ext | Red Revert | Flash Inactive | Flash Alt | Walk Rest |
|-----|-----------|-----------|-----------|--------|-----------|--------|-----------|-------|-------|-----------|------------|------------|----------------|-----------|-----------|
|     |           |           |           |        |           |        |           | Delay | Flash |           |            |            |                |           |           |
| 1   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 2.0   | On    | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 2   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 3   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | On    | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 4   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 5   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 2.0   | On    | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 6   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 7   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | On    | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 8   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 9   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 10  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 11  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 12  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 13  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 14  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 15  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 16  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |

| Overlap Options |   |   |   |   |   |   |   |   |   | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Overlap         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Startup Call    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Recall          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

| Overlap Options  |   |   |   |   |   |   |   |   |   | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Overlap          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Call for Service |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Trail Grn Bridge |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |



|    |    |   |   |  |  |  |     |      |   |   |       |
|----|----|---|---|--|--|--|-----|------|---|---|-------|
| 7  | 16 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 8  | 25 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 9  | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 10 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 11 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 12 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 13 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 14 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 15 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 16 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |

Split 2

| PH. | Time | Min | Max | Coord | Ref | Cover | Force Off | Mode    | Pri | Pri | Pri    |
|-----|------|-----|-----|-------|-----|-------|-----------|---------|-----|-----|--------|
|     |      |     |     | PH    | PH  | Ped   | Mode      |         | Min | Max | F. Off |
| 1   | 13   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 2   | 45   | 0   | 0   | X     | X   |       | Fix       | Max Rcl | 0   | 0   | Float  |
| 3   | 20   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 4   | 12   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 5   | 13   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 6   | 45   | 0   | 0   | X     | X   |       | Fix       | Max Rcl | 0   | 0   | Float  |
| 7   | 12   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 8   | 20   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 9   | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 10  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 11  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 12  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 13  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 14  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 15  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 16  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |

Split 3

| PH. | Time | Min | Max | Coord | Ref | Cover | Force Off | Mode    | Pri | Pri | Pri    |
|-----|------|-----|-----|-------|-----|-------|-----------|---------|-----|-----|--------|
|     |      |     |     | PH    | PH  | Ped   | Mode      |         | Min | Max | F. Off |
| 1   | 13   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 2   | 84   | 0   | 0   | X     | X   |       | Fix       | Max Rcl | 0   | 0   | Float  |
| 3   | 30   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 4   | 13   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 5   | 20   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 6   | 77   | 0   | 0   | X     | X   |       | Fix       | Max Rcl | 0   | 0   | Float  |
| 7   | 20   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 8   | 23   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 9   | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 10  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 11  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 12  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 13  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 14  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 15  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 16  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |

Split 4

| PH. | Time | Min | Max | Coord | Ref | Cover | Force Off | Mode | Pri | Pri | Pri    |
|-----|------|-----|-----|-------|-----|-------|-----------|------|-----|-----|--------|
|     |      |     |     | PH    | PH  | Ped   | Mode      |      | Min | Max | F. Off |
| 1   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 2   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 3   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 4   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 5   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 6   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 7   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |





|                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ped Service Limit | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Pre Green         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pre Clearance     | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

|                    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phases             | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  |
| Pre Clearance 2    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Red Clear Ext Max  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Red Clear Ext Pass | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Jump         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Adv Warning Ext    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Phase Options**

|                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
|---------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| Phases              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Enable              | X | X | X | X | X | X | X | X |   |    |    |    |    |    |    |    |    |    |    |    |
| Auto Flash Ent.     |   | X |   |   |   | X |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Auto Flash Exit     |   | X |   |   |   | X |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Non Actuated I      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Non Actuated II     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Non Lock Mem        | X | X | X | X | X | X | X | X |   |    |    |    |    |    |    |    |    |    |    |    |
| Min Veh Recall      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Max Veh Recall      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Recall          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Soft Veh Recall     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Dual Entry          |   |   |   | X |   |   |   | X |   |    |    |    |    |    |    |    |    |    |    |    |
| Sim Gap Dis         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Guaranteed Pass     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Act Rest Walk       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Cond Service        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Add Initial         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Clr During Yel  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Clr During Red  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Cond Reservice      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Yel Min Override    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| No Startup Call     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Adv. Warn Flasher   |   | X |   |   |   | X |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| No Ped Str Up Call  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Clr OVTG        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Flash Exit Call     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Flash Exit Ped Call |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| MinGreen2           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| MaxGreen2           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| MaxGreen3           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped2                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Clear Pre Clear |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped NA+ Mode        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Red Rest            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Serve Evy Oth Even  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Serve Evy Oth Odd   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Coord Ped Yield     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Recycle         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Coutdown            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |

**No Serve Phases**

|            |                 |            |                 |            |                 |            |                 |
|------------|-----------------|------------|-----------------|------------|-----------------|------------|-----------------|
| Sequence 1 |                 | Sequence 2 |                 | Sequence 3 |                 | Sequence 4 |                 |
| Ph.        | No Serve Phases | Ph.        | No Serve Phases | Ph.        | No Serve Phases | Ph.        | No Serve Phases |
| 1          |                 | 1          |                 | 1          |                 | 1          |                 |
| 2          |                 | 2          |                 | 2          |                 | 2          |                 |

|   |  |   |  |   |  |   |  |
|---|--|---|--|---|--|---|--|
| 3 |  | 3 |  | 3 |  | 3 |  |
| 4 |  | 4 |  | 4 |  | 4 |  |
| 5 |  | 5 |  | 5 |  | 5 |  |
| 6 |  | 6 |  | 6 |  | 6 |  |
| 7 |  | 7 |  | 7 |  | 7 |  |
| 8 |  | 8 |  | 8 |  | 8 |  |

|            |  |            |  |            |  |            |  |
|------------|--|------------|--|------------|--|------------|--|
| Sequence 1 |  | Sequence 2 |  | Sequence 3 |  | Sequence 4 |  |
| 9          |  | 9          |  | 9          |  | 9          |  |
| 10         |  | 10         |  | 10         |  | 10         |  |
| 11         |  | 11         |  | 11         |  | 11         |  |
| 12         |  | 12         |  | 12         |  | 12         |  |
| 13         |  | 13         |  | 13         |  | 13         |  |
| 14         |  | 14         |  | 14         |  | 14         |  |
| 15         |  | 15         |  | 15         |  | 15         |  |
| 16         |  | 16         |  | 16         |  | 16         |  |

**Phase Configuration**

| Ph. | Startup       | Ring | Concurrent | Startup Min | Description |
|-----|---------------|------|------------|-------------|-------------|
| 1   | Phase Not On  | 1    | 5,6        | 0           |             |
| 2   | Green No Walk | 1    | 5,6        | 0           |             |
| 3   | Phase Not On  | 1    | 7,8        | 0           |             |
| 4   | Phase Not On  | 1    | 7,8        | 0           |             |
| 5   | Phase Not On  | 2    | 1,2        | 0           |             |
| 6   | Green No Walk | 2    | 1,2        | 0           |             |
| 7   | Phase Not On  | 2    | 3,4        | 0           |             |
| 8   | Phase Not On  | 2    | 3,4        | 0           |             |
| 9   | None          | 0    |            | 0           |             |
| 10  | None          | 0    |            | 0           |             |
| 11  | None          | 0    |            | 0           |             |
| 12  | None          | 0    |            | 0           |             |
| 13  | None          | 0    |            | 0           |             |
| 14  | None          | 0    |            | 0           |             |
| 15  | None          | 0    |            | 0           |             |
| 16  | None          | 0    |            | 0           |             |
| 17  | None          | 0    |            | 0           |             |
| 18  | None          | 0    |            | 0           |             |
| 19  | None          | 0    |            | 0           |             |
| 20  | None          | 0    |            | 0           |             |

**Sequence Configuration**

| Sequence 1 |             | Sequence 2 |             | Sequence 3 |             | Sequence 4 |             |
|------------|-------------|------------|-------------|------------|-------------|------------|-------------|
| Ring       | Phases      | Ring       | Phases      | Ring       | Phases      | Ring       | Phases      |
| 1          | 1,2,a,3,4,b | 1          | 1,2,a,4,3,b | 1          | 2,1,a,4,3,b | 1          | 2,1,a,4,3,b |
| 2          | 5,6,a,7,8,b | 2          | 5,6,a,8,7,b | 2          | 6,5,a,8,7,b | 2          | 5,6,a,7,8,b |
| 3          |             | 3          |             | 3          |             | 3          |             |
| 4          |             | 4          |             | 4          |             | 4          |             |
| 5          |             | 5          |             | 5          |             | 5          |             |
| 6          |             | 6          |             | 6          |             | 6          |             |
| 7          |             | 7          |             | 7          |             | 7          |             |
| 8          |             | 8          |             | 8          |             | 8          |             |
| 9          |             | 9          |             | 9          |             | 9          |             |
| 10         |             | 10         |             | 10         |             | 10         |             |
| 11         |             | 11         |             | 11         |             | 11         |             |
| 12         |             | 12         |             | 12         |             | 12         |             |
| 13         |             | 13         |             | 13         |             | 13         |             |
| 14         |             | 14         |             | 14         |             | 14         |             |



|    |  |
|----|--|
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 15 |  |
| 16 |  |

**Sequence 5**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,3,4,b |
| 2    | 6,5,a,7,8,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |

**Sequence 6**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,3,4,b |
| 2    | 6,5,a,7,8,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |

**Sequence 7**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,4,3,b |
| 2    | 6,5,a,7,8,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |

**Sequence 8**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,4,3,b |
| 2    | 6,5,a,7,8,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |

**Sequence 5**

|    |  |
|----|--|
| 7  |  |
| 8  |  |
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 6**

|    |  |
|----|--|
| 7  |  |
| 8  |  |
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 7**

|    |  |
|----|--|
| 7  |  |
| 8  |  |
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 8**

|    |  |
|----|--|
| 7  |  |
| 8  |  |
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 9**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,3,4,b |
| 2    | 5,6,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |
| 13   |             |
| 14   |             |
| 15   |             |
| 16   |             |

**Sequence 10**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,3,4,b |
| 2    | 5,6,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |
| 13   |             |
| 14   |             |
| 15   |             |
| 16   |             |

**Sequence 11**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,4,3,b |
| 2    | 5,6,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |
| 13   |             |
| 14   |             |
| 15   |             |
| 16   |             |

**Sequence 12**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,4,3,b |
| 2    | 5,6,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |
| 13   |             |
| 14   |             |
| 15   |             |
| 16   |             |

**Sequence 13**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,3,4,b |
| 2    | 6,5,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |

**Sequence 14**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,3,4,b |
| 2    | 6,5,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |

**Sequence 15**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,4,3,b |
| 2    | 6,5,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |

**Sequence 16**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,4,3,b |
| 2    | 6,5,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |

|    |  |
|----|--|
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 17**

| Ring | Phases |
|------|--------|
| 1    |        |
| 2    |        |
| 3    |        |
| 4    |        |
| 5    |        |
| 6    |        |
| 7    |        |
| 8    |        |

**Sequence 18**

| Ring | Phases |
|------|--------|
| 1    |        |
| 2    |        |
| 3    |        |
| 4    |        |
| 5    |        |
| 6    |        |
| 7    |        |
| 8    |        |

**Sequence 19**

| Ring | Phases |
|------|--------|
| 1    |        |
| 2    |        |
| 3    |        |
| 4    |        |
| 5    |        |
| 6    |        |
| 7    |        |
| 8    |        |

**Sequence 20**

| Ring | Phases |
|------|--------|
| 1    |        |
| 2    |        |
| 3    |        |
| 4    |        |
| 5    |        |
| 6    |        |
| 7    |        |
| 8    |        |

**Sequence 17**

|    |  |
|----|--|
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 18**

|    |  |
|----|--|
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 19**

|    |  |
|----|--|
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 20**

|    |  |
|----|--|
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Global Phase Recalls**

|               | Phase | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 |
|---------------|-------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Min           |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Max           |       | X |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Ped           |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Act Walk Rest |       |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**Global Veh Det Diagnostics**

|                       |         |
|-----------------------|---------|
| Global No Activity    | 0       |
| Global Max Presence   | 0       |
| Global Erractic Count | 0       |
| Global Failed Recall  | None    |
| Detector Reset Enable | Enabled |

**Global Ped Det Diagnostics**

|                       |   |
|-----------------------|---|
| Global No Activity    | 0 |
| Global Max Presence   | 0 |
| Global Erractic Count | 0 |

**Global Pri/Pre Det Diag**

|                       |   |
|-----------------------|---|
| Global No Activity    | 0 |
| Global Max Presence   | 0 |
| Global Erractic Count | 0 |

**Vehicle Detection Parameters**

| Det. | Call Phs | Call Ped | Call Ovl | Add Call Phases | Sw Phs | Delay | Extend | Queue Limit | Ext Hold | No Activity | Max Pres | Erratic Counts | Failed Time | Failed Recall | Fail Link | Description |
|------|----------|----------|----------|-----------------|--------|-------|--------|-------------|----------|-------------|----------|----------------|-------------|---------------|-----------|-------------|
| 1    | 1        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 2    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 3    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 4    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 5    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 6    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 7    | 3        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 8    | 4        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 9    | 7        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 10   | 4        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 11   | 4        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 12   | 4        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 13   | 1        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 14   | 3        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 15   | 5        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |

|    |   |   |   |  |   |     |     |   |     |   |   |   |   |      |   |  |
|----|---|---|---|--|---|-----|-----|---|-----|---|---|---|---|------|---|--|
| 16 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 17 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 18 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 19 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 20 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 21 | 7 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 22 | 8 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 23 | 3 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 24 | 8 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 25 | 8 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 26 | 8 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 27 | 5 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 28 | 7 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 29 | 0 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 30 | 0 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 31 | 0 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 32 | 0 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |

| Det. | Call | Call | Call | Add Call Phases | Sw  |       |        | Queue Limit | Ext Hold | No Activity | Max Pres | Erratic Counts | Failed Time | Failed Recall | Fail Link | Description |
|------|------|------|------|-----------------|-----|-------|--------|-------------|----------|-------------|----------|----------------|-------------|---------------|-----------|-------------|
|      | Phs  | Ped  | Ovl  |                 | Phs | Delay | Extend |             |          |             |          |                |             |               |           |             |
| 33   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 34   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 35   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 36   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 37   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 38   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 39   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 40   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 41   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 42   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 43   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 44   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 45   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 46   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 47   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 48   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 49   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 50   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 51   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 52   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 53   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 54   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 55   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 56   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 57   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 58   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 59   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 60   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 61   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 62   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 63   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 64   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 65   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 66   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 67   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 68   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 69   | 0    | 0    | 0    |                 | 0   | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |

|    |   |   |   |   |   |     |     |   |     |   |   |   |   |   |   |      |   |
|----|---|---|---|---|---|-----|-----|---|-----|---|---|---|---|---|---|------|---|
| 70 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | None | 0 |
| 71 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | None | 0 |
| 72 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | None | 0 |

**Vehicle Detection Options**

| Detector         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| Volume Detector  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Occupancy        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Yellow Lock Call |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Red Lock call    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Extend           | X | X | X | X | X | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| Added Initial    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Queue            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Call             | X | X | X | X | X | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| Terminate        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Min Green 2      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Protected Perm   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Disable Dly Lead |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Disable TS2 Diag |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |

| Detector         | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Volume Detector  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Occupancy        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yellow Lock Call |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Red Lock call    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Extend           | X  | X  | X  | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |
| Added Initial    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Queue            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Call             | X  | X  | X  | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |
| Terminate        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Min Green 2      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Protected Perm   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Disable Dly Lead |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Disable TS2 Diag |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

| Detector         | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Volume Detector  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Occupancy        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yellow Lock Call |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Red Lock call    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Extend           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Added Initial    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Queue            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Call             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Terminate        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Min Green 2      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Protected Perm   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Disable Dly Lead |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Disable TS2 Diag |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

| Detector         | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 |
|------------------|----|----|----|----|----|----|----|----|----|----|----|----|
| Volume Detector  |    |    |    |    |    |    |    |    |    |    |    |    |
| Occupancy        |    |    |    |    |    |    |    |    |    |    |    |    |
| Yellow Lock Call |    |    |    |    |    |    |    |    |    |    |    |    |
| Red Lock call    |    |    |    |    |    |    |    |    |    |    |    |    |
| Extend           |    |    |    |    |    |    |    |    |    |    |    |    |
| Added Initial    |    |    |    |    |    |    |    |    |    |    |    |    |
| Queue            |    |    |    |    |    |    |    |    |    |    |    |    |

|                        |   |
|------------------------|---|
| Data Collection Period | 0 |
| Number of Periods      | 1 |

|                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Call             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Terminate        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Min Green 2      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Protected Perm   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Disable Dly Lead |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Disable TS2 Diag |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Speed Detectors**

| Det | Enable | Type   | Units  | Min |     | Max |     | Car Length | Det Length | Trail Det | Trap Length |
|-----|--------|--------|--------|-----|-----|-----|-----|------------|------------|-----------|-------------|
|     |        |        |        | Log | Log | Log | Log |            |            |           |             |
| 1   |        | Single | Inches | 5   | 80  | 0   | 0   | 0          | 0          | 0         | 0           |
| 2   |        | Single | Inches | 5   | 80  | 0   | 0   | 0          | 0          | 0         | 0           |
| 3   |        | Single | Inches | 5   | 80  | 0   | 0   | 0          | 0          | 0         | 0           |
| 4   |        | Single | Inches | 5   | 80  | 0   | 0   | 0          | 0          | 0         | 0           |
| 5   |        | Single | Inches | 5   | 80  | 0   | 0   | 0          | 0          | 0         | 0           |
| 6   |        | Single | Inches | 5   | 80  | 0   | 0   | 0          | 0          | 0         | 0           |
| 7   |        | Single | Inches | 5   | 80  | 0   | 0   | 0          | 0          | 0         | 0           |
| 8   |        | Single | Inches | 5   | 80  | 0   | 0   | 0          | 0          | 0         | 0           |

**Pedestrian Detectors**

| Det | Call Phs | Call Ovp | Add Call Phs | Walk 2 | Clear 2 | No Act | Max Pres | Erratic Count |
|-----|----------|----------|--------------|--------|---------|--------|----------|---------------|
|     |          |          |              |        |         |        |          |               |
| 2   | 2        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 3   | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 4   | 4        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 5   | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 6   | 6        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 7   | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 8   | 8        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 9   | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 10  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 11  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 12  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 13  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 14  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 15  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 16  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 17  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 18  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 19  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 20  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |

| Det | Call Phs | Call Ovp | Add Call Phs | Walk 2 | Clear 2 | No Act | Max Pres | Erratic Count |
|-----|----------|----------|--------------|--------|---------|--------|----------|---------------|
|     |          |          |              |        |         |        |          |               |
| 22  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 23  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 24  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 25  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 26  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 27  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 28  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 29  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 30  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 31  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 32  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 33  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 34  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 35  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 36  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 37  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 38  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 39  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |
| 40  | 0        | 0        |              | 0      | 0       | 0      | 0        | 0             |

**Pri/Pre Detectors**

| Det | Description | Low Call | High Call | Low |     | high |      | Lead/Trail | Arrival Time | Pri Delay | Delay | Ext | Min On | Pri Ovp | No Act | Max Pres | Erratic Count |
|-----|-------------|----------|-----------|-----|-----|------|------|------------|--------------|-----------|-------|-----|--------|---------|--------|----------|---------------|
|     |             |          |           | Num | Num | Num  | Num  |            |              |           |       |     |        |         |        |          |               |
| 1   |             | None     | None      | 0   | 0   | None | None | 0          | 0            | 0         | 0     | 0   | 0      |         | 0      | 0        | 0             |
| 2   |             | None     | None      | 0   | 0   | None | None | 0          | 0            | 0         | 0     | 0   | 0      |         | 0      | 0        | 0             |
| 3   |             | None     | None      | 0   | 0   | None | None | 0          | 0            | 0         | 0     | 0   | 0      |         | 0      | 0        | 0             |
| 4   |             | None     | None      | 0   | 0   | None | None | 0          | 0            | 0         | 0     | 0   | 0      |         | 0      | 0        | 0             |
| 5   |             | None     | None      | 0   | 0   | None | None | 0          | 0            | 0         | 0     | 0   | 0      |         | 0      | 0        | 0             |
| 6   |             | None     | None      | 0   | 0   | None | None | 0          | 0            | 0         | 0     | 0   | 0      |         | 0      | 0        | 0             |
| 7   |             | None     | None      | 0   | 0   | None | None | 0          | 0            | 0         | 0     | 0   | 0      |         | 0      | 0        | 0             |
| 8   |             | None     | None      | 0   | 0   | None | None | 0          | 0            | 0         | 0     | 0   | 0      |         | 0      | 0        | 0             |

**Overlaps**

| OLP | Enabled  | Type | Included Phs | Modifier Phs | Modifier Ovlps | Neg Phases | Inhibit Neg Phs | Neg Ovlps |
|-----|----------|------|--------------|--------------|----------------|------------|-----------------|-----------|
| 1   | Disabled | Off  | 2            | 1            |                |            |                 |           |
| 2   | Enabled  | Off  |              |              |                |            |                 |           |

|    |          |     |   |   |  |  |  |  |
|----|----------|-----|---|---|--|--|--|--|
| 3  | Disabled | Off | 4 | 3 |  |  |  |  |
| 4  | Enabled  | Off |   |   |  |  |  |  |
| 5  | Disabled | Off | 6 | 5 |  |  |  |  |
| 6  | Enabled  | Off |   |   |  |  |  |  |
| 7  | Disabled | Off | 8 | 7 |  |  |  |  |
| 8  | Enabled  | Off |   |   |  |  |  |  |
| 9  | Enabled  | Off |   |   |  |  |  |  |
| 10 | Enabled  | Off |   |   |  |  |  |  |
| 11 | Enabled  | Off |   |   |  |  |  |  |
| 12 | Enabled  | Off |   |   |  |  |  |  |
| 13 | Enabled  | Off |   |   |  |  |  |  |
| 14 | Enabled  | Off |   |   |  |  |  |  |
| 15 | Enabled  | Off |   |   |  |  |  |  |
| 16 | Enabled  | Off |   |   |  |  |  |  |

| OLP | TrG Omit Phs | Negative Peds | Neg Ped Ovlp | Grn Sup Phs | N Ped Phs Calls | Description |
|-----|--------------|---------------|--------------|-------------|-----------------|-------------|
| 1   |              |               |              |             |                 |             |
| 2   |              |               |              |             |                 |             |
| 3   |              |               |              |             |                 |             |
| 4   |              |               |              |             |                 |             |
| 5   |              |               |              |             |                 |             |
| 6   |              |               |              |             |                 |             |

| OLP | TrG Omit Phs | Negative Peds | Neg Ped Ovlp | Grn Sup Phs | N Ped Phs Calls | Description |
|-----|--------------|---------------|--------------|-------------|-----------------|-------------|
| 7   |              |               |              |             |                 |             |
| 8   |              |               |              |             |                 |             |
| 9   |              |               |              |             |                 |             |
| 10  |              |               |              |             |                 |             |
| 11  |              |               |              |             |                 |             |
| 12  |              |               |              |             |                 |             |
| 13  |              |               |              |             |                 |             |
| 14  |              |               |              |             |                 |             |
| 15  |              |               |              |             |                 |             |
| 16  |              |               |              |             |                 |             |

| OLP | Trail | Trail | Trail | Walk | Ped   | Walk | Ped   |       |       | Min   | Mx Grn | Red    | Flash    | Flash | Walk |
|-----|-------|-------|-------|------|-------|------|-------|-------|-------|-------|--------|--------|----------|-------|------|
|     | GRN   | YEL   | RED   | 1    | Clr 1 | 2    | Clr 2 | Delay | Flash | Green | Ext    | Revert | Inactive | Alt   | Rest |
| 1   | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | On    | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 2   | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | Off   | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 3   | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | On    | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 4   | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | Off   | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 5   | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | On    | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 6   | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | Off   | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 7   | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | On    | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 8   | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | Off   | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 9   | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | Off   | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 10  | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | Off   | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 11  | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | Off   | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 12  | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | Off   | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 13  | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | Off   | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 14  | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | Off   | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 15  | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | Off   | 0     | 0      | 0.0    | Off      | Off   | Off  |
| 16  | 0     | 0.0   | 0.0   | 0    | 0     | 0    | 0     | 0.0   | Off   | 0     | 0      | 0.0    | Off      | Off   | Off  |

| Overlap Options |   |   |   |   |   |   |   |   |   | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Overlap         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Startup Call    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Recall          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

| Overlap Options  |   |   |   |   |   |   |   |   |   | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Overlap          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Call for Service |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Trail Grn Bridge |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

|                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| No Veh Reserv      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| No Hold Trail Exit |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Ped Recycle        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| No Yellow Protect  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| No Bridging        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| LRT Prepare Go     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

|                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| FYA Prot. Red C    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Phs Intvl Override |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Queue Jump         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| No FYA Ped Wlk     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Term After Call    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

