

Village at Lorson Ranch Traffic Impact Study

PCD file No.
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Prepared for:
El Paso County, CO

Prepared by:



2435 Research Parkway, Suite 300
Colorado Springs, CO 80920

Contact: Scott Barnhart, PE, PTOE

On Behalf of:
The Landhuis Company
212 N. Wahsatch Avenue, Suite 301
Colorado Springs, CO 80903

April 8, 2024

VILLAGE AT LORSON RANCH

TRAFFIC IMPACT STUDY

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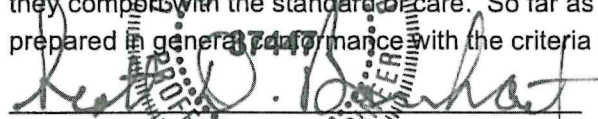
Contact: Scott Barnhart, PE, PTOE
719.575.0100

On Behalf of:

The Landhuis Company
212 N. Wahsatch Avenue Suite 301
Colorado Springs, CO 80903

Traffic Engineer's Statement

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



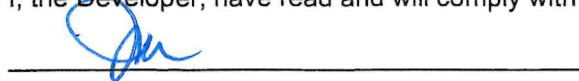
Scott D. Barnhart, P.E. #37447

4/10/2024

Date

Developer's Statement

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



Jeff Mark, President

4/10/24

Date

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Introduction

The Village at Lorson Ranch project (project) is an 9.725 -acre development located at the northeast corner of Marksheffel Road/Fontaine Boulevard in El Paso County. The project consists of a gas station/convenience store, three fast food restaurants, a daycare facility, and a storage facility.

The project is bounded on the east by Carriage Meadows Drive, on the west by Marksheffel Road, and on the south by Fontaine Boulevard. Three access points are designated for the project. One full movement access point located on Carriage Meadows Drive, a Right-IN (RI) only access on Fontaine Boulevard and a Right-In-Right-Out (RIRO) access on Marksheffel Road.

The purpose of this traffic impact study is to assess the effects this proposed development will have on the surrounding transportation system.

The report is organized as follows:

- **Introduction** – Describes the purpose and intent of this study.
- **Area Conditions** – Describes the study area land uses as well as the existing and future roadway network.
- **Proposed Development** – Describes the proposed development and the location.
- **Projected Traffic** – Identifies the expected number of daily trips that will be generated by the Village at Lorson Ranch development. The expected external trip distribution is also shown.
- **Traffic Analysis** – Analyzes the existing conditions in the study area as well as buildout year (2030) and horizon year (2045) conditions both with and without the project.
- **Findings and Conclusions** – Identifies any deficiencies in the study area roadway network with or without the project and mitigation measures that will alleviate any identified deficiencies.
- **Recommendations** – Provides a summary of the study findings.

Please include a discussion of the deviation request that has been made with the County as part of SF248.

Area Conditions

This section describes the existing conditions and the planned level of improvements adjacent to the Village at Lorson Ranch development.

Site Accessibility

The existing roadway system consists of the following transportation facilities:

Marksheffel Road is a north-south transportation facility and is a three-lane facility. This roadway is classified as a 4-lane Expressway in the El Paso County 2040 Major Transportation Corridor Plan (MTCP). The daily traffic capacity is 48,000 ADT. Marksheffel Road provides a paved shoulder to accommodate cyclists. The City of Colorado Springs Major Throughfare Plan classifies this road as a principal arterial with a daily traffic capacity of up to 25,000 ADT for a 4-lane Principal Arterial or 60,000 ADT for a 6-lane Principal Arterial. The City of Colorado Springs has recently taken over the ownership and maintenance of this roadway.

Fontaine Boulevard is an east-west facility classified as a 4-lane Principal Arterial in the 2040 MTCP. The daily traffic capacity is 40,000 ADT. Fontaine Boulevard is currently providing 2 lanes in each direction and a paved shoulder to accommodate cyclists. The City of Colorado Springs also classified this road as a principal arterial.

Carriage Meadows Drive is a north-south local street. This facility provides one lane in each direction. Sidewalk, curb, and gutter are provided on both sides of the road. The posted speed limit is 25 mph and ADT threshold capacity is 3,000 vehicles. As a local road, it does not appear on the County's 2040 MTCP or 2060 Corridor Preservation Plan.

The study area is rapidly growing, and multiple large-scale developments are planning to be built in the future in the vicinity of the project. Specifically, Rolling Meadows/Bull Hill, Bradley Heights, Hillside at Lorson Ranch, and Corvallis. In this memo, Matrix used the *Hillside at Lorson Ranch TIS* (June 30, 2022) for the future background volumes except for the through volumes on Marksheffel Road in the buildout year. For this purpose, collected counts and an appropriate growth factor was used to represent a realistic future condition. Traffic counts were collected on March 12, 2024, to analyze the existing and future conditions. Existing counts can be found in Appendix A – Existing Conditions Analysis. Excerpts of the *Hillside at Lorson Ranch TIS* can be found in Appendix F – Supporting Documents.

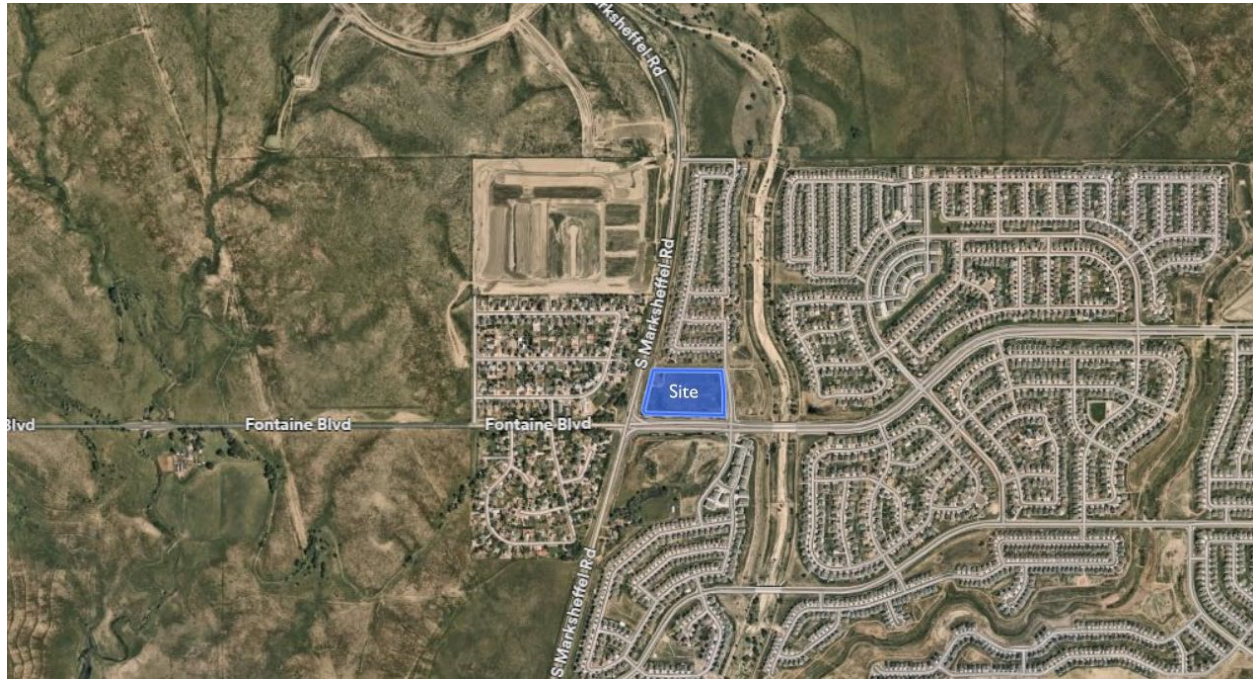
Intersection analysis for the existing conditions were confined to the intersections listed below

- Marksheffel Road/Fontaine Boulevard
- Marksheffel Road/Lorson Boulevard
- Fontaine Boulevard/Carriage Meadows Drive

The vicinity map is shown in Figure 1. Site plan is shown in Figure 2. The AM and PM peak hour volumes at the studied intersections are shown in Figure 3 and Figure 4 and the daily traffic volumes in the existing conditions are shown in Figure 5

Please include a discussion of any impacts on neighborhood schools

Figure 1. Vicinity Map



Proposed Development

The Project will consist of a gas station/convenience store, three fast food restaurants, a day care and a storage facility. Figure 2 illustrates the Project site plan.

Figure 2. Village at Lorson Ranch Site Plan

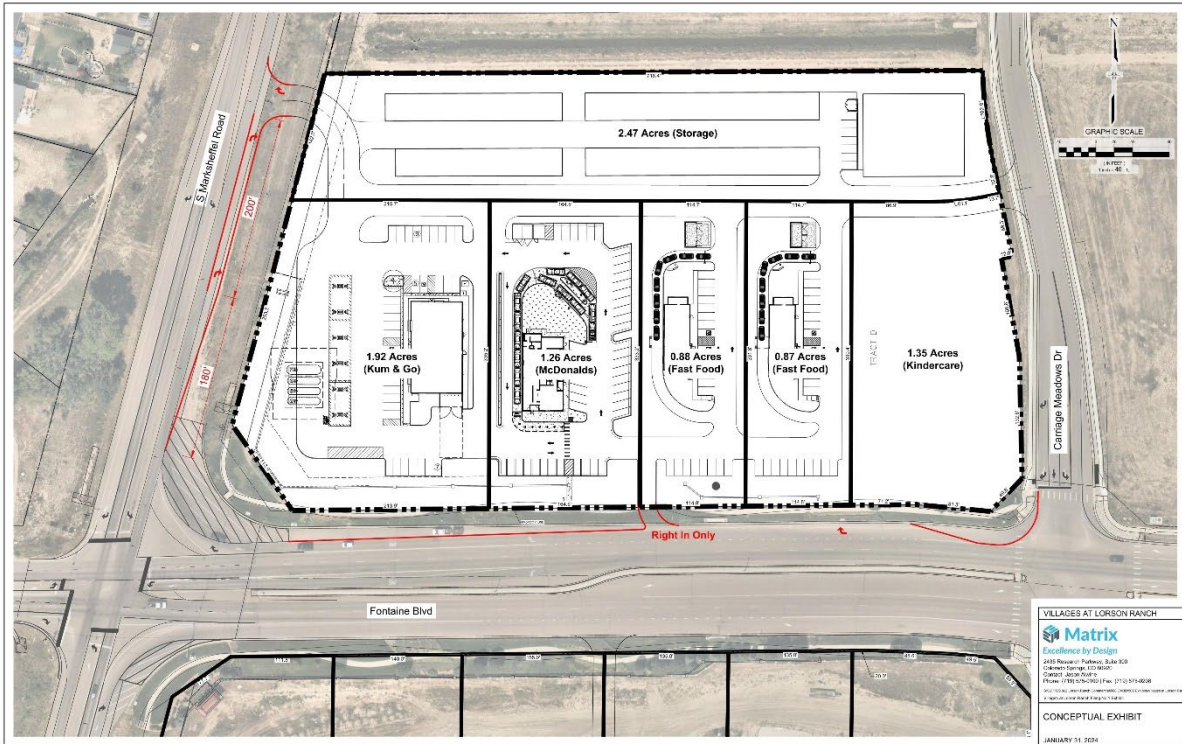


Figure 3. Existing Conditions Traffic Volumes (AM Peak Hour)

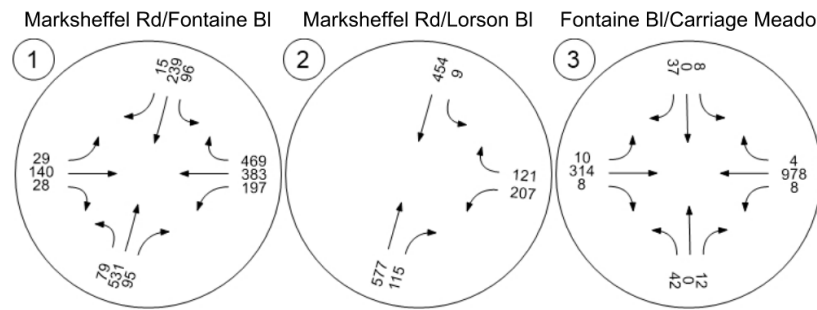
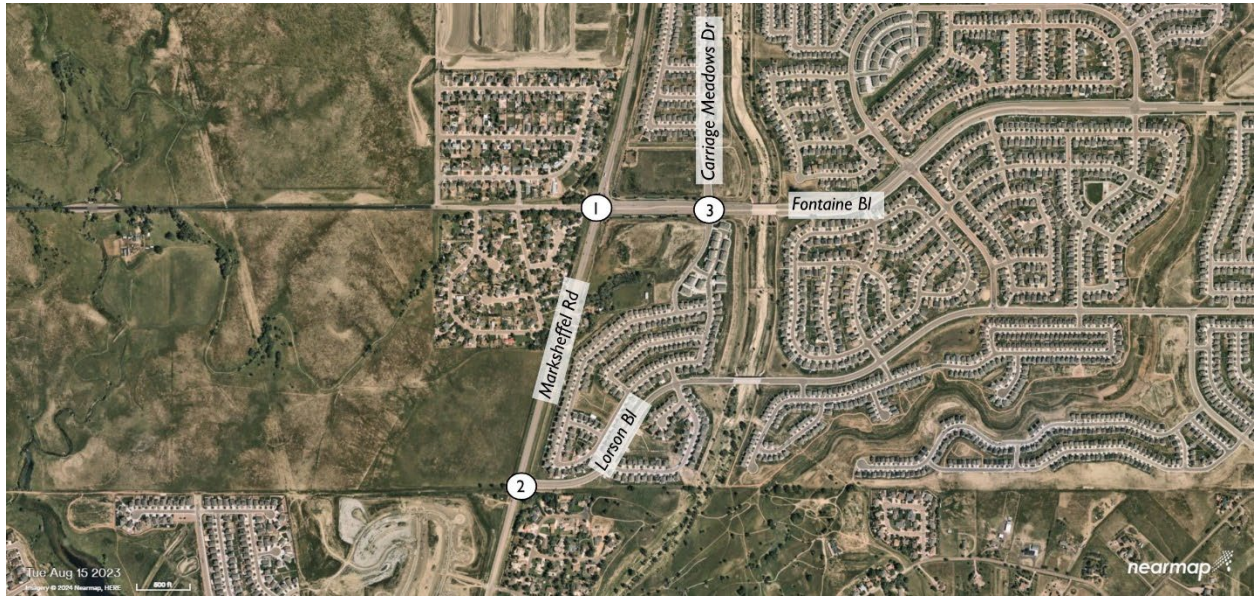
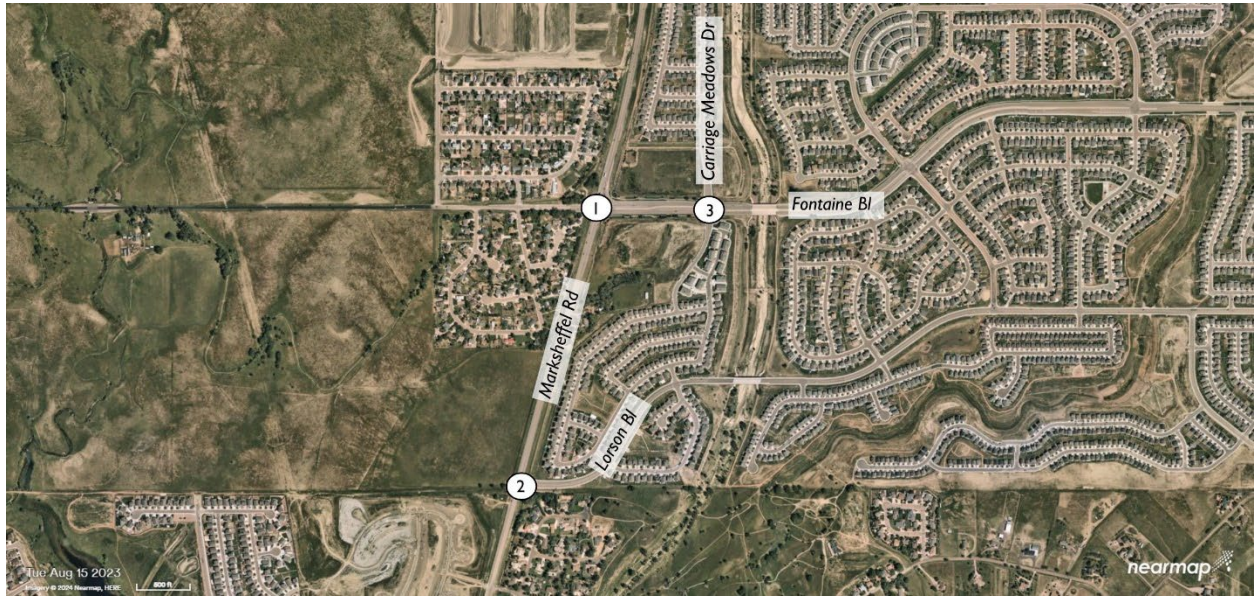
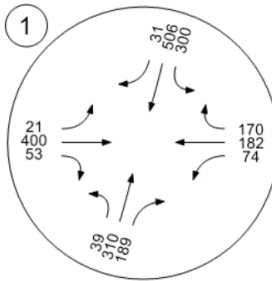


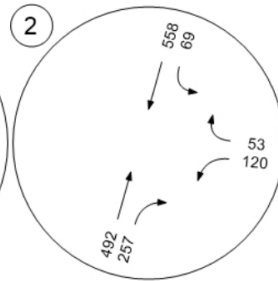
Figure 4. Existing Conditions Traffic Volumes (PM Peak Hour)



Marksheffel Rd/Fontaine Bl



Marksheffel Rd/Lorson Bl



Fontaine Bl/Carriage Meado

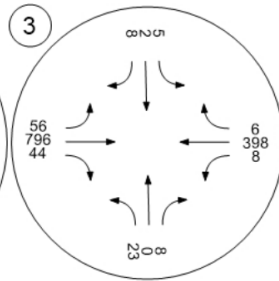
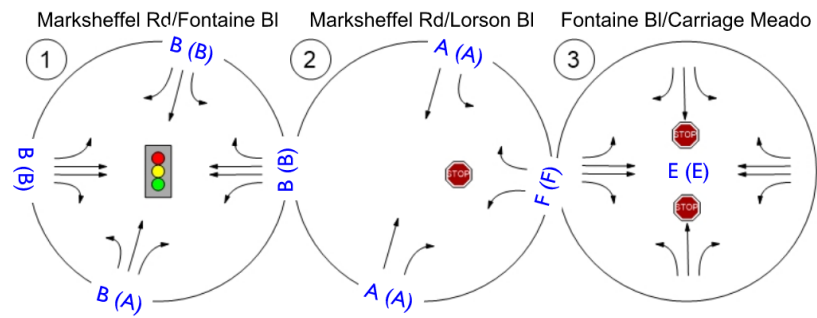
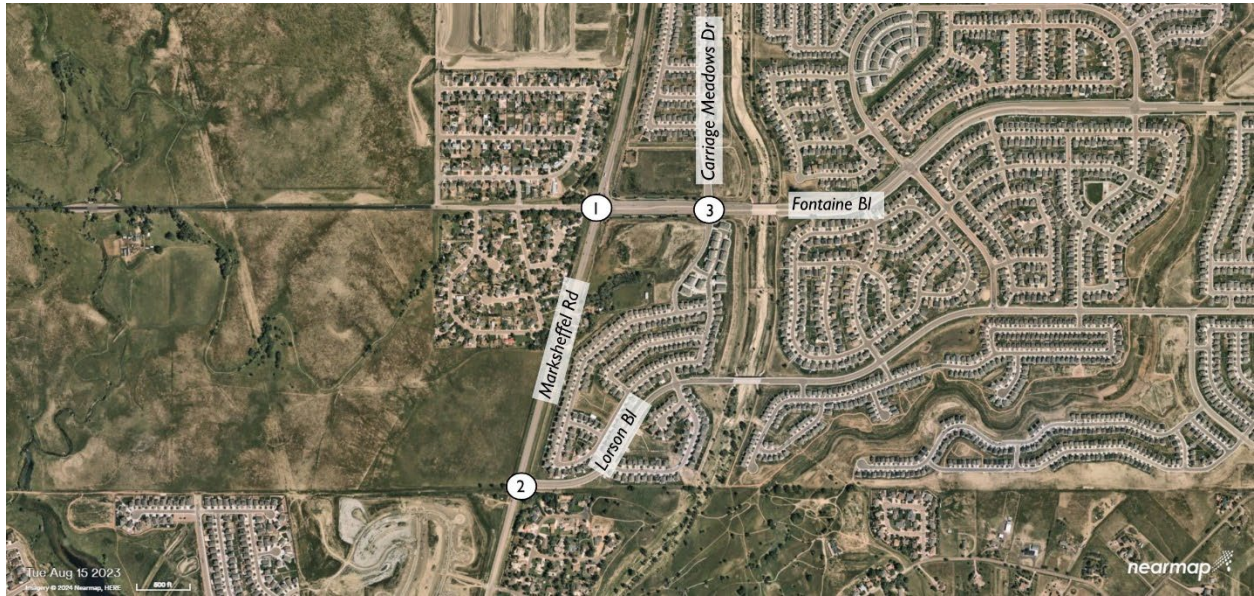


Figure 5. Existing Conditions Daily Traffic Volumes



The existing intersection configurations are shown in Figure 6.

Figure 6. Existing Conditions Intersection Configurations and LOS



Intersection LOS analysis was performed for the study area intersections and the results are shown in Table 1 and Table 2. The intersections along Marksheffel Road were studied based on the City of Colorado Springs Traffic Criteria Manual (TCM), and the remaining intersection was studied based on the El Paso County Engineering Criteria Manual (ECM).

Table 1. Existing Conditions Intersection Operations (AM Peak Hour)

Intersection Analysis Summary

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|----|---------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | HCM 7th Edition | WB Left | 0.521 | 14.4 | B |
| 2 | Marksheffel Rd/Lorson Bl | Two-way stop | HCM 7th Edition | WB Left | 1.247 | 195.0 | F |
| 3 | Fontaine Bl/Carriage Meadows Dr | Two-way stop | HCM 7th Edition | SB Left | 0.095 | 42.7 | E |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 2. Existing Conditions Intersection Operations (PM Peak Hour)

Intersection Analysis Summary

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|----|---------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | HCM 7th Edition | WB Left | 0.458 | 13.1 | B |
| 2 | Marksheffel Rd/Lorson Bl | Two-way stop | HCM 7th Edition | WB Left | 0.859 | 92.7 | F |
| 3 | Fontaine Bl/Carriage Meadows Dr | Two-way stop | HCM 7th Edition | NB Left | 0.239 | 46.7 | E |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 1 and Table 2 indicate two intersections operate below the acceptable LOS. Acceptable operations per the El Paso County ECM are defined as any intersection that operates at LOS D or better. The City of Colorado Springs TCM requires all intersection approaches operate at LOS D or better.

The intersection of Marksheffel Road/Lorson Boulevard (#2) operates at LOS F during both AM and PM peak hours. The City of Colorado Springs currently plans to install a traffic signal at this intersection. By changing the traffic control type, this intersection will operate at LOS B in both AM and PM peak. All approaches will also operate at LOS B. The intersection operations after changing the control type to signalized is labeled as “Mitigated” in Appendix B – Existing Conditions Analyses.

In addition, Fontaine Boulevard/Carriage Meadows (#3) operates at LOS E in both peak hours. This is due to the deficient southbound left-turn movement in AM peak, and the deficient northbound left-turn movement in the PM peak hour. Both movements’ LOS are at LOS E in the existing conditions. However,

the 95-percentile queue length is less than 1.42 vehicles at any time. As a result, Matrix does not recommend any mitigations for this intersection in the existing conditions.

Turn lane evaluations were done based on the City of Colorado Springs (CCS) TCM and El Paso County (EPC) ECM and results are summarized in Table 3, below.

Table 3. Existing Conditions Turn Lane Evaluations

| ID | Intersection | Control Type | Movement | Speed (mph) | Turning Volume | Queue (ft) | Agency | Deceleration (ft) | Taper (ft) | Storage (ft) | Total (ft) | Provided (ft) | Improvement (ft) |
|----|---------------------------------|-----------------|----------|-------------|----------------|------------|--------|-------------------|------------|--------------|------------|---------------|------------------|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | NBL | 55 | 79 | 27 | CCS | 263 | 220 | | 485 | 740 | |
| | | | NBR | 55 | 189 | 0 | | 263 | 220 | | 485 | 740 | |
| | | | SBL | 55 | 300 | 126 | | 263 | 220 | | 485 | 665 | |
| | | | SBR | 55 | 31 | 2 | | 263 | 220 | | 485 | 665 | |
| | | | EBL | 35 | 29 | 18 | | 120 | 140 | | 260 | 330 | |
| | | | EBR | 35 | 53 | 11 | | 120 | 140 | | 260 | 50 | 210 |
| | | | WBL | 45 | 197 | 121 | | 200 | 180 | | 380 | 545 | |
| | | | WBR | 45 | 469 | 122 | | 200 | 180 | | 380 | Continuous | |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | NBR | 55 | 257 | 80 | CCS | 263 | 220 | | 485 | 565 | |
| | | | SBL | 55 | 69 | 41 | | 263 | 220 | | 485 | Continuous | |
| | | | WBLT | 35 | 207 | 128 | | 120 | 140 | | 260 | 485 | |
| | | | WBRT | 35 | 121 | 69 | | 120 | 140 | | 260 | Continuous | |
| | | | | | | | | | | | | | |
| 3 | Fontaine Bl/Carriage Meadows Dr | Stop-Controlled | NBL | 25 | 23 | 35 | EPC | Not Required | | | 190 | | |
| | | | NBR | 25 | 8 | 2 | | Not Required | | | 180 | | |
| | | | SBL | 25 | 5 | 8 | | Not Required | | | 100 | | |
| | | | SBR | 25 | 8 | 8 | | Not Required | | | 100 | | |
| | | | EBL | 45 | 56 | 5 | | 235 | 200 | 50 | 485 | 500 | |
| | | | EBR | 45 | 44 | 0 | | 235 | 200 | | 435 | Continuous | |
| | | | WBL | 45 | 8 | 1 | | Not Required | | | 510 | | |
| | | | WBR | 45 | 6 | 0 | | Not Required | | | 330 | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

Marksheffel Road/Fontaine Boulevard (#1)

- A 210-ft extension of eastbound right-turn.

Marksheffel Road/Lorson Boulevard (#2)

- A traffic signal.

Crash History

The El Paso County Road Safety Plan website was used to obtain the number of fatal and severe crashes in the vicinity of the project. Crash data from the year 2015 to 2019 were collected and shown as a density map on the website. As shown in Figure 7 and Figure 8, two fatal crashes occurred near the project at two locations, while one serious injury crash was reported. The project will help to improve safety by contributing to installation of a traffic signal and reducing the probability of conflicting movements at the intersection of Carriage Meadows/Fontaine Boulevard.

Figure 7. Fatality Crash Map

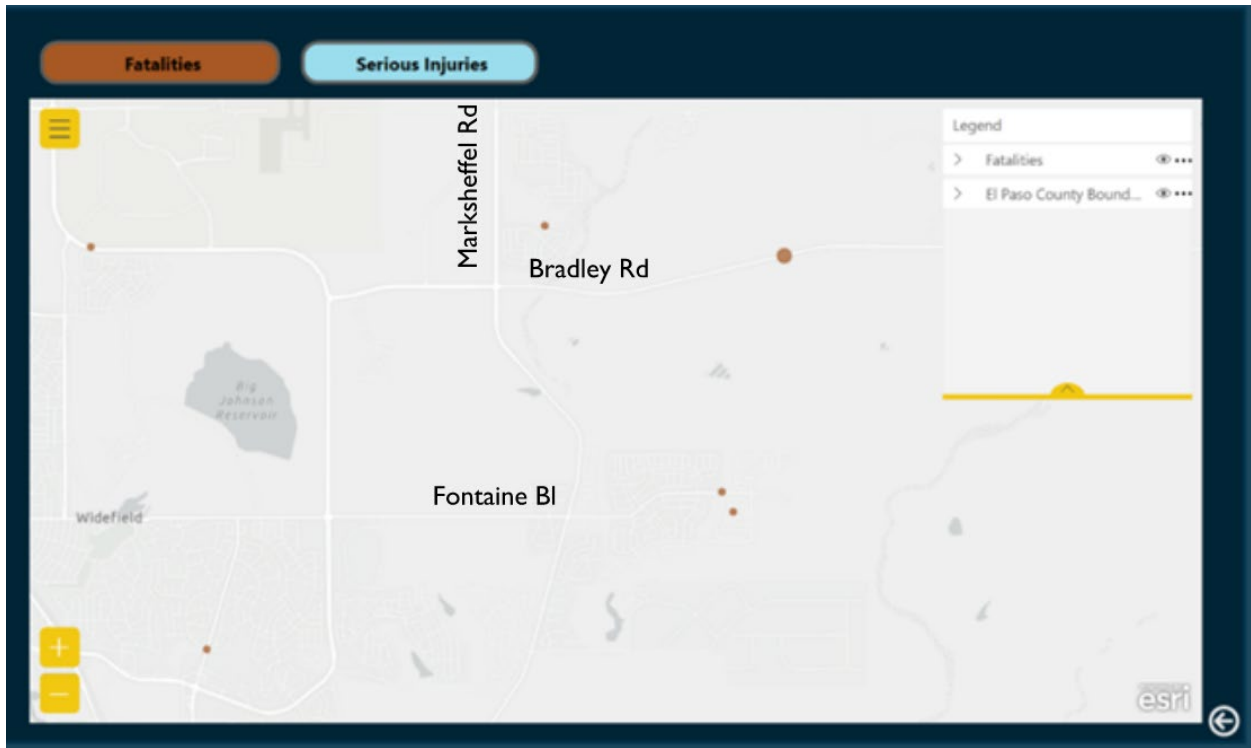
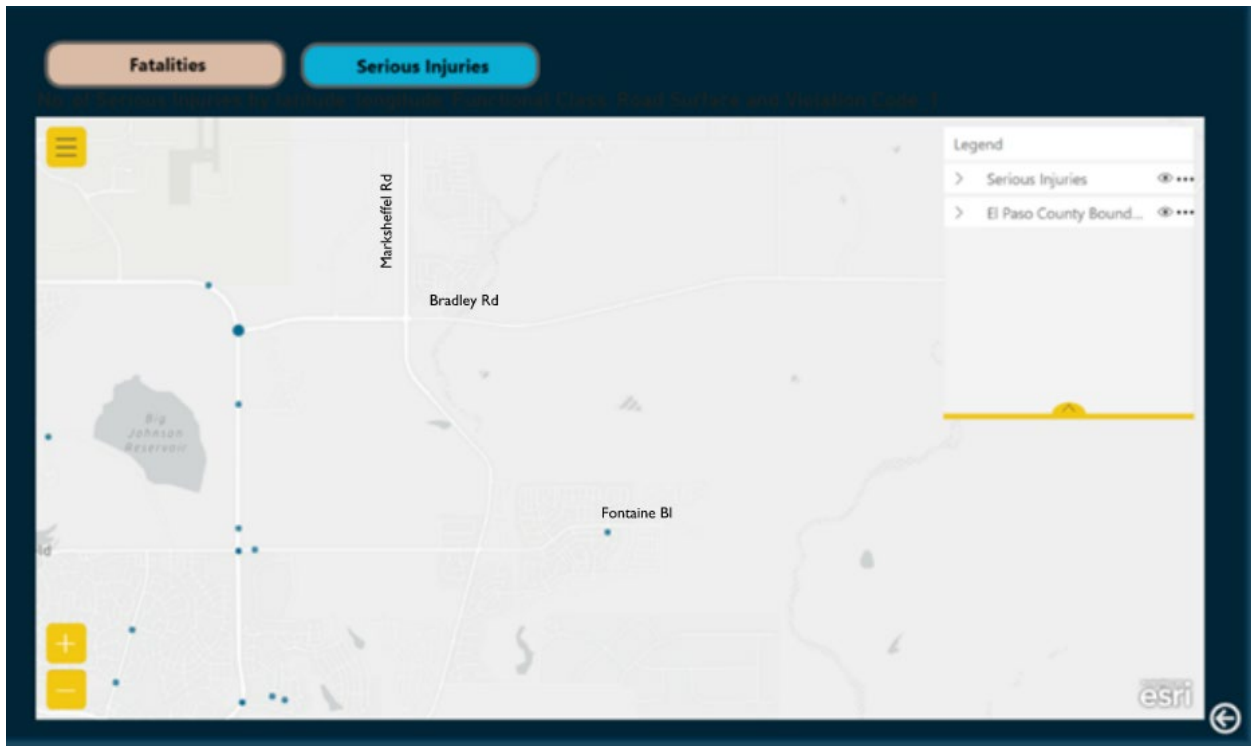


Figure 8. Serious Injury Crash Map



Projected Development Traffic

This section documents how much traffic the project development is expected to generate and how the external site trips will be distributed on the adjacent roadway network.

Trip Generation

The vehicle trips associated with the project were calculated using the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 11th Edition*. This methodology consists of choosing an independent variable for the land use for a particular time of day. The independent variable correlates to the variation in trip ends and is related to the land use. The value of the independent variable is either multiplied by a weighted average or used in a regression equation to calculate the trips generated by the land use. The *ITE Trip Generation Manual* provides guidance on when to use the weighted average versus the regression equation.

Table 4 shows the trips that are expected to be generated by Village at Lorson Ranch at buildout. It was assumed that 100% of trips will be made by personal vehicles and no public transit use was assumed for this development as there is no transit service in the area.

In addition to Village at Lorson Ranch, trips from two future adjacent developments were included in this report. Currently, there is a vacant land located at the northeast corner of Fontaine Boulevard/Carriage Meadows Drive. It was assumed that 50 dwelling units of single family attached housings (townhomes) will be constructed by the year 2030 (buildout year) at this location. The townhomes traffic is included in the buildout background volumes.

Also, it was assumed that Lorson Ranch Commercial South (LRCS) will be constructed at the southeast corner of Marksheffel Road/Fontaine Boulevard by the year 2045 (horizon year). The traffic from this development is included in the horizon background scenario was assumed that the LRCS will be retail and the same 15% floor to area ratio (FAR) that is planned for the Village at Lorson Ranch (see Figure 2 – Site Plan) was also assumed for the LRCS. A land use plan for the LRCS can be found in Appendix F – Supporting Documents.

Please include the trip generation rate from the ITE in the table

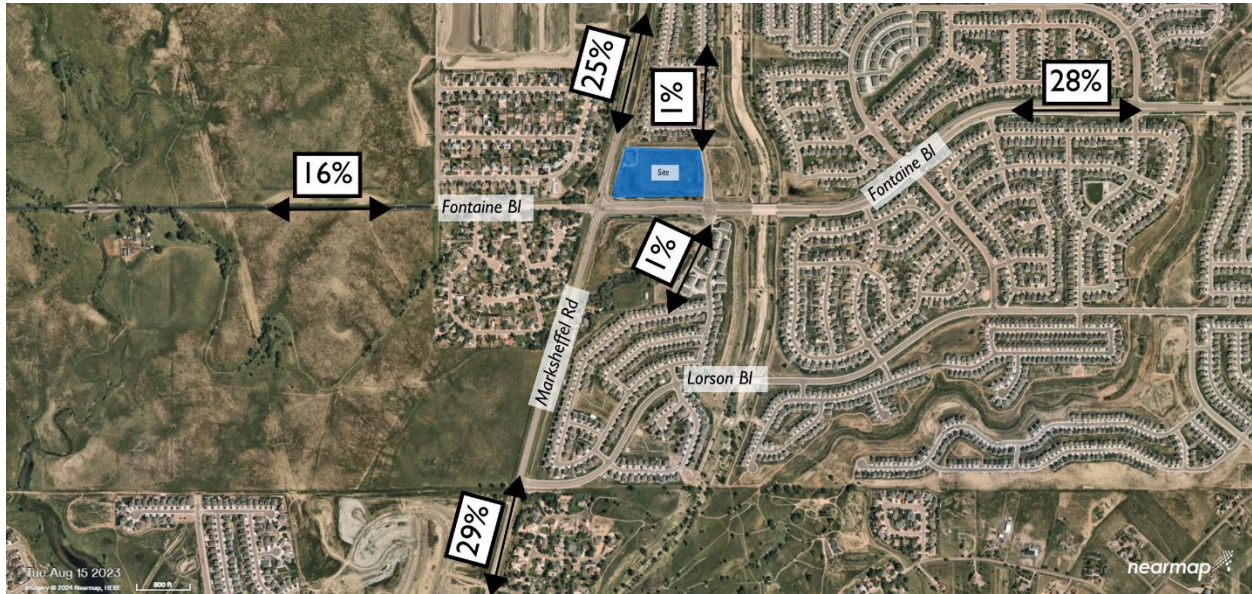
Table 4. Village at Lorson Ranch Trip Generation

| ITE - Code and Land Use | Size | Units | Weekday | | | AM Peak Hour | | | PM Peak Hour | | |
|---|-------|-------|-------------|-------------|-------------|--------------|------------|------------|--------------|------------|------------|
| | | | Total | Entering | Exiting | Total | Entering | Exiting | Total | Entering | Exiting |
| The Project : Village at Lorson Ranch | | | | | | | | | | | |
| 934 - Fast Food Restaurant With Drive Through Window | 8.17 | KSF | 3820 | 1910 | 1910 | 186 | 95 | 91 | 135 | 70 | 65 |
| 945 - Convenience Store/Gas Station VFP (9-15) | 5.68 | KSF | 3734 | 1867 | 1867 | 120 | 60 | 60 | 106 | 53 | 53 |
| 565 - Day Care Center | 12 | KSF | 572 | 286 | 286 | 132 | 70 | 62 | 134 | 63 | 71 |
| 151 - Mini Warehouse | 36.5 | KSF | 52 | 26 | 26 | 3 | 2 | 1 | 6 | 3 | 3 |
| Total | | | 8178 | 4089 | 4089 | 441 | 227 | 214 | 381 | 189 | 192 |
| Townhomes (Included in Buildout 2030 Scenarios) | | | | | | | | | | | |
| 215 - Single Family Attached Housing | 50 | DU | 331 | 165 | 166 | 20 | 5 | 15 | 26 | 15 | 11 |
| Lorson Ranch Commercial South (Included in 2045 Scenarios) | | | | | | | | | | | |
| 821 - Shopping Plaza (40-150 K) | 81.54 | KSF | 5506 | 2753 | 2753 | 141 | 87 | 54 | 423 | 207 | 216 |

Trip Distribution

Figure 9 illustrates the expected external distribution of travel for the site-generated trips. This distribution was determined by reviewing current traffic volumes and trip distributions of surrounding developments.

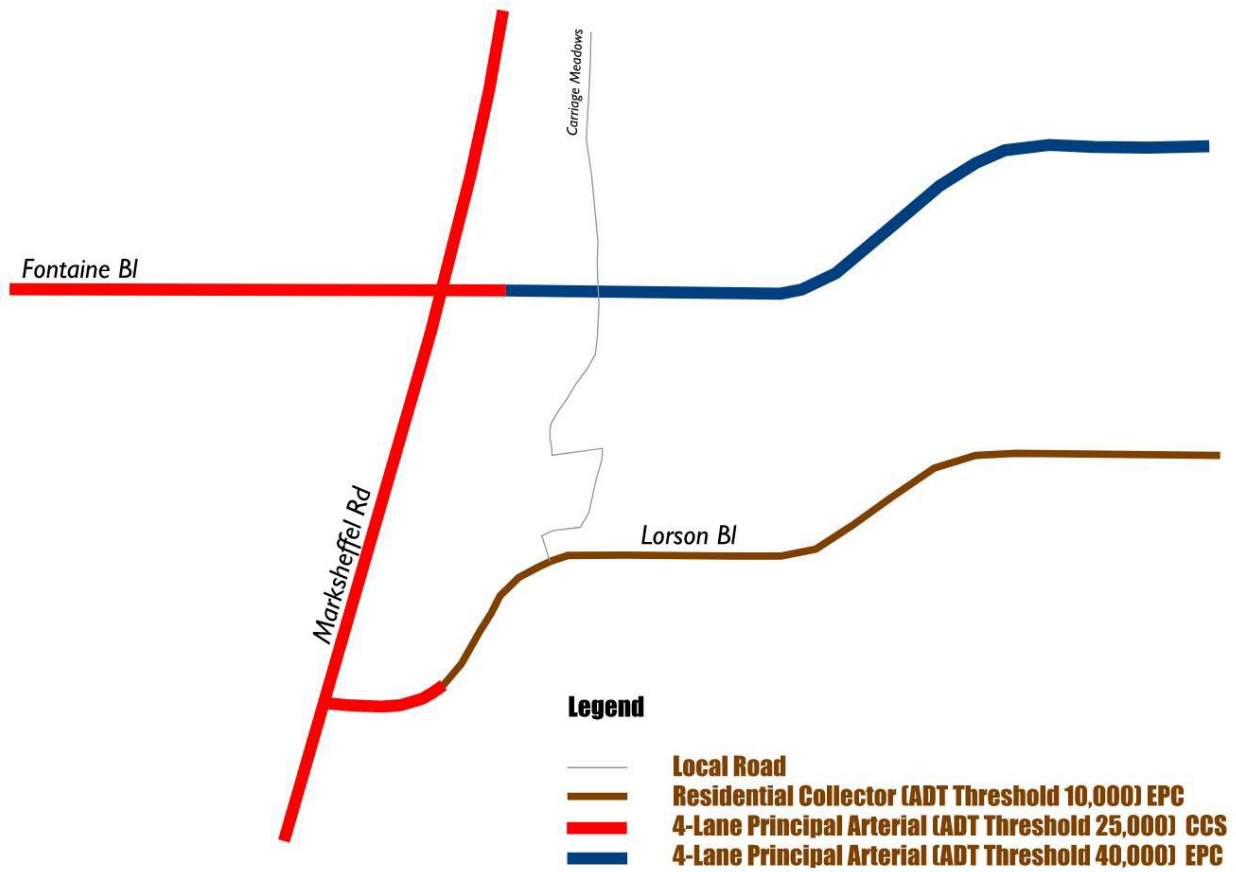
Figure 9. Trip Distribution



Roadways adjacent to the new development were classified based on the 2040 Major Transportation Corridor Plan (EPC), or the City of Colorado Springs Major Throughfare Plan (CCS) for the existing conditions and are shown in Figure 10. For the future conditions, Matrix classified the transportation network based on the estimated ADT.

Figure 10. Roadway Classification

Include current traffic volume on the figure



The project trips in AM and PM peak hours are shown in Figure 11 and Figure 12 . The daily site trips are shown in Figure 13.

Figure 11. Village at Lorson Ranch Site Trips (AM Peak Hour)

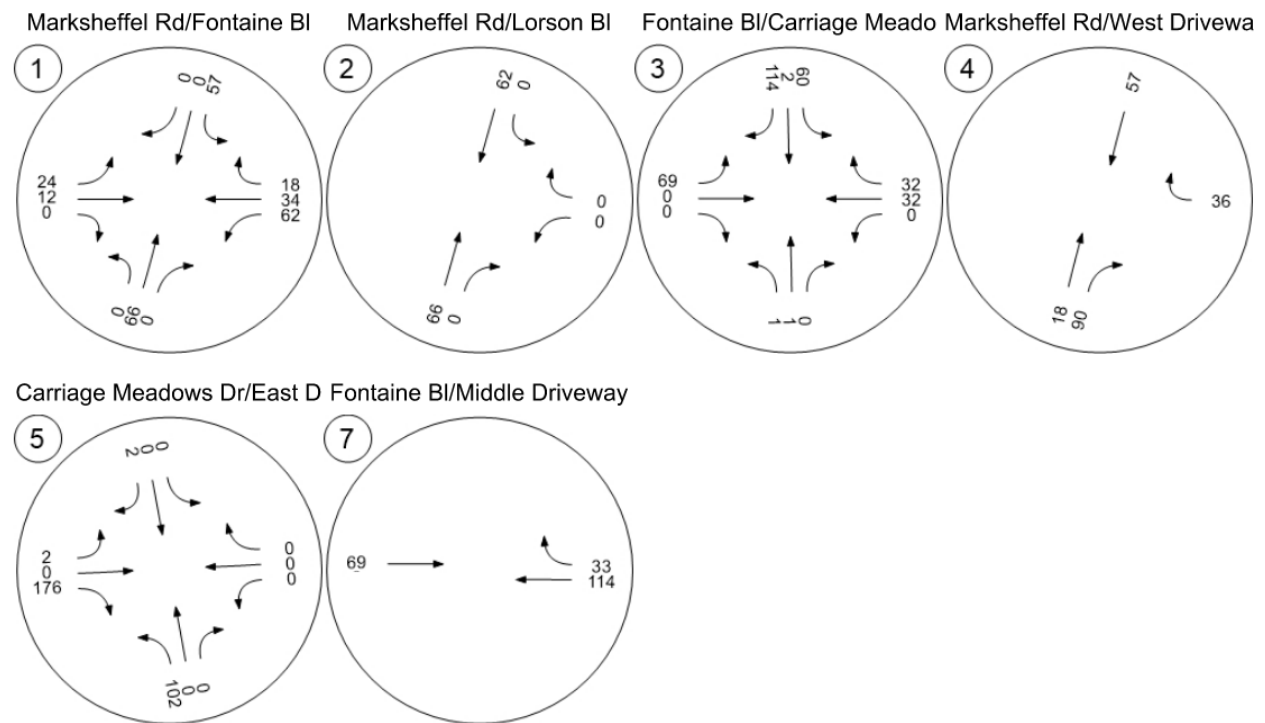
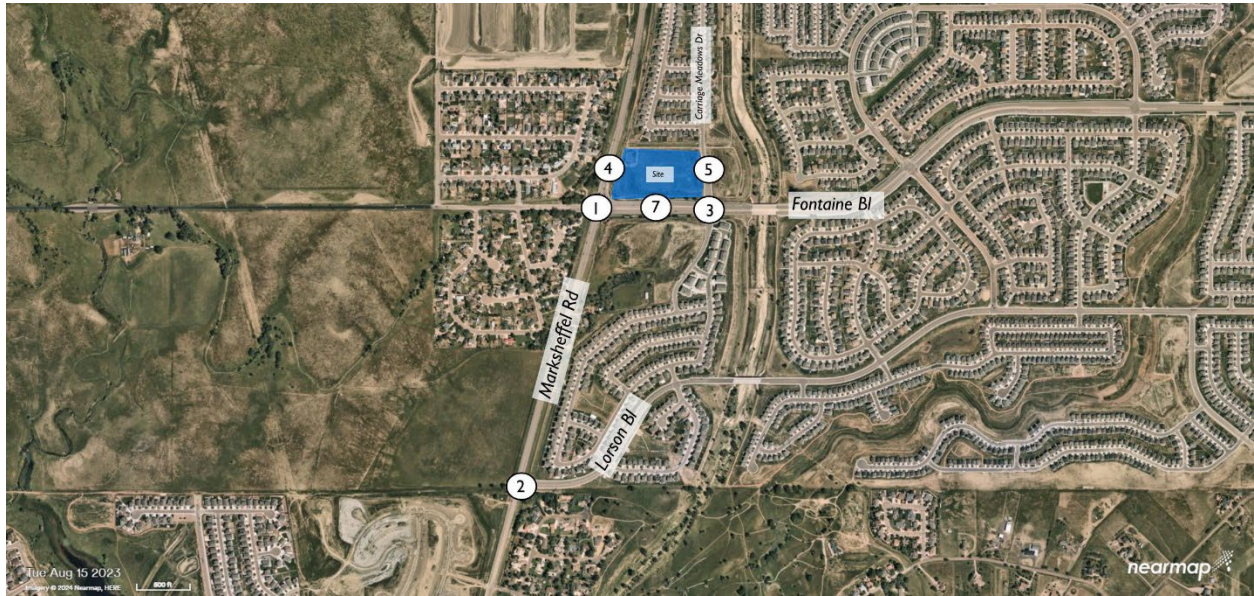
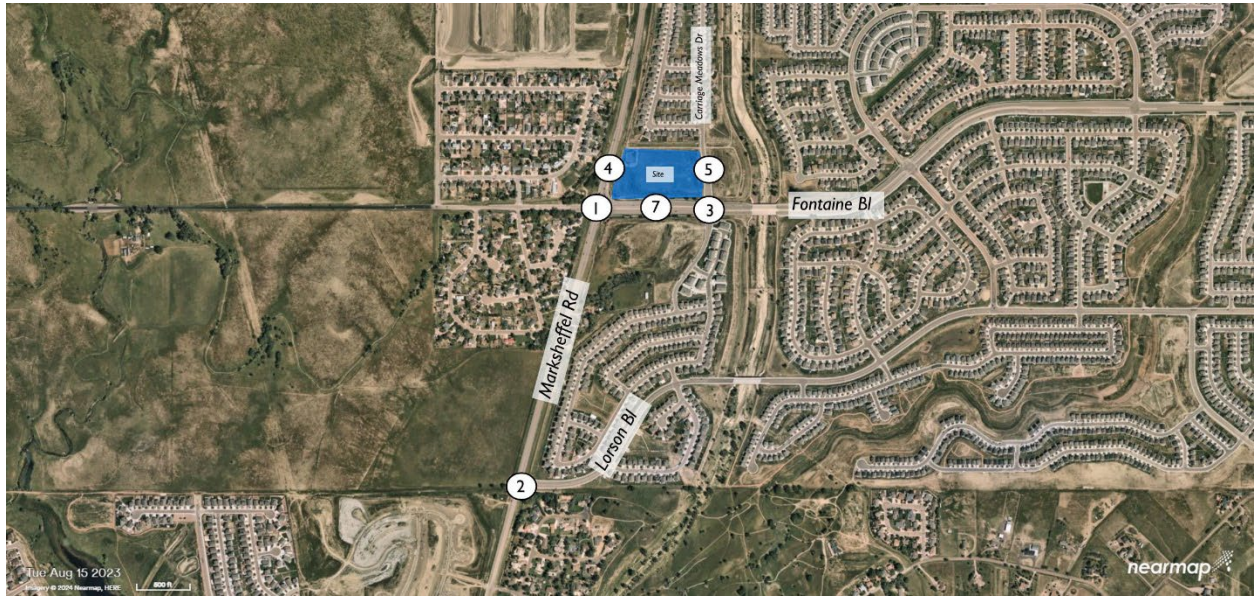
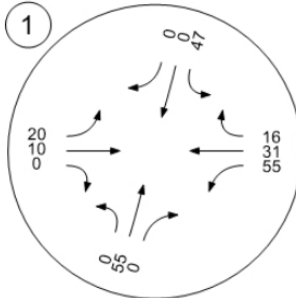


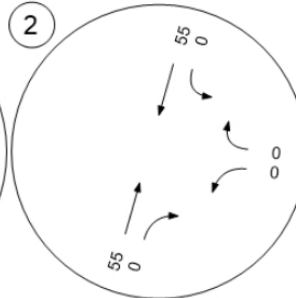
Figure 12. Village at Lorson Ranch Site Trips (PM Peak Hour)



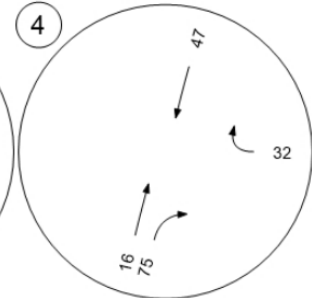
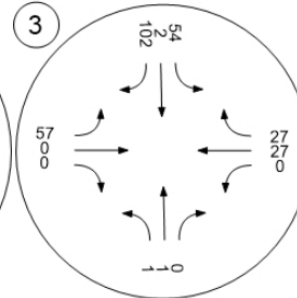
Marksheffel Rd/Fontaine Bl



Marksheffel Rd/Lorson Bl



Fontaine Bl/Carriage Meado



Carriage Meadows Dr/East D Fontaine Bl/Middle Driveway

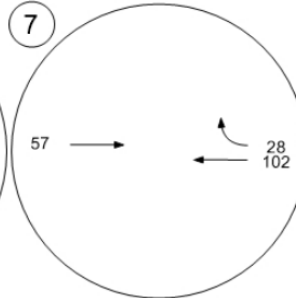
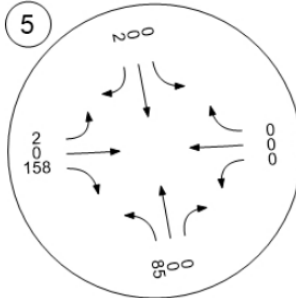
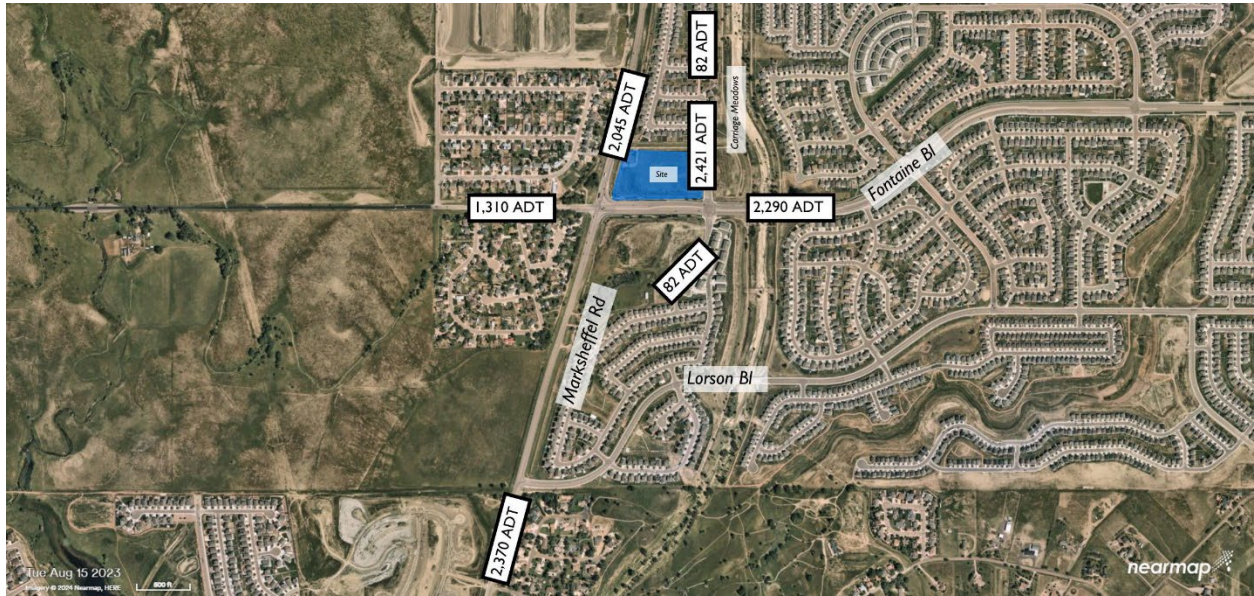


Figure 13. Village at Lorson Ranch Daily Site Trips



Traffic Analysis

Traffic conditions without the project for the buildout year (2030) and horizon year (2045) conditions were studied in this report and the results are documented as follows.

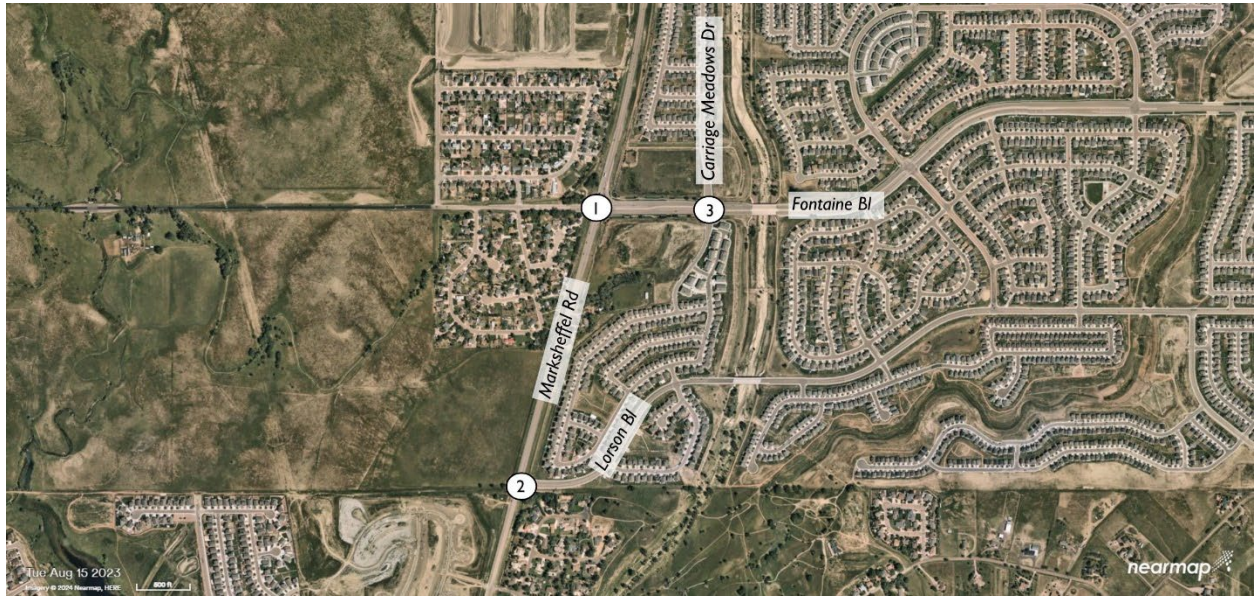
Buildout (2030) Background Conditions

The buildout year traffic volumes without the project are shown in Figure 14, and Figure 15 for the AM and PM peak hours, respectively. The daily traffic volumes and roadway classifications are shown in Figure 16.

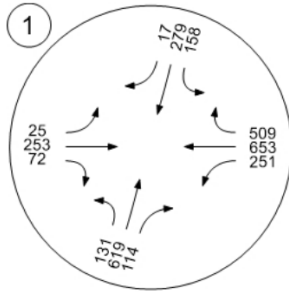
The background traffic was derived from the *Hillside at Lorson Ranch* TIS (2022) with one exception. The through traffic on Marksheffel Road seemed underestimated in the TIS. As a result, we compared two collected counts, one collected in 2021 and one collected in 2024 at Marksheffel Road south of Fontaine Boulevard to obtain the annual growth rate at this segment. This segment experiences a 2.59% annual growth according to our collected counts. Therefore, the growth factor for the year 2030 and the year 2045 were equal to 1.166 and 1.712, respectively. The previous (2021) data collection on Marksheffel Road can be found in Appendix F – Supporting Documents.

Finally, the traffic from the townhomes at the northeast corner of Fontaine Boulevard/Carriage Meadows were added to the 2030 background conditions.

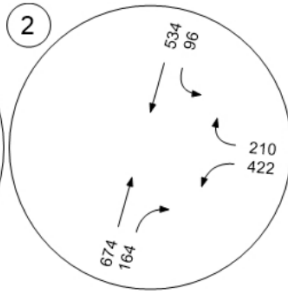
Figure 14. Buildout (2030) Background Traffic Volumes (AM Peak Hour)



Marksheffel Rd/Fontaine Bl



Marksheffel Rd/Lorson Bl



Fontaine Bl/Carriage Meado

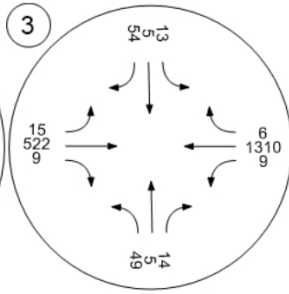
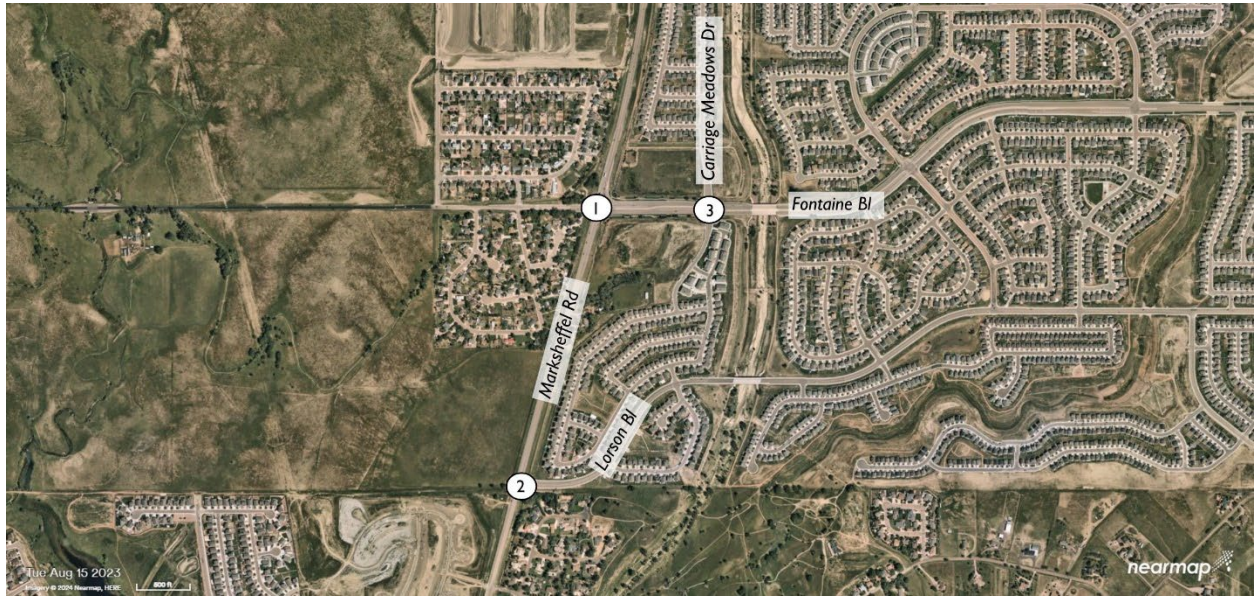


Figure 15. Buildout (2030) Background Traffic Volumes (PM Peak Hour)



Marksheffel Rd/Fontaine Bl

Marksheffel Rd/Lorson Bl

Fontaine Bl/Carriage Meado

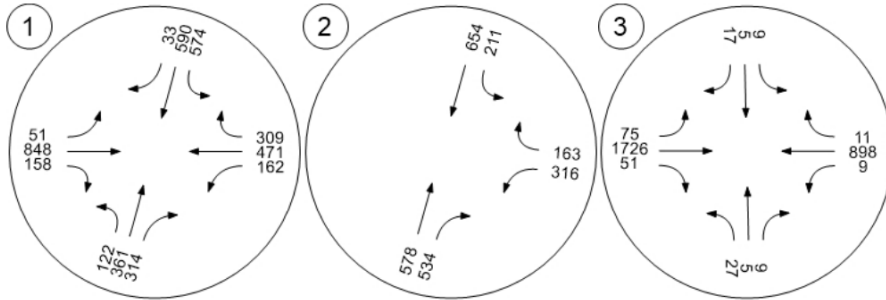
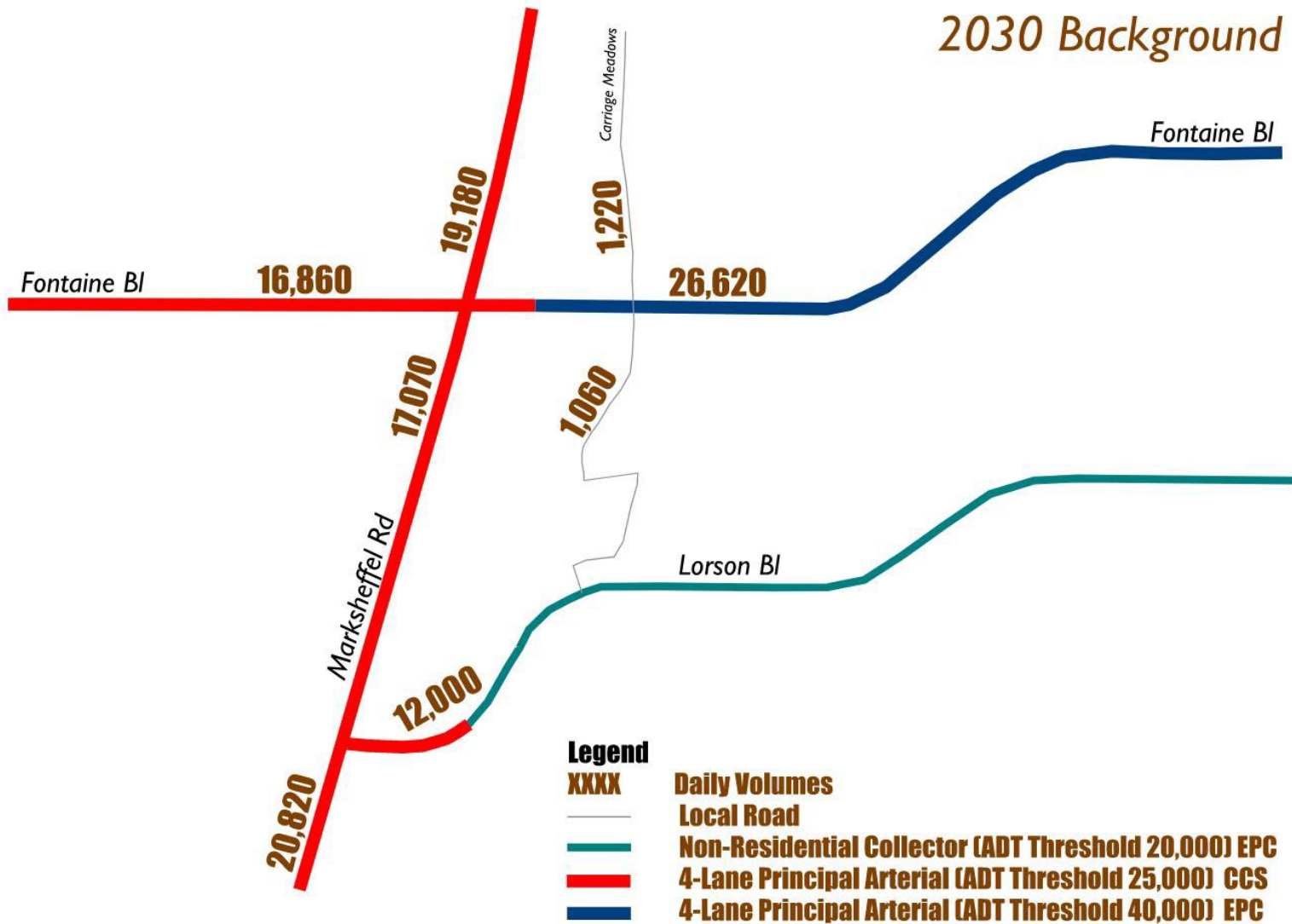
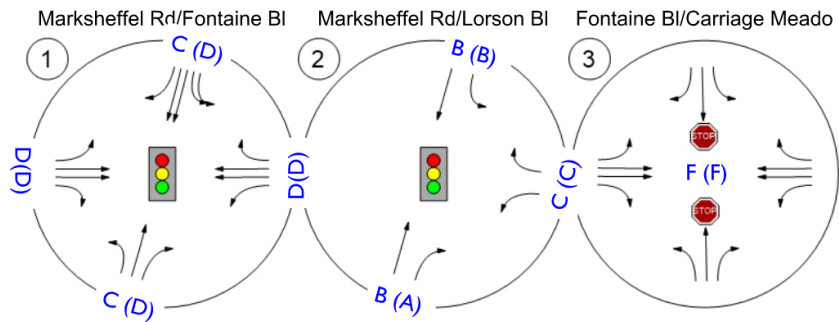
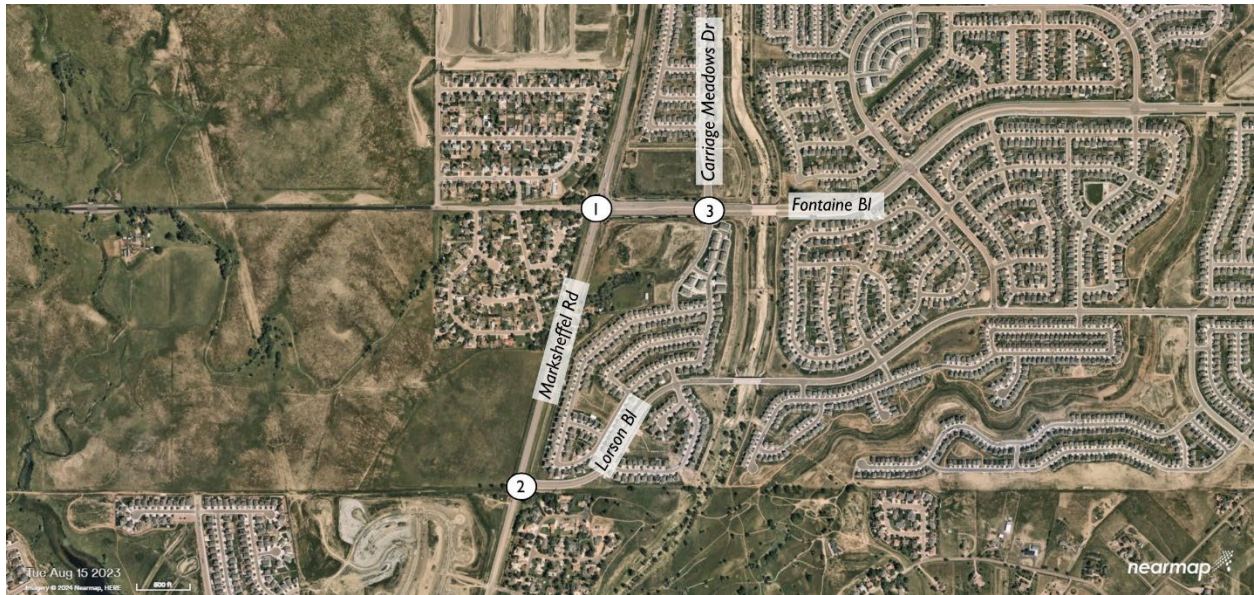


Figure 16. Buildout (2030) Background Daily Traffic Volumes and Roadway Classification



The intersection configuration and level of service are shown in Figure 17.

