# CIMARRON HILLS SOUTHEAST FILING NO. 1

# TRAFFIC IMPACT STUDY

# PCD NO. SF2420

**Prepared for:**

El Paso County, CO

**Prepared by:**

Matrix

*Excellence by Design*

2435 Research Parkway, Suite 300
Colorado Springs, CO 80920

Contact: MaríaAngélica Deeb, PE, PTOE, PTP, RSP1, ENV SP

COLORADO LICENSED
MARIAANGELICA DEEB
66535
PROFESSIONAL ENGINEER

11/06/2026

**On Behalf of:**

Jovenchi-I LLC
4779 N Academy Blvd.
Colorado Spring, CO 80918

**Traffic Engineer's Statement**

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

*MaríaAngélica Deeb, PE, PTOE, PTP, RSP1, ENV SP* Date: 11/06/2026

**Developer's Statement**

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

*Dean Venezia* Date: 11.06.26

*Jovenchi-I LLC*

*4779 N Academy Blvd.*

*Colorado Springs, CO 80918*

November 6, 2026

# Table of Contents

**Introduction** ..... **4**

**Proposed Development** ..... **5**

**Area Conditions** ..... **6**

Site Accessibility ..... 6

Crash History ..... 15

**Projected Development Traffic** ..... **15**

Trip Generation ..... 16

Trip Distribution ..... 16

**Traffic Analysis** ..... **19**

Buildout (2027) No Project Conditions ..... 19

Buildout (2027) With Project Conditions ..... 26

Horizon (2045) No Project Conditions ..... 33

Horizon (2045) With Project Conditions ..... 40

**Conclusions and Recommendations** ..... **51**

# Appendices

Appendix A – Traffic Counts

Appendix B – Existing Conditions Analyses

Appendix C – Trip Generation Calculations

Appendix D – Buildout Conditions Analyses

Appendix E – Horizon Conditions Analyses

Appendix F – Supporting Documents

# List of Figures

Figure 1. Vicinity Map ..... 5
Figure 2. Cimarron Hills Southeast Filing No. 1 Site Plan ..... 6
Figure 3. Existing Conditions Traffic Volumes (AM Peak Hour) ..... 8
Figure 4. Existing Conditions Traffic Volumes (PM Peak Hour) ..... 9
Figure 5. Existing Conditions Daily Traffic Volumes and Roadway Classification ..... 10
Figure 6. Existing Conditions Intersection Configurations ..... 11
Figure 7. Serious Injury Crash Density Map ..... 15
Figure 8. Fatal Crash Density Map ..... 15
Figure 9. Trip Distribution ..... 16
Figure 10. Short-Term Site Trips (AM Peak Hour) ..... 17
Figure 11. Short-Term Site Trips (PM Peak Hour) ..... 18
Figure 12. Short-Term Daily Site Traffic ..... 19
Figure 13. Buildout (2027) No Project Traffic Volumes (AM Peak Hour) ..... 20
Figure 14. Buildout (2027) No Project Traffic Volumes (PM Peak Hour) ..... 21
Figure 15. Buildout (2027) No Project Daily Traffic ..... 22
Figure 16. Buildout (2027) No Project Intersection Configurations ..... 23
Figure 17. Buildout (2027) With Project Traffic Volumes (AM Peak Hour) ..... 27
Figure 18. Buildout (2027) With Project Traffic Volumes (PM Peak Hour) ..... 28
Figure 19. Buildout (2027) With Project Daily Traffic Volumes and Roadway Classification ..... 29
Figure 20. Buildout (2027) With Project Intersection Configurations ..... 30
Figure 21. Horizon (2045) No Project Traffic Volumes (AM Peak Hour) ..... 34
Figure 22. Horizon (2045) No Project Traffic Volumes (PM Peak Hour) ..... 35
Figure 23. Horizon (2045) No Project Daily Traffic Volumes ..... 36
Figure 24. Horizon (2045) No Project Intersection Configurations ..... 37
Figure 25. Long-Term Site Trips (AM Peak Hour) ..... 41
Figure 26. Long-Term Site Trips (PM Peak Hour) ..... 42
Figure 27. Long-Term Daily Site Trips ..... 43
Figure 28. Horizon (2045) With Project Traffic Volumes (AM Peak Hour) ..... 44
Figure 29. Horizon (2045) With Project Traffic Volumes (PM Peak Hour) ..... 45
Figure 30. Horizon (2045) With Project Daily Traffic Volumes ..... 46
Figure 31. Horizon (2045) With Project Intersection Configurations ..... 47

# List of Tables

Table 1. Existing Conditions Intersection Operations (AM Peak Hour) ..... 12
Table 2. Existing Conditions Intersection Operations (PM Peak Hour) ..... 12
Table 3. Existing Conditions Turn Lane Evaluations ..... 14
Table 4. Cimarron Hills Southeast Filing No.1 Trip Generation ..... 16
Table 5. Buildout (2027) No Project Intersection Operations (AM Peak Hour) ..... 24
Table 6. Buildout (2027) No Project Intersection Operations (PM Peak Hour) ..... 24
Table 7. Buildout (2027) Background Turn Lane Evaluations ..... 25
Table 8. Buildout (2027) With Project Intersection Operations (AM Peak Hour) ..... 31
Table 9. Buildout (2027) With Project Intersection Operations (PM Peak Hour) ..... 31
Table 10. Buildout (2027) With Project Turn Lane Evaluations ..... 32
Table 11. Horizon (2045) No Project Intersection Operations (AM Peak Hour) ..... 38
Table 12. Horizon (2045) No Project Intersection Operations (PM Peak Hour) ..... 38
Table 13. Horizon (2045) No Project Turn Lane Evaluations ..... 39
Table 14. Horizon (2045) With Project Intersection Operations (AM Peak Hour) ..... 48
Table 15. Horizon (2054) With Project Intersection Operations (PM Peak Hour) ..... 48
Table 16. Horizon (2045) With Project Turn Lane Evaluations ..... 50
Table 17. Summary of Required Improvements ..... 52
Table 18. Road Impact Fee ..... 53

# Introduction

The Cimarron Hills Southeast Filing No. 1 (Project) is a proposed 28.2-acre development located at the southeast corner of Peterson Road/Galley Road intersection in unincorporated El Paso County. The project consists of 142 single-family detached, and 301 multi-family homes.

The project is anticipated to be in phases with 301 units of multi-family to be completed in 2027 with one full-movement access point located on Meadowbrook Parkway and one right-in-right-out (RIRO) access on Peterson Road. The other remaining 142 single-family dwelling units are intended for future development which is studied for the horizon year.

The purpose of this 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.
- ***Proposed Development –*** Describes the proposed development and the location.
- ***Area Conditions –*** Describes the study area land uses as well as the existing and future roadway network.
- ***Projected Traffic –*** Identifies the expected number of daily and peak hour trips that will be generated by the project. The expected external trip distribution is also shown.
- ***Traffic Analysis –*** Analyzes the existing conditions in the study area as well as buildout year (2027) and horizon year (2045) conditions 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.

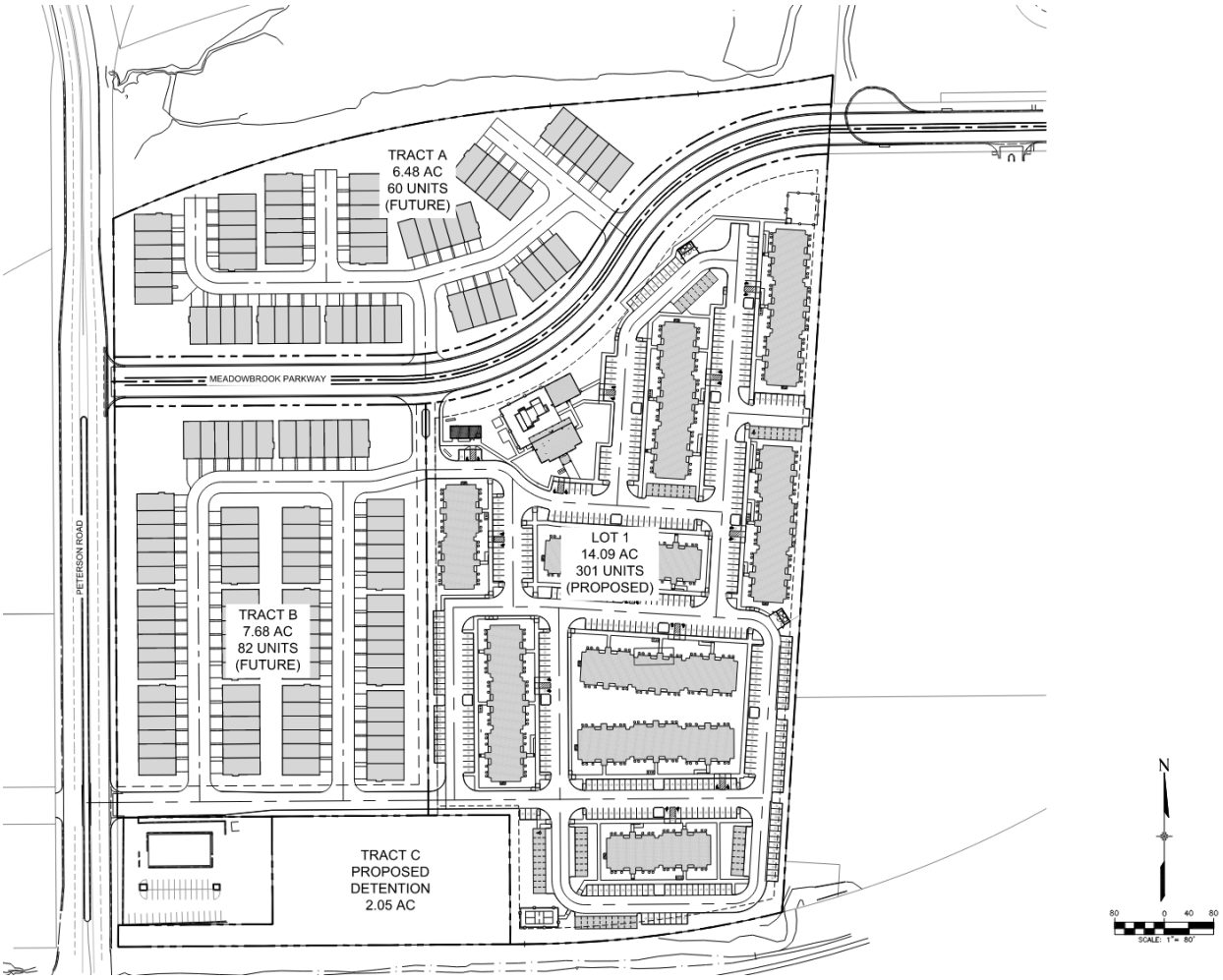
**Figure 1. Vicinity Map**




# Proposed Development

The proposed development consists of one lot (Lot 1) and three tracts (Tracts A, B, and C). Lot 1, approximately 14.09 acres, is designated for immediate development and will include 301 low-rise, multi-family dwelling units. Tract A comprises approximately 6.48 acres and is planned for 60 single-family units. Tract B encompasses approximately 7.68 acres and is planned for 82 single-family units. Tract C is proposed as a 2.05-acre detention pond. Both Tracts A and B are intended for future development and are evaluated under the horizon (2045) scenario. Figure 2 illustrates the project site plan.

Figure 2. Cimarron Hills Southeast Filing No. 1 Site Plan




# Area Conditions

This section describes the existing conditions and the planned level of improvements adjacent to the proposed Project.

## Site Accessibility

The existing roadway system consists of the following transportation facilities:

**Peterson Road** is a north-south street that provides two lanes in each direction. Peterson Road is classified as an urban minor arterial in the 2045 El Paso County (EPC) Major Transportation Corridors Plan (MTCP). According to 2065 EPC MTCP, Peterson Road is classified as a 4-lane roadway. Each direction on this arterial road is separated by a median. A sidewalk is provided along the west side of Peterson Road starting at Panamint Court continuing north, although no sidewalk is provided north of the future intersection of Meadowbrook Parkway. The Average Daily Traffic (ADT) threshold capacity for this road is 20,000 vehicles. The posted speed limit is 30 miles-per-hour (mph) on this facility.

**State Highway 24 (SH-24)** is an east-west roadway and is classified as an expressway by both El Paso County and the City of Colorado Springs. This facility currently provides two lanes in each direction,

separated by a median and does not provide sidewalks. The ADT threshold capacity for this road is 48,000 vehicles. The speed limit is 55-mph on the eastbound and 65-mph on the westbound on this roadway. The CDOT access category for this roadway is E-X.

**State Highway 94 (SH-94)** is an east-west facility which intersects SH-24 at the studied area. SH-94 provides two lanes in each direction with a posted speed limit of 65 mph. This facility is owned and maintained by CDOT, and it is classified as a principal arterial.

**Meadowbrook Parkway** is a north–south road that will ultimately connect to Peterson Road. This road is classified as an urban non-residential collector. This facility currently ends at the northeast corner of the project and provides three lanes and sidewalk with curb and gutter in the vicinity of the project. The posted speed limit is 35 mph on this roadway.

There are three schools located within approximately two miles of the project site. Pedestrian routes are available along Galley Road, Hathaway Drive, and Peterson Road east of Galley Road. However, sidewalks and bike lanes are not currently provided along Peterson Road south of Galley Road near the project site. With the extension of Meadowbrook Parkway to Peterson Road, sidewalk and pedestrian ramps will be added to improve connectivity and accessibility. These enhancements will expand multimodal transportation options and support Transportation Demand Management (TDM) strategies by providing safer, more accessible pedestrian connections to nearby bus stops, schools, and surrounding destinations.

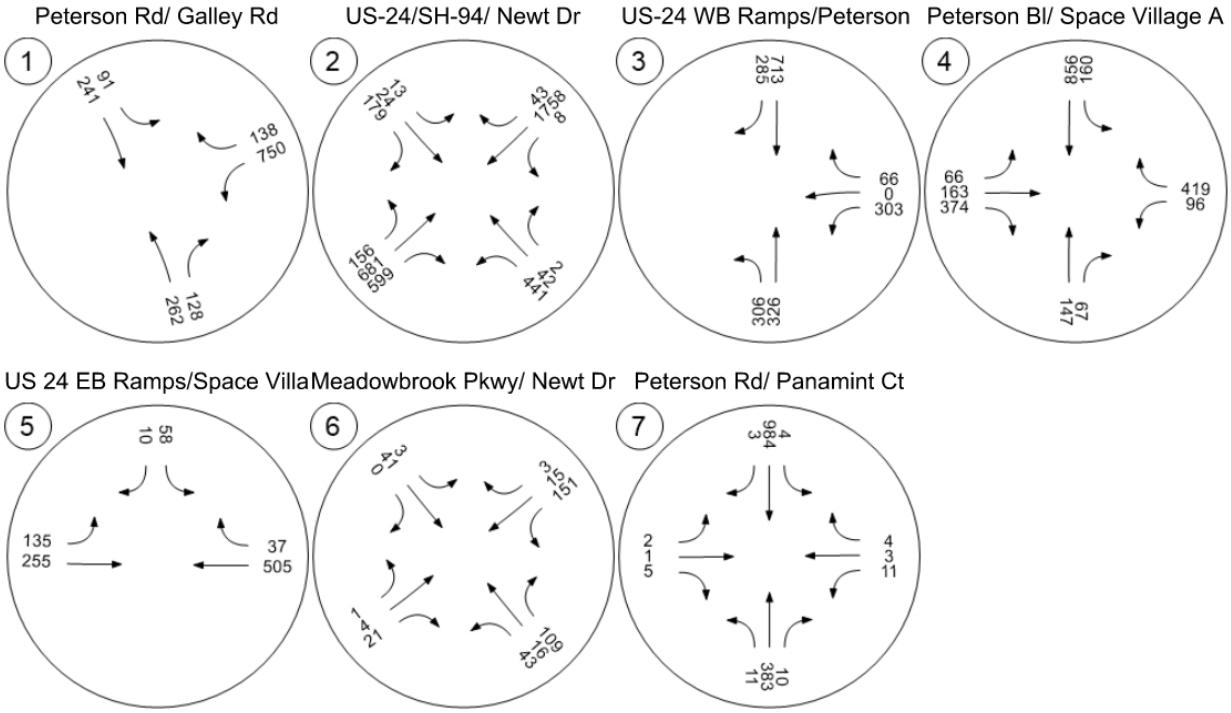
Traffic counts were collected on April 2, 2024, and the studied intersections were confined to intersections listed below:

- Galley Road/Peterson Road
- Peterson Road/Panamint Court
- Peterson Road/US-24 Westbound Ramps
- Peterson Boulevard/Space Village Avenue
- US-24 EB Ramps /Space Village Road
- US-24/SH-94/Newt Drive
- Newt Drive/Meadowbrook Parkway

The AM and PM peak hour volumes at the studied intersections are shown in Figure 3 and Figure 4. The daily traffic is shown in Figure 5. The intersection configurations are shown in Figure 6.

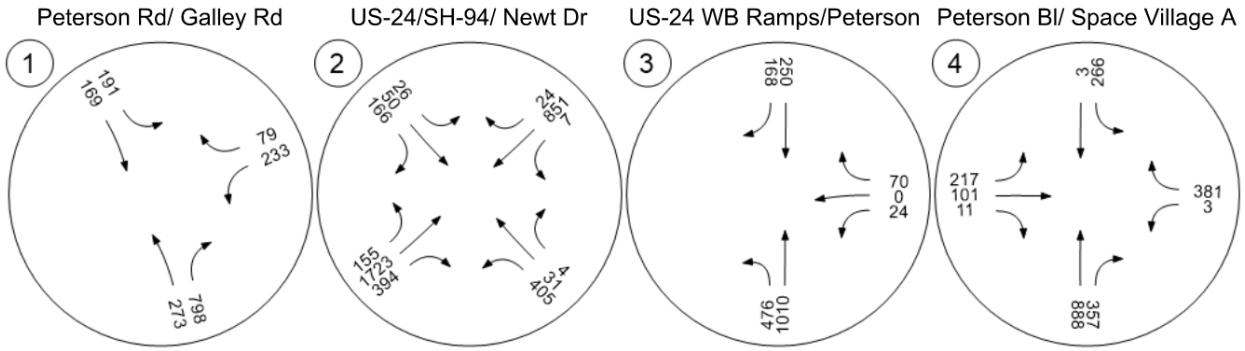
## Figure 3. Existing Conditions Traffic Volumes (AM Peak Hour)



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



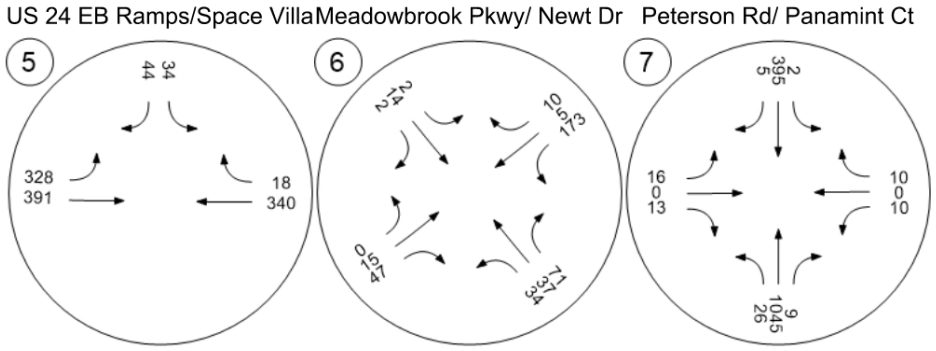



Figure 5. Existing Conditions Daily Traffic Volumes and Roadway Classification

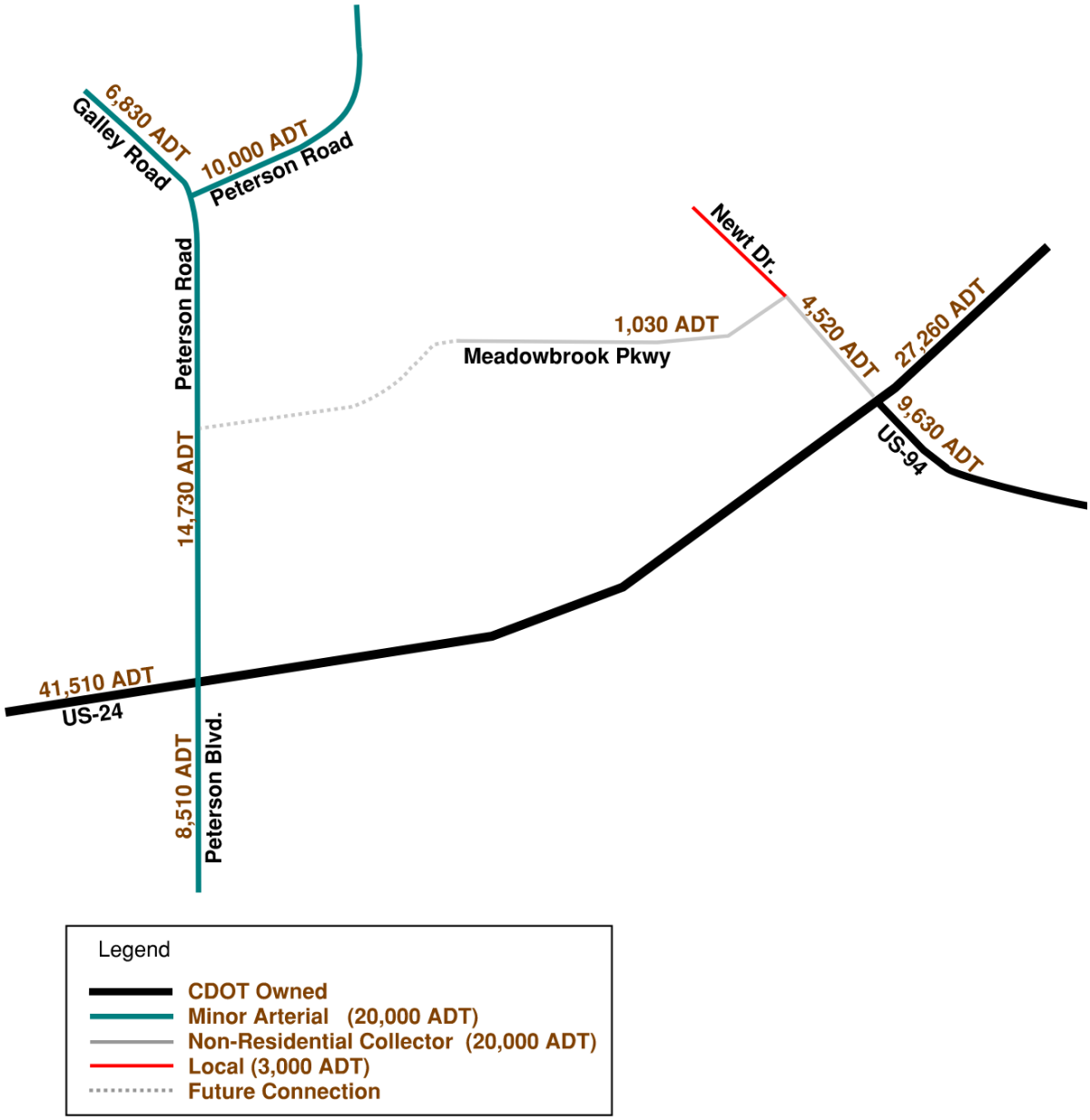
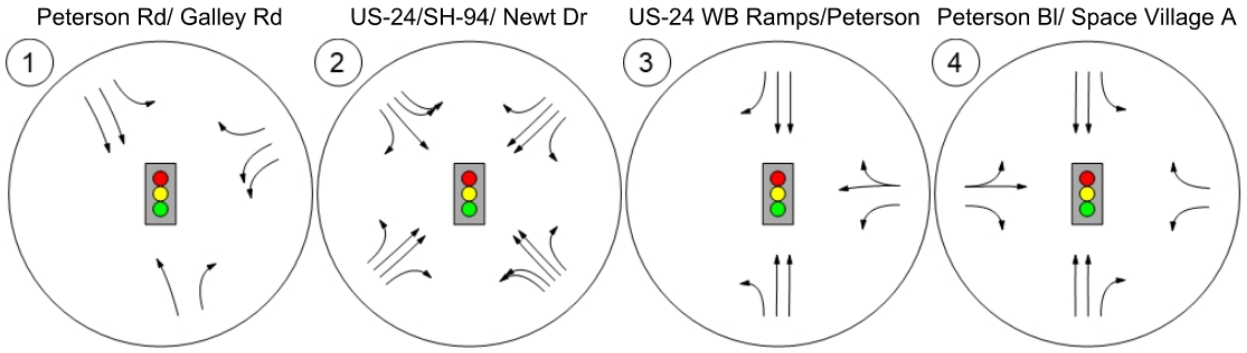
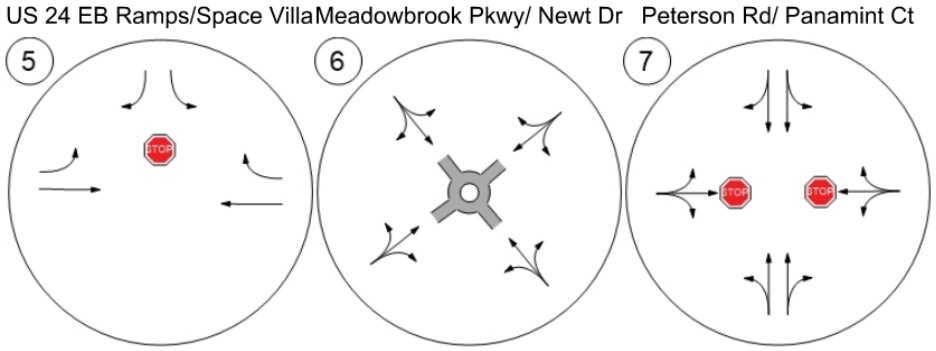


**Figure 6. Existing Conditions Intersection Configurations**




The intersection operations are shown in Table 1 and Table 2.