**Custom Overlap Rules**

| Rule | Custom Ovp | Incl. State | Mod. State | Neg. State | Output  | Flash   |
|------|------------|-------------|------------|------------|---------|---------|
| 1    | Disable    | Any         |            | Any        | Not Set | Not Set |
| 2    | Disable    | Any         |            | Any        | Not Set | Not Set |
| 3    | Disable    | Any         |            | Any        | Not Set | Not Set |
| 4    | Disable    | Any         |            | Any        | Not Set | Not Set |
| 5    | Disable    | Any         |            | Any        | Not Set | Not Set |
| 6    | Disable    | Any         |            | Any        | Not Set | Not Set |
| 7    | Disable    | Any         |            | Any        | Not Set | Not Set |
| 8    | Disable    | Any         |            | Any        | Not Set | Not Set |
| 9    | Disable    | Any         |            | Any        | Not Set | Not Set |
| 10   | Disable    | Any         |            | Any        | Not Set | Not Set |

**Coordination Parameters**

|                   |                 |                      |             |                 |    |
|-------------------|-----------------|----------------------|-------------|-----------------|----|
| Operational Mode  | Automatic       | Maximum Mode         | Per Pattern | Max Cyc Limit % | 15 |
| Coordination Mode | Pattern         | Force Mode           | Per Pattern | Min Cyc Limit % | 15 |
| Correction Mode   | Shortway (Auto) | Transition Cover Ped | Pattern     | Max Dwell       | 0  |

**Patterns**

| Patt. | Cycle | Offset |   |   |       |     | Ref | Coord | Force | Max | Trans | Min      | Phs | Det | Ped | Ovp | Pri | Description |
|-------|-------|--------|---|---|-------|-----|-----|-------|-------|-----|-------|----------|-----|-----|-----|-----|-----|-------------|
|       |       | 1      | 2 | 3 | Split | Seq |     |       |       |     |       |          |     |     |     |     |     |             |
| 1     | 140   | 110    | 0 | 0 | 1     | 1   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   | AM          |
| 2     | 90    | 36     | 0 | 0 | 2     | 3   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   | MID         |
| 3     | 140   | 68     | 0 | 0 | 3     | 2   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   | PM          |
| 4     | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 5     | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 6     | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 7     | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 8     | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 9     | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 10    | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 11    | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 12    | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 13    | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 14    | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 15    | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 16    | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 17    | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 18    | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 19    | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |
| 20    | 0     | 0      | 0 | 0 | 0     | 0   | Yel | Auto  | Fixed | Inh | Phase | Phs Only | 1   | 1   | 1   | 1   | 1   |             |

**Split Parameters**

| Split 1 |      |     |     | Coord | Ref | Cover | Force Off | Mode    | Mode | Pri | Pri   | Pri |
|---------|------|-----|-----|-------|-----|-------|-----------|---------|------|-----|-------|-----|
| PH.     | Time | Min | Max |       |     |       |           |         |      |     |       |     |
| 1       | 35   | 0   | 0   |       |     |       | Fix       | None    | 0    | 0   | Float |     |
| 2       | 45   | 0   | 0   | X     | X   |       | Fix       | Max Rcl | 0    | 0   | Float |     |
| 3       | 15   | 0   | 0   |       |     |       | Fix       | None    | 0    | 0   | Float |     |
| 4       | 45   | 0   | 0   |       |     |       | Fix       | None    | 0    | 0   | Float |     |
| 5       | 23   | 0   | 0   |       |     |       | Fix       | None    | 0    | 0   | Float |     |
| 6       | 57   | 0   | 0   | X     | X   |       | Fix       | Max Rcl | 0    | 0   | Float |     |

|    |    |   |   |  |  |  |     |      |   |   |       |
|----|----|---|---|--|--|--|-----|------|---|---|-------|
| 7  | 15 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 8  | 45 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 9  | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 10 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 11 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 12 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 13 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 14 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 15 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 16 | 0  | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |

Split 2

| PH. | Time | Min | Max | Coord | Ref | Cover | Force Off | Mode    | Pri | Pri | Pri    |
|-----|------|-----|-----|-------|-----|-------|-----------|---------|-----|-----|--------|
|     |      |     |     | PH    | PH  | Ped   | Mode      |         | Min | Max | F. Off |
| 1   | 14   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 2   | 38   | 0   | 0   | X     | X   |       | Fix       | Max Rcl | 0   | 0   | Float  |
| 3   | 13   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 4   | 25   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 5   | 19   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 6   | 33   | 0   | 0   | X     | X   |       | Fix       | Max Rcl | 0   | 0   | Float  |
| 7   | 13   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 8   | 25   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 9   | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 10  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 11  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 12  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 13  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 14  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 15  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 16  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |

Split 3

| PH. | Time | Min | Max | Coord | Ref | Cover | Force Off | Mode    | Pri | Pri | Pri    |
|-----|------|-----|-----|-------|-----|-------|-----------|---------|-----|-----|--------|
|     |      |     |     | PH    | PH  | Ped   | Mode      |         | Min | Max | F. Off |
| 1   | 20   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 2   | 58   | 0   | 0   | X     | X   |       | Fix       | Max Rcl | 0   | 0   | Float  |
| 3   | 13   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 4   | 49   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 5   | 41   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 6   | 37   | 0   | 0   | X     | X   |       | Fix       | Max Rcl | 0   | 0   | Float  |
| 7   | 13   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 8   | 49   | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 9   | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 10  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 11  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 12  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 13  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 14  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 15  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |
| 16  | 0    | 0   | 0   |       |     |       | Fix       | None    | 0   | 0   | Float  |

Split 4

| PH. | Time | Min | Max | Coord | Ref | Cover | Force Off | Mode | Pri | Pri | Pri    |
|-----|------|-----|-----|-------|-----|-------|-----------|------|-----|-----|--------|
|     |      |     |     | PH    | PH  | Ped   | Mode      |      | Min | Max | F. Off |
| 1   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 2   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 3   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 4   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 5   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 6   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 7   | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |



|    |   |   |   |  |  |  |     |      |   |   |       |
|----|---|---|---|--|--|--|-----|------|---|---|-------|
| 8  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 9  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 10 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 11 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 12 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 13 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 14 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 15 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 16 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |

Split 5

| PH. | Time | Min | Max | Coord PH | Ref PH | Cover Ped | Force Off |      | Pri Min | Pri Max | Pri F. Off |
|-----|------|-----|-----|----------|--------|-----------|-----------|------|---------|---------|------------|
|     |      |     |     |          |        |           | Mode      | Mode |         |         |            |
| 1   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 2   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 3   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 4   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 5   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 6   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 7   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 8   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 9   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 10  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 11  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 12  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 13  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 14  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 15  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 16  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |

Split 6

| PH. | Time | Min | Max | Coord PH | Ref PH | Cover Ped | Force Off |      | Pri Min | Pri Max | Pri F. Off |
|-----|------|-----|-----|----------|--------|-----------|-----------|------|---------|---------|------------|
|     |      |     |     |          |        |           | Mode      | Mode |         |         |            |
| 1   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 2   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |

Split 6

| PH. | Time | Min | Max | Coord PH | Ref PH | Cover Ped | Force Off |      | Pri Min | Pri Max | Pri F. Off |
|-----|------|-----|-----|----------|--------|-----------|-----------|------|---------|---------|------------|
|     |      |     |     |          |        |           | Mode      | Mode |         |         |            |
| 3   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 4   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 5   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 6   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 7   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 8   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 9   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 10  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 11  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 12  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 13  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 14  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 15  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 16  | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |

Split 7

| PH. | Time | Min | Max | Coord PH | Ref PH | Cover Ped | Force Off |      | Pri Min | Pri Max | Pri F. Off |
|-----|------|-----|-----|----------|--------|-----------|-----------|------|---------|---------|------------|
|     |      |     |     |          |        |           | Mode      | Mode |         |         |            |
| 1   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 2   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 3   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |
| 4   | 0    | 0   | 0   |          |        |           | Fix       | None | 0       | 0       | Float      |

|    |   |   |   |  |  |  |     |      |   |   |       |
|----|---|---|---|--|--|--|-----|------|---|---|-------|
| 5  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 6  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 7  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 8  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 9  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 10 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 11 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 12 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 13 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 14 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 15 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 16 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |

| Split 8 |      |     |     | Coord | Ref | Cover | Force Off |      | Pri | Pri | Pri    |
|---------|------|-----|-----|-------|-----|-------|-----------|------|-----|-----|--------|
| PH.     | Time | Min | Max | PH    | PH  | Ped   | Mode      | Mode | Min | Max | F. Off |
| 1       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 2       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 3       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 4       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 5       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 6       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 7       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 8       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 9       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 10      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 11      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 12      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 13      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 14      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 15      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 16      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |

| Split 9 |      |     |     | Coord | Ref | Cover | Force Off |      | Pri | Pri | Pri    |
|---------|------|-----|-----|-------|-----|-------|-----------|------|-----|-----|--------|
| PH.     | Time | Min | Max | PH    | PH  | Ped   | Mode      | Mode | Min | Max | F. Off |
| 1       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 2       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 3       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 4       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |

| Split 9 |      |     |     | Coord | Ref | Cover | Force Off |      | Pri | Pri | Pri    |
|---------|------|-----|-----|-------|-----|-------|-----------|------|-----|-----|--------|
| PH.     | Time | Min | Max | PH    | PH  | Ped   | Mode      | Mode | Min | Max | F. Off |
| 5       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 6       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 7       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 8       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 9       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 10      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 11      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 12      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 13      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 14      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 15      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 16      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |

| Split 10 |      |     |     | Coord | Ref | Cover | Force Off |      | Pri | Pri | Pri    |
|----------|------|-----|-----|-------|-----|-------|-----------|------|-----|-----|--------|
| PH.      | Time | Min | Max | PH    | PH  | Ped   | Mode      | Mode | Min | Max | F. Off |
| 1        | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 2        | 0    | 0   | 0   |       |     |       | Fix       | Non  |     |     |        |



|                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ped Service Limit | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   |
| Pre Green         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Pre Clearance     | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

|                    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|--------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Phases             | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  | 17  | 18  | 19  | 20  |
| Pre Clearance 2    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Red Clear Ext Max  | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Red Clear Ext Pass | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Queue Jump         | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Adv Warning Ext    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

**Phase Options**

|                     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
|---------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| Phases              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Enable              |   | X | X | X |   | X | X | X |   |    |    |    |    |    |    |    |    |    |    |    |
| Auto Flash Ent.     |   | X |   |   |   | X |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Auto Flash Exit     |   | X |   |   |   | X |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Non Actuated I      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Non Actuated II     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Non Lock Mem        | X | X | X | X | X | X | X | X |   |    |    |    |    |    |    |    |    |    |    |    |
| Min Veh Recall      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Max Veh Recall      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Recall          |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Soft Veh Recall     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Dual Entry          |   | X |   | X |   | X |   | X |   |    |    |    |    |    |    |    |    |    |    |    |
| Sim Gap Dis         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Guaranteed Pass     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Act Rest Walk       |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Cond Service        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Add Initial         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Clr During Yel  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Clr During Red  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Cond Reservice      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Yel Min Override    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| No Startup Call     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Adv. Warn Flasher   |   | X |   |   |   | X |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| No Ped Str Up Call  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Clr OVTG        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Flash Exit Call     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Flash Exit Ped Call |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| MinGreen2           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| MaxGreen2           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| MaxGreen3           |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped2                |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Clear Pre Clear |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped NA+ Mode        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Red Rest            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Serve Evy Oth Even  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Serve Evy Oth Odd   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Coord Ped Yield     |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Ped Recycle         |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Coutdown            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |

**No Serve Phases**

|            |                 |            |                 |            |                 |            |                 |
|------------|-----------------|------------|-----------------|------------|-----------------|------------|-----------------|
| Sequence 1 |                 | Sequence 2 |                 | Sequence 3 |                 | Sequence 4 |                 |
| Ph.        | No Serve Phases | Ph.        | No Serve Phases | Ph.        | No Serve Phases | Ph.        | No Serve Phases |
| 1          |                 | 1          |                 | 1          |                 | 1          |                 |
| 2          |                 | 2          |                 | 2          |                 | 2          |                 |

|   |  |   |  |   |  |   |  |
|---|--|---|--|---|--|---|--|
| 3 |  | 3 |  | 3 |  | 3 |  |
| 4 |  | 4 |  | 4 |  | 4 |  |
| 5 |  | 5 |  | 5 |  | 5 |  |
| 6 |  | 6 |  | 6 |  | 6 |  |
| 7 |  | 7 |  | 7 |  | 7 |  |
| 8 |  | 8 |  | 8 |  | 8 |  |

|            |  |            |  |            |  |            |  |
|------------|--|------------|--|------------|--|------------|--|
| Sequence 1 |  | Sequence 2 |  | Sequence 3 |  | Sequence 4 |  |
| 9          |  | 9          |  | 9          |  | 9          |  |
| 10         |  | 10         |  | 10         |  | 10         |  |
| 11         |  | 11         |  | 11         |  | 11         |  |
| 12         |  | 12         |  | 12         |  | 12         |  |
| 13         |  | 13         |  | 13         |  | 13         |  |
| 14         |  | 14         |  | 14         |  | 14         |  |
| 15         |  | 15         |  | 15         |  | 15         |  |
| 16         |  | 16         |  | 16         |  | 16         |  |

**Phase Configuration**

| Ph. | Startup       | Ring | Concurrent | Startup Min | Description |
|-----|---------------|------|------------|-------------|-------------|
| 1   | Phase Not On  | 0    |            | 0           |             |
| 2   | Green No Walk | 1    | 6          | 0           |             |
| 3   | Phase Not On  | 1    | 7,8        | 0           |             |
| 4   | Phase Not On  | 1    | 7,8        | 0           |             |
| 5   | Phase Not On  | 0    |            | 0           |             |
| 6   | Green No Walk | 2    | 2          | 0           |             |
| 7   | Phase Not On  | 2    | 3,4        | 0           |             |
| 8   | Phase Not On  | 2    | 3,4        | 0           |             |
| 9   | None          | 0    |            | 0           |             |
| 10  | None          | 0    |            | 0           |             |
| 11  | None          | 0    |            | 0           |             |
| 12  | None          | 0    |            | 0           |             |
| 13  | None          | 0    |            | 0           |             |
| 14  | None          | 0    |            | 0           |             |
| 15  | None          | 0    |            | 0           |             |
| 16  | None          | 0    |            | 0           |             |
| 17  | None          | 0    |            | 0           |             |
| 18  | None          | 0    |            | 0           |             |
| 19  | None          | 0    |            | 0           |             |
| 20  | None          | 0    |            | 0           |             |

**Sequence Configuration**

| Sequence 1 |           | Sequence 2 |           | Sequence 3 |             | Sequence 4 |             |
|------------|-----------|------------|-----------|------------|-------------|------------|-------------|
| Ring       | Phases    | Ring       | Phases    | Ring       | Phases      | Ring       | Phases      |
| 1          | 2,a,3,4,b | 1          | 2,a,4,3,b | 1          | 1,2,a,4,3,b | 1          | 2,1,a,4,3,b |
| 2          | 6,a,7,8,b | 2          | 6,a,8,7,b | 2          | 5,6,a,7,8,b | 2          | 5,6,a,7,8,b |
| 3          |           | 3          |           | 3          |             | 3          |             |
| 4          |           | 4          |           | 4          |             | 4          |             |
| 5          |           | 5          |           | 5          |             | 5          |             |
| 6          |           | 6          |           | 6          |             | 6          |             |
| 7          |           | 7          |           | 7          |             | 7          |             |
| 8          |           | 8          |           | 8          |             | 8          |             |
| 9          |           | 9          |           | 9          |             | 9          |             |
| 10         |           | 10         |           | 10         |             | 10         |             |
| 11         |           | 11         |           | 11         |             | 11         |             |
| 12         |           | 12         |           | 12         |             | 12         |             |
| 13         |           | 13         |           | 13         |             | 13         |             |
| 14         |           | 14         |           | 14         |             | 14         |             |

|    |  |
|----|--|
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 15 |  |
| 16 |  |

**Sequence 5**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,3,4,b |
| 2    | 6,5,a,7,8,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |

**Sequence 6**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,3,4,b |
| 2    | 6,5,a,7,8,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |

**Sequence 7**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,4,3,b |
| 2    | 6,5,a,7,8,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |

**Sequence 8**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,4,3,b |
| 2    | 6,5,a,7,8,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |

**Sequence 5**

|    |  |
|----|--|
| 7  |  |
| 8  |  |
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 6**

|    |  |
|----|--|
| 7  |  |
| 8  |  |
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 7**

|    |  |
|----|--|
| 7  |  |
| 8  |  |
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 8**

|    |  |
|----|--|
| 7  |  |
| 8  |  |
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 9**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,3,4,b |
| 2    | 5,6,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |
| 13   |             |
| 14   |             |
| 15   |             |
| 16   |             |

**Sequence 10**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,3,4,b |
| 2    | 5,6,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |
| 13   |             |
| 14   |             |
| 15   |             |
| 16   |             |

**Sequence 11**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,4,3,b |
| 2    | 5,6,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |
| 13   |             |
| 14   |             |
| 15   |             |
| 16   |             |

**Sequence 12**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,4,3,b |
| 2    | 5,6,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |
| 13   |             |
| 14   |             |
| 15   |             |
| 16   |             |

**Sequence 13**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,3,4,b |
| 2    | 6,5,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |

**Sequence 14**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,3,4,b |
| 2    | 6,5,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |

**Sequence 15**

| Ring | Phases      |
|------|-------------|
| 1    | 1,2,a,4,3,b |
| 2    | 6,5,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |

**Sequence 16**

| Ring | Phases      |
|------|-------------|
| 1    | 2,1,a,4,3,b |
| 2    | 6,5,a,8,7,b |
| 3    |             |
| 4    |             |
| 5    |             |
| 6    |             |
| 7    |             |
| 8    |             |
| 9    |             |
| 10   |             |
| 11   |             |
| 12   |             |

|    |  |
|----|--|
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

|    |  |
|----|--|
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 17**

| Ring | Phases |
|------|--------|
| 1    |        |
| 2    |        |
| 3    |        |
| 4    |        |
| 5    |        |
| 6    |        |
| 7    |        |
| 8    |        |

**Sequence 18**

| Ring | Phases |
|------|--------|
| 1    |        |
| 2    |        |
| 3    |        |
| 4    |        |
| 5    |        |
| 6    |        |
| 7    |        |
| 8    |        |

**Sequence 19**

| Ring | Phases |
|------|--------|
| 1    |        |
| 2    |        |
| 3    |        |
| 4    |        |
| 5    |        |
| 6    |        |
| 7    |        |
| 8    |        |

**Sequence 20**

| Ring | Phases |
|------|--------|
| 1    |        |
| 2    |        |
| 3    |        |
| 4    |        |
| 5    |        |
| 6    |        |
| 7    |        |
| 8    |        |

**Sequence 17**

|    |  |
|----|--|
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 18**

|    |  |
|----|--|
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 19**

|    |  |
|----|--|
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Sequence 20**

|    |  |
|----|--|
| 9  |  |
| 10 |  |
| 11 |  |
| 12 |  |
| 13 |  |
| 14 |  |
| 15 |  |
| 16 |  |

**Global Phase Recalls**

| Phase         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Min           |   |   |   | X |   |   |   |   | X |   |   |   |   |   |   |   |   |   |   |   |
| Max           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Ped           |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Act Walk Rest |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

**Global Veh Det Diagnostics**

|                       |         |
|-----------------------|---------|
| Global No Activity    | 0       |
| Global Max Presence   | 0       |
| Global Erractic Count | 0       |
| Global Failed Recall  | None    |
| Detector Reset Enable | Enabled |

**Global Ped Det Diagnostics**

|                       |   |
|-----------------------|---|
| Global No Activity    | 0 |
| Global Max Presence   | 0 |
| Global Erractic Count | 0 |

**Global Pri/Pre Det Diag**

|                       |   |
|-----------------------|---|
| Global No Activity    | 0 |
| Global Max Presence   | 0 |
| Global Erractic Count | 0 |

**Vehicle Detection Parameters**

| Det. | Call Phs | Call Ped | Call Ovl | Add Call Phases | Sw Phs | Delay | Extend | Queue Limit | Ext Hold | No Activity | Max Pres | Erratic Counts | Failed Time | Failed Recall | Fail Link | Description |
|------|----------|----------|----------|-----------------|--------|-------|--------|-------------|----------|-------------|----------|----------------|-------------|---------------|-----------|-------------|
| 1    | 1        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 2    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 3    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 4    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 5    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 6    | 2        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 7    | 3        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 8    | 4        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 9    | 7        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 10   | 4        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 11   | 4        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 12   | 4        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 13   | 1        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 14   | 3        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |
| 15   | 5        | 0        | 0        |                 | 0      | 0.0   | 0.0    | 0           | 0.0      | 0           | 0        | 0              | 0           | None          | 0         |             |

|    |   |   |   |  |   |     |     |   |     |   |   |   |   |      |   |  |
|----|---|---|---|--|---|-----|-----|---|-----|---|---|---|---|------|---|--|
| 16 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 17 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 18 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 19 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 20 | 6 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 21 | 7 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 22 | 8 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 23 | 3 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 24 | 8 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 25 | 8 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 26 | 8 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 27 | 5 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 28 | 7 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 29 | 0 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 30 | 0 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 31 | 0 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |
| 32 | 0 | 0 | 0 |  | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | None | 0 |  |

| Det. | Call | Call | Call | Add Call | Sw |        |     | Queue | Ext | No | Max | Erratic | Failed | Failed | Fail | Description |
|------|------|------|------|----------|----|--------|-----|-------|-----|----|-----|---------|--------|--------|------|-------------|
|      | Phs  | Ped  | Ovl  |          |    | Phases | Phs |       |     |    |     |         |        |        |      |             |
| 33   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 34   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 35   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 36   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 37   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 38   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 39   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 40   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 41   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 42   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 43   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 44   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 45   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 46   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 47   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 48   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 49   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 50   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 51   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 52   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 53   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 54   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 55   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 56   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 57   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 58   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 59   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 60   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 61   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 62   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 63   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 64   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 65   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 66   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 67   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 68   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |
| 69   | 0    | 0    | 0    |          | 0  | 0.0    | 0.0 | 0     | 0.0 | 0  | 0   | 0       | 0      | None   | 0    |             |



|    |   |   |   |   |   |     |     |   |     |   |   |   |   |   |   |      |   |
|----|---|---|---|---|---|-----|-----|---|-----|---|---|---|---|---|---|------|---|
| 70 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | None | 0 |
| 71 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | None | 0 |
| 72 | 0 | 0 | 0 | 0 | 0 | 0.0 | 0.0 | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 | None | 0 |