Figure 17. Buildout (2030) Background Intersection Configuration and LOS



The intersection operations in the AM and PM peak hours are shown in Table 5 and Table 6, respectively.

Table 5. Buildout (2030) Background Intersection Operations (AM Peak Hour)

Intersection Analysis Summary

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|----|---------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | HCM 7th Edition | WB Left | 0.692 | 36.7 | D |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | HCM 7th Edition | SB Left | 0.703 | 17.1 | B |
| 3 | Fontaine Bl/Carriage Meadows Dr | Two-way stop | HCM 7th Edition | NB Left | 0.949 | 211.3 | F |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 6. Buildout (2030) Background Intersection Operations (PM Peak Hour)

Intersection Analysis Summary

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|----|---------------------------------|--------------|-----------------|------------|--------|---------------|-----|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | HCM 7th Edition | EB Left | 0.810 | 45.1 | D |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | HCM 7th Edition | SB Left | 0.647 | 14.9 | B |
| 3 | Fontaine Bl/Carriage Meadows Dr | Two-way stop | HCM 7th Edition | NB Left | 47.294 | 10,000.0 | F |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Please explain this value

As shown in Table 5 and Table 6 above, all intersections operate at an acceptable LOS, except for Fontaine Boulevard/Carriage Meadows Drive (#3). This intersection operates at LOS F during both AM and PM peak hour. The queue length for the northbound left-turn movement in PM peak hour is approximately 6 vehicles. Since a traffic signal is not warranted in the background conditions, Matrix recommends prohibiting northbound left-turn and southbound left-turn at this intersection. The intersection will still operate at LOS F (due to deficient northbound through and southbound through movements), however, the queue length will be no more than 1.47 vehicles. Figure 18, and Figure 19, show the traffic volumes in the mitigated scenarios. These prohibited left-turn volumes are now right-turns and will have to make U-turns at adjacent intersections. These volumes are included as U-turns at adjacent intersections and through volumes at Fontaine Boulevard/Carriage Meadows Drive intersection (#3). The other studied intersections operate at an acceptable LOS in the buildout year without the project. All approaches also operate at acceptable LOS for the intersections along Marksheffel Road that are owned and maintained by the City of Colorado Springs.

This condition of prohibiting the left turns will not be allowed. Please revise the figures accordingly.

Figure 18. Mitigated - Buildout (2030) Background Traffic Volumes (AM Peak Hour)

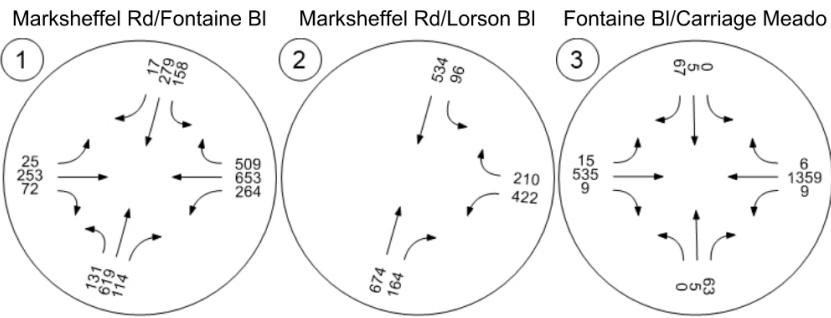
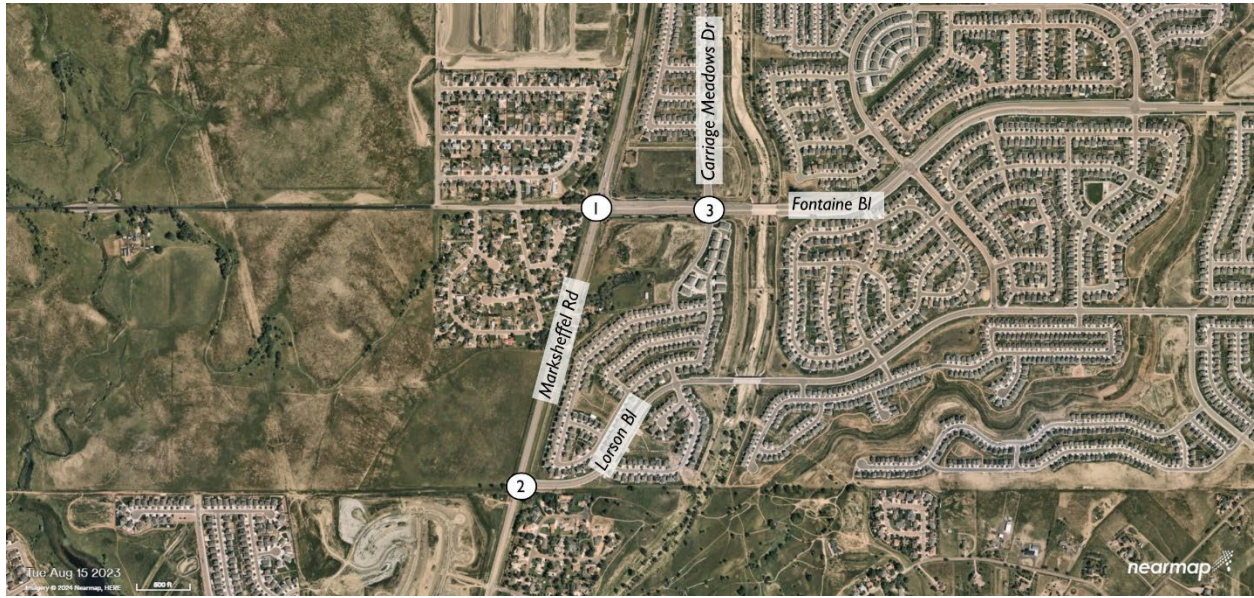
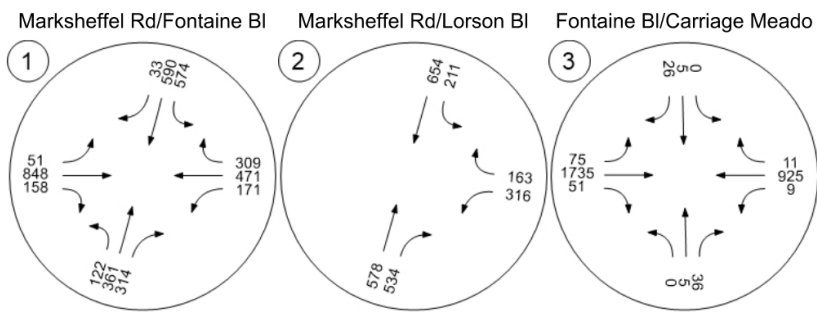
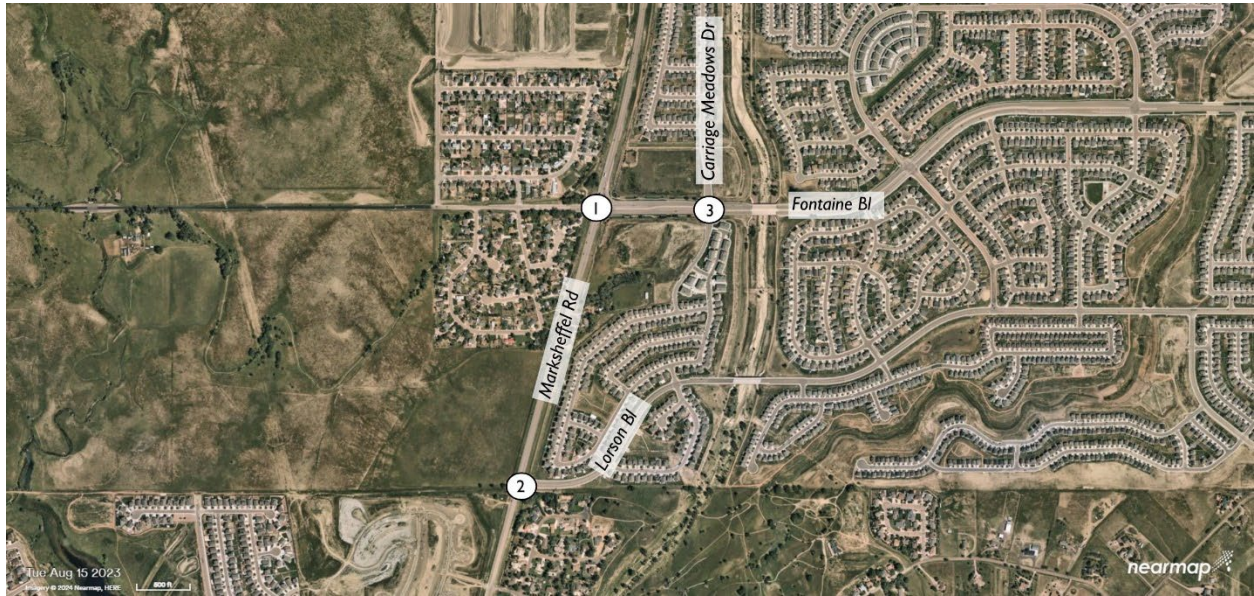
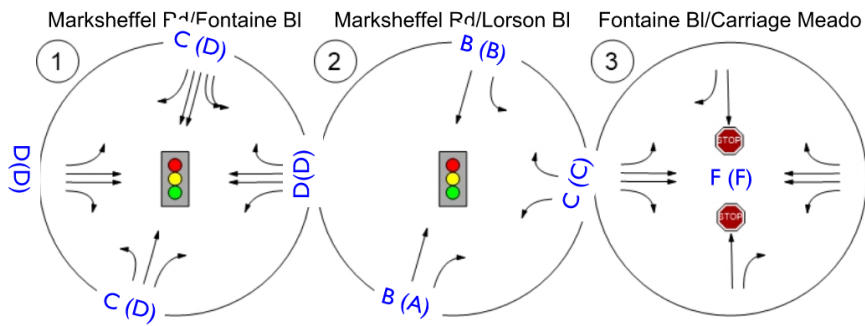
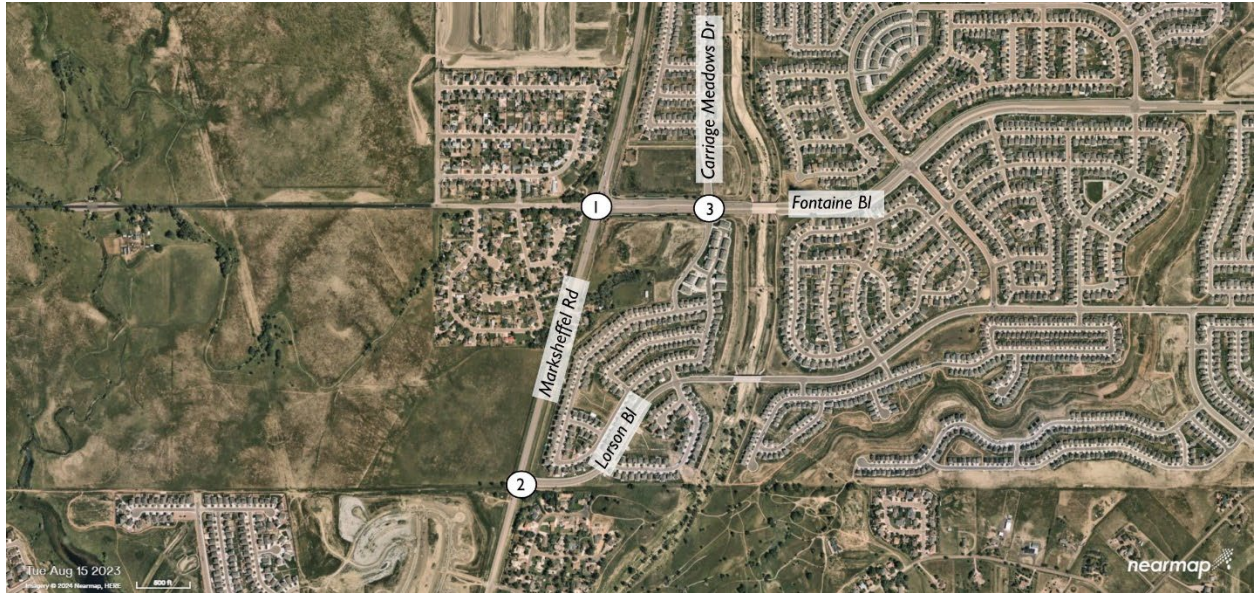


Figure 19. Mitigated - Buildout (2030) Background Traffic Volumes (PM Peak Hour)



The intersection configurations and LOS for the mitigated scenario is shown in Figure 20.

Figure 20. Mitigated - Buildout (2030) Background Intersection Configuration and LOS



The intersection operations for the mitigated scenarios in the AM and PM peak hours are shown in Table 7 and Table 8, Respectively.

Table 7. Mitigated - Buildout (2030) Background Intersection Operations (AM Peak Hour)

Intersection Analysis Summary

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|----|---------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | HCM 7th Edition | WB Left | 0.701 | 37.7 | D |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | HCM 7th Edition | SB Left | 0.703 | 17.1 | B |
| 3 | Fontaine Bl/Carriage Meadows Dr | Two-way stop | HCM 7th Edition | SB Thru | 0.166 | 123.3 | F |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 8. Mitigated - Buildout (2030) Background Intersection Operations (PM Peak Hour)

Intersection Analysis Summary

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|----|---------------------------------|--------------|-----------------|------------|--------|---------------|-----|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | HCM 7th Edition | EB Left | 0.810 | 45.1 | D |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | HCM 7th Edition | SB Left | 0.647 | 14.9 | B |
| 3 | Fontaine Bl/Carriage Meadows Dr | Two-way stop | HCM 7th Edition | NB Left | 47.294 | 10,000.0 | F |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

The turn lane evaluations are shown in Table 9.

Table 9. Buildout (2030) Background Turn Lane Evaluations

| ID | Intersection | Control Type | Speed (mph) | Turning Volume (vph) | Queue (ft) | Agency | Deceleration (ft) | Taper (ft) | Storage (ft) | Total (ft) | Provided (ft) | Improvement (ft) | | |
|----|---------------------------------|-----------------|-------------|----------------------|------------|--------|-------------------|--------------|--------------|------------|---------------|------------------|-----|--|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | NBL | 55 | 131 | 203 | CCS | 263 | 220 | | 485 | 740 | - | |
| | | | NBR | 55 | 314 | 0 | | 263 | 220 | | 485 | 740 | - | |
| | | | SBL | 55 | 574 | 401 | | 263 | 220 | | 485 | 665 | - | |
| | | | SBR | 55 | 33 | 16 | | 263 | 220 | | 485 | 665 | - | |
| | | | EBL | 35 | 51 | 93 | | 120 | 140 | | 260 | 330 | - | |
| | | | EBR | 35 | 158 | 91 | | 120 | 140 | | 260 | 50 | - | |
| | | | WBL | 45 | 251 | 271 | | 200 | 180 | | 380 | 545 | - | |
| | | | WBR | 45 | 509 | 243 | | 200 | 180 | | 380 | Continuous | - | |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | NBR | 55 | 534 | 51 | CCS | 263 | 220 | | 485 | 565 | - | |
| | | | SBL | 55 | 211 | 196 | | 263 | 220 | | 485 | Continuous | - | |
| | | | WBL | 35 | 422 | 270 | | 120 | 140 | | 260 | 485 | - | |
| | | | WBR | 35 | 210 | 54 | | 120 | 140 | | 260 | Continuous | - | |
| 3 | Fontaine Bl/Carriage Meadows Dr | Stop-Controlled | NBL | | | | EPC | | | | 100 | | | |
| | | | NBR | 25 | 63 | 16 | | 115 | 120 | | 235 | 180 | 55 | |
| | | | SBL | | | | | | | | | | | |
| | | | SBR | 25 | 67 | 23 | | 115 | 120 | | 235 | 100 | 135 | |
| | | | EBL | 45 | 75 | 12 | | 235 | 200 | 75 | 510 | 500 | 10 | |
| | | | EBR | 45 | 51 | 4 | | 235 | 200 | | 435 | Continuous | - | |
| | | | WBL | 45 | 9 | 3 | | Not Required | | | 510 | - | | |
| | | | WBR | 45 | 11 | 1 | | Not Required | | | 330 | - | | |

Fontaine Boulevard/Carriage Meadows Drive (#3)

- Prohibit northbound left-turn and southbound left-turn
- A 55-ft extension of northbound right-turn.
- A 135-ft extension of southbound right-turn.
- A 10-ft extension of eastbound left-turn.

Buildout (2030) Total Conditions

Buildout total traffic volumes are shown in Figure 21 and Figure 22 for the AM and PM peak hours, respectively. Daily volumes and roadway classification are shown in Figure 23.

Figure 21. Buildout (2030) Total Traffic Volumes (AM Peak Hour)

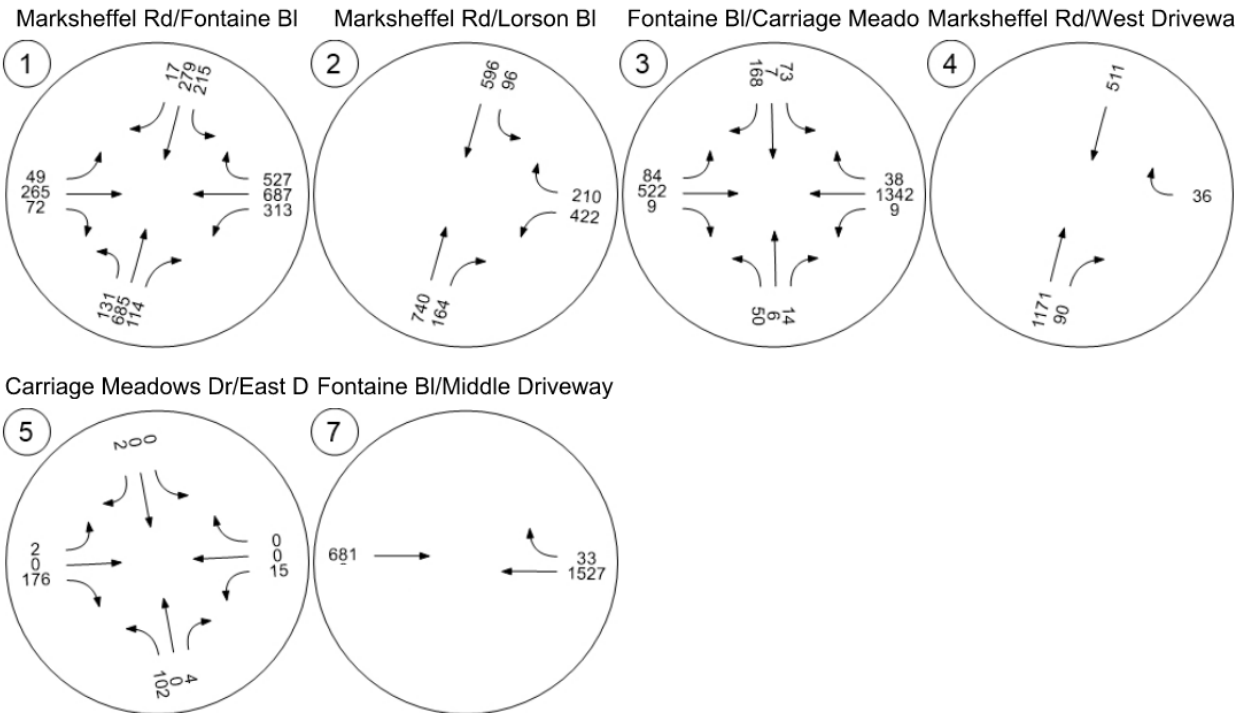
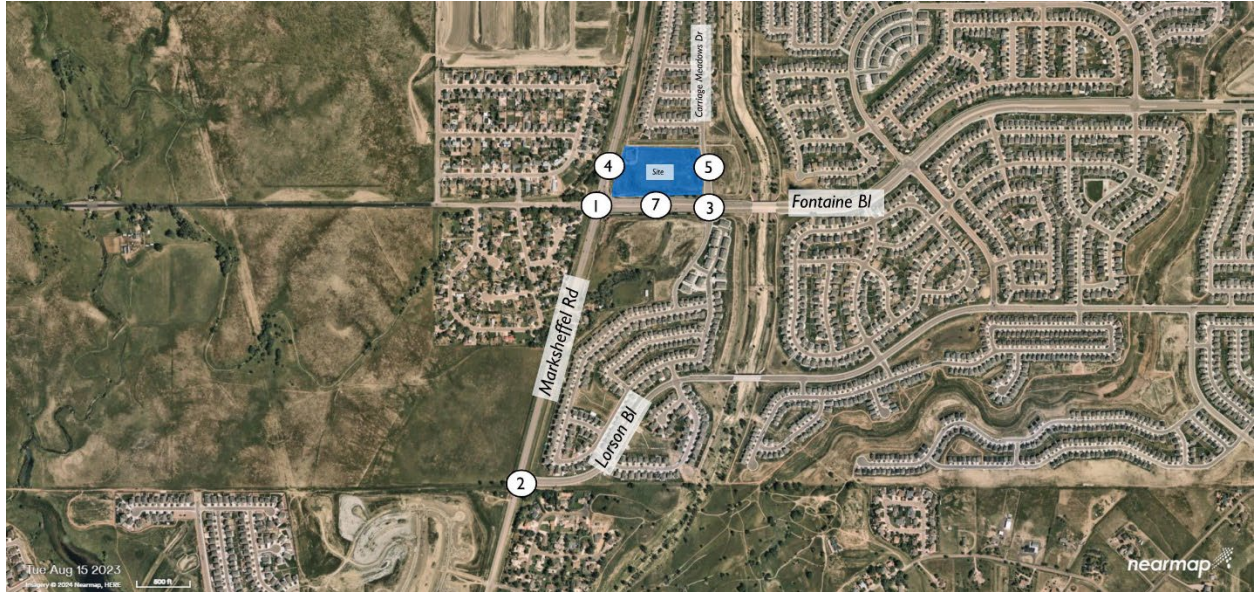
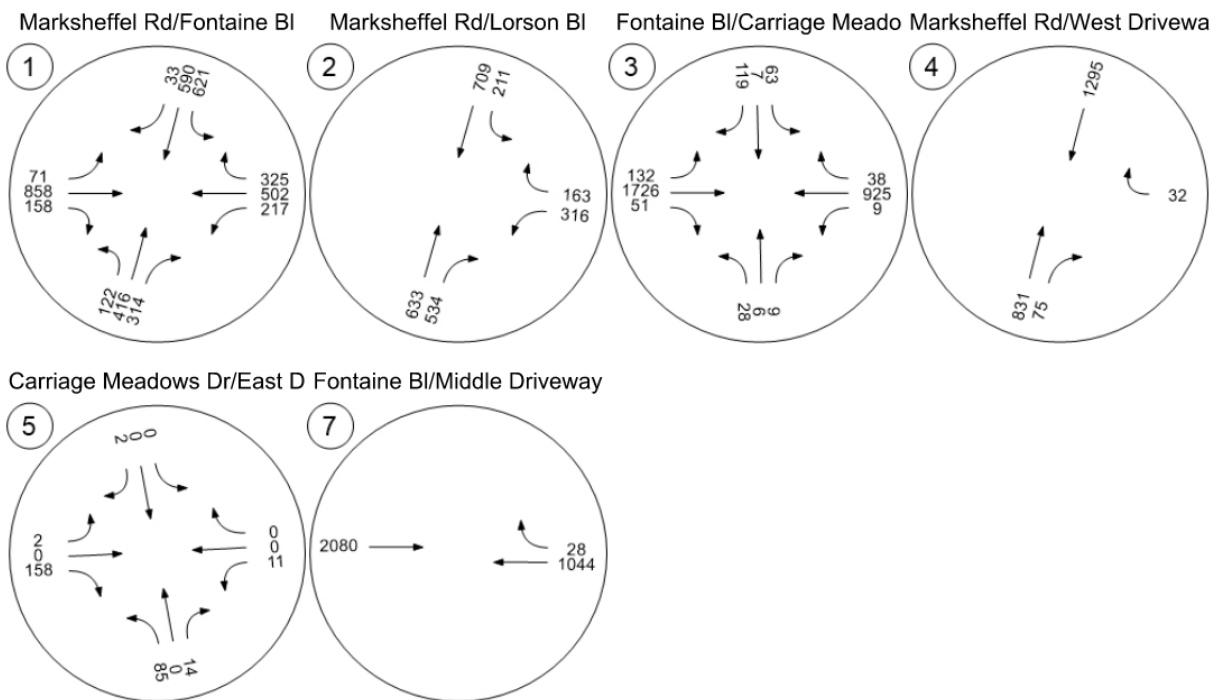
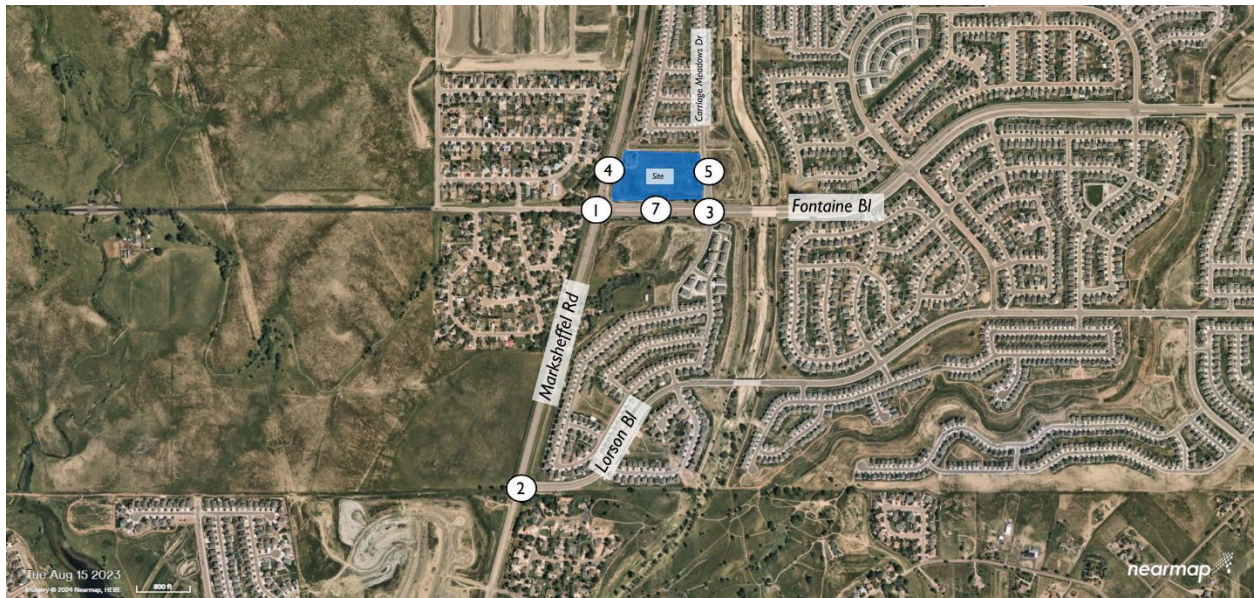
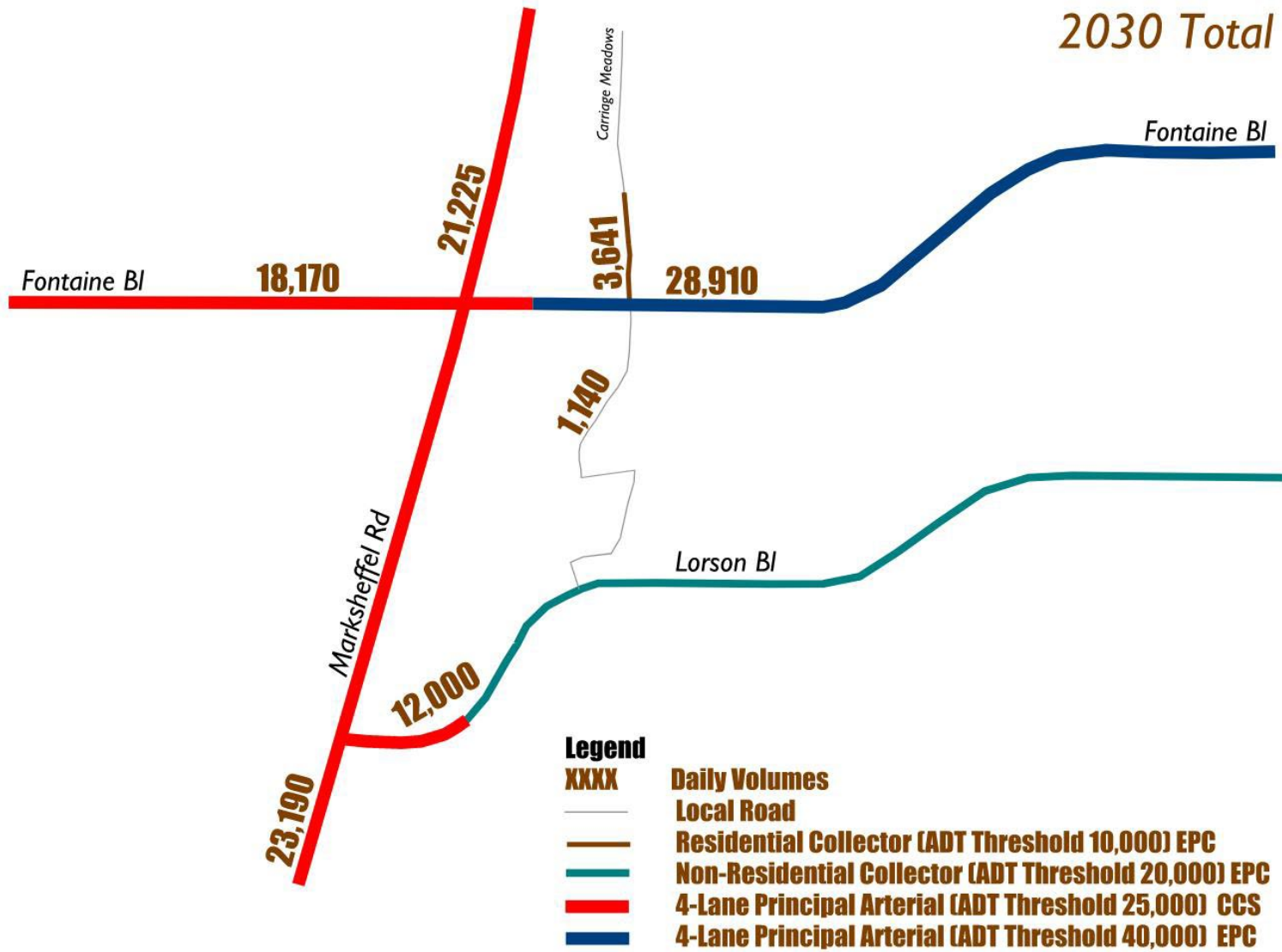


Figure 22. Buildout (2030) Total Traffic Volumes (PM Peak Hour)



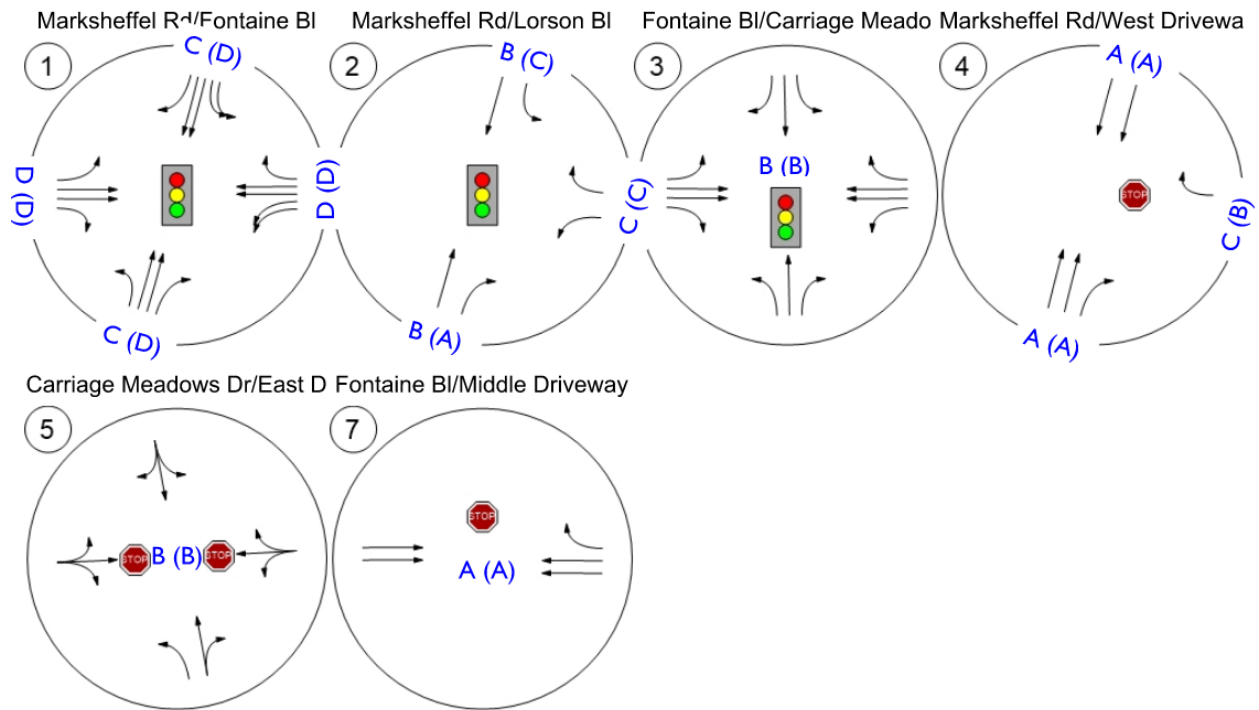
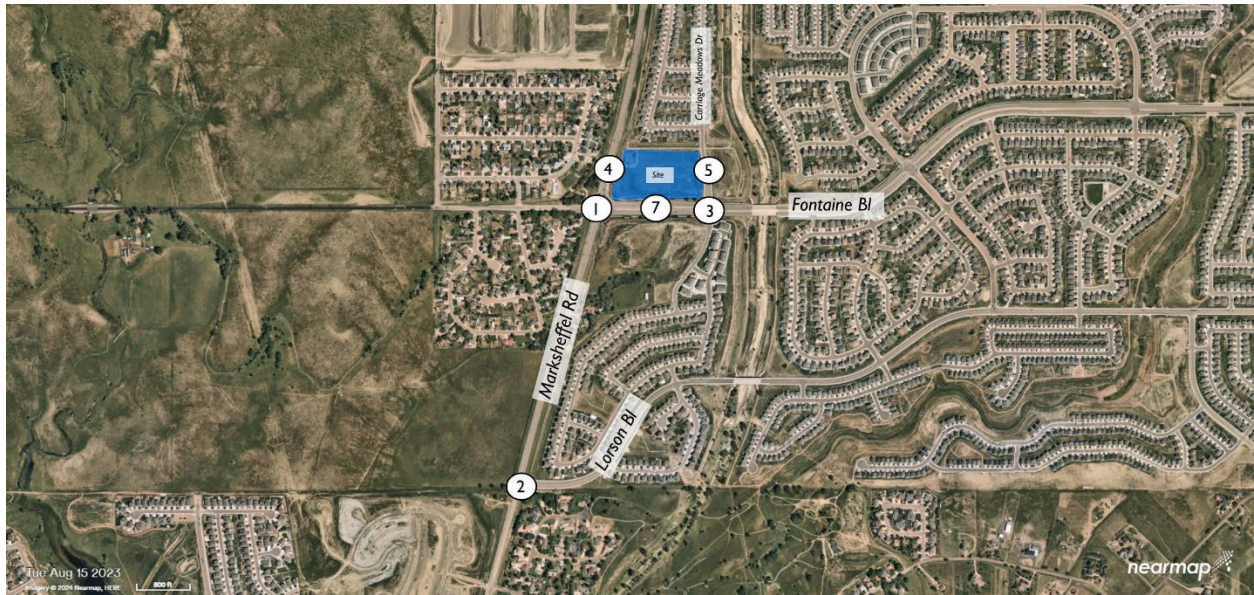
Buildout traffic daily volumes with the project traffic added are shown in Figure 23.

Figure 23. Buildout (2030) Total Traffic Volumes and Roadway Classification



The intersection configuration and level of service are shown in Figure 24.

Figure 24. Buildout (2030) Total Intersection Configuration and LOS



The intersection operations in the AM and PM peak hours are shown in Table 10 and Table 11, respectively.

Table 10. Buildout (2030) Total Intersection Operations (AM Peak Hour)

Intersection Analysis Summary

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|----|-----------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | HCM 7th Edition | EB Left | 0.559 | 32.3 | C |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | HCM 7th Edition | SB Left | 0.744 | 20.5 | C |
| 3 | Fontaine Bl/Carriage Meadows Dr | Signalized | HCM 7th Edition | EB Left | 0.561 | 12.2 | B |
| 4 | Marksheffel Rd/West Driveway | Two-way stop | HCM 7th Edition | WB Right | 0.039 | 8.5 | A |
| 5 | Carriage Meadows Dr/East Driveway | Two-way stop | HCM 7th Edition | WB Left | 0.040 | 13.2 | B |
| 7 | Fontaine Bl/Middle Driveway | Two-way stop | HCM 7th Edition | WB Thru | 0.018 | 0.0 | A |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 11. Buildout (2030) Total Intersection Operations (PM Peak Hour)

Intersection Analysis Summary

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|----|-----------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | HCM 7th Edition | EB Left | 0.706 | 42.3 | D |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | HCM 7th Edition | SB Left | 0.674 | 16.4 | B |
| 3 | Fontaine Bl/Carriage Meadows Dr | Signalized | HCM 7th Edition | EB Left | 0.623 | 10.3 | B |
| 4 | Marksheffel Rd/West Driveway | Two-way stop | HCM 7th Edition | WB Right | 0.036 | 8.5 | A |
| 5 | Carriage Meadows Dr/East Driveway | Two-way stop | HCM 7th Edition | WB Left | 0.026 | 12.3 | B |
| 7 | Fontaine Bl/Middle Driveway | Two-way stop | HCM 7th Edition | EB Thru | 0.024 | 0.0 | A |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

As shown in Table 10, Table 11, and Figure 24 all intersections operate at an acceptable LOS. All approaches operate at acceptable LOS at Marksheffel Road/Fontaine Boulevard, Marksheffel Road/Lorson Boulevard, and the west driveway. The turn lane evaluations are shown in Table 12.

Table 12. Buildout (2030) Total Turn Lane Evaluations

| ID | Intersection | Control Type | Movement | Speed (mph) | Turning Volume | Queue (ft) | Agency | Deceleration (ft) | Taper (ft) | Storage (ft) | Total (ft) | Provided (ft) | Improvement (ft) | | |
|----|-----------------------------------|-----------------|----------|-------------|----------------|------------|--------|-------------------|------------|--------------|------------|---------------|------------------|--|--|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | NBL | 55 | 131 | 200 | CCS | 263 | 220 | | 485 | 740 | - | | |
| | | | NBR | 55 | 314 | 0 | | 263 | 220 | | 485 | 740 | - | | |
| | | | SBL | 55 | 621 | 423 | | 263 | 220 | | 485 | 665 | - | | |
| | | | SBR | 55 | 33 | 12 | | 263 | 220 | | 485 | 665 | - | | |
| | | | EBL | 35 | 71 | 125 | | 120 | 140 | | 260 | 330 | - | | |
| | | | EBR | 35 | 158 | 69 | | 120 | 140 | | 260 | 50 | - | | |
| | | | WBL | 45 | 313 | 183 | | 200 | 180 | | 380 | 545 | - | | |
| | | | WBR | 45 | 527 | 249 | | 200 | 180 | | 380 | Continuous | - | | |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | NBR | 55 | 534 | 51 | CCS | 263 | 220 | | 485 | 565 | - | | |
| | | | SBL | 55 | 211 | 224 | | 263 | 220 | | 485 | Continuous | - | | |
| | | | WBL | 35 | 422 | 324 | | 120 | 140 | | 260 | 485 | - | | |
| | | | WBR | 35 | 210 | 55 | | 120 | 140 | | 260 | Continuous | - | | |
| | | | | | | | | | | | | | | | |
| 3 | Fontaine Bl/Carriage Meadows Dr | Signalized | NBL | 25 | 50 | 50 | EPC | 115 | 120 | 50 | 285 | 190 | 95 | | |
| | | | NBR | 25 | 14 | 6 | | Not Required | | | 180 | - | | | |
| | | | SBL | 25 | 73 | 74 | | 115 | 120 | 74 | 310 | 100 | 210 | | |
| | | | SBR | 25 | 168 | 85 | | 115 | 120 | 85 | 320 | 100 | 85 | | |
| | | | EBL | 45 | 132 | 162 | | 235 | 200 | 162 | 597 | 500 | 90 | | |
| | | | EBR | 45 | 51 | 2 | | 235 | 200 | 2 | 437 | Continuous | - | | |
| | | | WBL | 45 | 9 | 8 | | Not Required | | | 510 | - | | | |
| | | | WBR | 45 | 38 | 8 | | Not Required | | | 330 | - | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 4 | Marksheffel Rd/West Driveway | Stop-Controlled | NBR | 55 | 90 | 0 | CCS | 263 | 220 | | 485 | | 485 | | |
| 5 | Carruage Meadows Dr/East Driveway | Stop-Controlled | NBL | 25 | 102 | 6 | EPC | 115 | 120 | 100 | 335 | | 335 | | |
| | | | EBR | 25 | 158 | 0 | | 115 | 120 | | | | 235 | | |
| 7 | Fontaine Bl/Middle Driveway | Stop-Controlled | WBR | 45 | 33 | 0 | EPC | 235 | 200 | | 435 | | 435 | | |

Fontaine Boulevard/Carriage Meadows Drive (#3)

- A Traffic Signal.
- A 95-extension of northbound left-turn.
- A 210-ft extension of southbound left-turn lane.
- A 90-ft extension of eastbound left-turn lane.
- An 85-ft extension of southbound right-turn lane. This intersection also requires an extension of the northwest curb return to protect the westbound deceleration lane into the project driveway along Fontaine Boulevard.

Marksheffel Road/West Driveway (#4)

- A 485-ft northbound right-turn lane. Included a 265-ft of deceleration lane, and a 220-ft taper lane.

Carriage Meadows/East Driveway (#5)

- A 335-ft northbound left-turn. Included a 115-ft deceleration lane, 120-ft taper lane, and a 100-ft storage lane.
- A 235-ft eastbound right-turn lane. Included a 115-ft deceleration lane, and a 120-ft taper lane.

Fontaine Boulevard/Middle Driveway (#7)

- A 435-ft westbound right-turn. Matrix recommends an extension of the northwest corner of the Fontaine/Carriage Meadows intersection to define the deceleration lane into the driveway along Fontaine Boulevard according to the Figure 2. A higher quality of this exhibit is provided in Appendix F – Supporting Documents.

Horizon (2045) Background Conditions

The horizon year traffic volumes without the Village at Lorson Ranch project in AM and PM peak hours are shown in Figure 25, and Figure 26, respectively. The daily volumes and roadway classification are shown in Figure 27. The background volumes were obtained from *The Hillside at Lorson Ranch* (2022) TIS. The traffic from the LRCS is also added to the horizon background conditions.

Figure 25. Horizon (2045) Background Traffic Volumes (AM Peak Hour)

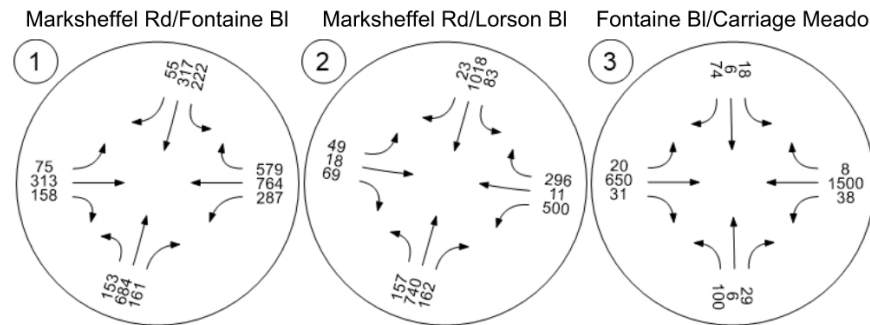
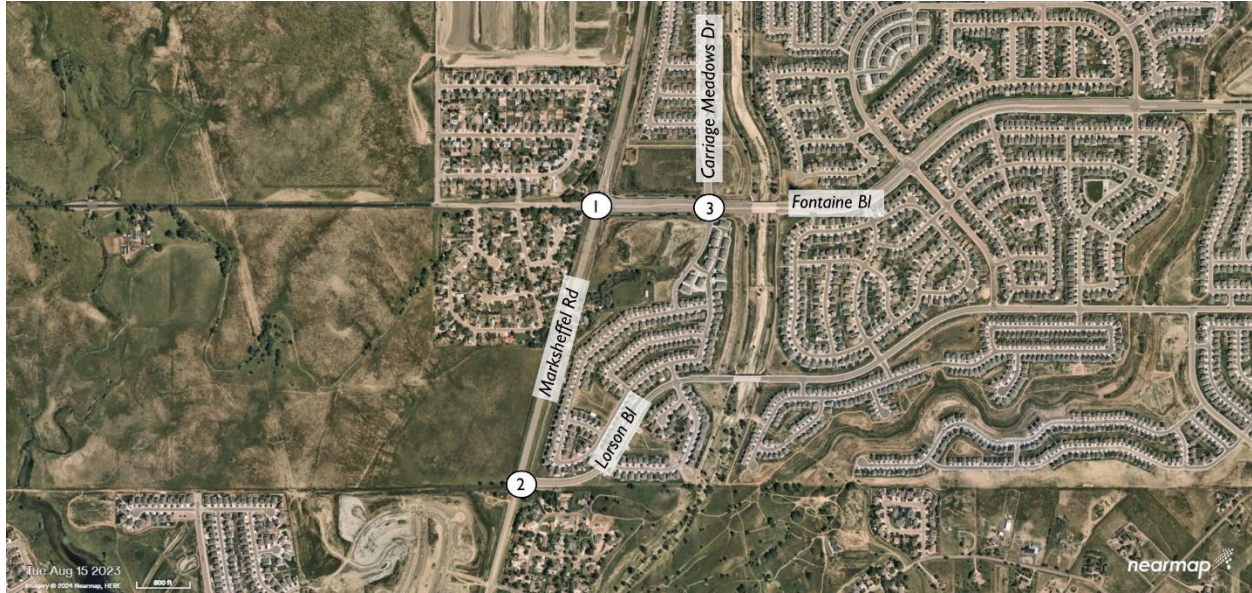
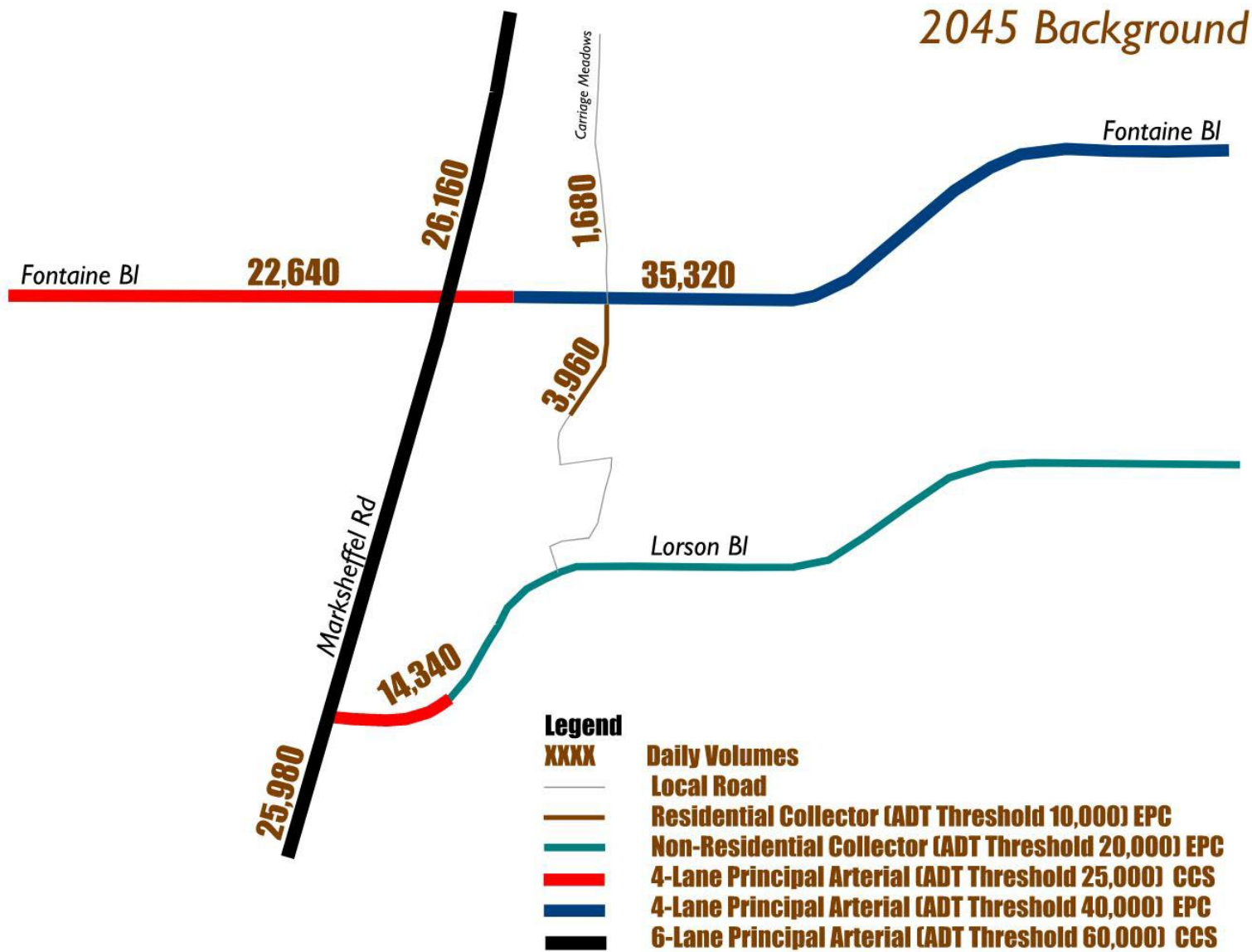
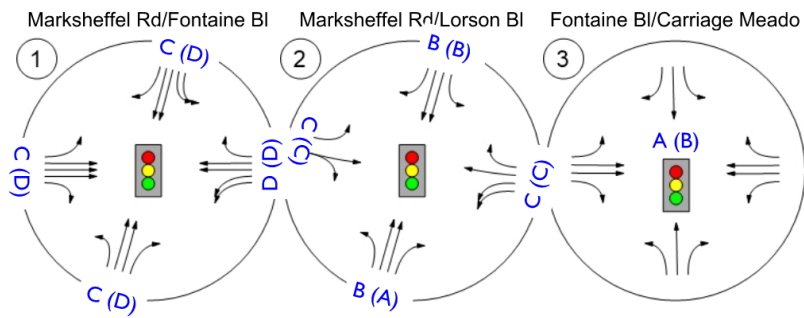
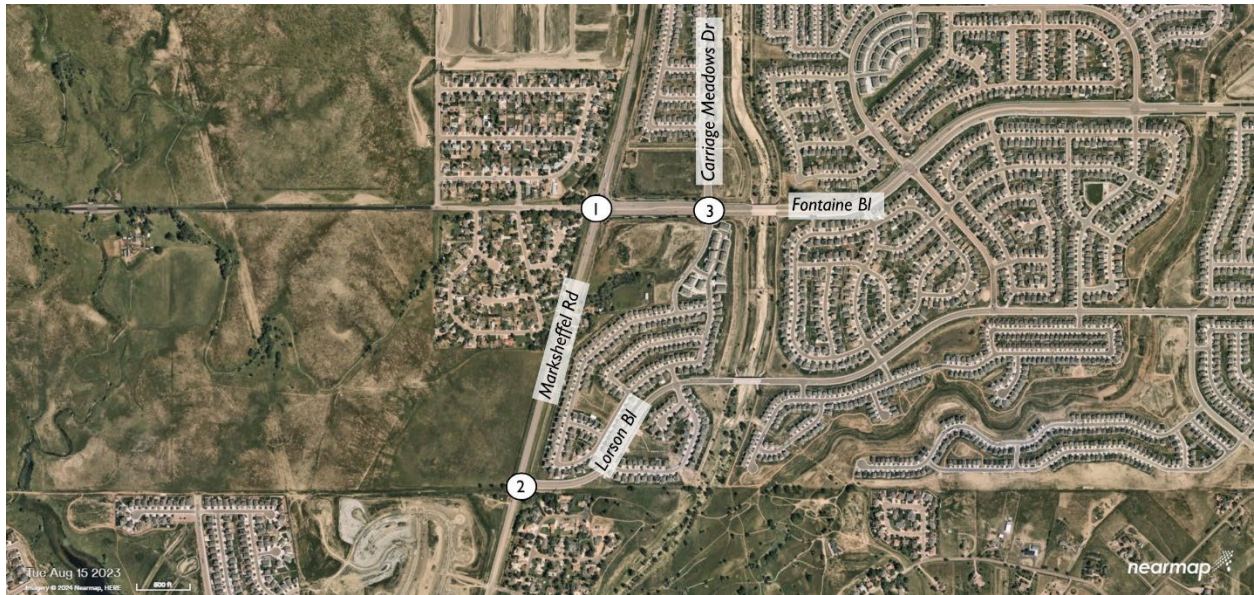


Figure 27. Horizon (2045) Background Daily Volume and Roadway Classification



The intersection configurations and level of service are shown in Figure 28.

Figure 28. Horizon (2045) Background Intersection Configuration and LOS



The intersection operations in the AM and PM peak hours are shown in Table 10 and Table 11, respectively.

Table 13. Horizon (2045) Background Intersection Operations (AM Peak Hour)

Intersection Analysis Summary

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|----|---------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | HCM 7th Edition | NB Left | 0.558 | 31.6 | C |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | HCM 7th Edition | WB Left | 0.525 | 19.0 | B |
| 3 | Fontaine Bl/Carriage Meadows Dr | Signalized | HCM 7th Edition | EB Left | 0.553 | 9.6 | A |

Table 14. Horizon (2045) Background Intersection Operations (PM Peak Hour)

Intersection Analysis Summary

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|----|---------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | HCM 7th Edition | EB Left | 0.726 | 45.3 | D |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | HCM 7th Edition | SB Left | 0.798 | 15.1 | B |
| 3 | Fontaine Bl/Carriage Meadows Dr | Signalized | HCM 7th Edition | WB Left | 0.789 | 17.1 | B |

As shown in Table 13, Table 14, and Figure 28 all intersections operate at an acceptable LOS. All approaches at the intersections along Marksheffel Road also operate at an acceptable LOS. The turn lane evaluations are shown in Table 15.

Table 15. Horizon (2045) Background Turn Lane Evaluations

| ID | Intersection | Control Type | Movement | Speed (mph) | Turning Volume (vph) | Queue (ft) | Agency | Deceleration (ft) | Taper (ft) | Storage (ft) | Total (ft) | Provided (ft) | Improvement (ft) | | | |
|----|---------------------------------|--------------|----------|-------------|----------------------|------------|--------|-------------------|------------|--------------|------------|---------------|------------------|-----|---|--|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | NBL | 55 | 157 | 229 | CCS | 263 | 220 | | 485 | 740 | - | | | |
| | | | NBR | 55 | 472 | 284 | | 263 | 220 | | 485 | 740 | - | | | |
| | | | SBL | 55 | 785 | 485 | | 263 | 220 | | 485 | 665 | - | | | |
| | | | SBR | 55 | 93 | 39 | | 263 | 220 | | 485 | 665 | - | | | |
| | | | EBL | 35 | 107 | 170 | | 120 | 140 | | 260 | 330 | - | | | |
| | | | EBR | 35 | 266 | 160 | | 120 | 140 | | 260 | 50 | - | | | |
| | | | WBL | 45 | 310 | 222 | | 200 | 180 | | 380 | 545 | - | | | |
| | | | WBR | 45 | 579 | 253 | | 200 | 180 | | 380 | Continuous | - | | | |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | NBL | 55 | 159 | 147 | CCS | 263 | 220 | | 485 | | - | | | |
| | | | NBR | 55 | 568 | 60 | | 263 | 220 | | 485 | 565 | - | | | |
| | | | SBL | 55 | 284 | 301 | | 263 | 220 | | 485 | Continuous | - | | | |
| | | | SBR | 55 | 34 | 7 | | 263 | 220 | | 485 | | - | | | |
| | | | EBL | 35 | 49 | 41 | | 120 | 140 | | 260 | | - | | | |
| | | | EBR | 35 | 69 | 73 | | 120 | 140 | | 260 | | - | | | |
| | | | WBL | 35 | 500 | 233 | | 120 | 140 | | 260 | 485 | - | | | |
| | | | WBR | 35 | 296 | 98 | | 120 | 140 | | 260 | Continuous | - | | | |
| 3 | Fontaine Bl/Carriage Meadows Dr | Signalized | NBL | 25 | 155 | 190 | EPC | 115 | 120 | 190 | 425 | 190 | 325 | | | |
| | | | NBR | 25 | 44 | 25 | | Not Required | | | 180 | | | | | |
| | | | SBL | 25 | 18 | 16 | | Not Required | | | 100 | | | | | |
| | | | SBR | 25 | 74 | 66 | | 115 | 120 | 66 | 300 | 100 | 65 | | | |
| | | | EBL | 45 | 106 | 190 | | 235 | 200 | 190 | 625 | 500 | 115 | | | |
| | | | EBR | 45 | 115 | 9 | | 235 | 200 | 9 | 445 | Continuous | | | | |
| | | | WBL | 45 | 72 | 164 | | 235 | 200 | 164 | 600 | 510 | 90 | | | |
| | | | WBR | 45 | 14 | 2 | | Not Required | | | 330 | | | | | |
| | | | | | | | | | | | | | | 330 | - | |

Fontaine Boulevard/Carriage Meadows Drive (#3)

- A 325-ft extension of northbound left-turn.
- A 115-ft extension of eastbound left-turn.
- A 65-ft extension of southbound right-turn.
- A 90-ft extension of westbound left-turn.

Note that the signal is warranted at this intersection in horizon background conditions due to the LRCS development. If the Village at Lorson Ranch is not going to be built, the signal would still be warranted.

Horizon (2045) Total Conditions

With the project traffic added to the 2045 background traffic, the resulting total traffic volumes in the AM and PM peak hours are shown in Figure 29 and Figure 30. The daily volumes and roadway classification in the horizon year total conditions are shown in Figure 31.

please include a discussion of the included right in right out being added for the southern commercial area.