## 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 | Peterson Rd/ Galley Rd | Signalized | HCM 7th Edition | WB Left | 0.499 | 15.4 | B |
| 2 | US-24/SH-94/ Newt Dr | Signalized | HCM 7th Edition | NB Left | 0.736 | 30.2 | C |
| 3 | US-24 WB Ramps/Peterson Rd | Signalized | HCM 7th Edition | WB Left | 0.606 | 25.4 | C |
| 4 | Peterson Bl/ Space Village Av | Signalized | HCM 7th Edition | EB Thru | 0.584 | 29.8 | C |
| 5 | US 24 EB Ramps/Space Village Av | Two-way stop | HCM 7th Edition | SB Left | 0.472 | 44.4 | E |
| 6 | Meadowbrook Pkwy/ Newt Dr. | Roundabout | HCM 7th Edition | WB Left | | 4.0 | A |
| 7 | Peterson Rd/ Panamint Ct | Two-way stop | HCM 7th Edition | WB Thru | 0.048 | 52.8 | 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 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 | Peterson Rd/ Galley Rd | Signalized | HCM 7th Edition | WB Left | 0.459 | 12.5 | B |
| 2 | US-24/SH-94/ Newt Dr | Signalized | HCM 7th Edition | NB Left | 0.693 | 29.6 | C |
| 3 | US-24 WB Ramps/Peterson Rd | Signalized | HCM 7th Edition | WB Right | 0.359 | 4.9 | A |
| 4 | Peterson Bl/ Space Village Av | Signalized | HCM 7th Edition | WB Right | 0.775 | 66.1 | E |
| 5 | US 24 EB Ramps/Space Village Av | Two-way stop | HCM 7th Edition | SB Left | 0.543 | 101.1 | F |
| 6 | Meadowbrook Pkwy/ Newt Dr. | Roundabout | HCM 7th Edition | EB Right | | 4.3 | A |
| 7 | Peterson Rd/ Panamint Ct | Two-way stop | HCM 7th Edition | WB Left | 0.162 | 60.0 | 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.

Acceptable operations are defined as any intersection that operates at LOS D or better. As show in Table 1 and Table 2, all studied intersections operate at an acceptable LOS except for Peterson

Boulevard/Space Village Avenue (#4), US-24 EB Ramps/Space Village Avenue (#5), and Peterson Road/Panamint Court (#7).

**Peterson Blvd/Space Village Avenue (#4)**

This intersection operates at LOS E during the PM peak hour. The City of Colorado Springs is planning on constructing a roundabout replacing the current traffic signal, which is anticipated to be built in 2027. Therefore, no mitigation is recommended for the existing conditions.

**US-24 EB Ramps/Space Village Ave (#5)**

This stop-controlled intersection resulted in LOS E during the AM peak hour and LOS F during the PM peak hour, with the southbound left-turn being the worst movement. However, queue analysis showed that the 95$^{th}$-percentile queue is no more than 2 vehicles for the deficient movement. Therefore, no mitigation is recommended.

**Peterson Rd/Panamint Ct (#7)**

This stop-controlled intersection operates at a LOS F during both the AM and PM peak hour with the westbound left being the worst movement. The intersection does not meet signal warrants, and the queue analysis shows one vehicle queuing for the westbound movement. Following coordination with El Paso County, the intersection at Peterson Road and Panamint Court (#7) will be modified from a full-movement intersection to a right-in/right-out (RIRO) configuration. Therefore, no mitigation is recommended.

Turn Lane evaluations for the existing conditions are summarized in Table 3.

## Table 3. Existing Conditions Turn Lane Evaluations

| ID | Intersection | Movement | No. of Lanes | Roadway Classification | Design Speed (mph) | Turning Volume (vph) | Queue (ft) | Deceleration (ft) | Taper (ft) | Storage (ft) | Total (ft) | Provided (ft) | Improvement (ft) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Galley Rd/Peterson Rd EPC Signalized | NBR | 1 | Minor Arterial | 40 | 798 | 184 | 155 | 160 | 184 | **500** | Continuos | - |
| | | SBL | 1 | Minor Arterial | 40 | 191 | 39 | 155 | 160 | 39 | **355** | Median | - |
| | | WBL | 2 | Minor Arterial | 40 | 750 | 193 | 155 | 320 | 193 | **670** | Continuos | - |
| | | WBR | 1 | Minor Arterial | 40 | 138 | 27 | 155 | 160 | 27 | **340** | 420 | - |
| 2 | US-24/SH-94/Newt Dr CDOT Signalized | NBL (SH-94) | 2 | E-X | 60 | 441 | 453 | 600 | 444 | 221 | **1265** | 1015 | 250 |
| | | NBR (SH-94) | 1 | E-X | 60 | 4 | 3 | 600 | 222 | - | **820** | 1015 | - |
| | | SBL (Newt Dr.) | 2 | F-R | 35 | 26 | 26 | 0 | 192 | 25 | **215** | 400 | - |
| | | SBR (Newt Dr.) | 1 | F-R | 35 | 179 | 0 | 0 | 96 | 25 | **120** | 400 | - |
| | | EBL (US-24) | 1 | E-X | 60 | 156 | 86 | 600 | 222 | 156 | **980** | 1120 | - |
| | | EBR (US-24) | 1 | E-X | 60 | 599 | 0 | 600 | 222 | - | **820** | 840 | - |
| | | WBL (US-24) | 1 | E-X | 60 | 8 | 2 | 600 | 222 | 25 | **845** | 975 | - |
| | | WBR (US-24) | 1 | E-X | 60 | 43 | 10 | 600 | 222 | - | **820** | 975 | - |
| | | SBR to WBT Acceleration Lane | 1 | NR-A | 70 | 179 | 0 | **1080 (Accel. Lane)** | 300 | - | **1380** | 895 | 485 |
| | | EBR to SBT Acceleration Lane | 1 | E-X | 60 | 599 | 0 | **960 (Accel. Lane)** | 222 | - | **1180** | 640 | 540 |
| 3 | US-24 WB Ramps/Peterson Rd CDOT Signalized | NBL | 1 | NR-C | 35 | 476 | 181 | 0 | 96 | 476 | **570** | 300 | **This intersection will be converted into a roundabout** |
| | | SBR | 1 | NR-C | 35 | 285 | 100 | 0 | 96 | 285 | **380** | 140 | |
| | | WBR | 1 | F-R | 35 | 70 | 62 | 0 | 96 | 70 | **165** | 930 | |
| | | WBL | 1 | F-R | 35 | 303 | 390 | 0 | 96 | 303 | **400** | 930 | |
| 4 | Peterson Bl/Space Village Ave CDOT Signalized | NBR | 1 | NR-C | 35 | 357 | 258 | 0 | 96 | 357 | **455** | 400 | **This intersection will be converted into a roundabout** |
| | | SBL | 1 | NR-C | 35 | 266 | 316 | 0 | 96 | 266 | **360** | 85 | |
| | | EBL | 1 | F-R | 35 | 217 | 525 | 0 | 96 | 217 | **315** | 900 | |
| | | EBR | 1 | F-R | 35 | 374 | 238 | 0 | 96 | 374 | **470** | 1200 | |
| | | WBR | 1 | NR-C | 35 | 419 | 419 | 0 | 96 | 419 | **515** | 500 | |
| | | WBL | 1 | NR-C | 35 | 96 | 110 | 0 | 96 | 96 | **190** | 500 | |
| 5 | US-24 EB Ramps/Space Village Ave CDOT Stop-Controlled | SBL | 1 | F-R | 35 | 58 | 56 | 0 | 96 | 50 | **145** | 290 | - |
| | | SBR | 1 | F-R | 35 | 44 | 7 | 0 | 96 | 45 | **140** | Continuos | - |
| | | EBL | 1 | NR-C | 40 | 328 | 39 | 0 | 120 | 328 | **450** | 415 | 35 |
| | | WBR | 1 | NR-C | 40 | 37 | 0 | Not Required | | | | Continuos | - |

*Design speed is based on the EPC ECM criteria. The speed limit was assumed to be 5 mph below the design speed.*

Summary of turn lane improvements are as follows:

### US-24/SH-94/Newt Dr (#2)

- A 250-ft extension of northbound left-turn.
- A 485-ft extension of southbound right to west bound thru acceleration lane.
- A 540-ft extension of eastbound right to southbound thru acceleration lane.

### US-24 EB Ramps/Space Village Avenue (#5)

- A 35-ft extension of eastbound left turn.

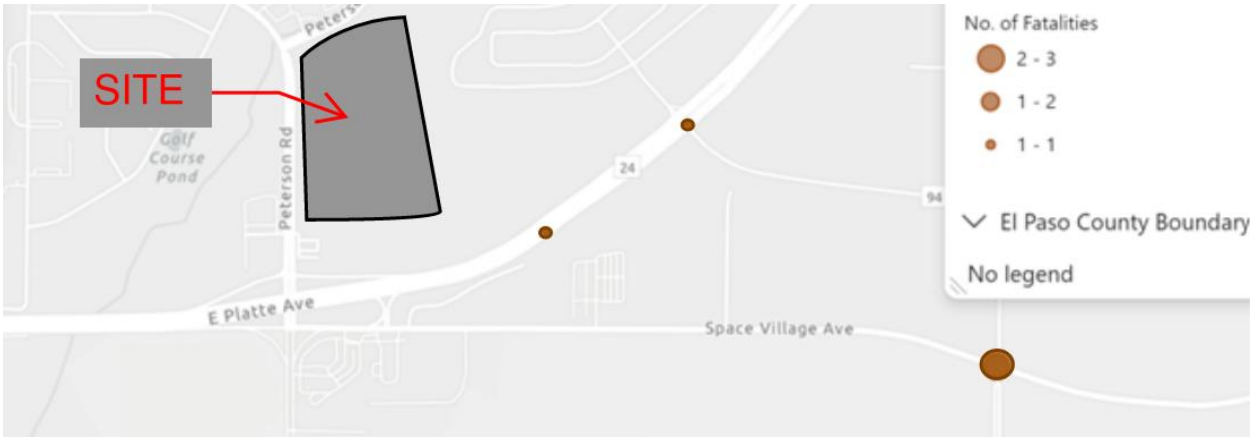
## Crash History

The El Paso County Road Safety Plan website was used to obtain the number of severe and fatal crashes in the vicinity of the project. Crash data from the website was collected and shown as a density map. As shown in Figure 7, approximately 9 severe injury crashes occurred on SH-24 and Space Village Avenue in three distinct locations. The main cause of these crashes resulted from reckless and careless driving. As shown in Figure 8, two fatal crashes have also happened in the vicinity of the project along US 24, a high speed CDOT maintained facility.

**Figure 7. Serious Injury Crash Density Map**




**Figure 8. Fatal Crash Density Map**




# Projected Development Traffic

This section documents how much anticipated traffic will be generated by the Project 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, 12th 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. In most cases, the regression equations are recommended when there are adequate study data points.

Table 4 shows the trips that are expected to be generated by the Project at buildout. Although there are bus stops near the project site, it was assumed that 100% of the trips would be made by vehicles. No internal or pass-by trips were accounted for in the site trip estimates either.

### Table 4. Cimarron Hills Southeast Filing No.1 Trip Generation

| Lot / Tract | ITE Code - Land Use | Size | Unit | AM Peak Hour | | | PM Peak Hour | | | Daily |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Inbound | Outbound | Total | Inbound | Outbound | Total | Total |
| 1 | 220 - Multi-Family Housing | 301 | Dwelling Units | 28 | 90 | **118** | 94 | 58 | **152** | **1,816** |
| A | 210 - Single-Family Detached Housing | 60 | Dwelling Units | 12 | 33 | **45** | 37 | 23 | **60** | **750** |
| B | 210 - Single-Family Detached Housing | 82 | Dwelling Units | 16 | 44 | **60** | 50 | 30 | **80** | **928** |
| ***Grand Total*** | | | | *56* | *167* | **223** | *181* | *111* | **292** | ***3,494*** |

## Trip Distribution

Figure 9 illustrates the expected external distribution of travel for the site-generated trips. This distribution was determined by reviewing the existing traffic counts and road classifications in the MTCP.

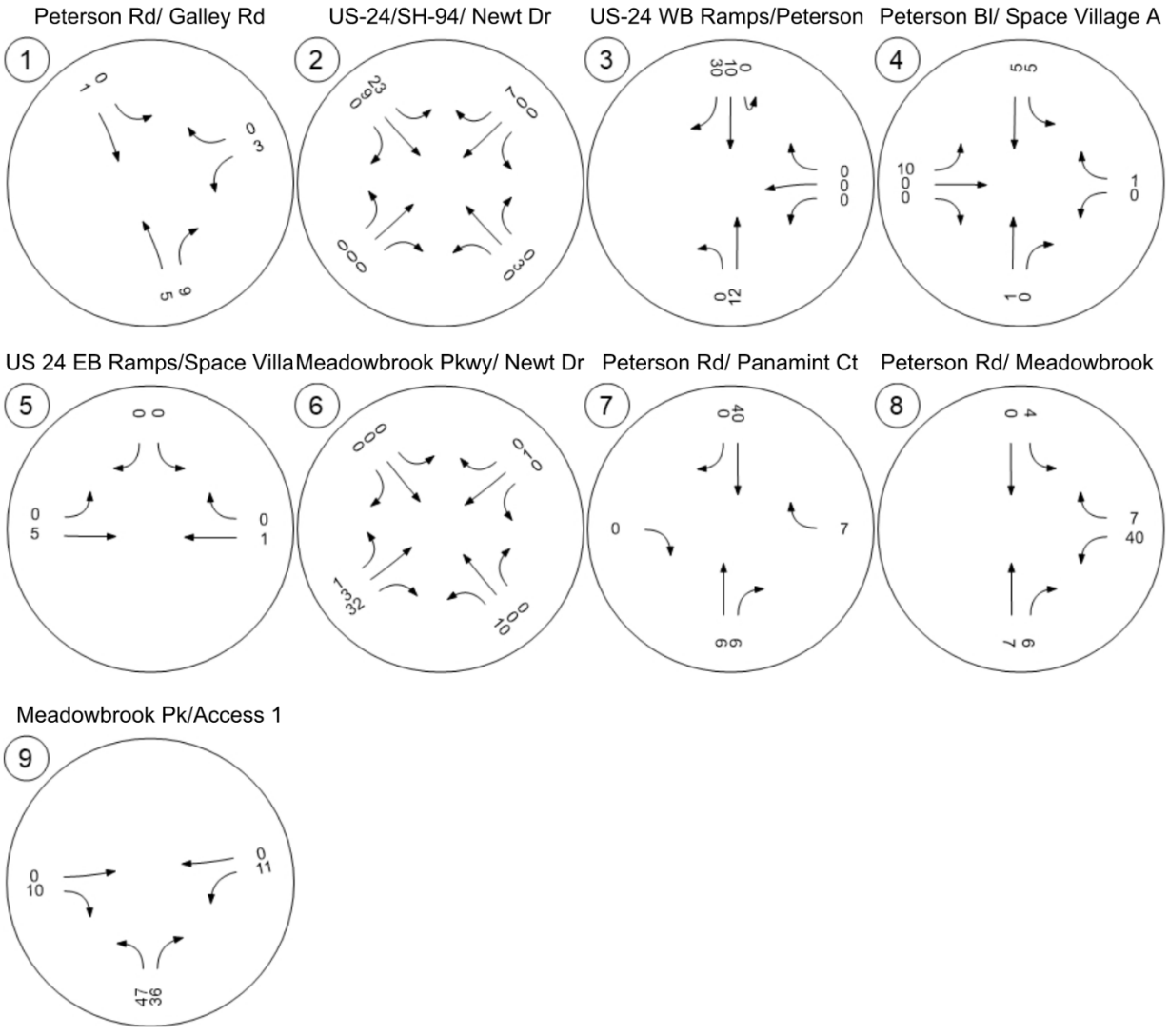
### Figure 9. Trip Distribution



The site trips for both the AM and PM peak hours for Lot 1 are shown in Figure 10 and Figure 11. The short-term daily site traffic is shown in Figure 12.

## Figure 10. Short-Term Site Trips (AM Peak Hour)



## Figure 11. Short-Term Site Trips (PM Peak Hour)



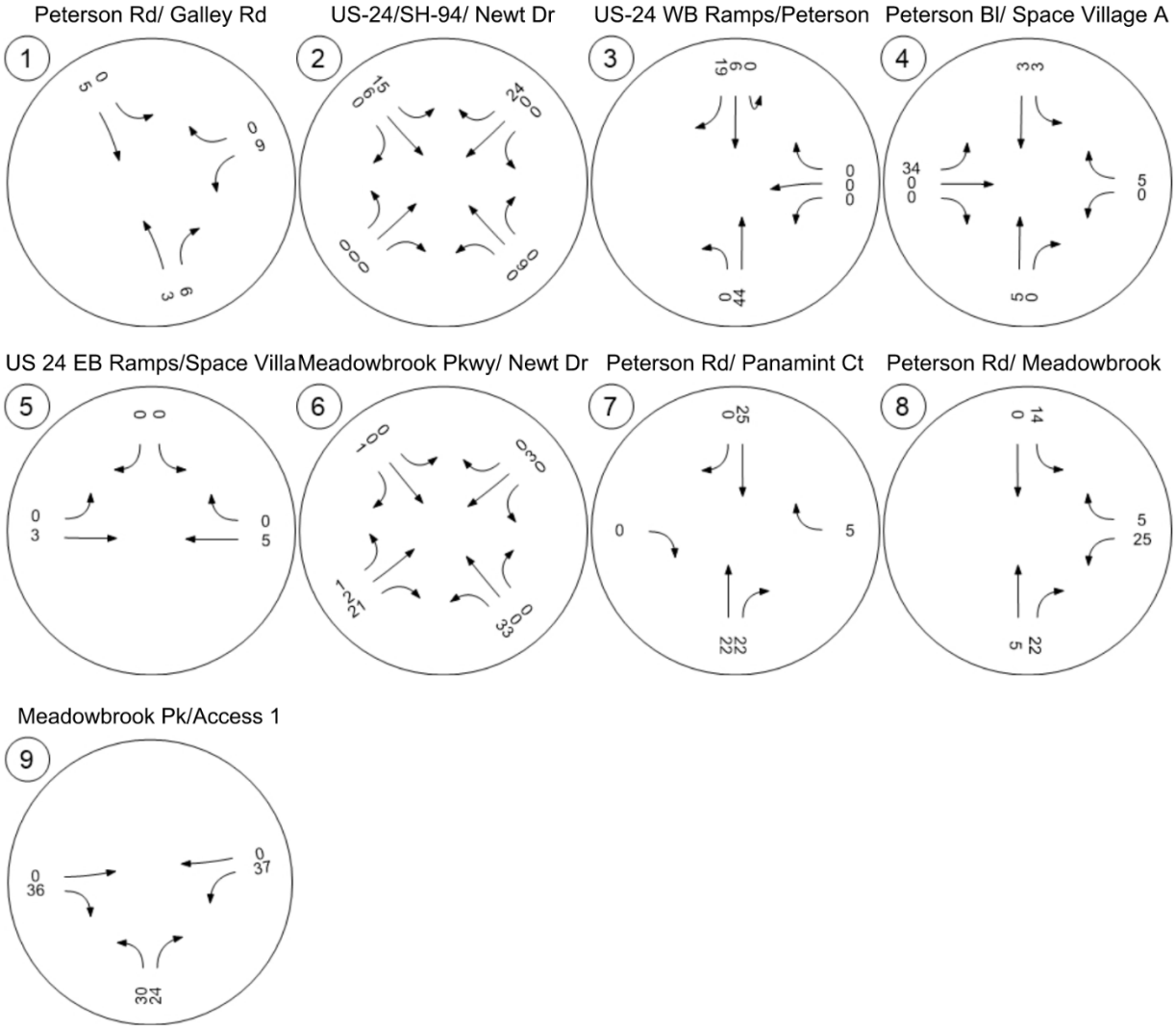



Figure 12. Short-Term Daily Site Traffic



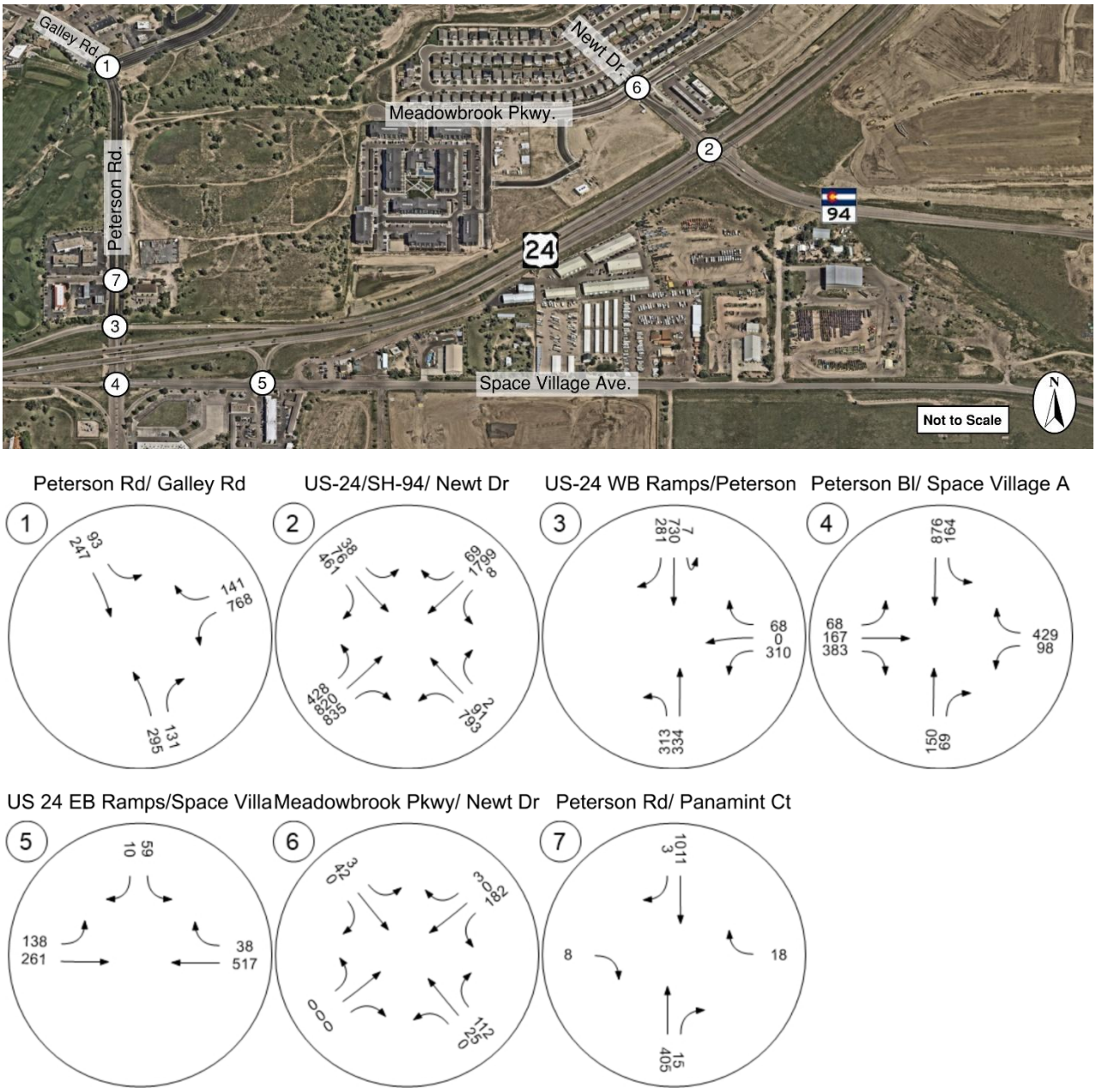

# Traffic Analysis

Traffic conditions both with and without the project were analyzed for buildout year (2027) and horizon year (2045) conditions.

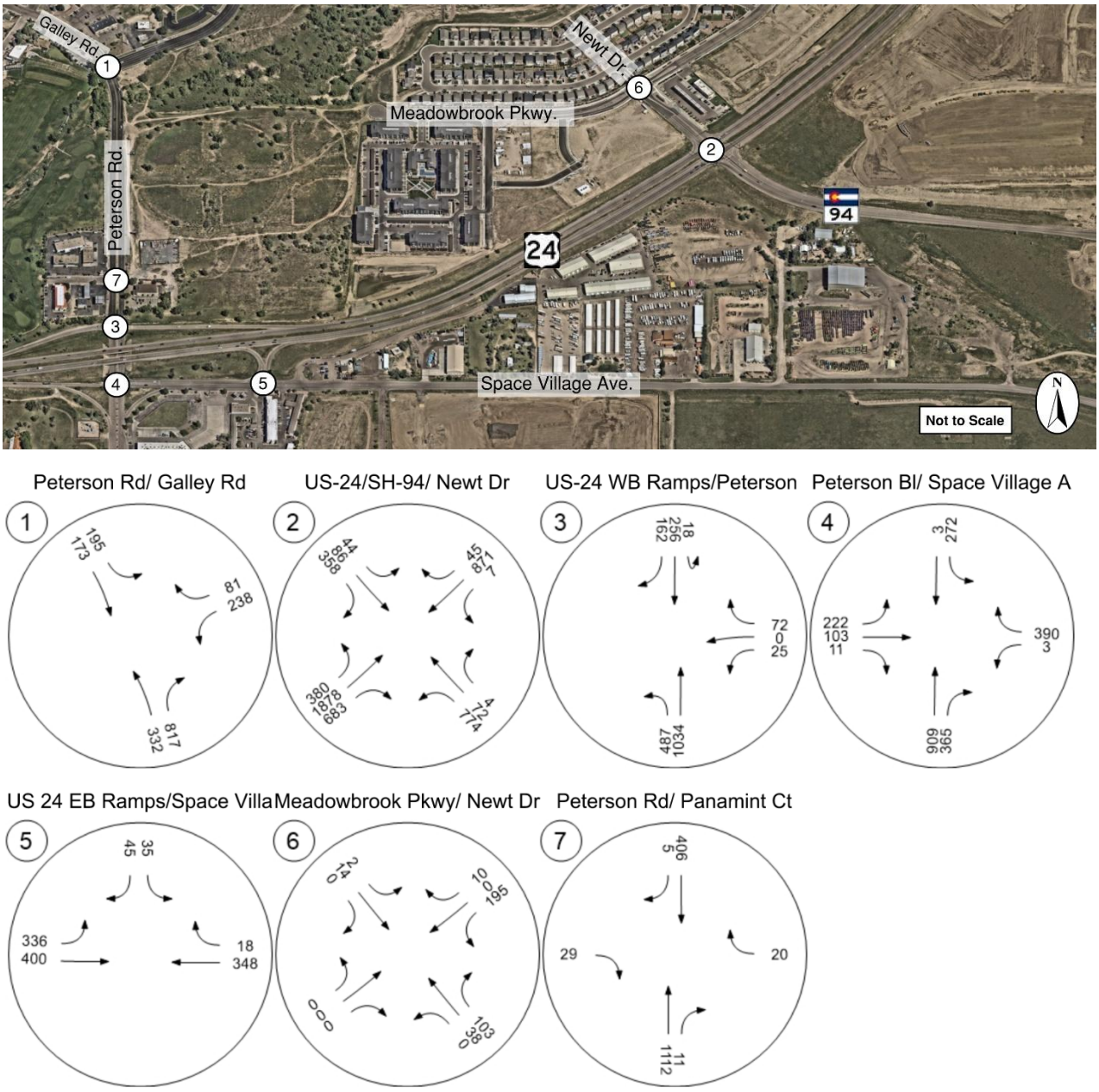
## Buildout (2027) No Project Conditions

The buildout year traffic volumes without the project are shown in Figure 13 and Figure 14 and daily traffic volumes are shown in Figure 15. The CDOT Traffic Counts Database System (TCDS) website was used to calculate the growth in the studied area. For this purpose, the earliest available counts (2009) and the latest available counts (2023) on Peterson Road N/O US-24 were used to obtain the growth rate. According to the TCDS, the traffic counts do not include the pandemic Year of 2020. A 0.77% annual growth rate was calculated resulting in a growth factor of 1.0234 (2027), and 1.1754 (2045). Following coordination with El Paso County, the intersection at Peterson Road and Panamint Court (#7) will be modified from a full-movement intersection to a right-in/right-out (RIRO) configuration. Moreover, since the City of Colorado Springs wishes to replace the signals and design a roundabout, the project intersection configuration for intersection US-24 WB ramps/Peterson Road (#3) and Peterson Boulevard/Space Village Avenue (#4) were modified to reflect this improvement. An excerpt of this design can be found in Appendix F – Supporting Documents. Additionally, traffic from four adjacent developments, namely, Crossroad Mixed-Use (SP2011), Crossroads North (SP207), Meadowbrook Park, and Reagan Ranch were added to intersection of US-24/SH-94/Newt Drive (#2) and Meadowbrook Parkway/Newt Drive (#6). An excerpt of the *Crossroads-Meadowbrook and Reagan Ranch TIS* prepared by Kimley-Horn can be found in Appendix F – Supporting Documents.