**Vehicle Detection Options**

| Detector         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| Volume Detector  |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Occupancy        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Yellow Lock Call |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Red Lock call    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Extend           | X | X | X | X | X | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| Added Initial    |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Queue            |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Call             | X | X | X | X | X | X | X | X | X | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  | X  |
| Terminate        |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Min Green 2      |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Protected Perm   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Disable Dly Lead |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
| Disable TS2 Diag |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |

| Detector         | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Volume Detector  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Occupancy        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yellow Lock Call |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Red Lock call    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Extend           | X  | X  | X  | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |
| Added Initial    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Queue            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Call             | X  | X  | X  | X  | X  | X  | X  | X  |    |    |    |    |    |    |    |    |    |    |    |    |
| Terminate        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Min Green 2      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Protected Perm   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Disable Dly Lead |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Disable TS2 Diag |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

| Detector         | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
|------------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| Volume Detector  |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Occupancy        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Yellow Lock Call |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Red Lock call    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Extend           |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Added Initial    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Queue            |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Call             |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Terminate        |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Min Green 2      |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Protected Perm   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Disable Dly Lead |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
| Disable TS2 Diag |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

| Detector         | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 |
|------------------|----|----|----|----|----|----|----|----|----|----|----|----|
| Volume Detector  |    |    |    |    |    |    |    |    |    |    |    |    |
| Occupancy        |    |    |    |    |    |    |    |    |    |    |    |    |
| Yellow Lock Call |    |    |    |    |    |    |    |    |    |    |    |    |
| Red Lock call    |    |    |    |    |    |    |    |    |    |    |    |    |
| Extend           |    |    |    |    |    |    |    |    |    |    |    |    |
| Added Initial    |    |    |    |    |    |    |    |    |    |    |    |    |
| Queue            |    |    |    |    |    |    |    |    |    |    |    |    |

|                        |   |
|------------------------|---|
| Data Collection Period | 0 |
| Number of Periods      | 1 |



|    |          |             |   |   |  |  |  |  |
|----|----------|-------------|---|---|--|--|--|--|
| 3  | Enabled  | FYA - 4 Sec | 4 | 3 |  |  |  |  |
| 4  | Enabled  | Off         |   |   |  |  |  |  |
| 5  | Disabled | Off         | 6 | 5 |  |  |  |  |
| 6  | Enabled  | Off         |   |   |  |  |  |  |
| 7  | Enabled  | FYA - 4 Sec | 8 | 7 |  |  |  |  |
| 8  | Enabled  | Off         |   |   |  |  |  |  |
| 9  | Enabled  | Off         |   |   |  |  |  |  |
| 10 | Enabled  | Off         |   |   |  |  |  |  |
| 11 | Enabled  | Off         |   |   |  |  |  |  |
| 12 | Enabled  | Off         |   |   |  |  |  |  |
| 13 | Enabled  | Off         |   |   |  |  |  |  |
| 14 | Enabled  | Off         |   |   |  |  |  |  |
| 15 | Enabled  | Off         |   |   |  |  |  |  |
| 16 | Enabled  | Off         |   |   |  |  |  |  |

| OLP | TrG Omit Phs | Negative Peds | Neg Ped Ovlp | Grn Sup Phs | N Ped Phs Calls | Description |
|-----|--------------|---------------|--------------|-------------|-----------------|-------------|
| 1   |              |               |              |             |                 |             |
| 2   |              |               |              |             |                 |             |
| 3   |              |               |              |             |                 |             |
| 4   |              |               |              |             |                 |             |
| 5   |              |               |              |             |                 |             |
| 6   |              |               |              |             |                 |             |

| OLP | TrG Omit Phs | Negative Peds | Neg Ped Ovlp | Grn Sup Phs | N Ped Phs Calls | Description |
|-----|--------------|---------------|--------------|-------------|-----------------|-------------|
| 7   |              |               |              |             |                 |             |
| 8   |              |               |              |             |                 |             |
| 9   |              |               |              |             |                 |             |
| 10  |              |               |              |             |                 |             |
| 11  |              |               |              |             |                 |             |
| 12  |              |               |              |             |                 |             |
| 13  |              |               |              |             |                 |             |
| 14  |              |               |              |             |                 |             |
| 15  |              |               |              |             |                 |             |
| 16  |              |               |              |             |                 |             |

| OLP | Trail GRN | Trail YEL | Trail RED | Walk 1 | Ped Clr 1 | Walk 2 | Ped Clr 2 |       |       | Min Green | Mx Grn Ext | Red Revert | Flash Inactive | Flash Alt | Walk Rest |
|-----|-----------|-----------|-----------|--------|-----------|--------|-----------|-------|-------|-----------|------------|------------|----------------|-----------|-----------|
|     |           |           |           |        |           |        |           | Delay | Flash |           |            |            |                |           |           |
| 1   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 2   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 3   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 4   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 5   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 6   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 7   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 8   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 9   | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 10  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 11  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 12  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 13  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 14  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 15  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |
| 16  | 0         | 0.0       | 0.0       | 0      | 0         | 0      | 0         | 0.0   | Off   | 0         | 0          | 0.0        | Off            | Off       | Off       |

| Overlap Options |   |   |   |   |   |   |   |   |   | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|-----------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Overlap         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Startup Call    |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Recall          |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

| Overlap Options  |   |   |   |   |   |   |   |   |   | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
|------------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Overlap          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| Call for Service |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Trail Grn Bridge |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |



|    |    |   |   |   |   |  |     |         |   |   |       |
|----|----|---|---|---|---|--|-----|---------|---|---|-------|
| 7  | 45 | 0 | 0 |   |   |  | Fix | None    | 0 | 0 | Float |
| 8  | 35 | 0 | 0 | X | X |  | Fix | Max Rcl | 0 | 0 | Float |
| 9  | 0  | 0 | 0 |   |   |  | Fix | None    | 0 | 0 | Float |
| 10 | 0  | 0 | 0 |   |   |  | Fix | None    | 0 | 0 | Float |
| 11 | 0  | 0 | 0 |   |   |  | Fix | None    | 0 | 0 | Float |
| 12 | 0  | 0 | 0 |   |   |  | Fix | None    | 0 | 0 | Float |
| 13 | 0  | 0 | 0 |   |   |  | Fix | None    | 0 | 0 | Float |
| 14 | 0  | 0 | 0 |   |   |  | Fix | None    | 0 | 0 | Float |
| 15 | 0  | 0 | 0 |   |   |  | Fix | None    | 0 | 0 | Float |
| 16 | 0  | 0 | 0 |   |   |  | Fix | None    | 0 | 0 | Float |

Split 2

| PH. | Time | Min | Max | Coord | Ref | Cover | Force Off | Mode    | Mode | Pri | Pri | Pri    |
|-----|------|-----|-----|-------|-----|-------|-----------|---------|------|-----|-----|--------|
|     |      |     |     | PH    | PH  | Ped   | Mode      |         |      | Min | Max | F. Off |
| 1   | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 2   | 36   | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 3   | 17   | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 4   | 37   | 0   | 0   | X     | X   |       | Fix       | Max Rcl |      | 0   | 0   | Float  |
| 5   | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 6   | 36   | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 7   | 18   | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 8   | 36   | 0   | 0   | X     | X   |       | Fix       | Max Rcl |      | 0   | 0   | Float  |
| 9   | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 10  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 11  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 12  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 13  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 14  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 15  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 16  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |

Split 3

| PH. | Time | Min | Max | Coord | Ref | Cover | Force Off | Mode    | Mode | Pri | Pri | Pri    |
|-----|------|-----|-----|-------|-----|-------|-----------|---------|------|-----|-----|--------|
|     |      |     |     | PH    | PH  | Ped   | Mode      |         |      | Min | Max | F. Off |
| 1   | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 2   | 60   | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 3   | 20   | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 4   | 60   | 0   | 0   | X     | X   |       | Fix       | Max Rcl |      | 0   | 0   | Float  |
| 5   | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 6   | 60   | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 7   | 25   | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 8   | 55   | 0   | 0   | X     | X   |       | Fix       | Max Rcl |      | 0   | 0   | Float  |
| 9   | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 10  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 11  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 12  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 13  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 14  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 15  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |
| 16  | 0    | 0   | 0   |       |     |       | Fix       | None    |      | 0   | 0   | Float  |

Split 4

| PH. | Time | Min | Max | Coord | Ref | Cover | Force Off | Mode | Mode | Pri | Pri | Pri    |
|-----|------|-----|-----|-------|-----|-------|-----------|------|------|-----|-----|--------|
|     |      |     |     | PH    | PH  | Ped   | Mode      |      |      | Min | Max | F. Off |
| 1   | 0    | 0   | 0   |       |     |       | Fix       | None |      | 0   | 0   | Float  |
| 2   | 0    | 0   | 0   |       |     |       | Fix       | None |      | 0   | 0   | Float  |
| 3   | 0    | 0   | 0   |       |     |       | Fix       | None |      | 0   | 0   | Float  |
| 4   | 0    | 0   | 0   |       |     |       | Fix       | None |      | 0   | 0   | Float  |
| 5   | 0    | 0   | 0   |       |     |       | Fix       | None |      | 0   | 0   | Float  |
| 6   | 0    | 0   | 0   |       |     |       | Fix       | None |      | 0   | 0   | Float  |
| 7   | 0    | 0   | 0   |       |     |       | Fix       | None |      | 0   | 0   | Float  |

|    |   |   |   |  |  |  |     |      |   |   |       |
|----|---|---|---|--|--|--|-----|------|---|---|-------|
| 8  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 9  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 10 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 11 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 12 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 13 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 14 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 15 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 16 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |

Split 5

| PH. | Time | Min | Max | Coord<br>PH | Ref<br>PH | Cover<br>Ped | Force Off |      | Pri<br>Min | Pri<br>Max | Pri<br>F. Off |
|-----|------|-----|-----|-------------|-----------|--------------|-----------|------|------------|------------|---------------|
|     |      |     |     |             |           |              | Mode      | Mode |            |            |               |
| 1   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 2   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 3   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 4   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 5   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 6   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 7   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 8   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 9   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 10  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 11  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 12  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 13  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 14  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 15  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 16  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |

Split 6

| PH. | Time | Min | Max | Coord<br>PH | Ref<br>PH | Cover<br>Ped | Force Off |      | Pri<br>Min | Pri<br>Max | Pri<br>F. Off |
|-----|------|-----|-----|-------------|-----------|--------------|-----------|------|------------|------------|---------------|
|     |      |     |     |             |           |              | Mode      | Mode |            |            |               |
| 1   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 2   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |

Split 6

| PH. | Time | Min | Max | Coord<br>PH | Ref<br>PH | Cover<br>Ped | Force Off |      | Pri<br>Min | Pri<br>Max | Pri<br>F. Off |
|-----|------|-----|-----|-------------|-----------|--------------|-----------|------|------------|------------|---------------|
|     |      |     |     |             |           |              | Mode      | Mode |            |            |               |
| 3   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 4   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 5   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 6   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 7   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 8   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 9   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 10  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 11  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 12  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 13  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 14  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 15  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 16  | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |

Split 7

| PH. | Time | Min | Max | Coord<br>PH | Ref<br>PH | Cover<br>Ped | Force Off |      | Pri<br>Min | Pri<br>Max | Pri<br>F. Off |
|-----|------|-----|-----|-------------|-----------|--------------|-----------|------|------------|------------|---------------|
|     |      |     |     |             |           |              | Mode      | Mode |            |            |               |
| 1   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 2   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 3   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |
| 4   | 0    | 0   | 0   |             |           |              | Fix       | None | 0          | 0          | Float         |

|    |   |   |   |  |  |  |     |      |   |   |       |
|----|---|---|---|--|--|--|-----|------|---|---|-------|
| 5  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 6  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 7  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 8  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 9  | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 10 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 11 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 12 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 13 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 14 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 15 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |
| 16 | 0 | 0 | 0 |  |  |  | Fix | None | 0 | 0 | Float |

| Split 8 |      |     |     | Coord | Ref | Cover | Force Off |      | Pri | Pri | Pri    |
|---------|------|-----|-----|-------|-----|-------|-----------|------|-----|-----|--------|
| PH.     | Time | Min | Max | PH    | PH  | Ped   | Mode      | Mode | Min | Max | F. Off |
| 1       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 2       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 3       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 4       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 5       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 6       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 7       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 8       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 9       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 10      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 11      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 12      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 13      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 14      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 15      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 16      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |

| Split 9 |      |     |     | Coord | Ref | Cover | Force Off |      | Pri | Pri | Pri    |
|---------|------|-----|-----|-------|-----|-------|-----------|------|-----|-----|--------|
| PH.     | Time | Min | Max | PH    | PH  | Ped   | Mode      | Mode | Min | Max | F. Off |
| 1       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 2       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 3       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 4       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |

| Split 9 |      |     |     | Coord | Ref | Cover | Force Off |      | Pri | Pri | Pri    |
|---------|------|-----|-----|-------|-----|-------|-----------|------|-----|-----|--------|
| PH.     | Time | Min | Max | PH    | PH  | Ped   | Mode      | Mode | Min | Max | F. Off |
| 5       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 6       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 7       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 8       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 9       | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 10      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 11      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 12      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 13      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 14      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 15      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 16      | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |

| Split 10 |      |     |     | Coord | Ref | Cover | Force Off |      | Pri | Pri | Pri    |
|----------|------|-----|-----|-------|-----|-------|-----------|------|-----|-----|--------|
| PH.      | Time | Min | Max | PH    | PH  | Ped   | Mode      | Mode | Min | Max | F. Off |
| 1        | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |
| 2        | 0    | 0   | 0   |       |     |       | Fix       | None | 0   | 0   | Float  |







|   |   |   |   |   |   |
|---|---|---|---|---|---|
| J | A | S | O | N | D |
|   |   |   |   |   |   |

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |
|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |

Day Plan 0 On \_\_\_\_\_

| Month of Year |   | Days of Week |   | Days of Month |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |  |  |
|---------------|---|--------------|---|---------------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|--|--|
| J             | F | M            | A | M             | J | S | M | T | W | T | F | S | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |  |  |
| J             | A | S            | O | N             | D |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |  |  |

Day Plan 1

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 5    | 30   | 1   |
| 2     | 9    | 0    | 2   |
| 3     | 14   | 0    | 3   |
| 4     | 18   | 0    | 10  |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 2

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 7    | 30   | 2   |
| 2     | 18   | 0    | 10  |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 3

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 4

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 5

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 6

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 7

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 8

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 9

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 10

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 11

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 12

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 13

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |

Day Plan 14

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |

Day Plan 15

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |

Day Plan 16

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |

|    |   |   |  |
|----|---|---|--|
| 7  | 0 | 0 |  |
| 8  | 0 | 0 |  |
| 9  | 0 | 0 |  |
| 10 | 0 | 0 |  |

|    |   |   |  |
|----|---|---|--|
| 7  | 0 | 0 |  |
| 8  | 0 | 0 |  |
| 9  | 0 | 0 |  |
| 10 | 0 | 0 |  |

|    |   |   |  |
|----|---|---|--|
| 7  | 0 | 0 |  |
| 8  | 0 | 0 |  |
| 9  | 0 | 0 |  |
| 10 | 0 | 0 |  |

|    |   |   |  |
|----|---|---|--|
| 7  | 0 | 0 |  |
| 8  | 0 | 0 |  |
| 9  | 0 | 0 |  |
| 10 | 0 | 0 |  |

Day Plan 17

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 18

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 19

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

Day Plan 20

| Event | Hour | Min. | Act |
|-------|------|------|-----|
| 1     | 0    | 0    |     |
| 2     | 0    | 0    |     |
| 3     | 0    | 0    |     |
| 4     | 0    | 0    |     |
| 5     | 0    | 0    |     |
| 6     | 0    | 0    |     |
| 7     | 0    | 0    |     |
| 8     | 0    | 0    |     |
| 9     | 0    | 0    |     |
| 10    | 0    | 0    |     |

| Actions |           | Aux. |   |   | Special Functions |   |   |   |   |   |   |   |
|---------|-----------|------|---|---|-------------------|---|---|---|---|---|---|---|
| Act     | Pattern   | 1    | 2 | 3 | 1                 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1       | Pattern 1 |      |   |   |                   |   |   |   |   |   |   |   |
| 2       | Pattern 2 |      |   |   |                   |   |   |   |   |   |   |   |
| 3       | Pattern 3 |      |   |   |                   |   |   |   |   |   |   |   |
| 4       | Pattern 4 |      |   |   |                   |   |   |   |   |   |   |   |
| 5       | Pattern 5 |      |   |   |                   |   |   |   |   |   |   |   |
| 6       | Pattern 6 |      |   |   |                   |   |   |   |   |   |   |   |
| 7       | Pattern 7 |      |   |   |                   |   |   |   |   |   |   |   |
| 8       | Pattern 8 |      |   |   |                   |   |   |   |   |   |   |   |
| 9       | Pattern 9 |      |   |   |                   |   |   |   |   |   |   |   |
| 10      | Free      |      |   |   |                   |   |   |   |   |   |   |   |
| 11      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 12      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 13      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 14      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 15      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 16      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 17      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 18      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 19      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 20      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 21      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 22      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 23      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 24      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 25      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 26      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 27      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 28      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 29      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 30      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 31      | None      |      |   |   |                   |   |   |   |   |   |   |   |
| 32      | None      |      |   |   |                   |   |   |   |   |   |   |   |

| Actions |         | Aux. |   |   | Special Functions |   |   |   |   |   |   |   |
|---------|---------|------|---|---|-------------------|---|---|---|---|---|---|---|
| Act     | Pattern | 1    | 2 | 3 | 1                 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 33      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 34      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 35      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 36      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 37      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 38      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 39      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 40      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 41      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 42      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 43      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 44      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 45      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 46      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 47      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 48      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 49      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 50      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 51      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 52      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 53      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 54      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 55      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 56      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 57      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 58      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 59      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 60      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 61      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 62      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 63      | None    |      |   |   |                   |   |   |   |   |   |   |   |
| 64      | None    |      |   |   |                   |   |   |   |   |   |   |   |

### Action Commands

#### Action 1

| Cmd | Command | Indexes |
|-----|---------|---------|
| 1   | None    |         |
| 2   | None    |         |

#### Action 2

| Cmd | Command | Indexes |
|-----|---------|---------|
| 1   | None    |         |
| 2   | None    |         |

|    |      |  |
|----|------|--|
| 3  | None |  |
| 4  | None |  |
| 5  | None |  |
| 6  | None |  |
| 7  | None |  |
| 8  | None |  |
| 9  | None |  |
| 10 | None |  |

|    |      |  |
|----|------|--|
| 3  | None |  |
| 4  | None |  |
| 5  | None |  |
| 6  | None |  |
| 7  | None |  |
| 8  | None |  |
| 9  | None |  |
| 10 | None |  |

**Master Sections By TOD**

| Action            | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|-------------------|---|---|---|---|---|---|---|---|---|---|
| Master Section 1  |   |   |   |   |   |   |   |   |   |   |
| Master Section 2  |   |   |   |   |   |   |   |   |   |   |
| Master Section 3  |   |   |   |   |   |   |   |   |   |   |
| Master Section 4  |   |   |   |   |   |   |   |   |   |   |
| Master Section 5  |   |   |   |   |   |   |   |   |   |   |
| Master Section 6  |   |   |   |   |   |   |   |   |   |   |
| Master Section 7  |   |   |   |   |   |   |   |   |   |   |
| Master Section 8  |   |   |   |   |   |   |   |   |   |   |
| Master Section 9  |   |   |   |   |   |   |   |   |   |   |
| Master Section 10 |   |   |   |   |   |   |   |   |   |   |
| Master Section 11 |   |   |   |   |   |   |   |   |   |   |
| Master Section 12 |   |   |   |   |   |   |   |   |   |   |
| Master Section 13 |   |   |   |   |   |   |   |   |   |   |
| Master Section 14 |   |   |   |   |   |   |   |   |   |   |
| Master Section 15 |   |   |   |   |   |   |   |   |   |   |
| Master Section 16 |   |   |   |   |   |   |   |   |   |   |

**Queue Responsive By TOD**

| Action             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 0 |
|--------------------|---|---|---|---|---|---|---|---|---|---|
| Queue Resp Plan 1  |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 2  |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 3  |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 4  |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 5  |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 6  |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 7  |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 8  |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 9  |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 10 |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 11 |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 12 |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 13 |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 14 |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 15 |   |   |   |   |   |   |   |   |   |   |
| Queue Resp Plan 16 |   |   |   |   |   |   |   |   |   |   |

**Preemption Parameters**

| Preempt           | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    |
|-------------------|------|------|------|------|------|------|------|------|
| Link              | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Delay             | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Min Duration      | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Min Presence      | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Max Presence      | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Enter Min Green   | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Enter Yellow      | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 |
| Ent. Red Clear    | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 |
| Min Walk          | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Ent. Ped Clear    | 255  | 255  | 255  | 255  | 255  | 255  | 255  | 255  |
| Track Green       | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Max Track Grn     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Track Yellow      | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 |
| Track Red Clear   | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 |
| Track 2 Green     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Track 2 Yellow    | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 |
| Track 2 Red       | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 |
| Track Ext Gate Dn | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Dwell Green       | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Exit Ped Clear    | 255  | 255  | 255  | 255  | 255  | 255  | 255  | 255  |
| Exit Yellow       | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 |
| Exit Red          | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 | 25.5 |
| Dwell Ext Time    | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Max Exit Green    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
| Exit Max Time     | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |

| Preempt                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|------------------------|---|---|---|---|---|---|---|---|
| Non Lock Mem           |   |   |   |   |   |   |   |   |
| Not Override Flash     |   |   |   |   |   |   |   |   |
| NotOverrideNextPre     |   |   |   |   |   |   |   |   |
| Flash Dwell            |   |   |   |   |   |   |   |   |
| Ped Recycle            |   |   |   |   |   |   |   |   |
| Imm Ped Clear          |   |   |   |   |   |   |   |   |
| Dwell Only Status      |   |   |   |   |   |   |   |   |
| All Red Flash Dwell    |   |   |   |   |   |   |   |   |
| Allow All Overlaps     |   |   |   |   |   |   |   |   |
| Req All Red Entry      |   |   |   |   |   |   |   |   |
| Req Gate Dwn Trck Exit |   |   |   |   |   |   |   |   |
| Req Gate Up Dwl Exit   |   |   |   |   |   |   |   |   |
| Normal On/Off Input    |   |   |   |   |   |   |   |   |
| Track Clear Override   |   |   |   |   |   |   |   |   |
| Aux Function 1         |   |   |   |   |   |   |   |   |
| Aux Function 2         |   |   |   |   |   |   |   |   |
| Aux Function 3         |   |   |   |   |   |   |   |   |
| Special Function 1     |   |   |   |   |   |   |   |   |
| Special Function 2     |   |   |   |   |   |   |   |   |
| Special Function 3     |   |   |   |   |   |   |   |   |
| Special Function 4     |   |   |   |   |   |   |   |   |
| Special Function 5     |   |   |   |   |   |   |   |   |
| Special Function 6     |   |   |   |   |   |   |   |   |
| Special Function 7     |   |   |   |   |   |   |   |   |
| Special Function 8     |   |   |   |   |   |   |   |   |