Figure 29. Horizon (2045) Total Traffic Volumes (AM Peak Hour)

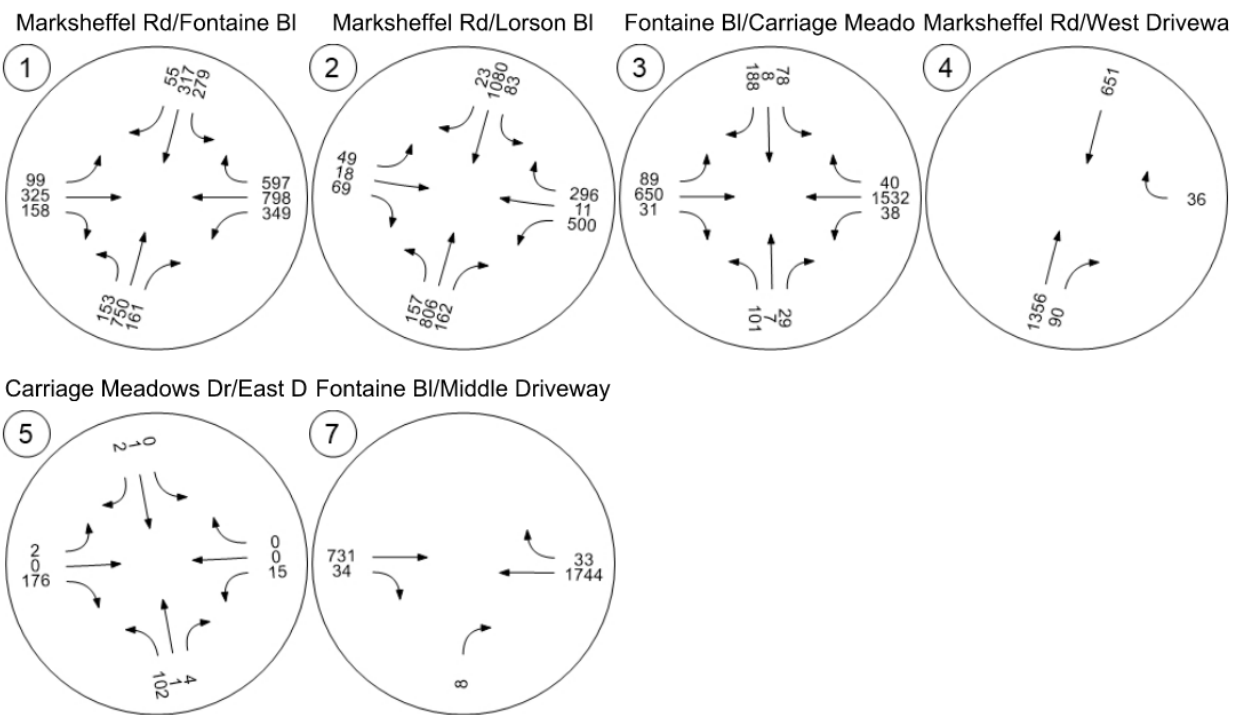
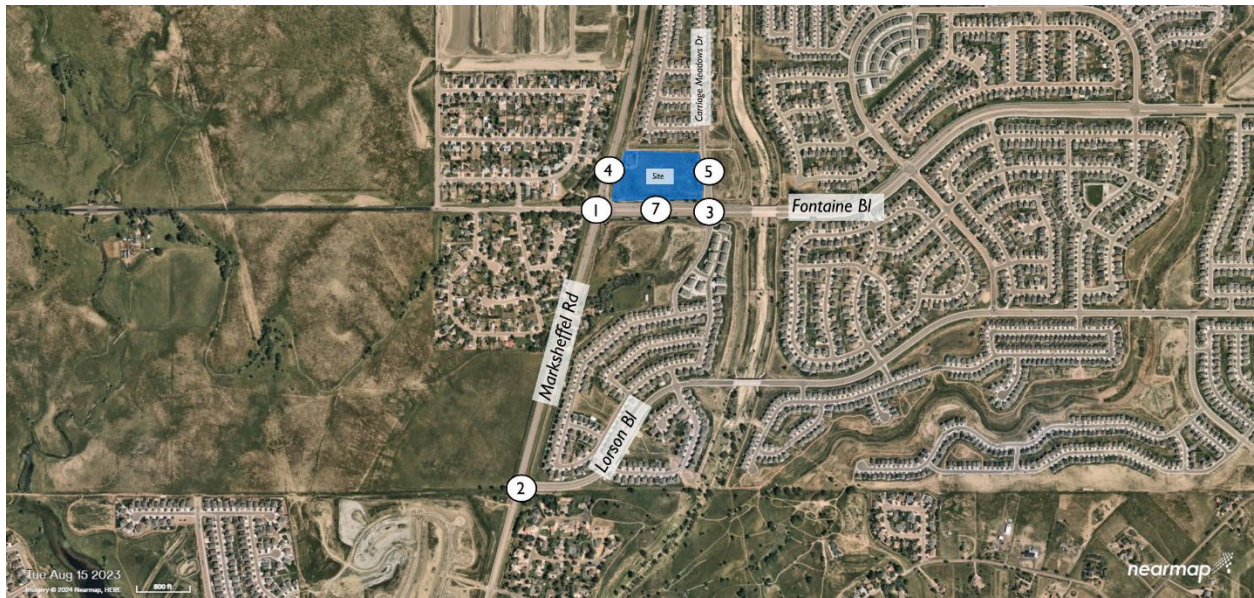


Figure 30. Horizon (2045) Total Traffic Volumes (PM Peak Hour)

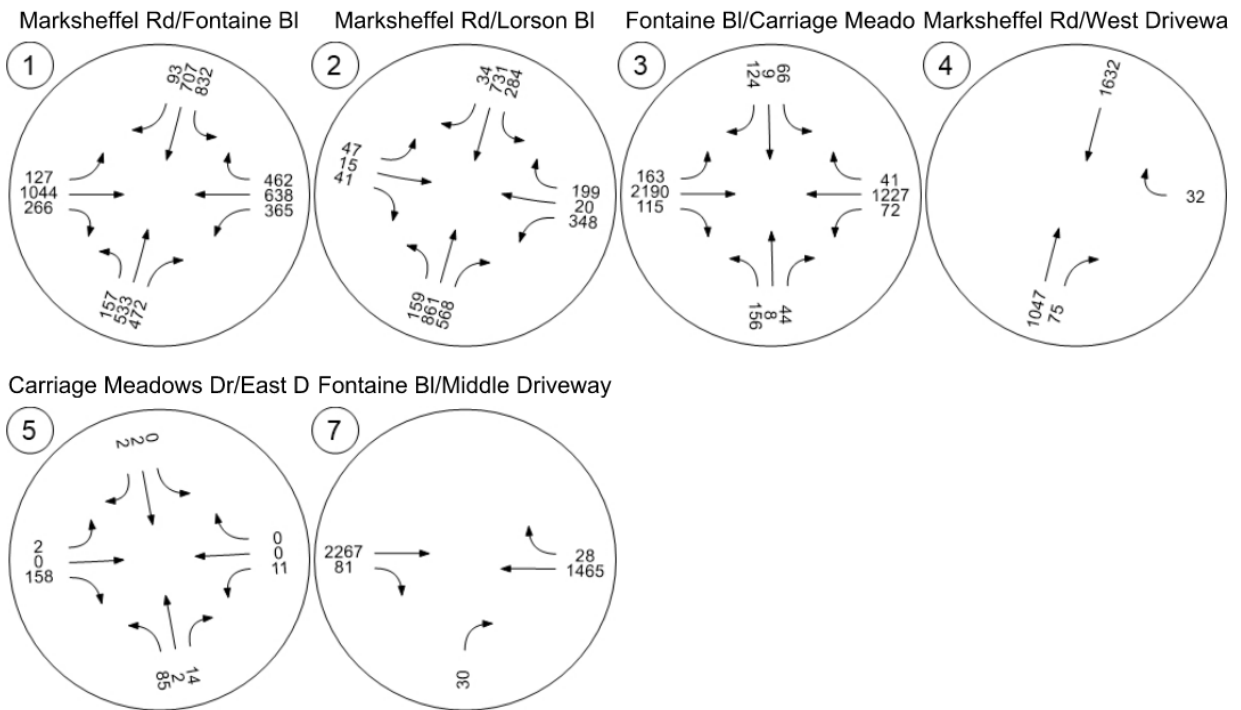
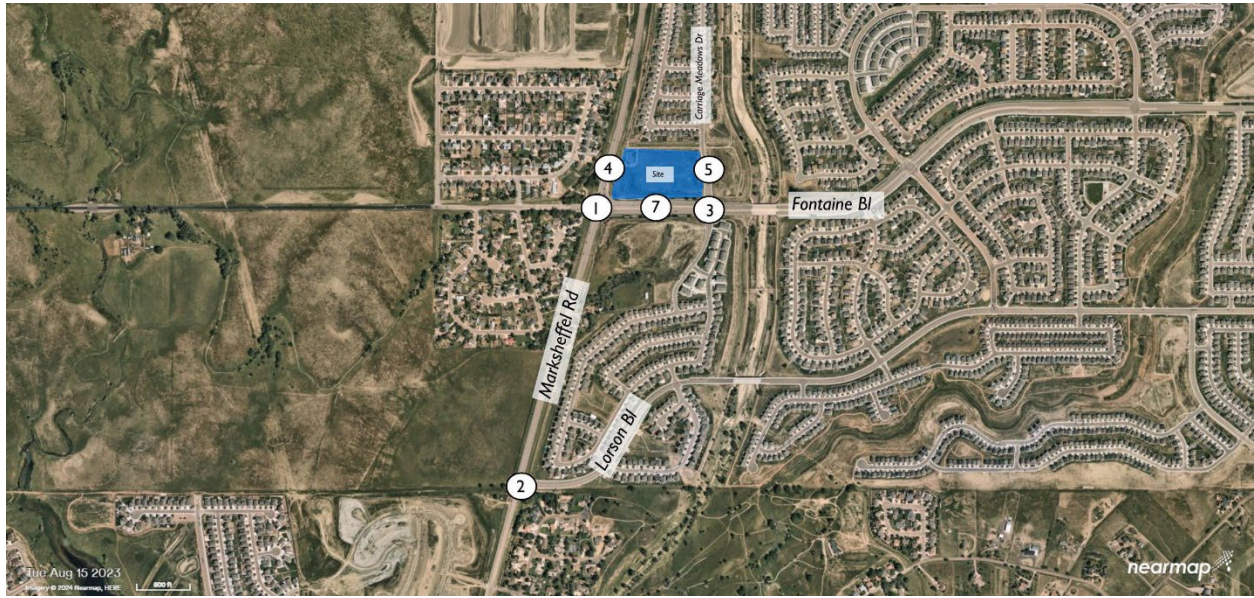
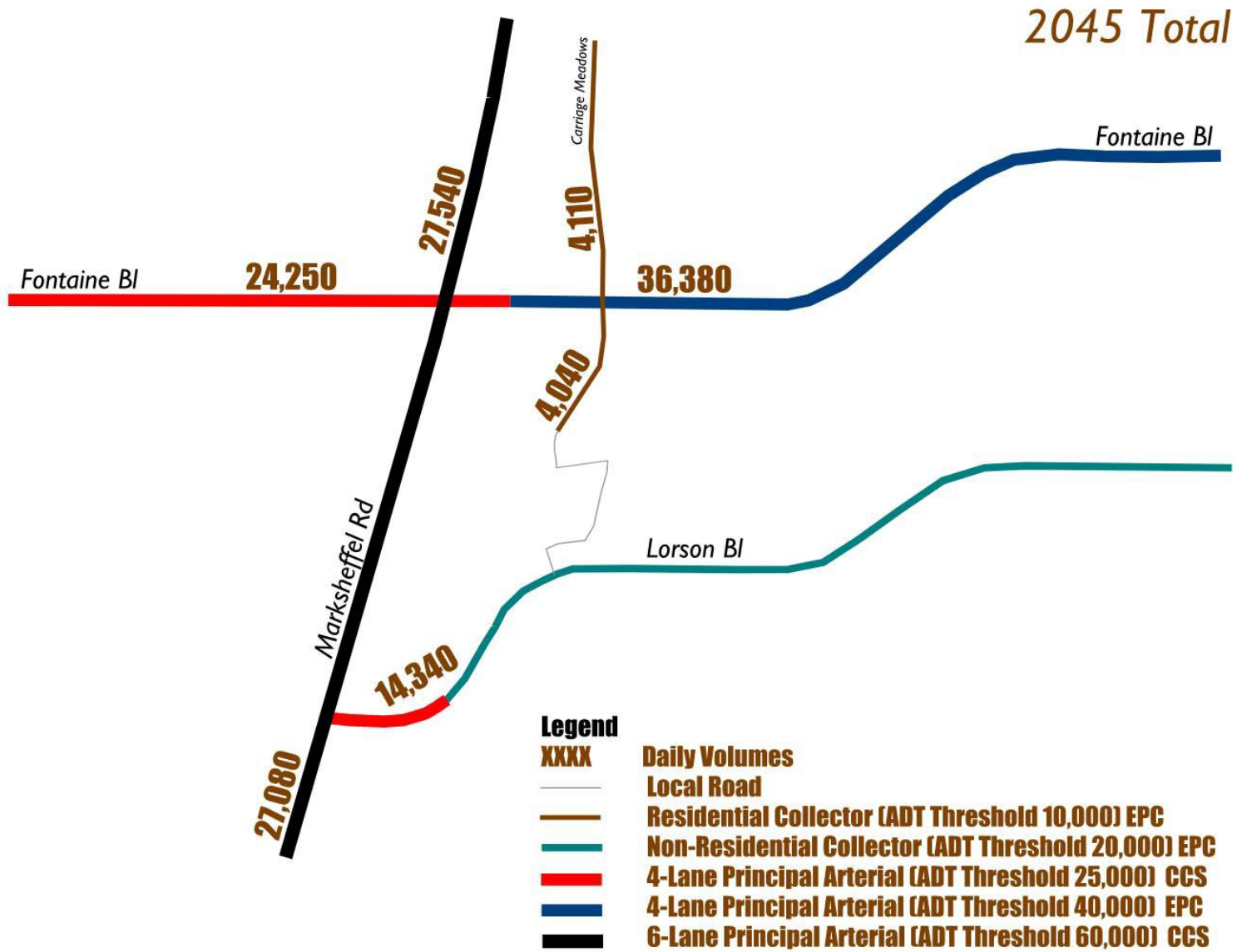
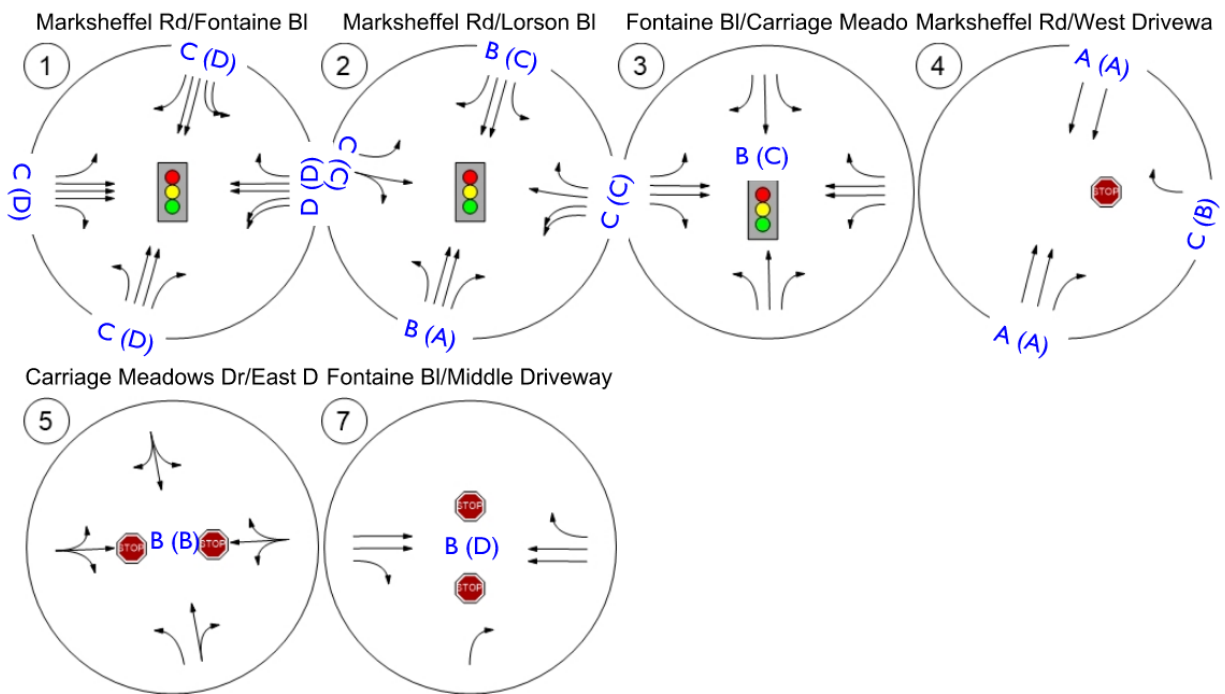
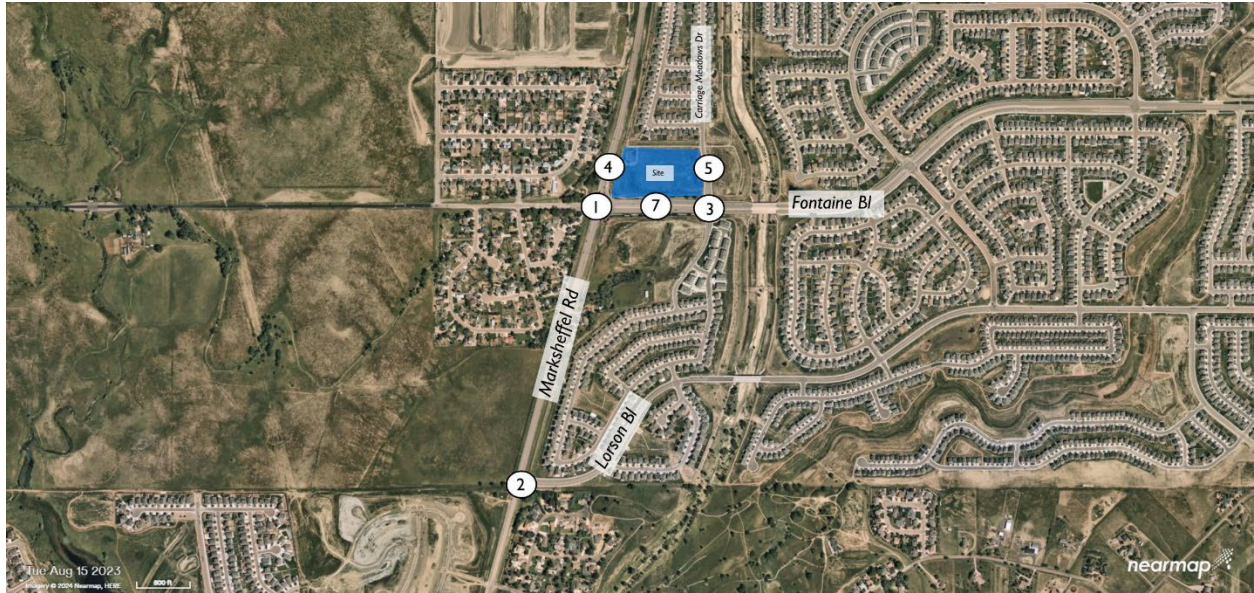


Figure 31. Horizon (2045) Total Daily Volume and Roadway Classification



The intersection configuration and level of service are shown in Figure 32.

Figure 32. Horizon (2045) Total Intersection Configuration and LOS



The intersection operations in the AM and PM peak hours are shown in Table 16 and Table 17, respectively.

Table 16. Horizon (2045) Total Intersection Operations (AM Peak Hour)

Intersection Analysis Summary

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|----|-----------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | HCM 7th Edition | EB Left | 0.621 | 33.4 | C |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | HCM 7th Edition | NB Left | 0.546 | 19.3 | B |
| 3 | Fontaine Bl/Carriage Meadows Dr | Signalized | HCM 7th Edition | EB Left | 0.608 | 13.1 | B |
| 4 | Marksheffel Rd/West Driveway | Two-way stop | HCM 7th Edition | WB Right | 0.037 | 8.5 | A |
| 5 | Carriage Meadows Dr/East Driveway | Two-way stop | HCM 7th Edition | WB Left | 0.033 | 12.7 | B |
| 7 | Fontaine Bl/Middle Driveway | Two-way stop | HCM 7th Edition | NB Right | 0.015 | 11.1 | B |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Table 17. Horizon (2045) Total Intersection Operations (PM Peak Hour)

Intersection Analysis Summary

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|----|-----------------------------------|--------------|-----------------|------------|-------|---------------|-----|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | HCM 7th Edition | EB Left | 0.762 | 49.0 | D |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | HCM 7th Edition | SB Left | 0.836 | 16.0 | B |
| 3 | Fontaine Bl/Carriage Meadows Dr | Signalized | HCM 7th Edition | WB Left | 0.797 | 20.0 | C |
| 4 | Marksheffel Rd/West Driveway | Two-way stop | HCM 7th Edition | WB Right | 0.034 | 8.6 | A |
| 5 | Carriage Meadows Dr/East Driveway | Two-way stop | HCM 7th Edition | WB Left | 0.023 | 11.9 | B |
| 7 | Fontaine Bl/Middle Driveway | Two-way stop | HCM 7th Edition | NB Right | 0.196 | 31.4 | D |

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

As shown in Table 16, Table 17, and Figure 32 all intersections operate at an acceptable LOS. All approaches at the intersections along Marksheffel Road also operate at an acceptable LOS.

Turn lane evaluations are shown in Table 18.

Table 18. Horizon (2045) Total Turn Lane Evaluations

| ID | Intersection | Control Type | Movement | Speed (mph) | Turning Volume (vph) | Queue (ft) | Agency | Deceleration (ft) | Taper (ft) | Storage (ft) | Total (ft) | Provided (ft) | Improvement (ft) | | | | |
|-----|---------------------------------|-----------------|----------|--------------------------------------|----------------------|------------|--------|-------------------|------------|--------------|------------|---------------|------------------|-----|-----|--|---|
| 1 | Marksheffel Rd/Fontaine Bl | Signalized | NBL | 55 | 157 | 229 | CCS | 263 | 220 | | 485 | 740 | - | | | | |
| | | | NBR | 55 | 472 | 288 | | 263 | 220 | | 485 | 740 | - | | | | |
| | | | SBL | 55 | 832 | 530 | | 263 | 220 | | 485 | 665 | - | | | | |
| | | | SBR | 55 | 55 | 39 | | 263 | 220 | | 485 | 665 | - | | | | |
| | | | EBL | 35 | 127 | 198 | | 120 | 140 | | 260 | 330 | - | | | | |
| | | | EBR | 35 | 266 | 163 | | 120 | 140 | | 260 | 50 | - | | | | |
| | | | WBL | 45 | 365 | 259 | | 200 | 180 | | 380 | 545 | - | | | | |
| | | | WBR | 45 | 597 | 267 | | 200 | 180 | | 380 | Continuous | - | | | | |
| 2 | Marksheffel Rd/Lorson Bl | Signalized | NBL | 55 | 159 | | CCS | 263 | 220 | | 485 | | | | | | |
| | | | NBR | 55 | 568 | 51 | | 263 | 220 | | 485 | 565 | - | | | | |
| | | | SBL | 55 | 284 | 224 | | 263 | 220 | | 485 | Continuous | - | | | | |
| | | | SBR | 55 | 34 | | | 263 | 220 | | 485 | | | | | | |
| | | | EBL | 35 | 49 | | | 120 | 140 | | 260 | | | | | | |
| | | | EBR | 35 | 69 | | | 120 | 140 | | 260 | | | | | | |
| | | | WBL | 35 | 500 | 324 | | 120 | 140 | | 260 | 485 | - | | | | |
| | | | WBR | 35 | 296 | 55 | | 120 | 140 | | 260 | Continuous | - | | | | |
| 3 | Fontaine Bl/Carriage Meadows Dr | Signalized | NBL | 25 | 156 | 171 | EPC | 115 | 120 | 171 | 405 | 190 | | | | | |
| | | | NBR | 25 | 44 | 21 | | Not Required | | | 180 | - | | | | | |
| | | | SBL | 25 | 73 | 73 | | 115 | 120 | 73 | 310 | 100 | - | | | | |
| | | | SBR | 25 | 188 | 86 | | 115 | 120 | 86 | 320 | 100 | - | | | | |
| | | | EBL | 45 | 163 | 265 | | 235 | 200 | 265 | 700 | 500 | 75 | | | | |
| | | | EBR | 45 | 115 | 9 | | 235 | 200 | 9 | 444 | Continuous | - | | | | |
| | | | WBL | 45 | 72 | 159 | | 235 | 200 | 159 | 594 | 510 | - | | | | |
| | | | WBR | 45 | 41 | 7 | | Not Required | | | 330 | - | | | | | |
| | | | 4 | Marksheffel Rd/West Driveway | Stop-Controlled | NBR | | 55 | 90 | 0 | CCS | 263 | 220 | | 485 | | - |
| | | | 5 | Carriage Meadows Dr Rd/East Driveway | Stop-Controlled | NBL | | 25 | 102 | 6 | EPC | 115 | 120 | 100 | 335 | | - |
| EBR | 25 | 158 | | | | 0 | 115 | 120 | | 235 | | | - | | | | |
| 7 | Fontaine Bl/Middle Driveway | Stop-Controlled | WBR | 45 | 33 | 0 | EPC | 235 | 200 | | 435 | | - | | | | |

Fontaine Boulevard/Carriage Meadows Drive (#3)

- A 75-ft extension of eastbound left-turn

Conclusions and Recommendations

In this report, the traffic impact of Village at Lorson Ranch on the adjacent roadways was studied. The *Hillside at Lorson Ranch (2022)* study was used to derive the background volumes in the future conditions. Two adjacent developments, namely townhomes at the northeast corner of Fontaine Boulevard/Carriage Meadows Drive and Lorson Ranch Commercial South traffic were also added to the background traffic. Summary of the required improvements are as follow:

Existing Conditions:

Marksheffel Road/Fontaine Boulevard (#1)

- A 210-ft extension of eastbound right-turn.

Marksheffel Road/Lorson Boulevard (#2)

- A Traffic Signal.

Buildout (2030) Background:

EPC will not approve this solution

Fontaine Boulevard/Carriage Meadows Drive (#3)

- Prohibit northbound left-turn and southbound left-turn. A 55-ft extension of northbound right-turn.
- A 135-ft extension of southbound right-turn.
- A 10-ft extension of eastbound left-turn.

Buildout (2030) Total:

Fontaine Boulevard/Carriage Meadows Drive (#3)

- A traffic signal.
- A 95-ft extension of northbound left-turn.
- A 210-ft extension of southbound left-turn lane.
- A 90-ft extension of eastbound left-turn lane.
- An 85-ft extension of southbound right-turn lane. Upon the buildout year the southbound right-turn needs to be a continuous lane from the east driveway (#5)

Marksheffel Road/West Driveway (#4)

- A 485-ft northbound right-turn lane. Included a 265-ft deceleration lane, and a 220-ft taper lane. The project is fully responsible for this improvement.

Carriage Meadows Drive/East Driveway (#5)

- A 335-ft northbound left-turn. Included a 115-ft deceleration lane, 120-ft taper lane, and a 100-ft storage lane. The project is fully responsible for this improvement.

- A 235-ft shared eastbound right-turn lane. Included a 115-ft deceleration lane, and a 120-ft taper lane. The project is fully responsible for this improvement.

Fontaine Boulevard/Middle Driveway (#7)

- A 435-ft westbound right-turn. Matrix recommends an extension of the northwest corner of the Fontaine/Carriage Meadows intersection to define the deceleration lane into the driveway along Fontaine Boulevard according to the Figure 2. A higher quality of this exhibit is provided in Appendix F – Supporting Documents. The project is fully responsible for this improvement.

Horizon (2045) Background:

Fontaine Boulevard/Carriage Meadows Drive (#3)

- A 325-ft extension of northbound left-turn.
- A 65-ft extension of southbound right-turn.
- A 115-ft extension of eastbound left-turn.
- A 90-ft extension of westbound left-turn.

Horizon (2045) Total:

Fontaine Boulevard/Carriage Meadows Drive (#3)

- A 75-ft extension of eastbound left-turn

The project fair share is summarized in Table 19.

Table 19. Village at Lorson Ranch Fair Share Calculations

| ID | Intersection | 2030 Total AM | 2030 Total PM | 2045 Total AM | 2045 Total PM | Site AM | Site PM | Existing AM | Existing PM | Fairshare 2030 AM | Fairshare 2030 PM | Fairshare 2030 (Weighted Average) | Fairshare 2045 AM | Fairshare 2045 PM | Fairshare 2045 (Weighted Average) |
|----|---|---------------|---------------|---------------|---------------|---------|---------|-------------|-------------|-------------------|-------------------|-----------------------------------|-------------------|-------------------|-----------------------------------|
| 1 | Marksheffel Road/Fontaine Boulevard | 3354 | 4227 | 4041 | 5696 | 273 | 234 | 2301 | 2275 | 25.93% | 11.99% | 18.15% | 15.69% | 6.84% | 10.51% |
| 3 | Fontaine Boulevard/Carriage Meadows Drive | 2322 | 3113 | 2791 | 4215 | 311 | 271 | 1421 | 1354 | 34.52% | 15.41% | 23.57% | 22.70% | 9.47% | 14.74% |

Finally, the applicant is required to pay road impact fees to El Paso County. The County allows for the applicant to pay three different upfront fee amounts. The applicant can either pay the full fee amount, a smaller upfront fee to the 5 mill Public Improvement District (PID), or an even smaller upfront fee amount to the 10 mill PID. The different fee amounts are shown in Table 20. The applicant will choose which fee method to follow at a later date. If the applicant chooses one of the PIDs, the PID will collect taxes over time. Table 20 summarizes the road impact fees.

Table 20. Road Impact Fee Schedule

| Land Use | | Unit | Size | Full Fee | 5 Mill PID | 10 Mill PID |
|----------------|--------------------|------|------|----------|------------|-------------|
| Day Care | General Commercial | ksf | 12 | \$59,496 | \$46,212 | \$32,940 |
| Fast Food | Conveninece Comm. | ksf | 8.17 | \$71,896 | \$43,064 | \$14,289 |
| Gas Station | Conveninece Comm. | ksf | 5.68 | \$49,984 | \$29,939 | \$9,934 |
| Mini Warehouse | Mini Warehouse | ksf | 36.5 | \$26,463 | \$8,870 | N/A |

The summary of required improvements is also listed in Table 21.

Day care may be classified under Public / Institutional

Table 21. Summary of Required Improvements

| ID | Intersection | Improvement | Year | Responsibility |
|----|---|---|-------------------------------|---|
| 1 | Marksheffel Road/Fontaine Boulevard | A 210-ft extension of eastbound right turn | Existing | The Project has no responsibility for this improvement. |
| 2 | Marksheffel Road/Lorson Boulevard | Traffic Signal | Existing | The Project has no responsibility for this improvement. |
| 3 | Fontaine Boulevard/Carriage Meadows Drive | Prohibit northbound left-turn and southbound left-turn. A 55-ft extension of northbound right-turn. A 135-ft extension of southbound right-turn. A 10-ft extension of eastbound left-turn. | Buildout (2030) Background | The Project has no responsibility for these improvements. |
| 3 | Fontaine Boulevard/Carriage Meadows Drive | A traffic signal. A 95-ft extension of northbound left-turn. A 210-ft extension of southbound left-turn lane. A 90-ft extension of eastbound left-turn lane. An 85-ft extension of southbound right-turn lane. Upon the buildout year the southbound right-turn needs to be a continuous lane from the east driveway (#5) | Buildout (2030) Total | The Project fairshare is shown in Table 20. |
| 4 | Marksheffel Road/West Driveway | A 485-ft northbound right-turn lane. Included a 265-ft deceleration lane, and a 220-ft taper lane | Buildout (2030) Total | The project is fully responsible for this improvement. |
| 5 | Carriage Meadows Drive/East Driveway | A 335-ft northbound left-turn. Included a 115-ft deceleration lane, 120-ft taper lane, and a 100-ft storage lane. A 235-ft eastbound right-turn lane. Included a 115-ft deceleration lane, and a 120-ft taper lane. | Buildout (2030) Total | The project is fully responsible for this improvement. |
| 7 | Fontaine Boulevard/Middle Driveway (#7) | A 435-ft westbound right-turn | Buildout (2030) Total | The project is fully responsible for this improvement. |
| 3 | Fontaine Boulevard/Carriage Meadows Drive | A 325-ft extension of northbound left-turn. A 65-ft extension of southbound right-turn. A 115-ft extension of eastbound left-turn. A 90-ft extension of westbound left-turn. | Horizon (2045) Background | The Project has no responsibility for these improvements. |
| 3 | Fontaine Boulevard/Carriage Meadows Drive | A 75-ft extension of eastbound left-turn | Horizon (2045) Total | The Project fairshare is shown in Table 20. |

Appendix A – Traffic Counts

All Traffic Data Services
 9660 W 44th Ave
 Wheat Ridge, CO 80033

Site Code: 4
 Station ID: 4
 MARKSHEFFEL RD N.O. FONTAINE BLVD

| Start Time | 12-Mar-24 Tue | NB | SB | | | | | | | Total |
|-------------|------------------|-------------|-------------|---|---|---|---|---|---|-------------|
| 12:00 AM | | 20 | 39 | | | | | | | 59 |
| 01:00 | | 12 | 18 | | | | | | | 30 |
| 02:00 | | 9 | 10 | | | | | | | 19 |
| 03:00 | | 26 | 18 | | | | | | | 44 |
| 04:00 | | 75 | 34 | | | | | | | 109 |
| 05:00 | | 244 | 89 | | | | | | | 333 |
| 06:00 | | 718 | 188 | | | | | | | 906 |
| 07:00 | | 1029 | 350 | | | | | | | 1379 |
| 08:00 | | 491 | 324 | | | | | | | 815 |
| 09:00 | | 336 | 218 | | | | | | | 554 |
| 10:00 | | 319 | 220 | | | | | | | 539 |
| 11:00 | | 283 | 280 | | | | | | | 563 |
| 12:00 PM | | 333 | 329 | | | | | | | 662 |
| 01:00 | | 282 | 334 | | | | | | | 616 |
| 02:00 | | 347 | 402 | | | | | | | 749 |
| 03:00 | | 497 | 617 | | | | | | | 1114 |
| 04:00 | | 501 | 837 | | | | | | | 1338 |
| 05:00 | | 503 | 744 | | | | | | | 1247 |
| 06:00 | | 287 | 479 | | | | | | | 766 |
| 07:00 | | 153 | 287 | | | | | | | 440 |
| 08:00 | | 108 | 265 | | | | | | | 373 |
| 09:00 | | 51 | 150 | | | | | | | 201 |
| 10:00 | | 40 | 106 | | | | | | | 146 |
| 11:00 | | 38 | 50 | | | | | | | 88 |
| Total | | 6702 | 6388 | | | | | | | 13090 |
| Percent | | 51.2% | 48.8% | | | | | | | |
| AM Peak | - | 07:00 | 07:00 | - | - | - | - | - | - | 07:00 |
| Vol. | - | 1029 | 350 | - | - | - | - | - | - | 1379 |
| PM Peak | - | 17:00 | 16:00 | - | - | - | - | - | - | 16:00 |
| Vol. | - | 503 | 837 | - | - | - | - | - | - | 1338 |
| Grand Total | | 6702 | 6388 | | | | | | | 13090 |
| Percent | | 51.2% | 48.8% | | | | | | | |
| ADT | | ADT 13,090 | AADT 13,090 | | | | | | | |

All Traffic Data Services
 9660 W 44th Ave
 Wheat Ridge, CO 80033

Site Code: 5
 Station ID: 5
 FONTAINE BLVD W.O. MARKSHEFFEL RD

| Start Time | 12-Mar-24 Tue | EB | WB | | | | | | | Total |
|-------------|------------------|------------|------------|---|---|---|---|---|---|------------|
| 12:00 AM | | 26 | 10 | | | | | | | 36 |
| 01:00 | | 10 | 11 | | | | | | | 21 |
| 02:00 | | 7 | 6 | | | | | | | 13 |
| 03:00 | | 6 | 16 | | | | | | | 22 |
| 04:00 | | 5 | 60 | | | | | | | 65 |
| 05:00 | | 40 | 188 | | | | | | | 228 |
| 06:00 | | 101 | 311 | | | | | | | 412 |
| 07:00 | | 197 | 477 | | | | | | | 674 |
| 08:00 | | 175 | 299 | | | | | | | 474 |
| 09:00 | | 133 | 228 | | | | | | | 361 |
| 10:00 | | 125 | 206 | | | | | | | 331 |
| 11:00 | | 193 | 199 | | | | | | | 392 |
| 12:00 PM | | 173 | 220 | | | | | | | 393 |
| 01:00 | | 195 | 230 | | | | | | | 425 |
| 02:00 | | 254 | 227 | | | | | | | 481 |
| 03:00 | | 363 | 305 | | | | | | | 668 |
| 04:00 | | 474 | 252 | | | | | | | 726 |
| 05:00 | | 409 | 308 | | | | | | | 717 |
| 06:00 | | 354 | 214 | | | | | | | 568 |
| 07:00 | | 271 | 155 | | | | | | | 426 |
| 08:00 | | 186 | 125 | | | | | | | 311 |
| 09:00 | | 106 | 78 | | | | | | | 184 |
| 10:00 | | 85 | 51 | | | | | | | 136 |
| 11:00 | | 58 | 23 | | | | | | | 81 |
| Total | | 3946 | 4199 | | | | | | | 8145 |
| Percent | | 48.4% | 51.6% | | | | | | | |
| AM Peak | - | 07:00 | 07:00 | - | - | - | - | - | - | 07:00 |
| Vol. | - | 197 | 477 | - | - | - | - | - | - | 674 |
| PM Peak | - | 16:00 | 17:00 | - | - | - | - | - | - | 16:00 |
| Vol. | - | 474 | 308 | - | - | - | - | - | - | 726 |
| Grand Total | | 3946 | 4199 | | | | | | | 8145 |
| Percent | | 48.4% | 51.6% | | | | | | | |
| ADT | | ADT 8,145 | AADT 8,145 | | | | | | | |

All Traffic Data Services
 9660 W 44th Ave
 Wheat Ridge, CO 80033

Site Code: 6
 Station ID: 6
 FONTAINE BLVD E.O. CARRIAGE MEADOWS DR

| Start Time | 12-Mar-24 Tue | EB | WB | | | | | | | Total |
|-------------|------------------|------------|-------------|---|---|---|---|---|---|-------------|
| 12:00 AM | | 48 | 17 | | | | | | | 65 |
| 01:00 | | 20 | 14 | | | | | | | 34 |
| 02:00 | | 11 | 13 | | | | | | | 24 |
| 03:00 | | 15 | 39 | | | | | | | 54 |
| 04:00 | | 21 | 91 | | | | | | | 112 |
| 05:00 | | 43 | 360 | | | | | | | 403 |
| 06:00 | | 142 | 627 | | | | | | | 769 |
| 07:00 | | 336 | 990 | | | | | | | 1326 |
| 08:00 | | 300 | 567 | | | | | | | 867 |
| 09:00 | | 228 | 371 | | | | | | | 599 |
| 10:00 | | 223 | 331 | | | | | | | 554 |
| 11:00 | | 325 | 319 | | | | | | | 644 |
| 12:00 PM | | 334 | 338 | | | | | | | 672 |
| 01:00 | | 325 | 320 | | | | | | | 645 |
| 02:00 | | 481 | 369 | | | | | | | 850 |
| 03:00 | | 603 | 500 | | | | | | | 1103 |
| 04:00 | | 811 | 412 | | | | | | | 1223 |
| 05:00 | | 765 | 460 | | | | | | | 1225 |
| 06:00 | | 642 | 329 | | | | | | | 971 |
| 07:00 | | 469 | 217 | | | | | | | 686 |
| 08:00 | | 350 | 158 | | | | | | | 508 |
| 09:00 | | 216 | 92 | | | | | | | 308 |
| 10:00 | | 158 | 67 | | | | | | | 225 |
| 11:00 | | 79 | 39 | | | | | | | 118 |
| Total | | 6945 | 7040 | | | | | | | 13985 |
| Percent | | 49.7% | 50.3% | | | | | | | |
| AM Peak | - | 07:00 | 07:00 | - | - | - | - | - | - | 07:00 |
| Vol. | - | 336 | 990 | - | - | - | - | - | - | 1326 |
| PM Peak | - | 16:00 | 15:00 | - | - | - | - | - | - | 17:00 |
| Vol. | - | 811 | 500 | - | - | - | - | - | - | 1225 |
| Grand Total | | 6945 | 7040 | | | | | | | 13985 |
| Percent | | 49.7% | 50.3% | | | | | | | |
| ADT | | ADT 13,985 | AADT 13,985 | | | | | | | |

All Traffic Data Services
 9660 W 44th Ave
 Wheat Ridge, CO 80033

Site Code: 7
 Station ID: 7
 MARKSHEFFEL RD S.O. LORSON BLVD

| Start Time | 12-Mar-24 Tue | NB | SB | | | | | | | Total |
|-------------|------------------|------------|-------------|---|---|---|---|---|---|-------------|
| 12:00 AM | | 28 | 24 | | | | | | | 52 |
| 01:00 | | 15 | 10 | | | | | | | 25 |
| 02:00 | | 7 | 9 | | | | | | | 16 |
| 03:00 | | 9 | 26 | | | | | | | 35 |
| 04:00 | | 50 | 55 | | | | | | | 105 |
| 05:00 | | 154 | 369 | | | | | | | 523 |
| 06:00 | | 469 | 471 | | | | | | | 940 |
| 07:00 | | 692 | 661 | | | | | | | 1353 |
| 08:00 | | 466 | 598 | | | | | | | 1064 |
| 09:00 | | 312 | 339 | | | | | | | 651 |
| 10:00 | | 321 | 299 | | | | | | | 620 |
| 11:00 | | 363 | 325 | | | | | | | 688 |
| 12:00 PM | | 345 | 325 | | | | | | | 670 |
| 01:00 | | 385 | 361 | | | | | | | 746 |
| 02:00 | | 484 | 398 | | | | | | | 882 |
| 03:00 | | 697 | 607 | | | | | | | 1304 |
| 04:00 | | 749 | 678 | | | | | | | 1427 |
| 05:00 | | 793 | 598 | | | | | | | 1391 |
| 06:00 | | 511 | 391 | | | | | | | 902 |
| 07:00 | | 352 | 264 | | | | | | | 616 |
| 08:00 | | 249 | 182 | | | | | | | 431 |
| 09:00 | | 169 | 114 | | | | | | | 283 |
| 10:00 | | 92 | 72 | | | | | | | 164 |
| 11:00 | | 65 | 45 | | | | | | | 110 |
| Total | | 7777 | 7221 | | | | | | | 14998 |
| Percent | | 51.9% | 48.1% | | | | | | | |
| AM Peak | - | 07:00 | 07:00 | - | - | - | - | - | - | 07:00 |
| Vol. | - | 692 | 661 | - | - | - | - | - | - | 1353 |
| PM Peak | - | 17:00 | 16:00 | - | - | - | - | - | - | 16:00 |
| Vol. | - | 793 | 678 | - | - | - | - | - | - | 1427 |
| Grand Total | | 7777 | 7221 | | | | | | | 14998 |
| Percent | | 51.9% | 48.1% | | | | | | | |
| ADT | | ADT 14,998 | AADT 14,998 | | | | | | | |

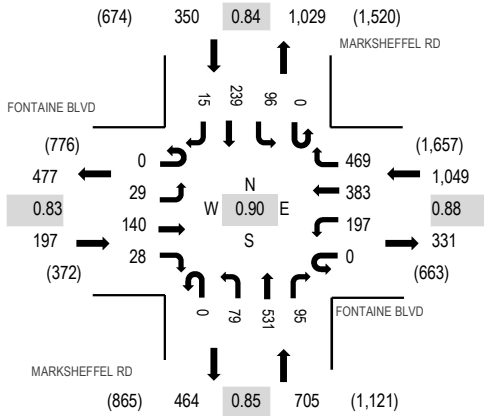
Location: 1 MARKSHEFFEL RD & FONTAINE BLVD AM

Date: Tuesday, March 12, 2024

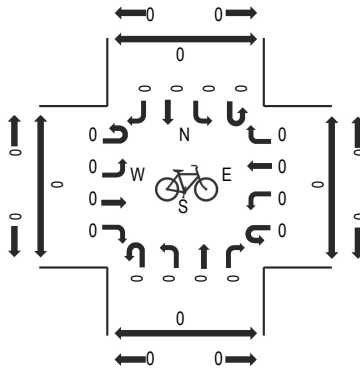
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:15 AM - 07:30 AM

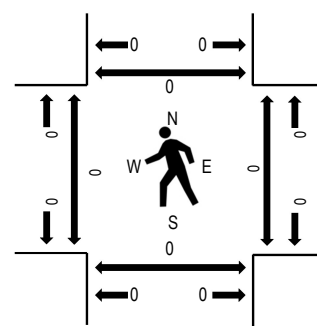
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

| Interval Start Time | FONTAINE BLVD Eastbound | | | | FONTAINE BLVD Westbound | | | | MARKSHEFFEL RD Northbound | | | | MARKSHEFFEL RD Southbound | | | | Total | Rolling Hour | Pedestrian Crossings | | | |
|------------------------|----------------------------|------|------|-------|----------------------------|------|------|-------|------------------------------|------|------|-------|------------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | | West | East | South | North |
| 7:00 AM | 0 | 8 | 41 | 4 | 0 | 51 | 117 | 102 | 0 | 12 | 133 | 25 | 0 | 17 | 71 | 1 | 582 | 2,301 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 8 | 43 | 8 | 0 | 47 | 96 | 149 | 0 | 18 | 158 | 30 | 0 | 28 | 49 | 2 | 636 | 2,148 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 10 | 31 | 9 | 0 | 58 | 106 | 135 | 0 | 31 | 160 | 16 | 0 | 22 | 47 | 5 | 630 | 1,919 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 3 | 25 | 7 | 0 | 41 | 64 | 83 | 0 | 18 | 80 | 24 | 0 | 29 | 72 | 7 | 453 | 1,675 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 2 | 24 | 21 | 0 | 56 | 68 | 67 | 0 | 10 | 71 | 21 | 0 | 27 | 56 | 6 | 429 | 1,523 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 5 | 33 | 14 | 0 | 40 | 58 | 45 | 0 | 14 | 80 | 25 | 0 | 32 | 61 | 0 | 407 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 2 | 28 | 9 | 0 | 42 | 73 | 49 | 0 | 15 | 75 | 22 | 0 | 27 | 43 | 1 | 386 | | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 2 | 31 | 4 | 0 | 26 | 43 | 41 | 0 | 8 | 52 | 23 | 0 | 39 | 29 | 3 | 301 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 40 | 256 | 76 | 0 | 361 | 625 | 671 | 0 | 126 | 809 | 186 | 0 | 221 | 428 | 25 | 3,824 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 29 | 140 | 28 | 0 | 197 | 383 | 469 | 0 | 79 | 531 | 95 | 0 | 96 | 239 | 15 | 2,301 | | 0 | 0 | 0 | 0 |

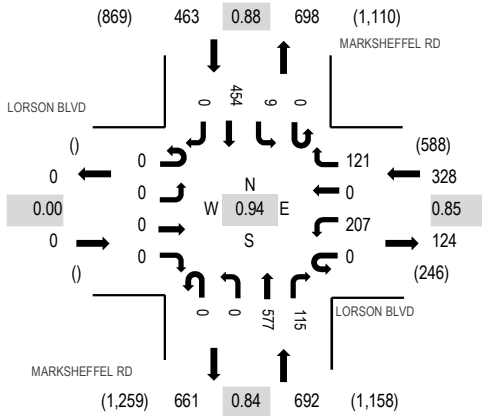
Location: 2 MARKSHEFFEL RD & LORSON BLVD AM

Date: Tuesday, March 12, 2024

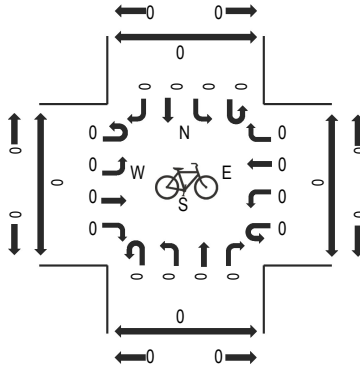
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:15 AM - 07:30 AM

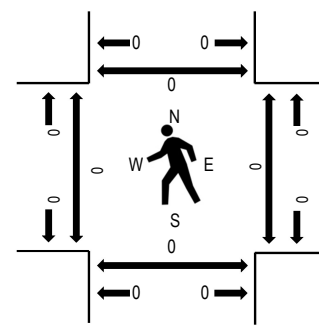
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

| Interval Start Time | LORSON BLVD Eastbound | | | | LORSON BLVD Westbound | | | | MARKSHEFFEL RD Northbound | | | | MARKSHEFFEL RD Southbound | | | | Total | Rolling Hour | Pedestrian Crossings | | | |
|------------------------|--------------------------|------|------|-------|--------------------------|------|------|-------|------------------------------|------|------|-------|------------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | | West | East | South | North |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 56 | 0 | 24 | 0 | 0 | 152 | 23 | 0 | 6 | 121 | 0 | 382 | 1,483 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 45 | 0 | 37 | 0 | 0 | 176 | 30 | 0 | 3 | 103 | 0 | 394 | 1,418 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 60 | 0 | 36 | 0 | 0 | 154 | 29 | 0 | 0 | 112 | 0 | 391 | 1,364 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 46 | 0 | 24 | 0 | 0 | 95 | 33 | 0 | 0 | 118 | 0 | 316 | 1,252 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 47 | 0 | 12 | 0 | 0 | 94 | 27 | 0 | 7 | 130 | 0 | 317 | 1,132 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 79 | 0 | 17 | 0 | 0 | 99 | 31 | 0 | 9 | 105 | 0 | 340 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 48 | 0 | 12 | 0 | 0 | 96 | 25 | 0 | 4 | 94 | 0 | 279 | | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 7 | 0 | 0 | 75 | 19 | 0 | 0 | 57 | 0 | 196 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 419 | 0 | 169 | 0 | 0 | 941 | 217 | 0 | 29 | 840 | 0 | 2,615 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 207 | 0 | 121 | 0 | 0 | 577 | 115 | 0 | 9 | 454 | 0 | 1,483 | | 0 | 0 | 0 | 0 |

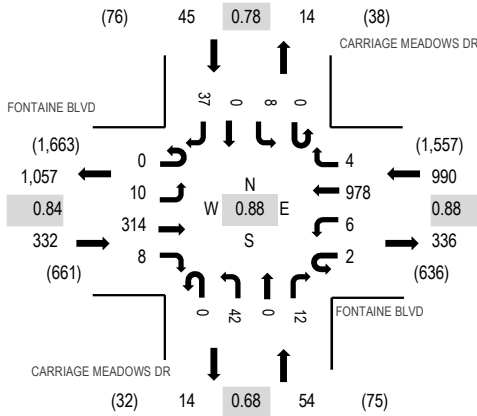
Location: 3 CARRIAGE MEADOWS DR & FONTAINE BLVD AM

Date: Tuesday, March 12, 2024

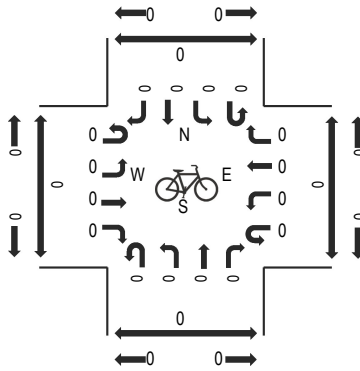
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:15 AM - 07:30 AM

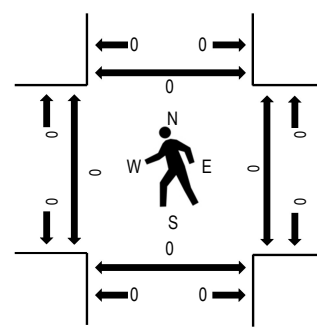
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

| Interval Start Time | FONTAINE BLVD Eastbound | | | | FONTAINE BLVD Westbound | | | | CARRIAGE MEADOWS DR Northbound | | | | CARRIAGE MEADOWS DR Southbound | | | | Total | Rolling Hour | Pedestrian Crossings | | | |
|------------------------|----------------------------|------|------|-------|----------------------------|------|-------|-------|-----------------------------------|------|------|-------|-----------------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | | West | East | South | North |
| | 7:00 AM | 0 | 1 | 84 | 0 | 0 | 2 | 251 | 0 | 0 | 12 | 0 | 1 | 0 | 1 | 0 | | | 8 | 360 | 1,421 | 0 |
| 7:15 AM | 0 | 7 | 88 | 4 | 0 | 0 | 281 | 1 | 0 | 8 | 0 | 2 | 0 | 4 | 0 | 11 | 406 | 1,328 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 1 | 68 | 2 | 0 | 2 | 270 | 3 | 0 | 12 | 0 | 8 | 0 | 2 | 0 | 11 | 379 | 1,153 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 1 | 74 | 2 | 2 | 2 | 176 | 0 | 0 | 10 | 0 | 1 | 0 | 1 | 0 | 7 | 276 | 1,016 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 6 | 65 | 1 | 1 | 2 | 173 | 1 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 11 | 267 | 948 | 0 | 0 | 0 | 0 |
| 8:15 AM | 1 | 4 | 76 | 7 | 0 | 0 | 126 | 0 | 0 | 5 | 0 | 2 | 0 | 2 | 0 | 8 | 231 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 7 | 64 | 3 | 1 | 2 | 154 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 8 | 242 | | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 4 | 88 | 3 | 0 | 0 | 105 | 1 | 0 | 4 | 0 | 1 | 0 | 0 | 0 | 2 | 208 | | 0 | 0 | 0 | 0 |
| Count Total | 1 | 31 | 607 | 22 | 4 | 10 | 1,536 | 7 | 0 | 60 | 0 | 15 | 0 | 10 | 0 | 66 | 2,369 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 10 | 314 | 8 | 2 | 6 | 978 | 4 | 0 | 42 | 0 | 12 | 0 | 8 | 0 | 37 | 1,421 | | 0 | 0 | 0 | 0 |

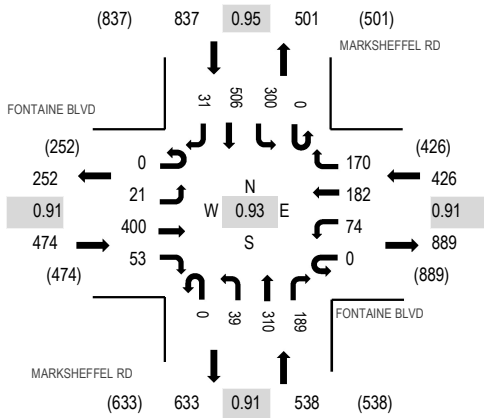
Location: 1 MARKSHEFFEL RD & FONTAINE BLVD PM

Date: Tuesday, March 12, 2024

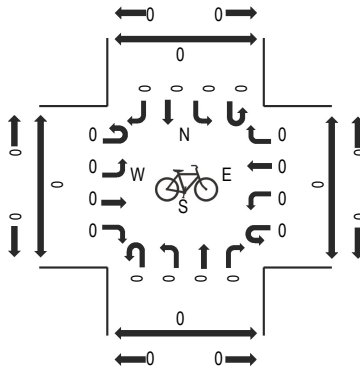
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:30 PM - 04:45 PM

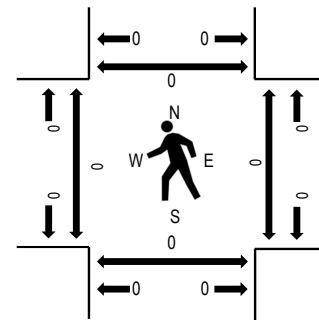
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

| Interval Start Time | FONTAINE BLVD Eastbound | | | | FONTAINE BLVD Westbound | | | | MARKSHEFFEL RD Northbound | | | | MARKSHEFFEL RD Southbound | | | | Total | Rolling Hour | Pedestrian Crossings | | | |
|------------------------|----------------------------|------|------|-------|----------------------------|------|------|-------|------------------------------|------|------|-------|------------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | | West | East | South | North |
| 4:00 PM | 0 | 6 | 101 | 13 | 0 | 15 | 45 | 47 | 0 | 13 | 80 | 43 | 0 | 77 | 122 | 9 | 571 | 2,275 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 6 | 87 | 17 | 0 | 13 | 35 | 39 | 0 | 10 | 79 | 52 | 0 | 75 | 120 | 9 | 542 | | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 7 | 115 | 8 | 0 | 21 | 55 | 39 | 0 | 9 | 85 | 54 | 0 | 80 | 134 | 7 | 614 | | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 2 | 97 | 15 | 0 | 25 | 47 | 45 | 0 | 7 | 66 | 40 | 0 | 68 | 130 | 6 | 548 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 21 | 400 | 53 | 0 | 74 | 182 | 170 | 0 | 39 | 310 | 189 | 0 | 300 | 506 | 31 | 2,275 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 21 | 400 | 53 | 0 | 74 | 182 | 170 | 0 | 39 | 310 | 189 | 0 | 300 | 506 | 31 | 2,275 | | 0 | 0 | 0 | 0 |

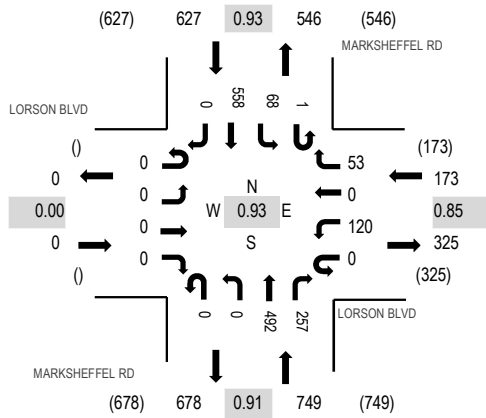
Location: 2 MARKSHEFFEL RD & LORSON BLVD PM

Date: Tuesday, March 12, 2024

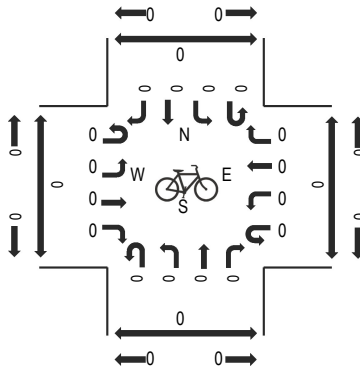
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:30 PM - 04:45 PM

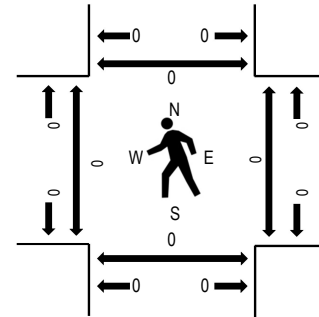
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

| Interval Start Time | LORSON BLVD Eastbound | | | | LORSON BLVD Westbound | | | | MARKSHEFFEL RD Northbound | | | | MARKSHEFFEL RD Southbound | | | | Total | Rolling Hour | Pedestrian Crossings | | | |
|------------------------|--------------------------|------|------|-------|--------------------------|------|------|-------|------------------------------|------|------|-------|------------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | | West | East | South | North |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 33 | 0 | 18 | 0 | 0 | 120 | 59 | 0 | 11 | 140 | 0 | 381 | 1,549 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 26 | 0 | 11 | 0 | 0 | 132 | 66 | 0 | 17 | 126 | 0 | 378 | | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 32 | 0 | 13 | 0 | 0 | 135 | 70 | 0 | 18 | 147 | 0 | 415 | | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 11 | 0 | 0 | 105 | 62 | 1 | 22 | 145 | 0 | 375 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 120 | 0 | 53 | 0 | 0 | 492 | 257 | 1 | 68 | 558 | 0 | 1,549 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 120 | 0 | 53 | 0 | 0 | 492 | 257 | 1 | 68 | 558 | 0 | 1,549 | | 0 | 0 | 0 | 0 |

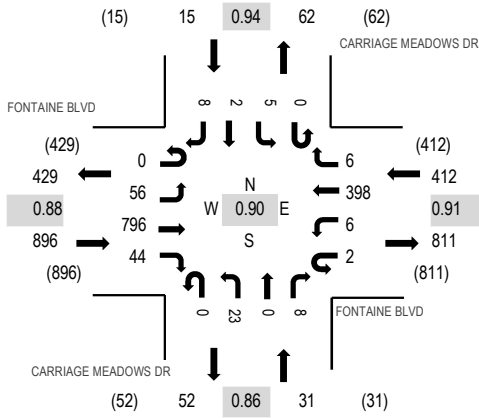
Location: 3 CARRIAGE MEADOWS DR & FONTAINE BLVD PM

Date: Tuesday, March 12, 2024

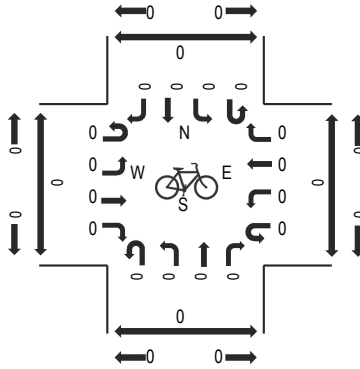
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:30 PM - 04:45 PM

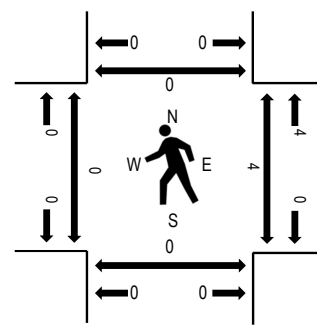
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

| Interval Start Time | FONTAINE BLVD Eastbound | | | | FONTAINE BLVD Westbound | | | | CARRIAGE MEADOWS DR Northbound | | | | CARRIAGE MEADOWS DR Southbound | | | | Total | Rolling Hour | Pedestrian Crossings | | | |
|------------------------|----------------------------|------|------|-------|----------------------------|------|------|-------|-----------------------------------|------|------|-------|-----------------------------------|------|------|-------|-------|-----------------|----------------------|------|-------|-------|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | | | West | East | South | North |
| 4:00 PM | 0 | 11 | 196 | 15 | 0 | 0 | 101 | 2 | 0 | 7 | 0 | 1 | 0 | 1 | 1 | 2 | 337 | 1,354 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 20 | 184 | 8 | 0 | 3 | 80 | 1 | 0 | 5 | 0 | 4 | 0 | 2 | 0 | 1 | 308 | | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 10 | 233 | 11 | 1 | 0 | 109 | 3 | 0 | 5 | 0 | 1 | 0 | 1 | 0 | 3 | 377 | | 0 | 4 | 0 | 0 |
| 4:45 PM | 0 | 15 | 183 | 10 | 1 | 3 | 108 | 0 | 0 | 6 | 0 | 2 | 0 | 1 | 1 | 2 | 332 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 56 | 796 | 44 | 2 | 6 | 398 | 6 | 0 | 23 | 0 | 8 | 0 | 5 | 2 | 8 | 1,354 | | 0 | 4 | 0 | 0 |
| Peak Hour | 0 | 56 | 796 | 44 | 2 | 6 | 398 | 6 | 0 | 23 | 0 | 8 | 0 | 5 | 2 | 8 | 1,354 | | 0 | 4 | 0 | 0 |

Appendix B – Existing Conditions Analyses





Table of Contents

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| Intersection 3: Fontaine Bl/Carriage Meadows Dr | 13 |

Intersection Level Of Service Report
Intersection 1: Marksheffel Rd/Fontaine Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 14.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.521 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|---|--------|--------|---|--------|--------|---|--------|--------|---|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 680.00 | 100.00 | 680.00 | 750.00 | 100.00 | 500.00 | 360.00 | 100.00 | 200.00 | 535.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 79 | 531 | 95 | 96 | 239 | 15 | 29 | 140 | 28 | 197 | 383 | 469 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 48 | 0 | 0 | 8 | 0 | 0 | 14 | 0 | 0 | 235 |
| Total Hourly Volume [veh/h] | 79 | 531 | 47 | 96 | 239 | 7 | 29 | 140 | 14 | 197 | 383 | 234 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8400 | 0.8400 | 0.8400 | 0.8300 | 0.8300 | 0.8300 | 0.8800 | 0.8800 | 0.8800 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 23 | 156 | 14 | 29 | 71 | 2 | 9 | 42 | 4 | 56 | 109 | 66 |
| Total Analysis Volume [veh/h] | 93 | 625 | 55 | 114 | 285 | 8 | 35 | 169 | 17 | 224 | 435 | 266 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 60 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 |
| Maximum Green [s] | 0 | 103 | 0 | 0 | 103 | 0 | 0 | 109 | 0 | 0 | 109 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 35 | 0 | 0 | 35 | 0 | 0 | 25 | 0 | 0 | 25 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 24 | 0 | 0 | 21 | 0 | 0 | 14 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | | No | | | No | |
| Maximum Recall | | No | | | No | | | No | | | No | |
| Pedestrian Recall | | No | | | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|------|------|------|-------|------|------|-------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 34 | 34 | 34 | 34 | 34 | 34 | 18 | 18 | 18 | 18 | 18 | 18 |
| g / C, Green / Cycle | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 | 0.30 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.33 | 0.03 | 0.15 | 0.15 | 0.01 | 0.05 | 0.05 | 0.01 | 0.19 | 0.12 | 0.17 |
| s, saturation flow rate [veh/h] | 1086 | 1870 | 1589 | 760 | 1870 | 1589 | 745 | 3560 | 1589 | 1197 | 3560 | 1589 |
| c, Capacity [veh/h] | 621 | 1056 | 898 | 366 | 1056 | 898 | 244 | 1075 | 480 | 395 | 1075 | 480 |
| d1, Uniform Delay [s] | 9.53 | 8.54 | 5.89 | 16.17 | 6.71 | 5.72 | 21.90 | 15.35 | 14.78 | 21.92 | 16.66 | 17.56 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.51 | 2.44 | 0.13 | 2.21 | 0.63 | 0.02 | 0.27 | 0.07 | 0.03 | 1.28 | 0.25 | 1.00 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | | |
|---------------------------------------|-------|--------|------|-------|-------|------|-------|-------|-------|--------|-------|--------|
| X, volume / capacity | 0.15 | 0.59 | 0.06 | 0.31 | 0.27 | 0.01 | 0.14 | 0.16 | 0.04 | 0.57 | 0.40 | 0.55 |
| d, Delay for Lane Group [s/veh] | 10.04 | 10.98 | 6.02 | 18.38 | 7.34 | 5.73 | 22.17 | 15.42 | 14.81 | 23.21 | 16.90 | 18.56 |
| Lane Group LOS | B | B | A | B | A | A | C | B | B | C | B | B |
| Critical Lane Group | No | Yes | No | No | No | No | No | No | No | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 0.59 | 3.76 | 0.22 | 1.20 | 1.27 | 0.03 | 0.40 | 0.73 | 0.14 | 2.70 | 2.04 | 2.71 |
| 50th-Percentile Queue Length [ft/ln] | 14.82 | 93.91 | 5.43 | 29.98 | 31.84 | 0.76 | 9.94 | 18.15 | 3.57 | 67.44 | 50.90 | 67.78 |
| 95th-Percentile Queue Length [veh/ln] | 1.07 | 6.76 | 0.39 | 2.16 | 2.29 | 0.05 | 0.72 | 1.31 | 0.26 | 4.86 | 3.66 | 4.88 |
| 95th-Percentile Queue Length [ft/ln] | 26.68 | 169.04 | 9.77 | 53.96 | 57.31 | 1.37 | 17.90 | 32.67 | 6.42 | 121.39 | 91.62 | 122.01 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------|-------|-------|------|-------|------|------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 10.04 | 10.98 | 6.02 | 18.38 | 7.34 | 5.73 | 22.17 | 15.42 | 14.81 | 23.21 | 16.90 | 18.56 |
| Movement LOS | B | B | A | B | A | A | C | B | B | C | B | B |
| d_A, Approach Delay [s/veh] | 10.52 | | | 10.40 | | | 16.44 | | | 18.91 | | |
| Approach LOS | B | | | B | | | B | | | B | | |
| d_I, Intersection Delay [s/veh] | 14.40 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.521 | | | | | | | | | | | |