## Figure 13. Buildout (2027) No Project Traffic Volumes (AM Peak Hour)



## Figure 14. Buildout (2027) No Project Traffic Volumes (PM Peak Hour)



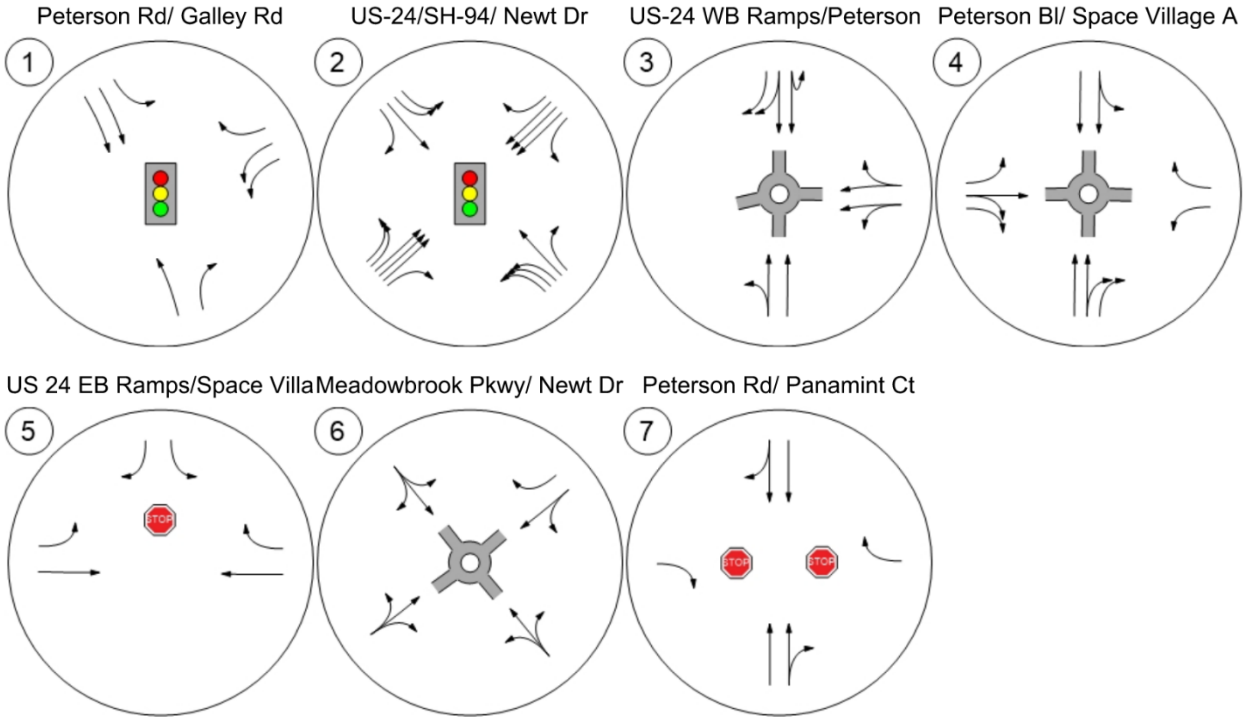
## Figure 15. Buildout (2027) No Project Daily Traffic




The assumed intersection configurations are shown in Figure 16. The City of Colorado Springs is planning on changing the signalized intersections into roundabouts for US-24 WB Ramps/Peterson Road (#3) and Peterson Blvd/Space Village Ave (#4). These changes for future conditions are shown in Figure 16. Details can be found in Appendix F – Supporting Documents. The operations of the study area intersections in the buildout no project scenarios are shown in Table 5 and Table 6. The turn lane evaluations for the buildout no project are shown in Table 7.

## Figure 16. Buildout (2027) No Project Intersection Configurations



## Table 5. Buildout (2027) No Project Intersection Operations (AM Peak Hour)

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | Peterson Rd/ Galley Rd | Signalized | HCM 7th Edition | WB Left | 0.451 | 14.7 | B |
| 2 | US-24/SH-94/ Newt Dr | Signalized | HCM 7th Edition | SB Thru | 0.729 | 39.9 | D |
| 3 | US-24 WB Ramps/Peterson Rd | Roundabout | HCM 7th Edition | SB U-T | | 9.4 | A |
| 4 | Peterson Bl/ Space Village Av | Roundabout | HCM 7th Edition | EB Thru | | 6.5 | A |
| 5 | US 24 EB Ramps/Space Village Av | Two-way stop | HCM 7th Edition | SB Left | 0.343 | 34.1 | D |
| 6 | Meadowbrook Pkwy/ Newt Dr. | Roundabout | HCM 7th Edition | WB Left | | 3.7 | A |
| 7 | Peterson Rd/ Panamint Ct | Two-way stop | HCM 7th Edition | EB Right | 0.019 | 12.7 | 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 6. Buildout (2027) No Project Intersection Operations (PM Peak Hour)

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | Peterson Rd/ Galley Rd | Signalized | HCM 7th Edition | WB Left | 0.426 | 12.5 | B |
| 2 | US-24/SH-94/ Newt Dr | Signalized | HCM 7th Edition | SB Thru | 0.615 | 29.7 | C |
| 3 | US-24 WB Ramps/Peterson Rd | Roundabout | HCM 7th Edition | WB Right | | 9.5 | A |
| 4 | Peterson Bl/ Space Village Av | Roundabout | HCM 7th Edition | WB Right | | 17.2 | C |
| 5 | US 24 EB Ramps/Space Village Av | Two-way stop | HCM 7th Edition | SB Left | 0.438 | 75.6 | F |
| 6 | Meadowbrook Pkwy/ Newt Dr. | Roundabout | HCM 7th Edition | WB Left | | 3.8 | A |
| 7 | Peterson Rd/ Panamint Ct | Two-way stop | HCM 7th Edition | WB Right | 0.050 | 13.7 | 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.

As shown in Table 5 and Table 6, all study area intersections operate at an acceptable level-of-service at buildout without the project traffic except for US-24 EB Ramps/Space Village Avenue (#5).

### US-24 EB Ramp/Space Village Avenue (#5)

This stop-controlled intersection operates at LOS D during the AM peak and LOS F during the PM peak hour. Queue analysis showed the 95-percentile queue is less than two vehicles in the PM peak hours for the deficient movement (southbound left-turn). Therefore, Matrix does not recommend any mitigation at this intersection.

## Table 7. Buildout (2027) Background Turn Lane Evaluations

| ID | Intersection | Movement | Roadway Classification | Design Speed (mph) | No. of Lanes | Turning Volume (vph) | Queue (ft) | Deceleration (ft) | Taper (ft) | Storage (ft) | Total (ft) | Required Improvement (ft) vs Improved Existing |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Galley Rd/Peterson Rd EPC Signalized | NBR | Minor Arterial | 40 | 1 | 817 | 165 | 155 | 160 | 165 | **480** | - |
| | | SBL | Minor Arterial | 40 | 1 | 195 | 30 | 155 | 160 | 30 | **345** | - |
| | | WBL | Minor Arterial | 40 | 2 | 768 | 174 | 155 | 320 | 174 | **650** | - |
| | | WBR | Minor Arterial | 40 | 1 | 141 | 25 | 155 | 160 | 25 | **340** | - |
| 2 | US-24/SH-94/Newt Dr CDOT Signalized | NBL (SH-94) | E-X | 60 | 3 | 793 | 322 | 600 | 666 | 264 | **1530** | One Additional Turn Lane |
| | | NBR (SH-94) | E-X | 60 | 1 | 4 | 2 | 600 | 222 | 0 | **820** | - |
| | | SBL (Newt Dr.) | F-R | 35 | 2 | 44 | 30 | 0 | 192 | 25 | **215** | - |
| | | SBR (Newt Dr.) | F-R | 35 | 1 | 461 | 0 | 0 | 96 | 25 | **120** | - |
| | | EBL (US-24) | E-X | 60 | 2 | 428 | 273 | 600 | 444 | 214 | **1260** | One Additional Turn Lane |
| | | EBR (US-24) | E-X | 60 | 1 | 835 | 0 | 600 | 222 | 0 | **820** | - |
| | | WBL (US-24) | E-X | 70 | 1 | 8 | 3 | 600 | 222 | 25 | **845** | - |
| | | WBR (US-24) | E-X | 70 | 1 | 69 | 28 | 600 | 222 | 0 | **820** | - |
| | | SBR to WBTAcceleration Lane | NR-A | 70 | 1 | 461 | 0 | 1080 *(Accel. Lane)* | 300 | | **1380** | - |
| | | EBR to SBTAcceleration Lane | E-X | 60 | 1 | 835 | 0 | 960 *(Accel. Lane)* | 222 | | **1180** | - |
| 5 | US-24 EB Ramps/Space Village Ave CDOT Stop-Controlled | SBL | F-R | 35 | 1 | 59 | 45 | 0 | 96 | 50 | **145** | - |
| | | SBR | F-R | 35 | 1 | 45 | 6 | 0 | 96 | 50 | **145** | - |
| | | EBL | NR-C | 40 | 1 | 336 | 34 | 0 | 120 | 336 | **455** | 5 |
| | | WBR | NR-C | 40 | 1 | 38 | 0 | Not Required | | | | - |

*Design speed is based on the EPC ECM criteria.*

The improvements for the buildout (2027) background scenario are in respect to the improvements for the existing scenario. In addition, it was assumed that the required improvements in the existing conditions have been addressed by the buildout year. Summary of recommended turn lane improvements are as follows:

### US-24/SH-94/Newt Dr (#2)

- Triple northbound left-turn lanes. Include 666-ft of taper, 600-ft of deceleration and three 264-ft of storage lanes.
- Double eastbound left-turn lanes. Include 444-ft of taper, 600-ft of deceleration lane and two 216-ft storage lanes.

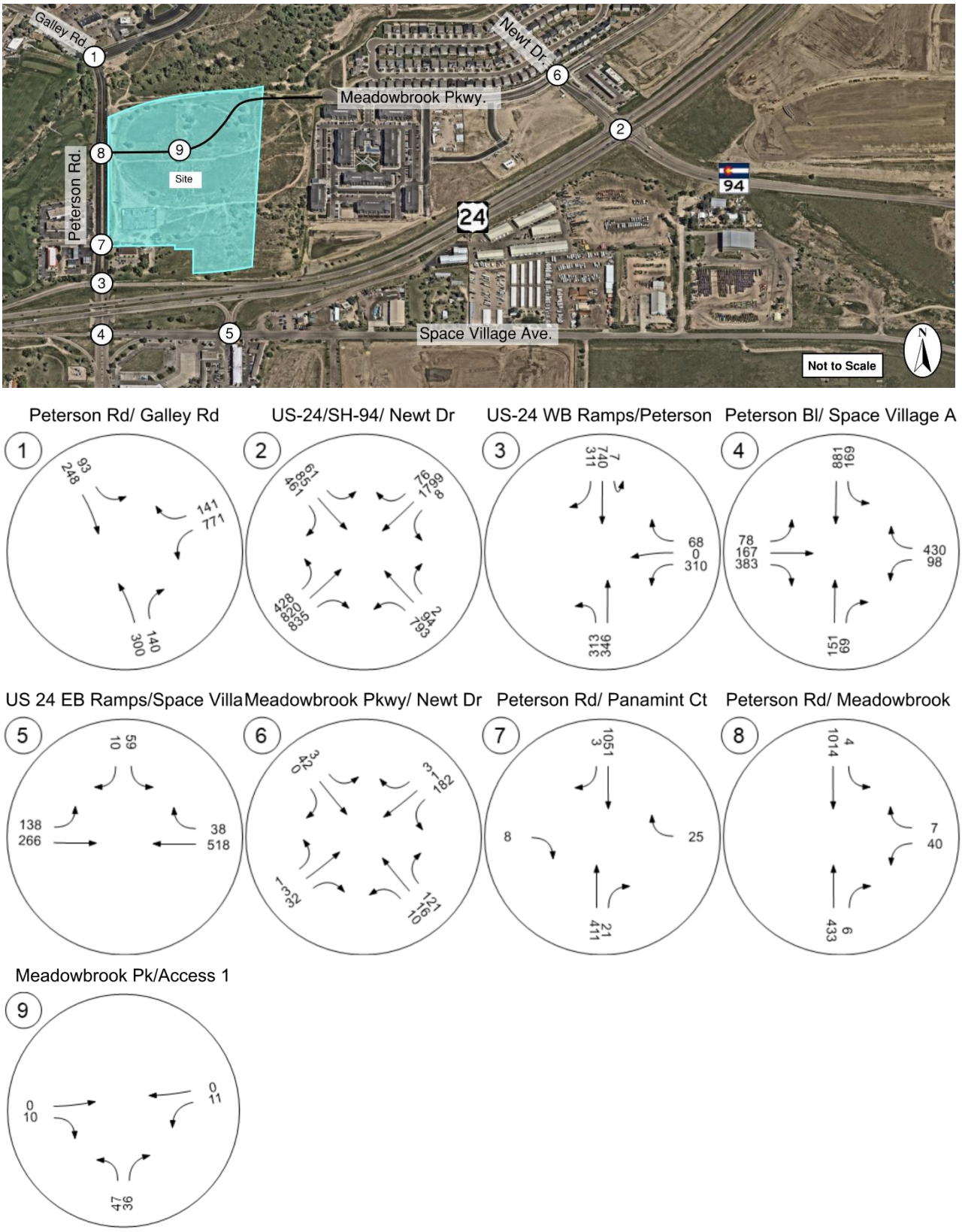
### US-24 EB Ramps/Space Village Avenue (#5)

- A 5-ft extension of eastbound left turn.

## Buildout (2027) With Project Conditions

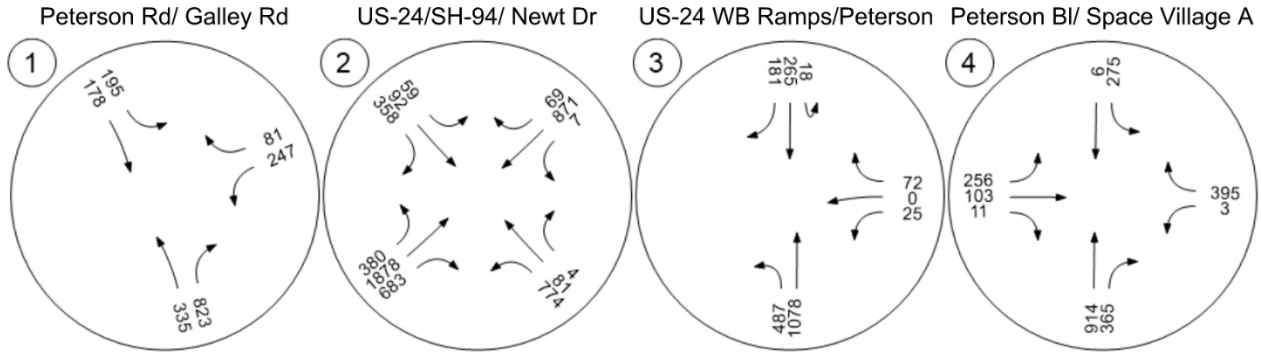
Buildout traffic volumes with the Lot 1 project traffic added are shown in Figure 17 and Figure 18 for AM and PM peak hour, respectively. The analysis also includes access points for Lot 1. The daily traffic volumes are shown in Figure 19. The intersection configurations are shown in Figure 20. Additionally, traffic from four adjacent developments, namely, Crossroad Mixed-Use, Crossroads North, Meadowbrook Park and Reagan Ranch were added to intersection of US-24/US-94/Newt Drive (#2) and Meadowbrook Parkway/Newt Drive (#6). An excerpt of the *Crossroads-Meadowbrook and Reagan Ranch TIS* can be found in Appendix F – Supporting Documents.

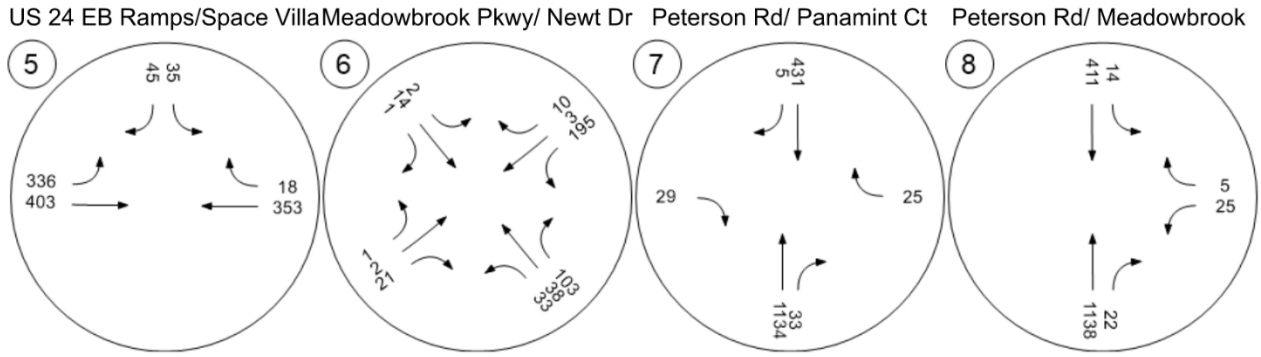
## Figure 17. Buildout (2027) With Project Traffic Volumes (AM Peak Hour)



## Figure 18. Buildout (2027) With Project Traffic Volumes (PM Peak Hour)



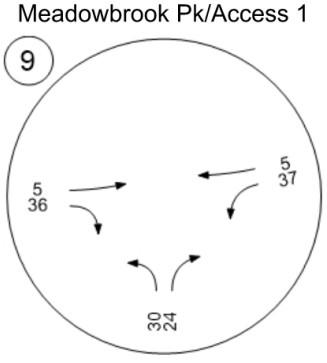
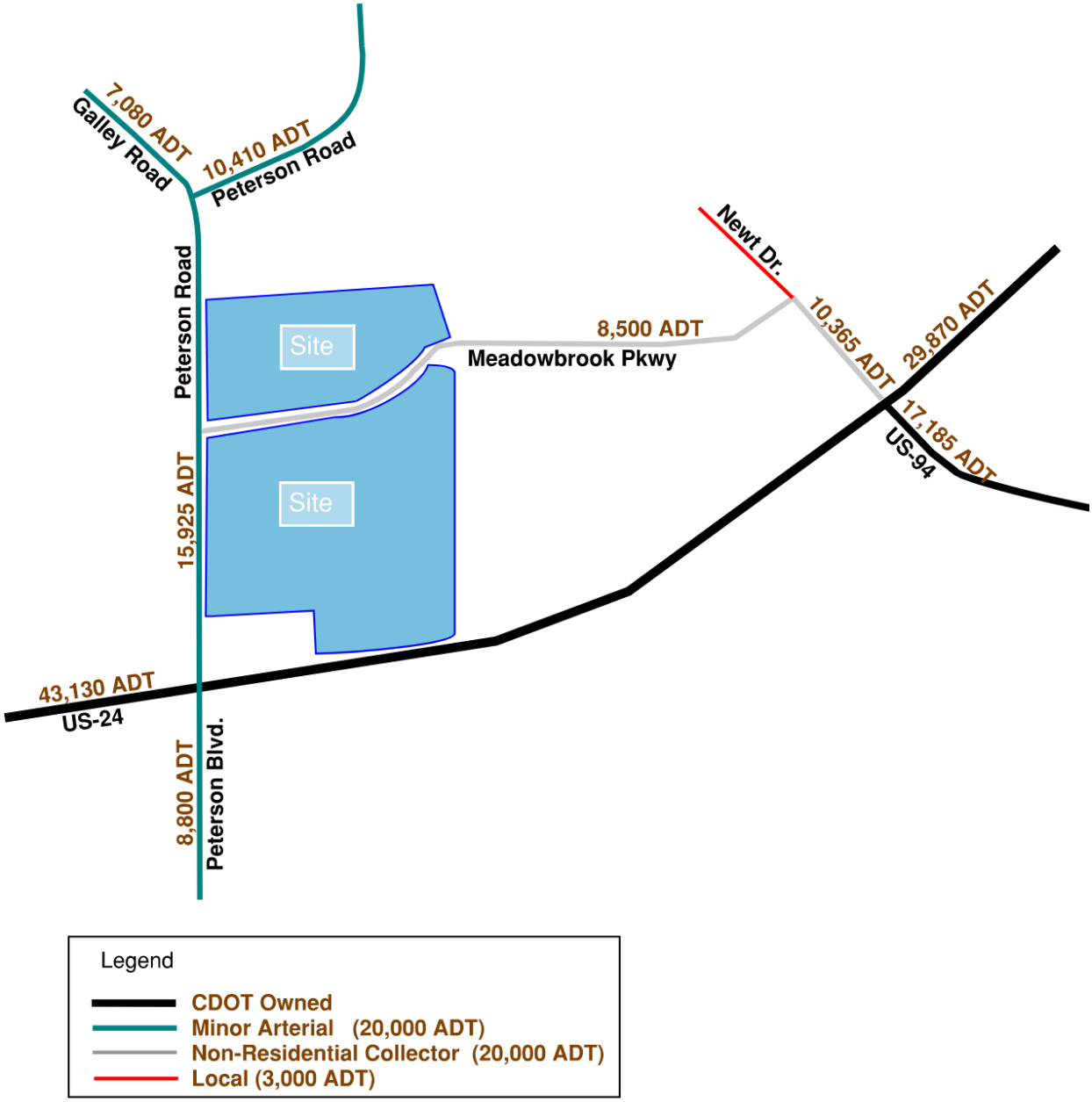
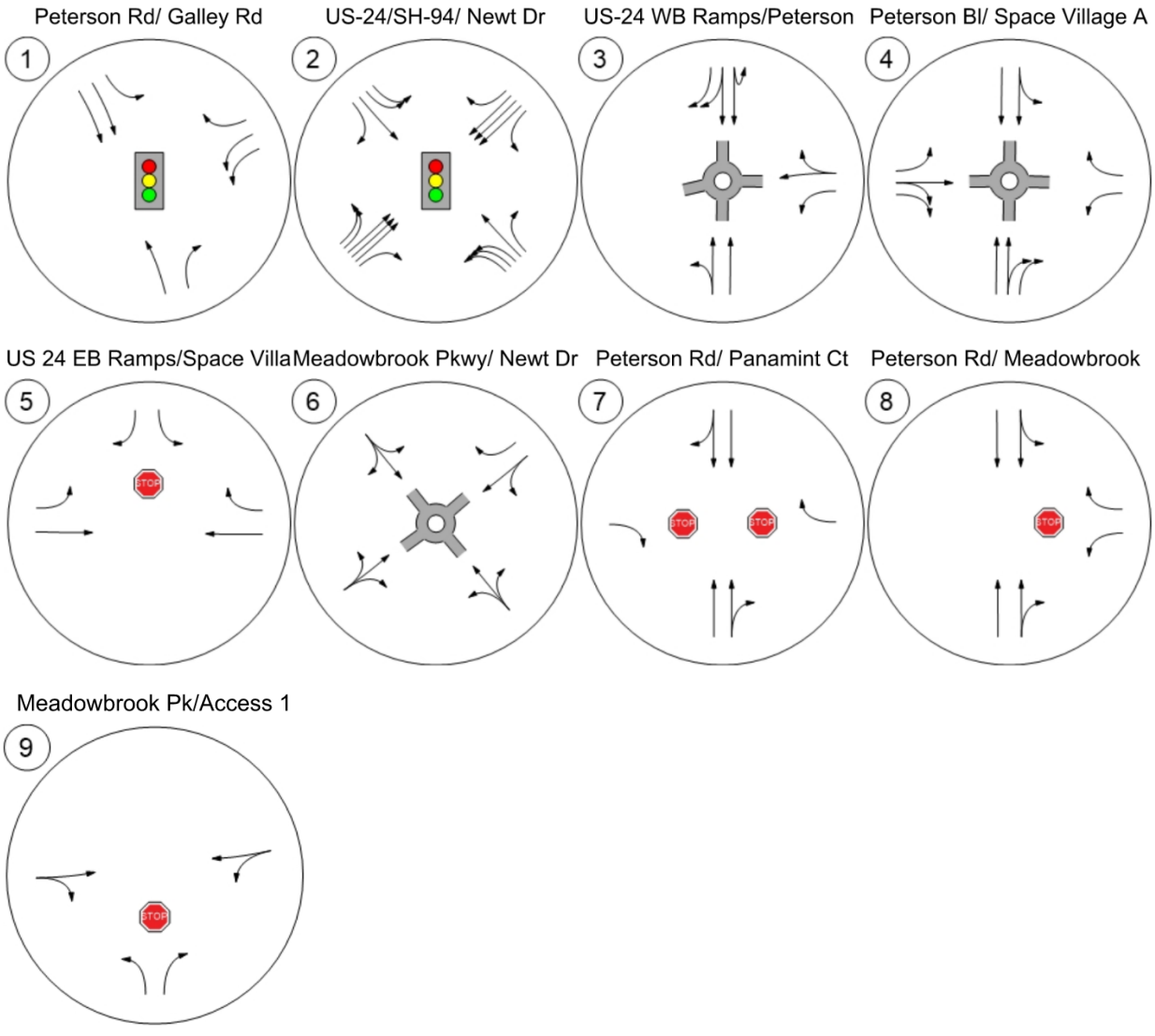



Figure 19. Buildout (2027) With Project Daily Traffic Volumes and Roadway Classification



## Figure 20. Buildout (2027) With Project Intersection Configurations



Analysis of the intersections and roadways for buildout conditions with the volumes and configurations shown above, results in the operations shown in Table 8 and Table 9.