Require CRC  
Disabled

|     |   |   |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|---|---|
| Pre | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----|---|---|---|---|---|---|---|---|

|     |   |   |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|---|---|
| Pre | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----|---|---|---|---|---|---|---|---|

|     |   |   |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|---|---|
| Pre | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----|---|---|---|---|---|---|---|---|

|     |   |   |   |   |   |   |   |   |
|-----|---|---|---|---|---|---|---|---|
| Pre | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-----|---|---|---|---|---|---|---|---|





### Peer Configuration

| Ctrl | Peer ID | Device Type  | IP address | IP Port | Http Port | Serial Port | Serial Addr. | Master Sect. | P2P TO | Description |
|------|---------|--------------|------------|---------|-----------|-------------|--------------|--------------|--------|-------------|
| 1    | 0       | Peer MaxTime |            | 161     | 80        | 0           | 0            | 0            | 15     |             |
| 2    | 0       | Peer MaxTime |            | 161     | 80        | 0           | 0            | 0            | 15     |             |
| 3    | 0       | Peer MaxTime |            | 161     | 80        | 0           | 0            | 0            | 15     |             |
| 4    | 0       | Peer MaxTime |            | 161     | 80        | 0           | 0            | 0            | 15     |             |
| 5    | 0       | Peer MaxTime |            | 161     | 80        | 0           | 0            | 0            | 15     |             |
| 6    | 0       | Peer MaxTime |            | 161     | 80        | 0           | 0            | 0            | 15     |             |
| 7    | 0       | Peer MaxTime |            | 161     | 80        | 0           | 0            | 0            | 15     |             |
| 8    | 0       | Peer MaxTime |            | 161     | 80        | 0           | 0            | 0            | 15     |             |
| 9    | 0       | Peer MaxTime |            | 161     | 80        | 0           | 0            | 0            | 15     |             |
| 10   | 0       | Peer MaxTime |            | 161     | 80        | 0           | 0            | 0            | 15     |             |

### Master Section Configuration

| Section | Control | Poll | Req # | Fail Time | Algorithm Period | Description |
|---------|---------|------|-------|-----------|------------------|-------------|
| 1       | None    | 60   | 1     | 300       | 240              |             |
| 2       | None    | 60   | 1     | 300       | 240              |             |
| 3       | None    | 60   | 1     | 300       | 240              |             |
| 4       | None    | 60   | 1     | 300       | 240              |             |
| 5       | None    | 60   | 1     | 300       | 240              |             |
| 6       | None    | 60   | 1     | 300       | 240              |             |
| 7       | None    | 60   | 1     | 300       | 240              |             |
| 8       | None    | 60   | 1     | 300       | 240              |             |
| 9       | None    | 60   | 1     | 300       | 240              |             |
| 10      | None    | 60   | 1     | 300       | 240              |             |
| 11      | None    | 60   | 1     | 300       | 240              |             |
| 12      | None    | 60   | 1     | 300       | 240              |             |
| 13      | None    | 60   | 1     | 300       | 240              |             |
| 14      | None    | 60   | 1     | 300       | 240              |             |
| 15      | None    | 60   | 1     | 300       | 240              |             |
| 16      | None    | 60   | 1     | 300       | 240              |             |

### User Program Info

| Pgrm | Description | Pgrm | Description |
|------|-------------|------|-------------|
| 1    |             | 17   |             |
| 2    |             | 18   |             |
| 3    |             | 19   |             |
| 4    |             | 20   |             |
| 5    |             | 21   |             |
| 6    |             | 22   |             |
| 7    |             | 23   |             |
| 8    |             | 24   |             |
| 9    |             | 25   |             |
| 10   |             | 26   |             |
| 11   |             | 27   |             |
| 12   |             | 28   |             |
| 13   |             | 29   |             |
| 14   |             | 30   |             |
| 15   |             | 31   |             |
| 16   |             | 32   |             |

# APPENDIX F

## Queueing Analysis Worksheets



2: Marksheffel Rd & US-24



| Lane Group              | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 375  | 573  | 130  | 365  | 1266 | 21   | 5    | 786  | 109  | 10   | 1068 | 792  |
| v/c Ratio               | 0.74 | 0.46 | 0.09 | 0.78 | 1.01 | 0.01 | 0.08 | 0.65 | 0.07 | 0.15 | 0.91 | 0.52 |
| Control Delay           | 88.4 | 25.8 | 0.1  | 69.7 | 71.2 | 0.0  | 66.0 | 45.4 | 0.1  | 69.2 | 55.2 | 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             | 88.4 | 25.8 | 0.1  | 69.7 | 71.2 | 0.0  | 66.0 | 45.4 | 0.1  | 69.2 | 55.2 | 1.3  |
| Queue Length 50th (ft)  | 188  | 102  | 0    | 167  | -668 | 0    | 5    | 290  | 0    | 9    | 474  | 0    |
| Queue Length 95th (ft)  | #286 | 153  | 0    | 214  | #827 | 0    | m16  | 398  | 0    | 29   | #619 | 0    |
| Internal Link Dist (ft) |      | 1511 |      |      | 2597 |      |      | 1201 |      |      | 1023 |      |
| Turn Bay Length (ft)    | 1000 |      | 575  | 1000 |      | 700  | 300  |      | 375  | 375  |      |      |
| Base Capacity (vph)     | 504  | 1245 | 1455 | 685  | 1258 | 1553 | 68   | 1206 | 1568 | 127  | 1205 | 1524 |
| 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       | 0.74 | 0.46 | 0.09 | 0.53 | 1.01 | 0.01 | 0.07 | 0.65 | 0.07 | 0.08 | 0.89 | 0.52 |

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.

Queues

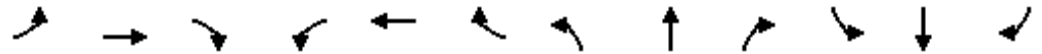
2: Marksheffel Rd & US-24



| Lane Group              | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 684  | 1224 | 128  | 214  | 597  | 20   | 15   | 1214 | 250  | 20   | 934  | 520  |
| v/c Ratio               | 0.82 | 0.97 | 0.08 | 0.67 | 0.83 | 0.01 | 0.15 | 0.89 | 0.16 | 0.31 | 0.70 | 0.33 |
| Control Delay           | 58.6 | 83.5 | 0.1  | 71.6 | 64.0 | 0.0  | 66.1 | 50.6 | 0.2  | 78.2 | 39.8 | 0.6  |
| 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             | 58.6 | 83.5 | 0.1  | 71.6 | 64.0 | 0.0  | 66.1 | 50.6 | 0.2  | 78.2 | 39.8 | 0.6  |
| Queue Length 50th (ft)  | 343  | -654 | 0    | 98   | -342 | 0    | 12   | 440  | 0    | 18   | 307  | 0    |
| Queue Length 95th (ft)  | 406  | #904 | m0   | 138  | #486 | 0    | m27  | 485  | 0    | 47   | 456  | 0    |
| Internal Link Dist (ft) |      | 1511 |      |      | 2597 |      |      | 1201 |      |      | 1023 |      |
| Turn Bay Length (ft)    | 1000 |      | 575  | 1000 |      | 700  | 300  |      | 375  | 375  |      |      |
| Base Capacity (vph)     | 895  | 1261 | 1583 | 425  | 722  | 1568 | 101  | 1453 | 1583 | 65   | 1483 | 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       | 0.76 | 0.97 | 0.08 | 0.50 | 0.83 | 0.01 | 0.15 | 0.84 | 0.16 | 0.31 | 0.63 | 0.33 |

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.

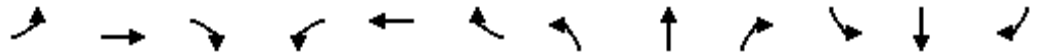


| Lane Group              | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 443  | 672  | 146  | 453  | 1484 | 26   | 5    | 1146 | 167  | 16   | 1385 | 927  |
| v/c Ratio               | 0.83 | 0.41 | 0.10 | 0.83 | 0.85 | 0.02 | 0.10 | 0.74 | 0.11 | 0.25 | 0.86 | 0.61 |
| Control Delay           | 91.8 | 26.4 | 0.1  | 69.9 | 48.7 | 0.0  | 56.8 | 49.8 | 0.1  | 74.3 | 50.4 | 1.8  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 91.8 | 26.4 | 0.1  | 69.9 | 48.7 | 0.0  | 56.8 | 49.8 | 0.1  | 74.3 | 50.4 | 1.8  |
| Queue Length 50th (ft)  | 221  | 88   | 0    | 207  | 475  | 0    | 5    | 345  | 0    | 14   | 421  | 0    |
| Queue Length 95th (ft)  | #304 | 104  | 0    | 261  | #545 | 0    | m15  | 442  | 0    | 40   | #548 | 0    |
| Internal Link Dist (ft) |      | 1511 |      |      | 2597 |      |      | 1917 |      |      | 1023 |      |
| Turn Bay Length (ft)    | 1000 |      | 575  | 1000 |      | 700  | 300  |      | 375  | 375  |      |      |
| Base Capacity (vph)     | 537  | 1657 | 1455 | 649  | 1738 | 1553 | 50   | 1553 | 1568 | 69   | 1610 | 1524 |
| 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       | 0.82 | 0.41 | 0.10 | 0.70 | 0.85 | 0.02 | 0.10 | 0.74 | 0.11 | 0.23 | 0.86 | 0.61 |

**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.

## 2: Marksheffel Rd &amp; US-24



| Lane Group              | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 801  | 1444 | 209  | 332  | 704  | 20   | 20   | 1801 | 352  | 26   | 1592 | 612  |
| v/c Ratio               | 0.90 | 0.91 | 0.13 | 0.89 | 0.87 | 0.01 | 0.33 | 0.91 | 0.22 | 0.42 | 0.81 | 0.39 |
| Control Delay           | 58.2 | 77.1 | 0.1  | 86.7 | 69.4 | 0.0  | 74.2 | 43.8 | 0.3  | 86.2 | 41.7 | 0.7  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 58.2 | 77.1 | 0.1  | 86.7 | 69.4 | 0.0  | 74.2 | 43.8 | 0.3  | 86.2 | 41.7 | 0.7  |
| Queue Length 50th (ft)  | ~404 | ~513 | 0    | 157  | 234  | 0    | 18   | 427  | 0    | 24   | 473  | 0    |
| Queue Length 95th (ft)  | #535 | #624 | m0   | #251 | #312 | 0    | m36  | 477  | 0    | 58   | 522  | 0    |
| Internal Link Dist (ft) |      | 1511 |      |      | 2597 |      |      | 1917 |      |      | 1023 |      |
| Turn Bay Length (ft)    | 1000 |      | 575  | 1000 |      | 700  | 300  |      | 375  | 375  |      |      |
| Base Capacity (vph)     | 890  | 1582 | 1583 | 373  | 813  | 1568 | 60   | 2008 | 1583 | 62   | 2025 | 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       | 0.90 | 0.91 | 0.13 | 0.89 | 0.87 | 0.01 | 0.33 | 0.90 | 0.22 | 0.42 | 0.79 | 0.39 |

## 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.

Queues

4: US-24 & Newt Dr/SH-94



| Lane Group              | EBL  | EBT   | EBR  | WBL   | WBT  | WBR  | NBL   | NBT  | NBR  | SBL  | SBT  | SBR  |
|-------------------------|------|-------|------|-------|------|------|-------|------|------|------|------|------|
| Lane Group Flow (vph)   | 46   | 93    | 510  | 845   | 98   | 5    | 438   | 1015 | 655  | 5    | 1918 | 67   |
| v/c Ratio               | 0.26 | 1.45  | 0.33 | 1.03  | 0.32 | 0.00 | 1.22  | 0.34 | 0.45 | 0.02 | 0.74 | 0.08 |
| Control Delay           | 67.0 | 316.0 | 0.6  | 101.9 | 57.4 | 0.0  | 155.2 | 12.4 | 1.0  | 15.2 | 29.5 | 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             | 67.0 | 316.0 | 0.6  | 101.9 | 57.4 | 0.0  | 155.2 | 12.4 | 1.0  | 15.2 | 29.5 | 1.4  |
| Queue Length 50th (ft)  | 21   | ~115  | 0    | ~280  | 71   | 0    | ~202  | 138  | 0    | 2    | 391  | 0    |
| Queue Length 95th (ft)  | 42   | #234  | 0    | #385  | 133  | m0   | #316  | 211  | 0    | m3   | m410 | m3   |
| Internal Link Dist (ft) |      | 543   |      |       | 2360 |      |       | 1172 |      |      | 881  |      |
| Turn Bay Length (ft)    | 375  |       |      | 475   |      | 475  | 900   |      | 600  | 800  |      | 800  |
| Base Capacity (vph)     | 226  | 64    | 1538 | 821   | 307  | 1553 | 360   | 3014 | 1468 | 336  | 2586 | 888  |
| 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       | 0.20 | 1.45  | 0.33 | 1.03  | 0.32 | 0.00 | 1.22  | 0.34 | 0.45 | 0.01 | 0.74 | 0.08 |

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.

## Queues

2026 Total PM Improved.syn

## 4: US-24 &amp; Newt Dr/SH-94

11/10/2023



| Lane Group              | EBL  | EBT   | EBR  | WBL   | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-------------------------|------|-------|------|-------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 58   | 84    | 474  | 779   | 68   | 11   | 416  | 2026 | 658  | 5    | 1053 | 63   |
| v/c Ratio               | 0.35 | 0.88  | 0.30 | 0.95  | 0.20 | 0.01 | 0.62 | 0.64 | 0.42 | 0.04 | 0.41 | 0.07 |
| Control Delay           | 69.7 | 129.6 | 0.5  | 77.8  | 56.6 | 0.0  | 14.2 | 18.3 | 0.8  | 5.2  | 9.6  | 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             | 69.7 | 129.6 | 0.5  | 77.8  | 56.6 | 0.0  | 14.2 | 18.3 | 0.8  | 5.2  | 9.6  | 0.1  |
| Queue Length 50th (ft)  | 26   | 78    | 0    | 263   | 58   | 0    | 73   | 379  | 0    | 1    | 90   | 0    |
| Queue Length 95th (ft)  | 51   | #184  | 0    | m#338 | m96  | m0   | 96   | 544  | 0    | m2   | 106  | m0   |
| Internal Link Dist (ft) |      | 543   |      |       | 2360 |      |      | 1172 |      |      | 881  |      |
| Turn Bay Length (ft)    | 375  |       |      | 475   |      | 475  | 900  |      | 600  | 800  |      | 800  |
| Base Capacity (vph)     | 331  | 95    | 1583 | 829   | 341  | 1568 | 717  | 3147 | 1568 | 136  | 2547 | 902  |
| 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 | 0.88  | 0.30 | 0.94  | 0.20 | 0.01 | 0.58 | 0.64 | 0.42 | 0.04 | 0.41 | 0.07 |

## 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.

Queues  
4: US-24 & Newt Dr/SH-94

2040 Total AM.syn  
11/10/2023



| Lane Group              | EBL  | EBT   | EBR  | WBL   | WBT  | WBR  | NBL   | NBT  | NBR  | SBL  | SBT  | SBR  |
|-------------------------|------|-------|------|-------|------|------|-------|------|------|------|------|------|
| Lane Group Flow (vph)   | 57   | 98    | 572  | 1191  | 108  | 5    | 495   | 1186 | 881  | 10   | 2258 | 82   |
| v/c Ratio               | 0.31 | 1.53  | 0.37 | 1.45  | 0.36 | 0.00 | 1.38  | 0.39 | 0.60 | 0.03 | 0.87 | 0.09 |
| Control Delay           | 67.5 | 345.0 | 0.7  | 254.9 | 51.2 | 0.0  | 218.3 | 13.1 | 1.8  | 14.3 | 35.0 | 2.1  |
| 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             | 67.5 | 345.0 | 0.7  | 254.9 | 51.2 | 0.0  | 218.3 | 13.1 | 1.8  | 14.3 | 35.0 | 2.1  |
| Queue Length 50th (ft)  | 26   | ~124  | 0    | ~530  | 77   | 0    | ~258  | 169  | 0    | 4    | 476  | 2    |
| Queue Length 95th (ft)  | 50   | #247  | 0    | #626  | m135 | m0   | #377  | 257  | 0    | m5   | 531  | m9   |
| Internal Link Dist (ft) |      | 543   |      |       | 2360 |      |       | 1172 |      |      | 881  |      |
| Turn Bay Length (ft)    | 375  |       |      | 475   |      | 475  | 900   |      | 600  | 800  |      | 800  |
| Base Capacity (vph)     | 226  | 64    | 1538 | 821   | 302  | 1553 | 360   | 3012 | 1468 | 291  | 2586 | 888  |
| 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       | 0.25 | 1.53  | 0.37 | 1.45  | 0.36 | 0.00 | 1.38  | 0.39 | 0.60 | 0.03 | 0.87 | 0.09 |

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.

Queues  
4: US-24 & Newt Dr/SH-94

2040 Total PM.syn  
11/10/2023

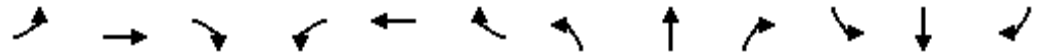


| Lane Group              | EBL  | EBT   | EBR  | WBL   | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-------------------------|------|-------|------|-------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 68   | 100   | 563  | 1221  | 84   | 11   | 495  | 2447 | 1226 | 11   | 1242 | 79   |
| v/c Ratio               | 0.39 | 1.08  | 0.36 | 1.47  | 0.25 | 0.01 | 0.83 | 0.80 | 0.78 | 0.09 | 0.50 | 0.09 |
| Control Delay           | 70.1 | 175.4 | 0.6  | 258.4 | 62.1 | 0.0  | 25.6 | 24.6 | 4.0  | 6.4  | 10.4 | 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             | 70.1 | 175.4 | 0.6  | 258.4 | 62.1 | 0.0  | 25.6 | 24.6 | 4.0  | 6.4  | 10.4 | 0.1  |
| Queue Length 50th (ft)  | 31   | ~101  | 0    | ~553  | 75   | 0    | 90   | 532  | 0    | 2    | 111  | 0    |
| Queue Length 95th (ft)  | 56   | #224  | 0    | m#504 | m98  | m0   | 144  | 757  | 0    | m3   | 126  | m0   |
| Internal Link Dist (ft) |      | 543   |      |       | 2360 |      |      | 1172 |      |      | 881  |      |
| Turn Bay Length (ft)    | 375  |       |      | 475   |      | 475  | 900  |      | 600  | 800  |      | 800  |
| Base Capacity (vph)     | 331  | 93    | 1583 | 829   | 337  | 1568 | 619  | 3057 | 1568 | 132  | 2505 | 891  |
| 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       | 0.21 | 1.08  | 0.36 | 1.47  | 0.25 | 0.01 | 0.80 | 0.80 | 0.78 | 0.08 | 0.50 | 0.09 |

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.





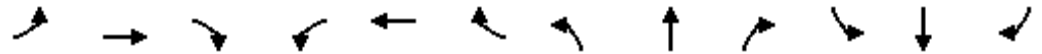
| Lane Group              | EBL   | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-------------------------|-------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 163   | 326  | 174  | 38   | 375  | 125  | 207  | 511  | 27   | 326  | 755  | 266  |
| v/c Ratio               | 1.06  | 0.62 | 0.31 | 0.20 | 0.70 | 0.23 | 0.53 | 0.36 | 0.04 | 0.60 | 0.46 | 0.30 |
| Control Delay           | 127.7 | 44.2 | 5.4  | 35.2 | 50.0 | 5.1  | 24.8 | 32.5 | 0.1  | 20.2 | 25.8 | 7.3  |
| 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             | 127.7 | 44.2 | 5.4  | 35.2 | 50.0 | 5.1  | 24.8 | 32.5 | 0.1  | 20.2 | 25.8 | 7.3  |
| Queue Length 50th (ft)  | ~158  | 263  | 0    | 25   | 299  | 0    | 83   | 167  | 0    | 83   | 290  | 45   |
| Queue Length 95th (ft)  | m#244 | m311 | m51  | 51   | 372  | 38   | #186 | 275  | 0    | 339  | 399  | 124  |
| Internal Link Dist (ft) |       | 2360 |      |      | 2852 |      |      | 463  |      |      | 968  |      |
| Turn Bay Length (ft)    | 300   |      | 250  | 225  |      | 250  | 375  |      | 400  | 400  |      | 400  |
| Base Capacity (vph)     | 196   | 665  | 674  | 246  | 678  | 658  | 391  | 1435 | 718  | 704  | 1657 | 881  |
| 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  | 0.49 | 0.26 | 0.15 | 0.55 | 0.19 | 0.53 | 0.36 | 0.04 | 0.46 | 0.46 | 0.30 |

#### 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.

Queues

5: Marksheffel Rd & SH-94



| Lane Group              | EBL  | EBT  | EBR  | WBL  | WBT  | WBR  | NBL  | NBT  | NBR  | SBL  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 149  | 362  | 282  | 48   | 431  | 420  | 239  | 1170 | 32   | 213  | 899  | 271  |
| v/c Ratio               | 0.65 | 0.51 | 0.36 | 0.17 | 0.60 | 0.55 | 0.86 | 0.96 | 0.05 | 0.80 | 0.71 | 0.38 |
| Control Delay           | 45.7 | 31.9 | 3.4  | 31.0 | 39.0 | 16.2 | 73.5 | 63.8 | 0.2  | 55.4 | 25.4 | 3.7  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 45.7 | 31.9 | 3.4  | 31.0 | 39.0 | 16.2 | 73.5 | 63.8 | 0.2  | 55.4 | 25.4 | 3.7  |
| Queue Length 50th (ft)  | 97   | 221  | 0    | 29   | 317  | 119  | 116  | 549  | 0    | 137  | 191  | 2    |
| Queue Length 95th (ft)  | m173 | m303 | m37  | 61   | 434  | 227  | #275 | #699 | 0    | #257 | 249  | 25   |
| Internal Link Dist (ft) |      | 2360 |      |      | 2852 |      |      | 463  |      |      | 968  |      |
| Turn Bay Length (ft)    | 300  |      | 250  | 225  |      | 250  | 375  |      | 400  | 400  |      | 400  |
| Base Capacity (vph)     | 231  | 715  | 775  | 285  | 715  | 759  | 277  | 1213 | 596  | 281  | 1314 | 727  |
| 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       | 0.65 | 0.51 | 0.36 | 0.17 | 0.60 | 0.55 | 0.86 | 0.96 | 0.05 | 0.76 | 0.68 | 0.37 |