Other Modes

| | | | | | | | | | | | | |
|--|-------|--|--|-------|--|--|-------|--|--|-------|--|--|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | | | 11.0 | | | 11.0 | | | 11.0 | | |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| d_p, Pedestrian Delay [s] | 20.02 | | | 20.02 | | | 20.02 | | | 20.02 | | |
| I_p,int, Pedestrian LOS Score for Intersectio | 3.104 | | | 2.874 | | | 2.772 | | | 3.436 | | |
| Crosswalk LOS | C | | | C | | | C | | | C | | |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | | | 2000 | | | 2000 | | | 2000 | | |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1033 | | | 1033 | | | 700 | | | 700 | | |
| d_b, Bicycle Delay [s] | 7.02 | | | 7.02 | | | 12.68 | | | 12.68 | | |
| I_b,int, Bicycle LOS Score for Intersection | 2.914 | | | 2.244 | | | 1.753 | | | 2.517 | | |
| Bicycle LOS | C | | | B | | | A | | | B | | |

Sequence

| | | | | | | | | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



Intersection Level Of Service Report
Intersection 2: Marksheffel Rd/Lorson Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 195.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 1.247 |

Intersection Setup

| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson Bl | |
|------------------------------|----------------|--------|----------------|--------|-----------|--------|
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration | ↕↔ | | ↔↕ | | ↔↔ | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 1 | 1 | 0 | 1 | 0 |
| Entry Pocket Length [ft] | 100.00 | 500.00 | 580.00 | 100.00 | 510.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | 55.00 | | 25.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

Volumes

| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson Bl | |
|---|----------------|--------|----------------|--------|-----------|--------|
| Base Volume Input [veh/h] | 577 | 115 | 9 | 454 | 207 | 121 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 577 | 115 | 9 | 454 | 207 | 121 |
| Peak Hour Factor | 0.8400 | 0.8400 | 0.8800 | 0.8800 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 172 | 34 | 3 | 129 | 61 | 36 |
| Total Analysis Volume [veh/h] | 687 | 137 | 10 | 516 | 244 | 142 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

Intersection Settings

| | | | |
|------------------------------------|------|------|------|
| Priority Scheme | Free | Free | Stop |
| Flared Lane | | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | No |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | |
|---------------------------------------|-------|------|------|------|--------|-------|
| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.01 | 0.01 | 1.25 | 0.32 |
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 9.52 | 0.00 | 194.99 | 16.76 |
| Movement LOS | A | A | A | A | F | C |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.04 | 0.00 | 13.06 | 1.35 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.94 | 0.00 | 326.45 | 33.74 |
| d_A, Approach Delay [s/veh] | 0.00 | | 0.18 | | 129.42 | |
| Approach LOS | A | | A | | F | |
| d_I, Intersection Delay [s/veh] | 28.83 | | | | | |
| Intersection LOS | F | | | | | |

Intersection Level Of Service Report
Intersection 3: Fontaine Bl/Carriage Meadows Dr

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 42.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.095 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | ↔↔↔ | | | ↔↔↔ | | | ↔↔↔ | | | ↔↔↔ | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 | 330.00 | 100.00 | 330.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|---|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 42 | 0 | 12 | 8 | 0 | 37 | 10 | 314 | 8 | 8 | 978 | 4 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 42 | 0 | 12 | 8 | 0 | 37 | 10 | 314 | 8 | 8 | 978 | 4 |
| Peak Hour Factor | 0.6800 | 0.6800 | 0.6800 | 0.7800 | 0.7800 | 0.7800 | 0.8400 | 0.8400 | 0.8400 | 0.8800 | 0.8800 | 0.8800 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 15 | 0 | 4 | 3 | 0 | 12 | 3 | 93 | 2 | 2 | 278 | 1 |
| Total Analysis Volume [veh/h] | 62 | 0 | 18 | 10 | 0 | 47 | 12 | 374 | 10 | 9 | 1111 | 5 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | | | | |
|------------------------------------|------|------|------|------|
| Priority Scheme | Stop | Stop | Free | Free |
| Flared Lane | | | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------------|-------|-------|------|-------|-------|-------|-------|------|------|------|------|------|
| V/C, Movement V/C Ratio | 0.34 | 0.00 | 0.02 | 0.09 | 0.00 | 0.10 | 0.02 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 |
| d_M, Delay for Movement [s/veh] | 34.77 | 36.99 | 9.47 | 42.66 | 37.21 | 13.41 | 10.91 | 0.00 | 0.00 | 8.10 | 0.00 | 0.00 |
| Movement LOS | D | E | A | E | E | B | B | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 1.42 | 0.00 | 0.07 | 0.31 | 0.00 | 0.33 | 0.06 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 35.51 | 0.00 | 1.68 | 7.66 | 0.00 | 8.19 | 1.48 | 0.00 | 0.00 | 0.58 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 29.08 | | | 18.54 | | | 0.33 | | | 0.06 | | |
| Approach LOS | D | | | C | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 2.16 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |

Signal Warrants Report For Intersection 2: Marksheffel Rd/Lorson Bl

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | Yes |
| #2 | Four Hour Vehicular Volume | Yes |
| #3 | Peak Hour | Yes |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | N, S |
| Minor Approaches | E |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|------|---------------|-----|---------------|
| | N | S | E |
| 1 | 463 | 692 | 328 |
| 2 | 449 | 671 | 318 |
| 3 | 440 | 657 | 312 |
| 4 | 412 | 616 | 292 |
| 5 | 366 | 547 | 259 |
| 6 | 361 | 540 | 256 |
| 7 | 357 | 533 | 253 |
| 8 | 324 | 484 | 230 |
| 9 | 319 | 477 | 226 |
| 10 | 315 | 471 | 223 |
| 11 | 273 | 408 | 194 |
| 12 | 255 | 381 | 180 |
| 13 | 250 | 374 | 177 |
| 14 | 185 | 277 | 131 |
| 15 | 185 | 277 | 131 |
| 16 | 130 | 194 | 92 |
| 17 | 74 | 111 | 52 |
| 18 | 74 | 111 | 52 |
| 19 | 42 | 62 | 30 |
| 20 | 23 | 35 | 16 |
| 21 | 14 | 21 | 10 |
| 22 | 5 | 7 | 3 |
| 23 | 5 | 7 | 3 |
| 24 | 5 | 7 | 3 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 2 | 1155 | 2 | 328 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 2 | 2 | 1120 | 2 | 318 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 3 | 2 | 1097 | 2 | 312 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 4 | 2 | 1028 | 2 | 292 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 5 | 2 | 913 | 2 | 259 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 6 | 2 | 901 | 2 | 256 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 7 | 2 | 890 | 2 | 253 | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes |
| 8 | 2 | 808 | 2 | 230 | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes |
| 9 | 2 | 796 | 2 | 226 | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes |
| 10 | 2 | 786 | 2 | 223 | Yes | Yes | Yes | Yes | No | Yes | Yes | Yes | Yes | Yes |
| 11 | 2 | 681 | 2 | 194 | No | Yes | Yes | Yes | No | No | Yes | Yes | Yes | No |
| 12 | 2 | 636 | 2 | 180 | No | Yes | Yes | Yes | No | No | Yes | Yes | Yes | No |
| 13 | 2 | 624 | 2 | 177 | No | Yes | Yes | Yes | No | No | No | Yes | Yes | No |
| 14 | 2 | 462 | 2 | 131 | No | No | No | Yes | No | No | No | No | No | No |
| 15 | 2 | 462 | 2 | 131 | No | No | No | Yes | No | No | No | No | No | No |
| 16 | 2 | 324 | 2 | 92 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 185 | 2 | 52 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 185 | 2 | 52 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 104 | 2 | 30 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 58 | 2 | 16 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 35 | 2 | 10 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 12 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 12 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 12 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 10 | 13 | 13 | 15 | 6 | 10 | 12 | 13 | 13 | 10 |

Warrant 3 Condition A

| | |
|--|------------|
| Orientation | E |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 129.4 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 11:47 |
| Delay Condition Met | Yes |
| Volume on Minor Street Approach During Same Hour | 328 |
| High Minor Volume Condition Met | Yes |
| Total Entering Volume on All Approaches During Same Hour | 1483 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | Yes |
| Warrant Met for Approach | Yes |
| Warrant Met for Intersection | Yes |

Signal Warrants Report For Intersection 3: Fontaine Bl/Carriage Meadows Dr

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | E, W |
| Minor Approaches | S, N |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|------|---------------|-----|---------------|----|
| | E | W | S | N |
| 1 | 990 | 332 | 54 | 45 |
| 2 | 960 | 322 | 52 | 44 |
| 3 | 941 | 315 | 51 | 43 |
| 4 | 881 | 295 | 48 | 40 |
| 5 | 782 | 262 | 43 | 36 |
| 6 | 772 | 259 | 42 | 35 |
| 7 | 762 | 256 | 42 | 35 |
| 8 | 693 | 232 | 38 | 31 |
| 9 | 683 | 229 | 37 | 31 |
| 10 | 673 | 226 | 37 | 31 |
| 11 | 584 | 196 | 32 | 27 |
| 12 | 545 | 183 | 30 | 25 |
| 13 | 535 | 179 | 29 | 24 |
| 14 | 396 | 133 | 22 | 18 |
| 15 | 396 | 133 | 22 | 18 |
| 16 | 277 | 93 | 15 | 13 |
| 17 | 158 | 53 | 9 | 7 |
| 18 | 158 | 53 | 9 | 7 |
| 19 | 89 | 30 | 5 | 4 |
| 20 | 50 | 17 | 3 | 2 |
| 21 | 30 | 10 | 2 | 1 |
| 22 | 10 | 3 | 1 | 0 |
| 23 | 10 | 3 | 1 | 0 |
| 24 | 10 | 3 | 1 | 0 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 4 | 1322 | 3 | 54 | No | No | No | No | No | No | No | No | No | No |
| 2 | 4 | 1282 | 3 | 52 | No | No | No | No | No | No | No | No | No | No |
| 3 | 4 | 1256 | 3 | 51 | No | No | No | No | No | No | No | No | No | No |
| 4 | 4 | 1176 | 3 | 48 | No | No | No | No | No | No | No | No | No | No |
| 5 | 4 | 1044 | 3 | 43 | No | No | No | No | No | No | No | No | No | No |
| 6 | 4 | 1031 | 3 | 42 | No | No | No | No | No | No | No | No | No | No |
| 7 | 4 | 1018 | 3 | 42 | No | No | No | No | No | No | No | No | No | No |
| 8 | 4 | 925 | 3 | 38 | No | No | No | No | No | No | No | No | No | No |
| 9 | 4 | 912 | 3 | 37 | No | No | No | No | No | No | No | No | No | No |
| 10 | 4 | 899 | 3 | 37 | No | No | No | No | No | No | No | No | No | No |
| 11 | 4 | 780 | 3 | 32 | No | No | No | No | No | No | No | No | No | No |
| 12 | 4 | 728 | 3 | 30 | No | No | No | No | No | No | No | No | No | No |
| 13 | 4 | 714 | 3 | 29 | No | No | No | No | No | No | No | No | No | No |
| 14 | 4 | 529 | 3 | 22 | No | No | No | No | No | No | No | No | No | No |
| 15 | 4 | 529 | 3 | 22 | No | No | No | No | No | No | No | No | No | No |
| 16 | 4 | 370 | 3 | 15 | No | No | No | No | No | No | No | No | No | No |
| 17 | 4 | 211 | 3 | 9 | No | No | No | No | No | No | No | No | No | No |
| 18 | 4 | 211 | 3 | 9 | No | No | No | No | No | No | No | No | No | No |
| 19 | 4 | 119 | 3 | 5 | No | No | No | No | No | No | No | No | No | No |
| 20 | 4 | 67 | 3 | 3 | No | No | No | No | No | No | No | No | No | No |
| 21 | 4 | 40 | 3 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 4 | 13 | 3 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 4 | 13 | 3 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 4 | 13 | 3 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| | | |
|--|-----------|------|
| Orientation | S | N |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 29.1 | 18.5 |
| Number of Lanes on Minor Street Approach | 3 | 3 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:26 | 0:13 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 54 | 45 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 1421 | 1421 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| Warrant Met for Intersection | No | |





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Intersection Level Of Service Report
Intersection 1: Marksheffel Rd/Fontaine Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 13.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.458 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|---|--------|--------|---|--------|--------|---|--------|--------|---|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 680.00 | 100.00 | 680.00 | 750.00 | 100.00 | 500.00 | 360.00 | 100.00 | 200.00 | 535.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 39 | 310 | 189 | 300 | 506 | 31 | 21 | 400 | 53 | 74 | 182 | 170 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 95 | 0 | 0 | 16 | 0 | 0 | 27 | 0 | 0 | 85 |
| Total Hourly Volume [veh/h] | 39 | 310 | 94 | 300 | 506 | 15 | 21 | 400 | 26 | 74 | 182 | 85 |
| Peak Hour Factor | 0.9100 | 0.9100 | 0.9100 | 0.9500 | 0.9500 | 0.9500 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 | 0.9100 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 11 | 85 | 26 | 79 | 133 | 4 | 6 | 110 | 7 | 20 | 50 | 23 |
| Total Analysis Volume [veh/h] | 43 | 341 | 103 | 316 | 533 | 16 | 23 | 440 | 29 | 81 | 200 | 93 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 60 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 |
| Maximum Green [s] | 0 | 103 | 0 | 0 | 103 | 0 | 0 | 109 | 0 | 0 | 109 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 35 | 0 | 0 | 35 | 0 | 0 | 25 | 0 | 0 | 25 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 24 | 0 | 0 | 21 | 0 | 0 | 14 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | | No | | | No | |
| Maximum Recall | | No | | | No | | | No | | | No | |
| Pedestrian Recall | | No | | | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|-------|------|------|-------|------|------|-------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 | 60 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 36 | 36 | 36 | 36 | 36 | 36 | 16 | 16 | 16 | 16 | 16 | 16 |
| g / C, Green / Cycle | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | 0.61 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 |
| (v / s)_i Volume / Saturation Flow Rate | 0.05 | 0.18 | 0.06 | 0.33 | 0.29 | 0.01 | 0.02 | 0.12 | 0.02 | 0.09 | 0.06 | 0.06 |
| s, saturation flow rate [veh/h] | 858 | 1870 | 1589 | 945 | 1870 | 1589 | 1086 | 3560 | 1589 | 924 | 3560 | 1589 |
| c, Capacity [veh/h] | 472 | 1130 | 961 | 574 | 1130 | 961 | 323 | 934 | 417 | 238 | 934 | 417 |
| d1, Uniform Delay [s] | 10.99 | 5.74 | 5.02 | 12.17 | 6.57 | 4.74 | 20.25 | 18.63 | 16.63 | 25.04 | 17.30 | 17.34 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.38 | 0.69 | 0.22 | 3.77 | 1.41 | 0.03 | 0.09 | 0.37 | 0.07 | 0.84 | 0.11 | 0.27 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | | |
|---------------------------------------|-------|-------|-------|--------|--------|------|-------|--------|-------|-------|-------|-------|
| X, volume / capacity | 0.09 | 0.30 | 0.11 | 0.55 | 0.47 | 0.02 | 0.07 | 0.47 | 0.07 | 0.34 | 0.21 | 0.22 |
| d, Delay for Lane Group [s/veh] | 11.37 | 6.43 | 5.25 | 15.94 | 7.98 | 4.77 | 20.34 | 19.00 | 16.70 | 25.88 | 17.41 | 17.61 |
| Lane Group LOS | B | A | A | B | A | A | C | B | B | C | B | B |
| Critical Lane Group | No | No | No | Yes | No | No | No | Yes | No | No | No | No |
| 50th-Percentile Queue Length [veh/ln] | 0.31 | 1.28 | 0.34 | 2.80 | 2.35 | 0.05 | 0.24 | 2.24 | 0.27 | 1.03 | 0.94 | 0.89 |
| 50th-Percentile Queue Length [ft/ln] | 7.81 | 32.06 | 8.54 | 69.93 | 58.76 | 1.25 | 6.08 | 56.08 | 6.66 | 25.79 | 23.53 | 22.37 |
| 95th-Percentile Queue Length [veh/ln] | 0.56 | 2.31 | 0.62 | 5.03 | 4.23 | 0.09 | 0.44 | 4.04 | 0.48 | 1.86 | 1.69 | 1.61 |
| 95th-Percentile Queue Length [ft/ln] | 14.06 | 57.71 | 15.38 | 125.87 | 105.77 | 2.24 | 10.94 | 100.95 | 11.99 | 46.43 | 42.36 | 40.27 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------|-------|------|------|-------|------|------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 11.37 | 6.43 | 5.25 | 15.94 | 7.98 | 4.77 | 20.34 | 19.00 | 16.70 | 25.88 | 17.41 | 17.61 |
| Movement LOS | B | A | A | B | A | A | C | B | B | C | B | B |
| d_A, Approach Delay [s/veh] | 6.62 | | | 10.83 | | | 18.93 | | | 19.30 | | |
| Approach LOS | A | | | B | | | B | | | B | | |
| d_I, Intersection Delay [s/veh] | 13.13 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.458 | | | | | | | | | | | |

Other Modes

| | | | | | | | | | | | | |
|--|-------|--|--|-------|--|--|-------|--|--|-------|--|--|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | | | 11.0 | | | 11.0 | | | 11.0 | | |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| d_p, Pedestrian Delay [s] | 20.01 | | | 20.01 | | | 20.01 | | | 20.01 | | |
| I_p,int, Pedestrian LOS Score for Intersectio | 2.918 | | | 2.800 | | | 2.723 | | | 3.495 | | |
| Crosswalk LOS | C | | | C | | | B | | | C | | |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | | | 2000 | | | 2000 | | | 2000 | | |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1033 | | | 1033 | | | 700 | | | 700 | | |
| d_b, Bicycle Delay [s] | 7.01 | | | 7.01 | | | 12.68 | | | 12.68 | | |
| I_b,int, Bicycle LOS Score for Intersection | 2.520 | | | 3.013 | | | 1.988 | | | 1.938 | | |
| Bicycle LOS | B | | | C | | | A | | | A | | |

Sequence

| | | | | | | | | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



Intersection Level Of Service Report
Intersection 2: Marksheffel Rd/Lorson Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 92.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.859 |

Intersection Setup

| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson Bl | |
|------------------------------|----------------|--------|----------------|--------|-----------|--------|
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration | ↕↔ | | ↔↕ | | ↔↔ | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 1 | 1 | 0 | 1 | 0 |
| Entry Pocket Length [ft] | 100.00 | 500.00 | 580.00 | 100.00 | 510.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | 55.00 | | 25.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

Volumes

| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson Bl | |
|---|----------------|--------|----------------|--------|-----------|--------|
| Base Volume Input [veh/h] | 492 | 257 | 69 | 558 | 120 | 53 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 492 | 257 | 69 | 558 | 120 | 53 |
| Peak Hour Factor | 0.9100 | 0.9100 | 0.9300 | 0.9300 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 135 | 71 | 19 | 150 | 35 | 16 |
| Total Analysis Volume [veh/h] | 541 | 282 | 74 | 600 | 141 | 62 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

Intersection Settings

| | | | |
|------------------------------------|------|------|------|
| Priority Scheme | Free | Free | Stop |
| Flared Lane | | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | No |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | |
|---------------------------------------|------|------|------|------|--------|-------|
| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.09 | 0.01 | 0.86 | 0.11 |
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 9.91 | 0.00 | 92.67 | 12.51 |
| Movement LOS | A | A | A | A | F | B |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.30 | 0.00 | 5.97 | 0.39 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 7.55 | 0.00 | 149.25 | 9.64 |
| d_A, Approach Delay [s/veh] | 0.00 | | 1.09 | | 68.19 | |
| Approach LOS | A | | A | | F | |
| d_I, Intersection Delay [s/veh] | 8.57 | | | | | |
| Intersection LOS | F | | | | | |

Intersection Level Of Service Report
Intersection 3: Fontaine Bl/Carriage Meadows Dr

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 46.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.239 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | ↔↔↔ | | | ↔↔↔ | | | ↔↔↔ | | | ↔↔↔ | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 | 330.00 | 100.00 | 330.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|---|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 23 | 0 | 8 | 5 | 2 | 8 | 56 | 796 | 44 | 8 | 398 | 6 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 23 | 0 | 8 | 5 | 2 | 8 | 56 | 796 | 44 | 8 | 398 | 6 |
| Peak Hour Factor | 0.8600 | 0.8600 | 0.8600 | 0.9400 | 0.9400 | 0.9400 | 0.8800 | 0.8800 | 0.8800 | 0.9100 | 0.9100 | 0.9100 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 7 | 0 | 2 | 1 | 1 | 2 | 16 | 226 | 13 | 2 | 109 | 2 |
| Total Analysis Volume [veh/h] | 27 | 0 | 9 | 5 | 2 | 9 | 64 | 905 | 50 | 9 | 437 | 7 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | | | | |
|------------------------------------|------|------|------|------|
| Priority Scheme | Stop | Stop | Free | Free |
| Flared Lane | | | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------------|-------|-------|-------|-------|-------|------|------|------|------|-------|------|------|
| V/C, Movement V/C Ratio | 0.24 | 0.00 | 0.02 | 0.03 | 0.02 | 0.01 | 0.06 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 46.67 | 36.75 | 11.60 | 26.79 | 39.38 | 9.64 | 8.43 | 0.00 | 0.00 | 10.10 | 0.00 | 0.00 |
| Movement LOS | E | E | B | D | E | A | A | A | A | B | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.87 | 0.00 | 0.05 | 0.09 | 0.06 | 0.03 | 0.18 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 21.82 | 0.00 | 1.24 | 2.26 | 1.43 | 0.87 | 4.57 | 0.00 | 0.00 | 0.96 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 37.90 | | | 18.71 | | | 0.53 | | | 0.20 | | |
| Approach LOS | E | | | C | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.51 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |

Signal Warrants Report For Intersection 2: Marksheffel Rd/Lorson BI

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | Yes |
| #2 | Four Hour Vehicular Volume | Yes |
| #3 | Peak Hour | Yes |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | N, S |
| Minor Approaches | E |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|------|---------------|-----|---------------|
| | N | S | E |
| 1 | 627 | 749 | 173 |
| 2 | 608 | 727 | 168 |
| 3 | 596 | 712 | 164 |
| 4 | 558 | 667 | 154 |
| 5 | 495 | 592 | 137 |
| 6 | 489 | 584 | 135 |
| 7 | 483 | 577 | 133 |
| 8 | 439 | 524 | 121 |
| 9 | 433 | 517 | 119 |
| 10 | 426 | 509 | 118 |
| 11 | 370 | 442 | 102 |
| 12 | 345 | 412 | 95 |
| 13 | 339 | 404 | 93 |
| 14 | 251 | 300 | 69 |
| 15 | 251 | 300 | 69 |
| 16 | 176 | 210 | 48 |
| 17 | 100 | 120 | 28 |
| 18 | 100 | 120 | 28 |
| 19 | 56 | 67 | 16 |
| 20 | 31 | 37 | 9 |
| 21 | 19 | 22 | 5 |
| 22 | 6 | 7 | 2 |
| 23 | 6 | 7 | 2 |
| 24 | 6 | 7 | 2 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 2 | 1376 | 2 | 173 | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 2 | 2 | 1335 | 2 | 168 | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 3 | 2 | 1308 | 2 | 164 | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 4 | 2 | 1225 | 2 | 154 | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 5 | 2 | 1087 | 2 | 137 | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 6 | 2 | 1073 | 2 | 135 | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 7 | 2 | 1060 | 2 | 133 | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 8 | 2 | 963 | 2 | 121 | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | No |
| 9 | 2 | 950 | 2 | 119 | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | No |
| 10 | 2 | 935 | 2 | 118 | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | No |
| 11 | 2 | 812 | 2 | 102 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 12 | 2 | 757 | 2 | 95 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 13 | 2 | 743 | 2 | 93 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 14 | 2 | 551 | 2 | 69 | No | No | No | No | No | No | No | Yes | No | No |
| 15 | 2 | 551 | 2 | 69 | No | No | No | No | No | No | No | Yes | No | No |
| 16 | 2 | 386 | 2 | 48 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 220 | 2 | 28 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 220 | 2 | 28 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 123 | 2 | 16 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 68 | 2 | 9 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 41 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 13 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 13 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 13 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 3 | 4 | 10 | 10 | 13 | 13 | 15 | 10 | 7 |

Warrant 3 Condition A

| | |
|--|-----------|
| Orientation | E |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 68.2 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 3:16 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 173 |
| High Minor Volume Condition Met | Yes |
| Total Entering Volume on All Approaches During Same Hour | 1549 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | Yes |
| Warrant Met for Approach | No |
| Warrant Met for Intersection | No |

Signal Warrants Report For Intersection 3: Fontaine Bl/Carriage Meadows Dr

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | E, W |
| Minor Approaches | S, N |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|------|---------------|-----|---------------|----|
| | E | W | S | N |
| 1 | 412 | 896 | 31 | 15 |
| 2 | 400 | 869 | 30 | 15 |
| 3 | 391 | 851 | 29 | 14 |
| 4 | 367 | 797 | 28 | 13 |
| 5 | 325 | 708 | 24 | 12 |
| 6 | 321 | 699 | 24 | 12 |
| 7 | 317 | 690 | 24 | 12 |
| 8 | 288 | 627 | 22 | 11 |
| 9 | 284 | 618 | 21 | 10 |
| 10 | 280 | 609 | 21 | 10 |
| 11 | 243 | 529 | 18 | 9 |
| 12 | 227 | 493 | 17 | 8 |
| 13 | 222 | 484 | 17 | 8 |
| 14 | 165 | 358 | 12 | 6 |
| 15 | 165 | 358 | 12 | 6 |
| 16 | 115 | 251 | 9 | 4 |
| 17 | 66 | 143 | 5 | 2 |
| 18 | 66 | 143 | 5 | 2 |
| 19 | 37 | 81 | 3 | 1 |
| 20 | 21 | 45 | 2 | 1 |
| 21 | 12 | 27 | 1 | 0 |
| 22 | 4 | 9 | 0 | 0 |
| 23 | 4 | 9 | 0 | 0 |
| 24 | 4 | 9 | 0 | 0 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 4 | 1308 | 3 | 31 | No | No | No | No | No | No | No | No | No | No |
| 2 | 4 | 1269 | 3 | 30 | No | No | No | No | No | No | No | No | No | No |
| 3 | 4 | 1242 | 3 | 29 | No | No | No | No | No | No | No | No | No | No |
| 4 | 4 | 1164 | 3 | 28 | No | No | No | No | No | No | No | No | No | No |
| 5 | 4 | 1033 | 3 | 24 | No | No | No | No | No | No | No | No | No | No |
| 6 | 4 | 1020 | 3 | 24 | No | No | No | No | No | No | No | No | No | No |
| 7 | 4 | 1007 | 3 | 24 | No | No | No | No | No | No | No | No | No | No |
| 8 | 4 | 915 | 3 | 22 | No | No | No | No | No | No | No | No | No | No |
| 9 | 4 | 902 | 3 | 21 | No | No | No | No | No | No | No | No | No | No |
| 10 | 4 | 889 | 3 | 21 | No | No | No | No | No | No | No | No | No | No |
| 11 | 4 | 772 | 3 | 18 | No | No | No | No | No | No | No | No | No | No |
| 12 | 4 | 720 | 3 | 17 | No | No | No | No | No | No | No | No | No | No |
| 13 | 4 | 706 | 3 | 17 | No | No | No | No | No | No | No | No | No | No |
| 14 | 4 | 523 | 3 | 12 | No | No | No | No | No | No | No | No | No | No |
| 15 | 4 | 523 | 3 | 12 | No | No | No | No | No | No | No | No | No | No |
| 16 | 4 | 366 | 3 | 9 | No | No | No | No | No | No | No | No | No | No |
| 17 | 4 | 209 | 3 | 5 | No | No | No | No | No | No | No | No | No | No |
| 18 | 4 | 209 | 3 | 5 | No | No | No | No | No | No | No | No | No | No |
| 19 | 4 | 118 | 3 | 3 | No | No | No | No | No | No | No | No | No | No |
| 20 | 4 | 66 | 3 | 2 | No | No | No | No | No | No | No | No | No | No |
| 21 | 4 | 39 | 3 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 4 | 13 | 3 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 4 | 13 | 3 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 4 | 13 | 3 | 0 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| Orientation | S | N |
|--|-----------|------|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 37.9 | 18.7 |
| Number of Lanes on Minor Street Approach | 3 | 3 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:19 | 0:04 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 31 | 15 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 1354 | 1354 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| Warrant Met for Intersection | No | |

Option 1: Signalized Marksheffel Rd/Lorson BI

| | | | | | | |
|-------------------------------|--------------------------|-------|----------------|------|-----------|-------|
| Number | 2 | | | | | |
| Intersection | Marksheffel Rd/Lorson BI | | | | | |
| Control Type | Signalized | | | | | |
| Analysis Method | HCM 7th Edition | | | | | |
| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson BI | |
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration | ↑↔ | | ↔↑ | | ↔↔ | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Base Volume Input [veh/h] | 577 | 115 | 9 | 454 | 207 | 121 |
| Total Analysis Volume [veh/h] | 687 | 137 | 10 | 516 | 244 | 142 |

Intersection Settings

| | | | | | | |
|----------------------------|---------------------------------|------------|------------|------------|------------|------------|
| Cycle Length [s] | 60 | | | | | |
| Active Pattern | Pattern 1 | | | | | |
| Coordination Type | Time of Day Pattern Coordinated | | | | | |
| Actuation Type | Fixed time | | | | | |
| Lost time [s] | 0.00 | | | | | |
| Control Type | Permissive | Permissive | Permissive | Permissive | Permissive | Permissive |
| Signal Group | 6 | 0 | 2 | 7 | 0 | |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | - | Lead | - | |
| Minimum Green [s] | 10 | 5 | 10 | 5 | 0 | |
| Maximum Green [s] | 32 | 0 | 32 | 20 | 0 | |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | |
| Split [s] | 36 | 0 | 36 | 24 | 0 | |
| Walk [s] | 7 | 0 | 7 | 7 | 0 | |
| Pedestrian Clearance [s] | | 0 | 10 | 13 | 0 | |
| Delayed Vehicle Green [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| l1, Start-Up Lost Time [s] | 0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | No | No | | |
| Maximum Recall | No | | No | No | | |
| Pedestrian Recall | No | | No | No | | |
| Pedestrian Signal Group | 0 | | | | | |
| Pedestrian Walk [s] | 0 | | | | | |
| Pedestrian Clearance [s] | 0 | | | | | |

Lane Group Calculations

| | | | | | | |
|---|-------|------|-------|-------|-------|-------|
| g / C, Green / Cycle | 0.53 | 0.53 | 0.53 | 0.53 | 0.33 | 0.33 |
| (v / s)_i Volume / Saturation Flow Rate | 0.41 | 0.10 | 0.02 | 0.31 | 0.15 | 0.10 |
| so, Base Saturation Flow per Lane [pc/h/ln] | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Arrival type | 3 | | 3 | | 3 | |
| s, saturation flow rate [veh/h] | 1683 | 1431 | 598 | 1683 | 1603 | 1431 |
| c, Capacity [veh/h] | 898 | 763 | 227 | 898 | 534 | 477 |
| X, volume / capacity | 0.77 | 0.18 | 0.04 | 0.57 | 0.46 | 0.30 |
| d, Delay for Lane Group [s/veh] | 17.22 | 7.74 | 20.98 | 12.10 | 18.53 | 16.40 |

| Lane Group LOS | B | A | C | B | B | B |
|---------------------------------------|--------|-------|------|--------|--------|-------|
| Critical Lane Group | Yes | No | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 5.90 | 0.68 | 0.12 | 3.46 | 2.85 | 1.54 |
| 50th-Percentile Queue Length [ft/ln] | 147.56 | 16.96 | 3.04 | 86.57 | 71.21 | 38.59 |
| 95th-Percentile Queue Length [veh/ln] | 9.89 | 1.22 | 0.22 | 6.23 | 5.13 | 2.78 |
| 95th-Percentile Queue Length [ft/ln] | 247.17 | 30.53 | 5.47 | 155.82 | 128.18 | 69.46 |

Movement, Approach, & Intersection Results

| | | | | | | |
|---------------------------------|-------|------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 17.22 | 7.74 | 20.98 | 12.10 | 18.53 | 16.40 |
| Movement LOS | B | A | C | B | B | B |
| Critical Movement | No | No | Yes | No | No | No |
| d_A, Approach Delay [s/veh] | 15.64 | | 12.27 | | 17.74 | |
| Approach LOS | B | | B | | B | |
| d_I, Intersection Delay [s/veh] | 15.09 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.560 | | | | | |

Mitigated

Option 1: Signalized Marksheffel Rd/Lorson BI

| | | | | | | |
|-------------------------------|--------------------------|-------|----------------|------|-----------|-------|
| Number | 2 | | | | | |
| Intersection | Marksheffel Rd/Lorson BI | | | | | |
| Control Type | Signalized | | | | | |
| Analysis Method | HCM 7th Edition | | | | | |
| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson BI | |
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration | ↑↔ | | ↔↑ | | ↔↔ | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Base Volume Input [veh/h] | 492 | 257 | 69 | 558 | 120 | 53 |
| Total Analysis Volume [veh/h] | 541 | 282 | 74 | 600 | 141 | 62 |

Intersection Settings

| | | | | | | |
|----------------------------|---------------------------------|------------|------------|------------|------------|------------|
| Cycle Length [s] | 70 | | | | | |
| Active Pattern | Pattern 1 | | | | | |
| Coordination Type | Time of Day Pattern Coordinated | | | | | |
| Actuation Type | Fixed time | | | | | |
| Lost time [s] | 0.00 | | | | | |
| Control Type | Permissive | Permissive | Permissive | Permissive | Permissive | Permissive |
| Signal Group | 6 | 0 | 2 | 7 | 0 | |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | - | Lead | - | |
| Minimum Green [s] | 10 | 0 | 10 | 5 | 0 | |
| Maximum Green [s] | 40 | 0 | 40 | 22 | 0 | |
| Amber [s] | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | |
| All red [s] | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | |
| Split [s] | 44 | 0 | 44 | 26 | 0 | |
| Walk [s] | 7 | 0 | 7 | 7 | 0 | |
| Pedestrian Clearance [s] | | 0 | 10 | 13 | 0 | |
| Delayed Vehicle Green [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| l1, Start-Up Lost Time [s] | 0 | 0.0 | 2.0 | 2.0 | 0.0 | |
| Minimum Recall | No | | No | No | | |
| Maximum Recall | No | | No | No | | |
| Pedestrian Recall | No | | No | No | | |
| Pedestrian Signal Group | 0 | | | | | |
| Pedestrian Walk [s] | 0 | | | | | |
| Pedestrian Clearance [s] | 0 | | | | | |

Lane Group Calculations

| | | | | | | |
|---|-------|------|-------|-------|-------|-------|
| g / C, Green / Cycle | 0.57 | 0.57 | 0.57 | 0.57 | 0.31 | 0.31 |
| (v / s)_i Volume / Saturation Flow Rate | 0.32 | 0.20 | 0.12 | 0.36 | 0.09 | 0.04 |
| so, Base Saturation Flow per Lane [pc/h/ln] | 1900 | 1900 | 1900 | 1900 | 1900 | 1900 |
| Arrival type | 3 | | 3 | | 3 | |
| s, saturation flow rate [veh/h] | 1683 | 1431 | 599 | 1683 | 1603 | 1431 |
| c, Capacity [veh/h] | 962 | 817 | 306 | 962 | 504 | 450 |
| X, volume / capacity | 0.56 | 0.34 | 0.24 | 0.62 | 0.28 | 0.14 |
| d, Delay for Lane Group [s/veh] | 11.85 | 9.16 | 19.27 | 13.04 | 19.43 | 17.84 |

| Lane Group LOS | B | A | B | B | B | B |
|---------------------------------------|--------|-------|-------|--------|-------|-------|
| Critical Lane Group | No | No | No | Yes | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 4.07 | 1.78 | 0.90 | 4.84 | 1.84 | 0.77 |
| 50th-Percentile Queue Length [ft/ln] | 101.84 | 44.43 | 22.57 | 120.90 | 46.10 | 19.29 |
| 95th-Percentile Queue Length [veh/ln] | 7.33 | 3.20 | 1.63 | 8.44 | 3.32 | 1.39 |
| 95th-Percentile Queue Length [ft/ln] | 183.31 | 79.97 | 40.63 | 211.06 | 82.98 | 34.73 |

Movement, Approach, & Intersection Results

| | | | | | | |
|---------------------------------|-------|------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 11.85 | 9.16 | 19.27 | 13.04 | 19.43 | 17.84 |
| Movement LOS | B | A | B | B | B | B |
| Critical Movement | No | No | No | No | Yes | No |
| d_A, Approach Delay [s/veh] | 10.93 | | 13.72 | | 18.94 | |
| Approach LOS | B | | B | | B | |
| d_I, Intersection Delay [s/veh] | 12.99 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.444 | | | | | |

Mitigated

Appendix C – Trip Generation

PROJECT DETAILS

| | | | |
|------------------|-------------------------------|-----------------------|---|
| Project Name: | Lorson Ranch Commercial North | Type of Project: | |
| Project No: | | City: | |
| Country: | | Built-up Area(Sq.ft): | |
| Analyst Name: | Scott Barnhart | Clients Name: | |
| Date: | 3/22/2024 | ZIP/Postal Code: | |
| State/Province: | | No. of Scenarios: | 3 |
| Analysis Region: | | | |

SCENARIO SUMMARY

| Scenarios | Name | No. of Land Uses | Phases of Development | No. of Years to Project Traffic | User Group | Estimated New Vehicle Trips | | |
|--------------|--------------|------------------|-----------------------|---------------------------------|------------|-----------------------------|------|-------|
| | | | | | | Entry | Exit | Total |
| Scenario - 1 | Weekday | 4 | 1 | 0 | | 4089 | 4089 | 8178 |
| Scenario - 2 | AM Peak Hour | 4 | 1 | 0 | | 227 | 214 | 441 |
| Scenario - 3 | PM Peak Hour | 4 | 1 | 0 | | 189 | 192 | 381 |

Scenario - 1

Scenario Name: Weekday
 Dev. phase: 1
 Analyst Note:

User Group:
 No. of Years to Project 0
 Traffic :

Warning:

VEHICLE TRIPS BEFORE REDUCTION

| Land Use & Data Source | Location | IV | Size | Time Period | Method | Entry | Exit | Total |
|--|---------------------------|------------------|------|-------------|--|-------------|-------------|-------|
| | | | | | Rate/Equation | Split% | Split% | |
| 934 - Fast-Food Restaurant with Drive-Through Data Source: Trip Generation Manual, 11th Ed | General Urban/Suburban | 1000 Sq. Ft. GFA | 8.17 | Weekday | Average 467.48 | 1910 50% | 1910 50% | 3820 |
| 565 - Day Care Center Data Source: Trip Generation Manual, 11th Ed | General Urban/Suburban | 1000 Sq. Ft. GFA | 12 | Weekday | Average 47.62 | 286 50% | 286 50% | 572 |
| 151 - Mini-Warehouse Data Source: Trip Generation Manual, 11th Ed | General Urban/Suburban | 1000 Sq. Ft. GFA | 36.5 | Weekday | Average 1.45 | 26 50% | 26 50% | 52 |
| 945 - Convenience Store/Gas Station - VFP (9-15) Data Source: Trip Generation Manual, 11th Ed | General Urban/Suburban | 1000 Sq. Ft. GFA | 5.68 | Weekday | Best Fit (LIN) T = 560.88(X) + 548.79 | 1867 50% | 1867 50% | 3734 |

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

| Land Use | Baseline Site Vehicle Mode Share | | Baseline Site Vehicle Occupancy | | Baseline Site Vehicle Directional Split | |
|--|----------------------------------|----------|---------------------------------|------|---|----------|
| | Entry (%) | Exit (%) | Entry | Exit | Entry (%) | Exit (%) |
| 934 - Fast-Food Restaurant with Drive-Through Window | 100 | 100 | 1 | 1 | 50 | 50 |
| 565 - Day Care Center | 100 | 100 | 1 | 1 | 50 | 50 |
| 151 - Mini-Warehouse | 100 | 100 | 1.6 | 1.6 | 50 | 50 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 100 | 100 | 1 | 1 | 50 | 50 |

ESTIMATED BASELINE SITE PERSON TRIPS:

| Land Use | Person Trips by Vehicle | | Person Trips by Other Modes | | Total Baseline Site Person Trips | |
|--|-------------------------|------|-----------------------------|------|----------------------------------|------|
| | Entry | Exit | Entry | Exit | Entry | Exit |
| 934 - Fast-Food Restaurant with Drive-Through Window | 1910 | 1910 | 0 | 0 | 1910 | 1910 |
| | 3820 | | 0 | | 3820 | |
| 565 - Day Care Center | 286 | 286 | 0 | 0 | 286 | 286 |
| | 572 | | 0 | | 572 | |
| 151 - Mini-Warehouse | 42 | 42 | 0 | 0 | 42 | 42 |
| | 84 | | 0 | | 84 | |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 1867 | 1867 | 0 | 0 | 1867 | 1867 |
| | 3734 | | 0 | | 3734 | |

INTERNAL VEHICLE TRIP REDUCTION

LAND USE GROUP ASSIGNMENT:

| Land Use | Land Use Group |
|--|----------------|
| 934 - Fast-Food Restaurant with Drive-Through Window | Resturant |
| 565 - Day Care Center | Others |
| 151 - Mini-Warehouse | Others |
| 945 - Convenience Store/Gas Station - VFP (9-15) | Resturant |

BALANCED PERSON TRIPS:

| 934 - Fast-Food Restaurant with Drive-Through Window | | | | | 565 - Day Care Center | | | | |
|--|-----|-------|----------------------|----------------------|--|-------|-----|---------------|--|
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====> BALANCED >==== | Unconstrained Demand | UIPTC | PAF | Persons Entry | |
| 1910 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 286 | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<== BALANCED <<<== | Unconstrained Demand | UIPTC | PAF | Persons Exit | |
| 1910 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 286 | |
| 934 - Fast-Food Restaurant with Drive-Through Window | | | | | 151 - Mini-Warehouse | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====> BALANCED >==== | Unconstrained Demand | UIPTC | PAF | Persons Entry | |
| 1910 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<== BALANCED <<<== | Unconstrained Demand | UIPTC | PAF | Persons Exit | |
| 1910 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | |
| 934 - Fast-Food Restaurant with Drive-Through Window | | | | | 945 - Convenience Store/Gas Station-VFP (9-15) | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====> BALANCED >==== | Unconstrained Demand | UIPTC | PAF | Persons Entry | |
| 1910 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1867 | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<== BALANCED <<<== | Unconstrained Demand | UIPTC | PAF | Persons Exit | |
| 1910 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1867 | |
| 565 - Day Care Center | | | | | 151 - Mini-Warehouse | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====> BALANCED >==== | Unconstrained Demand | UIPTC | PAF | Persons Entry | |
| 286 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<== BALANCED <<<== | Unconstrained Demand | UIPTC | PAF | Persons Exit | |
| 286 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42 | |
| 565 - Day Care Center | | | | | 945 - Convenience Store/Gas Station-VFP (9-15) | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====> BALANCED >==== | Unconstrained Demand | UIPTC | PAF | Persons Entry | |
| 286 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1867 | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<== BALANCED <<<== | Unconstrained Demand | UIPTC | PAF | Persons Exit | |
| 286 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1867 | |
| 151 - Mini-Warehouse | | | | | 945 - Convenience Store/Gas Station-VFP (9-15) | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====> BALANCED >==== | Unconstrained Demand | UIPTC | PAF | Persons Entry | |
| 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1867 | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<== BALANCED <<<== | Unconstrained Demand | UIPTC | PAF | Persons Exit | |
| 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1867 | |

INTERNAL PERSON TRIPS:

934 - Fast-Food Restaurant with Drive-Through Window

| Internal Person Trips From | Entry | Exit | Total |
|------------------------------------|----------|----------|----------|
| Total Internal Person Trips | 0 | 0 | 0 |

565 - Day Care Center

| | | | |
|------------------------------------|----------|----------|----------|
| Internal Person Trips From | Entry | Exit | Total |
| Total Internal Person Trips | 0 | 0 | 0 |

151 - Mini-Warehouse

| | | | |
|------------------------------------|----------|----------|----------|
| Internal Person Trips From | Entry | Exit | Total |
| Total Internal Person Trips | 0 | 0 | 0 |

945 - Convenience Store/Gas Station-VFP (9-15)

| | | | |
|------------------------------------|----------|----------|----------|
| Internal Person Trips From | Entry | Exit | Total |
| Total Internal Person Trips | 0 | 0 | 0 |

INTERNAL VEHICLE TRIPS AND CAPTURE:

934 - Fast-Food Restaurant with Drive-Through Window

| | | | |
|--------------------------------------|-----------|-----------|-----------|
| Total Internal Person Trips | 0 | 0 | 0 |
| Vehicle Mode Share | 100% | 100% | - |
| Vehicle Occupancy | 1.00 | 1.00 | - |
| Total Vehicle Internal Trips | 0 | 0 | 0 |
| Total External Vehicle Trips | 1910 | 1910 | 3820 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |

565 - Day Care Center

| | | | |
|--------------------------------------|-----------|-----------|-----------|
| Total Internal Person Trips | 0 | 0 | 0 |
| Vehicle Mode Share | 100% | 100% | - |
| Vehicle Occupancy | 1.00 | 1.00 | - |
| Total Vehicle Internal Trips | 0 | 0 | 0 |
| Total External Vehicle Trips | 286 | 286 | 572 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |

151 - Mini-Warehouse

| | | | |
|--------------------------------------|-----------|-----------|-----------|
| Total Internal Person Trips | 0 | 0 | 0 |
| Vehicle Mode Share | 100% | 100% | - |
| Vehicle Occupancy | 1.00 | 1.00 | - |
| Total Vehicle Internal Trips | 0 | 0 | 0 |
| Total External Vehicle Trips | 26 | 26 | 52 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |

945 - Convenience Store/Gas Station-VFP (9-15)

| | | | |
|--------------------------------------|-----------|-----------|-----------|
| Total Internal Person Trips | 0 | 0 | 0 |
| Vehicle Mode Share | 100% | 100% | - |
| Vehicle Occupancy | 1.00 | 1.00 | - |
| Total Vehicle Internal Trips | 0 | 0 | 0 |
| Total External Vehicle Trips | 1867 | 1867 | 3734 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |

PASS-BY VEHICLE TRIP REDUCTION

| Land Use | External Vehicle Trips | | Pass-by Vehicle Trip % | | Pass-by Vehicle Trips | |
|----------|------------------------|------|------------------------|----------|-----------------------|------|
| | Entry | Exit | Entry (%) | Exit (%) | Entry | Exit |

| | | | | | | |
|--|------|------|-------|-------|---|---|
| 934 - Fast-Food Restaurant with Drive-Through Window | 1910 | 1910 | 0.00% | 0.00% | 0 | 0 |
| 565 - Day Care Center | 286 | 286 | 0.00% | 0.00% | 0 | 0 |
| 151 - Mini-Warehouse | 26 | 26 | 0.00% | 0.00% | 0 | 0 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 1867 | 1867 | 0.00% | 0.00% | 0 | 0 |

DIVERTED VEHICLE TRIP REDUCTION

| Land Use | External Vehicle Trips | | Diverted Vehicle Trip % | | Diverted Vehicle Trips | |
|--|------------------------|------|-------------------------|----------|------------------------|------|
| | Entry | Exit | Entry (%) | Exit (%) | Entry | Exit |
| 934 - Fast-Food Restaurant with Drive-Through Window | 1910 | 1910 | 0.00% | 0.00% | 0 | 0 |
| 565 - Day Care Center | 286 | 286 | 0.00% | 0.00% | 0 | 0 |
| 151 - Mini-Warehouse | 26 | 26 | 0.00% | 0.00% | 0 | 0 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 1867 | 1867 | 0.00% | 0.00% | 0 | 0 |

EXTRA VEHICLE TRIP REDUCTION

| Land Use | (External - (Pass-by + Diverted)) Vehicle Trips | | Extra Vehicle Trip Reduction % | | Extra Reduced Vehicle Trips | |
|--|---|------|--------------------------------|----------|-----------------------------|------|
| | Entry | Exit | Entry (%) | Exit (%) | Entry | Exit |
| 934 - Fast-Food Restaurant with Drive-Through Window | 1910 | 1910 | 0.00% | 0.00% | 0 | 0 |
| 565 - Day Care Center | 286 | 286 | 0.00% | 0.00% | 0 | 0 |
| 151 - Mini-Warehouse | 26 | 26 | 0.00% | 0.00% | 0 | 0 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 1867 | 1867 | 0.00% | 0.00% | 0 | 0 |

NEW VEHICLE TRIPS

| Land Use | New Vehicle Trips | | |
|--|-------------------|------|-------|
| | Entry | Exit | Total |
| 934 - Fast-Food Restaurant with Drive-Through Window | 1910 | 1910 | 3820 |
| 565 - Day Care Center | 286 | 286 | 572 |
| 151 - Mini-Warehouse | 26 | 26 | 52 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 1867 | 1867 | 3734 |

RESULTS

| Site Totals | Entry | Exit | Total |
|--------------------------------|-------|------|-------|
| Vehicle Trips Before Reduction | 4089 | 4089 | 8178 |
| Internal Vehicle Trips | 0 | 0 | 0 |
| External Vehicle Trips | 4089 | 4089 | 8178 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |
| Pass-by Vehicle Trips | 0 | 0 | 0 |
| Diverted Vehicle Trips | 0 | 0 | 0 |
| Extra Reduced Vehicle Trips | 0 | 0 | 0 |
| New Vehicle Trips | 4089 | 4089 | 8178 |

Scenario - 2

Scenario Name: AM Peak Hour

User Group:

Dev. phase: 1

No. of Years to Project 0

Traffic :

Analyst Note:

Warning:

VEHICLE TRIPS BEFORE REDUCTION

| Land Use & Data Source | Location | IV | Size | Time Period | Method | Entry | Exit | Total |
|--|---------------------------|------------------|------|---|------------------|------------|------------|-------|
| | | | | | Rate/Equation | Split% | Split% | |
| 934 - Fast-Food Restaurant with Drive-Through Data Source: Trip Generation Manual, 11th Ed | General Urban/Suburban | 1000 Sq. Ft. GFA | 8.17 | Weekday, Peak Hour of Adjacent Street Traffic, | Average 44.61 | 186 51% | 179 49% | 365 |
| 945 - Convenience Store/Gas Station - VFP (9-15) Data Source: Trip Generation Manual, 11th Ed | General Urban/Suburban | 1000 Sq. Ft. GFA | 5.68 | Weekday, Peak Hour of Adjacent Street Traffic, | Average 56.52 | 161 50% | 161 50% | 322 |
| 565 - Day Care Center Data Source: Trip Generation Manual, 11th Ed | General Urban/Suburban | 1000 Sq. Ft. GFA | 12 | Weekday, Peak Hour of Adjacent Street Traffic, | Average 11.00 | 70 53% | 62 47% | 132 |
| 151 - Mini-Warehouse Data Source: Trip Generation Manual, 11th Ed | General Urban/Suburban | 1000 Sq. Ft. GFA | 36.5 | Weekday, Peak Hour of Adjacent Street Traffic, | Average 0.09 | 2 59% | 1 41% | 3 |

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

| Land Use | Baseline Site Vehicle Mode Share | | Baseline Site Vehicle Occupancy | | Baseline Site Vehicle Directional Split | |
|--|----------------------------------|----------|---------------------------------|------|---|----------|
| | Entry (%) | Exit (%) | Entry | Exit | Entry (%) | Exit (%) |
| 934 - Fast-Food Restaurant with Drive-Through Window | 100 | 100 | 1 | 1 | 51 | 49 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 100 | 100 | 1 | 1 | 50 | 50 |
| 565 - Day Care Center | 100 | 100 | 1 | 1 | 53 | 47 |
| 151 - Mini-Warehouse | 100 | 100 | 1 | 1 | 59 | 41 |

ESTIMATED BASELINE SITE PERSON TRIPS:

| Land Use | Person Trips by Vehicle | | Person Trips by Other Modes | | Total Baseline Site Person Trips | |
|--|-------------------------|------|-----------------------------|------|----------------------------------|------|
| | Entry | Exit | Entry | Exit | Entry | Exit |
| 934 - Fast-Food Restaurant with Drive-Through Window | 186 | 179 | 0 | 0 | 186 | 179 |
| | 365 | | 0 | | 365 | |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 161 | 161 | 0 | 0 | 161 | 161 |
| | 322 | | 0 | | 322 | |
| 565 - Day Care Center | 70 | 62 | 0 | 0 | 70 | 62 |
| | 132 | | 0 | | 132 | |
| 151 - Mini-Warehouse | 2 | 1 | 0 | 0 | 2 | 1 |
| | 3 | | 0 | | 3 | |

INTERNAL VEHICLE TRIP REDUCTION

LAND USE GROUP ASSIGNMENT:

| Land Use | Land Use Group |
|--|----------------|
| 934 - Fast-Food Restaurant with Drive-Through Window | Resturant |
| 945 - Convenience Store/Gas Station - VFP (9-15) | Resturant |
| 565 - Day Care Center | Others |
| 151 - Mini-Warehouse | Others |

BALANCED PERSON TRIPS:

| | | | | | | | | | | |
|---|-----|-------|----------------------|--------------------------|----------------------|---|-----|---------------|--|--|
| 934 - Fast-Food Restaurant with Drive-Through Window | | | | | | 945 - Convenience Store/Gas Station-VFP (9-15) | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====>> BALANCED <<==== | Unconstrained Demand | UIPTC | PAF | Persons Entry | | |
| 179 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 161 | | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<==== BALANCED <<<==== | Unconstrained Demand | UIPTC | PAF | Persons Exit | | |
| 186 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 161 | | |
| 934 - Fast-Food Restaurant with Drive-Through Window | | | | | | 565 - Day Care Center | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====>> BALANCED <<==== | Unconstrained Demand | UIPTC | PAF | Persons Entry | | |
| 179 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 70 | | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<==== BALANCED <<<==== | Unconstrained Demand | UIPTC | PAF | Persons Exit | | |
| 186 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 62 | | |
| 934 - Fast-Food Restaurant with Drive-Through Window | | | | | | 151 - Mini-Warehouse | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====>> BALANCED <<==== | Unconstrained Demand | UIPTC | PAF | Persons Entry | | |
| 179 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<==== BALANCED <<<==== | Unconstrained Demand | UIPTC | PAF | Persons Exit | | |
| 186 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | | |
| 945 - Convenience Store/Gas Station-VFP (9-15) | | | | | | 565 - Day Care Center | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====>> BALANCED <<==== | Unconstrained Demand | UIPTC | PAF | Persons Entry | | |
| 161 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 70 | | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<==== BALANCED <<<==== | Unconstrained Demand | UIPTC | PAF | Persons Exit | | |
| 161 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 62 | | |
| 945 - Convenience Store/Gas Station-VFP (9-15) | | | | | | 151 - Mini-Warehouse | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====>> BALANCED <<==== | Unconstrained Demand | UIPTC | PAF | Persons Entry | | |
| 161 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<==== BALANCED <<<==== | Unconstrained Demand | UIPTC | PAF | Persons Exit | | |
| 161 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | | |
| 565 - Day Care Center | | | | | | 151 - Mini-Warehouse | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====>> BALANCED <<==== | Unconstrained Demand | UIPTC | PAF | Persons Entry | | |
| 62 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<==== BALANCED <<<==== | Unconstrained Demand | UIPTC | PAF | Persons Exit | | |
| 70 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | | |

INTERNAL PERSON TRIPS:

934 - Fast-Food Restaurant with Drive-Through Window

| Internal Person Trips From | Entry | Exit | Total |
|--|-------|------|-------|
| 945 - Convenience Store/Gas Station-VFP (9-15) | 0 | 0 | 0 |

| | | | |
|------------------------------------|----------|----------|----------|
| 565 - Day Care Center | 0 | 0 | 0 |
| 151 - Mini-Warehouse | 0 | 0 | 0 |
| Total Internal Person Trips | 0 | 0 | 0 |

945 - Convenience Store/Gas Station-VFP (9-15)

| Internal Person Trips From | Entry | Exit | Total |
|--|----------|----------|----------|
| 934 - Fast-Food Restaurant with Drive-Through Window | 0 | 0 | 0 |
| 565 - Day Care Center | 0 | 0 | 0 |
| 151 - Mini-Warehouse | 0 | 0 | 0 |
| Total Internal Person Trips | 0 | 0 | 0 |

565 - Day Care Center

| Internal Person Trips From | Entry | Exit | Total |
|--|----------|----------|----------|
| 934 - Fast-Food Restaurant with Drive-Through Window | 0 | 0 | 0 |
| 945 - Convenience Store/Gas Station-VFP (9-15) | 0 | 0 | 0 |
| 151 - Mini-Warehouse | 0 | 0 | 0 |
| Total Internal Person Trips | 0 | 0 | 0 |

151 - Mini-Warehouse

| Internal Person Trips From | Entry | Exit | Total |
|--|----------|----------|----------|
| 934 - Fast-Food Restaurant with Drive-Through Window | 0 | 0 | 0 |
| 945 - Convenience Store/Gas Station-VFP (9-15) | 0 | 0 | 0 |
| 565 - Day Care Center | 0 | 0 | 0 |
| Total Internal Person Trips | 0 | 0 | 0 |

INTERNAL VEHICLE TRIPS AND CAPTURE:

934 - Fast-Food Restaurant with Drive-Through Window

| | | | |
|--------------------------------------|-----------|-----------|-----------|
| Total Internal Person Trips | 0 | 0 | 0 |
| Vehicle Mode Share | 100% | 100% | - |
| Vehicle Occupancy | 1.00 | 1.00 | - |
| Total Vehicle Internal Trips | 0 | 0 | 0 |
| Total External Vehicle Trips | 186 | 179 | 365 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |

945 - Convenience Store/Gas Station-VFP (9-15)

| | | | |
|--------------------------------------|-----------|-----------|-----------|
| Total Internal Person Trips | 0 | 0 | 0 |
| Vehicle Mode Share | 100% | 100% | - |
| Vehicle Occupancy | 1.00 | 1.00 | - |
| Total Vehicle Internal Trips | 0 | 0 | 0 |
| Total External Vehicle Trips | 161 | 161 | 322 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |

565 - Day Care Center

| | | | |
|--------------------------------------|-----------|-----------|-----------|
| Total Internal Person Trips | 0 | 0 | 0 |
| Vehicle Mode Share | 100% | 100% | - |
| Vehicle Occupancy | 1.00 | 1.00 | - |
| Total Vehicle Internal Trips | 0 | 0 | 0 |
| Total External Vehicle Trips | 70 | 62 | 132 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |

151 - Mini-Warehouse

| | | | |
|--------------------------------------|-----------|-----------|-----------|
| Total Internal Person Trips | 0 | 0 | 0 |
| Vehicle Mode Share | 100% | 100% | - |
| Vehicle Occupancy | 1.00 | 1.00 | - |
| Total Vehicle Internal Trips | 0 | 0 | 0 |
| Total External Vehicle Trips | 2 | 1 | 3 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |

PASS-BY VEHICLE TRIP REDUCTION

| Land Use | External Vehicle Trips | | Pass-by Vehicle Trip % | | Pass-by Vehicle Trips | |
|--|------------------------|------|------------------------|----------|-----------------------|------|
| | Entry | Exit | Entry (%) | Exit (%) | Entry | Exit |
| 934 - Fast-Food Restaurant with Drive-Through Window | 186 | 179 | 49.00% | 49.00% | 91 | 88 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 161 | 161 | 63.00% | 63.00% | 101 | 101 |
| 565 - Day Care Center | 70 | 62 | 0.00% | 0.00% | 0 | 0 |
| 151 - Mini-Warehouse | 2 | 1 | 0.00% | 0.00% | 0 | 0 |

DIVERTED VEHICLE TRIP REDUCTION

| Land Use | External Vehicle Trips | | Diverted Vehicle Trip % | | Diverted Vehicle Trips | |
|--|------------------------|------|-------------------------|----------|------------------------|------|
| | Entry | Exit | Entry (%) | Exit (%) | Entry | Exit |
| 934 - Fast-Food Restaurant with Drive-Through Window | 186 | 179 | 0.00% | 0.00% | 0 | 0 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 161 | 161 | 0.00% | 0.00% | 0 | 0 |
| 565 - Day Care Center | 70 | 62 | 0.00% | 0.00% | 0 | 0 |
| 151 - Mini-Warehouse | 2 | 1 | 0.00% | 0.00% | 0 | 0 |

EXTRA VEHICLE TRIP REDUCTION

| Land Use | (External - (Pass-by + Diverted)) Vehicle Trips | | Extra Vehicle Trip Reduction % | | Extra Reduced Vehicle Trips | |
|--|---|------|--------------------------------|----------|-----------------------------|------|
| | Entry | Exit | Entry (%) | Exit (%) | Entry | Exit |
| 934 - Fast-Food Restaurant with Drive-Through Window | 95 | 91 | 0.00% | 0.00% | 0 | 0 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 60 | 60 | 0.00% | 0.00% | 0 | 0 |
| 565 - Day Care Center | 70 | 62 | 0.00% | 0.00% | 0 | 0 |
| 151 - Mini-Warehouse | 2 | 1 | 0.00% | 0.00% | 0 | 0 |

NEW VEHICLE TRIPS

| Land Use | New Vehicle Trips | | |
|--|-------------------|------|-------|
| | Entry | Exit | Total |
| 934 - Fast-Food Restaurant with Drive-Through Window | 95 | 91 | 186 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 60 | 60 | 120 |
| 565 - Day Care Center | 70 | 62 | 132 |
| 151 - Mini-Warehouse | 2 | 1 | 3 |

RESULTS

| Site Totals | Entry | Exit | Total |
|--------------------------------|-------|------|-------|
| Vehicle Trips Before Reduction | 419 | 403 | 822 |
| Internal Vehicle Trips | 0 | 0 | 0 |
| External Vehicle Trips | 419 | 403 | 822 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |
| Pass-by Vehicle Trips | 192 | 189 | 381 |
| Diverted Vehicle Trips | 0 | 0 | 0 |

| | | | |
|-----------------------------|-----|-----|-----|
| Extra Reduced Vehicle Trips | 0 | 0 | 0 |
| New Vehicle Trips | 227 | 214 | 441 |

Scenario - 3

Scenario Name: PM Peak Hour

User Group:

Dev. phase: 1

No. of Years to Project 0

Traffic :

Analyst Note:

Warning:

VEHICLE TRIPS BEFORE REDUCTION

| Land Use & Data Source | Location | IV | Size | Time Period | Method | Entry | Exit | Total |
|--|---------------------------|------------------|------|---|------------------|------------|------------|-------|
| | | | | | Rate/Equation | Split% | Split% | |
| 934 - Fast-Food Restaurant with Drive-Through Data Source: Trip Generation Manual, 11th Ed | General Urban/Suburban | 1000 Sq. Ft. GFA | 8.17 | Weekday, Peak Hour of Adjacent Street Traffic, | Average 33.03 | 140 52% | 130 48% | 270 |
| 945 - Convenience Store/Gas Station - VFP (9-15) Data Source: Trip Generation Manual, 11th Ed | General Urban/Suburban | 1000 Sq. Ft. GFA | 5.68 | Weekday, Peak Hour of Adjacent Street Traffic, | Average 54.52 | 155 50% | 155 50% | 310 |
| 565 - Day Care Center Data Source: Trip Generation Manual, 11th Ed | General Urban/Suburban | 1000 Sq. Ft. GFA | 12 | Weekday, Peak Hour of Adjacent Street Traffic, | Average 11.12 | 63 47% | 71 53% | 134 |
| 151 - Mini-Warehouse Data Source: Trip Generation Manual, 11th Ed | General Urban/Suburban | 1000 Sq. Ft. GFA | 36.5 | Weekday, Peak Hour of Adjacent Street Traffic, | Average 0.15 | 3 47% | 3 53% | 6 |

VEHICLE TO PERSON TRIP CONVERSION

BASELINE SITE VEHICLE CHARACTERISTICS:

| Land Use | Baseline Site Vehicle Mode Share | | Baseline Site Vehicle Occupancy | | Baseline Site Vehicle Directional Split | |
|--|----------------------------------|----------|---------------------------------|------|---|----------|
| | Entry (%) | Exit (%) | Entry | Exit | Entry (%) | Exit (%) |
| 934 - Fast-Food Restaurant with Drive-Through Window | 100 | 100 | 1 | 1 | 52 | 48 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 100 | 100 | 1 | 1 | 50 | 50 |
| 565 - Day Care Center | 100 | 100 | 1 | 1 | 47 | 53 |
| 151 - Mini-Warehouse | 100 | 100 | 1 | 1 | 47 | 53 |

ESTIMATED BASELINE SITE PERSON TRIPS:

| Land Use | Person Trips by Vehicle | | Person Trips by Other Modes | | Total Baseline Site Person Trips | |
|--|-------------------------|------|-----------------------------|------|----------------------------------|------|
| | Entry | Exit | Entry | Exit | Entry | Exit |
| 934 - Fast-Food Restaurant with Drive-Through Window | 140 | 130 | 0 | 0 | 140 | 130 |
| | 270 | | 0 | | 270 | |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 155 | 155 | 0 | 0 | 155 | 155 |
| | 310 | | 0 | | 310 | |
| 565 - Day Care Center | 63 | 71 | 0 | 0 | 63 | 71 |
| | 134 | | 0 | | 134 | |
| 151 - Mini-Warehouse | 3 | 3 | 0 | 0 | 3 | 3 |
| | 6 | | 0 | | 6 | |

INTERNAL VEHICLE TRIP REDUCTION

LAND USE GROUP ASSIGNMENT:

| Land Use | Land Use Group |
|--|----------------|
| 934 - Fast-Food Restaurant with Drive-Through Window | Resturant |
| 945 - Convenience Store/Gas Station - VFP (9-15) | Resturant |
| 565 - Day Care Center | Others |
| 151 - Mini-Warehouse | Others |

BALANCED PERSON TRIPS:

| | | | | | | | | | | |
|---|-----|-------|----------------------|-----------------------|----------------------|---|-----|---------------|--|--|
| 934 - Fast-Food Restaurant with Drive-Through Window | | | | | | 945 - Convenience Store/Gas Station-VFP (9-15) | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====>> BALANCED >>>== | Unconstrained Demand | UIPTC | PAF | Persons Entry | | |
| 130 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 155 | | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<== BALANCED <<<== | Unconstrained Demand | UIPTC | PAF | Persons Exit | | |
| 140 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 155 | | |
| 934 - Fast-Food Restaurant with Drive-Through Window | | | | | | 565 - Day Care Center | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====>> BALANCED >>>== | Unconstrained Demand | UIPTC | PAF | Persons Entry | | |
| 130 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 63 | | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<== BALANCED <<<== | Unconstrained Demand | UIPTC | PAF | Persons Exit | | |
| 140 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 71 | | |
| 934 - Fast-Food Restaurant with Drive-Through Window | | | | | | 151 - Mini-Warehouse | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====>> BALANCED >>>== | Unconstrained Demand | UIPTC | PAF | Persons Entry | | |
| 130 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<== BALANCED <<<== | Unconstrained Demand | UIPTC | PAF | Persons Exit | | |
| 140 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | | |
| 945 - Convenience Store/Gas Station-VFP (9-15) | | | | | | 565 - Day Care Center | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====>> BALANCED >>>== | Unconstrained Demand | UIPTC | PAF | Persons Entry | | |
| 155 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 63 | | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<== BALANCED <<<== | Unconstrained Demand | UIPTC | PAF | Persons Exit | | |
| 155 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 71 | | |
| 945 - Convenience Store/Gas Station-VFP (9-15) | | | | | | 151 - Mini-Warehouse | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====>> BALANCED >>>== | Unconstrained Demand | UIPTC | PAF | Persons Entry | | |
| 155 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<== BALANCED <<<== | Unconstrained Demand | UIPTC | PAF | Persons Exit | | |
| 155 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | | |
| 565 - Day Care Center | | | | | | 151 - Mini-Warehouse | | | | |
| Persons Exit | PAF | UIPTC | Unconstrained Demand | ====>> BALANCED >>>== | Unconstrained Demand | UIPTC | PAF | Persons Entry | | |
| 71 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | | |
| Persons Entry | PAF | UIPTC | Unconstrained Demand | <<<== BALANCED <<<== | Unconstrained Demand | UIPTC | PAF | Persons Exit | | |
| 63 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | | |

INTERNAL PERSON TRIPS:

934 - Fast-Food Restaurant with Drive-Through Window

| Internal Person Trips From | Entry | Exit | Total |
|--|-------|------|-------|
| 945 - Convenience Store/Gas Station-VFP (9-15) | 0 | 0 | 0 |

| | | | |
|------------------------------------|----------|----------|----------|
| 565 - Day Care Center | 0 | 0 | 0 |
| 151 - Mini-Warehouse | 0 | 0 | 0 |
| Total Internal Person Trips | 0 | 0 | 0 |

945 - Convenience Store/Gas Station-VFP (9-15)

| Internal Person Trips From | Entry | Exit | Total |
|--|----------|----------|----------|
| 934 - Fast-Food Restaurant with Drive-Through Window | 0 | 0 | 0 |
| 565 - Day Care Center | 0 | 0 | 0 |
| 151 - Mini-Warehouse | 0 | 0 | 0 |
| Total Internal Person Trips | 0 | 0 | 0 |

565 - Day Care Center

| Internal Person Trips From | Entry | Exit | Total |
|--|----------|----------|----------|
| 934 - Fast-Food Restaurant with Drive-Through Window | 0 | 0 | 0 |
| 945 - Convenience Store/Gas Station-VFP (9-15) | 0 | 0 | 0 |
| 151 - Mini-Warehouse | 0 | 0 | 0 |
| Total Internal Person Trips | 0 | 0 | 0 |

151 - Mini-Warehouse

| Internal Person Trips From | Entry | Exit | Total |
|--|----------|----------|----------|
| 934 - Fast-Food Restaurant with Drive-Through Window | 0 | 0 | 0 |
| 945 - Convenience Store/Gas Station-VFP (9-15) | 0 | 0 | 0 |
| 565 - Day Care Center | 0 | 0 | 0 |
| Total Internal Person Trips | 0 | 0 | 0 |

INTERNAL VEHICLE TRIPS AND CAPTURE:

934 - Fast-Food Restaurant with Drive-Through Window

| | | | |
|--------------------------------------|-----------|-----------|-----------|
| Total Internal Person Trips | 0 | 0 | 0 |
| Vehicle Mode Share | 100% | 100% | - |
| Vehicle Occupancy | 1.00 | 1.00 | - |
| Total Vehicle Internal Trips | 0 | 0 | 0 |
| Total External Vehicle Trips | 140 | 130 | 270 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |

945 - Convenience Store/Gas Station-VFP (9-15)

| | | | |
|--------------------------------------|-----------|-----------|-----------|
| Total Internal Person Trips | 0 | 0 | 0 |
| Vehicle Mode Share | 100% | 100% | - |
| Vehicle Occupancy | 1.00 | 1.00 | - |
| Total Vehicle Internal Trips | 0 | 0 | 0 |
| Total External Vehicle Trips | 155 | 155 | 310 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |

565 - Day Care Center

| | | | |
|--------------------------------------|-----------|-----------|-----------|
| Total Internal Person Trips | 0 | 0 | 0 |
| Vehicle Mode Share | 100% | 100% | - |
| Vehicle Occupancy | 1.00 | 1.00 | - |
| Total Vehicle Internal Trips | 0 | 0 | 0 |
| Total External Vehicle Trips | 63 | 71 | 134 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |

151 - Mini-Warehouse

| | | | |
|--------------------------------------|-----------|-----------|-----------|
| Total Internal Person Trips | 0 | 0 | 0 |
| Vehicle Mode Share | 100% | 100% | - |
| Vehicle Occupancy | 1.00 | 1.00 | - |
| Total Vehicle Internal Trips | 0 | 0 | 0 |
| Total External Vehicle Trips | 3 | 3 | 6 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |

PASS-BY VEHICLE TRIP REDUCTION

| Land Use | External Vehicle Trips | | Pass-by Vehicle Trip % | | Pass-by Vehicle Trips | |
|--|------------------------|------|------------------------|----------|-----------------------|------|
| | Entry | Exit | Entry (%) | Exit (%) | Entry | Exit |
| 934 - Fast-Food Restaurant with Drive-Through Window | 140 | 130 | 49.90% | 49.90% | 70 | 65 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 155 | 155 | 66.00% | 66.00% | 102 | 102 |
| 565 - Day Care Center | 63 | 71 | 0.00% | 0.00% | 0 | 0 |
| 151 - Mini-Warehouse | 3 | 3 | 0.00% | 0.00% | 0 | 0 |

DIVERTED VEHICLE TRIP REDUCTION

| Land Use | External Vehicle Trips | | Diverted Vehicle Trip % | | Diverted Vehicle Trips | |
|--|------------------------|------|-------------------------|----------|------------------------|------|
| | Entry | Exit | Entry (%) | Exit (%) | Entry | Exit |
| 934 - Fast-Food Restaurant with Drive-Through Window | 140 | 130 | 0.00% | 0.00% | 0 | 0 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 155 | 155 | 0.00% | 0.00% | 0 | 0 |
| 565 - Day Care Center | 63 | 71 | 0.00% | 0.00% | 0 | 0 |
| 151 - Mini-Warehouse | 3 | 3 | 0.00% | 0.00% | 0 | 0 |

EXTRA VEHICLE TRIP REDUCTION

| Land Use | (External - (Pass-by + Diverted)) Vehicle Trips | | Extra Vehicle Trip Reduction % | | Extra Reduced Vehicle Trips | |
|--|---|------|--------------------------------|----------|-----------------------------|------|
| | Entry | Exit | Entry (%) | Exit (%) | Entry | Exit |
| 934 - Fast-Food Restaurant with Drive-Through Window | 70 | 65 | 0.00% | 0.00% | 0 | 0 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 53 | 53 | 0.00% | 0.00% | 0 | 0 |
| 565 - Day Care Center | 63 | 71 | 0.00% | 0.00% | 0 | 0 |
| 151 - Mini-Warehouse | 3 | 3 | 0.00% | 0.00% | 0 | 0 |

NEW VEHICLE TRIPS

| Land Use | New Vehicle Trips | | |
|--|-------------------|------|-------|
| | Entry | Exit | Total |
| 934 - Fast-Food Restaurant with Drive-Through Window | 70 | 65 | 135 |
| 945 - Convenience Store/Gas Station - VFP (9-15) | 53 | 53 | 106 |
| 565 - Day Care Center | 63 | 71 | 134 |
| 151 - Mini-Warehouse | 3 | 3 | 6 |

RESULTS

| Site Totals | Entry | Exit | Total |
|--------------------------------|-------|------|-------|
| Vehicle Trips Before Reduction | 361 | 359 | 720 |
| Internal Vehicle Trips | 0 | 0 | 0 |
| External Vehicle Trips | 361 | 359 | 720 |
| Internal Vehicle Trip Capture | 0% | 0% | 0% |
| Pass-by Vehicle Trips | 172 | 167 | 339 |
| Diverted Vehicle Trips | 0 | 0 | 0 |

| | | | |
|-----------------------------|-----|-----|-----|
| Extra Reduced Vehicle Trips | 0 | 0 | 0 |
| New Vehicle Trips | 189 | 192 | 381 |

Appendix D – Buildout Year (2030) Conditions Analyses





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Intersection Level Of Service Report
Intersection 1: Marksheffel Rd/Fontaine BI

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 37.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.701 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine BI | | | Fontaine BI | | |
|------------------------------|---|--------|--------|---|--------|--------|---|--------|--------|---|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 680.00 | 100.00 | 680.00 | 750.00 | 100.00 | 500.00 | 360.00 | 100.00 | 200.00 | 535.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 131 | 531 | 113 | 157 | 239 | 17 | 25 | 252 | 72 | 246 | 651 | 505 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.1660 | 1.0000 | 1.0000 | 1.1660 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 5 | 2 | 4 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 57 | 0 | 0 | 9 | 0 | 0 | 36 | 0 | 0 | 255 |
| Total Hourly Volume [veh/h] | 131 | 619 | 57 | 158 | 279 | 8 | 25 | 253 | 36 | 264 | 653 | 254 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 39 | 182 | 17 | 46 | 82 | 2 | 7 | 74 | 11 | 78 | 192 | 75 |
| Total Analysis Volume [veh/h] | 154 | 728 | 67 | 186 | 328 | 9 | 29 | 298 | 42 | 311 | 768 | 299 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Protecte | Permiss | Unsigna | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|------------------------------|----------|---------|---------|----------|---------|---------|----------|---------|---------|----------|---------|---------|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 |
| Maximum Green [s] | 5 | 103 | 0 | 5 | 103 | 0 | 5 | 109 | 0 | 5 | 109 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 17 | 38 | 0 | 11 | 32 | 0 | 9 | 25 | 0 | 26 | 42 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 24 | 0 | 0 | 21 | 0 | 0 | 14 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | No | No | | No | No | |
| Maximum Recall | No | No | | No | No | | No | No | | No | No | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 10 | 47 | 7 | 43 | 43 | 3 | 11 | 11 | 19 | 27 | 27 |
| g / C, Green / Cycle | 0.10 | 0.47 | 0.07 | 0.43 | 0.43 | 0.03 | 0.11 | 0.11 | 0.19 | 0.27 | 0.27 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.39 | 0.05 | 0.09 | 0.01 | 0.02 | 0.08 | 0.03 | 0.17 | 0.22 | 0.19 |
| s, saturation flow rate [veh/h] | 1781 | 1870 | 3459 | 3560 | 1589 | 1781 | 3560 | 1589 | 1781 | 3560 | 1589 |
| c, Capacity [veh/h] | 186 | 876 | 242 | 1544 | 689 | 50 | 387 | 173 | 344 | 976 | 436 |
| d1, Uniform Delay [s] | 43.95 | 23.17 | 45.78 | 17.68 | 16.14 | 48.10 | 43.40 | 40.85 | 39.49 | 33.64 | 32.50 |
| k, delay calibration | 0.17 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.29 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 13.31 | 9.04 | 5.12 | 0.31 | 0.03 | 10.46 | 3.25 | 0.72 | 19.52 | 1.45 | 1.93 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | |
|---------------------------------------|--------|--------|--------|-------|-------|-------|--------|-------|--------|--------|--------|
| X, volume / capacity | 0.83 | 0.83 | 0.77 | 0.21 | 0.01 | 0.58 | 0.77 | 0.24 | 0.90 | 0.79 | 0.69 |
| d, Delay for Lane Group [s/veh] | 57.26 | 32.20 | 50.90 | 18.00 | 16.18 | 58.56 | 46.65 | 41.57 | 59.01 | 35.09 | 34.43 |
| Lane Group LOS | E | C | D | B | B | E | D | D | E | D | C |
| Critical Lane Group | No | Yes | Yes | No | No | No | Yes | No | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 4.21 | 15.00 | 2.32 | 2.18 | 0.11 | 0.84 | 3.63 | 0.95 | 8.97 | 8.34 | 6.36 |
| 50th-Percentile Queue Length [ft/ln] | 105.19 | 375.11 | 57.94 | 54.51 | 2.81 | 20.89 | 90.67 | 23.76 | 224.31 | 208.46 | 158.93 |
| 95th-Percentile Queue Length [veh/ln] | 7.57 | 21.36 | 4.17 | 3.92 | 0.20 | 1.50 | 6.53 | 1.71 | 13.88 | 13.07 | 10.49 |
| 95th-Percentile Queue Length [ft/ln] | 189.29 | 533.92 | 104.29 | 98.12 | 5.06 | 37.60 | 163.20 | 42.76 | 347.12 | 326.85 | 262.31 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 57.26 | 32.20 | 0.00 | 50.90 | 18.00 | 16.18 | 58.56 | 46.65 | 41.57 | 59.01 | 35.09 | 34.43 |
| Movement LOS | E | C | | D | B | B | E | D | D | E | D | C |
| d_A, Approach Delay [s/veh] | 34.36 | | | 29.66 | | | 47.01 | | | 40.35 | | |
| Approach LOS | C | | | C | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 37.68 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.701 | | | | | | | | | | | |

Other Modes

| | | | | | | | | | | | | |
|--|-------|--|--|-------|--|--|-------|--|--|-------|--|--|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | | | 11.0 | | | 11.0 | | | 11.0 | | |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| d_p, Pedestrian Delay [s] | 39.64 | | | 39.64 | | | 39.64 | | | 39.64 | | |
| I_p,int, Pedestrian LOS Score for Intersectio | 2.876 | | | 3.020 | | | 2.837 | | | 3.394 | | |
| Crosswalk LOS | C | | | C | | | C | | | C | | |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | | | 2000 | | | 2000 | | | 2000 | | |
| c_b, Capacity of the bicycle lane [bicycles/h] | 680 | | | 560 | | | 420 | | | 759 | | |
| d_b, Bicycle Delay [s] | 21.81 | | | 25.95 | | | 31.24 | | | 19.25 | | |
| I_b,int, Bicycle LOS Score for Intersection | 3.015 | | | 1.999 | | | 1.894 | | | 2.907 | | |
| Bicycle LOS | C | | | A | | | A | | | C | | |

Sequence

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



Intersection Level Of Service Report
Intersection 2: Marksheffel Rd/Lorson Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 17.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.703 |

Intersection Setup

| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson Bl | |
|------------------------------|----------------|--------|----------------|--------|-----------|--------|
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration | ↑↗ | | ↖↑ | | ↖↗ | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 1 | 1 | 0 | 1 | 0 |
| Entry Pocket Length [ft] | 100.00 | 500.00 | 580.00 | 100.00 | 510.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | 55.00 | | 25.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | Yes | | Yes | |

Volumes

| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson Bl | |
|---|----------------|--------|----------------|--------|-----------|--------|
| Base Volume Input [veh/h] | 577 | 164 | 96 | 454 | 422 | 210 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | |
| Growth Factor | 1.1660 | 1.0000 | 1.0000 | 1.1660 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 0 | 0 | 5 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 82 | 0 | 0 | 0 | 105 |
| Total Hourly Volume [veh/h] | 674 | 82 | 96 | 534 | 422 | 105 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 198 | 24 | 28 | 157 | 124 | 31 |
| Total Analysis Volume [veh/h] | 793 | 96 | 113 | 628 | 496 | 124 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 60 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permissive | Permissive | Permissive | Permissive | Permissive | Permissive |
|------------------------------|------------|------------|------------|------------|------------|------------|
| Signal Group | 6 | 0 | 0 | 2 | 7 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | - | - | Lead | - |
| Minimum Green [s] | 10 | 0 | 0 | 10 | 5 | 0 |
| Maximum Green [s] | 43 | 0 | 0 | 41 | 19 | 0 |
| Amber [s] | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 21 | 0 | 0 | 21 | 39 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 7 | 0 | 0 | 7 | 7 | 0 |
| Pedestrian Clearance [s] | 10 | 0 | 0 | 10 | 13 | 0 |
| Delayed Vehicle Green [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | | No | No | |
| Maximum Recall | No | | | No | No | |
| Pedestrian Recall | No | | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | C | R | L | C | L | R |
|---|-------|------|-------|------|-------|-------|
| C, Cycle Length [s] | 60 | 60 | 60 | 60 | 60 | 60 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 33 | 33 | 33 | 33 | 19 | 19 |
| g / C, Green / Cycle | 0.54 | 0.54 | 0.54 | 0.54 | 0.32 | 0.32 |
| (v / s)_i Volume / Saturation Flow Rate | 0.42 | 0.06 | 0.18 | 0.34 | 0.28 | 0.08 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 625 | 1870 | 1781 | 1589 |
| c, Capacity [veh/h] | 1018 | 865 | 237 | 1018 | 575 | 513 |
| d1, Uniform Delay [s] | 10.86 | 6.66 | 24.24 | 9.42 | 19.17 | 15.00 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.88 | 0.26 | 6.71 | 2.80 | 3.99 | 0.24 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | |
|---------------------------------------|--------|-------|-------|--------|--------|-------|
| X, volume / capacity | 0.78 | 0.11 | 0.48 | 0.62 | 0.86 | 0.24 |
| d, Delay for Lane Group [s/veh] | 16.74 | 6.92 | 30.95 | 12.22 | 23.16 | 15.24 |
| Lane Group LOS | B | A | C | B | C | B |
| Critical Lane Group | Yes | No | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 6.60 | 0.43 | 1.76 | 4.19 | 6.59 | 1.20 |
| 50th-Percentile Queue Length [ft/ln] | 165.11 | 10.73 | 44.00 | 104.64 | 164.84 | 29.99 |
| 95th-Percentile Queue Length [veh/ln] | 10.82 | 0.77 | 3.17 | 7.53 | 10.80 | 2.16 |
| 95th-Percentile Queue Length [ft/ln] | 270.47 | 19.31 | 79.19 | 188.35 | 270.12 | 53.98 |

Movement, Approach, & Intersection Results

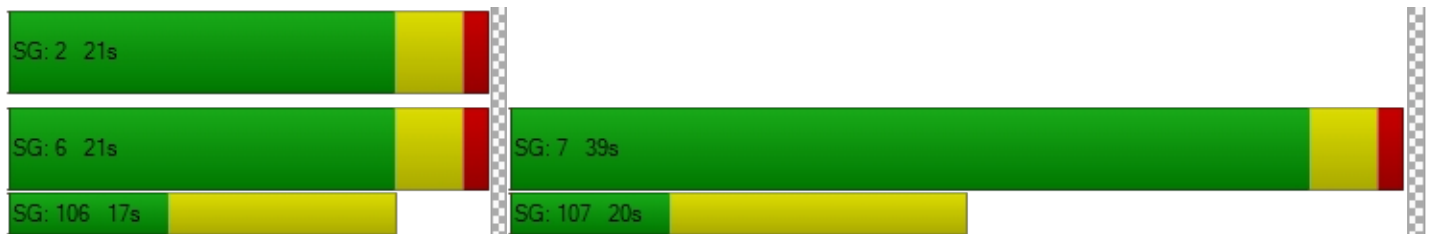
| | | | | | | |
|---------------------------------|-------|------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 16.74 | 6.92 | 30.95 | 12.22 | 23.16 | 15.24 |
| Movement LOS | B | A | C | B | C | B |
| d_A, Approach Delay [s/veh] | 15.68 | | 15.08 | | 21.57 | |
| Approach LOS | B | | B | | C | |
| d_I, Intersection Delay [s/veh] | 17.10 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.703 | | | | | |

Other Modes

| | | | |
|--|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 20.08 | 20.08 | 20.08 |
| I_p,int, Pedestrian LOS Score for Intersectio | 3.283 | 2.968 | 2.503 |
| Crosswalk LOS | C | C | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 565 | 565 | 1164 |
| d_b, Bicycle Delay [s] | 15.48 | 15.48 | 5.26 |
| I_b,int, Bicycle LOS Score for Intersection | 3.162 | 2.782 | 1.560 |
| Bicycle LOS | C | C | A |

Sequence

| | | | | | | | | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



Intersection Level Of Service Report
Intersection 3: Fontaine Bl/Carriage Meadows Dr

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 123.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.166 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | ↵↵ | | | ↵↵ | | | ↵↵↵ | | | ↵↵↵ | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 | 330.00 | 100.00 | 330.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|---|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 42 | 5 | 12 | 8 | 5 | 37 | 10 | 522 | 8 | 8 | 1310 | 4 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.1660 | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 4 | 0 | 11 | 3 | 0 | 0 | 0 | 0 | 1 |
| Diverted Trips [veh/h] | -49 | 0 | 49 | -13 | 0 | 13 | 0 | 13 | 0 | 0 | 49 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 5 | 63 | 0 | 5 | 67 | 15 | 535 | 9 | 9 | 1359 | 6 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 1 | 19 | 0 | 1 | 20 | 4 | 157 | 3 | 3 | 400 | 2 |
| Total Analysis Volume [veh/h] | 0 | 6 | 74 | 0 | 6 | 79 | 18 | 629 | 11 | 11 | 1599 | 7 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | | | | |
|------------------------------------|------|------|------|------|
| Priority Scheme | Stop | Stop | Free | Free |
| Flared Lane | | | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------------|-------|--------|-------|--------|--------|-------|-------|------|------|------|------|------|
| V/C, Movement V/C Ratio | 0.00 | 0.16 | 0.11 | 0.00 | 0.17 | 0.24 | 0.04 | 0.01 | 0.00 | 0.01 | 0.02 | 0.00 |
| d_M, Delay for Movement [s/veh] | 74.52 | 122.45 | 10.93 | 142.36 | 123.26 | 19.41 | 14.35 | 0.00 | 0.00 | 8.87 | 0.00 | 0.00 |
| Movement LOS | F | F | B | F | F | C | B | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.52 | 0.36 | 0.00 | 0.52 | 0.92 | 0.14 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 13.01 | 9.10 | 0.00 | 13.09 | 23.09 | 3.50 | 0.00 | 0.00 | 0.89 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 19.29 | | | 26.74 | | | 0.39 | | | 0.06 | | |
| Approach LOS | C | | | D | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 1.71 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |

Signal Warrants Report For Intersection 3: Fontaine Bl/Carriage Meadows Dr

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | E, W |
| Minor Approaches | S, N |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|------|---------------|-----|---------------|----|
| | E | W | S | N |
| 1 | 1374 | 559 | 68 | 72 |
| 2 | 1333 | 542 | 66 | 70 |
| 3 | 1305 | 531 | 65 | 68 |
| 4 | 1223 | 498 | 61 | 64 |
| 5 | 1085 | 442 | 54 | 57 |
| 6 | 1072 | 436 | 53 | 56 |
| 7 | 1058 | 430 | 52 | 55 |
| 8 | 962 | 391 | 48 | 50 |
| 9 | 948 | 386 | 47 | 50 |
| 10 | 934 | 380 | 46 | 49 |
| 11 | 811 | 330 | 40 | 42 |
| 12 | 756 | 307 | 37 | 40 |
| 13 | 742 | 302 | 37 | 39 |
| 14 | 550 | 224 | 27 | 29 |
| 15 | 550 | 224 | 27 | 29 |
| 16 | 385 | 157 | 19 | 20 |
| 17 | 220 | 89 | 11 | 12 |
| 18 | 220 | 89 | 11 | 12 |
| 19 | 124 | 50 | 6 | 6 |
| 20 | 69 | 28 | 3 | 4 |
| 21 | 41 | 17 | 2 | 2 |
| 22 | 14 | 6 | 1 | 1 |
| 23 | 14 | 6 | 1 | 1 |
| 24 | 14 | 6 | 1 | 1 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 4 | 1933 | 3 | 72 | No | No | No | No | No | No | Yes | Yes | No | No |
| 2 | 4 | 1875 | 3 | 70 | No | No | No | No | No | No | Yes | Yes | No | No |
| 3 | 4 | 1836 | 3 | 68 | No | No | No | No | No | No | No | Yes | No | No |
| 4 | 4 | 1721 | 3 | 64 | No | No | No | No | No | No | No | Yes | No | No |
| 5 | 4 | 1527 | 3 | 57 | No | No | No | No | No | No | No | Yes | No | No |
| 6 | 4 | 1508 | 3 | 56 | No | No | No | No | No | No | No | Yes | No | No |
| 7 | 4 | 1488 | 3 | 55 | No | No | No | No | No | No | No | No | No | No |
| 8 | 4 | 1353 | 3 | 50 | No | No | No | No | No | No | No | No | No | No |
| 9 | 4 | 1334 | 3 | 50 | No | No | No | No | No | No | No | No | No | No |
| 10 | 4 | 1314 | 3 | 49 | No | No | No | No | No | No | No | No | No | No |
| 11 | 4 | 1141 | 3 | 42 | No | No | No | No | No | No | No | No | No | No |
| 12 | 4 | 1063 | 3 | 40 | No | No | No | No | No | No | No | No | No | No |
| 13 | 4 | 1044 | 3 | 39 | No | No | No | No | No | No | No | No | No | No |
| 14 | 4 | 774 | 3 | 29 | No | No | No | No | No | No | No | No | No | No |
| 15 | 4 | 774 | 3 | 29 | No | No | No | No | No | No | No | No | No | No |
| 16 | 4 | 542 | 3 | 20 | No | No | No | No | No | No | No | No | No | No |
| 17 | 4 | 309 | 3 | 12 | No | No | No | No | No | No | No | No | No | No |
| 18 | 4 | 309 | 3 | 12 | No | No | No | No | No | No | No | No | No | No |
| 19 | 4 | 174 | 3 | 6 | No | No | No | No | No | No | No | No | No | No |
| 20 | 4 | 97 | 3 | 4 | No | No | No | No | No | No | No | No | No | No |
| 21 | 4 | 58 | 3 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 4 | 20 | 3 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 4 | 20 | 3 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 4 | 20 | 3 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 6 | 0 | 0 |

Warrant 3 Condition A

| Orientation | S | N |
|--|-----------|------|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 19.3 | 26.7 |
| Number of Lanes on Minor Street Approach | 3 | 3 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:21 | 0:32 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 68 | 72 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 2073 | 2073 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| Warrant Met for Intersection | No | |

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Intersection Level Of Service Report
Intersection 1: Marksheffel Rd/Fontaine BI

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 46.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.816 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine BI | | | Fontaine BI | | |
|------------------------------|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 680.00 | 100.00 | 680.00 | 750.00 | 100.00 | 500.00 | 360.00 | 100.00 | 200.00 | 535.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 122 | 310 | 310 | 570 | 506 | 33 | 51 | 846 | 158 | 159 | 469 | 306 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.1660 | 1.0000 | 1.0000 | 1.1660 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 2 | 0 | 3 | 2 | 3 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 157 | 0 | 0 | 17 | 0 | 0 | 79 | 0 | 0 | 155 |
| Total Hourly Volume [veh/h] | 122 | 361 | 157 | 574 | 590 | 16 | 51 | 848 | 79 | 171 | 471 | 154 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 36 | 106 | 46 | 169 | 174 | 5 | 15 | 249 | 23 | 50 | 139 | 45 |
| Total Analysis Volume [veh/h] | 144 | 425 | 185 | 675 | 694 | 19 | 60 | 998 | 93 | 201 | 554 | 181 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Protecte | Permiss | Unsigna | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|------------------------------|----------|---------|---------|----------|---------|---------|----------|---------|---------|----------|---------|---------|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 |
| Maximum Green [s] | 5 | 103 | 0 | 5 | 103 | 0 | 5 | 109 | 0 | 5 | 109 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 28 | 35 | 0 | 28 | 35 | 0 | 32 | 34 | 0 | 23 | 25 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 24 | 0 | 0 | 21 | 0 | 0 | 14 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | No | No | | No | No | |
| Maximum Recall | No | No | | No | No | | No | No | | No | No | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 12 | 31 | 24 | 43 | 43 | 5 | 34 | 34 | 15 | 44 | 44 |
| g / C, Green / Cycle | 0.10 | 0.26 | 0.20 | 0.36 | 0.36 | 0.04 | 0.28 | 0.28 | 0.13 | 0.36 | 0.36 |
| (v / s)_i Volume / Saturation Flow Rate | 0.08 | 0.23 | 0.20 | 0.19 | 0.01 | 0.03 | 0.28 | 0.06 | 0.11 | 0.16 | 0.11 |
| s, saturation flow rate [veh/h] | 1781 | 1870 | 3459 | 3560 | 1589 | 1781 | 3560 | 1589 | 1781 | 3560 | 1589 |
| c, Capacity [veh/h] | 173 | 484 | 687 | 1281 | 572 | 79 | 1000 | 446 | 229 | 1301 | 581 |
| d1, Uniform Delay [s] | 53.24 | 42.72 | 47.93 | 30.57 | 24.91 | 56.79 | 43.16 | 33.00 | 51.38 | 28.64 | 27.29 |
| k, delay calibration | 0.11 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.22 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 9.76 | 19.79 | 12.43 | 1.65 | 0.11 | 14.09 | 12.84 | 0.23 | 18.52 | 0.22 | 0.30 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | |
|---------------------------------------|--------|--------|--------|--------|-------|-------|--------|-------|--------|--------|--------|
| X, volume / capacity | 0.83 | 0.88 | 0.98 | 0.54 | 0.03 | 0.76 | 1.00 | 0.21 | 0.88 | 0.43 | 0.31 |
| d, Delay for Lane Group [s/veh] | 63.00 | 62.51 | 60.36 | 32.22 | 25.02 | 70.87 | 56.00 | 33.23 | 69.90 | 28.86 | 27.59 |
| Lane Group LOS | E | E | E | C | C | E | E | C | E | C | C |
| Critical Lane Group | No | Yes | Yes | No | No | No | Yes | No | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 4.56 | 14.05 | 10.70 | 7.75 | 0.35 | 2.07 | 15.96 | 2.05 | 6.96 | 5.82 | 3.65 |
| 50th-Percentile Queue Length [ft/ln] | 113.92 | 351.16 | 267.44 | 193.75 | 8.75 | 51.65 | 398.91 | 51.19 | 173.89 | 145.49 | 91.19 |
| 95th-Percentile Queue Length [veh/ln] | 8.06 | 20.19 | 16.06 | 12.32 | 0.63 | 3.72 | 22.51 | 3.69 | 11.28 | 9.78 | 6.57 |
| 95th-Percentile Queue Length [ft/ln] | 201.44 | 504.82 | 401.54 | 307.88 | 15.74 | 92.96 | 562.69 | 92.15 | 282.02 | 244.39 | 164.14 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 63.00 | 62.51 | 0.00 | 60.36 | 32.22 | 25.02 | 70.87 | 56.00 | 33.23 | 69.90 | 28.86 | 27.59 |
| Movement LOS | E | E | | E | C | C | E | E | C | E | C | C |
| d_A, Approach Delay [s/veh] | 49.09 | | | 45.80 | | | 54.94 | | | 37.43 | | |
| Approach LOS | D | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 46.93 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.816 | | | | | | | | | | | |

Other Modes

| | | | | | | | | | |
|--|-------|--|-------|--|-------|--|-------|--|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | | 11.0 | | 11.0 | | 11.0 | | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| d_p, Pedestrian Delay [s] | 49.53 | | 49.53 | | 49.53 | | 49.53 | | 49.53 |
| I_p,int, Pedestrian LOS Score for Intersectio | 2.899 | | 3.154 | | 3.058 | | 3.334 | | |
| Crosswalk LOS | C | | C | | C | | C | | |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | | 2000 | | 2000 | | 2000 | | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 516 | | 516 | | 500 | | 350 | | |
| d_b, Bicycle Delay [s] | 33.03 | | 33.03 | | 33.78 | | 40.87 | | |
| I_b,int, Bicycle LOS Score for Intersection | 2.498 | | 2.719 | | 2.574 | | 2.460 | | |
| Bicycle LOS | B | | B | | B | | B | | |

Sequence

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



Intersection Level Of Service Report
Intersection 2: Marksheffel Rd/Lorson Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 14.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.647 |

Intersection Setup

| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson Bl | |
|------------------------------|----------------|--------|----------------|--------|-----------|--------|
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration | ↑↗ | | ↖↑ | | ↖↗ | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 1 | 1 | 0 | 1 | 0 |
| Entry Pocket Length [ft] | 100.00 | 500.00 | 580.00 | 100.00 | 510.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | 55.00 | | 25.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | Yes | | Yes | |

Volumes

| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson Bl | |
|---|----------------|--------|----------------|--------|-----------|--------|
| Base Volume Input [veh/h] | 492 | 534 | 211 | 558 | 316 | 163 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | |
| Growth Factor | 1.1660 | 1.0000 | 1.0000 | 1.1660 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 4 | 0 | 0 | 3 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 267 | 0 | 0 | 0 | 82 |
| Total Hourly Volume [veh/h] | 578 | 267 | 211 | 654 | 316 | 81 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 170 | 79 | 62 | 192 | 93 | 24 |
| Total Analysis Volume [veh/h] | 680 | 314 | 248 | 769 | 372 | 95 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 60 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permissive | Permissive | Permissive | Permissive | Permissive | Permissive |
|------------------------------|------------|------------|------------|------------|------------|------------|
| Signal Group | 6 | 0 | 0 | 2 | 7 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | - | - | Lead | - |
| Minimum Green [s] | 10 | 0 | 0 | 10 | 5 | 0 |
| Maximum Green [s] | 20 | 0 | 0 | 20 | 32 | 0 |
| Amber [s] | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 36 | 0 | 0 | 36 | 24 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 7 | 0 | 0 | 7 | 7 | 0 |
| Pedestrian Clearance [s] | 10 | 0 | 0 | 10 | 13 | 0 |
| Delayed Vehicle Green [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | | No | No | |
| Maximum Recall | No | | | No | No | |
| Pedestrian Recall | No | | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | C | R | L | C | L | R |
|---|------|------|-------|------|-------|-------|
| C, Cycle Length [s] | 60 | 60 | 60 | 60 | 60 | 60 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 37 | 37 | 37 | 37 | 15 | 15 |
| g / C, Green / Cycle | 0.62 | 0.62 | 0.62 | 0.62 | 0.24 | 0.24 |
| (v / s)_i Volume / Saturation Flow Rate | 0.36 | 0.20 | 0.44 | 0.41 | 0.21 | 0.06 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 566 | 1870 | 1781 | 1589 |
| c, Capacity [veh/h] | 1162 | 987 | 322 | 1162 | 437 | 390 |
| d1, Uniform Delay [s] | 6.76 | 5.36 | 21.33 | 7.31 | 21.59 | 18.17 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.16 | 0.85 | 16.30 | 2.98 | 4.74 | 0.32 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | |
|---------------------------------------|--------|-------|--------|--------|--------|-------|
| X, volume / capacity | 0.59 | 0.32 | 0.77 | 0.66 | 0.85 | 0.24 |
| d, Delay for Lane Group [s/veh] | 8.93 | 6.21 | 37.63 | 10.29 | 26.33 | 18.49 |
| Lane Group LOS | A | A | D | B | C | B |
| Critical Lane Group | No | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 3.14 | 1.13 | 4.41 | 3.94 | 5.24 | 1.04 |
| 50th-Percentile Queue Length [ft/ln] | 78.41 | 28.14 | 110.35 | 98.53 | 131.10 | 25.95 |
| 95th-Percentile Queue Length [veh/ln] | 5.65 | 2.03 | 7.86 | 7.09 | 9.00 | 1.87 |
| 95th-Percentile Queue Length [ft/ln] | 141.14 | 50.65 | 196.49 | 177.35 | 225.00 | 46.70 |

Movement, Approach, & Intersection Results

| | | | | | | |
|---------------------------------|-------|------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 8.93 | 6.21 | 37.63 | 10.29 | 26.33 | 18.49 |
| Movement LOS | A | A | D | B | C | B |
| d_A, Approach Delay [s/veh] | 8.07 | | 16.96 | | 24.74 | |
| Approach LOS | A | | B | | C | |
| d_I, Intersection Delay [s/veh] | 14.86 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.647 | | | | | |

Other Modes

| | | | |
|--|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 20.01 | 20.01 | 20.01 |
| I_p,int, Pedestrian LOS Score for Intersectio | 3.729 | 3.034 | 2.760 |
| Crosswalk LOS | D | C | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1067 | 1067 | 667 |
| d_b, Bicycle Delay [s] | 6.53 | 6.53 | 13.33 |
| I_b,int, Bicycle LOS Score for Intersection | 3.640 | 3.238 | 1.560 |
| Bicycle LOS | D | C | A |

Sequence

| | | | | | | | | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



Intersection Level Of Service Report
Intersection 3: Fontaine Bl/Carriage Meadows Dr

| | | | |
|------------------|-----------------|---------------------------|---------|
| Control Type: | Two-way stop | Delay (sec / veh): | 1,108.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.988 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | ↵↵↵ | | | ↵↵↵ | | | ↵↵↵ | | | ↵↵↵ | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 | 330.00 | 100.00 | 330.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|---|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 23 | 5 | 8 | 5 | 5 | 8 | 56 | 1726 | 44 | 8 | 898 | 6 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.1660 | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 3 | 0 | 8 | 10 | 0 | 0 | 0 | 0 | 4 |
| Diverted Trips [veh/h] | -27 | 0 | 27 | -9 | 0 | 9 | 0 | 9 | 0 | 0 | 27 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 5 | 36 | 0 | 5 | 26 | 75 | 1735 | 51 | 9 | 925 | 11 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 1 | 11 | 0 | 1 | 8 | 22 | 510 | 15 | 3 | 272 | 3 |
| Total Analysis Volume [veh/h] | 0 | 6 | 42 | 0 | 6 | 31 | 88 | 2041 | 60 | 11 | 1088 | 13 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | | | | |
|------------------------------------|------|------|------|------|
| Priority Scheme | Stop | Stop | Free | Free |
| Flared Lane | | | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | No | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------------|---------|---------|-------|---------|---------|-------|-------|------|------|-------|------|------|
| V/C, Movement V/C Ratio | 0.00 | 0.92 | 0.18 | 0.00 | 0.99 | 0.06 | 0.14 | 0.02 | 0.00 | 0.04 | 0.01 | 0.00 |
| d_M, Delay for Movement [s/veh] | 10000.0 | 1015.95 | 23.72 | 2696.91 | 1108.74 | 12.96 | 11.64 | 0.00 | 0.00 | 19.56 | 0.00 | 0.00 |
| Movement LOS | F | F | C | F | F | B | B | A | A | C | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 1.47 | 0.64 | 0.00 | 1.50 | 0.20 | 0.48 | 0.00 | 0.00 | 0.13 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 36.68 | 15.98 | 0.00 | 37.39 | 5.12 | 12.10 | 0.00 | 0.00 | 3.32 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 147.75 | | | 190.65 | | | 0.47 | | | 0.19 | | |
| Approach LOS | F | | | F | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 4.54 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |

Signal Warrants Report For Intersection 3: Fontaine Bl/Carriage Meadows Dr

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | E, W |
| Minor Approaches | S, N |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|------|---------------|------|---------------|----|
| | E | W | S | N |
| 1 | 945 | 1861 | 41 | 31 |
| 2 | 917 | 1805 | 40 | 30 |
| 3 | 898 | 1768 | 39 | 29 |
| 4 | 841 | 1656 | 36 | 28 |
| 5 | 747 | 1470 | 32 | 24 |
| 6 | 737 | 1452 | 32 | 24 |
| 7 | 728 | 1433 | 32 | 24 |
| 8 | 662 | 1303 | 29 | 22 |
| 9 | 652 | 1284 | 28 | 21 |
| 10 | 643 | 1265 | 28 | 21 |
| 11 | 558 | 1098 | 24 | 18 |
| 12 | 520 | 1024 | 23 | 17 |
| 13 | 510 | 1005 | 22 | 17 |
| 14 | 378 | 744 | 16 | 12 |
| 15 | 378 | 744 | 16 | 12 |
| 16 | 265 | 521 | 11 | 9 |
| 17 | 151 | 298 | 7 | 5 |
| 18 | 151 | 298 | 7 | 5 |
| 19 | 85 | 167 | 4 | 3 |
| 20 | 47 | 93 | 2 | 2 |
| 21 | 28 | 56 | 1 | 1 |
| 22 | 9 | 19 | 0 | 0 |
| 23 | 9 | 19 | 0 | 0 |
| 24 | 9 | 19 | 0 | 0 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 4 | 2806 | 3 | 41 | No | No | No | No | No | No | No | No | No | No |
| 2 | 4 | 2722 | 3 | 40 | No | No | No | No | No | No | No | No | No | No |
| 3 | 4 | 2666 | 3 | 39 | No | No | No | No | No | No | No | No | No | No |
| 4 | 4 | 2497 | 3 | 36 | No | No | No | No | No | No | No | No | No | No |
| 5 | 4 | 2217 | 3 | 32 | No | No | No | No | No | No | No | No | No | No |
| 6 | 4 | 2189 | 3 | 32 | No | No | No | No | No | No | No | No | No | No |
| 7 | 4 | 2161 | 3 | 32 | No | No | No | No | No | No | No | No | No | No |
| 8 | 4 | 1965 | 3 | 29 | No | No | No | No | No | No | No | No | No | No |
| 9 | 4 | 1936 | 3 | 28 | No | No | No | No | No | No | No | No | No | No |
| 10 | 4 | 1908 | 3 | 28 | No | No | No | No | No | No | No | No | No | No |
| 11 | 4 | 1656 | 3 | 24 | No | No | No | No | No | No | No | No | No | No |
| 12 | 4 | 1544 | 3 | 23 | No | No | No | No | No | No | No | No | No | No |
| 13 | 4 | 1515 | 3 | 22 | No | No | No | No | No | No | No | No | No | No |
| 14 | 4 | 1122 | 3 | 16 | No | No | No | No | No | No | No | No | No | No |
| 15 | 4 | 1122 | 3 | 16 | No | No | No | No | No | No | No | No | No | No |
| 16 | 4 | 786 | 3 | 11 | No | No | No | No | No | No | No | No | No | No |
| 17 | 4 | 449 | 3 | 7 | No | No | No | No | No | No | No | No | No | No |
| 18 | 4 | 449 | 3 | 7 | No | No | No | No | No | No | No | No | No | No |
| 19 | 4 | 252 | 3 | 4 | No | No | No | No | No | No | No | No | No | No |
| 20 | 4 | 140 | 3 | 2 | No | No | No | No | No | No | No | No | No | No |
| 21 | 4 | 84 | 3 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 4 | 28 | 3 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 4 | 28 | 3 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 4 | 28 | 3 | 0 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| Orientation | S | N |
|--|-----------|-------|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 147.7 | 190.7 |
| Number of Lanes on Minor Street Approach | 3 | 3 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 1:40 | 1:38 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 41 | 31 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 2878 | 2878 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| Warrant Met for Intersection | No | |

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Intersection Level Of Service Report
Intersection 1: Marksheffel Rd/Fontaine Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 32.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.559 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | [Diagram] | | | [Diagram] | | | [Diagram] | | | [Diagram] | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 680.00 | 100.00 | 680.00 | 750.00 | 100.00 | 500.00 | 360.00 | 100.00 | 200.00 | 535.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 131 | 531 | 113 | 157 | 239 | 17 | 25 | 252 | 72 | 246 | 651 | 505 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.1660 | 1.0000 | 1.0000 | 1.1660 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 66 | 1 | 58 | 0 | 0 | 24 | 13 | 0 | 67 | 36 | 22 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 57 | 0 | 0 | 9 | 0 | 0 | 36 | 0 | 0 | 264 |
| Total Hourly Volume [veh/h] | 131 | 685 | 57 | 215 | 279 | 8 | 49 | 265 | 36 | 313 | 687 | 263 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 39 | 201 | 17 | 63 | 82 | 2 | 14 | 78 | 11 | 92 | 202 | 77 |
| Total Analysis Volume [veh/h] | 154 | 806 | 67 | 253 | 328 | 9 | 58 | 312 | 42 | 368 | 808 | 309 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Protecte | Permiss | Unsigna | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|------------------------------|----------|---------|---------|----------|---------|---------|----------|---------|---------|----------|---------|---------|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 |
| Maximum Green [s] | 5 | 103 | 0 | 5 | 103 | 0 | 5 | 109 | 0 | 5 | 109 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 14 | 35 | 0 | 11 | 32 | 0 | 19 | 25 | 0 | 19 | 25 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 24 | 0 | 0 | 21 | 0 | 0 | 14 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | No | No | | No | No | |
| Maximum Recall | No | No | | No | No | | No | No | | No | No | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 9 | 39 | 7 | 37 | 37 | 4 | 16 | 16 | 12 | 24 | 24 |
| g / C, Green / Cycle | 0.11 | 0.44 | 0.08 | 0.41 | 0.41 | 0.04 | 0.18 | 0.18 | 0.13 | 0.27 | 0.27 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.23 | 0.07 | 0.09 | 0.01 | 0.03 | 0.09 | 0.03 | 0.11 | 0.23 | 0.19 |
| s, saturation flow rate [veh/h] | 1781 | 3560 | 3459 | 3560 | 1589 | 1781 | 3560 | 1589 | 3459 | 3560 | 1589 |
| c, Capacity [veh/h] | 188 | 1550 | 268 | 1451 | 648 | 76 | 637 | 284 | 453 | 950 | 424 |
| d1, Uniform Delay [s] | 39.49 | 18.58 | 41.37 | 17.43 | 15.91 | 42.68 | 33.32 | 31.22 | 38.10 | 31.35 | 30.08 |
| k, delay calibration | 0.23 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 16.43 | 1.25 | 14.99 | 0.36 | 0.04 | 14.21 | 0.59 | 0.24 | 3.59 | 2.26 | 2.42 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | |
|---------------------------------------|--------|--------|--------|-------|-------|-------|--------|-------|--------|--------|--------|
| X, volume / capacity | 0.82 | 0.52 | 0.94 | 0.23 | 0.01 | 0.76 | 0.49 | 0.15 | 0.81 | 0.85 | 0.73 |
| d, Delay for Lane Group [s/veh] | 55.92 | 19.83 | 56.37 | 17.79 | 15.95 | 56.89 | 33.90 | 31.46 | 41.69 | 33.60 | 32.50 |
| Lane Group LOS | E | B | E | B | B | E | C | C | D | C | C |
| Critical Lane Group | No | Yes | Yes | No | No | Yes | No | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 3.95 | 5.53 | 3.16 | 2.02 | 0.10 | 1.52 | 2.96 | 0.75 | 3.97 | 8.03 | 5.96 |
| 50th-Percentile Queue Length [ft/ln] | 98.82 | 138.24 | 79.00 | 50.53 | 2.62 | 38.09 | 73.93 | 18.79 | 99.26 | 200.72 | 148.97 |
| 95th-Percentile Queue Length [veh/ln] | 7.12 | 9.39 | 5.69 | 3.64 | 0.19 | 2.74 | 5.32 | 1.35 | 7.15 | 12.68 | 9.96 |
| 95th-Percentile Queue Length [ft/ln] | 177.88 | 234.66 | 142.19 | 90.95 | 4.71 | 68.56 | 133.07 | 33.83 | 178.67 | 316.90 | 249.06 |

Movement, Approach, & Intersection Results

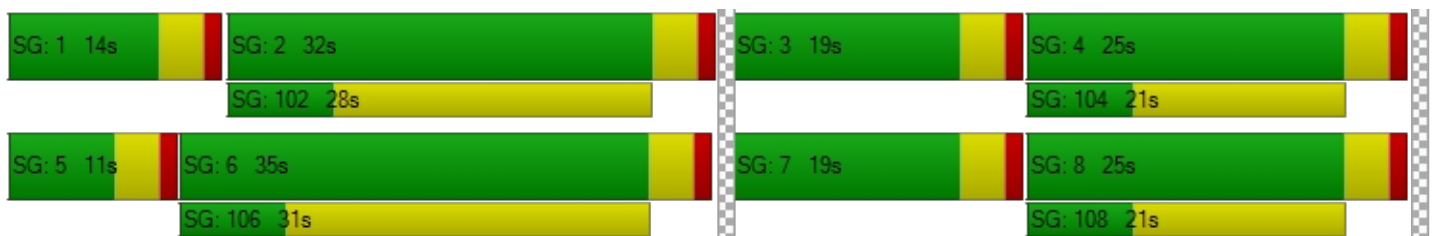
| | | | | | | | | | | | | |
|---------------------------------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 55.92 | 19.83 | 0.00 | 56.37 | 17.79 | 15.95 | 56.89 | 33.90 | 31.46 | 41.69 | 33.60 | 32.50 |
| Movement LOS | E | B | | E | B | B | E | C | C | D | C | C |
| d_A, Approach Delay [s/veh] | 24.19 | | | 34.30 | | | 36.89 | | | 35.38 | | |
| Approach LOS | C | | | C | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 32.26 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.559 | | | | | | | | | | | |

Other Modes

| | | | | | | | | |
|--|-------|--|-------|--|-------|--|-------|--|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | | 11.0 | | 11.0 | | 11.0 | |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | | 0.00 | | 0.00 | | 0.00 | |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | | 0.00 | | 0.00 | | 0.00 | |
| d_p, Pedestrian Delay [s] | 34.71 | | 34.71 | | 34.71 | | 34.71 | |
| I_p,int, Pedestrian LOS Score for Intersectio | 2.969 | | 3.126 | | 2.852 | | 3.523 | |
| Crosswalk LOS | C | | C | | C | | D | |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | | 2000 | | 2000 | | 2000 | |
| c_b, Capacity of the bicycle lane [bicycles/h] | 688 | | 622 | | 466 | | 466 | |
| d_b, Bicycle Delay [s] | 19.37 | | 21.39 | | 26.48 | | 26.48 | |
| I_b,int, Bicycle LOS Score for Intersection | 2.352 | | 2.054 | | 1.929 | | 3.003 | |
| Bicycle LOS | B | | B | | A | | C | |

Sequence

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



Intersection Level Of Service Report
Intersection 2: Marksheffel Rd/Lorson Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 20.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.744 |

Intersection Setup

| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson Bl | |
|------------------------------|----------------|--------|----------------|--------|-----------|--------|
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration | ↑↗ | | ↖↑ | | ↖↗ | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 1 | 1 | 0 | 1 | 0 |
| Entry Pocket Length [ft] | 100.00 | 500.00 | 580.00 | 100.00 | 510.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | 55.00 | | 25.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | Yes | | Yes | |

Volumes

| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson Bl | |
|---|----------------|--------|----------------|--------|-----------|--------|
| Base Volume Input [veh/h] | 577 | 164 | 96 | 454 | 422 | 210 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | |
| Growth Factor | 1.1660 | 1.0000 | 1.0000 | 1.1660 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 67 | 0 | 0 | 67 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 82 | 0 | 0 | 0 | 105 |
| Total Hourly Volume [veh/h] | 740 | 82 | 96 | 596 | 422 | 105 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 218 | 24 | 28 | 175 | 124 | 31 |
| Total Analysis Volume [veh/h] | 871 | 96 | 113 | 701 | 496 | 124 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 60 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permissive | Permissive | Permissive | Permissive | Permissive | Permissive |
|------------------------------|------------|------------|------------|------------|------------|------------|
| Signal Group | 6 | 0 | 0 | 2 | 7 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | - | - | Lead | - |
| Minimum Green [s] | 10 | 0 | 0 | 10 | 5 | 0 |
| Maximum Green [s] | 43 | 0 | 0 | 41 | 19 | 0 |
| Amber [s] | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 36 | 0 | 0 | 36 | 24 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 7 | 0 | 0 | 7 | 7 | 0 |
| Pedestrian Clearance [s] | 10 | 0 | 0 | 10 | 13 | 0 |
| Delayed Vehicle Green [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | | No | No | |
| Maximum Recall | No | | | No | No | |
| Pedestrian Recall | No | | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | C | R | L | C | L | R |
|---|-------|------|-------|------|-------|-------|
| C, Cycle Length [s] | 60 | 60 | 60 | 60 | 60 | 60 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 34 | 34 | 34 | 34 | 19 | 19 |
| g / C, Green / Cycle | 0.56 | 0.56 | 0.56 | 0.56 | 0.31 | 0.31 |
| (v / s)_i Volume / Saturation Flow Rate | 0.47 | 0.06 | 0.19 | 0.37 | 0.28 | 0.08 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 581 | 1870 | 1781 | 1589 |
| c, Capacity [veh/h] | 1043 | 887 | 200 | 1043 | 551 | 491 |
| d1, Uniform Delay [s] | 11.01 | 6.26 | 27.13 | 9.41 | 19.90 | 15.57 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.31 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 7.89 | 0.25 | 11.08 | 3.45 | 14.12 | 0.27 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | |
|---------------------------------------|--------|-------|-------|--------|--------|-------|
| X, volume / capacity | 0.83 | 0.11 | 0.57 | 0.67 | 0.90 | 0.25 |
| d, Delay for Lane Group [s/veh] | 18.90 | 6.50 | 38.21 | 12.86 | 34.02 | 15.84 |
| Lane Group LOS | B | A | D | B | C | B |
| Critical Lane Group | Yes | No | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 7.75 | 0.40 | 2.05 | 4.76 | 8.27 | 1.23 |
| 50th-Percentile Queue Length [ft/ln] | 193.73 | 10.07 | 51.16 | 118.95 | 206.63 | 30.77 |
| 95th-Percentile Queue Length [veh/ln] | 12.31 | 0.73 | 3.68 | 8.34 | 12.98 | 2.22 |
| 95th-Percentile Queue Length [ft/ln] | 307.87 | 18.13 | 92.10 | 208.38 | 324.51 | 55.39 |

Movement, Approach, & Intersection Results

| | | | | | | |
|---------------------------------|-------|------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 18.90 | 6.50 | 38.21 | 12.86 | 34.02 | 15.84 |
| Movement LOS | B | A | D | B | C | B |
| d_A, Approach Delay [s/veh] | 17.67 | | 16.38 | | 30.38 | |
| Approach LOS | B | | B | | C | |
| d_I, Intersection Delay [s/veh] | 20.51 | | | | | |
| Intersection LOS | C | | | | | |
| Intersection V/C | 0.744 | | | | | |

Other Modes

| | | | |
|--|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 20.05 | 20.05 | 20.05 |
| I_p,int, Pedestrian LOS Score for Intersectio | 3.373 | 3.058 | 2.503 |
| Crosswalk LOS | C | C | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1065 | 1065 | 666 |
| d_b, Bicycle Delay [s] | 6.56 | 6.56 | 13.37 |
| I_b,int, Bicycle LOS Score for Intersection | 3.290 | 2.903 | 1.560 |
| Bicycle LOS | C | C | A |

Sequence





| | | | | | | | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



Intersection Level Of Service Report
Intersection 3: Fontaine Bl/Carriage Meadows Dr

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 12.2 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.561 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|---|--------|--------|---|--------|--------|---|--------|--------|---|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 | 330.00 | 100.00 | 330.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|---|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 42 | 5 | 12 | 8 | 5 | 37 | 10 | 522 | 8 | 8 | 1310 | 4 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.1660 | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 1 | 0 | 64 | 2 | 125 | 72 | 0 | 0 | 0 | 32 | 33 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 7 | 0 | 0 | 84 | 0 | 0 | 5 | 0 | 0 | 19 |
| Total Hourly Volume [veh/h] | 50 | 6 | 7 | 73 | 7 | 84 | 84 | 522 | 4 | 9 | 1342 | 19 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 15 | 2 | 2 | 21 | 2 | 25 | 25 | 154 | 1 | 3 | 395 | 6 |
| Total Analysis Volume [veh/h] | 59 | 7 | 8 | 86 | 8 | 99 | 99 | 614 | 5 | 11 | 1579 | 22 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 80 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Semi-actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss |
|------------------------------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|
| Signal Group | 0 | 8 | 0 | 0 | 4 | 0 | 5 | 2 | 0 | 0 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | - | - | - |
| Minimum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 5 | 10 | 0 | 0 | 10 | 0 |
| Maximum Green [s] | 0 | 34 | 0 | 0 | 34 | 0 | 5 | 98 | 0 | 0 | 98 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 38 | 0 | 0 | 38 | 0 | 17 | 42 | 0 | 0 | 25 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 23 | 0 | 0 | 27 | 0 | 0 | 7 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | | No | |
| Maximum Recall | | No | | | No | | No | No | | | No | |
| Pedestrian Recall | | No | | | No | | No | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| C, Cycle Length [s] | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 10 | 10 | 10 | 10 | 10 | 10 | 6 | 62 | 62 | 52 | 52 | 52 |
| g / C, Green / Cycle | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.12 | 0.07 | 0.78 | 0.78 | 0.65 | 0.65 | 0.65 |
| (v / s)_i Volume / Saturation Flow Rate | 0.05 | 0.00 | 0.01 | 0.06 | 0.00 | 0.06 | 0.06 | 0.17 | 0.00 | 0.01 | 0.44 | 0.01 |
| s, saturation flow rate [veh/h] | 1286 | 1870 | 1589 | 1398 | 1870 | 1589 | 1781 | 3560 | 1589 | 804 | 3560 | 1589 |
| c, Capacity [veh/h] | 218 | 233 | 198 | 230 | 233 | 198 | 128 | 2761 | 1233 | 552 | 2327 | 1039 |
| d1, Uniform Delay [s] | 33.99 | 30.78 | 30.82 | 34.52 | 30.79 | 32.70 | 36.48 | 2.44 | 2.02 | 7.36 | 8.63 | 4.87 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.66 | 0.05 | 0.08 | 1.01 | 0.06 | 1.95 | 9.44 | 0.19 | 0.01 | 0.07 | 1.61 | 0.04 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | | |
|---------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|------|--------|------|
| X, volume / capacity | 0.27 | 0.03 | 0.04 | 0.37 | 0.03 | 0.50 | 0.77 | 0.22 | 0.00 | 0.02 | 0.68 | 0.02 |
| d, Delay for Lane Group [s/veh] | 34.65 | 30.83 | 30.90 | 35.53 | 30.85 | 34.65 | 45.91 | 2.62 | 2.03 | 7.43 | 10.24 | 4.91 |
| Lane Group LOS | C | C | C | D | C | C | D | A | A | A | B | A |
| Critical Lane Group | No | No | No | No | No | Yes | Yes | No | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 1.11 | 0.12 | 0.14 | 1.65 | 0.14 | 1.88 | 2.12 | 0.59 | 0.01 | 0.08 | 6.36 | 0.10 |
| 50th-Percentile Queue Length [ft/ln] | 27.84 | 3.04 | 3.49 | 41.37 | 3.47 | 47.05 | 53.11 | 14.86 | 0.23 | 1.90 | 159.07 | 2.57 |
| 95th-Percentile Queue Length [veh/ln] | 2.00 | 0.22 | 0.25 | 2.98 | 0.25 | 3.39 | 3.82 | 1.07 | 0.02 | 0.14 | 10.50 | 0.18 |
| 95th-Percentile Queue Length [ft/ln] | 50.12 | 5.47 | 6.29 | 74.46 | 6.25 | 84.70 | 95.60 | 26.75 | 0.41 | 3.41 | 262.50 | 4.62 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|------|
| d_M, Delay for Movement [s/veh] | 34.65 | 30.83 | 30.90 | 35.53 | 30.85 | 34.65 | 45.91 | 2.62 | 2.03 | 7.43 | 10.24 | 4.91 |
| Movement LOS | C | C | C | D | C | C | D | A | A | A | B | A |
| d_A, Approach Delay [s/veh] | 33.88 | | | 34.89 | | | 8.59 | | | 10.15 | | |
| Approach LOS | C | | | C | | | A | | | B | | |
| d_I, Intersection Delay [s/veh] | 12.23 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.561 | | | | | | | | | | | |

Other Modes

| | | | | |
|--|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 29.76 | 29.76 | 29.76 | 29.76 |
| I_p,int, Pedestrian LOS Score for Intersectio | 2.172 | 2.330 | 3.210 | 3.167 |
| Crosswalk LOS | B | B | C | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 850 | 850 | 950 | 525 |
| d_b, Bicycle Delay [s] | 13.23 | 13.23 | 11.03 | 21.76 |
| I_b,int, Bicycle LOS Score for Intersection | 1.693 | 2.017 | 2.156 | 2.905 |
| Bicycle LOS | A | B | B | C |

Sequence

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



Intersection Level Of Service Report
Intersection 4: Marksheffel Rd/West Driveway

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 15.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.108 |