## Table 8. Buildout (2027) With Project Intersection Operations (AM Peak Hour)

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | Peterson Rd/ Galley Rd | Signalized | HCM 7th Edition | WB Left | 0.454 | 14.7 | B |
| 2 | US-24/SH-94/ Newt Dr | Signalized | HCM 7th Edition | SB Thru | 0.734 | 41.4 | D |
| 3 | US-24 WB Ramps/Peterson Rd | Roundabout | HCM 7th Edition | SB U-T | | 9.5 | A |
| 4 | Peterson Bl/ Space Village Av | Roundabout | HCM 7th Edition | EB Thru | | 6.7 | A |
| 5 | US 24 EB Ramps/Space Village Av | Two-way stop | HCM 7th Edition | SB Left | 0.346 | 34.4 | D |
| 6 | Meadowbrook Pkwy/ Newt Dr. | Roundabout | HCM 7th Edition | WB Left | | 3.7 | A |
| 7 | Peterson Rd/ Panamint Ct | Two-way stop | HCM 7th Edition | EB Right | 0.019 | 12.9 | B |
| 8 | Peterson Rd/ Meadowbrook Pk | Two-way stop | HCM 7th Edition | WB Left | 0.190 | 24.4 | C |
| 9 | Meadowbrook Pk/Access 1 | Two-way stop | HCM 7th Edition | NB Left | 0.052 | 8.9 | 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 9. Buildout (2027) With Project Intersection Operations (PM Peak Hour)

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | Peterson Rd/ Galley Rd | Signalized | HCM 7th Edition | WB Left | 0.431 | 12.6 | B |
| 2 | US-24/SH-94/ Newt Dr | Signalized | HCM 7th Edition | SB Thru | 0.618 | 30.0 | C |
| 3 | US-24 WB Ramps/Peterson Rd | Roundabout | HCM 7th Edition | WB Right | | 9.9 | A |
| 4 | Peterson Bl/ Space Village Av | Roundabout | HCM 7th Edition | WB Right | | 19.3 | C |
| 5 | US 24 EB Ramps/Space Village Av | Two-way stop | HCM 7th Edition | SB Left | 0.445 | 77.3 | F |
| 6 | Meadowbrook Pkwy/ Newt Dr. | Roundabout | HCM 7th Edition | WB Left | | 3.9 | A |
| 7 | Peterson Rd/ Panamint Ct | Two-way stop | HCM 7th Edition | WB Right | 0.064 | 14.1 | B |
| 8 | Peterson Rd/ Meadowbrook Pk | Two-way stop | HCM 7th Edition | WB Left | 0.248 | 48.7 | E |
| 9 | Meadowbrook Pk/Access 1 | Two-way stop | HCM 7th Edition | NB Left | 0.039 | 9.4 | 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 8 and Table 9, all study area intersections will operate at an acceptable LOS except for US-24 EB/Space Village Avenue (#5), and Peterson Road/Meadowbrook Parkway (#8).

**US-24 EB/Space Village Avenue (#5)**

This intersection operates at LOS D during the AM peak and LOS F during the PM peak hours. Queue analysis showed the 95$^{th}$-percentile queue is 1.84 vehicles in the PM peak hour. Since the queue is no more than two vehicles for the deficient movement (southbound left-turn), Matrix does not recommend any mitigation at this intersection.

**Peterson Road/Meadowbrook Parkway (#8)**

This intersection operates at LOS E during the PM peak hour. The queue analysis showed the 95-percentile queue is less than two vehicles for the deficient movement (westbound left-turn) in just one hour during the day. Therefore, Matrix does not recommend any mitigation at this intersection. Note that the HCM LOS for stopped-controlled intersection is based on the worst movement and it is not uncommon for motorists on the cross-street to experience delay for one hour during the day.

The turn lane evaluations are summarized in Table 10.

## Table 10. Buildout (2027) With Project Turn Lane Evaluations

| ID | Intersection | Movement | No. of Lanes | Roadway Classification | Design Speed (mph) | Turning Volume (vph) | Queue (ft) | Deceleration (ft) | Taper (ft) | Storage (ft) | Total (ft) | Improvement (ft) vs Buildout Background |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Galley Rd/Peterson Rd EPC Signalized** | NBR | 1 | Minor Arterial | 40 | 823 | 167 | 155 | 160 | 167 | **480** | - |
| | | SBL | 1 | Minor Arterial | 40 | 195 | 29 | 155 | 160 | 29 | **345** | - |
| | | WBL | 2 | Minor Arterial | 40 | 771 | 174 | 155 | 320 | 174 | **650** | - |
| | | WBR | 1 | Minor Arterial | 40 | 141 | 24 | 155 | 160 | 24 | **340** | - |
| 2 | **US-24/SH-94/Newt Dr CDOT Signalized** | NBL (SH-94) | 3 | E-X | 60 | 793 | 322 | 600 | 666 | 264 | **1530** | - |
| | | NBR (SH-94) | 1 | E-X | 60 | 4 | 2 | 600 | 222 | 0 | **820** | - |
| | | SBL (Newt Dr.) | 2 | F-R | 35 | 61 | 45 | 0 | 192 | 25 | **215** | - |
| | | SBR (Newt Dr.) | 1 | F-R | 35 | 461 | 0 | 0 | 96 | 25 | **120** | - |
| | | EBL (US-24) | 2 | E-X | 60 | 428 | 273 | 600 | 444 | 214 | **1260** | - |
| | | EBR (US-24) | 1 | E-X | 60 | 835 | 0 | 600 | 222 | 0 | **820** | - |
| | | WBL (US-24) | 1 | E-X | 70 | 8 | 4 | 600 | 222 | 25 | **845** | - |
| | | WBR (US-24) | 1 | E-X | 70 | 76 | 32 | 600 | 222 | 0 | **820** | |
| | | SBR to WBTAcceleration Lane | 1 | NR-A | 70 | 461 | 0 | **1080 *(Accel. Lane)*** | 300 | | **1380** | |
| | | EBR to SBTAcceleration Lane | 1 | E-X | 60 | 835 | 0 | **960 *(Accel. Lane)*** | 222 | | **1180** | - |
| 5 | **US-24 EB Ramps/Space Village Ave CDOT Stop-Controlled** | SBL | 1 | F-R | 35 | 59 | 45 | 0 | 96 | 50 | **145** | - |
| | | SBR | 1 | F-R | 35 | 45 | 6 | 0 | 96 | 50 | **145** | - |
| | | EBL | 1 | NR-C | 40 | 336 | 34 | 0 | 120 | 336 | **455** | - |
| | | WBR | 1 | NR-C | 40 | 38 | 0 | **Not Required** | | | | - |
| 7 | **Peterson Rd/ Panamint Ct EPC Stop-Controlled** | NBR | 1 | Minor Arterial | 35 | 33 | 0 | **Not Required** | | | | - |
| | | SBR | 1 | Minor Arterial | 35 | 5 | 0 | **Not Required** | | | | - |
| 8 | **Peterson Rd/Meadowbrook Pkwy EPC Stop-Controlled** | NBR | 1 | Minor Arterial | 35 | 22 | 0 | **Not Required** | | | | - |
| | | SBL | 1 | Minor Arterial | 35 | 14 | 4 | **Not Required** | | | | - |
| | | WBL | 1 | Collector | 35 | 40 | 22 | 135 | 140 | 50 | **325** | 325 |
| | | WBR | 1 | Collector | 35 | 7 | 22 | **Not Required** | | | | - |
| 9 | **Meadowbrook Pkwy/ Access #1 EPC Stop-Controlled** | NBL (Access #1) | 1 | Collector | 35 | 47 | 4 | **The Project will provide adequate storage to accomodate the vehicles in the queue.** | | | | |
| | | NBR (Access #1) | 1 | Collector | 35 | 36 | 3 | | | | | |

The improvements required under the buildout (2027) with-project scenario build on those identified for the buildout (2027) background scenario. The required improvements are summarized below:

**Peterson Road/Meadowbrook Parkway (#8)**

- A 325-ft westbound left-turn lane. Include 135-ft taper, 140-ft of deceleration and 50-ft of storage.

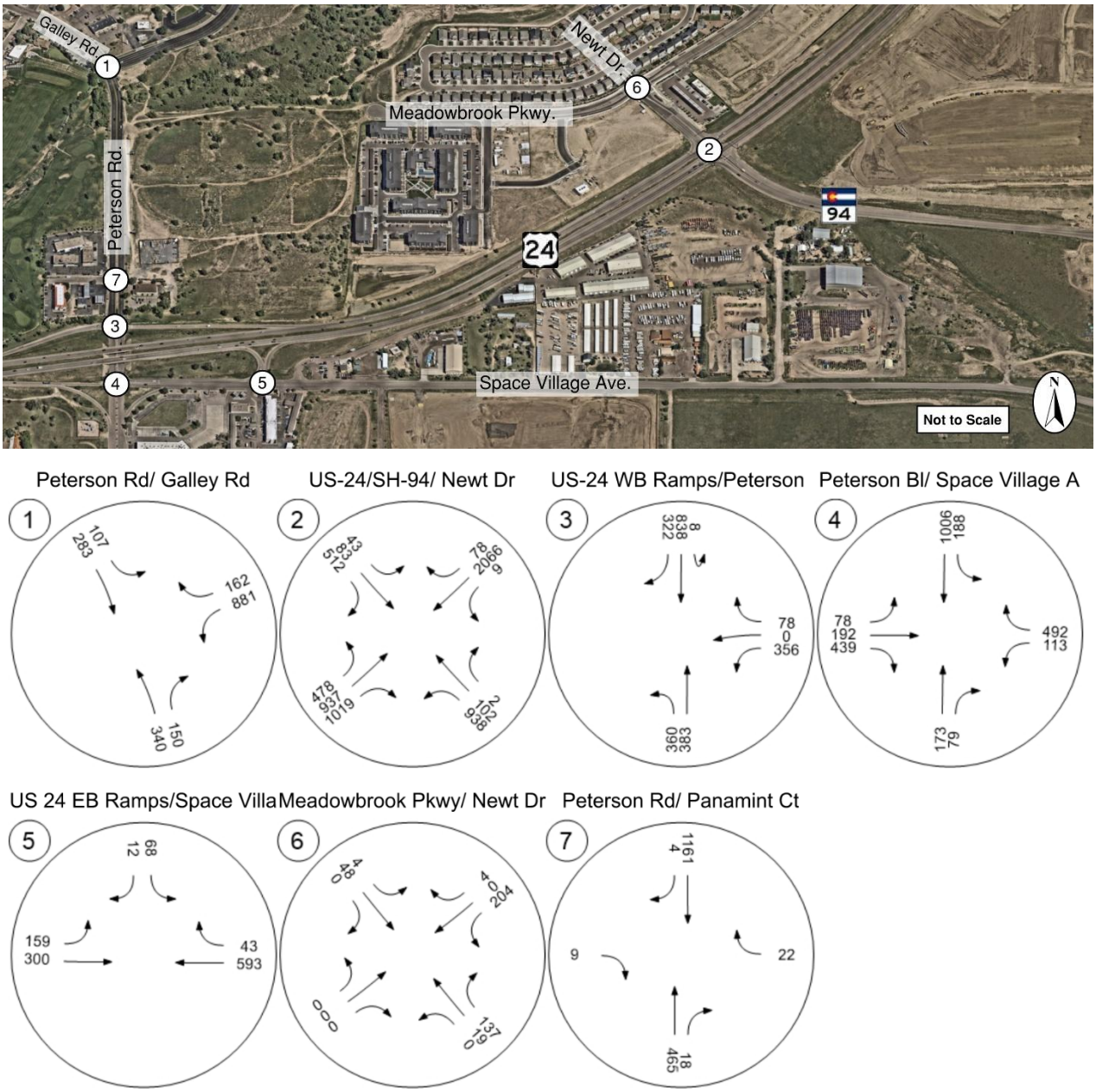
**Meadowbrook Parkway/Access #1 (#9)**

- A northbound left-turn lane. The Project will provide adequate storage to accommodate the vehicles in the queue.
- A northbound right-turn lane. The Project will provide adequate storage to accommodate the vehicles in the queue.
- The Project will provide a TWLTL (striped median) along Meadowbrook Parkway.

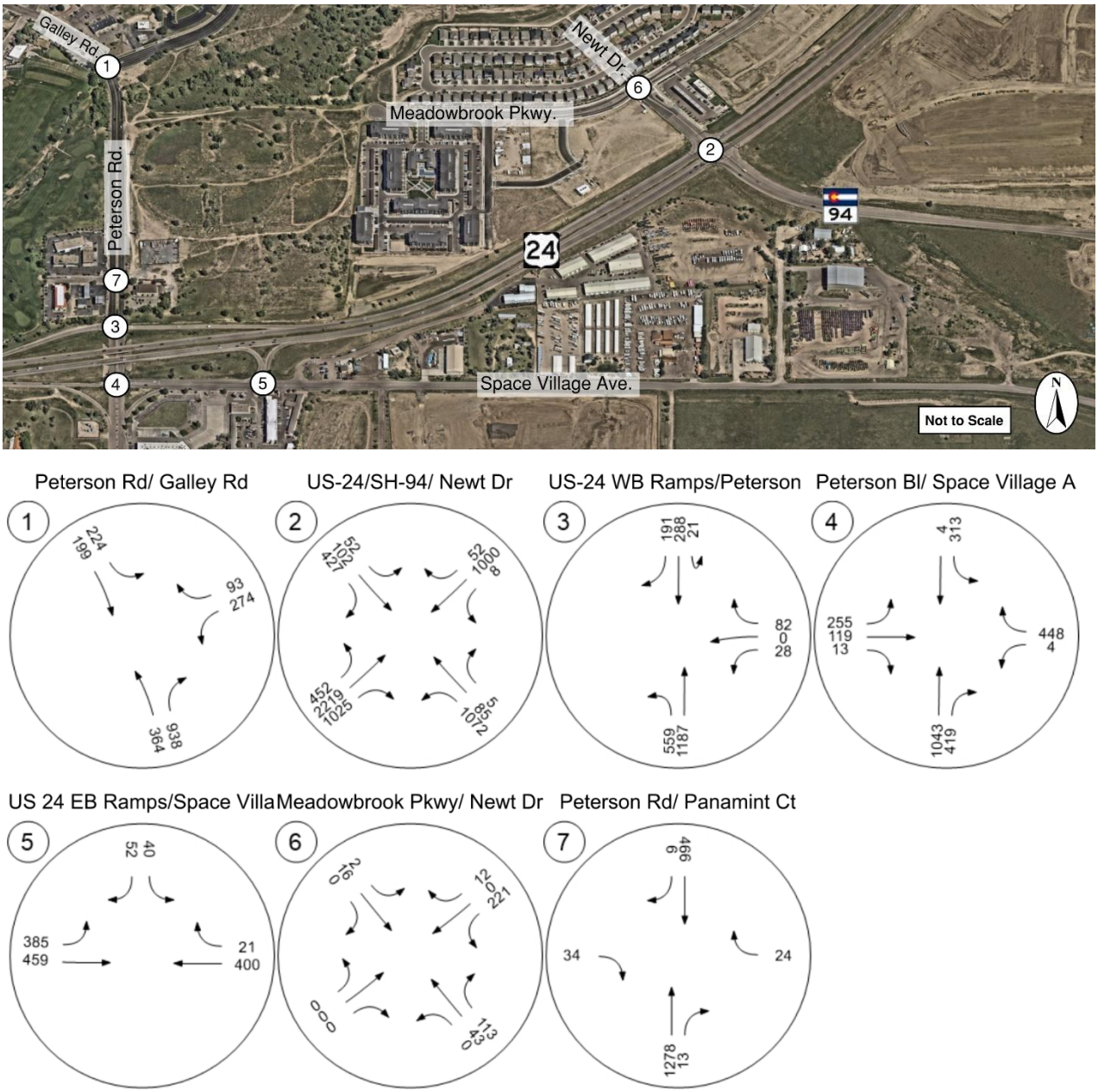
## Horizon (2045) No Project Conditions

The horizon year traffic volumes without the project are shown in Figure 21 and Figure 22, and daily traffic volumes are shown in Figure 23. To calculate the background volumes, an annual growth rate of 0.7% was applied to the collected counts from 2009-2023 at Peterson Road N/O SH 24. The collected counts did not account for 2020 (COVID-19 pandemic); therefore, this did not affect any of the calculations. The growth rate chosen is 0.7% considering the road is not a highway and is considerably closer to the project. It additionally represents the smallest percentage growth rate of all the other calculations. The growth rate was used to calculate the growth factor for the horizon year (2045) which is 1.1754. Moreover, traffic from four adjacent developments adjacent to Cimmaron Hills namely, Crossroad Mixed-Use, Crossroads North, Meadowbrook Park and Reagan Ranch were added to intersection of US-24/US-94/Newt Drive (#2) and Meadowbrook Parkway/Newt Drive (#6) to better estimate the future conditions.

## Figure 21. Horizon (2045) No Project Traffic Volumes (AM Peak Hour)



## Figure 22. Horizon (2045) No Project Traffic Volumes (PM Peak Hour)



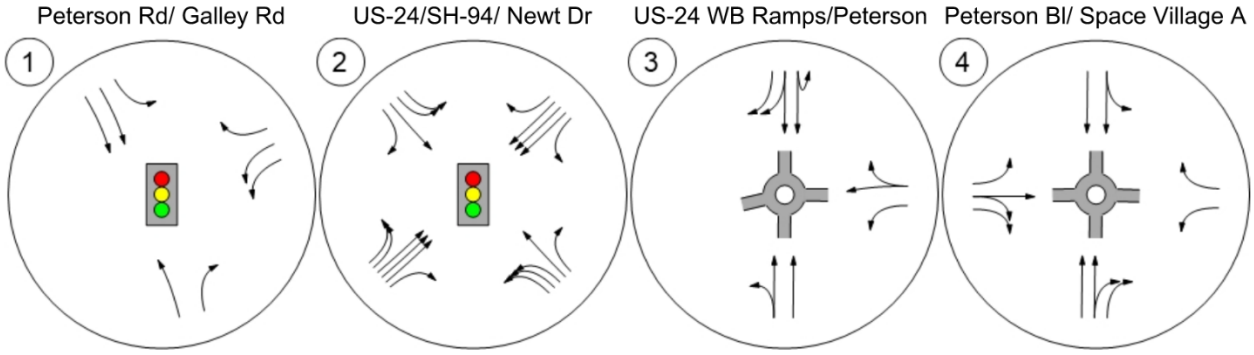
## Figure 23. Horizon (2045) No Project Daily Traffic Volumes

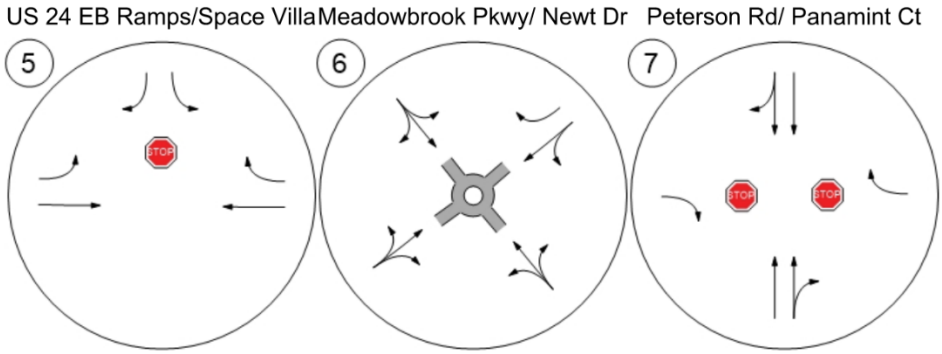



The assumed intersection configurations are shown in Figure 24. The operations of the study area intersections in the horizon background (no project) scenario are shown in Table 11 and Table 12.

## Figure 24. Horizon (2045) No Project Intersection Configurations



## Table 11. Horizon (2045) No Project Intersection Operations (AM Peak Hour)

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | Peterson Rd/ Galley Rd | Signalized | HCM 7th Edition | NB Thru | 0.519 | 15.7 | B |
| 2 | US-24/SH-94/ Newt Dr | Signalized | HCM 7th Edition | SB Thru | 0.836 | 41.9 | D |
| 3 | US-24 WB Ramps/Peterson Rd | Roundabout | HCM 7th Edition | SB U-T | | 12.7 | B |
| 4 | Peterson Bl/ Space Village Av | Roundabout | HCM 7th Edition | EB Thru | | 6.4 | A |
| 5 | US 24 EB Ramps/Space Village Av | Two-way stop | HCM 7th Edition | SB Left | 0.527 | 56.1 | F |
| 6 | Meadowbrook Pkwy/ Newt Dr. | Roundabout | HCM 7th Edition | WB Left | | 3.8 | A |
| 7 | Peterson Rd/ Panamint Ct | Two-way stop | HCM 7th Edition | EB Right | 0.024 | 13.7 | 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 12. Horizon (2045) No Project Intersection Operations (PM Peak Hour)

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | Peterson Rd/ Galley Rd | Signalized | HCM 7th Edition | WB Left | 0.485 | 13.0 | B |
| 2 | US-24/SH-94/ Newt Dr | Signalized | HCM 7th Edition | SB Thru | 0.760 | 43.8 | D |
| 3 | US-24 WB Ramps/Peterson Rd | Roundabout | HCM 7th Edition | WB Right | | 12.0 | B |
| 4 | Peterson Bl/ Space Village Av | Roundabout | HCM 7th Edition | NB Thru | | 14.3 | B |
| 5 | US 24 EB Ramps/Space Village Av | Two-way stop | HCM 7th Edition | SB Left | 0.756 | 170.0 | F |
| 6 | Meadowbrook Pkwy/ Newt Dr. | Roundabout | HCM 7th Edition | WB Left | | 3.9 | A |
| 7 | Peterson Rd/ Panamint Ct | Two-way stop | HCM 7th Edition | WB Right | 0.068 | 15.1 | C |

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 11 and Table 12, all intersections operate at acceptable LOS except for the intersection of US-24 EB Ramps/Space Village Avenue (#5). This stopped-controlled intersection

operates at LOS F during both the AM and PM peak hours. Queue analysis showed the 95th-percentile queue is three vehicles in both the AM and PM peak hours. Since the queue is only three vehicles for the deficient movement (southbound left-turn), Matrix does not recommend any mitigation at this intersection.

Turn lane evaluations are summarized in Table 13.

## Table 13. Horizon (2045) No Project Turn Lane Evaluations

| ID | Intersection | Movement | Roadway Classification | Design Speed (mph) | No. of Lanes | Turning Volume (vph) | Queue (ft) | Deceleration (ft) | Taper (ft) | Storage (ft) | Total (ft) | Improvement (ft) vs Buildout Background |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Galley Rd/Peterson Rd<br>EPC<br>Signalized | NBR | Minor Arterial | 40 | 1 | 938 | 202 | 155 | 160 | 202 | 515 | 35 |
| | | SBL | Minor Arterial | 40 | 1 | 224 | 39 | 155 | 160 | 39 | 355 | 10 |
| | | WBL | Minor Arterial | 40 | 2 | 881 | 206 | 155 | 320 | 206 | 680 | 30 |
| | | WBR | Minor Arterial | 40 | 1 | 162 | 29 | 155 | 160 | 29 | 345 | 5 |
| 2 | US-24/SH-94/Newt Dr<br>CDOT<br>Signalized | NBL (SH-94) | E-X | 60 | 3 | 1072 | 448 | 600 | 666 | 357 | 1625 | 90 |
| | | NBR (SH-94) | E-X | 60 | 1 | 5 | 2 | 600 | 222 | 0 | 820 | - |
| | | SBL (Newt Dr.) | F-R | 35 | 2 | 52 | 40 | 0 | 192 | 25 | 215 | - |
| | | SBR (Newt Dr.) | F-R | 35 | 1 | 512 | 0 | 0 | 96 | 25 | 120 | - |
| | | EBL (US-24) | E-X | 60 | 2 | 478 | 325 | 600 | 444 | 239 | 1285 | 25 |
| | | EBR (US-24) | E-X | 60 | 1 | 1025 | 0 | 600 | 222 | 0 | 820 | - |
| | | WBL (US-24) | E-X | 70 | 1 | 9 | 5 | 600 | 222 | 25 | 845 | - |
| | | WBR (US-24) | E-X | 70 | 1 | 78 | 29 | 600 | 222 | 0 | 820 | - |
| | | SBR to WBT Acceleration Lane | NR-A | 70 | 1 | 512 | 0 | 1080 *(Accel. Lane)* | 300 | 0 | 1380 | - |
| | | EBR to SBT Acceleration Lane | E-X | 60 | 1 | 1025 | 0 | 960 *(Accel. Lane)* | 222 | 0 | 1180 | - |
| 5 | US-24 EB Ramps/Space Village Ave<br>CDOT<br>Stop-Controlled | SBL | F-R | 35 | 1 | 68 | 81 | 0 | 96 | 100 | 195 | - |
| | | SBR | F-R | 35 | 1 | 52 | 7 | 0 | 96 | 50 | 145 | - |
| | | EBL | NR-C | 40 | 1 | 385 | 45 | 0 | 120 | 385 | 505 | 40 |
| | | WBR | NR-C | 40 | 1 | 43 | 0 | Not Required | | | | - |

*Design speed is based on the EPC ECM criteria.*

The improvements for the horizon (2045) background scenario are in respect to the improvements for the buildout (2027) total scenario. Summary of recommended turn lane improvements are as follows:

**Galley Road/Peterson Road (#1)**

- A 35-ft extension of northbound right-turn lane.
- A10-ft extension of southbound left-turn lane.
- A 30-ft extension of westbound left-turn lane.
- A 5-ft extension of westbound right-turn lane.

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

- A 90-ft extension of northbound left-turn
- A 25-ft extension of eastbound left-turn lane.