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  | SBR  |
|-------------------------|-------|------|------|------|------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 179   | 380  | 337  | 43   | 440  | 147  | 467  | 913  | 386  | 1060 | 299  |
| v/c Ratio               | 0.90  | 0.40 | 0.53 | 0.19 | 0.46 | 0.27 | 0.66 | 0.51 | 0.76 | 0.46 | 0.38 |
| Control Delay           | 81.9  | 39.8 | 7.9  | 38.0 | 42.3 | 6.5  | 24.7 | 34.5 | 28.7 | 28.0 | 18.4 |
| Queue Delay             | 0.0   | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 81.9  | 39.8 | 7.9  | 38.0 | 42.3 | 6.5  | 24.7 | 34.5 | 28.7 | 28.0 | 18.4 |
| Queue Length 50th (ft)  | 153   | 147  | 35   | 28   | 166  | 0    | 136  | 200  | 219  | 276  | 141  |
| Queue Length 95th (ft)  | m#263 | m185 | m102 | 62   | 217  | 50   | 202  | 225  | 400  | 417  | 298  |
| Internal Link Dist (ft) |       | 2360 |      |      | 2852 |      |      | 463  |      | 968  |      |
| Turn Bay Length (ft)    | 300   |      | 250  | 225  |      | 250  | 375  |      | 400  |      | 400  |
| Base Capacity (vph)     | 220   | 1050 | 676  | 254  | 1070 | 579  | 746  | 1802 | 697  | 2312 | 791  |
| 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       | 0.81  | 0.36 | 0.50 | 0.17 | 0.41 | 0.25 | 0.63 | 0.51 | 0.55 | 0.46 | 0.38 |

#### 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  | SBR  |
|-------------------------|-------|------|-------|------|------|------|------|-------|-------|------|------|
| Lane Group Flow (vph)   | 250   | 426  | 707   | 53   | 505  | 511  | 601  | 1899  | 245   | 1574 | 303  |
| v/c Ratio               | 0.96  | 0.33 | 0.89  | 0.18 | 0.40 | 0.71 | 0.80 | 0.95  | 1.11  | 1.05 | 0.54 |
| Control Delay           | 74.5  | 30.2 | 27.4  | 32.3 | 34.2 | 25.3 | 33.4 | 30.4  | 124.3 | 71.0 | 17.0 |
| 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             | 74.5  | 30.2 | 27.4  | 32.3 | 34.2 | 25.3 | 33.4 | 30.4  | 124.3 | 71.0 | 17.0 |
| Queue Length 50th (ft)  | 198   | 135  | 283   | 33   | 178  | 216  | 229  | 428   | -210  | -551 | 29   |
| Queue Length 95th (ft)  | m#348 | m172 | m#599 | 68   | 230  | 358  | m263 | m#543 | #389  | #654 | 146  |
| Internal Link Dist (ft) |       | 2360 |       |      | 2852 |      |      | 463   |       | 968  |      |
| Turn Bay Length (ft)    | 300   |      | 250   | 225  |      | 250  | 375  |       | 400   |      | 400  |
| Base Capacity (vph)     | 261   | 1276 | 791   | 300  | 1276 | 724  | 753  | 1991  | 220   | 1496 | 561  |
| 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       | 0.96  | 0.33 | 0.89  | 0.18 | 0.40 | 0.71 | 0.80 | 0.95  | 1.11  | 1.05 | 0.54 |

#### 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.

## 9: Marksheffel Rd &amp; CRN North Full Access

11/10/2023



| Lane Group              | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 98   | 98   | 54   | 842  | 1413 | 217  |
| v/c Ratio               | 0.59 | 0.42 | 0.18 | 0.29 | 0.53 | 0.17 |
| Control Delay           | 74.9 | 15.6 | 2.7  | 1.7  | 2.7  | 0.6  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 74.9 | 15.6 | 2.7  | 1.7  | 2.7  | 0.6  |
| Queue Length 50th (ft)  | 87   | 0    | 4    | 34   | 34   | 0    |
| Queue Length 95th (ft)  | 145  | 55   | 10   | 66   | 155  | m11  |
| Internal Link Dist (ft) | 495  |      |      | 910  | 636  |      |
| Turn Bay Length (ft)    | 200  |      | 300  |      |      | 250  |
| Base Capacity (vph)     | 297  | 347  | 328  | 2895 | 2682 | 1282 |
| 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       | 0.33 | 0.28 | 0.16 | 0.29 | 0.53 | 0.17 |

## Intersection Summary

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

## 9: Marksheffel Rd &amp; CRN North Full Access

11/10/2023



| Lane Group              | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 98   | 98   | 54   | 1484 | 1136 | 201  |
| v/c Ratio               | 0.59 | 0.42 | 0.14 | 0.50 | 0.42 | 0.16 |
| Control Delay           | 74.9 | 15.5 | 3.9  | 5.1  | 3.8  | 0.6  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 74.9 | 15.5 | 3.9  | 5.1  | 3.8  | 0.6  |
| Queue Length 50th (ft)  | 87   | 0    | 9    | 155  | 12   | 0    |
| Queue Length 95th (ft)  | 145  | 55   | 18   | 162  | 371  | 17   |
| Internal Link Dist (ft) | 495  |      |      | 910  | 636  |      |
| Turn Bay Length (ft)    | 200  |      | 300  |      |      | 250  |
| Base Capacity (vph)     | 322  | 368  | 429  | 2951 | 2733 | 1278 |
| 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       | 0.30 | 0.27 | 0.13 | 0.50 | 0.42 | 0.16 |

## Intersection Summary

## 9: Marksheffel Rd &amp; CRN North Full Access



| Lane Group              | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 109  | 109  | 60   | 1261 | 1821 | 239  |
| v/c Ratio               | 0.62 | 0.43 | 0.27 | 0.31 | 0.48 | 0.19 |
| Control Delay           | 75.3 | 14.8 | 9.7  | 1.4  | 2.3  | 0.4  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 75.3 | 14.8 | 9.7  | 1.4  | 2.3  | 0.4  |
| Queue Length 50th (ft)  | 97   | 0    | 4    | 30   | 31   | 0    |
| Queue Length 95th (ft)  | 156  | 56   | 29   | 48   | 90   | m5   |
| Internal Link Dist (ft) | 495  |      |      | 910  | 1917 |      |
| Turn Bay Length (ft)    | 200  |      | 300  |      |      | 250  |
| Base Capacity (vph)     | 297  | 356  | 244  | 4131 | 3819 | 1278 |
| 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       | 0.37 | 0.31 | 0.25 | 0.31 | 0.48 | 0.19 |

## Intersection Summary

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

## 9: Marksheffel Rd &amp; CRN North Full Access

11/10/2023



| Lane Group              | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 109  | 109  | 87   | 2201 | 1913 | 337  |
| v/c Ratio               | 0.62 | 0.43 | 0.42 | 0.52 | 0.50 | 0.26 |
| Control Delay           | 75.2 | 14.8 | 13.4 | 4.5  | 4.8  | 1.0  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 75.2 | 14.8 | 13.4 | 4.5  | 4.8  | 1.0  |
| Queue Length 50th (ft)  | 97   | 0    | 16   | 140  | 85   | 0    |
| Queue Length 95th (ft)  | 156  | 56   | 53   | 146  | 556  | m40  |
| Internal Link Dist (ft) | 495  |      |      | 910  | 1917 |      |
| Turn Bay Length (ft)    | 200  |      | 300  |      |      | 250  |
| Base Capacity (vph)     | 322  | 377  | 239  | 4211 | 3799 | 1277 |
| 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       | 0.34 | 0.29 | 0.36 | 0.52 | 0.50 | 0.26 |

## 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)   | 76   | 217  | 163  | 821  | 1402 | 109  |
| v/c Ratio               | 0.53 | 0.66 | 0.50 | 0.28 | 0.53 | 0.09 |
| Control Delay           | 74.3 | 17.5 | 16.6 | 1.9  | 8.4  | 2.7  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 74.3 | 17.5 | 16.6 | 1.9  | 8.4  | 2.7  |
| Queue Length 50th (ft)  | 68   | 0    | 24   | 21   | 197  | 7    |
| Queue Length 95th (ft)  | 119  | 79   | m70  | 48   | 285  | 23   |
| Internal Link Dist (ft) | 358  |      |      | 968  | 910  |      |
| Turn Bay Length (ft)    | 200  |      | 300  |      |      | 250  |
| Base Capacity (vph)     | 284  | 436  | 427  | 2938 | 2627 | 1235 |
| 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       | 0.27 | 0.50 | 0.38 | 0.28 | 0.53 | 0.09 |

#### 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)   | 76   | 217  | 152  | 1462 | 1130 | 103  |
| v/c Ratio               | 0.53 | 0.66 | 0.37 | 0.49 | 0.42 | 0.08 |
| Control Delay           | 74.3 | 17.5 | 5.1  | 3.1  | 3.5  | 0.9  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 74.3 | 17.5 | 5.1  | 3.1  | 3.5  | 0.9  |
| Queue Length 50th (ft)  | 68   | 0    | 21   | 110  | 67   | 0    |
| Queue Length 95th (ft)  | 119  | 79   | m28  | m131 | 100  | 6    |
| Internal Link Dist (ft) | 358  |      |      | 968  | 910  |      |
| Turn Bay Length (ft)    | 200  |      | 300  |      |      | 250  |
| Base Capacity (vph)     | 360  | 495  | 524  | 2994 | 2694 | 1240 |
| 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       | 0.21 | 0.44 | 0.29 | 0.49 | 0.42 | 0.08 |

#### Intersection Summary

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

Queues

2040 Total AM.syn

10: Marksheffel Rd & Airl Lane (CRN South Full Access)

11/10/2023



| Lane Group              | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 82   | 245  | 179  | 1245 | 1810 | 120  |
| v/c Ratio               | 0.51 | 0.76 | 0.66 | 0.30 | 0.50 | 0.10 |
| Control Delay           | 70.8 | 28.6 | 46.2 | 1.0  | 8.1  | 2.6  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 70.8 | 28.6 | 46.2 | 1.0  | 8.1  | 2.6  |
| Queue Length 50th (ft)  | 73   | 39   | 68   | 15   | 164  | 7    |
| Queue Length 95th (ft)  | 122  | 128  | 155  | 41   | 227  | 21   |
| Internal Link Dist (ft) | 358  |      |      | 968  | 910  |      |
| Turn Bay Length (ft)    | 200  |      | 300  |      |      | 250  |
| Base Capacity (vph)     | 284  | 422  | 347  | 4176 | 3623 | 1192 |
| 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       | 0.29 | 0.58 | 0.52 | 0.30 | 0.50 | 0.10 |

Intersection Summary

## 10: Marksheffel Rd &amp; Airl Lane (CRN South Full Access)



| Lane Group              | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 82   | 245  | 255  | 2207 | 1853 | 168  |
| v/c Ratio               | 0.53 | 0.73 | 0.73 | 0.52 | 0.54 | 0.15 |
| Control Delay           | 72.3 | 24.2 | 33.7 | 2.8  | 5.1  | 0.7  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 72.3 | 24.2 | 33.7 | 2.8  | 5.1  | 0.7  |
| Queue Length 50th (ft)  | 73   | 25   | 145  | 114  | 90   | 3    |
| Queue Length 95th (ft)  | 124  | 113  | m158 | m121 | 112  | 9    |
| Internal Link Dist (ft) | 358  |      |      | 968  | 910  |      |
| Turn Bay Length (ft)    | 200  |      | 300  |      |      | 250  |
| Base Capacity (vph)     | 360  | 494  | 374  | 4270 | 3410 | 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       | 0.23 | 0.50 | 0.68 | 0.52 | 0.54 | 0.15 |

## Intersection Summary

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

## Queues

2026 Total AM Three Quarter.syn

## 10: Marksheffel Rd &amp; Airl Lane (CRN South Full Access)

11/10/2023



| Lane Group              | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 168  | 217  | 163  | 821  | 1402 | 109  |
| v/c Ratio               | 0.73 | 0.55 | 0.55 | 0.30 | 0.59 | 0.10 |
| Control Delay           | 75.9 | 11.8 | 22.5 | 3.3  | 15.3 | 5.3  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 75.9 | 11.8 | 22.5 | 3.3  | 15.3 | 5.3  |
| Queue Length 50th (ft)  | 149  | 0    | 21   | 36   | 259  | 8    |
| Queue Length 95th (ft)  | 220  | 73   | m83  | 65   | 443  | m32  |
| Internal Link Dist (ft) | 796  |      |      | 968  | 910  |      |
| Turn Bay Length (ft)    | 200  |      | 300  |      |      | 250  |
| Base Capacity (vph)     | 303  | 451  | 389  | 2730 | 2369 | 1122 |
| 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       | 0.55 | 0.48 | 0.42 | 0.30 | 0.59 | 0.10 |

## Intersection Summary

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

Queues

10: Marksheffel Rd & Airl Lane (CRN South Full Access)



| Lane Group              | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 168  | 217  | 152  | 1462 | 1130 | 103  |
| v/c Ratio               | 0.72 | 0.55 | 0.40 | 0.53 | 0.47 | 0.09 |
| Control Delay           | 74.6 | 11.6 | 8.7  | 5.8  | 1.9  | 0.1  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 74.6 | 11.6 | 8.7  | 5.8  | 1.9  | 0.1  |
| Queue Length 50th (ft)  | 149  | 0    | 29   | 152  | 24   | 0    |
| Queue Length 95th (ft)  | 218  | 72   | m39  | m173 | 40   | m0   |
| Internal Link Dist (ft) | 796  |      |      | 968  | 910  |      |
| Turn Bay Length (ft)    | 200  |      | 300  |      |      | 250  |
| Base Capacity (vph)     | 379  | 509  | 470  | 2777 | 2429 | 1129 |
| 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       | 0.44 | 0.43 | 0.32 | 0.53 | 0.47 | 0.09 |

Intersection Summary

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

## Queues

2040 Total AM Three Quarter.syn

## 10: Marksheffel Rd &amp; Airl Lane (CRN South Full Access)

11/10/2023



| Lane Group              | EBL  | EBR  | NBL  | NBT  | SBT  | SBR  |
|-------------------------|------|------|------|------|------|------|
| Lane Group Flow (vph)   | 190  | 245  | 179  | 1245 | 1810 | 120  |
| v/c Ratio               | 0.75 | 0.56 | 0.66 | 0.32 | 0.57 | 0.11 |
| Control Delay           | 74.4 | 10.9 | 51.6 | 2.3  | 20.3 | 8.5  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 74.4 | 10.9 | 51.6 | 2.3  | 20.3 | 8.5  |
| Queue Length 50th (ft)  | 168  | 0    | 81   | 41   | 289  | 10   |
| Queue Length 95th (ft)  | 242  | 75   | 179  | 66   | 489  | m56  |
| Internal Link Dist (ft) | 796  |      |      | 968  | 910  |      |
| Turn Bay Length (ft)    | 200  |      | 300  |      |      | 250  |
| Base Capacity (vph)     | 354  | 512  | 377  | 3855 | 3187 | 1059 |
| 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       | 0.54 | 0.48 | 0.47 | 0.32 | 0.57 | 0.11 |

## 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)   | 190  | 245  | 255  | 2207 | 1853 | 168  |
| v/c Ratio               | 0.75 | 0.56 | 0.76 | 0.56 | 0.61 | 0.17 |
| Control Delay           | 75.7 | 11.1 | 34.9 | 10.8 | 8.2  | 1.1  |
| Queue Delay             | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  |
| Total Delay             | 75.7 | 11.1 | 34.9 | 10.8 | 8.2  | 1.1  |
| Queue Length 50th (ft)  | 168  | 0    | 168  | 270  | 104  | 4    |
| Queue Length 95th (ft)  | 244  | 76   | m169 | m255 | m117 | m6   |
| Internal Link Dist (ft) | 796  |      |      | 968  | 910  |      |
| Turn Bay Length (ft)    | 200  |      | 300  |      |      | 250  |
| Base Capacity (vph)     | 328  | 493  | 446  | 3939 | 3021 | 1004 |
| 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       | 0.58 | 0.50 | 0.57 | 0.56 | 0.61 | 0.17 |

#### Intersection Summary

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

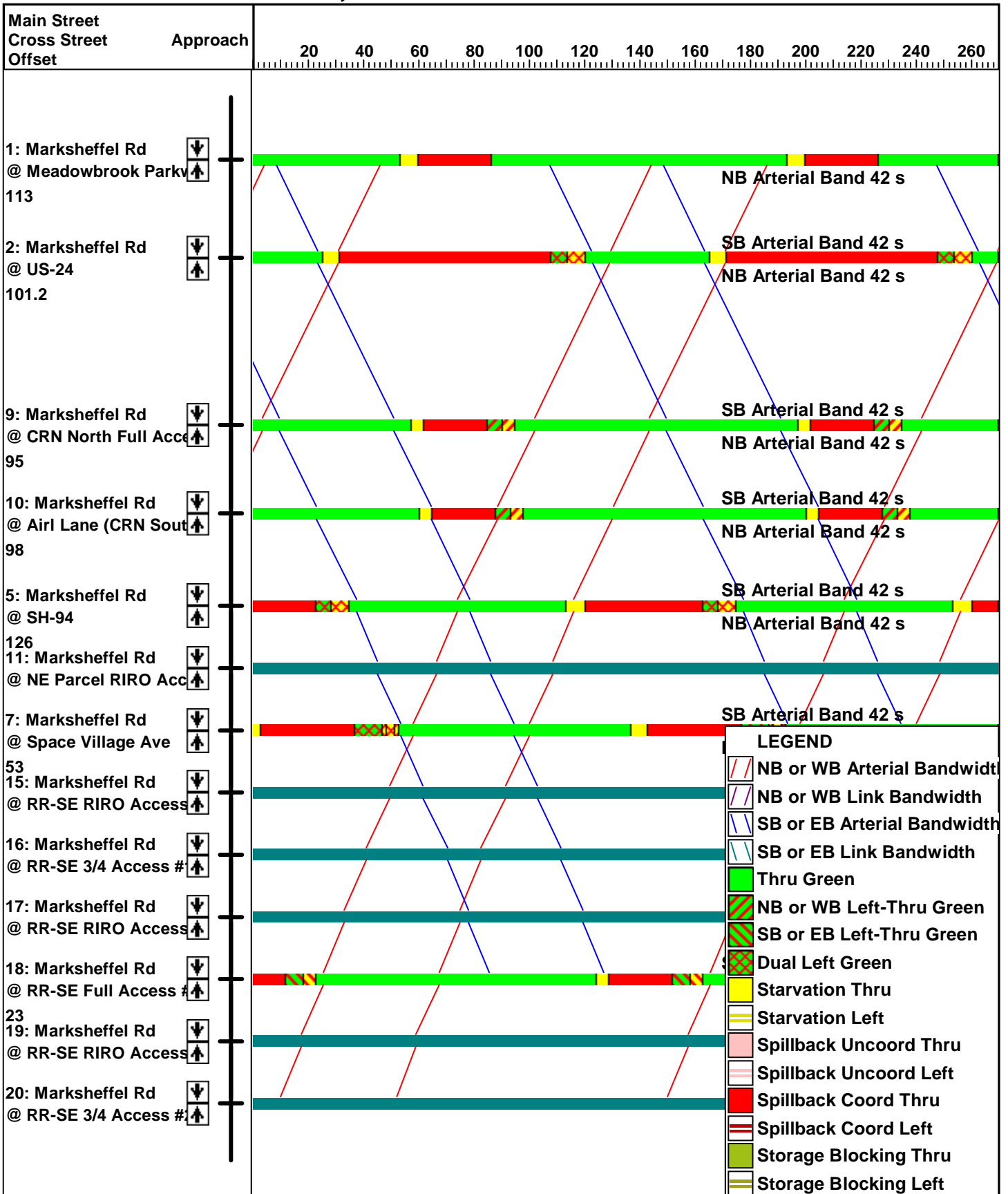


# APPENDIX G

## Time-Space Diagrams

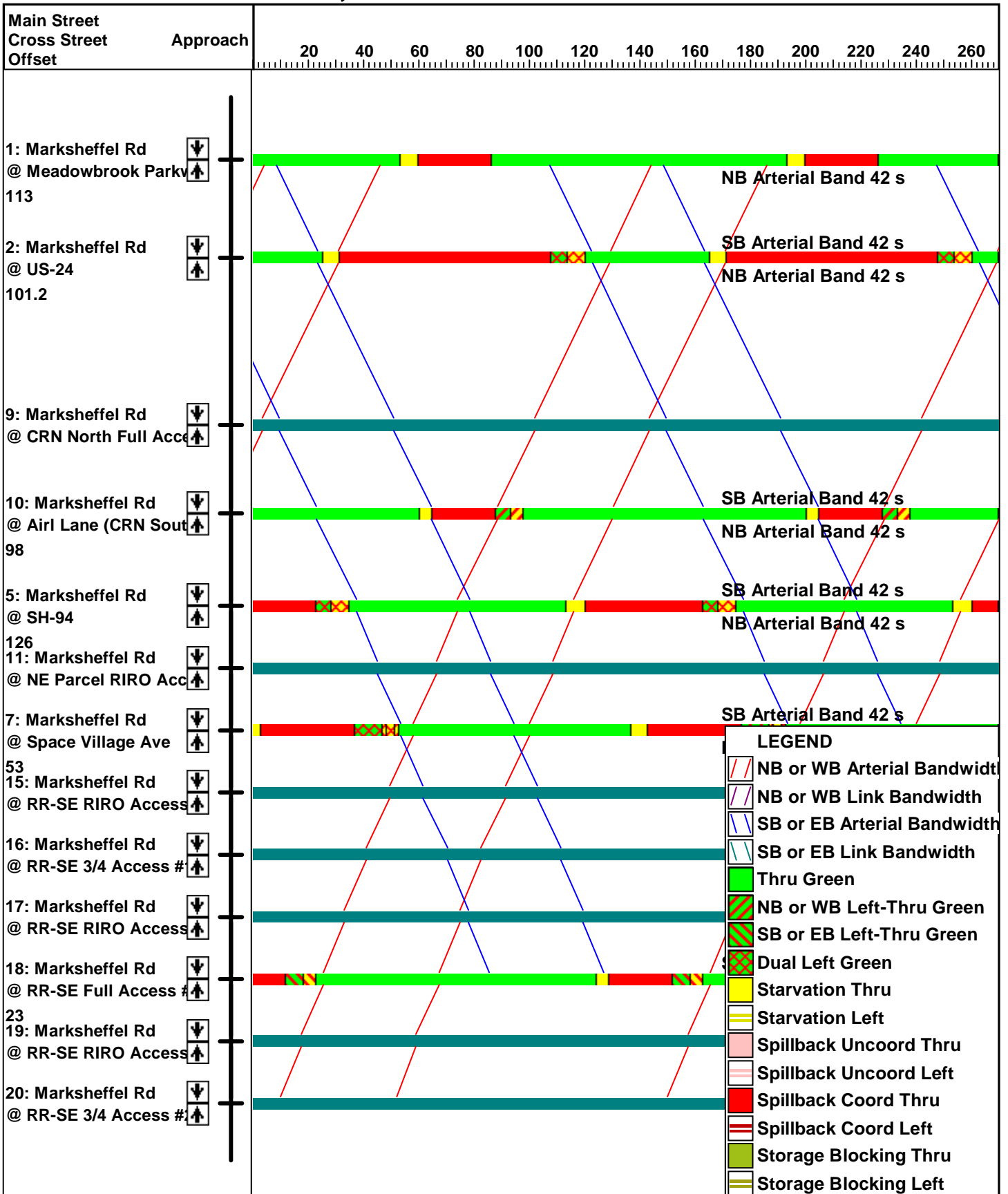
# 2040 Total AM, Signal (Int#9), E-W Coord (Int #2)