Intersection Setup

| Name | Marksheffel Rd | | Marksheffel Rd | | West Driveway | |
|------------------------------|----------------|--------|----------------|--------|---------------|--------|
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration | ↔ | | | | ↔ | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 1 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 1 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 590.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | 55.00 | | 25.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | Yes | |

Volumes

| Name | Marksheffel Rd | | Marksheffel Rd | | West Driveway | |
|---|----------------|--------|----------------|--------|---------------|--------|
| Base Volume Input [veh/h] | 1149 | 0 | 0 | 453 | 0 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 | 1.1660 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 22 | 90 | 0 | 58 | 0 | 36 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1171 | 90 | 0 | 511 | 0 | 36 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 344 | 26 | 0 | 150 | 0 | 11 |
| Total Analysis Volume [veh/h] | 1378 | 106 | 0 | 601 | 0 | 42 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

Intersection Settings

| | | | |
|------------------------------------|------|------|------|
| Priority Scheme | Free | Free | Stop |
| Flared Lane | | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | No |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | |
|---------------------------------------|------|------|------|------|-------|-------|
| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.11 |
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 15.40 |
| Movement LOS | A | A | | A | | C |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.36 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 9.02 |
| d_A, Approach Delay [s/veh] | 0.00 | | 0.00 | | 15.40 | |
| Approach LOS | A | | A | | C | |
| d_I, Intersection Delay [s/veh] | 0.30 | | | | | |
| Intersection LOS | C | | | | | |

Intersection Level Of Service Report
Intersection 5: Carriage Meadows Dr/East Driveway

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 13.2 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.040 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | East Driveway | | | Westbound | | |
|------------------------------|---------------------|--------|--------|---------------------|--------|--------|---------------|--------|--------|-----------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | ↵↵ | | | ⊕ | | | ↵↵ | | | ⊕ | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 25.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | East Driveway | | | Westbound | | |
|---|---------------------|--------|--------|---------------------|--------|--------|---------------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 102 | 0 | 4 | 0 | 0 | 2 | 2 | 0 | 176 | 15 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 102 | 0 | 4 | 0 | 0 | 2 | 2 | 0 | 176 | 15 | 0 | 0 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 30 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 52 | 4 | 0 | 0 |
| Total Analysis Volume [veh/h] | 120 | 0 | 5 | 0 | 0 | 2 | 2 | 0 | 207 | 18 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | | | | |
|------------------------------------|------|------|------|------|
| Priority Scheme | Free | Free | Stop | Stop |
| Flared Lane | | | No | No |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | No | No |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------------|------|------|------|------|------|------|-------|-------|-------|-------|-------|------|
| V/C, Movement V/C Ratio | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.19 | 0.04 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 7.40 | 0.00 | 0.00 | 7.23 | 0.00 | 0.00 | 10.49 | 11.71 | 9.11 | 13.24 | 11.24 | 8.65 |
| Movement LOS | A | A | A | A | A | A | B | B | A | B | B | A |
| 95th-Percentile Queue Length [veh/ln] | 0.24 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.70 | 0.70 | 0.12 | 0.12 | 0.12 |
| 95th-Percentile Queue Length [ft/ln] | 5.99 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.23 | 17.60 | 17.60 | 3.08 | 3.08 | 3.08 |
| d_A, Approach Delay [s/veh] | 7.10 | | | 0.00 | | | 9.12 | | | 13.24 | | |
| Approach LOS | A | | | A | | | A | | | B | | |
| d_I, Intersection Delay [s/veh] | 8.56 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

Intersection Level Of Service Report
Intersection 7: Fontaine BI/Middle Driveway

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 0.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.018 |

Intersection Setup

| Name | LRCS | | | Middle Driveway | | | Fontaine BI | | | Fontaine BI | | |
|------------------------------|------------|--------|--------|-----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | ↻ | | | | | | ↻ | | | ↻ | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

Volumes

| Name | LRCS | | | Middle Driveway | | | Fontaine BI | | | Fontaine BI | | |
|---|--------|--------|--------|-----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 522 | 0 | 0 | 1402 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.0000 | 1.1660 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 72 | 0 | 0 | 125 | 33 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 681 | 0 | 0 | 1527 | 33 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 200 | 0 | 0 | 449 | 10 |
| Total Analysis Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 801 | 0 | 0 | 1796 | 39 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | | | | |
|------------------------------------|------|------|------|------|
| Priority Scheme | Stop | Stop | Free | Free |
| Flared Lane | | | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------------|-------|------|-------|------|------|------|------|------|------|------|------|------|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 |
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 11.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Movement LOS | | | B | | | | | A | A | | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 11.01 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | | |
| Approach LOS | B | | A | | A | | A | | A | | | |
| d_I, Intersection Delay [s/veh] | 0.00 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

Signal Warrants Report For Intersection 4: Marksheffel Rd/West Driveway

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | N, S |
| Minor Approaches | E |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|------|---------------|------|---------------|
| | N | S | E |
| 1 | 511 | 1261 | 36 |
| 2 | 496 | 1223 | 35 |
| 3 | 485 | 1198 | 34 |
| 4 | 455 | 1122 | 32 |
| 5 | 404 | 996 | 28 |
| 6 | 399 | 984 | 28 |
| 7 | 393 | 971 | 28 |
| 8 | 358 | 883 | 25 |
| 9 | 353 | 870 | 25 |
| 10 | 347 | 857 | 24 |
| 11 | 301 | 744 | 21 |
| 12 | 281 | 694 | 20 |
| 13 | 276 | 681 | 19 |
| 14 | 204 | 504 | 14 |
| 15 | 204 | 504 | 14 |
| 16 | 143 | 353 | 10 |
| 17 | 82 | 202 | 6 |
| 18 | 82 | 202 | 6 |
| 19 | 46 | 113 | 3 |
| 20 | 26 | 63 | 2 |
| 21 | 15 | 38 | 1 |
| 22 | 5 | 13 | 0 |
| 23 | 5 | 13 | 0 |
| 24 | 5 | 13 | 0 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 3 | 1772 | 1 | 36 | No | No | No | No | No | No | No | No | No | No |
| 2 | 3 | 1719 | 1 | 35 | No | No | No | No | No | No | No | No | No | No |
| 3 | 3 | 1683 | 1 | 34 | No | No | No | No | No | No | No | No | No | No |
| 4 | 3 | 1577 | 1 | 32 | No | No | No | No | No | No | No | No | No | No |
| 5 | 3 | 1400 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 6 | 3 | 1383 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 7 | 3 | 1364 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 8 | 3 | 1241 | 1 | 25 | No | No | No | No | No | No | No | No | No | No |
| 9 | 3 | 1223 | 1 | 25 | No | No | No | No | No | No | No | No | No | No |
| 10 | 3 | 1204 | 1 | 24 | No | No | No | No | No | No | No | No | No | No |
| 11 | 3 | 1045 | 1 | 21 | No | No | No | No | No | No | No | No | No | No |
| 12 | 3 | 975 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 13 | 3 | 957 | 1 | 19 | No | No | No | No | No | No | No | No | No | No |
| 14 | 3 | 708 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 15 | 3 | 708 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 16 | 3 | 496 | 1 | 10 | No | No | No | No | No | No | No | No | No | No |
| 17 | 3 | 284 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 18 | 3 | 284 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 19 | 3 | 159 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 20 | 3 | 89 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 21 | 3 | 53 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 3 | 18 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 3 | 18 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 3 | 18 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| | |
|--|-----------|
| Orientation | E |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 15.4 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:09 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 36 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1808 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | Yes |
| Warrant Met for Approach | No |
| Warrant Met for Intersection | No |

Signal Warrants Report For Intersection 5: Carriage Meadows Dr/East Driveway

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | S, N |
| Minor Approaches | E, W |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|------|---------------|---|---------------|-----|
| | S | N | E | W |
| 1 | 106 | 2 | 15 | 178 |
| 2 | 103 | 2 | 15 | 173 |
| 3 | 101 | 2 | 14 | 169 |
| 4 | 94 | 2 | 13 | 158 |
| 5 | 84 | 2 | 12 | 141 |
| 6 | 83 | 2 | 12 | 139 |
| 7 | 82 | 2 | 12 | 137 |
| 8 | 74 | 1 | 11 | 125 |
| 9 | 73 | 1 | 10 | 123 |
| 10 | 72 | 1 | 10 | 121 |
| 11 | 63 | 1 | 9 | 105 |
| 12 | 58 | 1 | 8 | 98 |
| 13 | 57 | 1 | 8 | 96 |
| 14 | 42 | 1 | 6 | 71 |
| 15 | 42 | 1 | 6 | 71 |
| 16 | 30 | 1 | 4 | 50 |
| 17 | 17 | 0 | 2 | 28 |
| 18 | 17 | 0 | 2 | 28 |
| 19 | 10 | 0 | 1 | 16 |
| 20 | 5 | 0 | 1 | 9 |
| 21 | 3 | 0 | 0 | 5 |
| 22 | 1 | 0 | 0 | 2 |
| 23 | 1 | 0 | 0 | 2 |
| 24 | 1 | 0 | 0 | 2 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 2 | 108 | 2 | 178 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 105 | 2 | 173 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 103 | 2 | 169 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 96 | 2 | 158 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 86 | 2 | 141 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 85 | 2 | 139 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 84 | 2 | 137 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 75 | 2 | 125 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 74 | 2 | 123 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 73 | 2 | 121 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 64 | 2 | 105 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 59 | 2 | 98 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 58 | 2 | 96 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 43 | 2 | 71 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 43 | 2 | 71 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 31 | 2 | 50 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 17 | 2 | 28 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 17 | 2 | 28 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 10 | 2 | 16 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 5 | 2 | 9 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 3 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 1 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 1 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 1 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| Orientation | E | W |
|--|-----------|------|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 13.2 | 9.1 |
| Number of Lanes on Minor Street Approach | 1 | 2 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:03 | 0:27 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 15 | 178 |
| High Minor Volume Condition Met | No | Yes |
| Total Entering Volume on All Approaches During Same Hour | 301 | 301 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | No | No |
| Warrant Met for Approach | No | No |
| Warrant Met for Intersection | No | |

Signal Warrants Report For Intersection 7: Fontaine Bl/Middle Driveway

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | E, W |
| Minor Approaches | S |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|------|---------------|-----|---------------|
| | E | W | S |
| 1 | 1560 | 681 | 0 |
| 2 | 1513 | 661 | 0 |
| 3 | 1482 | 647 | 0 |
| 4 | 1388 | 606 | 0 |
| 5 | 1232 | 538 | 0 |
| 6 | 1217 | 531 | 0 |
| 7 | 1201 | 524 | 0 |
| 8 | 1092 | 477 | 0 |
| 9 | 1076 | 470 | 0 |
| 10 | 1061 | 463 | 0 |
| 11 | 920 | 402 | 0 |
| 12 | 858 | 375 | 0 |
| 13 | 842 | 368 | 0 |
| 14 | 624 | 272 | 0 |
| 15 | 624 | 272 | 0 |
| 16 | 437 | 191 | 0 |
| 17 | 250 | 109 | 0 |
| 18 | 250 | 109 | 0 |
| 19 | 140 | 61 | 0 |
| 20 | 78 | 34 | 0 |
| 21 | 47 | 20 | 0 |
| 22 | 16 | 7 | 0 |
| 23 | 16 | 7 | 0 |
| 24 | 16 | 7 | 0 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 3 | 2241 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 2 | 3 | 2174 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 3 | 3 | 2129 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 4 | 3 | 1994 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 5 | 3 | 1770 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 6 | 3 | 1748 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 7 | 3 | 1725 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 8 | 3 | 1569 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 9 | 3 | 1546 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 10 | 3 | 1524 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 11 | 3 | 1322 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 12 | 3 | 1233 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 13 | 3 | 1210 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 14 | 3 | 896 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 15 | 3 | 896 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 16 | 3 | 628 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 17 | 3 | 359 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 18 | 3 | 359 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 19 | 3 | 201 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 20 | 3 | 112 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 21 | 3 | 67 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 22 | 3 | 23 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 3 | 23 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 3 | 23 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| | |
|--|-----------|
| Orientation | S |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 11 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:00 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 0 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 2241 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | Yes |
| Warrant Met for Approach | No |
| Warrant Met for Intersection | No |

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Intersection Level Of Service Report
Intersection 1: Marksheffel Rd/Fontaine Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 42.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.706 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | [Diagram] | | | [Diagram] | | | [Diagram] | | | [Diagram] | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 680.00 | 100.00 | 680.00 | 750.00 | 100.00 | 500.00 | 360.00 | 100.00 | 200.00 | 535.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 122 | 310 | 310 | 570 | 506 | 33 | 51 | 846 | 158 | 159 | 469 | 306 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.1660 | 1.0000 | 1.0000 | 1.1660 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 55 | 4 | 51 | 0 | 0 | 20 | 12 | 0 | 58 | 33 | 19 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 157 | 0 | 0 | 17 | 0 | 0 | 79 | 0 | 0 | 163 |
| Total Hourly Volume [veh/h] | 122 | 416 | 157 | 621 | 590 | 16 | 71 | 858 | 79 | 217 | 502 | 162 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 36 | 122 | 46 | 183 | 174 | 5 | 21 | 252 | 23 | 64 | 148 | 48 |
| Total Analysis Volume [veh/h] | 144 | 489 | 185 | 731 | 694 | 19 | 84 | 1009 | 93 | 255 | 591 | 191 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Protecte | Permiss | Unsigna | Protecte | Permiss | Overlap | Protecte | Permiss | Overlap | Protecte | Permiss | Permiss |
|------------------------------|----------|---------|---------|----------|---------|---------|----------|---------|---------|----------|---------|---------|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 3 | 3 | 8 | 1 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | 2,3 | | | 1,8 | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 10 | 0 | 5 | 10 | 5 | 5 | 10 | 5 | 5 | 10 | 0 |
| Maximum Green [s] | 5 | 103 | 0 | 5 | 103 | 5 | 5 | 109 | 5 | 5 | 109 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 33 | 35 | 0 | 30 | 32 | 30 | 30 | 41 | 33 | 14 | 25 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 24 | 0 | 0 | 21 | 0 | 0 | 14 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | No | No | No | No | No | No | |
| Maximum Recall | No | No | | No | No | No | No | No | No | No | No | |
| Pedestrian Recall | No | No | | No | No | No | No | No | No | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 0.00 | 2.00 | 2.00 | 0.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 12 | 32 | 26 | 46 | 57 | 7 | 36 | 52 | 10 | 39 | 39 |
| g / C, Green / Cycle | 0.10 | 0.27 | 0.22 | 0.38 | 0.48 | 0.06 | 0.30 | 0.43 | 0.08 | 0.32 | 0.32 |
| (v / s)_i Volume / Saturation Flow Rate | 0.08 | 0.14 | 0.21 | 0.19 | 0.01 | 0.05 | 0.28 | 0.06 | 0.07 | 0.17 | 0.12 |
| s, saturation flow rate [veh/h] | 1781 | 3560 | 3459 | 3560 | 1589 | 1781 | 3560 | 1589 | 3459 | 3560 | 1589 |
| c, Capacity [veh/h] | 177 | 952 | 746 | 1367 | 760 | 108 | 1069 | 688 | 288 | 1149 | 513 |
| d1, Uniform Delay [s] | 52.99 | 37.35 | 46.82 | 28.31 | 16.55 | 55.57 | 41.01 | 20.50 | 54.46 | 33.01 | 31.29 |
| k, delay calibration | 0.11 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 8.74 | 1.98 | 11.26 | 1.35 | 0.06 | 11.16 | 5.08 | 0.09 | 8.90 | 0.36 | 0.45 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | |
|---------------------------------------|--------|--------|--------|--------|-------|--------|--------|-------|--------|--------|--------|
| X, volume / capacity | 0.81 | 0.51 | 0.98 | 0.51 | 0.03 | 0.78 | 0.94 | 0.14 | 0.89 | 0.51 | 0.37 |
| d, Delay for Lane Group [s/veh] | 61.73 | 39.32 | 58.08 | 29.66 | 16.61 | 66.73 | 46.08 | 20.59 | 63.36 | 33.37 | 31.74 |
| Lane Group LOS | E | D | E | C | B | E | D | C | E | C | C |
| Critical Lane Group | No | Yes | Yes | No | No | No | Yes | No | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 4.50 | 6.05 | 11.42 | 7.37 | 0.27 | 2.78 | 14.67 | 1.53 | 4.07 | 6.80 | 4.19 |
| 50th-Percentile Queue Length [ft/ln] | 112.62 | 151.21 | 285.38 | 184.37 | 6.75 | 69.56 | 366.79 | 38.33 | 101.81 | 169.88 | 104.81 |
| 95th-Percentile Queue Length [veh/ln] | 7.99 | 10.08 | 16.96 | 11.83 | 0.49 | 5.01 | 20.95 | 2.76 | 7.33 | 11.07 | 7.55 |
| 95th-Percentile Queue Length [ft/ln] | 199.64 | 252.04 | 423.90 | 295.71 | 12.15 | 125.21 | 523.83 | 68.99 | 183.26 | 276.76 | 188.66 |

Movement, Approach, & Intersection Results

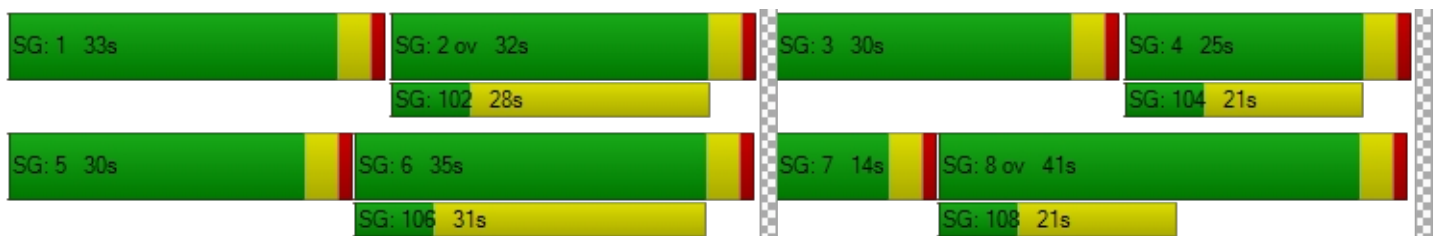
| | | | | | | | | | | | | |
|---------------------------------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 61.73 | 39.32 | 0.00 | 58.08 | 29.66 | 16.61 | 66.73 | 46.08 | 20.59 | 63.36 | 33.37 | 31.74 |
| Movement LOS | E | D | | E | C | B | E | D | C | E | C | C |
| d_A, Approach Delay [s/veh] | 35.59 | | | 43.87 | | | 45.55 | | | 40.45 | | |
| Approach LOS | D | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 42.29 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.706 | | | | | | | | | | | |

Other Modes

| | | | | |
|--|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.52 | 49.52 | 49.52 | 49.52 |
| I_p,int, Pedestrian LOS Score for Intersectio | 2.989 | 3.242 | 3.075 | 3.455 |
| Crosswalk LOS | C | C | C | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 517 | 467 | 617 | 350 |
| d_b, Bicycle Delay [s] | 33.02 | 35.28 | 28.72 | 40.85 |
| I_b,int, Bicycle LOS Score for Intersection | 2.082 | 2.765 | 2.603 | 2.550 |
| Bicycle LOS | B | C | B | B |

Sequence

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



Intersection Level Of Service Report
Intersection 2: Marksheffel Rd/Lorson Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 16.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.674 |

Intersection Setup

| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson Bl | |
|------------------------------|----------------|--------|----------------|--------|-----------|--------|
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration | ↑↔ | | ↔↓ | | ↔↔ | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 1 | 1 | 0 | 1 | 0 |
| Entry Pocket Length [ft] | 100.00 | 500.00 | 580.00 | 100.00 | 510.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | 55.00 | | 25.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | No | |
| Crosswalk | Yes | | Yes | | Yes | |

Volumes

| Name | Marksheffel Rd | | Marksheffel Rd | | Lorson Bl | |
|---|----------------|--------|----------------|--------|-----------|--------|
| Base Volume Input [veh/h] | 492 | 534 | 211 | 558 | 316 | 163 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | |
| Growth Factor | 1.1660 | 1.0000 | 1.0000 | 1.1660 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 59 | 0 | 0 | 58 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 267 | 0 | 0 | 0 | 82 |
| Total Hourly Volume [veh/h] | 633 | 267 | 211 | 709 | 316 | 81 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 186 | 79 | 62 | 209 | 93 | 24 |
| Total Analysis Volume [veh/h] | 745 | 314 | 248 | 834 | 372 | 95 |
| Presence of On-Street Parking | No | No | No | No | No | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | 0 | | 0 | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | 0 | | 0 | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | 0 | | 0 | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |
| Bicycle Volume [bicycles/h] | 0 | | 0 | | 0 | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 60 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permissive | Permissive | Permissive | Permissive | Permissive | Permissive |
|------------------------------|------------|------------|------------|------------|------------|------------|
| Signal Group | 6 | 0 | 0 | 2 | 7 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Lead / Lag | - | - | - | - | Lead | - |
| Minimum Green [s] | 10 | 0 | 0 | 10 | 5 | 0 |
| Maximum Green [s] | 20 | 0 | 0 | 20 | 32 | 0 |
| Amber [s] | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 0.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 36 | 0 | 0 | 36 | 24 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 7 | 0 | 0 | 7 | 7 | 0 |
| Pedestrian Clearance [s] | 10 | 0 | 0 | 10 | 13 | 0 |
| Delayed Vehicle Green [s] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Rest In Walk | No | | | No | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | | | No | No | |
| Maximum Recall | No | | | No | No | |
| Pedestrian Recall | No | | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | C | R | L | C | L | R |
|---|------|------|-------|------|-------|-------|
| C, Cycle Length [s] | 60 | 60 | 60 | 60 | 60 | 60 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 37 | 37 | 37 | 37 | 15 | 15 |
| g / C, Green / Cycle | 0.62 | 0.62 | 0.62 | 0.62 | 0.24 | 0.24 |
| (v / s)_i Volume / Saturation Flow Rate | 0.40 | 0.20 | 0.47 | 0.45 | 0.21 | 0.06 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 533 | 1870 | 1781 | 1589 |
| c, Capacity [veh/h] | 1162 | 987 | 291 | 1162 | 437 | 390 |
| d1, Uniform Delay [s] | 7.16 | 5.36 | 23.40 | 7.77 | 21.59 | 18.17 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.72 | 0.85 | 25.94 | 3.83 | 4.74 | 0.32 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | |
|---------------------------------------|--------|-------|--------|--------|--------|-------|
| X, volume / capacity | 0.64 | 0.32 | 0.85 | 0.72 | 0.85 | 0.24 |
| d, Delay for Lane Group [s/veh] | 9.88 | 6.21 | 49.33 | 11.60 | 26.33 | 18.49 |
| Lane Group LOS | A | A | D | B | C | B |
| Critical Lane Group | No | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 3.71 | 1.13 | 5.23 | 4.67 | 5.24 | 1.04 |
| 50th-Percentile Queue Length [ft/ln] | 92.63 | 28.14 | 130.73 | 116.78 | 131.10 | 25.95 |
| 95th-Percentile Queue Length [veh/ln] | 6.67 | 2.03 | 8.98 | 8.22 | 9.00 | 1.87 |
| 95th-Percentile Queue Length [ft/ln] | 166.74 | 50.65 | 224.48 | 205.39 | 225.00 | 46.70 |

Movement, Approach, & Intersection Results

| | | | | | | |
|---------------------------------|-------|------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 9.88 | 6.21 | 49.33 | 11.60 | 26.33 | 18.49 |
| Movement LOS | A | A | D | B | C | B |
| d_A, Approach Delay [s/veh] | 8.79 | | 20.25 | | 24.74 | |
| Approach LOS | A | | C | | C | |
| d_I, Intersection Delay [s/veh] | 16.40 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.674 | | | | | |

Other Modes

| | | | |
|--|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 20.01 | 20.01 | 20.01 |
| I_p,int, Pedestrian LOS Score for Intersectio | 3.806 | 3.112 | 2.760 |
| Crosswalk LOS | D | C | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1067 | 1067 | 667 |
| d_b, Bicycle Delay [s] | 6.53 | 6.53 | 13.33 |
| I_b,int, Bicycle LOS Score for Intersection | 3.748 | 3.345 | 1.560 |
| Bicycle LOS | D | C | A |

Sequence





| | | | | | | | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | 7 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



Intersection Level Of Service Report
Intersection 3: Fontaine Bl/Carriage Meadows Dr

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 10.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.623 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|---|--------|--------|---|--------|--------|---|--------|--------|---|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 | 330.00 | 100.00 | 330.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|---|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 23 | 5 | 8 | 5 | 5 | 8 | 56 | 1726 | 44 | 8 | 898 | 6 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.1660 | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 1 | 0 | 57 | 2 | 110 | 67 | 0 | 0 | 0 | 27 | 31 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 5 | 0 | 0 | 60 | 0 | 0 | 26 | 0 | 0 | 19 |
| Total Hourly Volume [veh/h] | 28 | 6 | 4 | 63 | 7 | 59 | 132 | 1726 | 25 | 9 | 925 | 19 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 8 | 2 | 1 | 19 | 2 | 17 | 39 | 508 | 7 | 3 | 272 | 6 |
| Total Analysis Volume [veh/h] | 33 | 7 | 5 | 74 | 8 | 69 | 155 | 2031 | 29 | 11 | 1088 | 22 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Semi-actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss |
|------------------------------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|
| Signal Group | 0 | 8 | 0 | 0 | 4 | 0 | 5 | 2 | 0 | 0 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | - | - | - |
| Minimum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 5 | 10 | 0 | 0 | 10 | 0 |
| Maximum Green [s] | 0 | 34 | 0 | 0 | 34 | 0 | 5 | 108 | 0 | 0 | 108 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 38 | 0 | 0 | 38 | 0 | 27 | 52 | 0 | 0 | 25 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 23 | 0 | 0 | 27 | 0 | 0 | 7 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | | No | |
| Maximum Recall | | No | | | No | | No | No | | | No | |
| Pedestrian Recall | | No | | | No | | No | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|------|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 72 | 72 | 58 | 58 | 58 |
| g / C, Green / Cycle | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.80 | 0.80 | 0.65 | 0.65 | 0.65 |
| (v / s)_i Volume / Saturation Flow Rate | 0.02 | 0.00 | 0.00 | 0.05 | 0.00 | 0.04 | 0.09 | 0.57 | 0.02 | 0.05 | 0.31 | 0.01 |
| s, saturation flow rate [veh/h] | 1322 | 1870 | 1589 | 1402 | 1870 | 1589 | 1781 | 3560 | 1589 | 203 | 3560 | 1589 |
| c, Capacity [veh/h] | 195 | 205 | 174 | 203 | 205 | 174 | 192 | 2854 | 1274 | 151 | 2311 | 1032 |
| d1, Uniform Delay [s] | 38.47 | 35.81 | 35.79 | 39.56 | 35.83 | 37.29 | 39.22 | 4.13 | 1.81 | 20.20 | 7.98 | 5.62 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.41 | 0.07 | 0.07 | 1.10 | 0.08 | 1.46 | 7.71 | 1.54 | 0.03 | 0.94 | 0.69 | 0.04 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | | |
|---------------------------------------|-------|-------|-------|-------|-------|-------|--------|--------|------|-------|--------|------|
| X, volume / capacity | 0.17 | 0.03 | 0.03 | 0.37 | 0.04 | 0.40 | 0.81 | 0.71 | 0.02 | 0.07 | 0.47 | 0.02 |
| d, Delay for Lane Group [s/veh] | 38.87 | 35.88 | 35.85 | 40.66 | 35.91 | 38.75 | 46.93 | 5.67 | 1.84 | 21.14 | 8.67 | 5.66 |
| Lane Group LOS | D | D | D | D | D | D | D | A | A | C | A | A |
| Critical Lane Group | No | No | No | Yes | No | No | No | Yes | No | No | No | No |
| 50th-Percentile Queue Length [veh/ln] | 0.70 | 0.14 | 0.10 | 1.64 | 0.16 | 1.49 | 3.59 | 3.88 | 0.05 | 0.19 | 4.29 | 0.13 |
| 50th-Percentile Queue Length [ft/ln] | 17.62 | 3.54 | 2.54 | 40.94 | 4.05 | 37.13 | 89.84 | 97.06 | 1.31 | 4.68 | 107.22 | 3.17 |
| 95th-Percentile Queue Length [veh/ln] | 1.27 | 0.25 | 0.18 | 2.95 | 0.29 | 2.67 | 6.47 | 6.99 | 0.09 | 0.34 | 7.69 | 0.23 |
| 95th-Percentile Queue Length [ft/ln] | 31.72 | 6.37 | 4.57 | 73.69 | 7.29 | 66.84 | 161.71 | 174.72 | 2.36 | 8.42 | 192.13 | 5.70 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|------|
| d_M, Delay for Movement [s/veh] | 38.87 | 35.88 | 35.85 | 40.66 | 35.91 | 38.75 | 46.93 | 5.67 | 1.84 | 21.14 | 8.67 | 5.66 |
| Movement LOS | D | D | D | D | D | D | D | A | A | C | A | A |
| d_A, Approach Delay [s/veh] | 38.07 | | | 39.53 | | | 8.50 | | | 8.74 | | |
| Approach LOS | D | | | D | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 10.28 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.623 | | | | | | | | | | | |

Other Modes

| | | | | |
|--|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 34.67 | 34.67 | 34.67 | 34.67 |
| I_p,int, Pedestrian LOS Score for Intersectio | 2.179 | 2.300 | 3.407 | 3.378 |
| Crosswalk LOS | B | B | C | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 756 | 756 | 1067 | 467 |
| d_b, Bicycle Delay [s] | 17.42 | 17.42 | 9.80 | 26.45 |
| I_b,int, Bicycle LOS Score for Intersection | 1.642 | 1.908 | 3.408 | 2.500 |
| Bicycle LOS | A | A | C | B |

Sequence

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



Intersection Level Of Service Report
Intersection 4: Marksheffel Rd/West Driveway

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 12.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.072 |

Intersection Setup

| Name | Marksheffel Rd | | Marksheffel Rd | | West Driveway | |
|------------------------------|----------------|--------|----------------|--------|---------------|--------|
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration | ↔ | | | | ↔ | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 1 | 1 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 1 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 590.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | 55.00 | | 25.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | Yes | |

Volumes

| Name | Marksheffel Rd | | Marksheffel Rd | | West Driveway | |
|---|----------------|--------|----------------|--------|---------------|--------|
| Base Volume Input [veh/h] | 812 | 0 | 0 | 1244 | 0 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.1660 | 1.1660 | 1.0000 | 1.1660 | 1.1660 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 19 | 75 | 0 | 51 | 0 | 32 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 831 | 75 | 0 | 1295 | 0 | 32 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 244 | 22 | 0 | 381 | 0 | 9 |
| Total Analysis Volume [veh/h] | 978 | 88 | 0 | 1524 | 0 | 38 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

Intersection Settings

| | | | |
|------------------------------------|------|------|------|
| Priority Scheme | Free | Free | Stop |
| Flared Lane | | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | No |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | |
|---------------------------------------|------|------|------|------|-------|-------|
| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.07 |
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.39 |
| Movement LOS | A | A | | A | | B |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.23 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 5.83 |
| d_A, Approach Delay [s/veh] | 0.00 | | 0.00 | | 12.39 | |
| Approach LOS | A | | A | | B | |
| d_I, Intersection Delay [s/veh] | 0.18 | | | | | |
| Intersection LOS | B | | | | | |

Intersection Level Of Service Report
Intersection 5: Carriage Meadows Dr/East Driveway

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 12.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.026 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | East Driveway | | | Westbound | | |
|------------------------------|---------------------|--------|--------|---------------------|--------|--------|---------------|--------|--------|-----------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 25.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | East Driveway | | | Westbound | | |
|---|---------------------|--------|--------|---------------------|--------|--------|---------------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 85 | 0 | 14 | 0 | 0 | 2 | 2 | 0 | 158 | 11 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 85 | 0 | 14 | 0 | 0 | 2 | 2 | 0 | 158 | 11 | 0 | 0 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 25 | 0 | 4 | 0 | 0 | 1 | 1 | 0 | 46 | 3 | 0 | 0 |
| Total Analysis Volume [veh/h] | 100 | 0 | 16 | 0 | 0 | 2 | 2 | 0 | 186 | 13 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | | | | |
|------------------------------------|------|------|------|------|
| Priority Scheme | Free | Free | Stop | Stop |
| Flared Lane | | | No | No |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | No | No |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------------|------|------|------|------|------|------|-------|-------|-------|-------|-------|------|
| V/C, Movement V/C Ratio | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.17 | 0.03 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 7.37 | 0.00 | 0.00 | 7.25 | 0.00 | 0.00 | 10.14 | 11.32 | 9.01 | 12.31 | 10.77 | 8.54 |
| Movement LOS | A | A | A | A | A | A | B | B | A | B | B | A |
| 95th-Percentile Queue Length [veh/ln] | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.62 | 0.62 | 0.08 | 0.08 | 0.08 |
| 95th-Percentile Queue Length [ft/ln] | 4.93 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.21 | 15.46 | 15.46 | 1.98 | 1.98 | 1.98 |
| d_A, Approach Delay [s/veh] | 6.35 | | | 0.00 | | | 9.02 | | | 12.31 | | |
| Approach LOS | A | | | A | | | A | | | B | | |
| d_I, Intersection Delay [s/veh] | 8.13 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

Intersection Level Of Service Report
Intersection 7: Fontaine BI/Middle Driveway

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 0.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.024 |

Intersection Setup

| Name | LRCS | | | Middle Driveway | | | Fontaine BI | | | Fontaine BI | | |
|------------------------------|------------|--------|--------|-----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | ↶ | | | | | | ↶ | | | ↶ | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

Volumes

| Name | LRCS | | | Middle Driveway | | | Fontaine BI | | | Fontaine BI | | |
|---|--------|--------|--------|-----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1726 | 0 | 0 | 934 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.1660 | 1.0000 | 1.1660 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 67 | 0 | 0 | 110 | 28 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2080 | 0 | 0 | 1044 | 28 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 612 | 0 | 0 | 307 | 8 |
| Total Analysis Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2447 | 0 | 0 | 1228 | 33 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | | | | |
|------------------------------------|------|------|------|------|
| Priority Scheme | Stop | Stop | Free | Free |
| Flared Lane | | | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------------|-------|------|-------|------|------|------|------|------|------|------|------|------|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.01 | 0.00 |
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 26.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Movement LOS | | | D | | | | | A | A | | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 26.05 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Approach LOS | D | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.00 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

Signal Warrants Report For Intersection 4: Marksheffel Rd/West Driveway

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | N, S |
| Minor Approaches | E |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|------|---------------|-----|---------------|
| | N | S | E |
| 1 | 1295 | 906 | 32 |
| 2 | 1256 | 879 | 31 |
| 3 | 1230 | 861 | 30 |
| 4 | 1153 | 806 | 28 |
| 5 | 1023 | 716 | 25 |
| 6 | 1010 | 707 | 25 |
| 7 | 997 | 698 | 25 |
| 8 | 906 | 634 | 22 |
| 9 | 894 | 625 | 22 |
| 10 | 881 | 616 | 22 |
| 11 | 764 | 535 | 19 |
| 12 | 712 | 498 | 18 |
| 13 | 699 | 489 | 17 |
| 14 | 518 | 362 | 13 |
| 15 | 518 | 362 | 13 |
| 16 | 363 | 254 | 9 |
| 17 | 207 | 145 | 5 |
| 18 | 207 | 145 | 5 |
| 19 | 117 | 82 | 3 |
| 20 | 65 | 45 | 2 |
| 21 | 39 | 27 | 1 |
| 22 | 13 | 9 | 0 |
| 23 | 13 | 9 | 0 |
| 24 | 13 | 9 | 0 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 3 | 2201 | 1 | 32 | No | No | No | No | No | No | No | No | No | No |
| 2 | 3 | 2135 | 1 | 31 | No | No | No | No | No | No | No | No | No | No |
| 3 | 3 | 2091 | 1 | 30 | No | No | No | No | No | No | No | No | No | No |
| 4 | 3 | 1959 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 5 | 3 | 1739 | 1 | 25 | No | No | No | No | No | No | No | No | No | No |
| 6 | 3 | 1717 | 1 | 25 | No | No | No | No | No | No | No | No | No | No |
| 7 | 3 | 1695 | 1 | 25 | No | No | No | No | No | No | No | No | No | No |
| 8 | 3 | 1540 | 1 | 22 | No | No | No | No | No | No | No | No | No | No |
| 9 | 3 | 1519 | 1 | 22 | No | No | No | No | No | No | No | No | No | No |
| 10 | 3 | 1497 | 1 | 22 | No | No | No | No | No | No | No | No | No | No |
| 11 | 3 | 1299 | 1 | 19 | No | No | No | No | No | No | No | No | No | No |
| 12 | 3 | 1210 | 1 | 18 | No | No | No | No | No | No | No | No | No | No |
| 13 | 3 | 1188 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 14 | 3 | 880 | 1 | 13 | No | No | No | No | No | No | No | No | No | No |
| 15 | 3 | 880 | 1 | 13 | No | No | No | No | No | No | No | No | No | No |
| 16 | 3 | 617 | 1 | 9 | No | No | No | No | No | No | No | No | No | No |
| 17 | 3 | 352 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 18 | 3 | 352 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 19 | 3 | 199 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 20 | 3 | 110 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 21 | 3 | 66 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 3 | 22 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 3 | 22 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 3 | 22 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| | |
|--|-----------|
| Orientation | E |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 12.4 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:06 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 32 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 2233 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | Yes |
| Warrant Met for Approach | No |
| Warrant Met for Intersection | No |

Signal Warrants Report For Intersection 5: Carriage Meadows Dr/East Driveway

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | S, N |
| Minor Approaches | E, W |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|------|---------------|---|---------------|-----|
| | S | N | E | W |
| 1 | 99 | 2 | 11 | 160 |
| 2 | 96 | 2 | 11 | 155 |
| 3 | 94 | 2 | 10 | 152 |
| 4 | 88 | 2 | 10 | 142 |
| 5 | 78 | 2 | 9 | 126 |
| 6 | 77 | 2 | 9 | 125 |
| 7 | 76 | 2 | 8 | 123 |
| 8 | 69 | 1 | 8 | 112 |
| 9 | 68 | 1 | 8 | 110 |
| 10 | 67 | 1 | 7 | 109 |
| 11 | 58 | 1 | 6 | 94 |
| 12 | 54 | 1 | 6 | 88 |
| 13 | 53 | 1 | 6 | 86 |
| 14 | 40 | 1 | 4 | 64 |
| 15 | 40 | 1 | 4 | 64 |
| 16 | 28 | 1 | 3 | 45 |
| 17 | 16 | 0 | 2 | 26 |
| 18 | 16 | 0 | 2 | 26 |
| 19 | 9 | 0 | 1 | 14 |
| 20 | 5 | 0 | 1 | 8 |
| 21 | 3 | 0 | 0 | 5 |
| 22 | 1 | 0 | 0 | 2 |
| 23 | 1 | 0 | 0 | 2 |
| 24 | 1 | 0 | 0 | 2 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 2 | 101 | 2 | 160 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 98 | 2 | 155 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 96 | 2 | 152 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 90 | 2 | 142 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 80 | 2 | 126 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 79 | 2 | 125 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 78 | 2 | 123 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 70 | 2 | 112 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 69 | 2 | 110 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 68 | 2 | 109 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 59 | 2 | 94 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 55 | 2 | 88 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 54 | 2 | 86 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 41 | 2 | 64 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 41 | 2 | 64 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 29 | 2 | 45 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 16 | 2 | 26 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 16 | 2 | 26 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 9 | 2 | 14 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 5 | 2 | 8 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 3 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 1 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 1 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 1 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| Orientation | E | W |
|--|-----------|------|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 12.3 | 9 |
| Number of Lanes on Minor Street Approach | 1 | 2 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:02 | 0:24 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 11 | 160 |
| High Minor Volume Condition Met | No | Yes |
| Total Entering Volume on All Approaches During Same Hour | 272 | 272 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | No | No |
| Warrant Met for Approach | No | No |
| Warrant Met for Intersection | No | |

Signal Warrants Report For Intersection 7: Fontaine Bl/Middle Driveway

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | E, W |
| Minor Approaches | S |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|------|---------------|------|---------------|
| | E | W | S |
| 1 | 1072 | 2080 | 0 |
| 2 | 1040 | 2018 | 0 |
| 3 | 1018 | 1976 | 0 |
| 4 | 954 | 1851 | 0 |
| 5 | 847 | 1643 | 0 |
| 6 | 836 | 1622 | 0 |
| 7 | 825 | 1602 | 0 |
| 8 | 750 | 1456 | 0 |
| 9 | 740 | 1435 | 0 |
| 10 | 729 | 1414 | 0 |
| 11 | 632 | 1227 | 0 |
| 12 | 590 | 1144 | 0 |
| 13 | 579 | 1123 | 0 |
| 14 | 429 | 832 | 0 |
| 15 | 429 | 832 | 0 |
| 16 | 300 | 582 | 0 |
| 17 | 172 | 333 | 0 |
| 18 | 172 | 333 | 0 |
| 19 | 96 | 187 | 0 |
| 20 | 54 | 104 | 0 |
| 21 | 32 | 62 | 0 |
| 22 | 11 | 21 | 0 |
| 23 | 11 | 21 | 0 |
| 24 | 11 | 21 | 0 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 3 | 3152 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 2 | 3 | 3058 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 3 | 3 | 2994 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 4 | 3 | 2805 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 5 | 3 | 2490 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 6 | 3 | 2458 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 7 | 3 | 2427 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 8 | 3 | 2206 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 9 | 3 | 2175 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 10 | 3 | 2143 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 11 | 3 | 1859 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 12 | 3 | 1734 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 13 | 3 | 1702 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 14 | 3 | 1261 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 15 | 3 | 1261 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 16 | 3 | 882 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 17 | 3 | 505 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 18 | 3 | 505 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 19 | 3 | 283 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 20 | 3 | 158 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 21 | 3 | 94 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 22 | 3 | 32 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 3 | 32 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 3 | 32 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| | |
|--|-----------|
| Orientation | S |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 26.1 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:00 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 0 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 3152 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | Yes |
| Warrant Met for Approach | No |
| Warrant Met for Intersection | No |

Signal Warrants Report For Intersection 3: Fontaine Bl/Carriage Meadows Dr

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | Yes |
| #2 | Four Hour Vehicular Volume | Yes |
| #3 | Peak Hour | Yes |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | E, W |
| Minor Approaches | S, N |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|------|---------------|------|---------------|-----|
| | E | W | S | N |
| 1 | 972 | 1909 | 43 | 189 |
| 2 | 943 | 1852 | 42 | 183 |
| 3 | 923 | 1814 | 41 | 180 |
| 4 | 865 | 1699 | 38 | 168 |
| 5 | 768 | 1508 | 34 | 149 |
| 6 | 758 | 1489 | 34 | 147 |
| 7 | 748 | 1470 | 33 | 146 |
| 8 | 680 | 1336 | 30 | 132 |
| 9 | 671 | 1317 | 30 | 130 |
| 10 | 661 | 1298 | 29 | 129 |
| 11 | 573 | 1126 | 25 | 112 |
| 12 | 535 | 1050 | 24 | 104 |
| 13 | 525 | 1031 | 23 | 102 |
| 14 | 389 | 764 | 17 | 76 |
| 15 | 389 | 764 | 17 | 76 |
| 16 | 272 | 535 | 12 | 53 |
| 17 | 156 | 305 | 7 | 30 |
| 18 | 156 | 305 | 7 | 30 |
| 19 | 87 | 172 | 4 | 17 |
| 20 | 49 | 95 | 2 | 9 |
| 21 | 29 | 57 | 1 | 6 |
| 22 | 10 | 19 | 0 | 2 |
| 23 | 10 | 19 | 0 | 2 |
| 24 | 10 | 19 | 0 | 2 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 4 | 2881 | 3 | 189 | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 2 | 4 | 2795 | 3 | 183 | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 3 | 4 | 2737 | 3 | 180 | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 4 | 4 | 2564 | 3 | 168 | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 5 | 4 | 2276 | 3 | 149 | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 6 | 4 | 2247 | 3 | 147 | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 7 | 4 | 2218 | 3 | 146 | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 8 | 4 | 2016 | 3 | 132 | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 9 | 4 | 1988 | 3 | 130 | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 10 | 4 | 1959 | 3 | 129 | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 11 | 4 | 1699 | 3 | 112 | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 12 | 4 | 1585 | 3 | 104 | No | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes |
| 13 | 4 | 1556 | 3 | 102 | No | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes |
| 14 | 4 | 1153 | 3 | 76 | No | No | No | No | No | No | Yes | Yes | No | No |
| 15 | 4 | 1153 | 3 | 76 | No | No | No | No | No | No | Yes | Yes | No | No |
| 16 | 4 | 807 | 3 | 53 | No | No | No | No | No | No | No | No | No | No |
| 17 | 4 | 461 | 3 | 30 | No | No | No | No | No | No | No | No | No | No |
| 18 | 4 | 461 | 3 | 30 | No | No | No | No | No | No | No | No | No | No |
| 19 | 4 | 259 | 3 | 17 | No | No | No | No | No | No | No | No | No | No |
| 20 | 4 | 144 | 3 | 9 | No | No | No | No | No | No | No | No | No | No |
| 21 | 4 | 86 | 3 | 6 | No | No | No | No | No | No | No | No | No | No |
| 22 | 4 | 29 | 3 | 2 | No | No | No | No | No | No | No | No | No | No |
| 23 | 4 | 29 | 3 | 2 | No | No | No | No | No | No | No | No | No | No |
| 24 | 4 | 29 | 3 | 2 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 4 | 7 | 11 | 13 | 13 | 15 | 15 | 13 | 13 |

Warrant 3 Condition A

| Orientation | S | N |
|--|------------|-------|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 1122.9 | 292.9 |
| Number of Lanes on Minor Street Approach | 3 | 3 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 13:24 | 15:22 |
| Delay Condition Met | Yes | Yes |
| Volume on Minor Street Approach During Same Hour | 43 | 189 |
| High Minor Volume Condition Met | No | Yes |
| Total Entering Volume on All Approaches During Same Hour | 3113 | 3113 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | Yes |
| Warrant Met for Intersection | Yes | |

Appendix E – Horizon Year (2045) Conditions Analyses

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| | |
|---|----|
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| Intersection 3: Fontaine Bl/Carriage Meadows Dr | 12 |

Intersection Level Of Service Report
Intersection 1: Marksheffel Rd/Fontaine BI

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 31.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.558 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine BI | | | Fontaine BI | | |
|------------------------------|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | [Diagram] | | | [Diagram] | | | [Diagram] | | | [Diagram] | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 680.00 | 100.00 | 680.00 | 750.00 | 100.00 | 500.00 | 360.00 | 100.00 | 200.00 | 535.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 153 | 675 | 145 | 199 | 317 | 55 | 75 | 298 | 158 | 268 | 753 | 570 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 9 | 16 | 23 | 0 | 0 | 0 | 15 | 0 | 19 | 11 | 9 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 81 | 0 | 0 | 28 | 0 | 0 | 79 | 0 | 0 | 290 |
| Total Hourly Volume [veh/h] | 153 | 684 | 80 | 222 | 317 | 27 | 75 | 313 | 79 | 287 | 764 | 289 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 42 | 186 | 22 | 60 | 86 | 7 | 20 | 85 | 21 | 78 | 208 | 79 |
| Total Analysis Volume [veh/h] | 166 | 743 | 87 | 241 | 345 | 29 | 82 | 340 | 86 | 312 | 830 | 314 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|------------------------------|----------|---------|---------|----------|---------|---------|----------|---------|---------|----------|---------|---------|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 |
| Maximum Green [s] | 5 | 103 | 0 | 5 | 103 | 0 | 5 | 109 | 0 | 5 | 109 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 16 | 35 | 0 | 13 | 32 | 0 | 17 | 25 | 0 | 17 | 25 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 24 | 0 | 0 | 21 | 0 | 0 | 14 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | No | No | | No | No | |
| Maximum Recall | No | No | | No | No | | No | No | | No | No | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 10 | 36 | 36 | 8 | 34 | 34 | 5 | 19 | 19 | 10 | 24 | 24 |
| g / C, Green / Cycle | 0.11 | 0.40 | 0.40 | 0.09 | 0.38 | 0.38 | 0.06 | 0.21 | 0.21 | 0.11 | 0.27 | 0.27 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.21 | 0.05 | 0.07 | 0.10 | 0.02 | 0.05 | 0.07 | 0.05 | 0.09 | 0.23 | 0.20 |
| s, saturation flow rate [veh/h] | 1781 | 3560 | 1589 | 3459 | 3560 | 1589 | 1781 | 5094 | 1589 | 3459 | 3560 | 1589 |
| c, Capacity [veh/h] | 201 | 1434 | 640 | 316 | 1357 | 606 | 107 | 1094 | 341 | 394 | 956 | 427 |
| d1, Uniform Delay [s] | 39.11 | 20.32 | 17.01 | 40.01 | 19.12 | 17.59 | 41.74 | 29.79 | 29.39 | 38.91 | 31.46 | 30.07 |
| k, delay calibration | 0.19 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 13.45 | 1.34 | 0.44 | 3.84 | 0.45 | 0.15 | 10.79 | 0.16 | 0.38 | 3.64 | 2.58 | 2.49 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | | |
|---------------------------------------|--------|--------|-------|--------|--------|-------|-------|-------|-------|--------|--------|--------|
| X, volume / capacity | 0.83 | 0.52 | 0.14 | 0.76 | 0.25 | 0.05 | 0.77 | 0.31 | 0.25 | 0.79 | 0.87 | 0.74 |
| d, Delay for Lane Group [s/veh] | 52.56 | 21.66 | 17.45 | 43.85 | 19.57 | 17.74 | 52.53 | 29.95 | 29.77 | 42.54 | 34.04 | 32.56 |
| Lane Group LOS | D | C | B | D | B | B | D | C | C | D | C | C |
| Critical Lane Group | No | Yes | No | Yes | No | No | Yes | No | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 4.08 | 5.39 | 1.08 | 2.59 | 2.27 | 0.36 | 2.04 | 1.97 | 1.50 | 3.39 | 8.32 | 6.07 |
| 50th-Percentile Queue Length [ft/ln] | 102.00 | 134.65 | 27.05 | 64.83 | 56.78 | 9.08 | 50.91 | 49.27 | 37.49 | 84.76 | 208.11 | 151.68 |
| 95th-Percentile Queue Length [veh/ln] | 7.34 | 9.19 | 1.95 | 4.67 | 4.09 | 0.65 | 3.67 | 3.55 | 2.70 | 6.10 | 13.06 | 10.11 |
| 95th-Percentile Queue Length [ft/ln] | 183.59 | 229.81 | 48.69 | 116.69 | 102.20 | 16.34 | 91.64 | 88.68 | 67.48 | 152.57 | 326.41 | 252.67 |

Movement, Approach, & Intersection Results

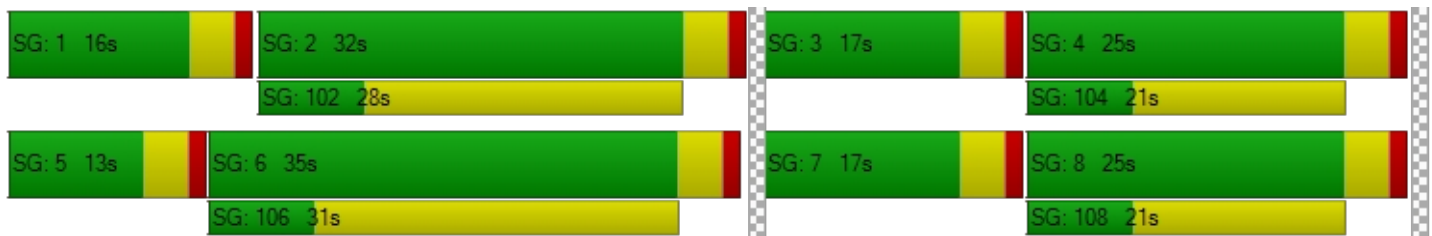
| | | | | | | | | | | | | |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 52.56 | 21.66 | 17.45 | 43.85 | 19.57 | 17.74 | 52.53 | 29.95 | 29.77 | 42.54 | 34.04 | 32.56 |
| Movement LOS | D | C | B | D | B | B | D | C | C | D | C | C |
| d_A, Approach Delay [s/veh] | 26.44 | | | 29.00 | | | 33.56 | | | 35.54 | | |
| Approach LOS | C | | | C | | | C | | | D | | |
| d_I, Intersection Delay [s/veh] | 31.60 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.558 | | | | | | | | | | | |

Other Modes

| | | | | |
|--|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 34.71 | 34.71 | 34.71 | 34.71 |
| I_p,int, Pedestrian LOS Score for Intersectio | 3.133 | 3.162 | 3.048 | 3.578 |
| Crosswalk LOS | C | C | C | D |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 688 | 622 | 466 | 466 |
| d_b, Bicycle Delay [s] | 19.37 | 21.39 | 26.48 | 26.48 |
| I_b,int, Bicycle LOS Score for Intersection | 2.448 | 2.090 | 1.882 | 3.000 |
| Bicycle LOS | B | B | A | C |

Sequence





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



Intersection Level Of Service Report
Intersection 2: Marksheffel Rd/Lorson Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 19.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.525 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Eastbound | | | Lorson Bl | | |
|------------------------------|---|--------|--------|---|--------|--------|---|--------|--------|---|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 500.00 | 580.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 30.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | | | | Lorson Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|--------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h] | 157 | 714 | 162 | 83 | 999 | 23 | 49 | 18 | 69 | 500 | 11 | 296 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 26 | 0 | 0 | 19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 148 |
| Total Hourly Volume [veh/h] | 157 | 740 | 81 | 83 | 1018 | 23 | 49 | 18 | 69 | 500 | 11 | 148 |
| Peak Hour Factor | 1.0000 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9200 | 1.0000 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 39 | 201 | 22 | 23 | 277 | 6 | 12 | 5 | 17 | 136 | 3 | 40 |
| Total Analysis Volume [veh/h] | 157 | 804 | 88 | 90 | 1107 | 23 | 49 | 18 | 69 | 543 | 11 | 161 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 80 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 5 | 10 | 0 |
| Maximum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 5 | 10 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 28 | 0 | 0 | 28 | 0 | 0 | 34 | 0 | 18 | 52 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 17 | 0 | 0 | 10 | 0 | 0 | 23 | 0 | 0 | 21 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | | No | | No | No | |
| Maximum Recall | | No | | | No | | | No | | No | No | |
| Pedestrian Recall | | No | | | No | | | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | L | C | R |
|---|-------|-------|------|-------|-------|------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 44 | 44 | 44 | 44 | 44 | 44 | 10 | 10 | 14 | 27 | 27 |
| g / C, Green / Cycle | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.12 | 0.12 | 0.17 | 0.34 | 0.34 |
| (v / s)_i Volume / Saturation Flow Rate | 0.32 | 0.23 | 0.06 | 0.14 | 0.31 | 0.01 | 0.04 | 0.05 | 0.16 | 0.01 | 0.10 |
| s, saturation flow rate [veh/h] | 498 | 3560 | 1589 | 623 | 3560 | 1589 | 1213 | 1640 | 3459 | 1870 | 1589 |
| c, Capacity [veh/h] | 254 | 1981 | 884 | 339 | 1981 | 884 | 199 | 195 | 603 | 642 | 546 |
| d1, Uniform Delay [s] | 26.29 | 10.15 | 8.31 | 16.88 | 11.40 | 7.97 | 34.45 | 32.73 | 32.27 | 17.31 | 19.15 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 10.83 | 0.62 | 0.22 | 1.91 | 1.14 | 0.05 | 0.64 | 1.60 | 5.21 | 0.01 | 0.30 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | |
|---------------------------------------|--------|--------|-------|-------|--------|------|-------|-------|--------|-------|-------|
| X, volume / capacity | 0.62 | 0.41 | 0.10 | 0.27 | 0.56 | 0.03 | 0.25 | 0.45 | 0.90 | 0.02 | 0.29 |
| d, Delay for Lane Group [s/veh] | 37.12 | 10.76 | 8.54 | 18.80 | 12.54 | 8.02 | 35.09 | 34.32 | 37.49 | 17.32 | 19.45 |
| Lane Group LOS | D | B | A | B | B | A | D | C | D | B | B |
| Critical Lane Group | Yes | No | No | No | No | No | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 3.26 | 3.20 | 0.60 | 1.16 | 5.00 | 0.15 | 0.92 | 1.62 | 5.48 | 0.13 | 2.18 |
| 50th-Percentile Queue Length [ft/ln] | 81.47 | 79.94 | 14.96 | 29.04 | 124.94 | 3.73 | 22.99 | 40.46 | 137.03 | 3.34 | 54.48 |
| 95th-Percentile Queue Length [veh/ln] | 5.87 | 5.76 | 1.08 | 2.09 | 8.66 | 0.27 | 1.66 | 2.91 | 9.32 | 0.24 | 3.92 |
| 95th-Percentile Queue Length [ft/ln] | 146.65 | 143.88 | 26.92 | 52.28 | 216.59 | 6.72 | 41.38 | 72.83 | 233.01 | 6.02 | 98.07 |

Movement, Approach, & Intersection Results

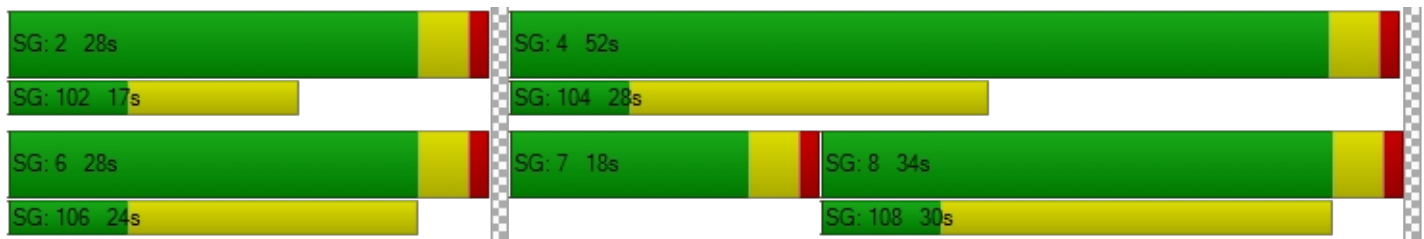
| | | | | | | | | | | | | |
|---------------------------------|-------|-------|------|-------|-------|------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 37.12 | 10.76 | 8.54 | 18.80 | 12.54 | 8.02 | 35.09 | 34.32 | 34.32 | 37.49 | 17.32 | 19.45 |
| Movement LOS | D | B | A | B | B | A | D | C | C | D | B | B |
| d_A, Approach Delay [s/veh] | 14.52 | | | 12.92 | | | 34.60 | | | 33.12 | | |
| Approach LOS | B | | | B | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 19.03 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.525 | | | | | | | | | | | |

Other Modes

| | | | | |
|--|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 29.72 | 29.72 | 29.72 | 29.72 |
| I_p,int, Pedestrian LOS Score for Intersectio | 3.410 | 3.226 | 2.263 | 2.817 |
| Crosswalk LOS | C | C | B | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 601 | 601 | 751 | 1201 |
| d_b, Bicycle Delay [s] | 19.56 | 19.56 | 15.59 | 6.37 |
| I_b,int, Bicycle LOS Score for Intersection | 2.492 | 2.566 | 1.784 | 2.984 |
| Bicycle LOS | B | B | A | C |

Sequence





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



Intersection Level Of Service Report
Intersection 3: Fontaine Bl/Carriage Meadows Dr

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 9.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.553 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|---|--------|--------|---|--------|--------|---|--------|--------|---|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 | 330.00 | 100.00 | 330.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|---|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 42 | 5 | 12 | 8 | 5 | 37 | 10 | 642 | 8 | 8 | 1500 | 4 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.7120 | 1.0000 | 1.7120 | 1.7120 | 1.0000 | 1.7120 | 1.7120 | 1.0000 | 1.7120 | 1.7120 | 1.0000 | 1.7120 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 28 | 1 | 8 | 4 | 1 | 11 | 3 | 8 | 17 | 24 | 0 | 1 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 100 | 6 | 29 | 18 | 6 | 74 | 20 | 650 | 31 | 38 | 1500 | 8 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 27 | 2 | 8 | 5 | 2 | 20 | 5 | 177 | 8 | 10 | 408 | 2 |
| Total Analysis Volume [veh/h] | 109 | 7 | 32 | 20 | 7 | 80 | 22 | 707 | 34 | 41 | 1630 | 9 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 80 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Semi-actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss |
|------------------------------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|
| Signal Group | 0 | 8 | 0 | 0 | 4 | 0 | 5 | 2 | 0 | 0 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | - | - | - |
| Minimum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 5 | 10 | 0 | 0 | 10 | 0 |
| Maximum Green [s] | 0 | 34 | 0 | 0 | 34 | 0 | 5 | 78 | 0 | 0 | 78 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 38 | 0 | 0 | 38 | 0 | 17 | 42 | 0 | 0 | 25 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 23 | 0 | 0 | 27 | 0 | 0 | 7 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | | No | |
| Maximum Recall | | No | | | No | | No | No | | | No | |
| Pedestrian Recall | | No | | | No | | No | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| C, Cycle Length [s] | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 11 | 11 | 11 | 11 | 11 | 11 | 2 | 61 | 61 | 55 | 55 | 55 |
| g / C, Green / Cycle | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.13 | 0.02 | 0.77 | 0.77 | 0.69 | 0.69 | 0.69 |
| (v / s)_i Volume / Saturation Flow Rate | 0.08 | 0.00 | 0.02 | 0.01 | 0.00 | 0.05 | 0.01 | 0.20 | 0.02 | 0.06 | 0.46 | 0.01 |
| s, saturation flow rate [veh/h] | 1310 | 1870 | 1589 | 1368 | 1870 | 1589 | 1781 | 3560 | 1589 | 718 | 3560 | 1589 |
| c, Capacity [veh/h] | 226 | 250 | 212 | 232 | 250 | 212 | 43 | 2729 | 1218 | 529 | 2465 | 1100 |
| d1, Uniform Delay [s] | 35.06 | 30.14 | 30.65 | 32.62 | 30.14 | 31.62 | 38.56 | 2.72 | 2.23 | 6.41 | 6.99 | 3.81 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.60 | 0.04 | 0.33 | 0.16 | 0.04 | 1.10 | 9.00 | 0.23 | 0.04 | 0.29 | 1.41 | 0.01 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | | |
|---------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|--------|------|
| X, volume / capacity | 0.48 | 0.03 | 0.15 | 0.09 | 0.03 | 0.38 | 0.51 | 0.26 | 0.03 | 0.08 | 0.66 | 0.01 |
| d, Delay for Lane Group [s/veh] | 36.66 | 30.19 | 30.97 | 32.78 | 30.19 | 32.73 | 47.56 | 2.95 | 2.27 | 6.69 | 8.40 | 3.82 |
| Lane Group LOS | D | C | C | C | C | C | D | A | A | A | A | A |
| Critical Lane Group | Yes | No | No | No | No | No | Yes | No | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 2.15 | 0.12 | 0.56 | 0.36 | 0.12 | 1.46 | 0.51 | 0.81 | 0.07 | 0.26 | 5.43 | 0.03 |
| 50th-Percentile Queue Length [ft/ln] | 53.76 | 2.99 | 14.01 | 9.00 | 2.99 | 36.54 | 12.79 | 20.30 | 1.79 | 6.58 | 135.80 | 0.85 |
| 95th-Percentile Queue Length [veh/ln] | 3.87 | 0.22 | 1.01 | 0.65 | 0.22 | 2.63 | 0.92 | 1.46 | 0.13 | 0.47 | 9.25 | 0.06 |
| 95th-Percentile Queue Length [ft/ln] | 96.77 | 5.38 | 25.23 | 16.21 | 5.38 | 65.77 | 23.02 | 36.54 | 3.21 | 11.85 | 231.36 | 1.53 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| d_M, Delay for Movement [s/veh] | 36.66 | 30.19 | 30.97 | 32.78 | 30.19 | 32.73 | 47.56 | 2.95 | 2.27 | 6.69 | 8.40 | 3.82 |
| Movement LOS | D | C | C | C | C | C | D | A | A | A | A | A |
| d_A, Approach Delay [s/veh] | 35.12 | | | 32.57 | | | 4.21 | | 8.33 | | | |
| Approach LOS | D | | | C | | | A | | A | | | |
| d_I, Intersection Delay [s/veh] | 9.60 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |
| Intersection V/C | 0.553 | | | | | | | | | | | |