**US-24 EB Ramps/Space Village Avenue (#5)**

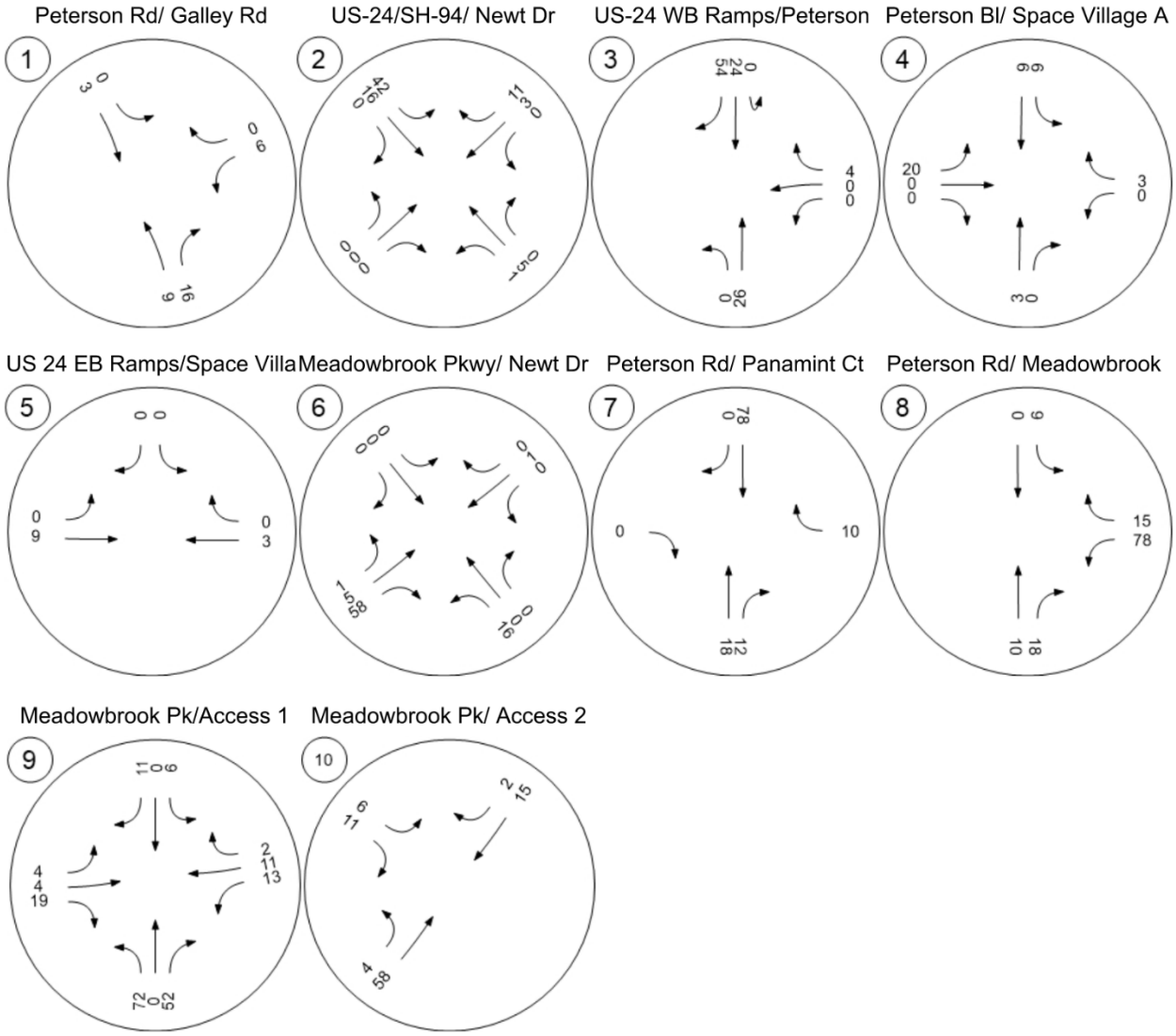
- A 40-ft extension of eastbound left turn.

## Horizon (2045) With Project Conditions

The site trips associated with Tracts A and B, along with the traffic by Lot 1, have been combined to represent the total development impact. The AM and PM peak hour site trips of all three developments are shown in Figure 25 and Figure 26. The long-term daily site trips for this development are shown in Figure 27. When the project traffic from Lot 1, tract A and B is added to the 2045 traffic, the resulting AM, PM, and daily traffic volumes are as shown in Figure 28, Figure 29, and Figure 30.

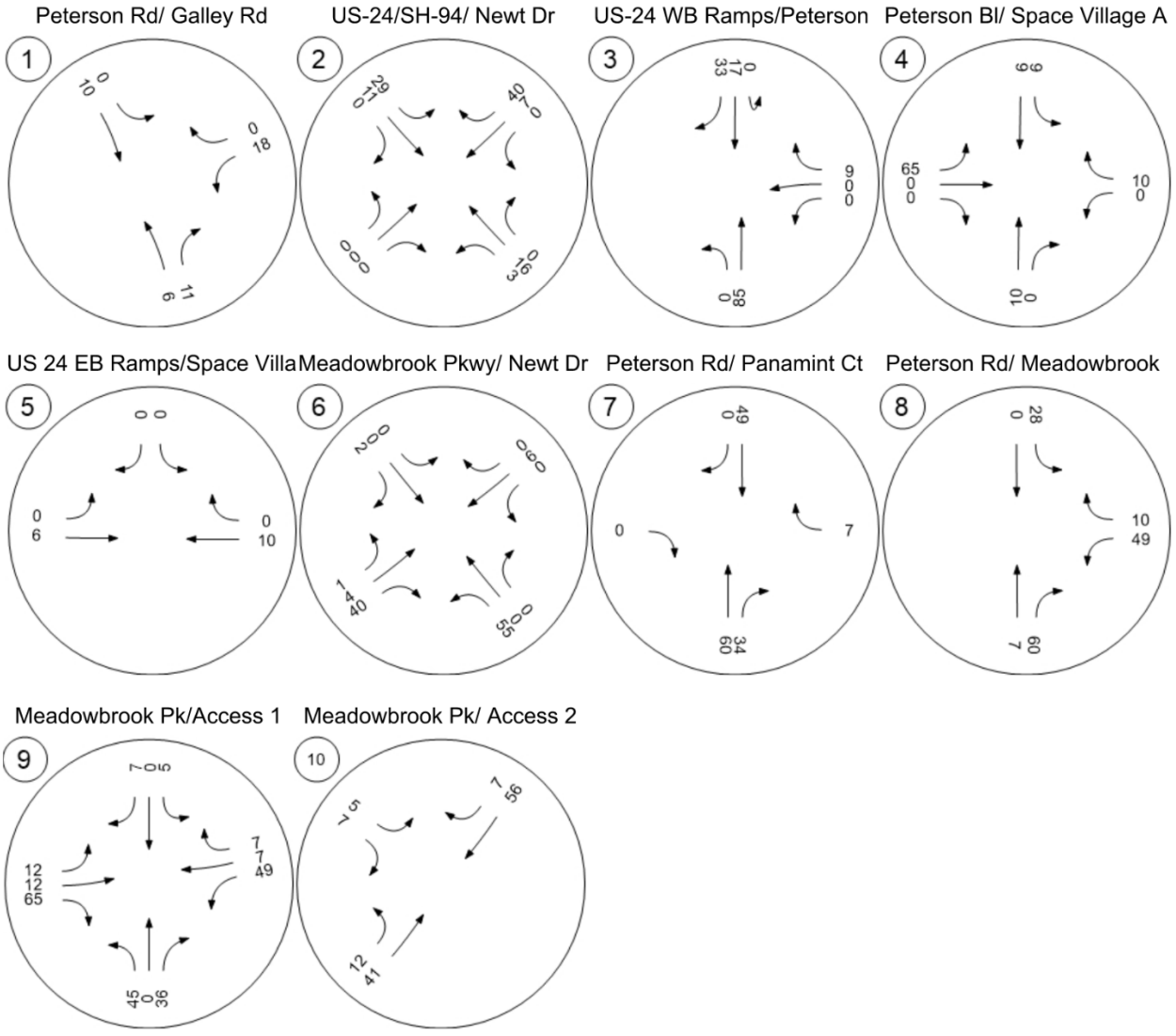
## Figure 25. Long-Term Site Trips (AM Peak Hour)



## Figure 26. Long-Term Site Trips (PM Peak Hour)



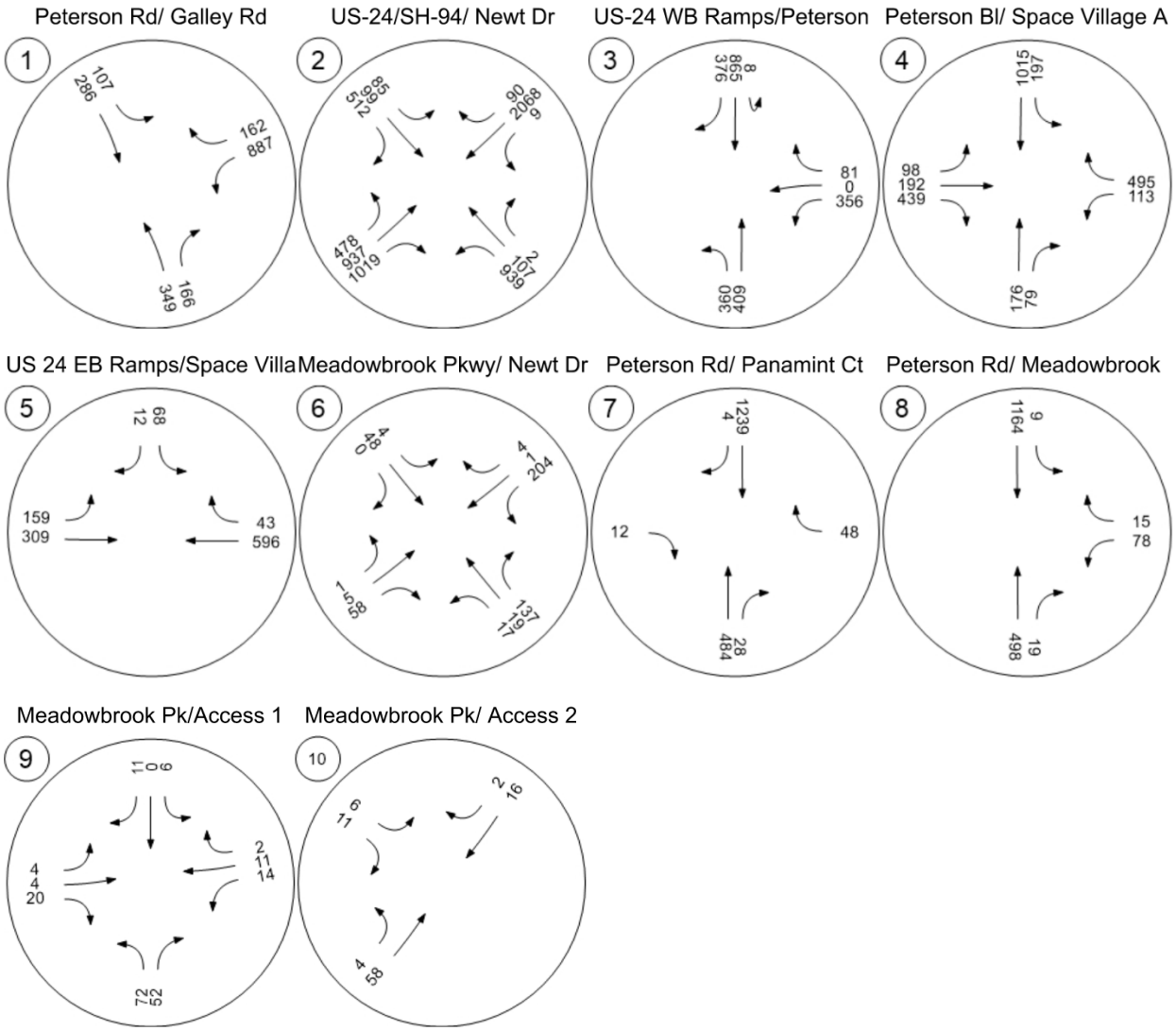



## Figure 27. Long-Term Daily Site Trips



## Figure 28. Horizon (2045) With Project Traffic Volumes (AM Peak Hour)



## Figure 29. Horizon (2045) With Project Traffic Volumes (PM Peak Hour)



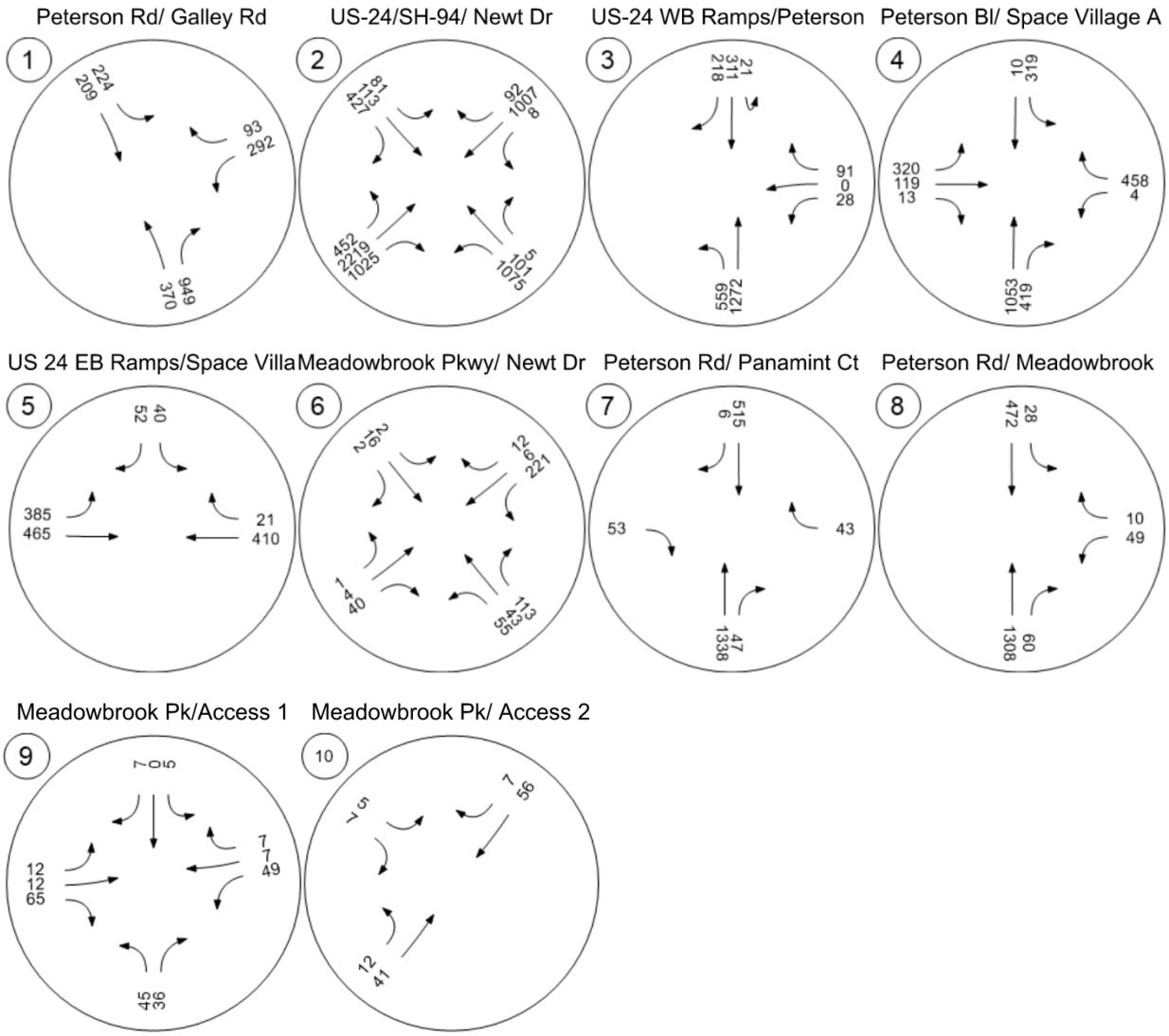



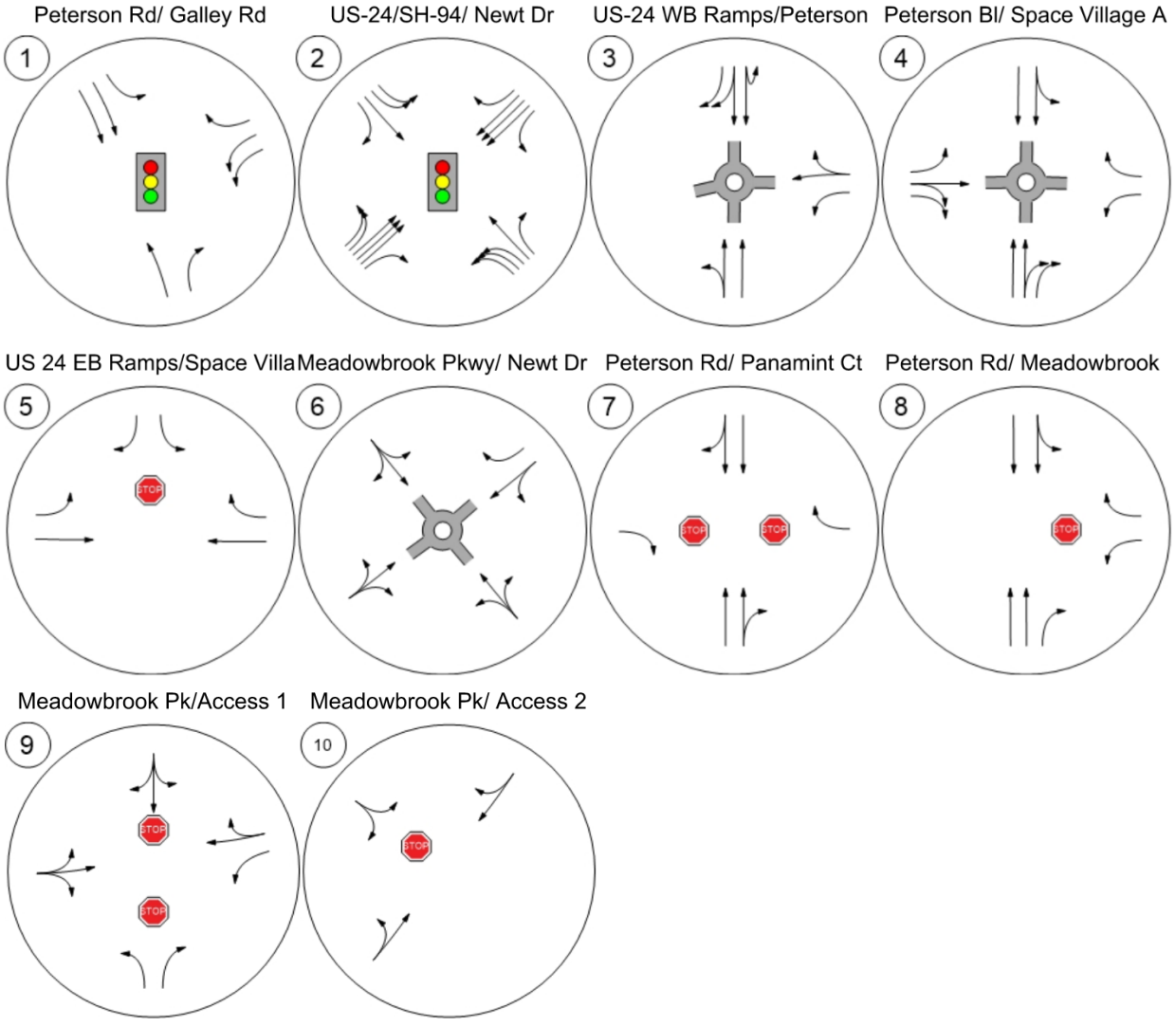
**Figure 30. Horizon (2045) With Project Daily Traffic Volumes**




The intersection configurations are shown in Figure 31. Analysis of the intersections and roadways for the horizon conditions with the volumes and configurations shown above results in the operations shown in Table 14 and Table 15.

## Figure 31. Horizon (2045) With Project Intersection Configurations



## Table 14. Horizon (2045) With Project Intersection Operations (AM Peak Hour)

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | Peterson Rd/ Galley Rd | Signalized | HCM 7th Edition | NB Thru | 0.526 | 15.8 | B |
| 2 | US-24/SH-94/ Newt Dr | Signalized | HCM 7th Edition | SB Thru | 0.846 | 45.2 | D |
| 3 | US-24 WB Ramps/Peterson Rd | Roundabout | HCM 7th Edition | SB U-T | | 13.3 | B |
| 4 | Peterson Bl/ Space Village Av | Roundabout | HCM 7th Edition | EB Thru | | 6.6 | A |
| 5 | US 24 EB Ramps/Space Village Av | Two-way stop | HCM 7th Edition | SB Left | 0.537 | 57.9 | F |
| 6 | Meadowbrook Pkwy/ Newt Dr. | Roundabout | HCM 7th Edition | EB Right | | 4.0 | A |
| 7 | Peterson Rd/ Panamint Ct | Two-way stop | HCM 7th Edition | EB Right | 0.033 | 14.4 | B |
| 8 | Peterson Rd/ Meadowbrook Pk | Two-way stop | HCM 7th Edition | WB Left | 0.481 | 42.9 | E |
| 9 | Meadowbrook Pk/Access 1 | Two-way stop | HCM 7th Edition | SB Left | 0.008 | 9.4 | A |
| 10 | Meadowbrook Pk/ Access 2 | Two-way stop | HCM 7th Edition | EB Left | 0.008 | 9.0 | 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 15. Horizon (2054) With Project Intersection Operations (PM Peak Hour)

**Intersection Analysis Summary**

| ID | Intersection Name | Control Type | Method | Worst Mvmt | V/C | Delay (s/veh) | LOS |
|---|---|---|---|---|---|---|---|
| 1 | Peterson Rd/ Galley Rd | Signalized | HCM 7th Edition | WB Left | 0.493 | 13.1 | B |
| 2 | US-24/SH-94/ Newt Dr | Signalized | HCM 7th Edition | SB Thru | 0.767 | 46.0 | D |
| 3 | US-24 WB Ramps/Peterson Rd | Roundabout | HCM 7th Edition | WB Right | | 13.2 | B |
| 4 | Peterson Bl/ Space Village Av | Roundabout | HCM 7th Edition | NB Thru | | 16.5 | C |
| 5 | US 24 EB Ramps/Space Village Av | Two-way stop | HCM 7th Edition | SB Left | 0.779 | 179.7 | F |
| 6 | Meadowbrook Pkwy/ Newt Dr. | Roundabout | HCM 7th Edition | WB Left | | 4.2 | A |
| 7 | Peterson Rd/ Panamint Ct | Two-way stop | HCM 7th Edition | WB Right | 0.133 | 16.8 | C |
| 8 | Peterson Rd/ Meadowbrook Pk | Two-way stop | HCM 7th Edition | WB Left | 0.735 | 137.0 | F |
| 9 | Meadowbrook Pk/Access 1 | Two-way stop | HCM 7th Edition | NB Left | 0.068 | 10.3 | B |
| 10 | Meadowbrook Pk/ Access 2 | Two-way stop | HCM 7th Edition | EB Left | 0.006 | 9.3 | 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 14, and Table 15 all intersections operate at an acceptable LOS except for the intersection of US-24 EB ramps/Space Village Avenue (#5) and Peterson Road/Meadowbrook Parkway (#8).

**US-24 EB/Space Village Avenue (#5)**

This intersection operates at LOS F during the AM and PM peak hours. Queue analysis showed the 95-percentile queue is approximately three vehicles in both the AM and PM peak hours. Since the queue is only three vehicles for the deficient movement (southbound left-turn), Matrix does not recommend any mitigation at this intersection.

**Peterson Road/Meadowbrook Parkway (#8)**

This intersection operates at LOS E during the AM peak hour and LOS F during the PM peak hour. The queue analysis showed the 95$^{th}$-percentile queue is only three vehicles for the deficient movement (westbound left-turn). Therefore, Matrix does not recommend any mitigation at this intersection. Note that the HCM LOS for stopped-controlled intersection is based on the worst movement and it is not uncommon for motorists on the cross-street to experience delay for one hour during the day.

Turn lane evaluations are shown in Table 16.

## Table 16. Horizon (2045) With Project Turn Lane Evaluations

| ID | Intersection | Movement | No. of Lanes | Roadway Classification | Design Speed (mph) | Turning Volume (vph) | Queue (ft) | Deceleration (ft) | Taper (ft) | Storage (ft) | Total (ft) | Improvement (ft) vs Horizon Background |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Galley Rd/Peterson Rd EPC Signalized | NBR | 1 | Minor Arterial | 40 | 949 | 204 | 155 | 160 | 204 | 520 | 5 |
| | | SBL | 1 | Minor Arterial | 40 | 224 | 40 | 155 | 160 | 40 | 355 | - |
| | | WBL | 2 | Minor Arterial | 40 | 887 | 208 | 155 | 320 | 208 | 685 | 5 |
| | | WBR | 1 | Minor Arterial | 40 | 162 | 29 | 155 | 160 | 29 | 345 | - |
| 2 | US-24/SH-94/Newt Dr CDOT Signalized | NBL (SH-94) | 3 | E-X | 60 | 1075 | 473 | 600 | 666 | 358 | 1625 | - |
| | | NBR (SH-94) | 1 | E-X | 60 | 5 | 0 | 600 | 222 | 0 | 820 | - |
| | | SBL (Newt Dr.) | 2 | F-R | 35 | 85 | 63 | 0 | 192 | 25 | 215 | - |
| | | SBR (Newt Dr.) | 1 | F-R | 35 | 512 | 0 | 0 | 96 | 25 | 120 | - |
| | | EBL (US-24) | 2 | E-X | 60 | 476 | 298 | 600 | 444 | 238 | 1280 | - |
| | | EBR (US-24) | 1 | E-X | 60 | 1025 | 0 | 600 | 222 | 0 | 820 | - |
| | | WBL (US-24) | 1 | E-X | 70 | 9 | 5 | 600 | 222 | 25 | 845 | - |
| | | WBR (US-24) | 1 | E-X | 70 | 92 | 45 | 600 | 222 | 0 | 820 | - |
| | | SBR to WBT Acceleration Lane | 1 | NR-A | 70 | 512 | 0 | 1080 *(Accel. Lane)* | 300 | 0 | 1380 | - |
| | | EBR to SBT Acceleration Lane | 1 | E-X | 60 | 1025 | 0 | 960 *(Accel. Lane)* | 222 | 0 | 1180 | - |
| 5 | US-24 EB Ramps/Space Village Ave CDOT Stop-Controlled | SBL | 1 | F-R | 35 | 68 | 83 | 0 | 96 | 100 | 195 | - |
| | | SBR | 1 | F-R | 35 | 52 | 8 | 0 | 96 | 50 | 145 | - |
| | | EBL | 1 | NR-C | 40 | 385 | 45 | 0 | 120 | 385 | 505 | - |
| | | WBR | 1 | NR-C | 40 | 43 | 0 | **Not Required** | | | | - |
| 7 | Peterson Rd/ Panamint Ct EPC Stop-Controlled | NBR | 1 | Minor Arterial | 35 | 47 | 0 | **Not Required** | | | | - |
| | | SBR | 1 | Minor Arterial | 35 | 6 | 0 | **Not Required** | | | | - |
| 8 | Peterson Rd/Meadowbrook Pkwy EPC Stop-Controlled | NBR | 1 | Minor Arterial | 35 | 60 | 0 | 135 | 140 | - | 275 | 275 |
| | | SBL | 1 | Minor Arterial | 35 | 28 | 2 | **Not Required** | | | | - |
| | | WBL | 1 | Collector | 35 | 78 | 85 | 135 | 140 | 100 | 375 | 50 |
| | | WBR | 1 | Collector | 35 | 15 | 2 | **Not Required** | | | | - |
| 9 | Meadowbrook Pkwy/ Access #1 EPC Stop-Controlled | NBL (Access #1) | 1 | Collector | 35 | 72 | 7 | **The Project will provide adequate storage to accomodate the vehicles in the queue.** | | | | |
| | | NBR (Access #1) | 1 | Collector | 35 | 52 | 4 | | | | | |

The improvements for the horizon (2045) total scenario are in respect to the improvements for the horizon (2045) background scenario. Summary of recommended turn lane improvements are as follows:

### Galley Road/Peterson Road (#1)

- A 5-ft extension of northbound right-turn lane.
- A 5-ft extension of westbound left-turn lane.