## Arterial Bandwidths, 90th Percentile Green Times

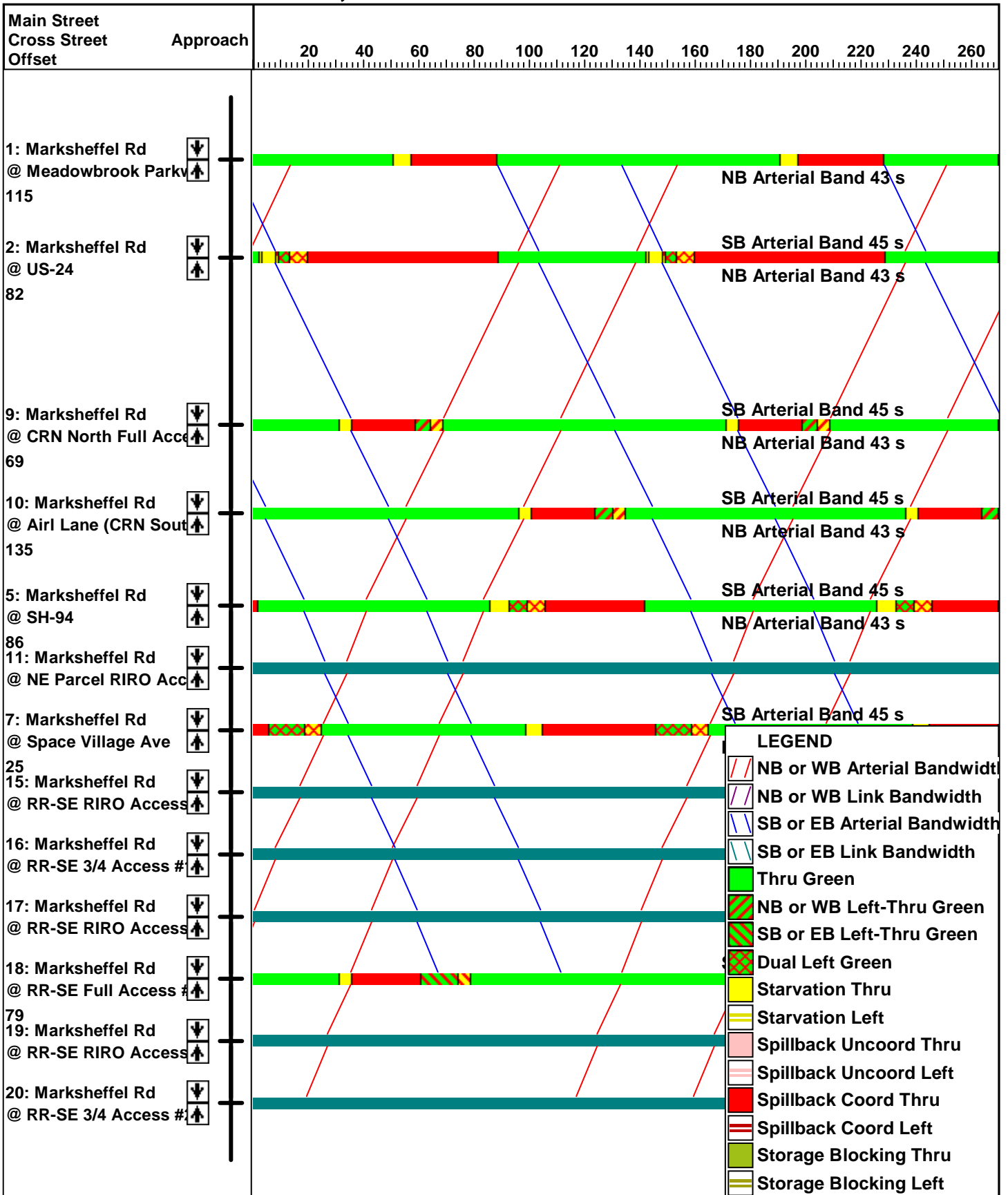


# 2040 Total AM, TWSC (Int#9), E-W Coord (Int #2)

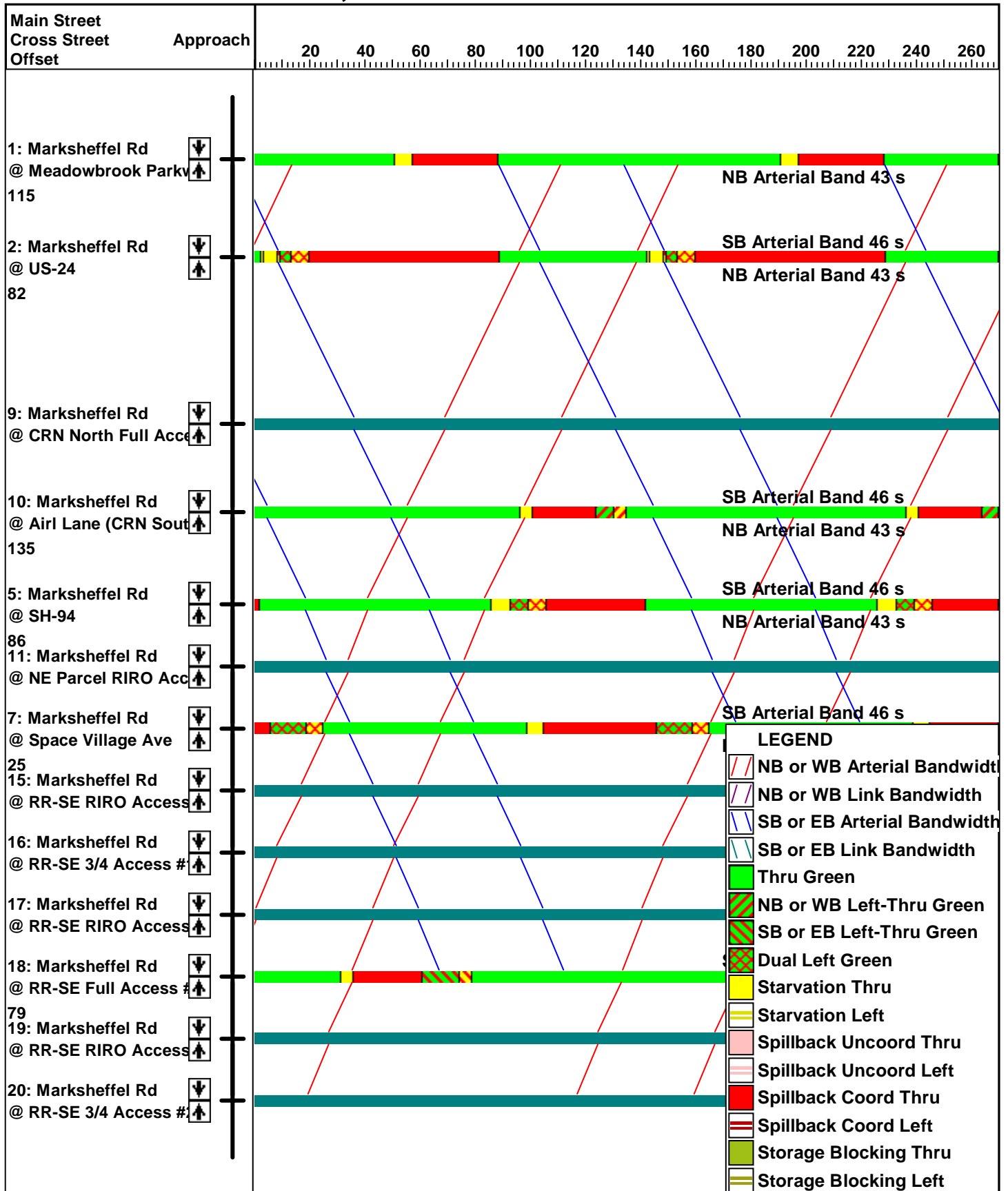
## Arterial Bandwidths, 90th Percentile Green Times



# 2040 Total PM, Signal (Int#9), E-W Coord (Int #2) Arterial Bandwidths, 90th Percentile Green Times

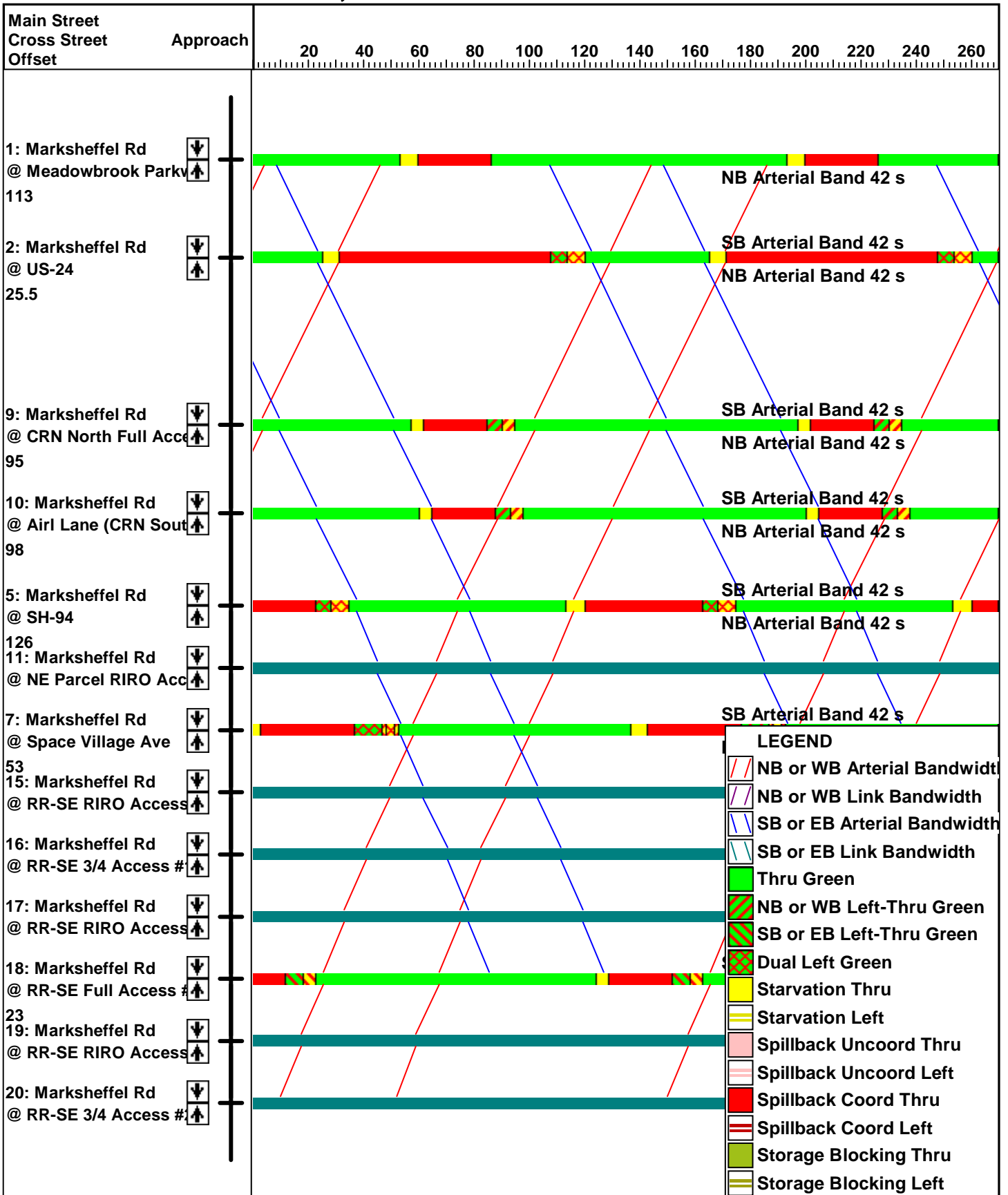


# 2040 Total PM, TWSC (Int#9), E-W Coord (Int #2) Arterial Bandwidths, 90th Percentile Green Times

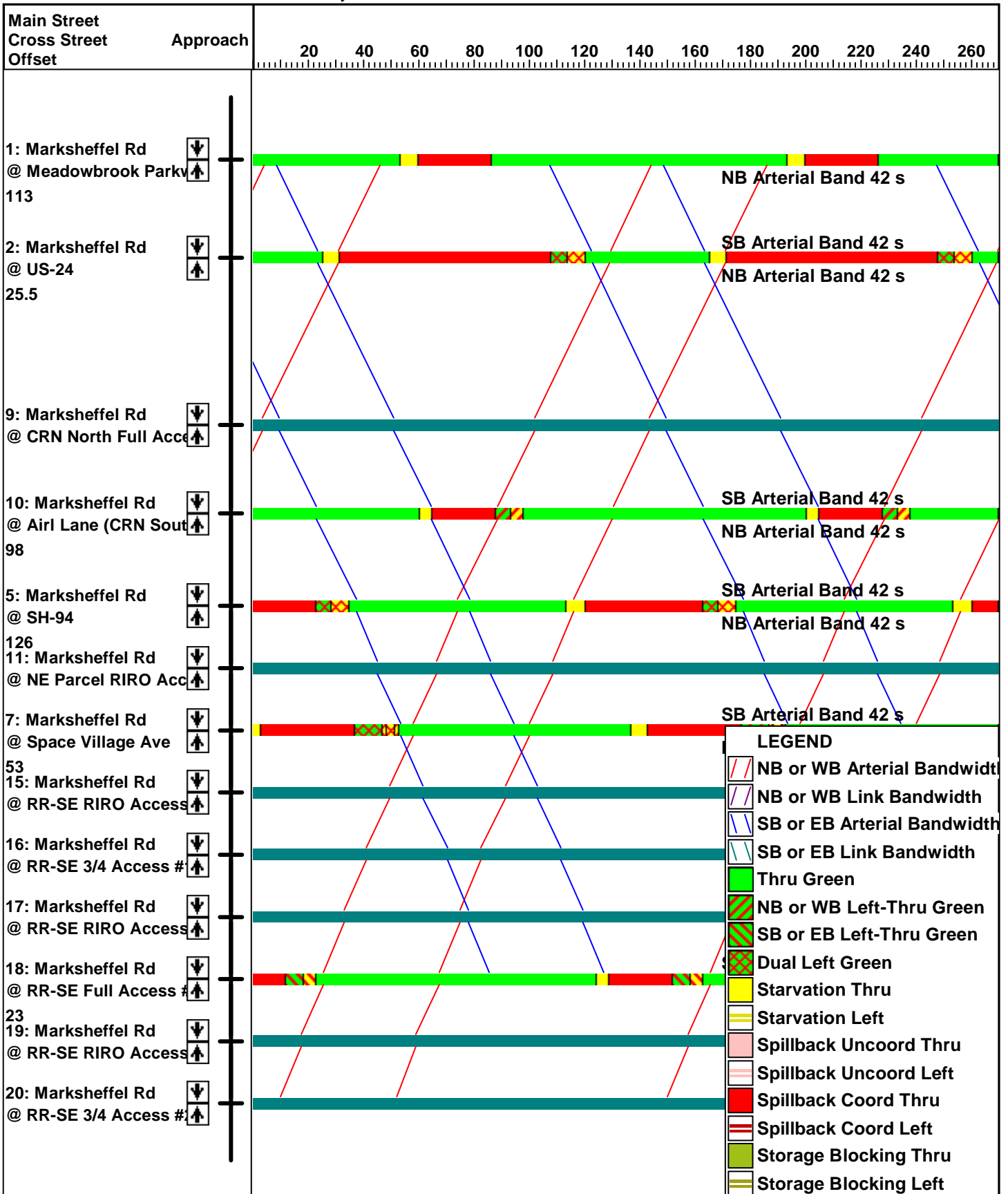


# 2040 Total AM, Signal (Int#9), N-S Coord (Int #2)

## Arterial Bandwidths, 90th Percentile Green Times

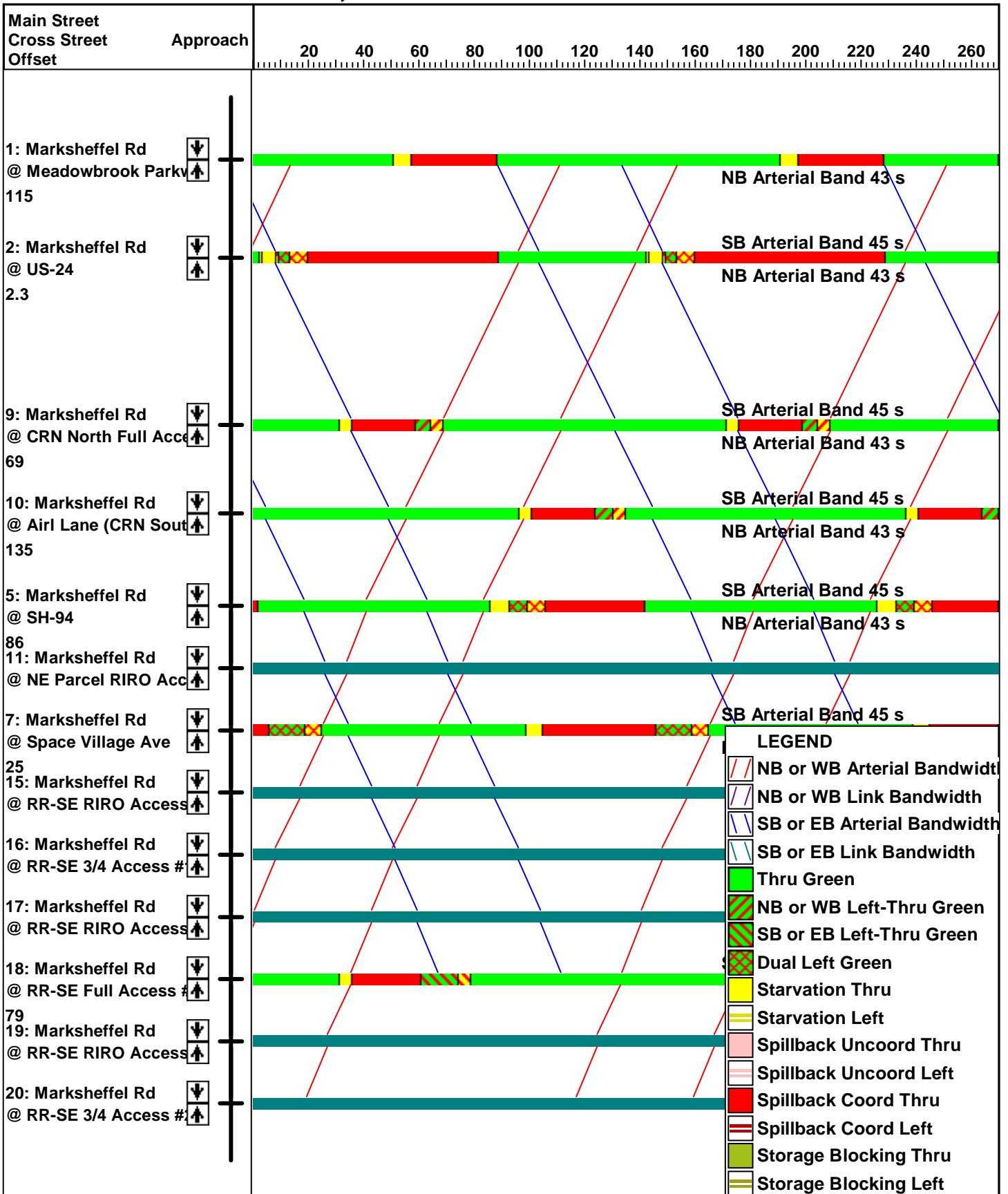


# 2040 Total AM, TWSC (Int#9), N-S Coord (Int #2) Arterial Bandwidths, 90th Percentile Green Times



# 2040 Total PM, Signal (Int#9), N-S Coord (Int #2)

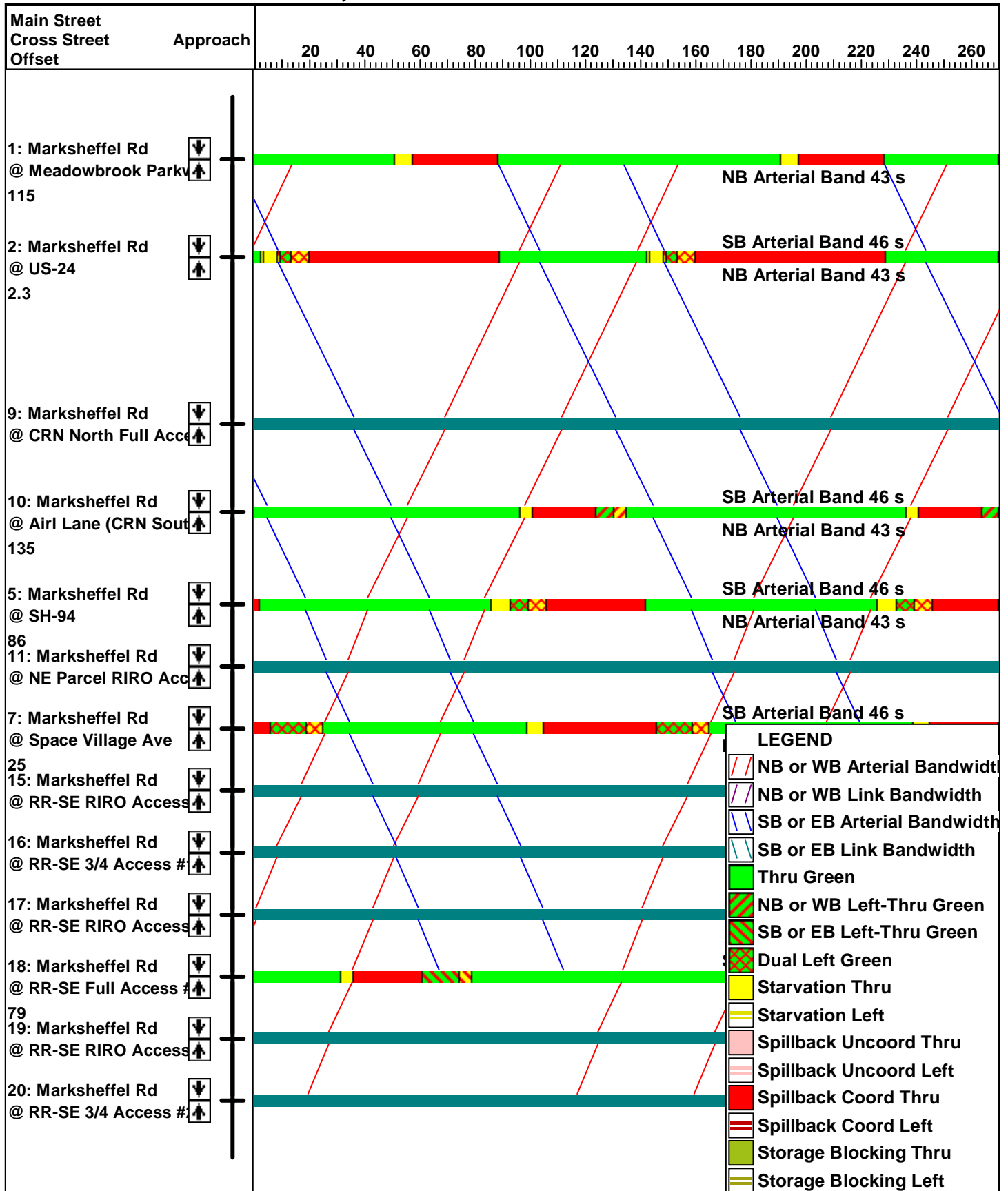
## Arterial Bandwidths, 90th Percentile Green Times