Other Modes

| | | | | | | | | |
|--|-------|--|-------|--|-------|--|-------|--|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | | 11.0 | | 11.0 | | 11.0 | |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | | 0.00 | | 0.00 | | 0.00 | |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | | 0.00 | | 0.00 | | 0.00 | |
| d_p, Pedestrian Delay [s] | 29.76 | | 29.76 | | 29.76 | | 29.76 | |
| I_p,int, Pedestrian LOS Score for Intersectio | 2.229 | | 2.154 | | 3.282 | | 3.069 | |
| Crosswalk LOS | B | | B | | C | | C | |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | | 2000 | | 2000 | | 2000 | |
| c_b, Capacity of the bicycle lane [bicycles/h] | 850 | | 850 | | 950 | | 525 | |
| d_b, Bicycle Delay [s] | 13.23 | | 13.23 | | 11.03 | | 21.76 | |
| I_b,int, Bicycle LOS Score for Intersection | 1.804 | | 1.736 | | 2.189 | | 2.946 | |
| Bicycle LOS | A | | A | | B | | C | |

Sequence

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

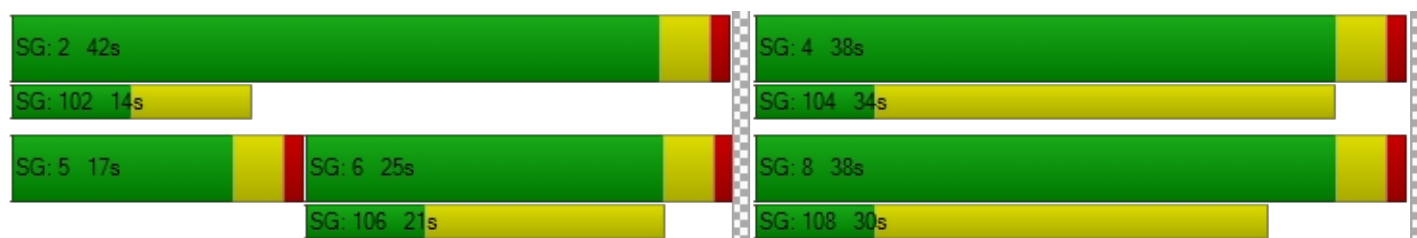


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Intersection Level Of Service Report
Intersection 1: Marksheffel Rd/Fontaine BI

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 45.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.726 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine BI | | | Fontaine BI | | |
|------------------------------|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | [Diagram] | | | [Diagram] | | | [Diagram] | | | [Diagram] | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 680.00 | 100.00 | 680.00 | 750.00 | 100.00 | 500.00 | 360.00 | 100.00 | 200.00 | 535.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 157 | 442 | 432 | 729 | 707 | 93 | 107 | 999 | 266 | 244 | 570 | 425 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 36 | 40 | 56 | 0 | 0 | 0 | 35 | 0 | 66 | 37 | 21 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 236 | 0 | 0 | 47 | 0 | 0 | 133 | 0 | 0 | 223 |
| Total Hourly Volume [veh/h] | 157 | 478 | 236 | 785 | 707 | 46 | 107 | 1034 | 133 | 310 | 607 | 223 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 43 | 130 | 64 | 213 | 192 | 13 | 29 | 281 | 36 | 84 | 165 | 61 |
| Total Analysis Volume [veh/h] | 171 | 520 | 257 | 853 | 768 | 50 | 116 | 1124 | 145 | 337 | 660 | 242 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|------------------------------|----------|---------|---------|----------|---------|---------|----------|---------|---------|----------|---------|---------|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 |
| Maximum Green [s] | 5 | 103 | 0 | 5 | 103 | 0 | 5 | 109 | 0 | 5 | 109 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 36 | 35 | 0 | 34 | 33 | 0 | 26 | 33 | 0 | 18 | 25 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 24 | 0 | 0 | 21 | 0 | 0 | 14 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | No | No | | No | No | |
| Maximum Recall | No | No | | No | No | | No | No | | No | No | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 14 | 32 | 32 | 30 | 48 | 48 | 10 | 29 | 29 | 14 | 33 | 33 |
| g / C, Green / Cycle | 0.11 | 0.27 | 0.27 | 0.25 | 0.40 | 0.40 | 0.08 | 0.24 | 0.24 | 0.11 | 0.27 | 0.27 |
| (v / s)_i Volume / Saturation Flow Rate | 0.10 | 0.15 | 0.16 | 0.25 | 0.22 | 0.03 | 0.07 | 0.22 | 0.09 | 0.10 | 0.19 | 0.15 |
| s, saturation flow rate [veh/h] | 1781 | 3560 | 1589 | 3459 | 3560 | 1589 | 1781 | 5094 | 1589 | 3459 | 3560 | 1589 |
| c, Capacity [veh/h] | 202 | 946 | 422 | 860 | 1428 | 637 | 143 | 1219 | 380 | 391 | 968 | 432 |
| d1, Uniform Delay [s] | 52.21 | 37.91 | 38.62 | 44.98 | 27.46 | 22.24 | 54.29 | 44.56 | 38.22 | 52.32 | 39.06 | 37.54 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 9.44 | 2.30 | 6.40 | 12.52 | 1.46 | 0.24 | 10.26 | 3.43 | 0.63 | 5.68 | 0.86 | 1.14 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | | |
|---------------------------------------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|
| X, volume / capacity | 0.85 | 0.55 | 0.61 | 0.99 | 0.54 | 0.08 | 0.81 | 0.92 | 0.38 | 0.86 | 0.68 | 0.56 |
| d, Delay for Lane Group [s/veh] | 61.65 | 40.21 | 45.01 | 57.50 | 28.92 | 22.48 | 64.54 | 47.99 | 38.84 | 58.00 | 39.92 | 38.67 |
| Lane Group LOS | E | D | D | E | C | C | E | D | D | E | D | D |
| Critical Lane Group | No | No | Yes | Yes | No | No | No | Yes | No | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 5.36 | 6.54 | 7.03 | 13.39 | 8.09 | 0.87 | 3.77 | 10.87 | 3.54 | 5.16 | 8.51 | 6.05 |
| 50th-Percentile Queue Length [ft/ln] | 134.03 | 163.44 | 175.73 | 334.70 | 202.37 | 21.64 | 94.26 | 271.67 | 88.61 | 129.10 | 212.65 | 151.24 |
| 95th-Percentile Queue Length [veh/ln] | 9.16 | 10.73 | 11.38 | 19.39 | 12.76 | 1.56 | 6.79 | 16.27 | 6.38 | 8.89 | 13.29 | 10.08 |
| 95th-Percentile Queue Length [ft/ln] | 228.96 | 268.27 | 284.43 | 484.72 | 319.02 | 38.95 | 169.67 | 406.83 | 159.51 | 222.27 | 332.22 | 252.08 |

Movement, Approach, & Intersection Results

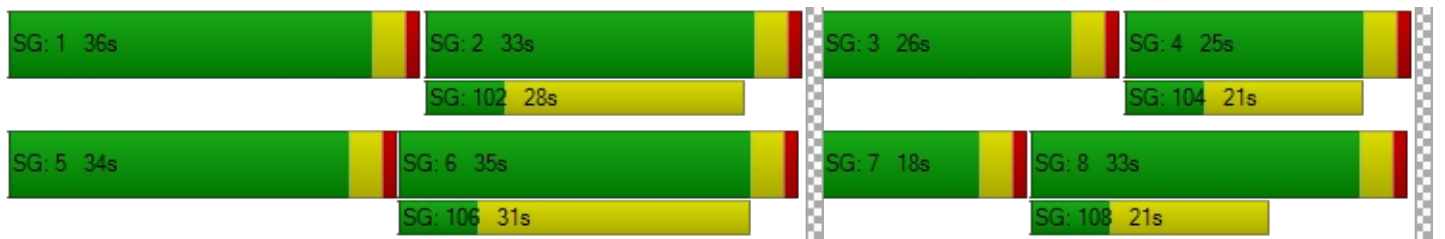
| | | | | | | | | | | | | |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 61.65 | 40.21 | 45.01 | 57.50 | 28.92 | 22.48 | 64.54 | 47.99 | 38.84 | 58.00 | 39.92 | 38.67 |
| Movement LOS | E | D | D | E | C | C | E | D | D | E | D | D |
| d_A, Approach Delay [s/veh] | 45.38 | | | 43.32 | | | 48.42 | | | 44.59 | | |
| Approach LOS | D | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 45.34 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.726 | | | | | | | | | | | |

Other Modes

| | | | | |
|--|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.52 | 49.52 | 49.52 | 49.52 |
| I_p,int, Pedestrian LOS Score for Intersectio | 3.567 | 3.394 | 3.308 | 3.638 |
| Crosswalk LOS | D | C | C | D |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 517 | 483 | 483 | 350 |
| d_b, Bicycle Delay [s] | 33.02 | 34.52 | 34.52 | 40.85 |
| I_b,int, Bicycle LOS Score for Intersection | 2.536 | 2.977 | 2.395 | 2.766 |
| Bicycle LOS | B | C | B | C |

Sequence





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



Intersection Level Of Service Report
Intersection 2: Marksheffel Rd/Lorson Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 15.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.798 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Eastbound | | | Lorson Bl | | |
|------------------------------|---|--------|--------|---|--------|--------|---|--------|--------|---|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 500.00 | 580.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 30.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | | | | Lorson Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|--------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h] | 159 | 742 | 568 | 284 | 610 | 34 | 47 | 15 | 41 | 348 | 20 | 199 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 64 | 0 | 0 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 284 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Total Hourly Volume [veh/h] | 159 | 806 | 284 | 284 | 676 | 34 | 47 | 15 | 41 | 348 | 20 | 99 |
| Peak Hour Factor | 1.0000 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9200 | 1.0000 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 40 | 219 | 77 | 77 | 184 | 9 | 12 | 4 | 10 | 95 | 5 | 27 |
| Total Analysis Volume [veh/h] | 159 | 876 | 309 | 309 | 735 | 34 | 47 | 15 | 41 | 378 | 20 | 108 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 70 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 |
| Maximum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 34 | 0 | 0 | 34 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 17 | 0 | 0 | 10 | 0 | 0 | 23 | 0 | 0 | 21 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | | No | | | No | |
| Maximum Recall | | No | | | No | | | No | | | No | |
| Pedestrian Recall | | No | | | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | L | C | R |
|---|-------|------|------|-------|------|------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 45 | 45 | 45 | 45 | 45 | 45 | 17 | 17 | 17 | 17 | 17 |
| g / C, Green / Cycle | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 |
| (v / s)_i Volume / Saturation Flow Rate | 0.23 | 0.25 | 0.19 | 0.65 | 0.21 | 0.02 | 0.04 | 0.03 | 0.14 | 0.01 | 0.07 |
| s, saturation flow rate [veh/h] | 700 | 3560 | 1589 | 473 | 3560 | 1589 | 1262 | 1656 | 2616 | 1870 | 1589 |
| c, Capacity [veh/h] | 473 | 2287 | 1021 | 342 | 2287 | 1021 | 350 | 402 | 568 | 454 | 386 |
| d1, Uniform Delay [s] | 10.06 | 5.92 | 5.54 | 21.26 | 5.62 | 4.56 | 23.45 | 20.71 | 27.60 | 20.23 | 21.47 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.92 | 0.49 | 0.76 | 29.31 | 0.37 | 0.06 | 0.17 | 0.16 | 1.35 | 0.04 | 0.39 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | |
|---------------------------------------|-------|-------|-------|--------|-------|------|-------|-------|--------|-------|-------|
| X, volume / capacity | 0.34 | 0.38 | 0.30 | 0.90 | 0.32 | 0.03 | 0.13 | 0.14 | 0.67 | 0.04 | 0.28 |
| d, Delay for Lane Group [s/veh] | 11.98 | 6.41 | 6.30 | 50.56 | 6.00 | 4.62 | 23.62 | 20.87 | 28.96 | 20.27 | 21.86 |
| Lane Group LOS | B | A | A | D | A | A | C | C | C | C | C |
| Critical Lane Group | No | No | No | Yes | No | No | No | No | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 1.31 | 1.85 | 1.33 | 7.54 | 1.47 | 0.12 | 0.64 | 0.70 | 3.05 | 0.25 | 1.44 |
| 50th-Percentile Queue Length [ft/ln] | 32.69 | 46.16 | 33.33 | 188.61 | 36.67 | 2.96 | 15.97 | 17.57 | 76.24 | 6.22 | 35.96 |
| 95th-Percentile Queue Length [veh/ln] | 2.35 | 3.32 | 2.40 | 12.05 | 2.64 | 0.21 | 1.15 | 1.27 | 5.49 | 0.45 | 2.59 |
| 95th-Percentile Queue Length [ft/ln] | 58.84 | 83.09 | 60.00 | 301.23 | 66.00 | 5.33 | 28.74 | 31.63 | 137.23 | 11.19 | 64.73 |

Movement, Approach, & Intersection Results

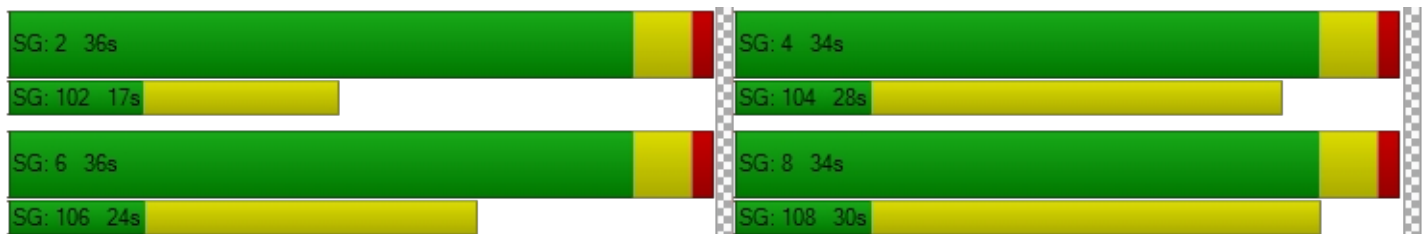
| | | | | | | | | | | | | |
|---------------------------------|-------|------|------|-------|------|------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 11.98 | 6.41 | 6.30 | 50.56 | 6.00 | 4.62 | 23.62 | 20.87 | 20.87 | 28.96 | 20.27 | 21.86 |
| Movement LOS | B | A | A | D | A | A | C | C | C | C | C | C |
| d_A, Approach Delay [s/veh] | 7.04 | | | 18.73 | | | 22.12 | | | 27.10 | | |
| Approach LOS | A | | | B | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 15.06 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.798 | | | | | | | | | | | |

Other Modes

| | | | | | | | | | | | | |
|--|-------|--|--|-------|--|--|-------|--|--|-------|--|--|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | | | 11.0 | | | 11.0 | | | 11.0 | | |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| d_p, Pedestrian Delay [s] | 24.82 | | | 24.82 | | | 24.82 | | | 24.82 | | |
| I_p,int, Pedestrian LOS Score for Intersectio | 4.209 | | | 3.164 | | | 2.255 | | | 3.115 | | |
| Crosswalk LOS | D | | | C | | | B | | | C | | |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | | | 2000 | | | 2000 | | | 2000 | | |
| c_b, Capacity of the bicycle lane [bicycles/h] | 915 | | | 915 | | | 858 | | | 858 | | |
| d_b, Bicycle Delay [s] | 10.28 | | | 10.28 | | | 11.40 | | | 11.40 | | |
| I_b,int, Bicycle LOS Score for Intersection | 2.903 | | | 2.449 | | | 1.730 | | | 2.560 | | |
| Bicycle LOS | C | | | B | | | A | | | B | | |

Sequence





| | | | | | | | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



Intersection Level Of Service Report
Intersection 3: Fontaine Bl/Carriage Meadows Dr

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 17.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.789 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|---|--------|--------|---|--------|--------|---|--------|--------|---|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 | 330.00 | 100.00 | 330.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|---|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 23 | 5 | 8 | 5 | 5 | 8 | 56 | 2160 | 44 | 8 | 1200 | 6 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.7120 | 1.0000 | 1.7120 | 1.7120 | 1.0000 | 1.7120 | 1.7120 | 1.0000 | 1.7120 | 1.7120 | 1.0000 | 1.7120 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 116 | 2 | 30 | 3 | 2 | 8 | 10 | 30 | 40 | 58 | 0 | 4 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 22 | 0 | 0 | 11 | 0 | 0 | 58 | 0 | 0 | 7 |
| Total Hourly Volume [veh/h] | 155 | 7 | 22 | 12 | 7 | 11 | 106 | 2190 | 57 | 72 | 1200 | 7 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 42 | 2 | 6 | 3 | 2 | 3 | 29 | 595 | 15 | 20 | 326 | 2 |
| Total Analysis Volume [veh/h] | 168 | 8 | 24 | 13 | 8 | 12 | 115 | 2380 | 62 | 78 | 1304 | 8 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Semi-actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss |
|------------------------------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|
| Signal Group | 0 | 8 | 0 | 0 | 4 | 0 | 5 | 2 | 0 | 0 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | - | - | - |
| Minimum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 5 | 10 | 0 | 0 | 10 | 0 |
| Maximum Green [s] | 0 | 34 | 0 | 0 | 34 | 0 | 5 | 168 | 0 | 0 | 168 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 38 | 0 | 0 | 38 | 0 | 11 | 62 | 0 | 0 | 51 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 23 | 0 | 0 | 27 | 0 | 0 | 7 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | | No | |
| Maximum Recall | | No | | | No | | No | No | | | No | |
| Pedestrian Recall | | No | | | No | | No | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|------|------|-------|------|------|
| C, Cycle Length [s] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 15 | 15 | 15 | 15 | 15 | 15 | 7 | 77 | 77 | 66 | 66 | 66 |
| g / C, Green / Cycle | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.07 | 0.77 | 0.77 | 0.66 | 0.66 | 0.66 |
| (v / s)_i Volume / Saturation Flow Rate | 0.12 | 0.00 | 0.02 | 0.01 | 0.00 | 0.01 | 0.06 | 0.67 | 0.04 | 0.56 | 0.37 | 0.01 |
| s, saturation flow rate [veh/h] | 1392 | 1870 | 1589 | 1377 | 1870 | 1589 | 1781 | 3560 | 1589 | 139 | 3560 | 1589 |
| c, Capacity [veh/h] | 271 | 279 | 238 | 269 | 279 | 238 | 125 | 2744 | 1225 | 86 | 2352 | 1050 |
| d1, Uniform Delay [s] | 41.78 | 36.33 | 36.73 | 37.09 | 36.33 | 36.45 | 46.23 | 7.94 | 2.74 | 49.06 | 9.09 | 5.79 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.28 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.31 | 0.04 | 0.18 | 0.07 | 0.04 | 0.09 | 42.91 | 4.02 | 0.08 | 72.96 | 0.95 | 0.01 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | | |
|---------------------------------------|--------|-------|-------|-------|-------|-------|--------|--------|------|--------|--------|------|
| X, volume / capacity | 0.62 | 0.03 | 0.10 | 0.05 | 0.03 | 0.05 | 0.92 | 0.87 | 0.05 | 0.90 | 0.55 | 0.01 |
| d, Delay for Lane Group [s/veh] | 44.09 | 36.37 | 36.91 | 37.16 | 36.37 | 36.54 | 89.14 | 11.96 | 2.82 | 122.02 | 10.04 | 5.80 |
| Lane Group LOS | D | D | D | D | D | D | F | B | A | F | B | A |
| Critical Lane Group | Yes | No | No | No | No | No | No | Yes | No | No | No | No |
| 50th-Percentile Queue Length [veh/ln] | 4.22 | 0.17 | 0.52 | 0.28 | 0.17 | 0.26 | 4.22 | 11.53 | 0.21 | 3.64 | 6.32 | 0.05 |
| 50th-Percentile Queue Length [ft/ln] | 105.49 | 4.30 | 13.09 | 7.08 | 4.30 | 6.49 | 105.59 | 288.26 | 5.16 | 90.94 | 157.97 | 1.27 |
| 95th-Percentile Queue Length [veh/ln] | 7.59 | 0.31 | 0.94 | 0.51 | 0.31 | 0.47 | 7.59 | 17.10 | 0.37 | 6.55 | 10.44 | 0.09 |
| 95th-Percentile Queue Length [ft/ln] | 189.71 | 7.73 | 23.56 | 12.75 | 7.73 | 11.68 | 189.85 | 427.48 | 9.29 | 163.70 | 261.03 | 2.29 |

Movement, Approach, & Intersection Results

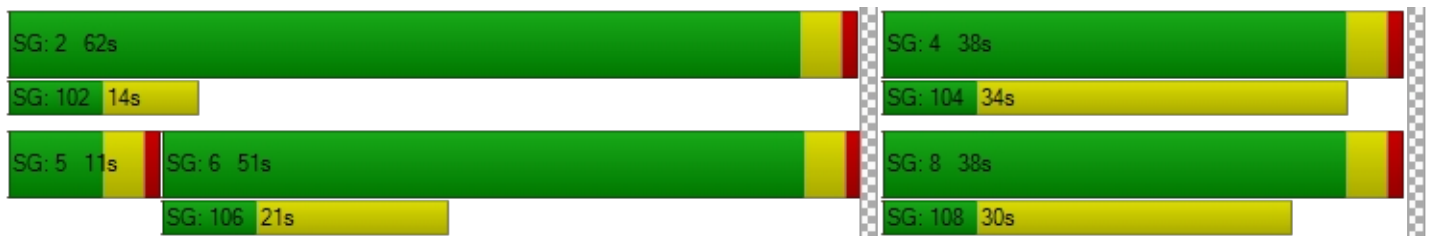
| | | | | | | | | | | | | |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|--------|-------|------|
| d_M, Delay for Movement [s/veh] | 44.09 | 36.37 | 36.91 | 37.16 | 36.37 | 36.54 | 89.14 | 11.96 | 2.82 | 122.02 | 10.04 | 5.80 |
| Movement LOS | D | D | D | D | D | D | F | B | A | F | B | A |
| d_A, Approach Delay [s/veh] | 42.92 | | | 36.74 | | | 15.21 | | | 16.30 | | |
| Approach LOS | D | | | D | | | B | | | B | | |
| d_I, Intersection Delay [s/veh] | 17.07 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.789 | | | | | | | | | | | |

Other Modes

| | | | | | | | | |
|--|-------|--|-------|--|-------|--|-------|--|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | | 11.0 | | 11.0 | | 11.0 | |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | | 0.00 | | 0.00 | | 0.00 | |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | | 0.00 | | 0.00 | | 0.00 | |
| d_p, Pedestrian Delay [s] | 39.61 | | 39.61 | | 39.61 | | 39.61 | |
| I_p,int, Pedestrian LOS Score for Intersectio | 2.365 | | 2.189 | | 3.779 | | 3.421 | |
| Crosswalk LOS | B | | B | | D | | C | |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | | 2000 | | 2000 | | 2000 | |
| c_b, Capacity of the bicycle lane [bicycles/h] | 680 | | 680 | | 1160 | | 940 | |
| d_b, Bicycle Delay [s] | 21.78 | | 21.78 | | 8.82 | | 14.05 | |
| I_b,int, Bicycle LOS Score for Intersection | 1.926 | | 1.632 | | 3.717 | | 2.712 | |
| Bicycle LOS | A | | A | | D | | B | |

Sequence

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



Signal Warrants Report For Intersection 3: Fontaine Bl/Carriage Meadows Dr

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | Yes |
| #2 | Four Hour Vehicular Volume | Yes |
| #3 | Peak Hour | Yes |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | E, W |
| Minor Approaches | S, N |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|------|---------------|------|---------------|----|
| | E | W | S | N |
| 1 | 1286 | 2411 | 206 | 41 |
| 2 | 1247 | 2339 | 200 | 40 |
| 3 | 1222 | 2290 | 196 | 39 |
| 4 | 1145 | 2146 | 183 | 36 |
| 5 | 1016 | 1905 | 163 | 32 |
| 6 | 1003 | 1881 | 161 | 32 |
| 7 | 990 | 1856 | 159 | 32 |
| 8 | 900 | 1688 | 144 | 29 |
| 9 | 887 | 1664 | 142 | 28 |
| 10 | 874 | 1639 | 140 | 28 |
| 11 | 759 | 1422 | 122 | 24 |
| 12 | 707 | 1326 | 113 | 23 |
| 13 | 694 | 1302 | 111 | 22 |
| 14 | 514 | 964 | 82 | 16 |
| 15 | 514 | 964 | 82 | 16 |
| 16 | 360 | 675 | 58 | 11 |
| 17 | 206 | 386 | 33 | 7 |
| 18 | 206 | 386 | 33 | 7 |
| 19 | 116 | 217 | 19 | 4 |
| 20 | 64 | 121 | 10 | 2 |
| 21 | 39 | 72 | 6 | 1 |
| 22 | 13 | 24 | 2 | 0 |
| 23 | 13 | 24 | 2 | 0 |
| 24 | 13 | 24 | 2 | 0 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 4 | 3697 | 3 | 206 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 2 | 4 | 3586 | 3 | 200 | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 3 | 4 | 3512 | 3 | 196 | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 4 | 4 | 3291 | 3 | 183 | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 5 | 4 | 2921 | 3 | 163 | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 6 | 4 | 2884 | 3 | 161 | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 7 | 4 | 2846 | 3 | 159 | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 8 | 4 | 2588 | 3 | 144 | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 9 | 4 | 2551 | 3 | 142 | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 10 | 4 | 2513 | 3 | 140 | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 11 | 4 | 2181 | 3 | 122 | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 12 | 4 | 2033 | 3 | 113 | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| 13 | 4 | 1996 | 3 | 111 | No | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes |
| 14 | 4 | 1478 | 3 | 82 | No | No | No | No | No | Yes | Yes | Yes | Yes | No |
| 15 | 4 | 1478 | 3 | 82 | No | No | No | No | No | Yes | Yes | Yes | Yes | No |
| 16 | 4 | 1035 | 3 | 58 | No | No | No | No | No | No | No | Yes | No | No |
| 17 | 4 | 592 | 3 | 33 | No | No | No | No | No | No | No | No | No | No |
| 18 | 4 | 592 | 3 | 33 | No | No | No | No | No | No | No | No | No | No |
| 19 | 4 | 333 | 3 | 19 | No | No | No | No | No | No | No | No | No | No |
| 20 | 4 | 185 | 3 | 10 | No | No | No | No | No | No | No | No | No | No |
| 21 | 4 | 111 | 3 | 6 | No | No | No | No | No | No | No | No | No | No |
| 22 | 4 | 37 | 3 | 2 | No | No | No | No | No | No | No | No | No | No |
| 23 | 4 | 37 | 3 | 2 | No | No | No | No | No | No | No | No | No | No |
| 24 | 4 | 37 | 3 | 2 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 2 | 6 | 10 | 12 | 13 | 15 | 15 | 16 | 15 | 13 |

Warrant 3 Condition A

| Orientation | S | N |
|--|------------|--------|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 7806.2 | 2517.2 |
| Number of Lanes on Minor Street Approach | 3 | 3 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 446:41 | 28:40 |
| Delay Condition Met | Yes | Yes |
| Volume on Minor Street Approach During Same Hour | 206 | 41 |
| High Minor Volume Condition Met | Yes | No |
| Total Entering Volume on All Approaches During Same Hour | 3944 | 3944 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | Yes | No |
| Warrant Met for Intersection | Yes | |

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Intersection Level Of Service Report
Intersection 1: Marksheffel Rd/Fontaine Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 33.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.621 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | [Diagram] | | | [Diagram] | | | [Diagram] | | | [Diagram] | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 680.00 | 100.00 | 680.00 | 750.00 | 100.00 | 500.00 | 360.00 | 100.00 | 200.00 | 535.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 153 | 675 | 145 | 199 | 317 | 55 | 75 | 298 | 158 | 268 | 753 | 570 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 75 | 16 | 80 | 0 | 0 | 24 | 27 | 0 | 81 | 45 | 27 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 81 | 0 | 0 | 28 | 0 | 0 | 79 | 0 | 0 | 299 |
| Total Hourly Volume [veh/h] | 153 | 750 | 80 | 279 | 317 | 27 | 99 | 325 | 79 | 349 | 798 | 298 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 42 | 204 | 22 | 76 | 86 | 7 | 27 | 88 | 21 | 95 | 217 | 81 |
| Total Analysis Volume [veh/h] | 166 | 815 | 87 | 303 | 345 | 29 | 108 | 353 | 86 | 379 | 867 | 324 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|------------------------------|----------|---------|---------|----------|---------|---------|----------|---------|---------|----------|---------|---------|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 |
| Maximum Green [s] | 5 | 103 | 0 | 5 | 103 | 0 | 5 | 109 | 0 | 5 | 109 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 18 | 35 | 0 | 15 | 32 | 0 | 13 | 25 | 0 | 15 | 27 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 24 | 0 | 0 | 21 | 0 | 0 | 14 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | No | No | | No | No | |
| Maximum Recall | No | No | | No | No | | No | No | | No | No | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 10 | 33 | 33 | 10 | 33 | 33 | 7 | 20 | 20 | 11 | 24 | 24 |
| g / C, Green / Cycle | 0.11 | 0.37 | 0.37 | 0.11 | 0.36 | 0.36 | 0.08 | 0.22 | 0.22 | 0.12 | 0.27 | 0.27 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.23 | 0.05 | 0.09 | 0.10 | 0.02 | 0.06 | 0.07 | 0.05 | 0.11 | 0.24 | 0.20 |
| s, saturation flow rate [veh/h] | 1781 | 3560 | 1589 | 3459 | 3560 | 1589 | 1781 | 5094 | 1589 | 3459 | 3560 | 1589 |
| c, Capacity [veh/h] | 202 | 1310 | 585 | 379 | 1297 | 579 | 138 | 1136 | 354 | 422 | 953 | 425 |
| d1, Uniform Delay [s] | 39.06 | 23.35 | 19.05 | 39.16 | 20.18 | 18.56 | 40.86 | 29.24 | 28.77 | 39.03 | 31.96 | 30.37 |
| k, delay calibration | 0.13 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 9.36 | 2.23 | 0.54 | 3.91 | 0.50 | 0.16 | 9.41 | 0.15 | 0.35 | 7.08 | 3.77 | 2.85 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | | |
|---------------------------------------|--------|--------|-------|--------|--------|-------|--------|-------|-------|--------|--------|--------|
| X, volume / capacity | 0.82 | 0.62 | 0.15 | 0.80 | 0.27 | 0.05 | 0.79 | 0.31 | 0.24 | 0.90 | 0.91 | 0.76 |
| d, Delay for Lane Group [s/veh] | 48.42 | 25.58 | 19.58 | 43.07 | 20.68 | 18.73 | 50.27 | 29.40 | 29.13 | 46.10 | 35.73 | 33.21 |
| Lane Group LOS | D | C | B | D | C | B | D | C | C | D | D | C |
| Critical Lane Group | No | Yes | No | Yes | No | No | Yes | No | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 3.85 | 6.63 | 1.17 | 3.24 | 2.36 | 0.38 | 2.61 | 2.03 | 1.48 | 4.33 | 8.96 | 6.34 |
| 50th-Percentile Queue Length [ft/ln] | 96.28 | 165.76 | 29.28 | 80.95 | 58.96 | 9.43 | 65.13 | 50.64 | 36.99 | 108.26 | 223.98 | 158.61 |
| 95th-Percentile Queue Length [veh/ln] | 6.93 | 10.85 | 2.11 | 5.83 | 4.25 | 0.68 | 4.69 | 3.65 | 2.66 | 7.74 | 13.87 | 10.48 |
| 95th-Percentile Queue Length [ft/ln] | 173.31 | 271.33 | 52.71 | 145.72 | 106.13 | 16.97 | 117.23 | 91.15 | 66.58 | 193.59 | 346.70 | 261.88 |

Movement, Approach, & Intersection Results

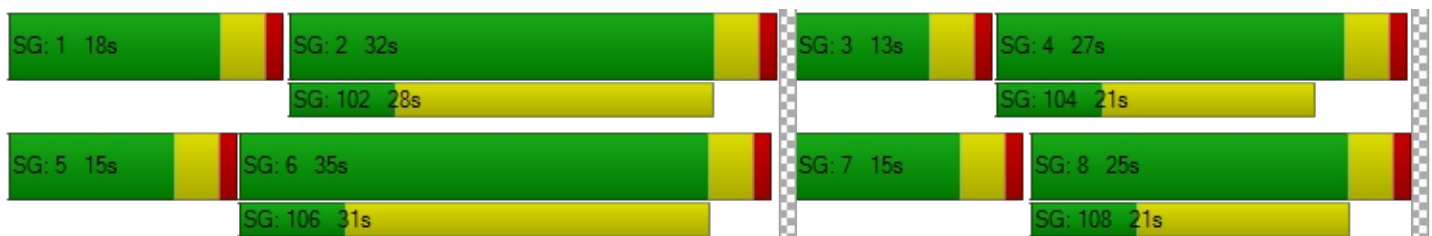
| | | | | | | | | | | | | |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 48.42 | 25.58 | 19.58 | 43.07 | 20.68 | 18.73 | 50.27 | 29.40 | 29.13 | 46.10 | 35.73 | 33.21 |
| Movement LOS | D | C | B | D | C | B | D | C | C | D | D | C |
| d_A, Approach Delay [s/veh] | 28.64 | | | 30.62 | | | 33.48 | | | 37.71 | | |
| Approach LOS | C | | | C | | | C | | | D | | |
| d_I, Intersection Delay [s/veh] | 33.36 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.621 | | | | | | | | | | | |

Other Modes

| | | | | |
|--|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 34.71 | 34.71 | 34.71 | 34.71 |
| I_p,int, Pedestrian LOS Score for Intersectio | 3.175 | 3.268 | 3.064 | 3.610 |
| Crosswalk LOS | C | C | C | D |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 688 | 622 | 466 | 511 |
| d_b, Bicycle Delay [s] | 19.37 | 21.39 | 26.48 | 24.97 |
| I_b,int, Bicycle LOS Score for Intersection | 2.508 | 2.141 | 1.904 | 3.102 |
| Bicycle LOS | B | B | A | C |

Sequence





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



Intersection Level Of Service Report
Intersection 2: Marksheffel Rd/Lorson Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 19.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.546 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Eastbound | | | Lorson Bl | | |
|------------------------------|---|--------|--------|---|--------|--------|---|--------|--------|---|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 500.00 | 580.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 30.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | | | | Lorson Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|--------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h] | 157 | 714 | 162 | 83 | 999 | 23 | 49 | 18 | 69 | 500 | 11 | 296 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 92 | 0 | 0 | 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 148 |
| Total Hourly Volume [veh/h] | 157 | 806 | 81 | 83 | 1080 | 23 | 49 | 18 | 69 | 500 | 11 | 148 |
| Peak Hour Factor | 1.0000 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9200 | 1.0000 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 39 | 219 | 22 | 23 | 293 | 6 | 12 | 5 | 17 | 136 | 3 | 40 |
| Total Analysis Volume [veh/h] | 157 | 876 | 88 | 90 | 1174 | 23 | 49 | 18 | 69 | 543 | 11 | 161 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 80 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|---------|---------|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 5 | 10 | 0 |
| Maximum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 5 | 10 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 0 | 28 | 0 | 0 | 28 | 0 | 0 | 34 | 0 | 18 | 52 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 17 | 0 | 0 | 10 | 0 | 0 | 23 | 0 | 0 | 21 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | | No | | No | No | |
| Maximum Recall | | No | | | No | | | No | | No | No | |
| Pedestrian Recall | | No | | | No | | | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | L | C | R |
|---|-------|-------|------|-------|-------|------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 44 | 44 | 44 | 44 | 44 | 44 | 10 | 10 | 14 | 27 | 27 |
| g / C, Green / Cycle | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.56 | 0.12 | 0.12 | 0.17 | 0.34 | 0.34 |
| (v / s)_i Volume / Saturation Flow Rate | 0.34 | 0.25 | 0.06 | 0.15 | 0.33 | 0.01 | 0.04 | 0.05 | 0.16 | 0.01 | 0.10 |
| s, saturation flow rate [veh/h] | 467 | 3560 | 1589 | 583 | 3560 | 1589 | 1213 | 1640 | 3459 | 1870 | 1589 |
| c, Capacity [veh/h] | 235 | 1981 | 884 | 313 | 1981 | 884 | 199 | 195 | 603 | 642 | 546 |
| d1, Uniform Delay [s] | 28.45 | 10.42 | 8.31 | 17.96 | 11.72 | 7.97 | 34.45 | 32.73 | 32.27 | 17.31 | 19.15 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 14.00 | 0.72 | 0.22 | 2.30 | 1.31 | 0.05 | 0.64 | 1.60 | 5.21 | 0.01 | 0.30 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | |
|---------------------------------------|--------|--------|-------|-------|--------|------|-------|-------|--------|-------|-------|
| X, volume / capacity | 0.67 | 0.44 | 0.10 | 0.29 | 0.59 | 0.03 | 0.25 | 0.45 | 0.90 | 0.02 | 0.29 |
| d, Delay for Lane Group [s/veh] | 42.45 | 11.14 | 8.54 | 20.26 | 13.03 | 8.02 | 35.09 | 34.32 | 37.49 | 17.32 | 19.45 |
| Lane Group LOS | D | B | A | C | B | A | D | C | D | B | B |
| Critical Lane Group | Yes | No | No | No | No | No | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 3.58 | 3.58 | 0.60 | 1.23 | 5.47 | 0.15 | 0.92 | 1.62 | 5.48 | 0.13 | 2.18 |
| 50th-Percentile Queue Length [ft/ln] | 89.55 | 89.61 | 14.96 | 30.73 | 136.66 | 3.73 | 22.99 | 40.46 | 137.03 | 3.34 | 54.48 |
| 95th-Percentile Queue Length [veh/ln] | 6.45 | 6.45 | 1.08 | 2.21 | 9.30 | 0.27 | 1.66 | 2.91 | 9.32 | 0.24 | 3.92 |
| 95th-Percentile Queue Length [ft/ln] | 161.19 | 161.29 | 26.92 | 55.32 | 232.52 | 6.72 | 41.38 | 72.83 | 233.01 | 6.02 | 98.07 |

Movement, Approach, & Intersection Results

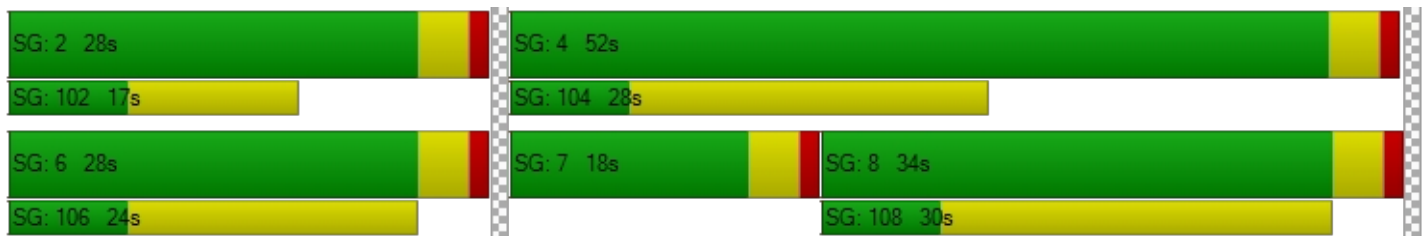
| | | | | | | | | | | | | |
|---------------------------------|-------|-------|------|-------|-------|------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 42.45 | 11.14 | 8.54 | 20.26 | 13.03 | 8.02 | 35.09 | 34.32 | 34.32 | 37.49 | 17.32 | 19.45 |
| Movement LOS | D | B | A | C | B | A | D | C | C | D | B | B |
| d_A, Approach Delay [s/veh] | 15.32 | | | 13.45 | | | 34.60 | | | 33.12 | | |
| Approach LOS | B | | | B | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 19.29 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.546 | | | | | | | | | | | |

Other Modes

| | | | | |
|--|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 29.72 | 29.72 | 29.72 | 29.72 |
| I_p,int, Pedestrian LOS Score for Intersectio | 3.452 | 3.267 | 2.263 | 2.817 |
| Crosswalk LOS | C | C | B | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 601 | 601 | 751 | 1201 |
| d_b, Bicycle Delay [s] | 19.56 | 19.56 | 15.59 | 6.37 |
| I_b,int, Bicycle LOS Score for Intersection | 2.551 | 2.621 | 1.784 | 2.984 |
| Bicycle LOS | B | B | A | C |

Sequence





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



Intersection Level Of Service Report
Intersection 3: Fontaine Bl/Carriage Meadows Dr

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 13.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.608 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|---|--------|--------|---|--------|--------|---|--------|--------|---|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 | 330.00 | 100.00 | 330.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine BI | | | Fontaine BI | | |
|---|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 42 | 5 | 12 | 8 | 5 | 37 | 10 | 642 | 8 | 8 | 1500 | 4 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.7120 | 1.0000 | 1.7120 | 1.7120 | 1.0000 | 1.7120 | 1.7120 | 1.0000 | 1.7120 | 1.7120 | 1.0000 | 1.7120 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 29 | 2 | 8 | 64 | 3 | 125 | 72 | 8 | 17 | 24 | 32 | 33 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 15 | 0 | 0 | 94 | 0 | 0 | 16 | 0 | 0 | 20 |
| Total Hourly Volume [veh/h] | 101 | 7 | 14 | 78 | 8 | 94 | 89 | 650 | 15 | 38 | 1532 | 20 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 27 | 2 | 4 | 21 | 2 | 26 | 24 | 177 | 4 | 10 | 416 | 5 |
| Total Analysis Volume [veh/h] | 110 | 8 | 15 | 85 | 9 | 102 | 97 | 707 | 16 | 41 | 1665 | 22 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 80 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Semi-actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss |
|------------------------------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|
| Signal Group | 0 | 8 | 0 | 0 | 4 | 0 | 5 | 2 | 0 | 0 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | - | - | - |
| Minimum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 5 | 10 | 0 | 0 | 10 | 0 |
| Maximum Green [s] | 0 | 34 | 0 | 0 | 34 | 0 | 5 | 78 | 0 | 0 | 78 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 38 | 0 | 0 | 38 | 0 | 17 | 42 | 0 | 0 | 25 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 23 | 0 | 0 | 27 | 0 | 0 | 7 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | | No | |
| Maximum Recall | | No | | | No | | No | No | | | No | |
| Pedestrian Recall | | No | | | No | | No | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|
| C, Cycle Length [s] | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 | 80 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 11 | 11 | 11 | 11 | 11 | 11 | 6 | 61 | 61 | 52 | 52 | 52 |
| g / C, Green / Cycle | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.14 | 0.07 | 0.76 | 0.76 | 0.64 | 0.64 | 0.64 |
| (v / s)_i Volume / Saturation Flow Rate | 0.09 | 0.00 | 0.01 | 0.06 | 0.00 | 0.06 | 0.05 | 0.20 | 0.01 | 0.06 | 0.47 | 0.01 |
| s, saturation flow rate [veh/h] | 1282 | 1870 | 1589 | 1388 | 1870 | 1589 | 1781 | 3560 | 1589 | 730 | 3560 | 1589 |
| c, Capacity [veh/h] | 223 | 251 | 213 | 234 | 251 | 213 | 125 | 2726 | 1217 | 502 | 2298 | 1026 |
| d1, Uniform Delay [s] | 35.16 | 30.11 | 30.27 | 34.21 | 30.13 | 32.04 | 36.56 | 2.74 | 2.22 | 8.05 | 9.45 | 5.10 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.69 | 0.05 | 0.14 | 0.94 | 0.06 | 1.66 | 9.71 | 0.23 | 0.02 | 0.32 | 2.03 | 0.04 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | | |
|---------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|-------|--------|------|
| X, volume / capacity | 0.49 | 0.03 | 0.07 | 0.36 | 0.04 | 0.48 | 0.77 | 0.26 | 0.01 | 0.08 | 0.72 | 0.02 |
| d, Delay for Lane Group [s/veh] | 36.86 | 30.16 | 30.40 | 35.15 | 30.18 | 33.69 | 46.27 | 2.97 | 2.24 | 8.36 | 11.48 | 5.14 |
| Lane Group LOS | D | C | C | D | C | C | D | A | A | A | B | A |
| Critical Lane Group | Yes | No | No | No | No | No | Yes | No | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 2.18 | 0.14 | 0.26 | 1.62 | 0.15 | 1.90 | 2.09 | 0.82 | 0.03 | 0.31 | 7.43 | 0.11 |
| 50th-Percentile Queue Length [ft/ln] | 54.49 | 3.42 | 6.47 | 40.54 | 3.84 | 47.58 | 52.29 | 20.51 | 0.84 | 7.78 | 185.68 | 2.69 |
| 95th-Percentile Queue Length [veh/ln] | 3.92 | 0.25 | 0.47 | 2.92 | 0.28 | 3.43 | 3.76 | 1.48 | 0.06 | 0.56 | 11.90 | 0.19 |
| 95th-Percentile Queue Length [ft/ln] | 98.07 | 6.15 | 11.65 | 72.97 | 6.92 | 85.64 | 94.12 | 36.91 | 1.51 | 14.00 | 297.42 | 4.85 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|------|-------|------|-------|------|
| d_M, Delay for Movement [s/veh] | 36.86 | 30.16 | 30.40 | 35.15 | 30.18 | 33.69 | 46.27 | 2.97 | 2.24 | 8.36 | 11.48 | 5.14 |
| Movement LOS | D | C | C | D | C | C | D | A | A | A | B | A |
| d_A, Approach Delay [s/veh] | 35.73 | | | 34.16 | | | 8.08 | | 11.32 | | | |
| Approach LOS | D | | | C | | | A | | B | | | |
| d_I, Intersection Delay [s/veh] | 13.08 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.608 | | | | | | | | | | | |

Other Modes

| | | | | |
|--|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 29.76 | 29.76 | 29.76 | 29.76 |
| I_p,int, Pedestrian LOS Score for Intersectio | 2.251 | 2.347 | 3.353 | 3.222 |
| Crosswalk LOS | B | B | C | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 850 | 850 | 950 | 525 |
| d_b, Bicycle Delay [s] | 13.23 | 13.23 | 11.03 | 21.76 |
| I_b,int, Bicycle LOS Score for Intersection | 1.804 | 2.038 | 2.249 | 3.002 |
| Bicycle LOS | A | B | B | C |

Sequence

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



Intersection Level Of Service Report
Intersection 4: Marksheffel Rd/West Driveway

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 16.2 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.108 |

Intersection Setup

| Name | Marksheffel Rd | | Marksheffel Rd | | West Driveway | |
|------------------------------|----------------|--------|----------------|--------|---------------|--------|
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration | ↔ | | | | ↔ | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 1 | 1 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 1 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 590.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | 55.00 | | 25.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | Yes | |

Volumes

| Name | Marksheffel Rd | | Marksheffel Rd | | West Driveway | |
|---|----------------|--------|----------------|--------|---------------|--------|
| Base Volume Input [veh/h] | 1320 | 0 | 0 | 571 | 0 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 36 | 90 | 0 | 80 | 0 | 36 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1356 | 90 | 0 | 651 | 0 | 36 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 368 | 24 | 0 | 177 | 0 | 10 |
| Total Analysis Volume [veh/h] | 1474 | 98 | 0 | 708 | 0 | 39 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

Intersection Settings

| | | | |
|------------------------------------|------|------|------|
| Priority Scheme | Free | Free | Stop |
| Flared Lane | | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | No |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | |
|---------------------------------------|------|------|------|------|-------|-------|
| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.11 |
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 16.18 |
| Movement LOS | A | A | | A | | C |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.36 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 9.01 |
| d_A, Approach Delay [s/veh] | 0.00 | | 0.00 | | 16.18 | |
| Approach LOS | A | | A | | C | |
| d_I, Intersection Delay [s/veh] | 0.27 | | | | | |
| Intersection LOS | C | | | | | |

Intersection Level Of Service Report
Intersection 5: Carriage Meadows Dr/East Driveway

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 12.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.033 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | East Driveway | | | Westbound | | |
|------------------------------|---------------------|--------|--------|---------------------|--------|--------|---------------|--------|--------|-----------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 25.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | East Driveway | | | Westbound | | |
|---|---------------------|--------|--------|---------------------|--------|--------|---------------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 102 | 1 | 4 | 0 | 1 | 2 | 2 | 0 | 176 | 15 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 102 | 1 | 4 | 0 | 1 | 2 | 2 | 0 | 176 | 15 | 0 | 0 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 28 | 0 | 1 | 0 | 0 | 1 | 1 | 0 | 48 | 4 | 0 | 0 |
| Total Analysis Volume [veh/h] | 111 | 1 | 4 | 0 | 1 | 2 | 2 | 0 | 191 | 16 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | | | | |
|------------------------------------|------|------|------|------|
| Priority Scheme | Free | Free | Stop | Stop |
| Flared Lane | | | No | No |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | No | No |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------------|------|------|------|------|------|------|-------|-------|-------|-------|-------|------|
| V/C, Movement V/C Ratio | 0.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.18 | 0.03 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 7.39 | 0.00 | 0.00 | 7.23 | 0.00 | 0.00 | 11.04 | 11.49 | 9.06 | 12.70 | 11.01 | 8.59 |
| Movement LOS | A | A | A | A | A | A | B | B | A | B | B | A |
| 95th-Percentile Queue Length [veh/ln] | 0.22 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.65 | 0.65 | 0.65 | 0.10 | 0.10 | 0.10 |
| 95th-Percentile Queue Length [ft/ln] | 5.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 16.30 | 16.30 | 16.30 | 2.56 | 2.56 | 2.56 |
| d_A, Approach Delay [s/veh] | 7.07 | | | 0.00 | | | 9.08 | | | 12.70 | | |
| Approach LOS | A | | | A | | | A | | | B | | |
| d_I, Intersection Delay [s/veh] | 8.46 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

Intersection Level Of Service Report
Intersection 7: Fontaine BI/Middle Driveway

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 11.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.015 |

Intersection Setup

| Name | LRCS | | | Middle Driveway | | | Fontaine BI | | | Fontaine BI | | |
|------------------------------|------------|--------|--------|-----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | ↻ | | | | | | ↻ | | | ↻ | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

Volumes

| Name | LRCS | | | Middle Driveway | | | Fontaine BI | | | Fontaine BI | | |
|---|--------|--------|--------|-----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 642 | 0 | 0 | 1591 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 89 | 34 | 0 | 153 | 33 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 731 | 34 | 0 | 1744 | 33 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 199 | 9 | 0 | 474 | 9 |
| Total Analysis Volume [veh/h] | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 795 | 37 | 0 | 1896 | 36 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | | | | |
|------------------------------------|------|------|------|------|
| Priority Scheme | Stop | Stop | Free | Free |
| Flared Lane | | | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------------|-------|------|-------|------|------|------|------|------|------|------|------|------|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 |
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 11.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Movement LOS | | | B | | | | | A | A | | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 1.14 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 11.07 | | 0.00 | | 0.00 | | 0.00 | | 0.00 | | | |
| Approach LOS | B | | A | | A | | A | | A | | | |
| d_I, Intersection Delay [s/veh] | 0.04 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

Signal Warrants Report For Intersection 4: Marksheffel Rd/West Driveway

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | N, S |
| Minor Approaches | E |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|------|---------------|------|---------------|
| | N | S | E |
| 1 | 651 | 1446 | 36 |
| 2 | 631 | 1403 | 35 |
| 3 | 618 | 1374 | 34 |
| 4 | 579 | 1287 | 32 |
| 5 | 514 | 1142 | 28 |
| 6 | 508 | 1128 | 28 |
| 7 | 501 | 1113 | 28 |
| 8 | 456 | 1012 | 25 |
| 9 | 449 | 998 | 25 |
| 10 | 443 | 983 | 24 |
| 11 | 384 | 853 | 21 |
| 12 | 358 | 795 | 20 |
| 13 | 352 | 781 | 19 |
| 14 | 260 | 578 | 14 |
| 15 | 260 | 578 | 14 |
| 16 | 182 | 405 | 10 |
| 17 | 104 | 231 | 6 |
| 18 | 104 | 231 | 6 |
| 19 | 59 | 130 | 3 |
| 20 | 33 | 72 | 2 |
| 21 | 20 | 43 | 1 |
| 22 | 7 | 14 | 0 |
| 23 | 7 | 14 | 0 |
| 24 | 7 | 14 | 0 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 3 | 2097 | 1 | 36 | No | No | No | No | No | No | No | No | No | No |
| 2 | 3 | 2034 | 1 | 35 | No | No | No | No | No | No | No | No | No | No |
| 3 | 3 | 1992 | 1 | 34 | No | No | No | No | No | No | No | No | No | No |
| 4 | 3 | 1866 | 1 | 32 | No | No | No | No | No | No | No | No | No | No |
| 5 | 3 | 1656 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 6 | 3 | 1636 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 7 | 3 | 1614 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 8 | 3 | 1468 | 1 | 25 | No | No | No | No | No | No | No | No | No | No |
| 9 | 3 | 1447 | 1 | 25 | No | No | No | No | No | No | No | No | No | No |
| 10 | 3 | 1426 | 1 | 24 | No | No | No | No | No | No | No | No | No | No |
| 11 | 3 | 1237 | 1 | 21 | No | No | No | No | No | No | No | No | No | No |
| 12 | 3 | 1153 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 13 | 3 | 1133 | 1 | 19 | No | No | No | No | No | No | No | No | No | No |
| 14 | 3 | 838 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 15 | 3 | 838 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 16 | 3 | 587 | 1 | 10 | No | No | No | No | No | No | No | No | No | No |
| 17 | 3 | 335 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 18 | 3 | 335 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 19 | 3 | 189 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 20 | 3 | 105 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 21 | 3 | 63 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 3 | 21 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 3 | 21 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 3 | 21 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| | |
|--|-----------|
| Orientation | E |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 16.2 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:09 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 36 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 2133 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | Yes |
| Warrant Met for Approach | No |
| Warrant Met for Intersection | No |

Signal Warrants Report For Intersection 5: Carriage Meadows Dr/East Driveway

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | S, N |
| Minor Approaches | E, W |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|------|---------------|---|---------------|-----|
| | S | N | E | W |
| 1 | 107 | 3 | 15 | 178 |
| 2 | 104 | 3 | 15 | 173 |
| 3 | 102 | 3 | 14 | 169 |
| 4 | 95 | 3 | 13 | 158 |
| 5 | 85 | 2 | 12 | 141 |
| 6 | 83 | 2 | 12 | 139 |
| 7 | 82 | 2 | 12 | 137 |
| 8 | 75 | 2 | 11 | 125 |
| 9 | 74 | 2 | 10 | 123 |
| 10 | 73 | 2 | 10 | 121 |
| 11 | 63 | 2 | 9 | 105 |
| 12 | 59 | 2 | 8 | 98 |
| 13 | 58 | 2 | 8 | 96 |
| 14 | 43 | 1 | 6 | 71 |
| 15 | 43 | 1 | 6 | 71 |
| 16 | 30 | 1 | 4 | 50 |
| 17 | 17 | 0 | 2 | 28 |
| 18 | 17 | 0 | 2 | 28 |
| 19 | 10 | 0 | 1 | 16 |
| 20 | 5 | 0 | 1 | 9 |
| 21 | 3 | 0 | 0 | 5 |
| 22 | 1 | 0 | 0 | 2 |
| 23 | 1 | 0 | 0 | 2 |
| 24 | 1 | 0 | 0 | 2 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 2 | 110 | 1 | 178 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 107 | 1 | 173 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 105 | 1 | 169 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 98 | 1 | 158 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 87 | 1 | 141 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 85 | 1 | 139 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 84 | 1 | 137 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 77 | 1 | 125 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 76 | 1 | 123 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 75 | 1 | 121 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 65 | 1 | 105 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 61 | 1 | 98 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 60 | 1 | 96 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 44 | 1 | 71 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 44 | 1 | 71 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 31 | 1 | 50 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 17 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 17 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 10 | 1 | 16 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 5 | 1 | 9 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 3 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 1 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 1 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 1 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| Orientation | E | W |
|--|-----------|------|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 12.7 | 9.1 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:03 | 0:26 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 15 | 178 |
| High Minor Volume Condition Met | No | Yes |
| Total Entering Volume on All Approaches During Same Hour | 303 | 303 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | No | No |
| Warrant Met for Approach | No | No |
| Warrant Met for Intersection | No | |

Signal Warrants Report For Intersection 7: Fontaine Bl/Middle Driveway

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | E, W |
| Minor Approaches | S |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|------|---------------|-----|---------------|
| | E | W | S |
| 1 | 1777 | 765 | 8 |
| 2 | 1724 | 742 | 8 |
| 3 | 1688 | 727 | 8 |
| 4 | 1582 | 681 | 7 |
| 5 | 1404 | 604 | 6 |
| 6 | 1386 | 597 | 6 |
| 7 | 1368 | 589 | 6 |
| 8 | 1244 | 536 | 6 |
| 9 | 1226 | 528 | 6 |
| 10 | 1208 | 520 | 5 |
| 11 | 1048 | 451 | 5 |
| 12 | 977 | 421 | 4 |
| 13 | 960 | 413 | 4 |
| 14 | 711 | 306 | 3 |
| 15 | 711 | 306 | 3 |
| 16 | 498 | 214 | 2 |
| 17 | 284 | 122 | 1 |
| 18 | 284 | 122 | 1 |
| 19 | 160 | 69 | 1 |
| 20 | 89 | 38 | 0 |
| 21 | 53 | 23 | 0 |
| 22 | 18 | 8 | 0 |
| 23 | 18 | 8 | 0 |
| 24 | 18 | 8 | 0 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 3 | 2542 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 2 | 3 | 2466 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 3 | 3 | 2415 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 4 | 3 | 2263 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| 5 | 3 | 2008 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 6 | 3 | 1983 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 7 | 3 | 1957 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 8 | 3 | 1780 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 9 | 3 | 1754 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 10 | 3 | 1728 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 11 | 3 | 1499 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 12 | 3 | 1398 | 1 | 4 | No | No | No | No | No | No | No | No | No | No |
| 13 | 3 | 1373 | 1 | 4 | No | No | No | No | No | No | No | No | No | No |
| 14 | 3 | 1017 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 15 | 3 | 1017 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 16 | 3 | 712 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 17 | 3 | 406 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 18 | 3 | 406 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 19 | 3 | 229 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 20 | 3 | 127 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 21 | 3 | 76 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 22 | 3 | 26 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 3 | 26 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 3 | 26 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| | |
|--|-----------|
| Orientation | S |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 11.1 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:01 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 8 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 2550 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | Yes |
| Warrant Met for Approach | No |
| Warrant Met for Intersection | No |

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Intersection Level Of Service Report
Intersection 1: Marksheffel Rd/Fontaine BI

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 49.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.762 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine BI | | | Fontaine BI | | |
|------------------------------|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | [Diagram] | | | [Diagram] | | | [Diagram] | | | [Diagram] | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 680.00 | 100.00 | 680.00 | 750.00 | 100.00 | 500.00 | 360.00 | 100.00 | 200.00 | 535.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 157 | 442 | 432 | 729 | 707 | 93 | 107 | 999 | 266 | 244 | 570 | 425 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 91 | 40 | 103 | 0 | 0 | 20 | 45 | 0 | 121 | 68 | 37 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 236 | 0 | 0 | 47 | 0 | 0 | 133 | 0 | 0 | 231 |
| Total Hourly Volume [veh/h] | 157 | 533 | 236 | 832 | 707 | 46 | 127 | 1044 | 133 | 365 | 638 | 231 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 43 | 145 | 64 | 226 | 192 | 13 | 35 | 284 | 36 | 99 | 173 | 63 |
| Total Analysis Volume [veh/h] | 171 | 579 | 257 | 904 | 768 | 50 | 138 | 1135 | 145 | 397 | 693 | 251 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 120 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss | Protecte | Permiss | Permiss |
|------------------------------|----------|---------|---------|----------|---------|---------|----------|---------|---------|----------|---------|---------|
| Signal Group | 1 | 6 | 0 | 5 | 2 | 0 | 3 | 8 | 0 | 7 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 | 5 | 10 | 0 |
| Maximum Green [s] | 5 | 103 | 0 | 5 | 103 | 0 | 5 | 109 | 0 | 5 | 109 | 0 |
| Amber [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| All red [s] | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 |
| Split [s] | 38 | 35 | 0 | 35 | 32 | 0 | 21 | 31 | 0 | 19 | 29 | 0 |
| Vehicle Extension [s] | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 24 | 0 | 0 | 21 | 0 | 0 | 14 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 |
| Minimum Recall | No | No | | No | No | | No | No | | No | No | |
| Maximum Recall | No | No | | No | No | | No | No | | No | No | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 14 | 31 | 31 | 31 | 48 | 48 | 11 | 27 | 27 | 15 | 31 | 31 |
| g / C, Green / Cycle | 0.11 | 0.26 | 0.26 | 0.26 | 0.40 | 0.40 | 0.09 | 0.23 | 0.23 | 0.12 | 0.26 | 0.26 |
| (v / s)_i Volume / Saturation Flow Rate | 0.10 | 0.16 | 0.16 | 0.26 | 0.22 | 0.03 | 0.08 | 0.22 | 0.09 | 0.11 | 0.19 | 0.16 |
| s, saturation flow rate [veh/h] | 1781 | 3560 | 1589 | 3459 | 3560 | 1589 | 1781 | 5094 | 1589 | 3459 | 3560 | 1589 |
| c, Capacity [veh/h] | 202 | 922 | 411 | 889 | 1433 | 640 | 166 | 1152 | 359 | 432 | 918 | 410 |
| d1, Uniform Delay [s] | 52.21 | 39.38 | 39.34 | 44.61 | 27.33 | 22.13 | 53.52 | 46.25 | 39.56 | 51.94 | 41.05 | 39.26 |
| k, delay calibration | 0.11 | 0.50 | 0.50 | 0.11 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 9.40 | 3.24 | 6.99 | 18.61 | 1.44 | 0.24 | 10.24 | 9.35 | 0.73 | 8.36 | 1.29 | 1.49 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | | |
|---------------------------------------|--------|--------|--------|--------|--------|-------|--------|--------|--------|--------|--------|--------|
| X, volume / capacity | 0.85 | 0.63 | 0.62 | 1.02 | 0.54 | 0.08 | 0.83 | 0.99 | 0.40 | 0.92 | 0.75 | 0.61 |
| d, Delay for Lane Group [s/veh] | 61.60 | 42.62 | 46.33 | 63.22 | 28.78 | 22.37 | 63.76 | 55.61 | 40.28 | 60.30 | 42.34 | 40.75 |
| Lane Group LOS | E | D | D | F | C | C | E | E | D | E | D | D |
| Critical Lane Group | No | Yes | No | Yes | No | No | No | Yes | No | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 5.36 | 7.57 | 7.15 | 14.69 | 8.07 | 0.86 | 4.46 | 11.83 | 3.62 | 6.24 | 9.28 | 6.49 |
| 50th-Percentile Queue Length [ft/ln] | 133.97 | 189.28 | 178.63 | 367.26 | 201.65 | 21.57 | 111.55 | 295.77 | 90.59 | 156.11 | 232.03 | 162.13 |
| 95th-Percentile Queue Length [veh/ln] | 9.16 | 12.08 | 11.53 | 21.19 | 12.72 | 1.55 | 7.93 | 17.47 | 6.52 | 10.34 | 14.28 | 10.66 |
| 95th-Percentile Queue Length [ft/ln] | 228.88 | 302.10 | 288.23 | 529.84 | 318.10 | 38.82 | 198.16 | 436.79 | 163.06 | 258.57 | 356.94 | 266.55 |

Movement, Approach, & Intersection Results

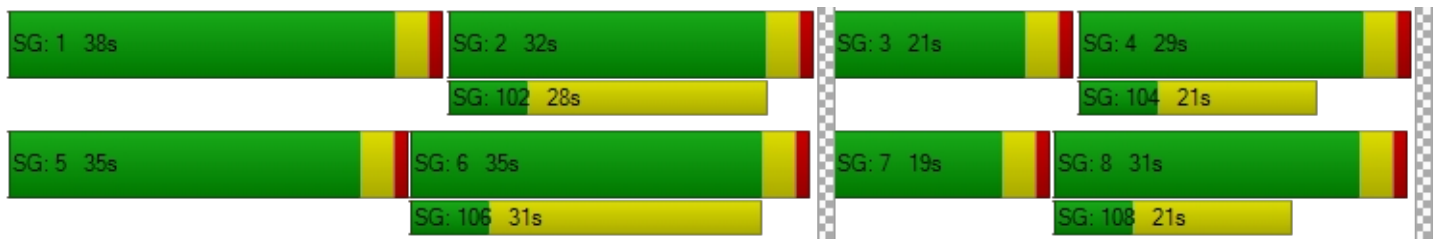
| | | | | | | | | | | | | |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 61.60 | 42.62 | 46.33 | 63.22 | 28.78 | 22.37 | 63.76 | 55.61 | 40.28 | 60.30 | 42.34 | 40.75 |
| Movement LOS | E | D | D | F | C | C | E | E | D | E | D | D |
| d_A, Approach Delay [s/veh] | 46.79 | | | 46.67 | | | 54.83 | | | 47.36 | | |
| Approach LOS | D | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 48.97 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.762 | | | | | | | | | | | |