### Peterson Road/Meadowbrook Parkway (#8)

- A 275-ft northbound right-turn lane. Include 140-ft of taper and 135-ft of deceleration lane.
- A 50-ft extension of westbound left-turn lane.

**Intersection/Access Spacing and Sight Distance**

Access spacing withing the proposed development has been planned in accordance with the requirements established in the El Paso County ECM. As specified in Table 2-7, Roadway Design Standards for Urban Collectors and Locals, the minimum required spacing is 660-ft for non-residential collectors and 330-ft when intersecting local roads. The intersection of Meadowbrook Pkwy/Access 1 (#9) and Meadowbrook Pkwy/Access 2 (#10) are within the minimum access spacing of 330-ft. A deviation is requested for the intersection spacing between Meadowbrook Parkway and the nearest intersection along Peterson Road since it does not meet minimum spacing of a quarter mile. For more information regarding the deviation request, please see the summary of requested deviations at the end of this report.

As for sight distance, EPC ECM Table 2-33 specifies a minimum sight distance of 200 feet for roadways with a posted speed limit of 30 mph. The proposed intersections at Peterson Road/Panamint Court (#7), Peterson Road/Meadowbrook Parkway (#8), and Meadowbrook Parkway/Access 1 (#9) all meet the applicable EPC sight distance standards. Sight distance exhibits for these intersections are provided in Appendix F – Supporting Documents.

# Conclusions and Recommendations

This study evaluates the transportation impacts of the proposed Cimarron Hills Southeast Filing No.1 development through existing conditions, full buildout (2027), and horizon (2045) year. The analysis included 10 off-site and internal intersections, identified necessary improvements, and incorporated traffic growth from adjacent developments and the existing traffic. Traffic forecasts and external trip distribution were developed in coordination with El Paso County using conservative assumptions and regionally accepted methodologies.

The findings indicate that the transportation network can accommodate the demand with strategic improvements in the interim analysis (2027). Intersection operation analysis shows that all intersections will operate at an acceptable LOS except for US-24 EB Ramps/Space Village Avenue (#5) which is deficient in the existing, buildout, and horizon conditions. Moreover, Peterson Road/Meadowbrook Parkway (#8) operates at a deficient LOS in both buildout (2027) and horizon (2045) years. These two stop-controlled intersections did not meet signal warrants, and the queue analysis showed the 95$^{th}$ - percentile queue is less than three vehicles for the deficient movement. Note that the HCM LOS for stopped-controlled intersections is based on the worst movement and it is not uncommon for motorists on the cross-street to experience delay for one or two hours a day in an urban setting. Therefore, Matrix does not recommend any mitigation at these intersections. It should also be noted that the intersection of Peterson Road/Panamint Ct (#7) is analyzed as a right-in right-out with the construction of the project while it will serve as an access point to the planned development. A future traffic letter should study the access points for Tracts A and B as more information about the upcoming phases becomes available.

The summary of required improvements for the existing, buildout and horizon scenarios is shown in Table 17. All acceleration and deceleration lanes were designed per the EPC ECM criteria and CDOT SHAC. The Project will be responsible for the extension of Meadowbrook Parkway to Peterson Road by the buildout (2027) year and is not reimbursable under the MTCP.

## Table 17. Summary of Required Improvements

| ID | Intersection | Improvement | Year | Responsibility |
|---|---|---|---|---|
| 2 | US-24/SH-94/Newt Dr | A 250-ft extension of northbound left-turn. | Existing | The Project has no responsibility for these improvements. |
| | | A 485-ft extension of southbound right to west bound thru acceleration lane. | | |
| | | A 540-ft extension of eastbound right to southbound thru acceleration lane. | | |
| 5 | US-24 EB Ramps/Space Village Ave | A 35-ft extension of eastbound left turn. | | |
| 2 | US-24/SH-94/Newt Dr | Triple northbound left-turn lanes. Include 666-ft of taper, 600-ft of deceleration and three 264-ft of storage lanes. | Buildout (2027) Background | The Project has no responsibility for these improvements. |
| | | Double eastbound left-turn lanes. Include 444-ft of taper, 600-ft of deceleration lane and two 216-ft storage lanes. | | |
| 5 | US-24 EB Ramps/Space Village Ave | A 5-ft extension of eastbound left-turn lane. | | |
| 8 | Peterson Rd/Meadowbrook Pkwy | The extension of Meadowbrook Parkway to an Urban Non-Residential Collector. | Buildout (2027) Total | The Project is responsible for these improvements. |
| | | A 325-ft westbound left -turn lane. Include 140-ft taper, 135-ft of deceleration and 50-ft of storage. | | |
| 9 | Meadowbrook Pkwy/Access #2 | A northbound left-turn lane. The Project will provide adequate storage to accommodate the vehicles in the queue. | | |
| | | A northbound right-turn lane. The Project will provide adequate storage to accommodate the vehicles in the queue. | | |
| 1 | Galley Rd/Peterson Rd | A 35-ft extension of northbound right-turn lane. | Horizon (2045) Background | The Project has no responsibility for these improvements. |
| | | A 10-ft extension of southbound left-turn. | | |
| | | A 30-ft extension of westbound left-turn lane. | | |
| | | A 5-ft extension of westbound right-turn lane. | | |
| 2 | US-24/SH-94/Newt Dr | A 90-ft extension of northbound left-turn. | | |
| | | A 25-ft extension of eastbound left-turn lane. | | |
| 5 | US-24 EB Ramps/Space Village Ave | A 40-ft extension of eastbound left turn. | | |
| 1 | Galley Rd/Peterson Rd | A 5-ft extension of northbound right-turn. | Horizon (2045) Total | The Project is responsible for these improvements. |
| | | A 5-ft extension of westbound left-turn. | | |
| 8 | Peterson Rd/Meadowbrook Pkwy | A 275-ft northbound right -turn lane. Include 140-ft taper and 135-ft of deceleration. | | |
| | | A 50-ft extension of westbound left-turn lane. | | |

Finally, the applicant is required to pay road impact fees to El Paso County. The County allows 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 18, calculated based on 301 multi-family dwelling units for Lot 1. Note that the number of units for the first phase is based on the current sketch plan. These amounts should be adjusted once more information regarding each phase becomes available. The applicant has chosen to pay the full fee amount. The road impact fee for this project is shown in Table 18. The road impact fees are an estimate based upon the current fee schedule. Road impact fees are calculated at time of payment, and the fee schedule is subject to change.

## Table 18. Road Impact Fee

| Cimarron Hills Southeast Mixed Use Filing No.1 (Lot 1) | | | | | |
|---|---|---|---|---|---|
| Land Use | Unit | No. Units | Full Fee | 5 Mill PID | 10 Mill PID |
| Multi-Family | Dwelling | 301 | $ 778,085.00 | $ 473,172.00 | $ 168,259.00 |

The Tract A and B impact fee will be determined as more information becomes available regarding the land use during the future access permit process. A traffic letter or traffic memorandum is required for Tracts A and B to determine the trigger points for the improvements outlined in the TIS.

Finally, there were two deviation requests to El Paso County, and they are listed as follows:

1) MINIMUM RADII DESIGN CHARACTERISTICS

Requested Deviation: A deviation from 565’ required minimum centerline curve radius. In addition, to the deviation in curve radius, there will be a 45’ tangent length between them deviating from table 2-10 that requires a minimum 150’ tangent length.

2) INTERSECTION SPACING ALONG ARTERIAL

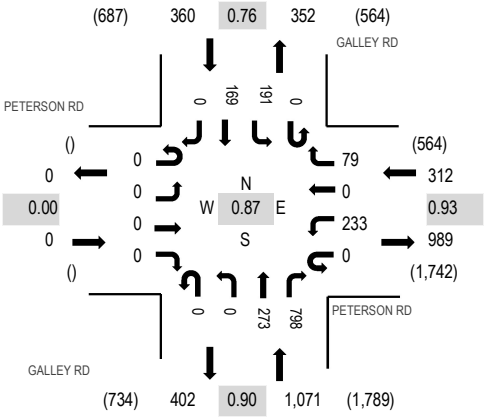
Requested Deviation: A reduction of the quarter mile minimum intersection spacing along an arterial right-of-way. The spacing shall be approximately 750 feet from nearest road intersection along Peterson Road north of Meadowbrook Parkway.

# Appendix A- Traffic Counts

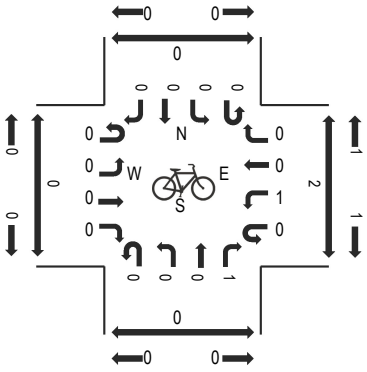
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 1 GALLEY RD & PETERSON RD PM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 04:00 PM - 05:00 PM
**Peak 15-Minutes:** 04:00 PM - 04:15 PM

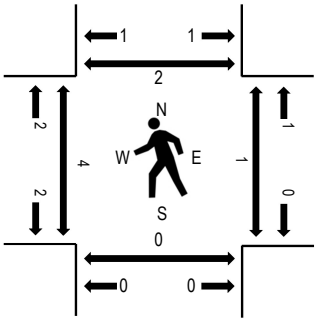
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles



## Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

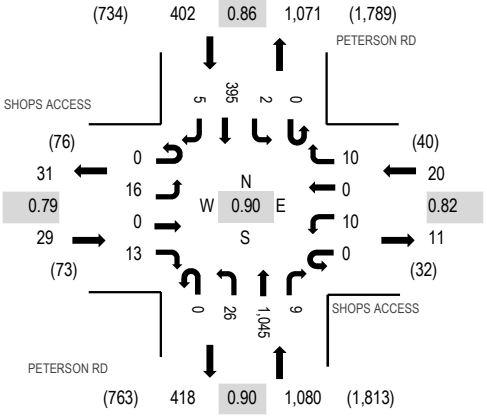
## Traffic Counts - Motorized Vehicles

| Interval Start Time | PETERSON RD Eastbound | | | | PETERSON RD Westbound | | | | GALLEY RD Northbound | | | | GALLEY RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 59 | 0 | 25 | 0 | 0 | 76 | 221 | 0 | 61 | 58 | 0 | 500 | 1,743 | 0 | 1 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 53 | 0 | 21 | 0 | 0 | 73 | 195 | 0 | 46 | 44 | 0 | 432 | 1,610 | 1 | 0 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 61 | 0 | 18 | 0 | 0 | 58 | 217 | 0 | 43 | 33 | 0 | 430 | 1,534 | 2 | 0 | 0 | 1 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 60 | 0 | 15 | 0 | 0 | 66 | 165 | 0 | 41 | 34 | 0 | 381 | 1,409 | 1 | 0 | 0 | 1 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 60 | 0 | 19 | 0 | 0 | 41 | 151 | 0 | 44 | 52 | 0 | 367 | 1,297 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 49 | 0 | 24 | 0 | 0 | 31 | 164 | 0 | 48 | 40 | 0 | 356 | | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 37 | 0 | 17 | 0 | 0 | 27 | 151 | 0 | 39 | 34 | 0 | 305 | | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 31 | 0 | 15 | 0 | 0 | 38 | 115 | 0 | 41 | 29 | 0 | 269 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 410 | 0 | 154 | 0 | 0 | 410 | 1,379 | 0 | 363 | 324 | 0 | 3,040 | | 4 | 1 | 0 | 2 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 233 | 0 | 79 | 0 | 0 | 273 | 798 | 0 | 191 | 169 | 0 | 1,743 | | 4 | 1 | 0 | 2 |

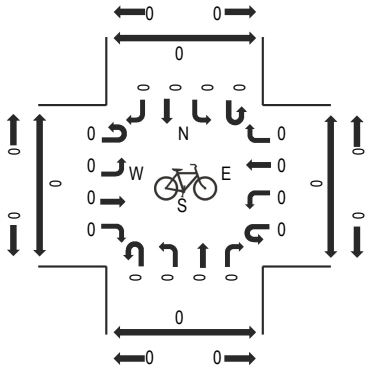
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 2 PETERSON RD & SHOPS ACCESS PM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 04:00 PM - 05:00 PM
**Peak 15-Minutes:** 04:00 PM - 04:15 PM

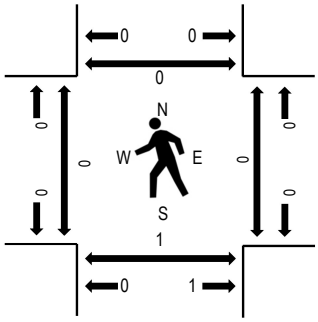
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

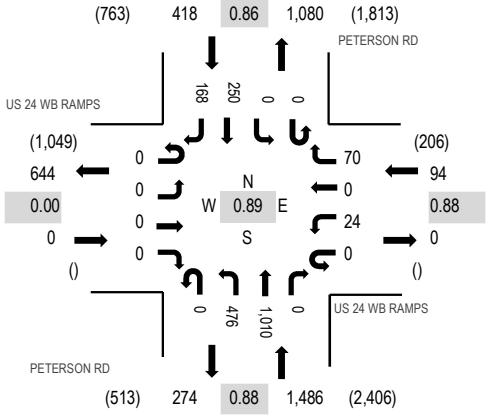
## Traffic Counts - Motorized Vehicles

| Interval Start Time | SHOPS ACCESS Eastbound | | | | SHOPS ACCESS Westbound | | | | PETERSON RD Northbound | | | | PETERSON RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 4:00 PM | 0 | 1 | 0 | 4 | 0 | 2 | 0 | 2 | 0 | 4 | 294 | 1 | 0 | 2 | 115 | 0 | 425 | 1,531 | 0 | 0 | 1 | 0 |
| 4:15 PM | 0 | 5 | 0 | 5 | 0 | 3 | 0 | 4 | 0 | 7 | 259 | 2 | 0 | 0 | 94 | 3 | 382 | 1,433 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 6 | 0 | 2 | 0 | 1 | 0 | 2 | 0 | 7 | 267 | 2 | 0 | 0 | 94 | 0 | 381 | 1,352 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 4 | 0 | 2 | 0 | 4 | 0 | 2 | 0 | 8 | 225 | 4 | 0 | 0 | 92 | 2 | 343 | 1,240 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 8 | 0 | 6 | 0 | 2 | 0 | 3 | 0 | 12 | 181 | 3 | 0 | 1 | 110 | 1 | 327 | 1,129 | 2 | 0 | 0 | 0 |
| 5:15 PM | 0 | 5 | 0 | 2 | 0 | 3 | 0 | 2 | 0 | 8 | 188 | 4 | 0 | 3 | 85 | 1 | 301 | | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 8 | 0 | 4 | 0 | 2 | 1 | 4 | 0 | 10 | 166 | 3 | 0 | 4 | 67 | 0 | 269 | | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 7 | 1 | 3 | 0 | 2 | 0 | 1 | 0 | 11 | 145 | 2 | 0 | 0 | 59 | 1 | 232 | | 0 | 0 | 0 | 1 |
| Count Total | 0 | 44 | 1 | 28 | 0 | 19 | 1 | 20 | 0 | 67 | 1,725 | 21 | 0 | 10 | 716 | 8 | 2,660 | | 2 | 0 | 1 | 1 |
| Peak Hour | 0 | 16 | 0 | 13 | 0 | 10 | 0 | 10 | 0 | 26 | 1,045 | 9 | 0 | 2 | 395 | 5 | 1,531 | | 0 | 0 | 1 | 0 |

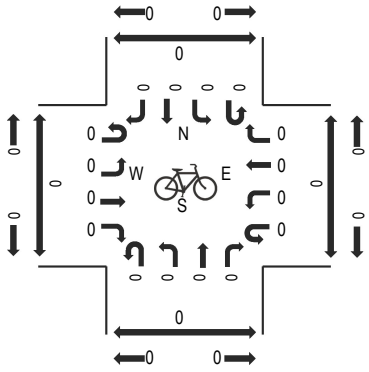
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 3 PETERSON RD & US 24 WB RAMPS PM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 04:00 PM - 05:00 PM
**Peak 15-Minutes:** 04:00 PM - 04:15 PM

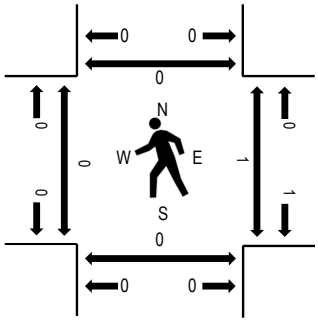
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

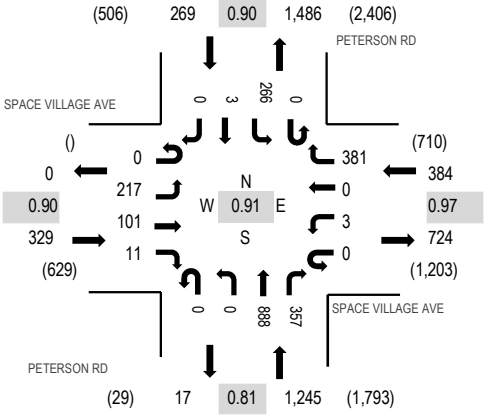
## Traffic Counts - Motorized Vehicles

| Interval Start Time | US 24 WB RAMPS Eastbound | | | | US 24 WB RAMPS Westbound | | | | PETERSON RD Northbound | | | | PETERSON RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 4:00 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 20 | 0 | 141 | 279 | 0 | 0 | 0 | 70 | 51 | 562 | 1,998 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 24 | 0 | 110 | 244 | 0 | 0 | 0 | 56 | 46 | 495 | 1,835 | 0 | 1 | 0 | 0 |
| 4:30 PM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 9 | 0 | 118 | 267 | 0 | 0 | 0 | 62 | 35 | 495 | 1,711 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 17 | 0 | 107 | 220 | 0 | 0 | 0 | 62 | 36 | 446 | 1,540 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 28 | 2 | 81 | 168 | 0 | 0 | 0 | 76 | 42 | 399 | 1,377 | 2 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 24 | 0 | 73 | 176 | 0 | 0 | 0 | 50 | 40 | 371 | | 0 | 1 | 0 | 0 |
| 5:30 PM | 0 | 0 | 0 | 0 | 0 | 15 | 0 | 18 | 0 | 57 | 161 | 0 | 0 | 0 | 49 | 24 | 324 | | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 16 | 0 | 60 | 142 | 0 | 0 | 0 | 37 | 27 | 283 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 49 | 1 | 156 | 2 | 747 | 1,657 | 0 | 0 | 0 | 462 | 301 | 3,375 | | 2 | 2 | 0 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 24 | 0 | 70 | 0 | 476 | 1,010 | 0 | 0 | 0 | 250 | 168 | 1,998 | | 0 | 1 | 0 | 0 |

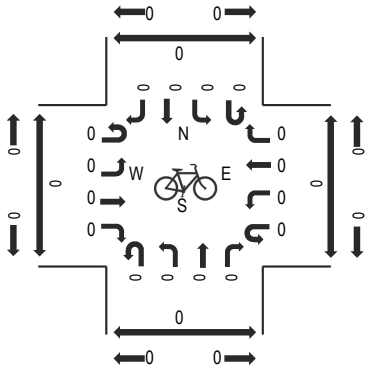
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 4 PETERSON RD & SPACE VILLAGE AVE PM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 04:00 PM - 05:00 PM
**Peak 15-Minutes:** 04:00 PM - 04:15 PM

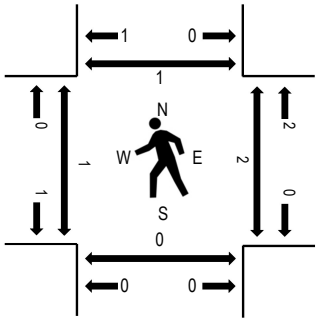
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

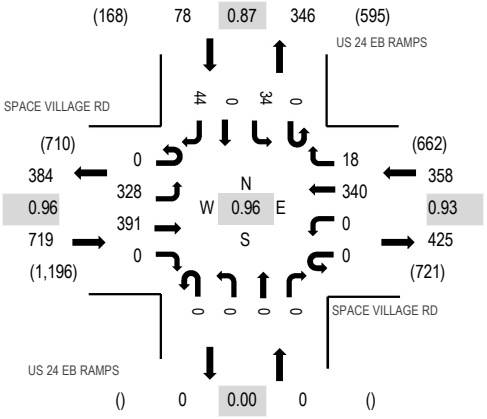
## Traffic Counts - Motorized Vehicles

| Interval Start Time | SPACE VILLAGE AVE Eastbound | | | | SPACE VILLAGE AVE Westbound | | | | PETERSON RD Northbound | | | | PETERSON RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 4:00 PM | 0 | 42 | 19 | 2 | 0 | 1 | 0 | 95 | 0 | 0 | 283 | 101 | 0 | 66 | 2 | 0 | 611 | 2,227 | 1 | 2 | 0 | 1 |
| 4:15 PM | 0 | 52 | 22 | 4 | 0 | 1 | 0 | 89 | 0 | 0 | 213 | 91 | 0 | 68 | 1 | 0 | 541 | 2,023 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 64 | 29 | 2 | 0 | 1 | 0 | 98 | 0 | 0 | 223 | 100 | 0 | 65 | 0 | 0 | 582 | 1,863 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 59 | 31 | 3 | 0 | 0 | 0 | 99 | 0 | 0 | 169 | 65 | 0 | 67 | 0 | 0 | 493 | 1,603 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 57 | 19 | 0 | 0 | 0 | 0 | 85 | 0 | 0 | 109 | 60 | 0 | 76 | 1 | 0 | 407 | 1,411 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 42 | 36 | 1 | 0 | 0 | 0 | 67 | 0 | 0 | 140 | 37 | 0 | 58 | 0 | 0 | 381 | | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 49 | 13 | 4 | 0 | 2 | 0 | 99 | 0 | 0 | 70 | 21 | 0 | 64 | 0 | 0 | 322 | | 1 | 0 | 1 | 0 |
| 5:45 PM | 0 | 47 | 31 | 1 | 0 | 1 | 0 | 72 | 0 | 0 | 83 | 28 | 0 | 36 | 2 | 0 | 301 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 412 | 200 | 17 | 0 | 6 | 0 | 704 | 0 | 0 | 1,290 | 503 | 0 | 500 | 6 | 0 | 3,638 | | 2 | 2 | 1 | 1 |
| Peak Hour | 0 | 217 | 101 | 11 | 0 | 3 | 0 | 381 | 0 | 0 | 888 | 357 | 0 | 266 | 3 | 0 | 2,227 | | 1 | 2 | 0 | 1 |

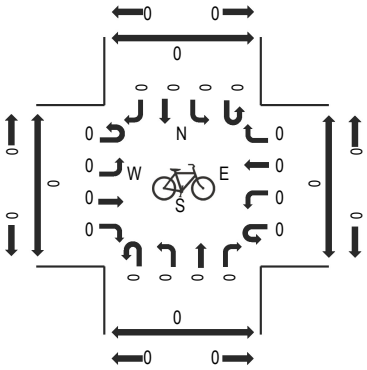
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 5 US 24 EB RAMPS & SPACE VILLAGE RD PM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 04:00 PM - 05:00 PM
**Peak 15-Minutes:** 04:00 PM - 04:15 PM

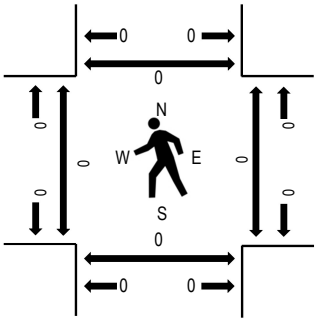
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

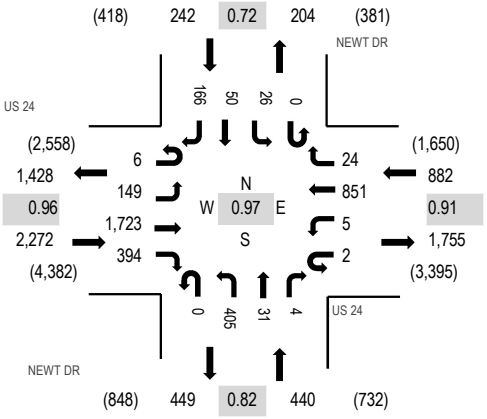
## Traffic Counts - Motorized Vehicles

| Interval Start Time | SPACE VILLAGE RD Eastbound | | | | SPACE VILLAGE RD Westbound | | | | US 24 EB RAMPS Northbound | | | | US 24 EB RAMPS Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 4:00 PM | 0 | 87 | 99 | 0 | 0 | 0 | 86 | 10 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 10 | 300 | 1,155 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 84 | 103 | 0 | 0 | 0 | 82 | 2 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 8 | 288 | 1,109 | 0 | 0 | 0 | 0 |
| 4:30 PM | 0 | 82 | 102 | 0 | 0 | 0 | 89 | 1 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 10 | 292 | 1,033 | 0 | 0 | 0 | 0 |
| 4:45 PM | 0 | 75 | 87 | 0 | 0 | 0 | 83 | 5 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 16 | 275 | 968 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 88 | 65 | 0 | 0 | 0 | 68 | 7 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 17 | 254 | 871 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 55 | 76 | 0 | 0 | 0 | 62 | 3 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 5 | 212 | | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 32 | 66 | 0 | 0 | 0 | 86 | 20 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 15 | 227 | | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 43 | 52 | 0 | 0 | 0 | 57 | 1 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 16 | 178 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 546 | 650 | 0 | 0 | 0 | 613 | 49 | 0 | 0 | 0 | 0 | 0 | 71 | 0 | 97 | 2,026 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 328 | 391 | 0 | 0 | 0 | 340 | 18 | 0 | 0 | 0 | 0 | 0 | 34 | 0 | 44 | 1,155 | | 0 | 0 | 0 | 0 |