# 2040 Total PM, TWSC (Int#9), N-S Coord (Int #2)

## Arterial Bandwidths, 90th Percentile Green Times



# APPENDIX H

## Crash Data



**Colorado Department of Transportation**  
**DiExSys™ Roadway Safety Systems**  
**General Summary of Crashes Report**

12/08/2021

Job #: 20211208130629

**Location: 24 G      Begin: 313.17    End: 313.19    From: 01/01/2017    To: 12/31/2019**

| Severity      |                     |
|---------------|---------------------|
| PDO:          | 17                  |
| INJ:          | 18      36 :Injured |
| FAT:          | 0      0 :Killed    |
| <b>Total:</b> | <b>35</b>           |

| Number of Vehicles |           |
|--------------------|-----------|
| One Vehicle:       | 4         |
| Two Vehicles:      | 29        |
| Three or More:     | 2         |
| Unknown:           | 0         |
| <b>Total:</b>      | <b>35</b> |

| Location      |           |
|---------------|-----------|
| On Road:      | 31        |
| Off Road:     | 4         |
| Unknown:      | 0         |
| <b>Total:</b> | <b>35</b> |

| Mainline/Ramps/Frontage Rds |           |
|-----------------------------|-----------|
| Mainline:                   | 35        |
| Ramps:                      | 0         |
| Frontage/Ramp Intsx:        | 0         |
| Frontage Roads:             | 0         |
| HOV Lanes:                  | 0         |
| Unknown:                    | 0         |
| <b>Total:</b>               | <b>35</b> |

| Lighting Conditions |           |
|---------------------|-----------|
| Daylight:           | 24        |
| Dawn or Dusk:       | 1         |
| Dark - Lighted:     | 7         |
| Dark - Unlighted:   | 3         |
| Unknown:            | 0         |
| <b>Total:</b>       | <b>35</b> |

| Crash Rates   |                              |
|---------------|------------------------------|
| PDO:          | 40.70 *      * Per MVMT      |
| INJ:          | 43.09 *      ** Per 100 MVMT |
| FAT:          | 0.00 **                      |
| <b>Total:</b> | <b>83.79 *</b>               |

| Crash Type            |           |
|-----------------------|-----------|
| Overtuning:           | 2         |
| Other Non Collision:  | 0         |
| Pedestrians:          | 0         |
| Broadside:            | 6         |
| Head On:              | 0         |
| Rear End:             | 10        |
| Sideswipe Same:       | 4         |
| Sideswipe Opposite:   | 1         |
| Approach Turn:        | 10        |
| Overtaking Turn:      | 0         |
| Parked Motor Vehicle: | 0         |
| Railway Vehicle:      | 0         |
| Bicycles:             | 0         |
| Domestic Animal:      | 0         |
| Wild Animal:          | 0         |
| Fixed Objects:        | 2         |
| Other Objects:        | 0         |
| Unknown:              | 0         |
| <b>Total:</b>         | <b>35</b> |

| Weather Conditions |           |
|--------------------|-----------|
| None:              | 31        |
| Rain:              | 1         |
| Snow/Sleet/Hail:   | 1         |
| Fog:               | 1         |
| Dust:              | 0         |
| Wind:              | 1         |
| Unknown:           | 0         |
| <b>Total:</b>      | <b>35</b> |

| Road Conditions      |           |
|----------------------|-----------|
| Dry:                 | 30        |
| Wet:                 | 2         |
| Muddy:               | 0         |
| Snowy:               | 0         |
| Icy:                 | 0         |
| Slushy:              | 0         |
| Foreign Material:    | 0         |
| With Road Treatment: | 3         |
| Unknown:             | 0         |
| <b>Total:</b>        | <b>35</b> |

| Vehicle Types                        | Vehicle 1 | Vehicle 2 | Vehicle 3 |
|--------------------------------------|-----------|-----------|-----------|
| Passenger Car/Van:                   | 12        | 13        | 1         |
| Passenger Car/Van w/Trailer:         | 0         | 0         | 0         |
| Pickup Truck/Utility Van:            | 6         | 5         | 0         |
| Pickup Truck/Utility Van w/Trailer:  | 1         | 1         | 0         |
| SUV:                                 | 8         | 11        | 1         |
| SUV w/Trailer:                       | 0         | 0         | 0         |
| Truck 10k lbs or Less:               | 0         | 0         | 0         |
| Trucks > 10k lbs/Busses > 15 People: | 4         | 1         | 0         |
| School Bus < 15 People:              | 0         | 0         | 0         |
| Non School Bus < 15 People:          | 0         | 0         | 0         |
| Motorhome:                           | 0         | 0         | 0         |
| Motorcycle:                          | 2         | 0         | 0         |
| Bicycle:                             | 0         | 0         | 0         |
| Motorized Bicycle:                   | 0         | 0         | 0         |
| Farm Equipment:                      | 0         | 0         | 0         |
| Hit and Run - Unknown:               | 2         | 0         | 0         |
| Other:                               | 0         | 0         | 0         |
| Unknown:                             | 0         | 0         | 0         |
| <b>Total:</b>                        | <b>35</b> | <b>31</b> | <b>2</b>  |

**ADT: 19,073      Length: 0.02**

US-24 and Marksheffel Road (MP 313.18) Crash Data

| date       | time | severity | location      | vehicles | condition                      | lighting       | weather         | acctype                        | dir_1 | vehicle_1                          | driver_1                | factor_1                        | speed_1 | veh_move_1        | dir_2 | vehicle_2                          | driver_2                | factor_2                        | speed_2 | veh_move_2         |
|------------|------|----------|---------------|----------|--------------------------------|----------------|-----------------|--------------------------------|-------|------------------------------------|-------------------------|---------------------------------|---------|-------------------|-------|------------------------------------|-------------------------|---------------------------------|---------|--------------------|
| 12/31/2019 | 1835 | INJ      | ON            | 2        | DRY                            | DARK-LIGHTED   | NONE            | APPROACH TURN                  | W     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 20      | MAKING LEFT TURN  | E     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 65      | GOING STRAIGHT     |
| 12/13/2019 | 2150 | PDO      | ON            | 2        | DRY                            | DARK-LIGHTED   | NONE            | REAR-END                       | S     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 10      | GOING STRAIGHT    | S     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 12/13/2019 | 1605 | PDO      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | REAR-END                       | E     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 5       | GOING STRAIGHT    | E     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 12/10/2019 | 1840 | PDO      | ON            | 2        | DRY                            | DARK-UNLIGHTED | NONE            | REAR-END                       | E     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 5       | GOING STRAIGHT    | E     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 12/7/2019  | 2020 | INJ      | ON            | 2        | DRY                            | DARK-LIGHTED   | NONE            | APPROACH TURN                  | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 15      | MAKING LEFT TURN  | E     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 65      | GOING STRAIGHT     |
| 10/2/2019  | 1015 | PDO      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | REAR-END                       | S     | SUV                                | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 5       | MAKING RIGHT TURN | S     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 1       | MAKING RIGHT TURN  |
| 8/12/2019  | 1233 | PDO      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | SIDESWIPE (SAME DIRECTION)     | E     | TRUCK GVW > 10K/BUSSES > 15 PEOPLE | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 15      | MAKING LEFT TURN  | E     | PICKUP TRUCK/UTILITY VAN W/TRAILER | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 5       | MAKING LEFT TURN   |
| 7/25/2019  | 1840 | INJ      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | APPROACH TURN                  | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER UNFAMILIAR WITH AREA     | 15      | MAKING LEFT TURN  | E     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 50      | GOING STRAIGHT     |
| 7/15/2019  | 1738 | INJ      | OFF RIGHT     | 1        | DRY                            | DAYLIGHT       | NONE            | SIGN                           | S     | MOTORCYCLE                         | ALCOHOL INVOLVED        | UNKNOWN                         | 50      | MAKING RIGHT TURN |       |                                    | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR |         |                    |
| 7/12/2019  | 1500 | PDO      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | REAR-END                       | N     | HIT & RUN - UNKNOWN                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 1       | OTHER             | N     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 6/5/2019   | 1800 | PDO      | ON            | 2        | WET                            | DAYLIGHT       | RAIN            | SIDESWIPE (SAME DIRECTION)     | S     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 10      | CHANGING LANES    | S     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR |         | MAKING RIGHT TURN  |
| 5/14/2019  | 950  | PDO      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | REAR-END                       | E     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 10      | MAKING RIGHT TURN | E     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | UK      | 5 SLOWING          |
| 4/14/2019  | 318  | INJ      | OFF RIGHT     | 1        | ICY W/VIS ICY ROAD TREATMENT   | DARK-LIGHTED   | NONE            | OVERTURNING                    | E     | PICKUP TRUCK/UTILITY VAN           | ALCOHOL/DRUGS           | UNKNOWN                         | 55      | GOING STRAIGHT    |       |                                    | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR |         |                    |
| 3/6/2019   | 2105 | INJ      | ON            | 2        | DRY                            | DARK-LIGHTED   | NONE            | BROADSIDE                      | S     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 5       | GOING STRAIGHT    | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 65      | GOING STRAIGHT     |
| 1/16/2019  | 2050 | INJ      | ON            | 2        | DRY                            | DARK-UNLIGHTED | NONE            | APPROACH TURN                  | W     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 30      | MAKING LEFT TURN  | E     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 65      | GOING STRAIGHT     |
| 1/7/2019   | 1806 | INJ      | ON            | 2        | DRY                            | DARK-LIGHTED   | WIND            | APPROACH TURN                  | W     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 20      | MAKING LEFT TURN  | E     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 65      | GOING STRAIGHT     |
| 12/29/2018 | 821  | INJ      | ON            | 2        | SNOWY W/VIS ICY ROAD TREATMENT | DAYLIGHT       | NONE            | BROADSIDE                      | S     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER INEXPERIENCE             | 30      | MAKING RIGHT TURN | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 60      | GOING STRAIGHT     |
| 11/1/2018  | 1200 | PDO      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | BROADSIDE                      | S     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 20      | GOING STRAIGHT    | E     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 20      | GOING STRAIGHT     |
| 9/27/2018  | 710  | INJ      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | REAR-END                       | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 60      | GOING STRAIGHT    | W     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | UK      | 5 SLOWING          |
| 8/10/2018  | 1845 | INJ      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | BROADSIDE                      | S     | SUV                                | NO IMPAIRMENT SUSPECTED | DRIVER INEXPERIENCE             | 15      | MAKING LEFT TURN  | E     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 60      | GOING STRAIGHT     |
| 6/5/2018   | 1415 | PDO      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | APPROACH TURN                  | W     | PICKUP TRUCK/UTILITY VAN W/TRAILER | NO IMPAIRMENT SUSPECTED | DRIVER UNFAMILIAR WITH AREA     | 15      | MAKING LEFT TURN  | E     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 65      | GOING STRAIGHT     |
| 4/26/2018  | 1600 | PDO      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | REAR-END                       | N     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 10      | MAKING LEFT TURN  | N     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 4/21/2018  | 1820 | PDO      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | SIDESWIPE (SAME DIRECTION)     | N     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 30      | MAKING RIGHT TURN | N     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 30      | MAKING RIGHT TURN  |
| 4/4/2018   | 1310 | INJ      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | APPROACH TURN                  | W     | TRUCK GVW > 10K/BUSSES > 15 PEOPLE | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 15      | MAKING LEFT TURN  | E     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 55      | GOING STRAIGHT     |
| 3/14/2018  | 1617 | PDO      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | APPROACH TURN                  | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 20      | MAKING LEFT TURN  | E     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 60      | GOING STRAIGHT     |
| 1/21/2018  | 1255 | INJ      | ON            | 3        | ICY W/VIS ICY ROAD TREATMENT   | DAYLIGHT       | SNOW/SLEET/HAIL | BROADSIDE                      | S     | SUV                                | NO IMPAIRMENT SUSPECTED | DISTRACTED BY PASSENGER         | UK      | GOING STRAIGHT    | E     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 40      | GOING STRAIGHT     |
| 9/6/2017   | 632  | INJ      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | APPROACH TURN                  | W     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 30      | MAKING LEFT TURN  | E     | TRUCK GVW > 10K/BUSSES > 15 PEOPLE | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 65      | GOING STRAIGHT     |
| 8/16/2017  | 615  | INJ      | ON            | 1        | DRY                            | DAWN OR DUSK   | NONE            | OVERTURNING                    | NE    | MOTORCYCLE                         | NO IMPAIRMENT SUSPECTED | DRIVER INEXPERIENCE             | 10      | MAKING RIGHT TURN |       |                                    | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR |         |                    |
| 8/2/2017   | 1130 | PDO      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | BROADSIDE                      | NE    | TRUCK GVW > 10K/BUSSES > 15 PEOPLE | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 40      | GOING STRAIGHT    | N     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 30      | GOING STRAIGHT     |
| 7/12/2017  | 930  | INJ      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | REAR-END                       | E     | TRUCK GVW > 10K/BUSSES > 15 PEOPLE | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 2       | GOING STRAIGHT    | E     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 6/28/2017  | 1643 | PDO      | ON            | 2        | DRY                            | DAYLIGHT       | NONE            | REAR-END                       | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 30      | GOING STRAIGHT    | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 6/9/2017   | 1400 | INJ      | OFF IN MEDIAN | 2        | DRY                            | DAYLIGHT       | NONE            | SIDESWIPE (OPPOSITE DIRECTION) | S     | SUV                                | ALCOHOL INVOLVED        | UNKNOWN                         | 45      | WRONG WAY         | N     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 30      | GOING STRAIGHT     |
| 2/2/2017   | 1915 | INJ      | ON            | 2        | WET                            | DARK-LIGHTED   | FOG             | APPROACH TURN                  | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER UNFAMILIAR WITH AREA     | 40      | MAKING LEFT TURN  | E     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 49      | GOING STRAIGHT     |



**Colorado Department of Transportation**  
**DiExSys™ Roadway Safety Systems**  
**General Summary of Crashes Report**

12/08/2021

Job #: 20211208123416

**Location: 24 G      Begin: 312.42    End: 312.44    From: 01/01/2017    To: 12/31/2019**

| Severity      |                     |
|---------------|---------------------|
| PDO:          | 14                  |
| INJ:          | 10      19 :Injured |
| FAT:          | 0      0 :Killed    |
| <b>Total:</b> | <b>24</b>           |

| Number of Vehicles |           |
|--------------------|-----------|
| One Vehicle:       | 1         |
| Two Vehicles:      | 17        |
| Three or More:     | 6         |
| Unknown:           | 0         |
| <b>Total:</b>      | <b>24</b> |

| Location      |           |
|---------------|-----------|
| On Road:      | 23        |
| Off Road:     | 1         |
| Unknown:      | 0         |
| <b>Total:</b> | <b>24</b> |

| Mainline/Ramps/Frontage Rds |           |
|-----------------------------|-----------|
| Mainline:                   | 24        |
| Ramps:                      | 0         |
| Frontage/Ramp Intsx:        | 0         |
| Frontage Roads:             | 0         |
| HOV Lanes:                  | 0         |
| Unknown:                    | 0         |
| <b>Total:</b>               | <b>24</b> |

| Lighting Conditions |           |
|---------------------|-----------|
| Daylight:           | 16        |
| Dawn or Dusk:       | 2         |
| Dark - Lighted:     | 3         |
| Dark - Unlighted:   | 3         |
| Unknown:            | 0         |
| <b>Total:</b>       | <b>24</b> |

| Crash Rates   |                              |
|---------------|------------------------------|
| PDO:          | 22.43 *      * Per MVMT      |
| INJ:          | 16.02 *      ** Per 100 MVMT |
| FAT:          | 0.00 **                      |
| <b>Total:</b> | <b>38.45 *</b>               |

| Crash Type            |           |
|-----------------------|-----------|
| Overtuning:           | 0         |
| Other Non Collision:  | 0         |
| Pedestrians:          | 0         |
| Broadside:            | 6         |
| Head On:              | 0         |
| Rear End:             | 12        |
| Sideswipe Same:       | 1         |
| Sideswipe Opposite:   | 0         |
| Approach Turn:        | 4         |
| Overtaking Turn:      | 0         |
| Parked Motor Vehicle: | 0         |
| Railway Vehicle:      | 0         |
| Bicycles:             | 0         |
| Domestic Animal:      | 0         |
| Wild Animal:          | 0         |
| Fixed Objects:        | 1         |
| Other Objects:        | 0         |
| Unknown:              | 0         |
| <b>Total:</b>         | <b>24</b> |

| Weather Conditions |           |
|--------------------|-----------|
| None:              | 22        |
| Rain:              | 1         |
| Snow/Sleet/Hail:   | 1         |
| Fog:               | 0         |
| Dust:              | 0         |
| Wind:              | 0         |
| Unknown:           | 0         |
| <b>Total:</b>      | <b>24</b> |

| Road Conditions      |           |
|----------------------|-----------|
| Dry:                 | 21        |
| Wet:                 | 1         |
| Muddy:               | 0         |
| Snowy:               | 1         |
| Icy:                 | 0         |
| Slushy:              | 0         |
| Foreign Material:    | 0         |
| With Road Treatment: | 1         |
| Unknown:             | 0         |
| <b>Total:</b>        | <b>24</b> |

| Vehicle Types                        | Vehicle 1 | Vehicle 2 | Vehicle 3 |
|--------------------------------------|-----------|-----------|-----------|
| Passenger Car/Van:                   | 12        | 8         | 2         |
| Passenger Car/Van w/Trailer:         | 0         | 0         | 0         |
| Pickup Truck/Utility Van:            | 3         | 5         | 2         |
| Pickup Truck/Utility Van w/Trailer:  | 0         | 0         | 0         |
| SUV:                                 | 4         | 9         | 2         |
| SUV w/Trailer:                       | 0         | 0         | 0         |
| Truck 10k lbs or Less:               | 0         | 0         | 0         |
| Trucks > 10k lbs/Busses > 15 People: | 4         | 0         | 0         |
| School Bus < 15 People:              | 0         | 0         | 0         |
| Non School Bus < 15 People:          | 0         | 0         | 0         |
| Motorhome:                           | 0         | 0         | 0         |
| Motorcycle:                          | 0         | 1         | 0         |
| Bicycle:                             | 0         | 0         | 0         |
| Motorized Bicycle:                   | 0         | 0         | 0         |
| Farm Equipment:                      | 0         | 0         | 0         |
| Hit and Run - Unknown:               | 1         | 0         | 0         |
| Other:                               | 0         | 0         | 0         |
| Unknown:                             | 0         | 0         | 0         |
| <b>Total:</b>                        | <b>24</b> | <b>23</b> | <b>6</b>  |

**ADT: 28,500      Length: 0.02**

US-24 and SH-94 (MP 312.42) Crash Data

| date       | time | severity | location   | vehicles | condition                    | lighting       | weather         | acctype                   | dir_1 | vehicle_1                          | driver_1                | factor_1                        | speed_1 | veh_move_1        | dir_2 | vehicle_2                | driver_2                | factor_2                        | speed_2 | veh_move_2         |
|------------|------|----------|------------|----------|------------------------------|----------------|-----------------|---------------------------|-------|------------------------------------|-------------------------|---------------------------------|---------|-------------------|-------|--------------------------|-------------------------|---------------------------------|---------|--------------------|
| 11/19/2019 | 1911 | INJ      | ON         | 3        | DRY                          | DARK-LIGHTED   | NONE            | BROADSIDE                 | E     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 15      | MAKING LEFT TURN  | S     | SUV                      | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 40      | GOING STRAIGHT     |
| 11/4/2019  | 1530 | PDO      | ON         | 2        | DRY                          | DAYLIGHT       | NONE            | REAR-END                  | SE    | TRUCK GVW > 10K/BUSSES > 15 PEOPLE | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 5       | BACKING           | SE    | SUV                      | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 11/3/2019  | 1745 | PDO      | ON         | 2        | DRY                          | DARK-LIGHTED   | NONE            | REAR-END                  | E     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 45      | GOING STRAIGHT    | E     | PICKUP TRUCK/UTILITY VAN | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 10      | SLOWING            |
| 7/23/2019  | 1715 | PDO      | ON         | 2        | DRY                          | DAYLIGHT       | NONE            | BROADSIDE                 | E     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER INEXPERIENCE             | 30      | MAKING LEFT TURN  | S     | SUV                      | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 5       | MAKING LEFT TURN   |
| 6/14/2019  | 1524 | PDO      | ON         | 2        | WET                          | DAYLIGHT       | RAIN            | REAR-END                  | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 35      | GOING STRAIGHT    | W     | PICKUP TRUCK/UTILITY VAN | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 25      | SLOWING            |
| 6/12/2019  | 1240 | PDO      | ON         | 2        | DRY                          | DAYLIGHT       | NONE            | REAR-END                  | E     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | DRIVER INEXPERIENCE             | 45      | GOING STRAIGHT    | E     | PASSENGER CAR/VAN        | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 6/6/2019   | 1720 | PDO      | ON         | 2        | DRY                          | DAYLIGHT       | NONE            | REAR-END                  | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 5       | SLOWING           | W     | SUV                      | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 2/20/2019  | 2002 | PDO      | ON         | 3        | DRY                          | DARK-LIGHTED   | NONE            | REAR-END                  | E     | HIT & RUN - UNKNOWN                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | UK      | GOING STRAIGHT    | E     | SUV                      | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 3       | STOPPED IN TRAFFIC |
| 2/16/2019  | 1310 | INJ      | ON         | 2        | DRY                          | DAYLIGHT       | NONE            | BROADSIDE                 | E     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 65      | GOING STRAIGHT    | N     | PASSENGER CAR/VAN        | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 25      | GOING STRAIGHT     |
| 2/11/2019  | 1615 | PDO      | ON         | 2        | DRY                          | DAYLIGHT       | NONE            | REAR-END                  | W     | SUV                                | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 65      | GOING STRAIGHT    | W     | PASSENGER CAR/VAN        | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 12/12/2018 | 1815 | INJ      | ON         | 3        | DRY                          | DARK-UNLIGHTED | NONE            | REAR-END                  | E     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 45      | SLOWING           | E     | PASSENGER CAR/VAN        | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 11/27/2018 | 657  | PDO      | ON         | 2        | WET W/VIS ICY ROAD TREATMENT | DAYLIGHT       | NONE            | BROADSIDE                 | E     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 50      | OTHER             | N     | SUV                      | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 11/5/2018  | 648  | INJ      | ON         | 2        | DRY                          | DAYLIGHT       | NONE            | APPROACH TURN             | E     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 15      | MAKING LEFT TURN  | W     | PASSENGER CAR/VAN        | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 60      | SLOWING            |
| 9/24/2018  | 1614 | PDO      | ON         | 3        | DRY                          | DAYLIGHT       | NONE            | REAR-END                  | E     | SUV                                | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 25      | GOING STRAIGHT    | E     | PICKUP TRUCK/UTILITY VAN | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 5/7/2018   | 1600 | PDO      | ON         | 2        | DRY                          | DAYLIGHT       | NONE            | APPROACH TURN             | E     | TRUCK GVW > 10K/BUSSES > 15 PEOPLE | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 5       | MAKING LEFT TURN  | W     | MOTORCYCLE               | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 55      | GOING STRAIGHT     |
| 5/4/2018   | 1355 | PDO      | ON         | 2        | DRY                          | DAYLIGHT       | NONE            | REAR-END                  | E     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 3       | GOING STRAIGHT    | E     | PICKUP TRUCK/UTILITY VAN | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 3/18/2018  | 2140 | INJ      | ON         | 2        | SNOWY                        | DARK-UNLIGHTED | SNOW/SLEET/HAIL | REAR-END                  | W     | TRUCK GVW > 10K/BUSSES > 15 PEOPLE | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 15      | GOING STRAIGHT    | W     | SUV                      | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 3/8/2018   | 730  | INJ      | ON         | 2        | DRY                          | DAYLIGHT       | NONE            | APPROACH TURN             | E     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 55      | MAKING LEFT TURN  | W     | PICKUP TRUCK/UTILITY VAN | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 65      | GOING STRAIGHT     |
| 12/30/2017 | 1230 | INJ      | ON         | 5        | DRY                          | DAYLIGHT       | NONE            | REAR-END                  | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 65      | GOING STRAIGHT    | W     | PASSENGER CAR/VAN        | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 3/9/2017   | 1625 | INJ      | ON         | 2        | DRY                          | DAYLIGHT       | NONE            | BROADSIDE                 | N     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 15      | MAKING LEFT TURN  | W     | PASSENGER CAR/VAN        | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 55      | GOING STRAIGHT     |
| 8/1/2017   | 640  | PDO      | ON         | 2        | DRY                          | DAYLIGHT       | NONE            | BROADSIDE                 | W     | TRUCK GVW > 10K/BUSSES > 15 PEOPLE | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 35      | MAKING RIGHT TURN | N     | SUV                      | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 15      | GOING STRAIGHT     |
| 3/9/2017   | 1745 | INJ      | ON         | 2        | DRY                          | DAWN OR DUSK   | NONE            | APPROACH TURN             | NE    | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER UNFAMILIAR WITH AREA     | 10      | MAKING LEFT TURN  | SW    | PASSENGER CAR/VAN        | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 70      | GOING STRAIGHT     |
| 2/5/2017   | 2030 | PDO      | OFF AT TEE | 1        | DRY                          | DARK-UNLIGHTED | NONE            | EMBANKMENT CUT/FILL SLOPE | N     | SUV                                | NO IMPAIRMENT SUSPECTED | DRIVER UNFAMILIAR WITH AREA     | 35      | GOING STRAIGHT    |       |                          | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR |         |                    |