Other Modes

| | | | | |
|--|-------|-------|-------|-------|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | 11.0 | 11.0 | 11.0 |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 49.52 | 49.52 | 49.52 | 49.52 |
| I_p,int, Pedestrian LOS Score for Intersectio | 3.603 | 3.432 | 3.322 | 3.666 |
| Crosswalk LOS | D | C | C | D |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 517 | 467 | 450 | 417 |
| d_b, Bicycle Delay [s] | 33.02 | 35.28 | 36.05 | 37.62 |
| I_b,int, Bicycle LOS Score for Intersection | 2.585 | 3.019 | 2.413 | 2.857 |
| Bicycle LOS | B | C | B | C |

Sequence

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



Intersection Level Of Service Report
Intersection 2: Marksheffel Rd/Lorson Bl

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 16.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.836 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | Eastbound | | | Lorson Bl | | |
|------------------------------|----------------|--------|--------|----------------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 500.00 | 580.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 55.00 | | | 30.00 | | | 25.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Marksheffel Rd | | | Marksheffel Rd | | | | | | Lorson Bl | | |
|---|----------------|--------|--------|----------------|--------|--------|--------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h] | 159 | 742 | 568 | 284 | 610 | 34 | 47 | 15 | 41 | 348 | 20 | 199 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 119 | 0 | 0 | 121 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 284 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 |
| Total Hourly Volume [veh/h] | 159 | 861 | 284 | 284 | 731 | 34 | 47 | 15 | 41 | 348 | 20 | 99 |
| Peak Hour Factor | 1.0000 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9200 | 1.0000 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 40 | 234 | 77 | 77 | 199 | 9 | 12 | 4 | 10 | 95 | 5 | 27 |
| Total Analysis Volume [veh/h] | 159 | 936 | 309 | 309 | 795 | 34 | 47 | 15 | 41 | 378 | 20 | 108 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 70 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Signal Group | 0 | 6 | 0 | 0 | 2 | 0 | 0 | 8 | 0 | 0 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 |
| Maximum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 | 0 | 10 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 36 | 0 | 0 | 36 | 0 | 0 | 34 | 0 | 0 | 34 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 17 | 0 | 0 | 10 | 0 | 0 | 23 | 0 | 0 | 21 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | | No | | | No | |
| Maximum Recall | | No | | | No | | | No | | | No | |
| Pedestrian Recall | | No | | | No | | | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | L | C | R |
|---|-------|------|------|-------|------|------|-------|-------|-------|-------|-------|
| C, Cycle Length [s] | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 | 70 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 2.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 45 | 45 | 45 | 45 | 45 | 45 | 17 | 17 | 17 | 17 | 17 |
| g / C, Green / Cycle | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.64 | 0.24 | 0.24 | 0.24 | 0.24 | 0.24 |
| (v / s)_i Volume / Saturation Flow Rate | 0.24 | 0.26 | 0.19 | 0.69 | 0.22 | 0.02 | 0.04 | 0.03 | 0.14 | 0.01 | 0.07 |
| s, saturation flow rate [veh/h] | 661 | 3560 | 1589 | 447 | 3560 | 1589 | 1262 | 1656 | 2616 | 1870 | 1589 |
| c, Capacity [veh/h] | 446 | 2287 | 1021 | 324 | 2287 | 1021 | 350 | 402 | 568 | 454 | 386 |
| d1, Uniform Delay [s] | 10.64 | 6.06 | 5.54 | 22.53 | 5.75 | 4.56 | 23.45 | 20.71 | 27.60 | 20.23 | 21.47 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.22 | 0.54 | 0.76 | 39.29 | 0.42 | 0.06 | 0.17 | 0.16 | 1.35 | 0.04 | 0.39 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, platoon ratio | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | |
|---------------------------------------|-------|-------|-------|--------|-------|------|-------|-------|--------|-------|-------|
| X, volume / capacity | 0.36 | 0.41 | 0.30 | 0.95 | 0.35 | 0.03 | 0.13 | 0.14 | 0.67 | 0.04 | 0.28 |
| d, Delay for Lane Group [s/veh] | 12.86 | 6.60 | 6.30 | 61.82 | 6.17 | 4.62 | 23.62 | 20.87 | 28.96 | 20.27 | 21.86 |
| Lane Group LOS | B | A | A | E | A | A | C | C | C | C | C |
| Critical Lane Group | No | No | No | Yes | No | No | No | No | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 1.39 | 2.02 | 1.33 | 8.30 | 1.62 | 0.12 | 0.64 | 0.70 | 3.05 | 0.25 | 1.44 |
| 50th-Percentile Queue Length [ft/ln] | 34.65 | 50.54 | 33.33 | 207.46 | 40.58 | 2.96 | 15.97 | 17.57 | 76.24 | 6.22 | 35.96 |
| 95th-Percentile Queue Length [veh/ln] | 2.50 | 3.64 | 2.40 | 13.02 | 2.92 | 0.21 | 1.15 | 1.27 | 5.49 | 0.45 | 2.59 |
| 95th-Percentile Queue Length [ft/ln] | 62.38 | 90.97 | 60.00 | 325.57 | 73.04 | 5.33 | 28.74 | 31.63 | 137.23 | 11.19 | 64.73 |

Movement, Approach, & Intersection Results

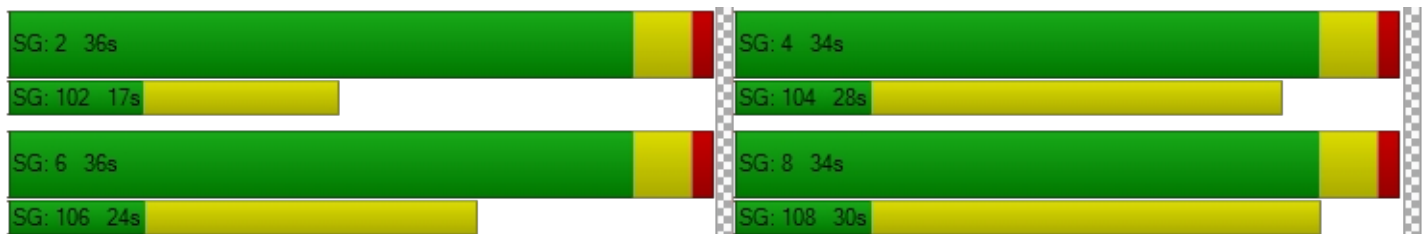
| | | | | | | | | | | | | |
|---------------------------------|-------|------|------|-------|------|------|-------|-------|-------|-------|-------|-------|
| d_M, Delay for Movement [s/veh] | 12.86 | 6.60 | 6.30 | 61.82 | 6.17 | 4.62 | 23.62 | 20.87 | 20.87 | 28.96 | 20.27 | 21.86 |
| Movement LOS | B | A | A | E | A | A | C | C | C | C | C | C |
| d_A, Approach Delay [s/veh] | 7.24 | | | 21.23 | | | 22.12 | | | 27.10 | | |
| Approach LOS | A | | | C | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 15.97 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |
| Intersection V/C | 0.836 | | | | | | | | | | | |

Other Modes

| | | | | | | | | | | | | |
|--|-------|--|--|-------|--|--|-------|--|--|-------|--|--|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | | | 11.0 | | | 11.0 | | | 11.0 | | |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| d_p, Pedestrian Delay [s] | 24.82 | | | 24.82 | | | 24.82 | | | 24.82 | | |
| I_p,int, Pedestrian LOS Score for Intersectio | 4.245 | | | 3.200 | | | 2.255 | | | 3.115 | | |
| Crosswalk LOS | D | | | C | | | B | | | C | | |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | | | 2000 | | | 2000 | | | 2000 | | |
| c_b, Capacity of the bicycle lane [bicycles/h] | 915 | | | 915 | | | 858 | | | 858 | | |
| d_b, Bicycle Delay [s] | 10.28 | | | 10.28 | | | 11.40 | | | 11.40 | | |
| I_b,int, Bicycle LOS Score for Intersection | 2.952 | | | 2.498 | | | 1.730 | | | 2.560 | | |
| Bicycle LOS | C | | | B | | | A | | | B | | |

Sequence





| | | | | | | | | | | | | | | | | | |
|--------|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Ring 1 | - | 2 | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 2 | - | 6 | - | 8 | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 3 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Ring 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |



Intersection Level Of Service Report
Intersection 3: Fontaine Bl/Carriage Meadows Dr

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 20.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.797 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|---|--------|--------|---|--------|--------|---|--------|--------|---|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | |  | | |  | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 510.00 | 100.00 | 100.00 | 330.00 | 100.00 | 330.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | Fontaine BI | | | Fontaine BI | | |
|---|---------------------|--------|--------|---------------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 23 | 5 | 8 | 5 | 5 | 8 | 56 | 2160 | 44 | 8 | 1200 | 6 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | |
| Growth Factor | 1.7120 | 1.0000 | 1.7120 | 1.7120 | 1.0000 | 1.7120 | 1.7120 | 1.0000 | 1.7120 | 1.7120 | 1.0000 | 1.7120 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 117 | 3 | 30 | 57 | 4 | 110 | 67 | 30 | 40 | 58 | 27 | 31 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Right Turn on Red Volume [veh/h] | 0 | 0 | 22 | 0 | 0 | 62 | 0 | 0 | 58 | 0 | 0 | 21 |
| Total Hourly Volume [veh/h] | 156 | 8 | 22 | 66 | 9 | 62 | 163 | 2190 | 57 | 72 | 1227 | 20 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 42 | 2 | 6 | 18 | 2 | 17 | 44 | 595 | 15 | 20 | 333 | 5 |
| Total Analysis Volume [veh/h] | 170 | 9 | 24 | 72 | 10 | 67 | 177 | 2380 | 62 | 78 | 1334 | 22 |
| Presence of On-Street Parking | No | | No | No | | No | No | | No | No | | No |
| On-Street Parking Maneuver Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Local Bus Stopping Rate [/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| v_do, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_di, Inbound Pedestrian Volume crossing m | 0 | | | 0 | | | 0 | | | 0 | | |
| v_co, Outbound Pedestrian Volume crossing | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ci, Inbound Pedestrian Volume crossing mi | 0 | | | 0 | | | 0 | | | 0 | | |
| v_ab, Corner Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |
| Bicycle Volume [bicycles/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | |
|---------------------------|---------------------------------------|
| Located in CBD | No |
| Signal Coordination Group | - |
| Cycle Length [s] | 90 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Semi-actuated |
| Offset [s] | 0.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

Phasing & Timing

| Control Type | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Protecte | Permiss | Permiss | Permiss | Permiss | Permiss |
|------------------------------|---------|---------|---------|---------|---------|---------|----------|---------|---------|---------|---------|---------|
| Signal Group | 0 | 8 | 0 | 0 | 4 | 0 | 5 | 2 | 0 | 0 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Lead / Lag | - | - | - | - | - | - | Lead | - | - | - | - | - |
| Minimum Green [s] | 0 | 10 | 0 | 0 | 10 | 0 | 5 | 10 | 0 | 0 | 10 | 0 |
| Maximum Green [s] | 0 | 34 | 0 | 0 | 34 | 0 | 5 | 168 | 0 | 0 | 168 | 0 |
| Amber [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| All red [s] | 0.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 | 1.0 | 0.0 | 0.0 | 1.0 | 0.0 |
| Split [s] | 0 | 38 | 0 | 0 | 38 | 0 | 13 | 52 | 0 | 0 | 39 | 0 |
| Vehicle Extension [s] | 0.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3.0 | 3.0 | 0.0 | 0.0 | 3.0 | 0.0 |
| Walk [s] | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 23 | 0 | 0 | 27 | 0 | 0 | 7 | 0 | 0 | 14 | 0 |
| Delayed Vehicle Green [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 |
| Rest In Walk | | No | | | No | | | No | | | No | |
| I1, Start-Up Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Minimum Recall | | No | | | No | | No | No | | | No | |
| Maximum Recall | | No | | | No | | No | No | | | No | |
| Pedestrian Recall | | No | | | No | | No | No | | | No | |
| Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Exclusive Pedestrian Phase

| | |
|--------------------------|---|
| Pedestrian Signal Group | 0 |
| Pedestrian Walk [s] | 0 |
| Pedestrian Clearance [s] | 0 |

Lane Group Calculations

| Lane Group | L | C | R | L | C | R | L | C | R | L | C | R |
|---|-------|-------|-------|-------|-------|-------|-------|------|------|-------|-------|------|
| C, Cycle Length [s] | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 | 90 |
| L, Total Lost Time per Cycle [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 2.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 14 | 14 | 14 | 14 | 14 | 14 | 9 | 68 | 68 | 55 | 55 | 55 |
| g / C, Green / Cycle | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.16 | 0.10 | 0.75 | 0.75 | 0.61 | 0.61 | 0.61 |
| (v / s)_i Volume / Saturation Flow Rate | 0.13 | 0.00 | 0.02 | 0.05 | 0.01 | 0.04 | 0.10 | 0.67 | 0.04 | 0.56 | 0.37 | 0.01 |
| s, saturation flow rate [veh/h] | 1322 | 1870 | 1589 | 1376 | 1870 | 1589 | 1781 | 3560 | 1589 | 139 | 3560 | 1589 |
| c, Capacity [veh/h] | 282 | 300 | 255 | 290 | 300 | 255 | 178 | 2673 | 1193 | 84 | 2159 | 964 |
| d1, Uniform Delay [s] | 37.07 | 31.89 | 32.22 | 34.07 | 31.90 | 33.13 | 40.47 | 8.42 | 2.91 | 44.93 | 11.15 | 7.07 |
| k, delay calibration | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.11 | 0.35 | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 |
| l, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.07 | 0.04 | 0.16 | 0.44 | 0.04 | 0.54 | 55.17 | 4.96 | 0.08 | 79.70 | 1.34 | 0.04 |
| d3, Initial Queue Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Rp, 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

Lane Group Results

| | | | | | | | | | | | | |
|---------------------------------------|--------|-------|-------|-------|-------|-------|--------|--------|------|--------|--------|------|
| X, volume / capacity | 0.60 | 0.03 | 0.09 | 0.25 | 0.03 | 0.26 | 0.99 | 0.89 | 0.05 | 0.93 | 0.62 | 0.02 |
| d, Delay for Lane Group [s/veh] | 39.14 | 31.93 | 32.38 | 34.51 | 31.95 | 33.67 | 95.64 | 13.39 | 2.99 | 124.64 | 12.49 | 7.11 |
| Lane Group LOS | D | C | C | C | C | C | F | B | A | F | B | A |
| Critical Lane Group | Yes | No | No | No | No | No | No | Yes | No | No | No | No |
| 50th-Percentile Queue Length [veh/ln] | 3.78 | 0.17 | 0.46 | 1.44 | 0.19 | 1.32 | 6.45 | 11.34 | 0.20 | 3.53 | 7.08 | 0.15 |
| 50th-Percentile Queue Length [ft/ln] | 94.49 | 4.23 | 11.46 | 36.10 | 4.71 | 33.06 | 161.26 | 283.52 | 4.95 | 88.33 | 176.88 | 3.78 |
| 95th-Percentile Queue Length [veh/ln] | 6.80 | 0.30 | 0.83 | 2.60 | 0.34 | 2.38 | 10.62 | 16.86 | 0.36 | 6.36 | 11.44 | 0.27 |
| 95th-Percentile Queue Length [ft/ln] | 170.07 | 7.62 | 20.63 | 64.97 | 8.47 | 59.50 | 265.40 | 421.59 | 8.92 | 158.99 | 285.94 | 6.81 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|------|--------|-------|------|
| d_M, Delay for Movement [s/veh] | 39.14 | 31.93 | 32.38 | 34.51 | 31.95 | 33.67 | 95.64 | 13.39 | 2.99 | 124.64 | 12.49 | 7.11 |
| Movement LOS | D | C | C | C | C | C | F | B | A | F | B | A |
| d_A, Approach Delay [s/veh] | 38.02 | | | 33.96 | | | 18.70 | | | 18.50 | | |
| Approach LOS | D | | | C | | | B | | | B | | |
| d_I, Intersection Delay [s/veh] | 20.04 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.797 | | | | | | | | | | | |

Other Modes

| | | | | | | | | | | | | |
|--|-------|--|--|-------|--|--|-------|--|--|-------|--|--|
| g_Walk,mi, Effective Walk Time [s] | 11.0 | | | 11.0 | | | 11.0 | | | 11.0 | | |
| M_corner, Corner Circulation Area [ft ² /ped] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| M_CW, Crosswalk Circulation Area [ft ² /ped] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| d_p, Pedestrian Delay [s] | 34.67 | | | 34.67 | | | 34.67 | | | 34.67 | | |
| I_p,int, Pedestrian LOS Score for Intersectio | 2.361 | | | 2.308 | | | 3.818 | | | 3.548 | | |
| Crosswalk LOS | B | | | B | | | D | | | D | | |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | | | 2000 | | | 2000 | | | 2000 | | |
| c_b, Capacity of the bicycle lane [bicycles/h] | 756 | | | 756 | | | 1067 | | | 778 | | |
| d_b, Bicycle Delay [s] | 17.42 | | | 17.42 | | | 9.80 | | | 16.81 | | |
| I_b,int, Bicycle LOS Score for Intersection | 1.931 | | | 1.908 | | | 3.768 | | | 2.760 | | |
| Bicycle LOS | A | | | A | | | D | | | C | | |

Sequence

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



Intersection Level Of Service Report
Intersection 4: Marksheffel Rd/West Driveway

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 13.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.075 |

Intersection Setup

| Name | Marksheffel Rd | | Marksheffel Rd | | West Driveway | |
|------------------------------|----------------|--------|----------------|--------|---------------|--------|
| Approach | Northbound | | Southbound | | Westbound | |
| Lane Configuration | ↗ | | ↑ | | ↖ | |
| Turning Movement | Thru | Right | Left | Thru | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 1 | 1 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 1 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 590.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | 55.00 | | 25.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | Yes | |

Volumes

| Name | Marksheffel Rd | | Marksheffel Rd | | West Driveway | |
|---|----------------|--------|----------------|--------|---------------|--------|
| Base Volume Input [veh/h] | 974 | 0 | 0 | 1529 | 0 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 73 | 75 | 0 | 103 | 0 | 32 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 1047 | 75 | 0 | 1632 | 0 | 32 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 285 | 20 | 0 | 443 | 0 | 9 |
| Total Analysis Volume [veh/h] | 1138 | 82 | 0 | 1774 | 0 | 35 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

Intersection Settings

| | | | |
|------------------------------------|------|------|------|
| Priority Scheme | Free | Free | Stop |
| Flared Lane | | | |
| Storage Area [veh] | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | No |
| Number of Storage Spaces in Median | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | |
|---------------------------------------|------|------|------|------|-------|-------|
| V/C, Movement V/C Ratio | 0.01 | 0.00 | 0.00 | 0.02 | 0.00 | 0.08 |
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 13.36 |
| Movement LOS | A | A | | A | | B |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.24 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.07 |
| d_A, Approach Delay [s/veh] | 0.00 | | 0.00 | | 13.36 | |
| Approach LOS | A | | A | | B | |
| d_I, Intersection Delay [s/veh] | 0.15 | | | | | |
| Intersection LOS | B | | | | | |

Intersection Level Of Service Report
Intersection 5: Carriage Meadows Dr/East Driveway

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 11.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.023 |

Intersection Setup

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | East Driveway | | | Westbound | | |
|------------------------------|---------------------|--------|--------|---------------------|--------|--------|---------------|--------|--------|-----------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 25.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

Volumes

| Name | Carriage Meadows Dr | | | Carriage Meadows Dr | | | East Driveway | | | Westbound | | |
|---|---------------------|--------|--------|---------------------|--------|--------|---------------|--------|--------|-----------|--------|--------|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 85 | 2 | 14 | 0 | 2 | 2 | 2 | 0 | 158 | 11 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 85 | 2 | 14 | 0 | 2 | 2 | 2 | 0 | 158 | 11 | 0 | 0 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 23 | 1 | 4 | 0 | 1 | 1 | 1 | 0 | 43 | 3 | 0 | 0 |
| Total Analysis Volume [veh/h] | 92 | 2 | 15 | 0 | 2 | 2 | 2 | 0 | 172 | 12 | 0 | 0 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | | | | |
|------------------------------------|------|------|------|------|
| Priority Scheme | Free | Free | Stop | Stop |
| Flared Lane | | | No | No |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | | | No | No |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------------|------|------|------|------|------|------|-------|-------|-------|-------|-------|------|
| V/C, Movement V/C Ratio | 0.06 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.02 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 7.36 | 0.00 | 0.00 | 7.25 | 0.00 | 0.00 | 10.65 | 11.16 | 8.98 | 11.93 | 10.62 | 8.51 |
| Movement LOS | A | A | A | A | A | A | B | B | A | B | B | A |
| 95th-Percentile Queue Length [veh/ln] | 0.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.58 | 0.58 | 0.58 | 0.07 | 0.07 | 0.07 |
| 95th-Percentile Queue Length [ft/ln] | 4.52 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 14.42 | 14.42 | 14.42 | 1.73 | 1.73 | 1.73 |
| d_A, Approach Delay [s/veh] | 6.21 | | | 0.00 | | | 9.00 | | | 11.93 | | |
| Approach LOS | A | | | A | | | A | | | B | | |
| d_I, Intersection Delay [s/veh] | 7.98 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

**Intersection Level Of Service Report
Intersection 7: Fontaine BI/Middle Driveway**

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Two-way stop | Delay (sec / veh): | 31.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.196 |

Intersection Setup

| Name | LRCS | | | Middle Driveway | | | Fontaine BI | | | Fontaine BI | | |
|------------------------------|------------|--------|--------|-----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | ↶ | | | | | | ↶ | | | ↶ | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 25.00 | | | 25.00 | | | 45.00 | | | 45.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | No | | | No | | |

Volumes

| Name | LRCS | | | Middle Driveway | | | Fontaine BI | | | Fontaine BI | | |
|---|--------|--------|--------|-----------------|--------|--------|-------------|--------|--------|-------------|--------|--------|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2160 | 0 | 0 | 1239 | 0 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Heavy Vehicles Percentage [%] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 |
| Growth Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 107 | 81 | 0 | 226 | 28 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Existing Site Adjustment Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 2267 | 81 | 0 | 1465 | 28 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 0 | 0 | 8 | 0 | 0 | 0 | 0 | 616 | 22 | 0 | 398 | 8 |
| Total Analysis Volume [veh/h] | 0 | 0 | 33 | 0 | 0 | 0 | 0 | 2464 | 88 | 0 | 1592 | 30 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

Intersection Settings

| | | | | |
|------------------------------------|------|------|------|------|
| Priority Scheme | Stop | Stop | Free | Free |
| Flared Lane | | | | |
| Storage Area [veh] | 0 | 0 | 0 | 0 |
| Two-Stage Gap Acceptance | No | | | |
| Number of Storage Spaces in Median | 0 | 0 | 0 | 0 |

Movement, Approach, & Intersection Results

| | | | | | | | | | | | | |
|---------------------------------------|-------|------|-------|------|------|------|------|------|------|------|------|------|
| V/C, Movement V/C Ratio | 0.00 | 0.00 | 0.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.02 | 0.00 |
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 31.44 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Movement LOS | | | D | | | | | A | A | | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.70 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 17.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 31.44 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Approach LOS | D | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.25 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |

Signal Warrants Report For Intersection 4: Marksheffel Rd/West Driveway

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | N, S |
| Minor Approaches | E |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|------|---------------|------|---------------|
| | N | S | E |
| 1 | 1632 | 1122 | 32 |
| 2 | 1583 | 1088 | 31 |
| 3 | 1550 | 1066 | 30 |
| 4 | 1452 | 999 | 28 |
| 5 | 1289 | 886 | 25 |
| 6 | 1273 | 875 | 25 |
| 7 | 1257 | 864 | 25 |
| 8 | 1142 | 785 | 22 |
| 9 | 1126 | 774 | 22 |
| 10 | 1110 | 763 | 22 |
| 11 | 963 | 662 | 19 |
| 12 | 898 | 617 | 18 |
| 13 | 881 | 606 | 17 |
| 14 | 653 | 449 | 13 |
| 15 | 653 | 449 | 13 |
| 16 | 457 | 314 | 9 |
| 17 | 261 | 180 | 5 |
| 18 | 261 | 180 | 5 |
| 19 | 147 | 101 | 3 |
| 20 | 82 | 56 | 2 |
| 21 | 49 | 34 | 1 |
| 22 | 16 | 11 | 0 |
| 23 | 16 | 11 | 0 |
| 24 | 16 | 11 | 0 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 3 | 2754 | 1 | 32 | No | No | No | No | No | No | No | No | No | No |
| 2 | 3 | 2671 | 1 | 31 | No | No | No | No | No | No | No | No | No | No |
| 3 | 3 | 2616 | 1 | 30 | No | No | No | No | No | No | No | No | No | No |
| 4 | 3 | 2451 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 5 | 3 | 2175 | 1 | 25 | No | No | No | No | No | No | No | No | No | No |
| 6 | 3 | 2148 | 1 | 25 | No | No | No | No | No | No | No | No | No | No |
| 7 | 3 | 2121 | 1 | 25 | No | No | No | No | No | No | No | No | No | No |
| 8 | 3 | 1927 | 1 | 22 | No | No | No | No | No | No | No | No | No | No |
| 9 | 3 | 1900 | 1 | 22 | No | No | No | No | No | No | No | No | No | No |
| 10 | 3 | 1873 | 1 | 22 | No | No | No | No | No | No | No | No | No | No |
| 11 | 3 | 1625 | 1 | 19 | No | No | No | No | No | No | No | No | No | No |
| 12 | 3 | 1515 | 1 | 18 | No | No | No | No | No | No | No | No | No | No |
| 13 | 3 | 1487 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 14 | 3 | 1102 | 1 | 13 | No | No | No | No | No | No | No | No | No | No |
| 15 | 3 | 1102 | 1 | 13 | No | No | No | No | No | No | No | No | No | No |
| 16 | 3 | 771 | 1 | 9 | No | No | No | No | No | No | No | No | No | No |
| 17 | 3 | 441 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 18 | 3 | 441 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 19 | 3 | 248 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 20 | 3 | 138 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 21 | 3 | 83 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 3 | 27 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 3 | 27 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 3 | 27 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| | |
|--|-----------|
| Orientation | E |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 13.4 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:07 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 32 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 2786 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | Yes |
| Warrant Met for Approach | No |
| Warrant Met for Intersection | No |

Signal Warrants Report For Intersection 5: Carriage Meadows Dr/East Driveway

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | S, N |
| Minor Approaches | E, W |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|------|---------------|---|---------------|-----|
| | S | N | E | W |
| 1 | 101 | 4 | 11 | 160 |
| 2 | 98 | 4 | 11 | 155 |
| 3 | 96 | 4 | 10 | 152 |
| 4 | 90 | 4 | 10 | 142 |
| 5 | 80 | 3 | 9 | 126 |
| 6 | 79 | 3 | 9 | 125 |
| 7 | 78 | 3 | 8 | 123 |
| 8 | 71 | 3 | 8 | 112 |
| 9 | 70 | 3 | 8 | 110 |
| 10 | 69 | 3 | 7 | 109 |
| 11 | 60 | 2 | 6 | 94 |
| 12 | 56 | 2 | 6 | 88 |
| 13 | 55 | 2 | 6 | 86 |
| 14 | 40 | 2 | 4 | 64 |
| 15 | 40 | 2 | 4 | 64 |
| 16 | 28 | 1 | 3 | 45 |
| 17 | 16 | 1 | 2 | 26 |
| 18 | 16 | 1 | 2 | 26 |
| 19 | 9 | 0 | 1 | 14 |
| 20 | 5 | 0 | 1 | 8 |
| 21 | 3 | 0 | 0 | 5 |
| 22 | 1 | 0 | 0 | 2 |
| 23 | 1 | 0 | 0 | 2 |
| 24 | 1 | 0 | 0 | 2 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 2 | 105 | 1 | 160 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 102 | 1 | 155 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 100 | 1 | 152 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 94 | 1 | 142 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 83 | 1 | 126 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 82 | 1 | 125 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 81 | 1 | 123 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 74 | 1 | 112 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 73 | 1 | 110 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 72 | 1 | 109 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 62 | 1 | 94 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 58 | 1 | 88 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 57 | 1 | 86 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 42 | 1 | 64 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 42 | 1 | 64 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 29 | 1 | 45 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 17 | 1 | 26 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 17 | 1 | 26 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 9 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 5 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 3 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 1 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 1 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 1 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| Orientation | E | W |
|--|-----------|------|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 11.9 | 9 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:02 | 0:23 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 11 | 160 |
| High Minor Volume Condition Met | No | Yes |
| Total Entering Volume on All Approaches During Same Hour | 276 | 276 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | No | No |
| Warrant Met for Approach | No | No |
| Warrant Met for Intersection | No | |

Signal Warrants Report For Intersection 7: Fontaine Bl/Middle Driveway

Warrants Summary

| Warrant | Name | Met? |
|---------|-----------------------------|------|
| #1 | Eight Hour Vehicular Volume | No |
| #2 | Four Hour Vehicular Volume | No |
| #3 | Peak Hour | No |

Intersection Warrants Parameters

| | |
|---------------------|------|
| Major Approaches | E, W |
| Minor Approaches | S |
| Speed > 40mph | Yes |
| Population < 10,000 | No |
| Warrant Factor | 70% |

Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|------|---------------|------|---------------|
| | E | W | S |
| 1 | 1493 | 2348 | 30 |
| 2 | 1448 | 2278 | 29 |
| 3 | 1418 | 2231 | 29 |
| 4 | 1329 | 2090 | 27 |
| 5 | 1179 | 1855 | 24 |
| 6 | 1165 | 1831 | 23 |
| 7 | 1150 | 1808 | 23 |
| 8 | 1045 | 1644 | 21 |
| 9 | 1030 | 1620 | 21 |
| 10 | 1015 | 1597 | 20 |
| 11 | 881 | 1385 | 18 |
| 12 | 821 | 1291 | 17 |
| 13 | 806 | 1268 | 16 |
| 14 | 597 | 939 | 12 |
| 15 | 597 | 939 | 12 |
| 16 | 418 | 657 | 8 |
| 17 | 239 | 376 | 5 |
| 18 | 239 | 376 | 5 |
| 19 | 134 | 211 | 3 |
| 20 | 75 | 117 | 2 |
| 21 | 45 | 70 | 1 |
| 22 | 15 | 23 | 0 |
| 23 | 15 | 23 | 0 |
| 24 | 15 | 23 | 0 |

Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 Condition B |
|-----------|---------------|--------|--------------|--------|-----------------------|-----|-----|-----|-----------------------|-----|-----|-----|-----------|--------------------------|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | |
| 1 | 3 | 3841 | 1 | 30 | No | No | No | No | No | No | No | No | No | No |
| 2 | 3 | 3726 | 1 | 29 | No | No | No | No | No | No | No | No | No | No |
| 3 | 3 | 3649 | 1 | 29 | No | No | No | No | No | No | No | No | No | No |
| 4 | 3 | 3419 | 1 | 27 | No | No | No | No | No | No | No | No | No | No |
| 5 | 3 | 3034 | 1 | 24 | No | No | No | No | No | No | No | No | No | No |
| 6 | 3 | 2996 | 1 | 23 | No | No | No | No | No | No | No | No | No | No |
| 7 | 3 | 2958 | 1 | 23 | No | No | No | No | No | No | No | No | No | No |
| 8 | 3 | 2689 | 1 | 21 | No | No | No | No | No | No | No | No | No | No |
| 9 | 3 | 2650 | 1 | 21 | No | No | No | No | No | No | No | No | No | No |
| 10 | 3 | 2612 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 11 | 3 | 2266 | 1 | 18 | No | No | No | No | No | No | No | No | No | No |
| 12 | 3 | 2112 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 13 | 3 | 2074 | 1 | 16 | No | No | No | No | No | No | No | No | No | No |
| 14 | 3 | 1536 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 15 | 3 | 1536 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 16 | 3 | 1075 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 17 | 3 | 615 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 18 | 3 | 615 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 19 | 3 | 345 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 20 | 3 | 192 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 21 | 3 | 115 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 3 | 38 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 3 | 38 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 3 | 38 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Warrant 3 Condition A

| | |
|--|-----------|
| Orientation | S |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 31.4 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach (h:mm) | 0:15 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 30 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 3871 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | Yes |
| Warrant Met for Approach | No |
| Warrant Met for Intersection | No |

Appendix F – Supporting Documents

Figure 15. Build Out Total Traffic Volumes (AM Peak Hour)

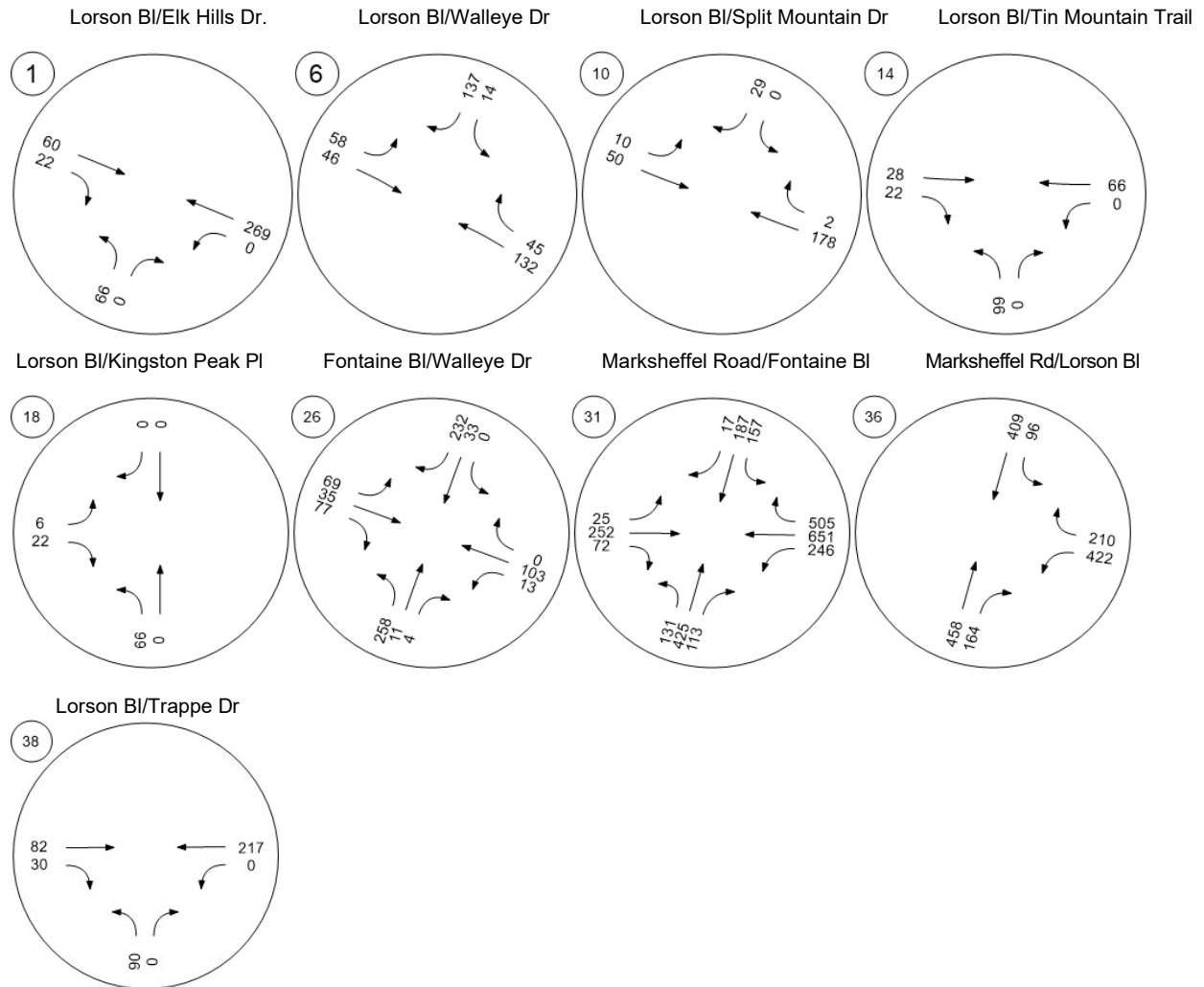


Figure 16. Build Out Total Traffic Volumes (PM Peak Hour)

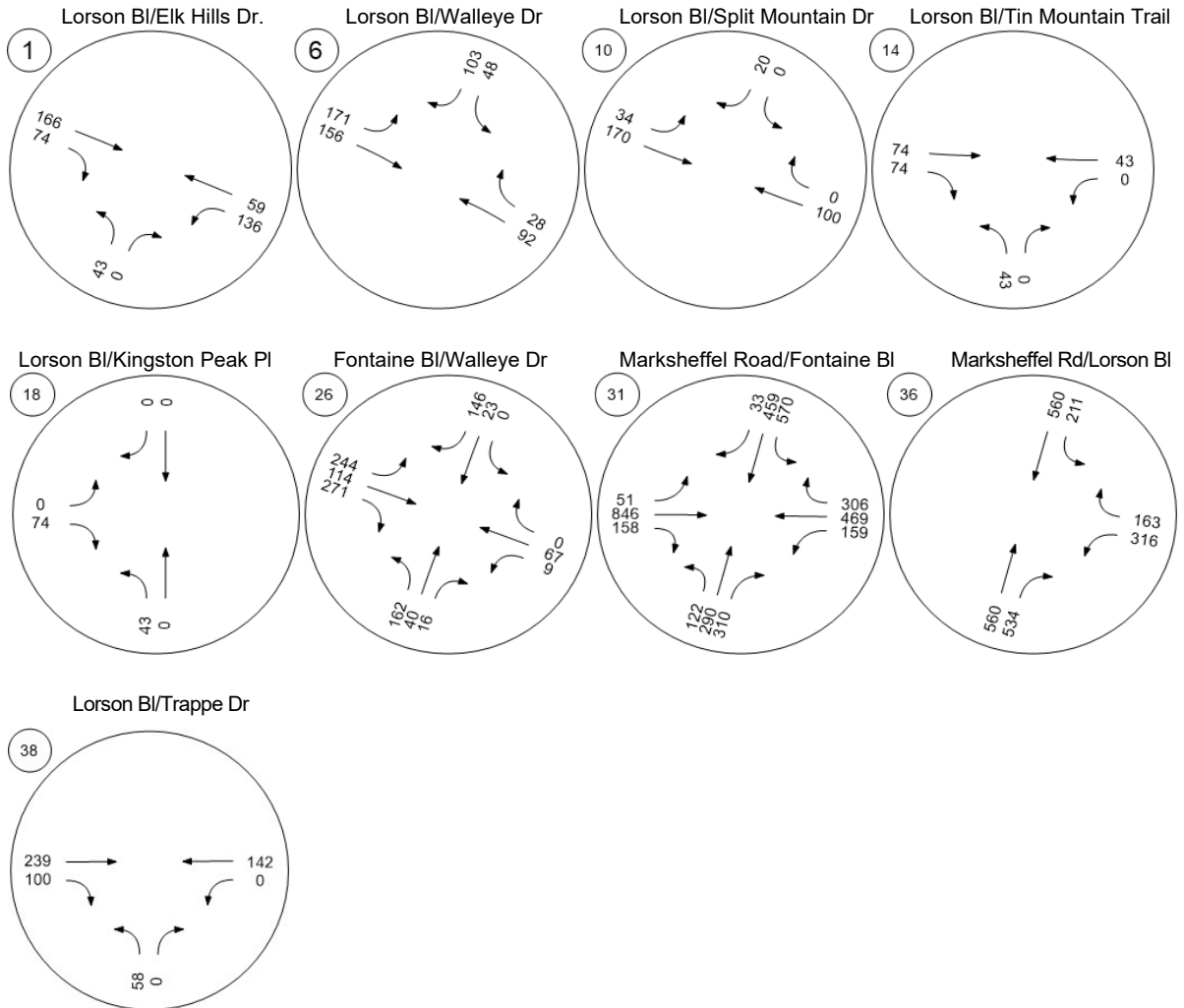


Figure 18. Build Out Total Project Specific Intersection Configurations

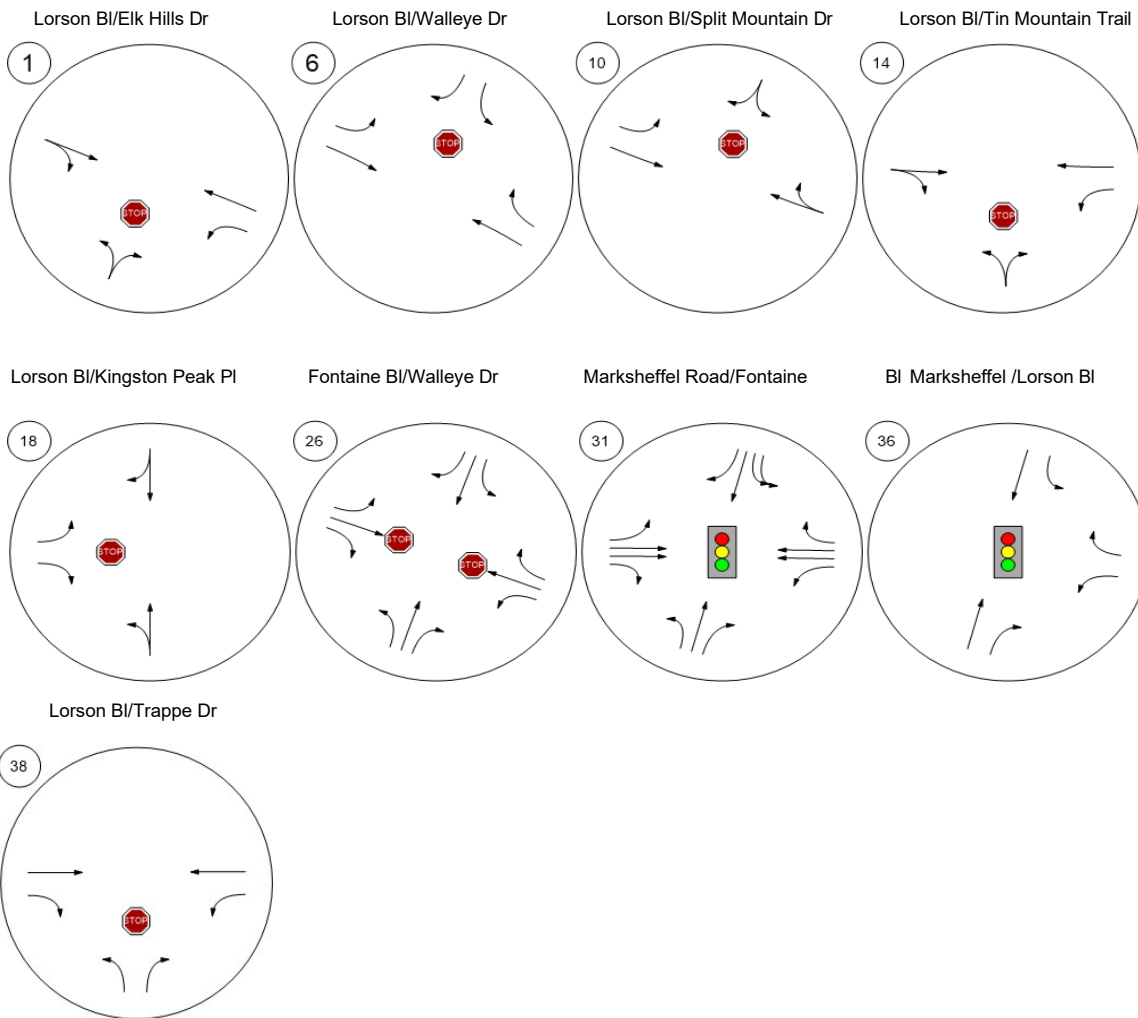


Figure 23. Horizon Total Traffic Volumes (AM Peak Hour)

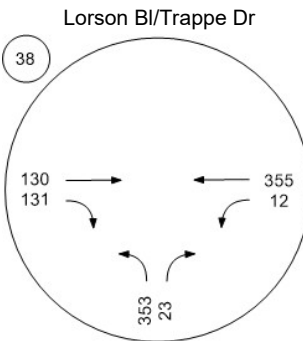
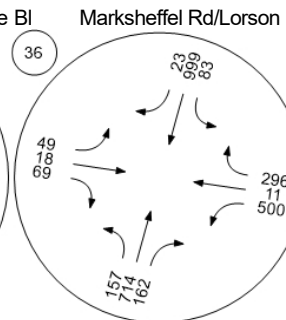
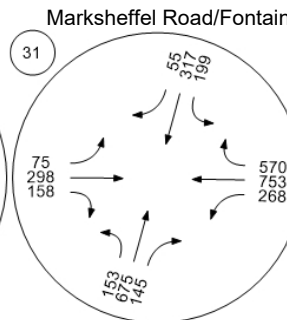
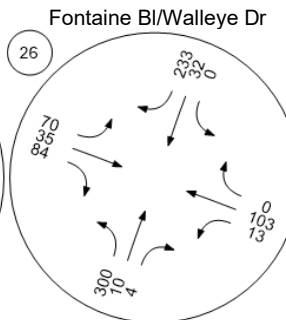
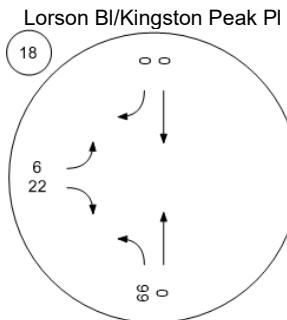
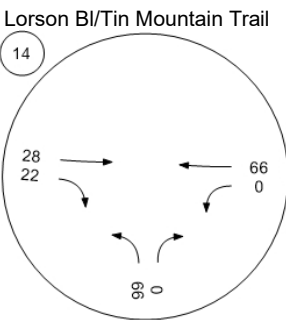
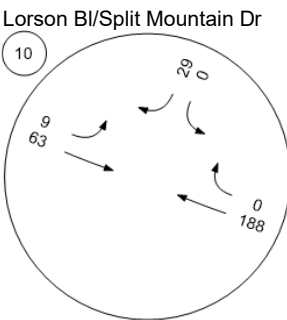
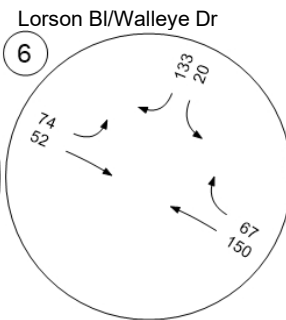
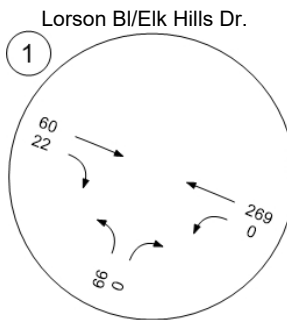
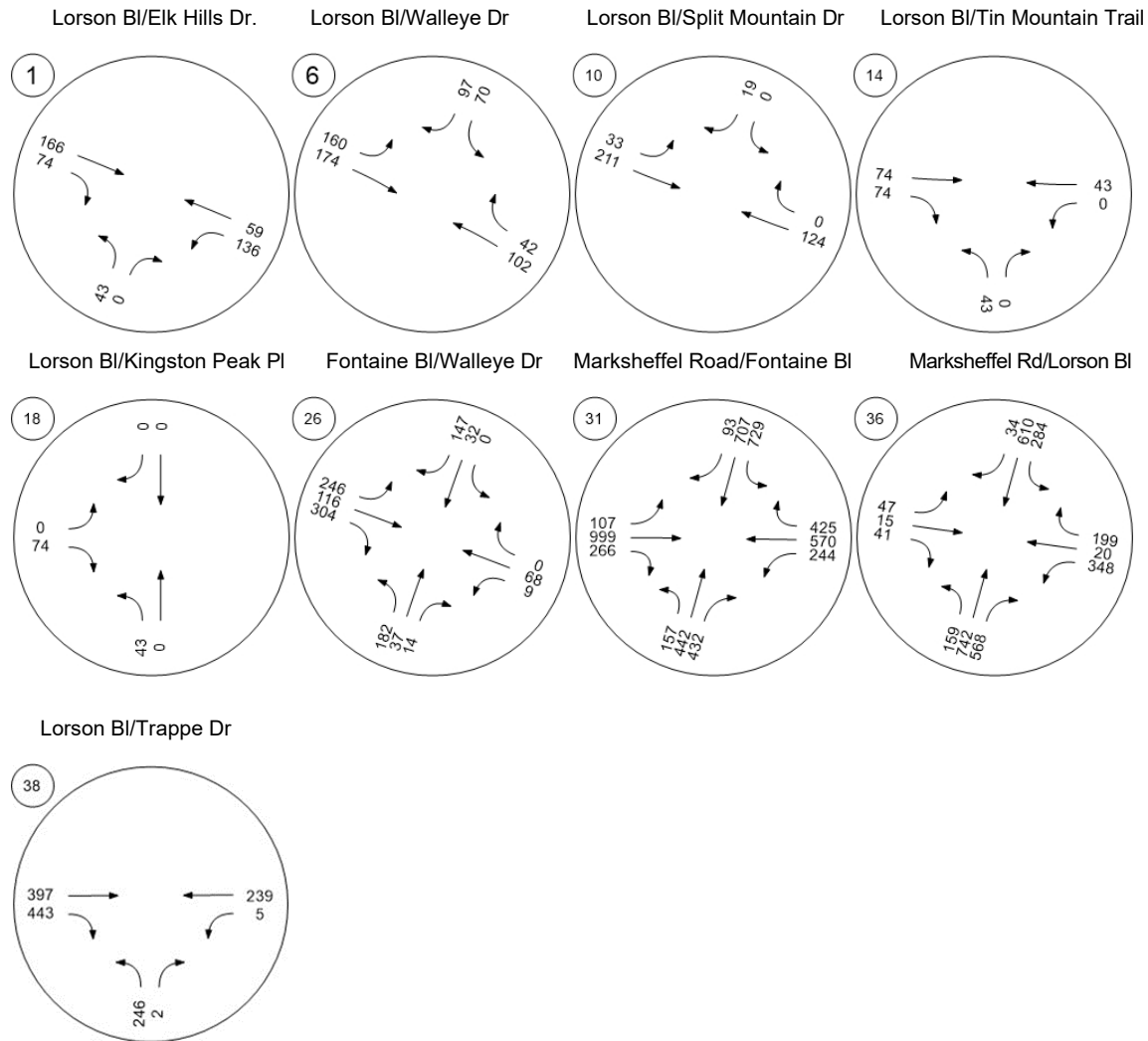


Figure 24. Horizon Total Traffic Volumes (PM Peak Hour)



Intersection Level Of Service Report
Intersection 31: Marksheffel Road/Fontaine Blvd

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 46.7 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.800 |

Intersection Setup

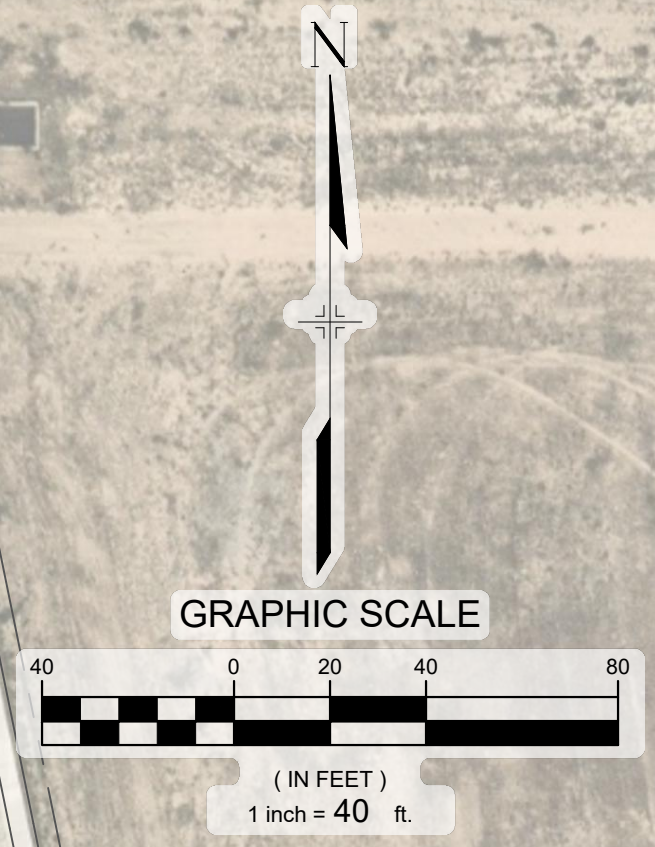
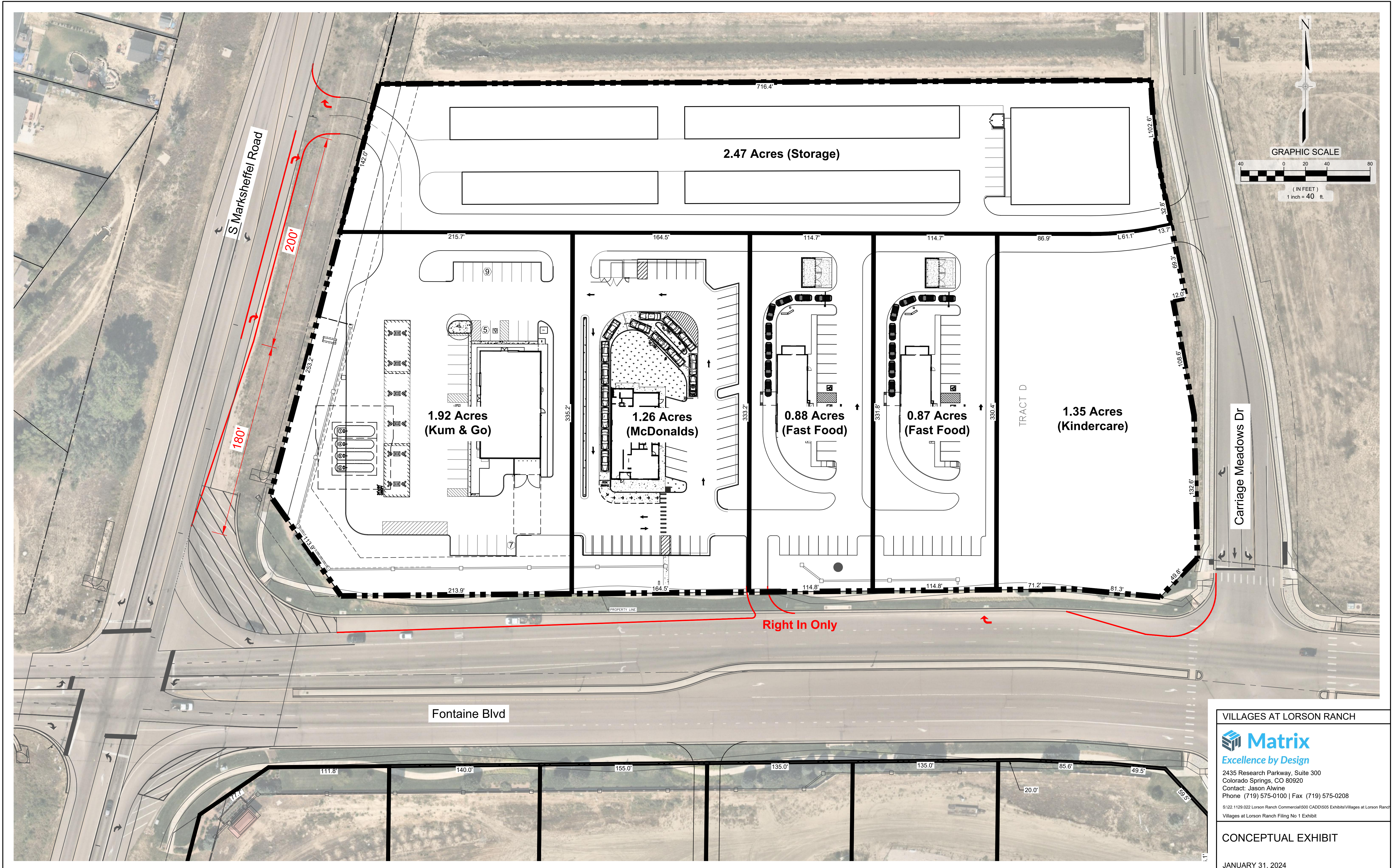
| Name | Marksheffel Rd | | | Marksheffel Rd | | | Fontaine Bl | | | Fontaine Bl | | |
|------------------------------|----------------|--------|--------|----------------|--------|--------|-------------|--------|-------|-------------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | [Diagram] | | | [Diagram] | | | [Diagram] | | | [Diagram] | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 460.00 | 100.00 | 460.00 | 390.00 | 100.00 | 390.00 | 260.00 | 100.00 | 40.00 | 430.00 | 100.00 | 430.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 300.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Intersection Level Of Service Report
Intersection 36: Marksheffel Rd/Lorson Bl**

| | | | |
|------------------|-----------------|---------------------------|-------|
| Control Type: | Signalized | Delay (sec / veh): | 25.0 |
| Analysis Method: | HCM 6th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.900 |

Intersection Setup

| Name | Marksheffel Rd | | | Marksheffel Rd | | | | | | Lorson Bl | | |
|------------------------------|----------------|--------|--------|----------------|--------|--------|-----------|--------|--------|-----------|--------|--------|
| Approach | Northbound | | | Southbound | | | Eastbound | | | Westbound | | |
| Lane Configuration | ⇐ ⇐ ⇐ | | | ⇐ ⇐ ⇐ | | | ⇐ ⇐ | | | ⇐ ⇐ ⇐ | | |
| Turning Movement | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 1 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 250.00 | 400.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 250.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |



2.47 Acres (Storage)

1.92 Acres (Kum & Go)

1.26 Acres (McDonalds)

0.88 Acres (Fast Food)

0.87 Acres (Fast Food)

1.35 Acres (Kindercare)

TRACT D

Right In Only

Fontaine Blvd

S Marksheffel Road

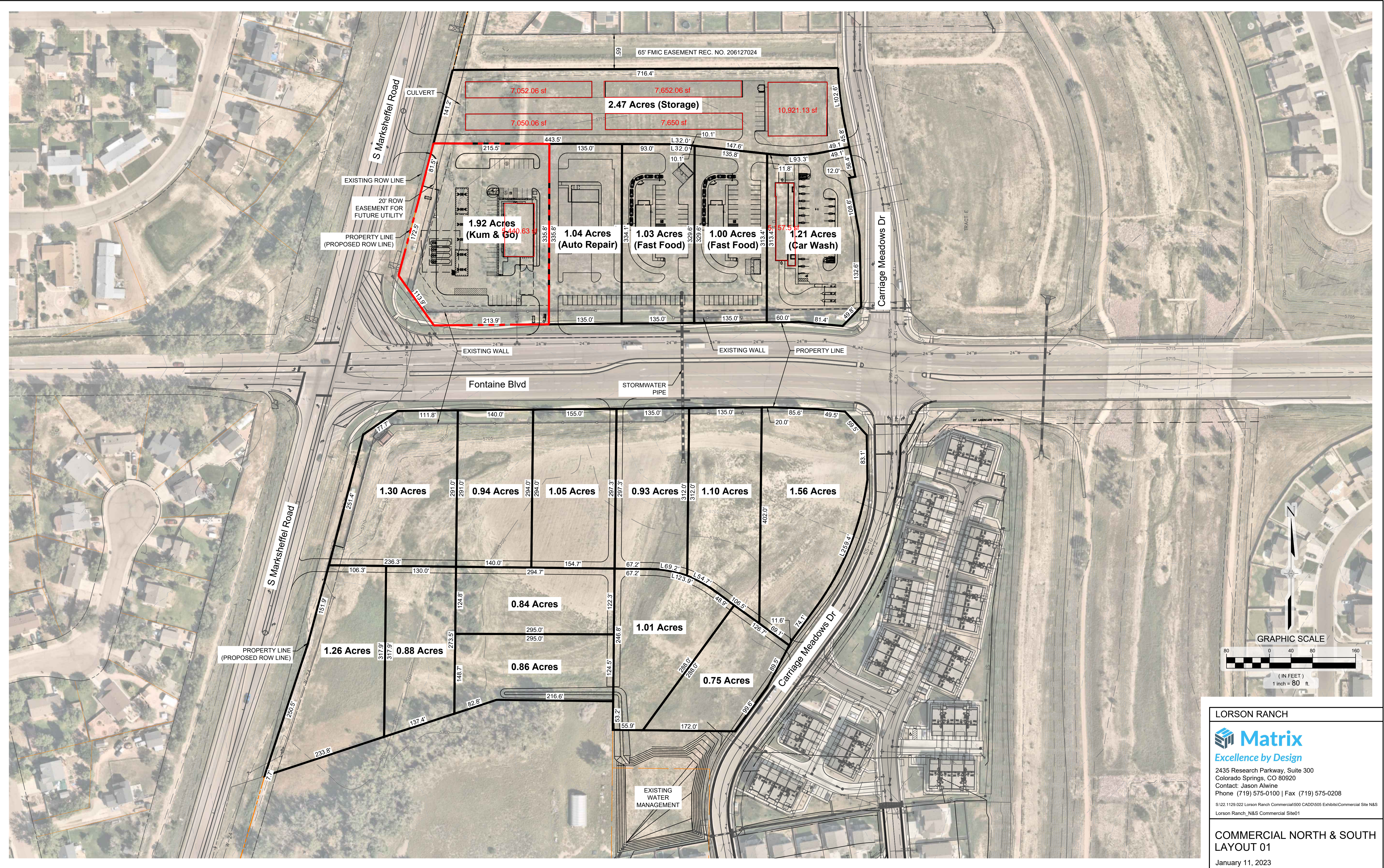
Carriage Meadows Dr

VILLAGES AT LORSON RANCH

2435 Research Parkway, Suite 300
 Colorado Springs, CO 80920
 Contact: Jason Alwine
 Phone (719) 575-0100 | Fax (719) 575-0208
S:\22.1129.022 Lorson Ranch Commercial\500 CADD\505 Exhibits\Villages at Lorson Ranch
 Villages at Lorson Ranch Filing No 1 Exhibit

CONCEPTUAL EXHIBIT

JANUARY 31, 2024



LORSON RANCH

Matrix
Excellence by Design

2435 Research Parkway, Suite 300
 Colorado Springs, CO 80920
 Contact: Jason Alwine
 Phone (719) 575-0100 | Fax (719) 575-0208

S:\22\1129\022 Lorson Ranch Commercial\500 CADD\505 Exhibits\Commercial Site N&S
 Lorson Ranch_N&S Commercial Site01

**COMMERCIAL NORTH & SOUTH
 LAYOUT 01**

January 11, 2023

All Traffic Data Services
www.alltrafficdata.net

Date Start: 15-Jun-21
Site Code: 19
Station ID: 19
MARKSHEFFEL RD S.O. FONTAINE BLVD

| Start Time | 15-Jun-21 Tue | NB | SB | Total | | | | | | |
|-------------|------------------|------------|-------------|-------------|---|---|---|---|---|-------|
| 12:00 AM | | 18 | 17 | 35 | | | | | | |
| 01:00 | | 8 | 7 | 15 | | | | | | |
| 02:00 | | 10 | 6 | 16 | | | | | | |
| 03:00 | | 11 | 9 | 20 | | | | | | |
| 04:00 | | 42 | 30 | 72 | | | | | | |
| 05:00 | | 157 | 205 | 362 | | | | | | |
| 06:00 | | 439 | 243 | 682 | | | | | | |
| 07:00 | | 670 | 276 | 946 | | | | | | |
| 08:00 | | 499 | 271 | 770 | | | | | | |
| 09:00 | | 286 | 204 | 490 | | | | | | |
| 10:00 | | 263 | 213 | 476 | | | | | | |
| 11:00 | | 302 | 257 | 559 | | | | | | |
| 12:00 PM | | 328 | 283 | 611 | | | | | | |
| 01:00 | | 278 | 261 | 539 | | | | | | |
| 02:00 | | 276 | 283 | 559 | | | | | | |
| 03:00 | | 331 | 388 | 719 | | | | | | |
| 04:00 | | 345 | 708 | 1053 | | | | | | |
| 05:00 | | 402 | 661 | 1063 | | | | | | |
| 06:00 | | 329 | 293 | 622 | | | | | | |
| 07:00 | | 225 | 244 | 469 | | | | | | |
| 08:00 | | 173 | 172 | 345 | | | | | | |
| 09:00 | | 120 | 119 | 239 | | | | | | |
| 10:00 | | 62 | 57 | 119 | | | | | | |
| 11:00 | | 34 | 29 | 63 | | | | | | |
| Total | | 5608 | 5236 | 10844 | | | | | | |
| Percent | | 51.7% | 48.3% | | | | | | | |
| AM Peak | - | 07:00 | 07:00 | - | - | - | - | - | - | 07:00 |
| Vol. | - | 670 | 276 | - | - | - | - | - | - | 946 |
| PM Peak | - | 17:00 | 16:00 | - | - | - | - | - | - | 17:00 |
| Vol. | - | 402 | 708 | - | - | - | - | - | - | 1063 |
| Grand Total | | 5608 | 5236 | | | | | | | 10844 |
| Percent | | 51.7% | 48.3% | | | | | | | |
| ADT | | ADT 10,844 | AADT 10,844 | | | | | | | |