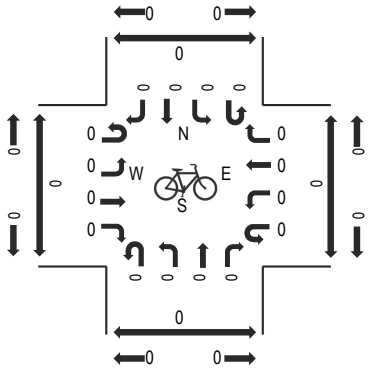
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 6 NEWT DR & US 24 PM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 04:15 PM - 05:15 PM
**Peak 15-Minutes:** 04:45 PM - 05:00 PM

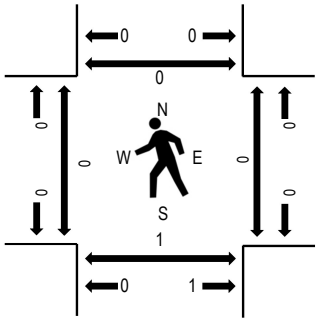
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

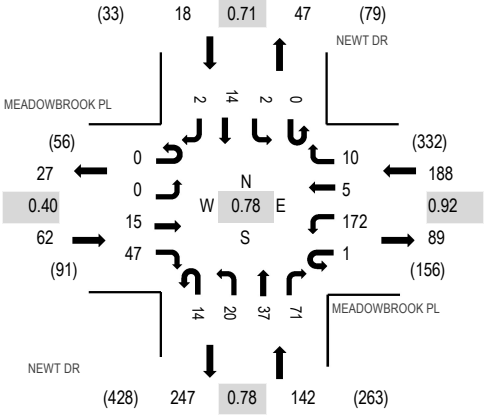
## Traffic Counts - Motorized Vehicles

| Interval Start Time | US 24 Eastbound | | | | US 24 Westbound | | | | NEWT DR Northbound | | | | NEWT DR Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 4:00 PM | 1 | 36 | 389 | 97 | 0 | 1 | 197 | 9 | 0 | 105 | 11 | 1 | 0 | 8 | 9 | 46 | 910 | 3,769 | 0 | 0 | 0 | 0 |
| 4:15 PM | 0 | 28 | 446 | 81 | 0 | 2 | 234 | 6 | 0 | 98 | 2 | 2 | 0 | 4 | 10 | 34 | 947 | 3,836 | 0 | 0 | 1 | 0 |
| 4:30 PM | 2 | 34 | 404 | 98 | 1 | 2 | 184 | 6 | 0 | 131 | 11 | 0 | 0 | 10 | 10 | 29 | 922 | 3,809 | 0 | 0 | 0 | 0 |
| 4:45 PM | 3 | 49 | 433 | 105 | 1 | 0 | 226 | 7 | 0 | 94 | 10 | 1 | 0 | 5 | 14 | 42 | 990 | 3,701 | 0 | 0 | 0 | 0 |
| 5:00 PM | 1 | 38 | 440 | 110 | 0 | 1 | 207 | 5 | 0 | 82 | 8 | 1 | 0 | 7 | 16 | 61 | 977 | 3,413 | 0 | 0 | 0 | 0 |
| 5:15 PM | 1 | 27 | 476 | 104 | 0 | 0 | 201 | 4 | 0 | 54 | 5 | 0 | 0 | 1 | 7 | 40 | 920 | | 0 | 0 | 0 | 1 |
| 5:30 PM | 1 | 29 | 415 | 87 | 0 | 2 | 189 | 7 | 0 | 49 | 4 | 0 | 0 | 4 | 6 | 21 | 814 | | 0 | 0 | 0 | 1 |
| 5:45 PM | 1 | 32 | 340 | 74 | 0 | 0 | 150 | 8 | 0 | 58 | 5 | 0 | 0 | 6 | 12 | 16 | 702 | | 0 | 0 | 0 | 0 |
| Count Total | 10 | 273 | 3,343 | 756 | 2 | 8 | 1,588 | 52 | 0 | 671 | 56 | 5 | 0 | 45 | 84 | 289 | 7,182 | | 0 | 0 | 1 | 2 |
| Peak Hour | 6 | 149 | 1,723 | 394 | 2 | 5 | 851 | 24 | 0 | 405 | 31 | 4 | 0 | 26 | 50 | 166 | 3,836 | | 0 | 0 | 1 | 0 |

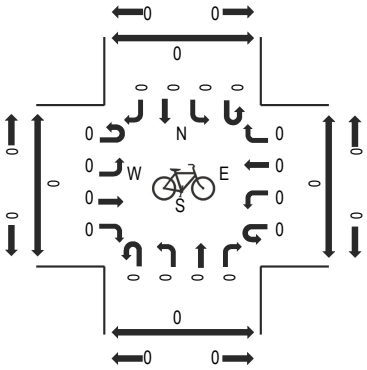
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 7 NEWT DR & MEADOWBROOK PL PM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 04:15 PM - 05:15 PM
**Peak 15-Minutes:** 05:00 PM - 05:15 PM

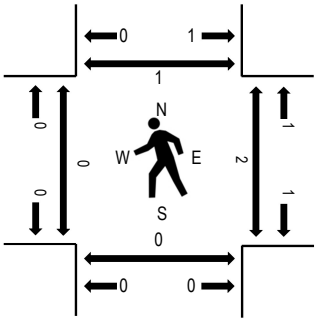
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

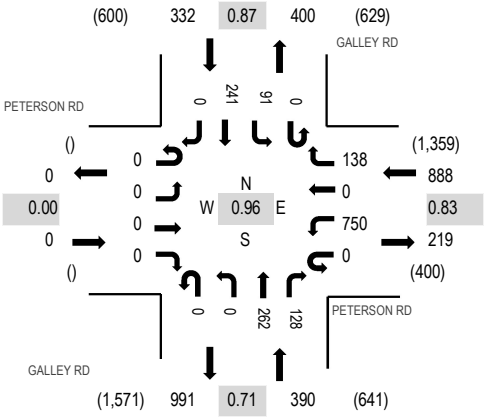
## Traffic Counts - Motorized Vehicles

| Interval Start Time | MEADOWBROOK PL Eastbound | | | | MEADOWBROOK PL Westbound | | | | NEWT DR Northbound | | | | NEWT DR Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 4:00 PM | 0 | 0 | 1 | 6 | 0 | 48 | 2 | 1 | 4 | 7 | 8 | 17 | 0 | 1 | 2 | 0 | 97 | 375 | 0 | 2 | 0 | 0 |
| 4:15 PM | 0 | 0 | 2 | 8 | 0 | 35 | 0 | 6 | 1 | 1 | 11 | 10 | 0 | 0 | 2 | 1 | 77 | 410 | 0 | 2 | 0 | 0 |
| 4:30 PM | 0 | 0 | 2 | 6 | 0 | 42 | 3 | 3 | 4 | 3 | 8 | 19 | 0 | 1 | 5 | 0 | 96 | 410 | 0 | 0 | 0 | 1 |
| 4:45 PM | 0 | 0 | 1 | 2 | 0 | 46 | 1 | 1 | 4 | 12 | 9 | 22 | 0 | 1 | 5 | 1 | 105 | 384 | 0 | 0 | 0 | 0 |
| 5:00 PM | 0 | 0 | 10 | 31 | 1 | 49 | 1 | 0 | 5 | 4 | 9 | 20 | 0 | 0 | 2 | 0 | 132 | 344 | 0 | 0 | 0 | 0 |
| 5:15 PM | 0 | 0 | 3 | 10 | 0 | 26 | 4 | 1 | 7 | 5 | 2 | 14 | 0 | 0 | 5 | 0 | 77 | | 0 | 0 | 0 | 0 |
| 5:30 PM | 0 | 0 | 1 | 4 | 0 | 24 | 6 | 2 | 8 | 3 | 5 | 12 | 0 | 2 | 3 | 0 | 70 | | 0 | 0 | 0 | 0 |
| 5:45 PM | 0 | 0 | 4 | 0 | 0 | 27 | 0 | 3 | 6 | 1 | 10 | 12 | 0 | 0 | 1 | 1 | 65 | | 0 | 2 | 0 | 1 |
| Count Total | 0 | 0 | 24 | 67 | 1 | 297 | 17 | 17 | 39 | 36 | 62 | 126 | 0 | 5 | 25 | 3 | 719 | | 0 | 6 | 0 | 2 |
| Peak Hour | 0 | 0 | 15 | 47 | 1 | 172 | 5 | 10 | 14 | 20 | 37 | 71 | 0 | 2 | 14 | 2 | 410 | | 0 | 2 | 0 | 1 |

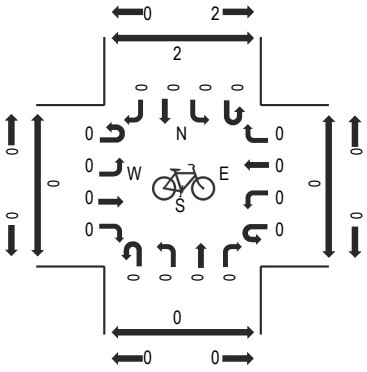
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 1 GALLEY RD & PETERSON RD AM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 07:15 AM - 08:15 AM
**Peak 15-Minutes:** 07:30 AM - 07:45 AM

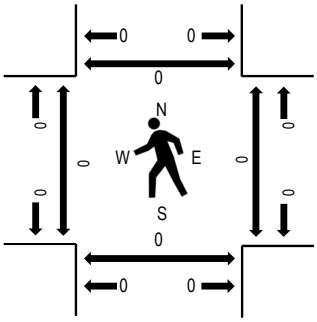
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

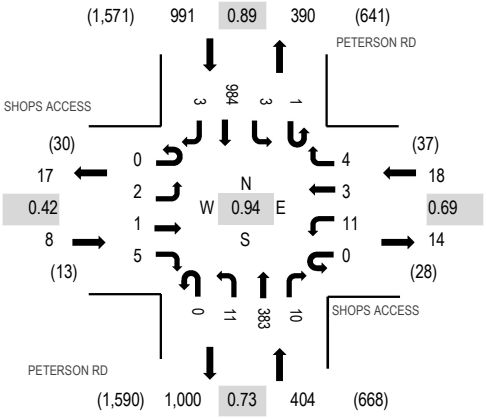
## Traffic Counts - Motorized Vehicles

| Interval Start Time | PETERSON RD Eastbound | | | | PETERSON RD Westbound | | | | GALLEY RD Northbound | | | | GALLEY RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 157 | 0 | 19 | 0 | 0 | 41 | 25 | 0 | 12 | 61 | 0 | 315 | 1,560 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 233 | 0 | 36 | 0 | 0 | 48 | 29 | 0 | 14 | 46 | 0 | 406 | 1,610 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 175 | 0 | 33 | 0 | 0 | 101 | 37 | 0 | 18 | 56 | 0 | 420 | 1,473 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 190 | 0 | 34 | 0 | 0 | 70 | 27 | 0 | 32 | 66 | 0 | 419 | 1,278 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 152 | 0 | 35 | 0 | 0 | 43 | 35 | 0 | 27 | 73 | 0 | 365 | 1,040 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 96 | 0 | 21 | 0 | 0 | 42 | 38 | 0 | 22 | 50 | 0 | 269 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 69 | 0 | 25 | 0 | 0 | 34 | 21 | 0 | 27 | 49 | 0 | 225 | | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 67 | 0 | 17 | 0 | 0 | 30 | 20 | 0 | 16 | 31 | 0 | 181 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 1,139 | 0 | 220 | 0 | 0 | 409 | 232 | 0 | 168 | 432 | 0 | 2,600 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 750 | 0 | 138 | 0 | 0 | 262 | 128 | 0 | 91 | 241 | 0 | 1,610 | | 0 | 0 | 0 | 0 |

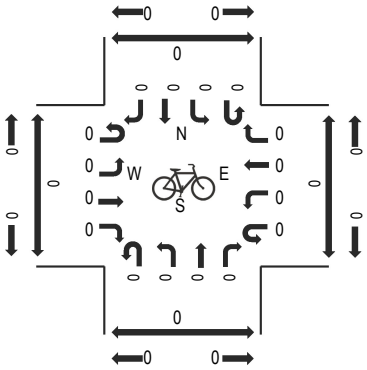
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 2 PETERSON RD & SHOPS ACCESS AM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 07:15 AM - 08:15 AM
**Peak 15-Minutes:** 07:30 AM - 07:45 AM

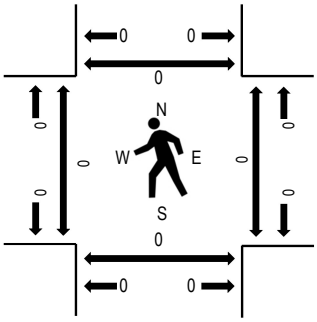
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

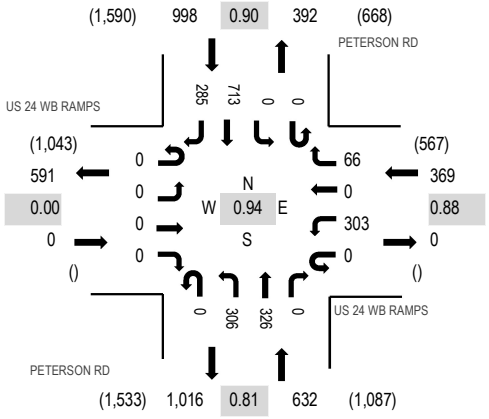
## Traffic Counts - Motorized Vehicles

| Interval Start Time | SHOPS ACCESS Eastbound | | | | SHOPS ACCESS Westbound | | | | PETERSON RD Northbound | | | | PETERSON RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 7:00 AM | 0 | 1 | 0 | 0 | 0 | 3 | 1 | 2 | 1 | 2 | 63 | 3 | 0 | 0 | 218 | 0 | 294 | 1,407 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 77 | 4 | 0 | 1 | 276 | 2 | 362 | 1,421 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 1 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 3 | 136 | 1 | 0 | 1 | 230 | 0 | 379 | 1,295 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 1 | 1 | 4 | 0 | 6 | 0 | 2 | 0 | 5 | 94 | 3 | 0 | 1 | 255 | 0 | 372 | 1,098 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 3 | 76 | 2 | 1 | 0 | 223 | 1 | 308 | 882 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 2 | 0 | 1 | 0 | 2 | 0 | 2 | 0 | 5 | 76 | 2 | 0 | 1 | 145 | 0 | 236 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 1 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 2 | 53 | 4 | 0 | 0 | 118 | 0 | 182 | | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 0 | 3 | 47 | 3 | 0 | 1 | 97 | 0 | 156 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 6 | 1 | 6 | 0 | 21 | 4 | 12 | 1 | 23 | 622 | 22 | 1 | 5 | 1,562 | 3 | 2,289 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 2 | 1 | 5 | 0 | 11 | 3 | 4 | 0 | 11 | 383 | 10 | 1 | 3 | 984 | 3 | 1,421 | | 0 | 0 | 0 | 0 |

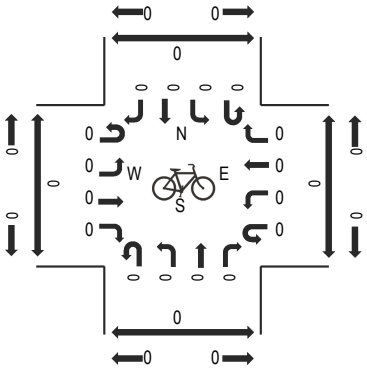
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 3 PETERSON RD & US 24 WB RAMPS AM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 07:00 AM - 08:00 AM
**Peak 15-Minutes:** 07:30 AM - 07:45 AM

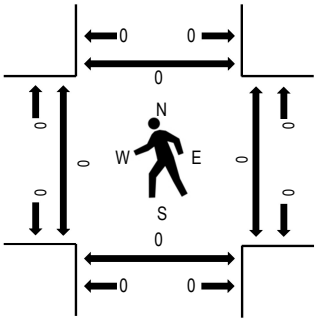
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

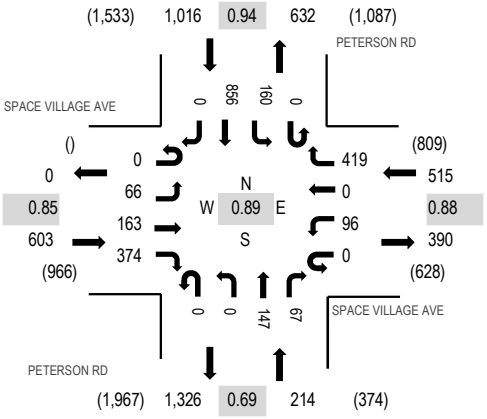
## Traffic Counts - Motorized Vehicles

| Interval Start Time | US 24 WB RAMPS Eastbound | | | | US 24 WB RAMPS Westbound | | | | PETERSON RD Northbound | | | | PETERSON RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 7:00 AM | 0 | 0 | 0 | 0 | 0 | 88 | 0 | 17 | 0 | 55 | 52 | 0 | 0 | 0 | 144 | 78 | 434 | 1,999 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 0 | 0 | 0 | 0 | 72 | 0 | 15 | 0 | 88 | 66 | 0 | 0 | 0 | 191 | 87 | 519 | 1,986 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 0 | 0 | 0 | 79 | 0 | 20 | 0 | 81 | 120 | 0 | 0 | 0 | 172 | 61 | 533 | 1,785 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 0 | 0 | 64 | 0 | 14 | 0 | 82 | 88 | 0 | 0 | 0 | 206 | 59 | 513 | 1,528 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 0 | 0 | 56 | 0 | 18 | 1 | 59 | 63 | 0 | 0 | 0 | 154 | 70 | 421 | 1,245 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 16 | 0 | 64 | 67 | 0 | 0 | 0 | 82 | 66 | 318 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 0 | 0 | 0 | 42 | 0 | 12 | 0 | 54 | 47 | 0 | 0 | 0 | 79 | 42 | 276 | | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 8 | 0 | 55 | 45 | 0 | 0 | 0 | 57 | 42 | 230 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 0 | 0 | 0 | 0 | 447 | 0 | 120 | 1 | 538 | 548 | 0 | 0 | 0 | 1,085 | 505 | 3,244 | | 0 | 0 | 0 | 0 |
| Peak Hour | 0 | 0 | 0 | 0 | 0 | 303 | 0 | 66 | 0 | 306 | 326 | 0 | 0 | 0 | 713 | 285 | 1,999 | | 0 | 0 | 0 | 0 |

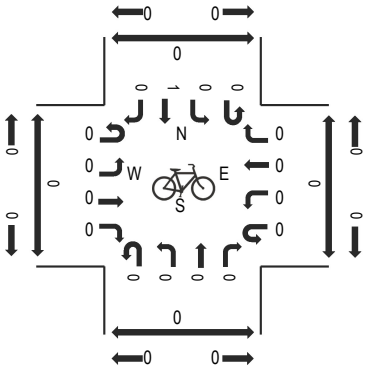
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 4 PETERSON RD & SPACE VILLAGE AVE AM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 07:00 AM - 08:00 AM
**Peak 15-Minutes:** 07:30 AM - 07:45 AM

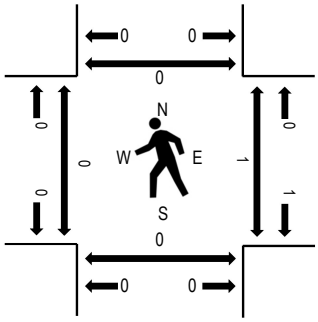
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

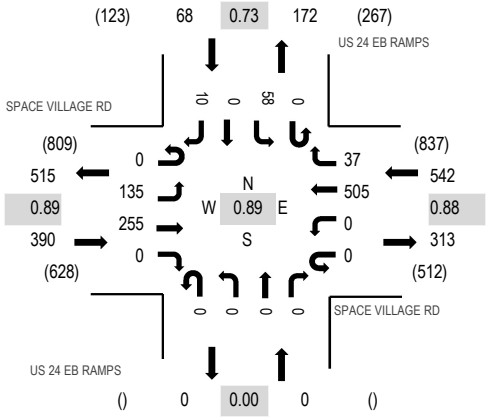
## Traffic Counts - Motorized Vehicles

| Interval Start Time | SPACE VILLAGE AVE Eastbound | | | | SPACE VILLAGE AVE Westbound | | | | PETERSON RD Northbound | | | | PETERSON RD Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 7:00 AM | 0 | 5 | 16 | 90 | 0 | 16 | 0 | 88 | 0 | 0 | 14 | 21 | 0 | 37 | 195 | 0 | 482 | 2,348 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 17 | 46 | 77 | 0 | 23 | 0 | 100 | 0 | 0 | 37 | 17 | 0 | 41 | 222 | 0 | 580 | 2,322 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 25 | 45 | 110 | 0 | 33 | 0 | 114 | 0 | 0 | 62 | 18 | 0 | 46 | 205 | 0 | 658 | 2,080 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 19 | 56 | 97 | 0 | 24 | 0 | 117 | 0 | 0 | 34 | 11 | 0 | 36 | 234 | 0 | 628 | 1,719 | 0 | 1 | 0 | 0 |
| 8:00 AM | 0 | 24 | 21 | 73 | 0 | 17 | 0 | 73 | 0 | 0 | 26 | 11 | 0 | 38 | 173 | 0 | 456 | 1,334 | 0 | 1 | 0 | 0 |
| 8:15 AM | 0 | 23 | 15 | 64 | 0 | 11 | 0 | 62 | 0 | 0 | 46 | 12 | 0 | 23 | 82 | 0 | 338 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 29 | 11 | 42 | 0 | 11 | 0 | 55 | 0 | 0 | 17 | 11 | 0 | 32 | 89 | 0 | 297 | | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 21 | 15 | 25 | 0 | 6 | 0 | 59 | 0 | 0 | 20 | 17 | 0 | 32 | 48 | 0 | 243 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 163 | 225 | 578 | 0 | 141 | 0 | 668 | 0 | 0 | 256 | 118 | 0 | 285 | 1,248 | 0 | 3,682 | | 0 | 2 | 0 | 0 |
| Peak Hour | 0 | 66 | 163 | 374 | 0 | 96 | 0 | 419 | 0 | 0 | 147 | 67 | 0 | 160 | 856 | 0 | 2,348 | | 0 | 1 | 0 | 0 |

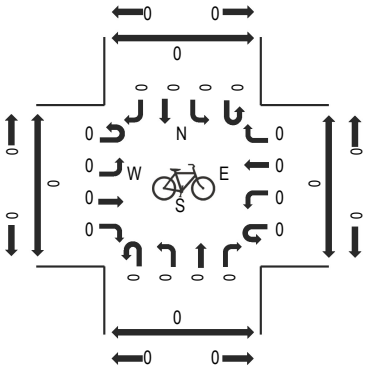
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 5 US 24 EB RAMPS & SPACE VILLAGE RD AM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 07:00 AM - 08:00 AM
**Peak 15-Minutes:** 07:30 AM - 07:45 AM

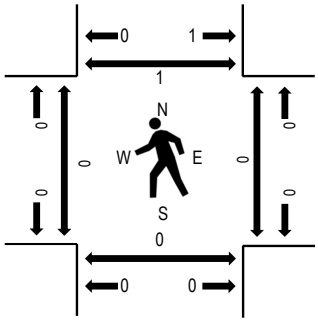
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

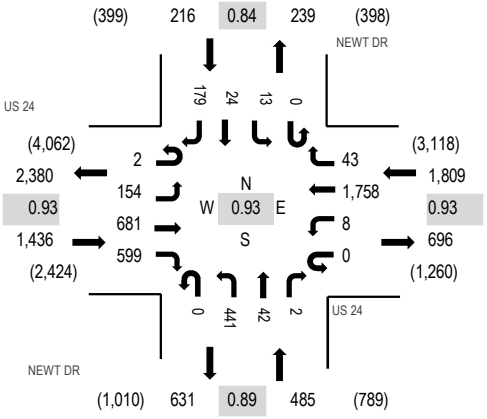
## Traffic Counts - Motorized Vehicles

| Interval Start Time | SPACE VILLAGE RD Eastbound | | | | SPACE VILLAGE RD Westbound | | | | US 24 EB RAMPS Northbound | | | | US 24 EB RAMPS Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 7:00 AM | 0 | 26 | 48 | 0 | 0 | 0 | 103 | 8 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 1 | 191 | 1,000 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 33 | 71 | 0 | 0 | 0 | 121 | 6 | 0 | 0 | 0 | 0 | 0 | 14 | 0 | 2 | 247 | 984 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 36 | 73 | 0 | 0 | 0 | 144 | 10 | 0 | 0 | 0 | 0 | 0 | 16 | 0 | 3 | 282 | 876 | 0 | 0 | 0 | 1 |
| 7:45 AM | 0 | 40 | 63 | 0 | 0 | 0 | 137 | 13 | 0 | 0 | 0 | 0 | 0 | 23 | 0 | 4 | 280 | 729 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 25 | 45 | 0 | 0 | 0 | 84 | 4 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 6 | 175 | 588 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 13 | 37 | 0 | 0 | 0 | 71 | 4 | 0 | 0 | 0 | 0 | 0 | 12 | 0 | 2 | 139 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 19 | 35 | 0 | 0 | 0 | 64 | 4 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 2 | 135 | | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 23 | 41 | 0 | 0 | 0 | 61 | 3 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 4 | 139 | | 0 | 0 | 0 | 0 |
| Count Total | 0 | 215 | 413 | 0 | 0 | 0 | 785 | 52 | 0 | 0 | 0 | 0 | 0 | 99 | 0 | 24 | 1,588 | | 0 | 0 | 0 | 1 |
| Peak Hour | 0 | 135 | 255 | 0 | 0 | 0 | 505 | 37 | 0 | 0 | 0 | 0 | 0 | 58 | 0 | 10 | 1,000 | | 0 | 0 | 0 | 1 |