**Colorado Department of Transportation**  
**DiExSys™ Roadway Safety Systems**  
**General Summary of Crashes Report**

12/08/2021

Job #: 20211208125823

**Location: 94 A      Begin: 0.99    End: 1.01    From:01/01/2017    To:12/31/2019**

| Severity      |                    |
|---------------|--------------------|
| PDO:          | 8                  |
| INJ:          | 6      10 :Injured |
| FAT:          | 1      1 :Killed   |
| <b>Total:</b> | <b>15</b>          |

| Crash Type            |           |
|-----------------------|-----------|
| Overtuning:           | 0         |
| Other Non Collision:  | 0         |
| Pedestrians:          | 0         |
| Broadside:            | 3         |
| Head On:              | 0         |
| Rear End:             | 6         |
| Sideswipe Same:       | 0         |
| Sideswipe Opposite:   | 0         |
| Approach Turn:        | 5         |
| Overtaking Turn:      | 0         |
| Parked Motor Vehicle: | 0         |
| Railway Vehicle:      | 0         |
| Bicycles:             | 0         |
| Domestic Animal:      | 1         |
| Wild Animal:          | 0         |
| Fixed Objects:        | 0         |
| Other Objects:        | 0         |
| Unknown:              | 0         |
| <b>Total:</b>         | <b>15</b> |

| Weather Conditions |           |
|--------------------|-----------|
| None:              | 14        |
| Rain:              | 0         |
| Snow/Sleet/Hail:   | 0         |
| Fog:               | 0         |
| Dust:              | 0         |
| Wind:              | 1         |
| Unknown:           | 0         |
| <b>Total:</b>      | <b>15</b> |

| Number of Vehicles |           |
|--------------------|-----------|
| One Vehicle:       | 1         |
| Two Vehicles:      | 13        |
| Three or More:     | 1         |
| Unknown:           | 0         |
| <b>Total:</b>      | <b>15</b> |

| Road Conditions      |           |
|----------------------|-----------|
| Dry:                 | 15        |
| Wet:                 | 0         |
| Muddy:               | 0         |
| Snowy:               | 0         |
| Icy:                 | 0         |
| Slushy:              | 0         |
| Foreign Material:    | 0         |
| With Road Treatment: | 0         |
| Unknown:             | 0         |
| <b>Total:</b>        | <b>15</b> |

| Location      |           |
|---------------|-----------|
| On Road:      | 15        |
| Off Road:     | 0         |
| Unknown:      | 0         |
| <b>Total:</b> | <b>15</b> |

| Mainline/Ramps/Frontage Rds |           |
|-----------------------------|-----------|
| Mainline:                   | 15        |
| Ramps:                      | 0         |
| Frontage/Ramp Intsx:        | 0         |
| Frontage Roads:             | 0         |
| HOV Lanes:                  | 0         |
| Unknown:                    | 0         |
| <b>Total:</b>               | <b>15</b> |

| Vehicle Types                        | Vehicle 1 | Vehicle 2 | Vehicle 3 |
|--------------------------------------|-----------|-----------|-----------|
| Passenger Car/Van:                   | 6         | 6         | 0         |
| Passenger Car/Van w/Trailer:         | 0         | 0         | 0         |
| Pickup Truck/Utility Van:            | 3         | 3         | 1         |
| Pickup Truck/Utility Van w/Trailer:  | 0         | 0         | 0         |
| SUV:                                 | 5         | 3         | 0         |
| SUV w/Trailer:                       | 0         | 0         | 0         |
| Truck 10k lbs or Less:               | 0         | 0         | 0         |
| Trucks > 10k lbs/Busses > 15 People: | 1         | 2         | 0         |
| School Bus < 15 People:              | 0         | 0         | 0         |
| Non School Bus < 15 People:          | 0         | 0         | 0         |
| Motorhome:                           | 0         | 0         | 0         |
| Motorcycle:                          | 0         | 0         | 0         |
| Bicycle:                             | 0         | 0         | 0         |
| Motorized Bicycle:                   | 0         | 0         | 0         |
| Farm Equipment:                      | 0         | 0         | 0         |
| Hit and Run - Unknown:               | 0         | 0         | 0         |
| Other:                               | 0         | 0         | 0         |
| Unknown:                             | 0         | 0         | 0         |
| <b>Total:</b>                        | <b>15</b> | <b>14</b> | <b>1</b>  |

| Lighting Conditions |           |
|---------------------|-----------|
| Daylight:           | 11        |
| Dawn or Dusk:       | 1         |
| Dark - Lighted:     | 1         |
| Dark - Unlighted:   | 2         |
| Unknown:            | 0         |
| <b>Total:</b>       | <b>15</b> |

| Crash Rates   |                              |
|---------------|------------------------------|
| PDO:          | 33.46 *      * Per MVMT      |
| INJ:          | 25.10 *      ** Per 100 MVMT |
| FAT:          | 418.31 **                    |
| <b>Total:</b> | <b>62.75 *</b>               |

**ADT: 10,396      Length: 0.02**

SH-94 and Marksheffel Road (MP 1) Crash Data

| date       | time | severity | location | vehicles | condition | lighting       | weather | acctype       | dir_1 | vehicle_1                          | driver_1                | factor_1                        | speed_1 | veh_move_1        | dir_2 | vehicle_2                          | driver_2                | factor_2                        | speed_2 | veh_move_2         |
|------------|------|----------|----------|----------|-----------|----------------|---------|---------------|-------|------------------------------------|-------------------------|---------------------------------|---------|-------------------|-------|------------------------------------|-------------------------|---------------------------------|---------|--------------------|
| 12/2/2019  | 640  | INJ      | ON       | 2        | DRY       | DAWN OR DUSK   | NONE    | APPROACH TURN | S     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 20      | MAKING LEFT TURN  | N     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 50      | GOING STRAIGHT     |
| 10/16/2019 | 950  | INJ      | ON       | 2        | DRY       | DAYLIGHT       | NONE    | REAR-END      | S     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 55      | GOING STRAIGHT    | S     | TRUCK GVW > 10K/BUSSES > 15 PEOPLE | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 10/11/2019 | 1323 | PDO      | ON       | 2        | DRY       | DAYLIGHT       | NONE    | REAR-END      | W     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 10      | MAKING RIGHT TURN | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 8/13/2019  | 1700 | PDO      | ON       | 2        | DRY       | DAYLIGHT       | NONE    | REAR-END      | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 30      | SLOWING           | W     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 7/9/2019   | 845  | PDO      | ON       | 2        | DRY       | DAYLIGHT       | NONE    | BROADSIDE     | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 5       | MAKING RIGHT TURN | N     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 45      | GOING STRAIGHT     |
| 6/27/2019  | 720  | PDO      | ON       | 2        | DRY       | DAYLIGHT       | NONE    | APPROACH TURN | S     | SUV                                | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 15      | MAKING LEFT TURN  | N     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 50      | GOING STRAIGHT     |
| 1/9/2019   | 555  | PDO      | ON       | 2        | DRY       | DARK-UNLIGHTED | NONE    | REAR-END      | S     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | DRIVER PREOCCUPIED              | 15      | SLOWING           | S     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |
| 9/14/2018  | 1545 | INJ      | ON       | 2        | DRY       | DAYLIGHT       | NONE    | APPROACH TURN | S     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 15      | MAKING LEFT TURN  | N     | TRUCK GVW > 10K/BUSSES > 15 PEOPLE | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 50      | GOING STRAIGHT     |
| 9/2/2018   | 1435 | PDO      | ON       | 2        | DRY       | DAYLIGHT       | NONE    | REAR-END      | W     | PASSENGER CAR/VAN                  | ALCOHOL INVOLVED        | UNKNOWN                         | 55      | GOING STRAIGHT    | W     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 35      | GOING STRAIGHT     |
| 6/4/2018   | 1055 | FAT      | ON       | 2        | DRY       | DAYLIGHT       | NONE    | APPROACH TURN | W     | TRUCK GVW > 10K/BUSSES > 15 PEOPLE | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 15      | MAKING LEFT TURN  | E     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 45      | GOING STRAIGHT     |
| 4/2/2018   | 1435 | INJ      | ON       | 3        | DRY       | DAYLIGHT       | NONE    | BROADSIDE     | W     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 65      | GOING STRAIGHT    | S     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 45      | GOING STRAIGHT     |
| 12/28/2017 | 740  | INJ      | ON       | 2        | DRY       | DAYLIGHT       | NONE    | BROADSIDE     | S     | SUV                                | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 50      | GOING STRAIGHT    | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 50      | GOING STRAIGHT     |
| 11/30/2017 | 545  | PDO      | ON       | 2        | DRY       | DARK-LIGHTED   | NONE    | APPROACH TURN | S     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 20      | MAKING LEFT TURN  | N     | PICKUP TRUCK/UTILITY VAN           | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 50      | GOING STRAIGHT     |
| 1/9/2017   | 955  | INJ      | ON       | 2        | DRY       | DAYLIGHT       | WIND    | REAR-END      | W     | SUV                                | NO IMPAIRMENT SUSPECTED | UNKNOWN                         | 15      | GOING STRAIGHT    | W     | PASSENGER CAR/VAN                  | NO IMPAIRMENT SUSPECTED | NO APPARENT CONTRIBUTING FACTOR | 0       | STOPPED IN TRAFFIC |



# APPENDIX I

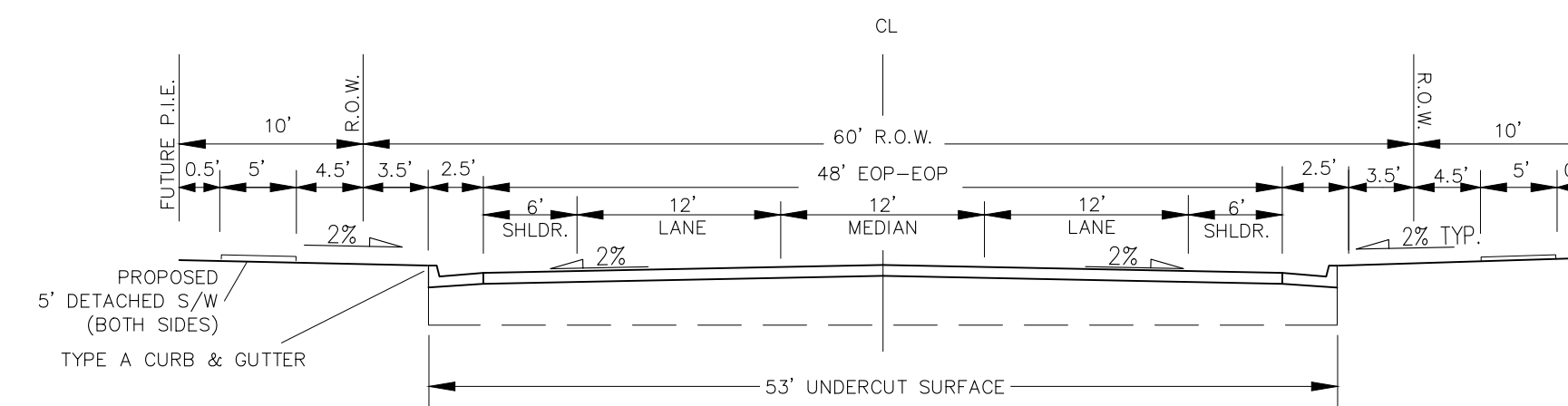
## Conceptual Site Plans

# CROSSROADS NORTH SITE UTILITY EXHIBIT

CROSSROADS NORTH  
SITE UTILITY EXHIBIT  
JOB #18-001  
JUNE 18, 2024

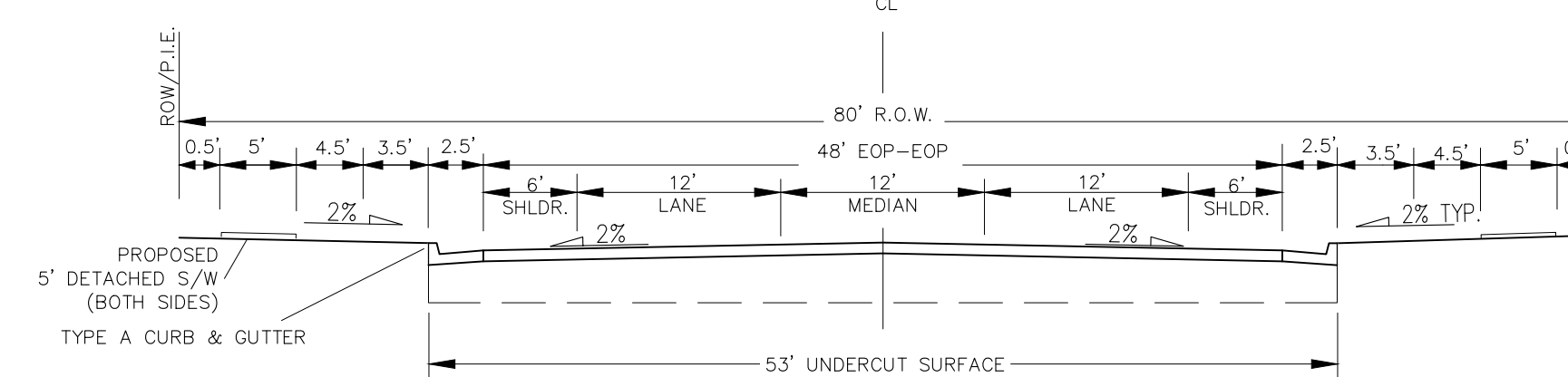
### UTILITY PROVIDERS

- GAS - CSU
- ELECTRIC - CSU
- WATER - CSU FOR PARK SITE
- WATER - CHEROKEE MD FOR DEVELOPMENT
- SANITARY - CHEROKEE MD FOR PARK SITE BATHROOMS
- SANITARY - CHEROKEE MD FOR DEVELOPMENT
- STORM SEWER - EL PASO COUNTY OR PRIVATE



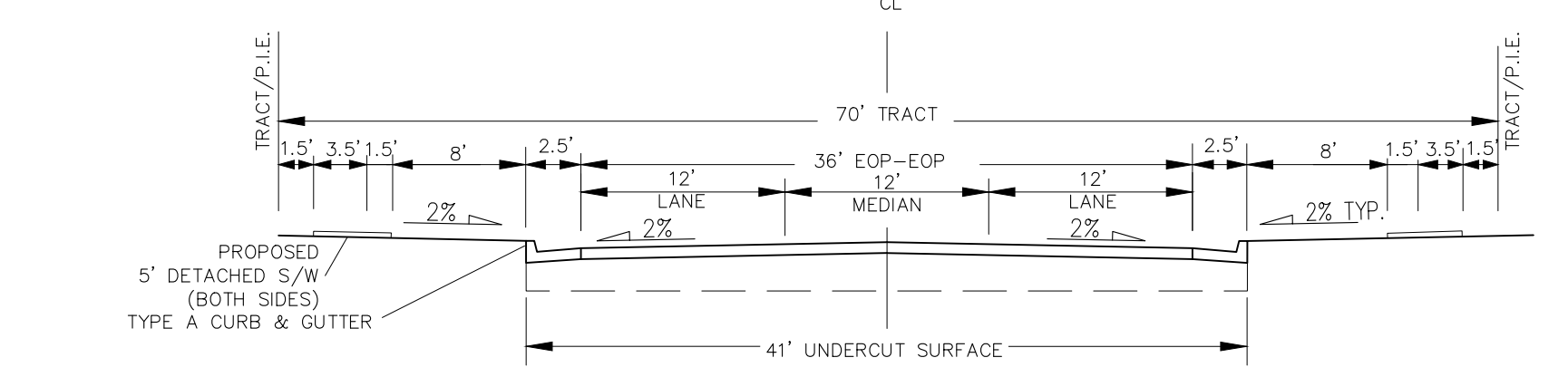
TYPICAL AIR LANE (PUB) 48' MAT  
(STRIPED MEDIAN)

SCALE: NTS



TYPICAL PRO OMNIBUS HEIGHTS (PRVT) 48' MAT  
(STRIPED MEDIAN)

SCALE: NTS

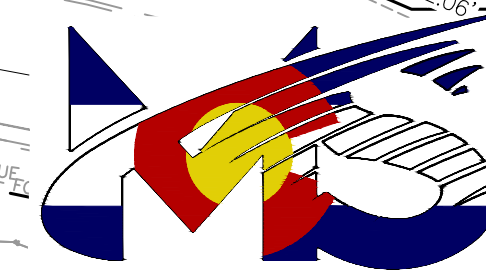
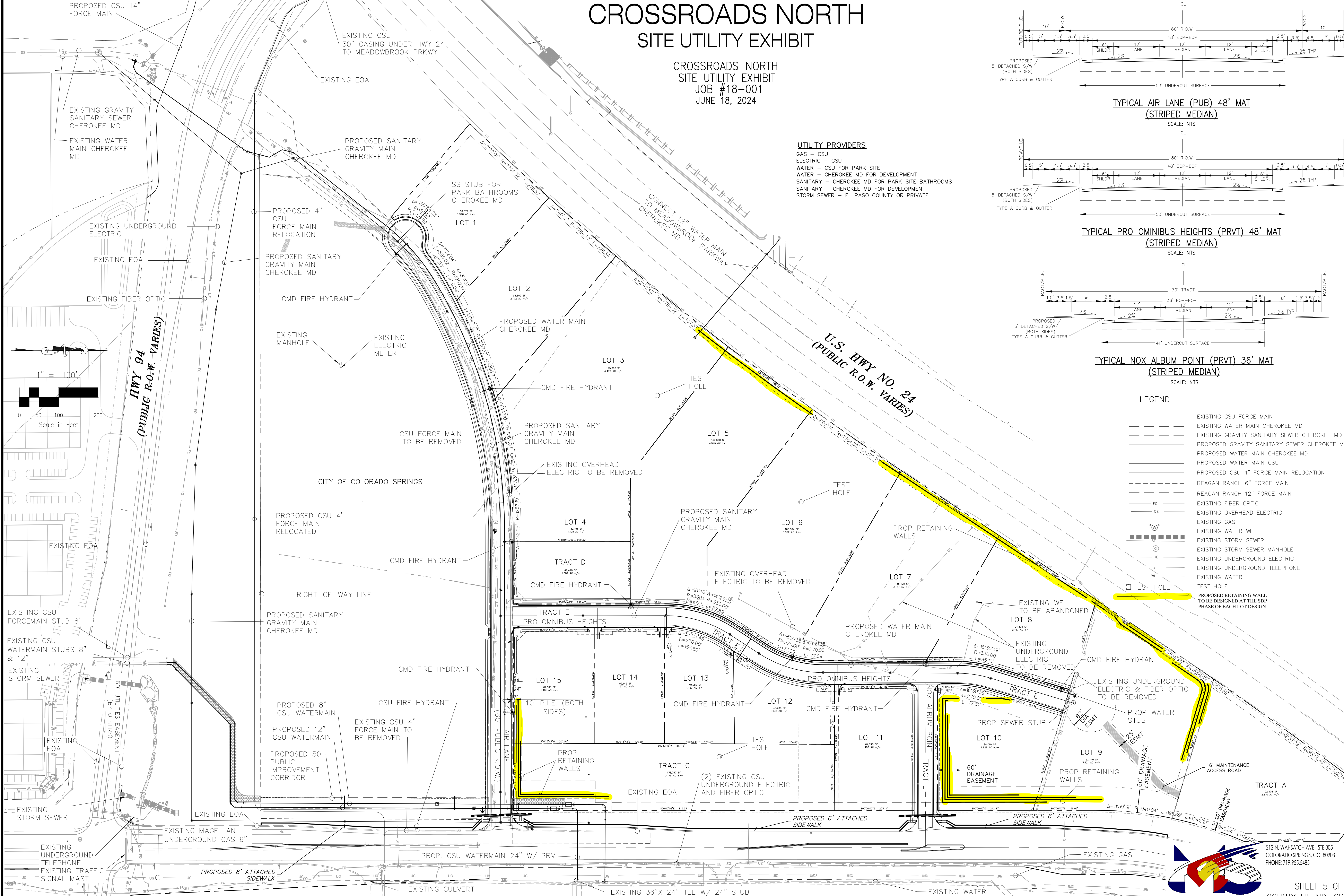


TYPICAL NOX ALBURN POINT (PRVT) 36' MAT  
(STRIPED MEDIAN)

SCALE: NTS

### LEGEND

- EXISTING CSU FORCE MAIN
- EXISTING WATER MAIN CHEROKEE MD
- EXISTING GRAVITY SANITARY SEWER CHEROKEE MD
- PROPOSED GRAVITY SANITARY SEWER CHEROKEE MD
- PROPOSED WATER MAIN CHEROKEE MD
- PROPOSED WATER MAIN CSU
- PROPOSED CSU 4" FORCE MAIN RELOCATION
- REAGAN RANCH 6" FORCE MAIN
- REAGAN RANCH 12" FORCE MAIN
- EXISTING FIBER OPTIC
- EXISTING OVERHEAD ELECTRIC
- EXISTING GAS
- EXISTING WATER WELL
- EXISTING STORM SEWER
- EXISTING STORM SEWER MANHOLE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING UNDERGROUND TELEPHONE
- EXISTING WATER
- TEST HOLE
- PROPOSED RETAINING WALL TO BE DESIGNED AT THE SDP PHASE OF EACH LOT DESIGN



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