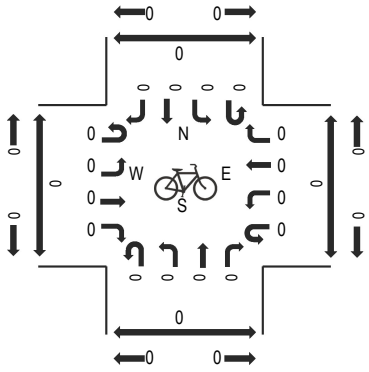
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 6 NEWT DR & US 24 AM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 07:00 AM - 08:00 AM
**Peak 15-Minutes:** 07:30 AM - 07:45 AM

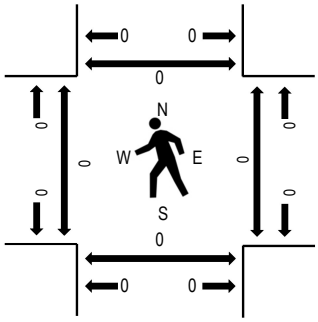
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles



## Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

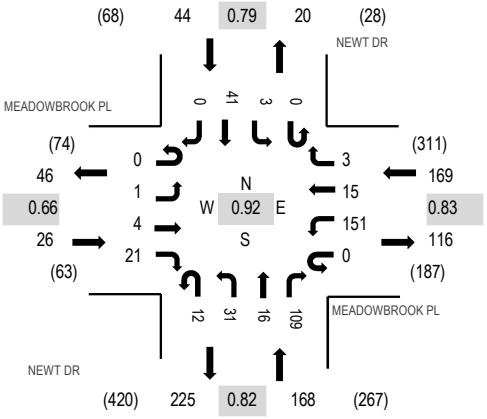
## Traffic Counts - Motorized Vehicles

| Interval Start Time | US 24 Eastbound | | | | US 24 Westbound | | | | NEWT DR Northbound | | | | NEWT DR Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 7:00 AM | 0 | 32 | 151 | 158 | 0 | 0 | 479 | 7 | 0 | 90 | 12 | 0 | 0 | 0 | 3 | 45 | 977 | 3,946 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 40 | 160 | 144 | 0 | 2 | 422 | 10 | 0 | 124 | 13 | 0 | 0 | 6 | 5 | 51 | 977 | 3,735 | 0 | 0 | 0 | 0 |
| 7:30 AM | 1 | 34 | 191 | 159 | 0 | 4 | 467 | 9 | 0 | 125 | 9 | 1 | 0 | 3 | 14 | 47 | 1,064 | 3,473 | 0 | 0 | 0 | 0 |
| 7:45 AM | 1 | 48 | 179 | 138 | 0 | 2 | 390 | 17 | 0 | 102 | 8 | 1 | 0 | 4 | 2 | 36 | 928 | 3,082 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 32 | 150 | 94 | 0 | 0 | 355 | 15 | 0 | 69 | 8 | 0 | 0 | 3 | 6 | 34 | 766 | 2,784 | 0 | 0 | 0 | 0 |
| 8:15 AM | 1 | 19 | 140 | 86 | 0 | 2 | 325 | 11 | 0 | 79 | 8 | 0 | 0 | 3 | 7 | 34 | 715 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 18 | 135 | 87 | 0 | 2 | 294 | 12 | 0 | 59 | 9 | 0 | 0 | 3 | 12 | 42 | 673 | | 0 | 0 | 0 | 0 |
| 8:45 AM | 0 | 21 | 129 | 76 | 0 | 4 | 287 | 2 | 0 | 67 | 4 | 1 | 0 | 0 | 3 | 36 | 630 | | 0 | 0 | 0 | 0 |
| Count Total | 3 | 244 | 1,235 | 942 | 0 | 16 | 3,019 | 83 | 0 | 715 | 71 | 3 | 0 | 22 | 52 | 325 | 6,730 | | 0 | 0 | 0 | 0 |
| Peak Hour | 2 | 154 | 681 | 599 | 0 | 8 | 1,758 | 43 | 0 | 441 | 42 | 2 | 0 | 13 | 24 | 179 | 3,946 | | 0 | 0 | 0 | 0 |

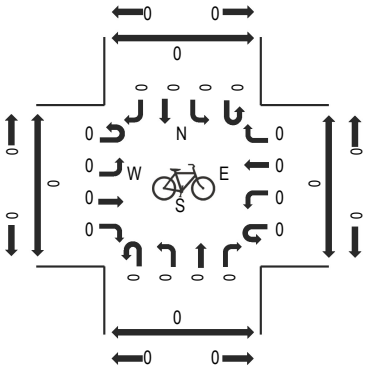
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

**Location:** 7 NEWT DR & MEADOWBROOK PL AM
**Date:** Tuesday, April 2, 2024
**Peak Hour:** 07:00 AM - 08:00 AM
**Peak 15-Minutes:** 07:15 AM - 07:30 AM

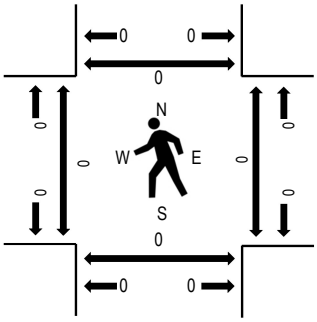
## Peak Hour - Motorized Vehicles




## Peak Hour - Bicycles




## Peak Hour - Pedestrians




Note: Total study counts contained in parentheses.

## Traffic Counts - Motorized Vehicles

| Interval Start Time | MEADOWBROOK PL Eastbound | | | | MEADOWBROOK PL Westbound | | | | NEWT DR Northbound | | | | NEWT DR Southbound | | | | | Rolling Hour | Pedestrian Crossings | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | U-Turn | Left | Thru | Right | Total | | West | East | South | North |
| 7:00 AM | 0 | 0 | 1 | 7 | 0 | 33 | 4 | 0 | 2 | 10 | 1 | 27 | 0 | 1 | 13 | 0 | 99 | 407 | 0 | 0 | 0 | 0 |
| 7:15 AM | 0 | 1 | 1 | 4 | 0 | 46 | 3 | 2 | 4 | 10 | 1 | 29 | 0 | 0 | 10 | 0 | 111 | 385 | 0 | 0 | 0 | 0 |
| 7:30 AM | 0 | 0 | 2 | 6 | 0 | 42 | 5 | 0 | 3 | 4 | 3 | 23 | 0 | 2 | 12 | 0 | 102 | 352 | 0 | 0 | 0 | 0 |
| 7:45 AM | 0 | 0 | 0 | 4 | 0 | 30 | 3 | 1 | 3 | 7 | 11 | 30 | 0 | 0 | 6 | 0 | 95 | 330 | 0 | 0 | 0 | 0 |
| 8:00 AM | 0 | 0 | 0 | 6 | 0 | 29 | 3 | 0 | 4 | 5 | 3 | 18 | 0 | 2 | 7 | 0 | 77 | 302 | 0 | 0 | 0 | 0 |
| 8:15 AM | 0 | 0 | 3 | 4 | 1 | 33 | 5 | 0 | 8 | 5 | 2 | 10 | 0 | 0 | 7 | 0 | 78 | | 0 | 0 | 0 | 0 |
| 8:30 AM | 0 | 0 | 5 | 9 | 0 | 30 | 3 | 0 | 8 | 3 | 1 | 16 | 0 | 0 | 5 | 0 | 80 | | 0 | 0 | 0 | 0 |
| 8:45 AM | 1 | 0 | 4 | 5 | 0 | 36 | 2 | 0 | 1 | 1 | 2 | 12 | 0 | 0 | 3 | 0 | 67 | | 0 | 0 | 0 | 1 |
| Count Total | 1 | 1 | 16 | 45 | 1 | 279 | 28 | 3 | 33 | 45 | 24 | 165 | 0 | 5 | 63 | 0 | 709 | | 0 | 0 | 0 | 1 |
| Peak Hour | 0 | 1 | 4 | 21 | 0 | 151 | 15 | 3 | 12 | 31 | 16 | 109 | 0 | 3 | 41 | 0 | 407 | | 0 | 0 | 0 | 0 |

**All Traffic Data Services**
9660 W 44th Ave
Wheat Ridge, CO 80033
**www.alltrafficdata.net**



Site Code: 8
Station ID: 8
GALLEY RD N.O. PETERSON RD

| Start Time | 02-Apr-24 Tue | NB | SB | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | 7 | 20 | | | | | | | 27 |
| 01:00 | | 3 | 7 | | | | | | | 10 |
| 02:00 | | 6 | 14 | | | | | | | 20 |
| 03:00 | | 7 | 5 | | | | | | | 12 |
| 04:00 | | 15 | 15 | | | | | | | 30 |
| 05:00 | | 48 | 32 | | | | | | | 80 |
| 06:00 | | 131 | 209 | | | | | | | 340 |
| 07:00 | | **382** | **305** | | | | | | | **687** |
| 08:00 | | 247 | 295 | | | | | | | 542 |
| 09:00 | | 188 | 152 | | | | | | | 340 |
| 10:00 | | 208 | 151 | | | | | | | 359 |
| 11:00 | | 186 | 146 | | | | | | | 332 |
| 12:00 PM | | 195 | 147 | | | | | | | 342 |
| 01:00 | | 170 | 179 | | | | | | | 349 |
| 02:00 | | 258 | 190 | | | | | | | 448 |
| 03:00 | | **397** | 296 | | | | | | | 693 |
| 04:00 | | 352 | **360** | | | | | | | **712** |
| 05:00 | | 212 | 327 | | | | | | | 539 |
| 06:00 | | 166 | 205 | | | | | | | 371 |
| 07:00 | | 99 | 150 | | | | | | | 249 |
| 08:00 | | 59 | 106 | | | | | | | 165 |
| 09:00 | | 49 | 43 | | | | | | | 92 |
| 10:00 | | 34 | 26 | | | | | | | 60 |
| 11:00 | | 13 | 19 | | | | | | | 32 |
| Total | | 3432 | 3399 | | | | | | | 6831 |
| Percent | | 50.2% | 49.8% | | | | | | | |
| AM Peak | - | 07:00 | 07:00 | - | - | - | - | - | - | 07:00 |
| Vol. | - | 382 | 305 | - | - | - | - | - | - | 687 |
| PM Peak | - | 15:00 | 16:00 | - | - | - | - | - | - | 16:00 |
| Vol. | - | 397 | 360 | - | - | - | - | - | - | 712 |
| Grand Total | | 3432 | 3399 | | | | | | | 6831 |
| Percent | | 50.2% | 49.8% | | | | | | | |
| | | | | | | | | | | |
| ADT | | ADT 6,831 | | AADT 6,831 | | | | | | |

**All Traffic Data Services**
9660 W 44th Ave
Wheat Ridge, CO 80033
**www.alltrafficdata.net**



Site Code: 9
Station ID: 9
PETERSON RD E.O. GALLEY RD

| Start Time | 02-Apr-24 Tue | EB | WB | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | 23 | 7 | | | | | | | 30 |
| 01:00 | | 13 | 8 | | | | | | | 21 |
| 02:00 | | 14 | 8 | | | | | | | 22 |
| 03:00 | | 11 | 16 | | | | | | | 27 |
| 04:00 | | 14 | 38 | | | | | | | 52 |
| 05:00 | | 18 | 113 | | | | | | | 131 |
| 06:00 | | 86 | 467 | | | | | | | 553 |
| 07:00 | | 194 | **877** | | | | | | | **1071** |
| 08:00 | | 206 | 482 | | | | | | | 688 |
| 09:00 | | 172 | 212 | | | | | | | 384 |
| 10:00 | | 184 | 193 | | | | | | | 377 |
| 11:00 | | **263** | 186 | | | | | | | 449 |
| 12:00 PM | | 228 | 211 | | | | | | | 439 |
| 01:00 | | 244 | 198 | | | | | | | 442 |
| 02:00 | | 377 | 227 | | | | | | | 604 |
| 03:00 | | 688 | **321** | | | | | | | 1009 |
| 04:00 | | **989** | 312 | | | | | | | **1301** |
| 05:00 | | 753 | 252 | | | | | | | 1005 |
| 06:00 | | 292 | 215 | | | | | | | 507 |
| 07:00 | | 173 | 141 | | | | | | | 314 |
| 08:00 | | 145 | 95 | | | | | | | 240 |
| 09:00 | | 102 | 78 | | | | | | | 180 |
| 10:00 | | 57 | 39 | | | | | | | 96 |
| 11:00 | | 28 | 27 | | | | | | | 55 |
| Total | | 5274 | 4723 | | | | | | | 9997 |
| Percent | | 52.8% | 47.2% | | | | | | | |
| AM Peak | - | 11:00 | 07:00 | - | - | - | - | - | - | 07:00 |
| Vol. | - | 263 | 877 | - | - | - | - | - | - | 1071 |
| PM Peak | - | 16:00 | 15:00 | - | - | - | - | - | - | 16:00 |
| Vol. | - | 989 | 321 | - | - | - | - | - | - | 1301 |
| Grand Total | | 5274 | 4723 | | | | | | | 9997 |
| Percent | | 52.8% | 47.2% | | | | | | | |
| | | | | | | | | | | |
| ADT | | ADT 9,997 | | AADT 9,997 | | | | | | |

**All Traffic Data Services**
9660 W 44th Ave
Wheat Ridge, CO 80033
**www.alltrafficdata.net**



Site Code: 10
Station ID: 10
US 24 W.O. PETERSON RD

| Start Time | 02-Apr-24 Tue | EB | WB | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | 88 | 53 | | | | | | | 141 |
| 01:00 | | 43 | 45 | | | | | | | 88 |
| 02:00 | | 50 | 46 | | | | | | | 96 |
| 03:00 | | 52 | 96 | | | | | | | 148 |
| 04:00 | | 115 | 239 | | | | | | | 354 |
| 05:00 | | 378 | 858 | | | | | | | 1236 |
| 06:00 | | 1310 | 1773 | | | | | | | 3083 |
| 07:00 | | **1785** | **2445** | | | | | | | **4230** |
| 08:00 | | 1189 | 1773 | | | | | | | 2962 |
| 09:00 | | 764 | 1252 | | | | | | | 2016 |
| 10:00 | | 768 | 1113 | | | | | | | 1881 |
| 11:00 | | 925 | 1088 | | | | | | | 2013 |
| 12:00 PM | | 939 | 1125 | | | | | | | 2064 |
| 01:00 | | 853 | 1101 | | | | | | | 1954 |
| 02:00 | | 1217 | 1155 | | | | | | | 2372 |
| 03:00 | | 1645 | 1687 | | | | | | | 3332 |
| 04:00 | | 2028 | **1777** | | | | | | | **3805** |
| 05:00 | | **2123** | 1358 | | | | | | | 3481 |
| 06:00 | | 1276 | 949 | | | | | | | 2225 |
| 07:00 | | 862 | 593 | | | | | | | 1455 |
| 08:00 | | 663 | 430 | | | | | | | 1093 |
| 09:00 | | 465 | 269 | | | | | | | 734 |
| 10:00 | | 282 | 160 | | | | | | | 442 |
| 11:00 | | 176 | 125 | | | | | | | 301 |
| Total | | 19996 | 21510 | | | | | | | 41506 |
| Percent | | 48.2% | 51.8% | | | | | | | |
| AM Peak | - | 07:00 | 07:00 | - | - | - | - | - | - | 07:00 |
| Vol. | - | 1785 | 2445 | - | - | - | - | - | - | 4230 |
| PM Peak | - | 17:00 | 16:00 | - | - | - | - | - | - | 16:00 |
| Vol. | - | 2123 | 1777 | - | - | - | - | - | - | 3805 |
| Grand Total | | 19996 | 21510 | | | | | | | 41506 |
| Percent | | 48.2% | 51.8% | | | | | | | |
| | | | | | | | | | | |
| ADT | | ADT 41,506 | | AADT 41,506 | | | | | | |

**All Traffic Data Services**
9660 W 44th Ave
Wheat Ridge, CO 80033
**www.alltrafficdata.net**



Site Code: 11
Station ID: 11
PETERSON BLVD S.O. US 24

| Start Time | 02-Apr-24 Tue | NB | SB | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | 7 | 0 | | | | | | | 7 |
| 01:00 | | 1 | 0 | | | | | | | 1 |
| 02:00 | | 0 | 0 | | | | | | | 0 |
| 03:00 | | 1 | 1 | | | | | | | 2 |
| 04:00 | | 2 | 1 | | | | | | | 3 |
| 05:00 | | 14 | 25 | | | | | | | 39 |
| 06:00 | | 80 | 711 | | | | | | | 791 |
| 07:00 | | 214 | **1326** | | | | | | | **1540** |
| 08:00 | | 160 | 641 | | | | | | | 801 |
| 09:00 | | 173 | 17 | | | | | | | 190 |
| 10:00 | | 253 | 16 | | | | | | | 269 |
| 11:00 | | **363** | 19 | | | | | | | 382 |
| 12:00 PM | | 305 | 17 | | | | | | | 322 |
| 01:00 | | 313 | **20** | | | | | | | 333 |
| 02:00 | | 645 | 5 | | | | | | | 650 |
| 03:00 | | 1176 | 17 | | | | | | | 1193 |
| 04:00 | | **1245** | 17 | | | | | | | **1262** |
| 05:00 | | 548 | 12 | | | | | | | 560 |
| 06:00 | | 38 | 15 | | | | | | | 53 |
| 07:00 | | 29 | 13 | | | | | | | 42 |
| 08:00 | | 25 | 7 | | | | | | | 32 |
| 09:00 | | 16 | 4 | | | | | | | 20 |
| 10:00 | | 10 | 4 | | | | | | | 14 |
| 11:00 | | 3 | 2 | | | | | | | 5 |
| Total | | 5621 | 2890 | | | | | | | 8511 |
| Percent | | 66.0% | 34.0% | | | | | | | |
| AM Peak | - | 11:00 | 07:00 | - | - | - | - | - | - | 07:00 |
| Vol. | - | 363 | 1326 | - | - | - | - | - | - | 1540 |
| PM Peak | - | 16:00 | 13:00 | - | - | - | - | - | - | 16:00 |
| Vol. | - | 1245 | 20 | - | - | - | - | - | - | 1262 |
| Grand Total | | 5621 | 2890 | | | | | | | 8511 |
| Percent | | 66.0% | 34.0% | | | | | | | |
| | | | | | | | | | | |
| ADT | | ADT 8,511 | | AADT 8,511 | | | | | | |

**All Traffic Data Services**
9660 W 44th Ave
Wheat Ridge, CO 80033
**www.alltrafficdata.net**



Site Code: 12
Station ID: 12
SPACE VILLAGE AVE E.O. US 24 RAMPS

| Start Time | 02-Apr-24 Tue | EB | WB | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | 4 | 5 | | | | | | | 9 |
| 01:00 | | 4 | 4 | | | | | | | 8 |
| 02:00 | | 6 | 7 | | | | | | | 13 |
| 03:00 | | 5 | 9 | | | | | | | 14 |
| 04:00 | | 13 | 21 | | | | | | | 34 |
| 05:00 | | 80 | 61 | | | | | | | 141 |
| 06:00 | | 148 | 259 | | | | | | | 407 |
| 07:00 | | **313** | **542** | | | | | | | **855** |
| 08:00 | | 199 | 295 | | | | | | | 494 |
| 09:00 | | 154 | 197 | | | | | | | 351 |
| 10:00 | | 169 | 170 | | | | | | | 339 |
| 11:00 | | 213 | 212 | | | | | | | 425 |
| 12:00 PM | | 229 | 185 | | | | | | | 414 |
| 01:00 | | 182 | 162 | | | | | | | 344 |
| 02:00 | | 228 | 174 | | | | | | | 402 |
| 03:00 | | 419 | 278 | | | | | | | 697 |
| 04:00 | | **425** | **358** | | | | | | | **783** |
| 05:00 | | 296 | 304 | | | | | | | 600 |
| 06:00 | | 183 | 185 | | | | | | | 368 |
| 07:00 | | 128 | 123 | | | | | | | 251 |
| 08:00 | | 80 | 78 | | | | | | | 158 |
| 09:00 | | 59 | 30 | | | | | | | 89 |
| 10:00 | | 35 | 15 | | | | | | | 50 |
| 11:00 | | 15 | 9 | | | | | | | 24 |
| Total | | 3587 | 3683 | | | | | | | 7270 |
| Percent | | 49.3% | 50.7% | | | | | | | |
| AM Peak | - | 07:00 | 07:00 | - | - | - | - | - | - | 07:00 |
| Vol. | - | 313 | 542 | - | - | - | - | - | - | 855 |
| PM Peak | - | 16:00 | 16:00 | - | - | - | - | - | - | 16:00 |
| Vol. | - | 425 | 358 | - | - | - | - | - | - | 783 |
| Grand Total | | 3587 | 3683 | | | | | | | 7270 |
| Percent | | 49.3% | 50.7% | | | | | | | |
| | | | | | | | | | | |
| ADT | | ADT 7,270 | | AADT 7,270 | | | | | | |

**All Traffic Data Services**
9660 W 44th Ave
Wheat Ridge, CO 80033
**www.alltrafficdata.net**



Site Code: 13
Station ID: 13
HWY 94 S.O. US 24

| Start Time | 02-Apr-24 Tue | NB | SB | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | 6 | 19 | | | | | | | 25 |
| 01:00 | | 7 | 10 | | | | | | | 17 |
| 02:00 | | 7 | 5 | | | | | | | 12 |
| 03:00 | | 12 | 13 | | | | | | | 25 |
| 04:00 | | 37 | 46 | | | | | | | 83 |
| 05:00 | | 137 | 173 | | | | | | | 310 |
| 06:00 | | 342 | 483 | | | | | | | 825 |
| 07:00 | | **485** | **631** | | | | | | | **1116** |
| 08:00 | | 304 | 379 | | | | | | | 683 |
| 09:00 | | 241 | 267 | | | | | | | 508 |
| 10:00 | | 213 | 234 | | | | | | | 447 |
| 11:00 | | 209 | 227 | | | | | | | 436 |
| 12:00 PM | | 261 | 220 | | | | | | | 481 |
| 01:00 | | 240 | 237 | | | | | | | 477 |
| 02:00 | | 277 | 263 | | | | | | | 540 |
| 03:00 | | 419 | 375 | | | | | | | 794 |
| 04:00 | | **466** | **429** | | | | | | | **895** |
| 05:00 | | 266 | 419 | | | | | | | 685 |
| 06:00 | | 195 | 286 | | | | | | | 481 |
| 07:00 | | 83 | 176 | | | | | | | 259 |
| 08:00 | | 68 | 152 | | | | | | | 220 |
| 09:00 | | 41 | 111 | | | | | | | 152 |
| 10:00 | | 32 | 50 | | | | | | | 82 |
| 11:00 | | 27 | 48 | | | | | | | 75 |
| Total | | 4375 | 5253 | | | | | | | 9628 |
| Percent | | 45.4% | 54.6% | | | | | | | |
| AM Peak | - | 07:00 | 07:00 | - | - | - | - | - | - | 07:00 |
| Vol. | - | 485 | 631 | - | - | - | - | - | - | 1116 |
| PM Peak | - | 16:00 | 16:00 | - | - | - | - | - | - | 16:00 |
| Vol. | - | 466 | 429 | - | - | - | - | - | - | 895 |
| Grand Total | | 4375 | 5253 | | | | | | | 9628 |
| Percent | | 45.4% | 54.6% | | | | | | | |
| | | | | | | | | | | |
| ADT | | ADT 9,628 | | AADT 9,628 | | | | | | |

**All Traffic Data Services**
9660 W 44th Ave
Wheat Ridge, CO 80033
**www.alltrafficdata.net**



Site Code: 14
Station ID: 14
HWY 24 E.O. HWY 94

| Start Time | 02-Apr-24 Tue | EB | WB | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 12:00 AM | | 66 | 41 | | | | | | | 107 |
| 01:00 | | 27 | 32 | | | | | | | 59 |
| 02:00 | | 38 | 28 | | | | | | | 66 |
| 03:00 | | 32 | 73 | | | | | | | 105 |
| 04:00 | | 72 | 203 | | | | | | | 275 |
| 05:00 | | 164 | 645 | | | | | | | 809 |
| 06:00 | | 560 | 1454 | | | | | | | 2014 |
| 07:00 | | **696** | **1809** | | | | | | | **2505** |
| 08:00 | | 564 | 1309 | | | | | | | 1873 |
| 09:00 | | 463 | 845 | | | | | | | 1308 |
| 10:00 | | 484 | 652 | | | | | | | 1136 |
| 11:00 | | 652 | 595 | | | | | | | 1247 |
| 12:00 PM | | 647 | 630 | | | | | | | 1277 |
| 01:00 | | 620 | 624 | | | | | | | 1244 |
| 02:00 | | 961 | 648 | | | | | | | 1609 |
| 03:00 | | 1467 | 801 | | | | | | | 2268 |
| 04:00 | | **1705** | **876** | | | | | | | **2581** |
| 05:00 | | 1690 | 774 | | | | | | | 2464 |
| 06:00 | | 930 | 622 | | | | | | | 1552 |
| 07:00 | | 640 | 387 | | | | | | | 1027 |
| 08:00 | | 467 | 280 | | | | | | | 747 |
| 09:00 | | 308 | 181 | | | | | | | 489 |
| 10:00 | | 196 | 114 | | | | | | | 310 |
| 11:00 | | 110 | 79 | | | | | | | 189 |
| Total | | 13559 | 13702 | | | | | | | 27261 |
| Percent | | 49.7% | 50.3% | | | | | | | |
| AM Peak | - | 07:00 | 07:00 | - | - | - | - | - | - | 07:00 |
| Vol. | - | 696 | 1809 | - | - | - | - | - | - | 2505 |
| PM Peak | - | 16:00 | 16:00 | - | - | - | - | - | - | 16:00 |
| Vol. | - | 1705 | 876 | - | - | - | - | - | - | 2581 |
| Grand Total | | 13559 | 13702 | | | | | | | 27261 |
| Percent | | 49.7% | 50.3% | | | | | | | |
| | | | | | | | | | | |
| ADT | | ADT 27,261 | | AADT 27,261 | | | | | | |

# Appendix B- Existing Conditions

# Table of Contents

Intersection Level Of Service Report ..... 2
Intersection 1: Peterson Rd/ Galley Rd ..... 2
Intersection 2: US-24/SH-94/ Newt Dr ..... 7
Intersection 3: US-24 WB Ramps/Peterson Rd ..... 12
Intersection 4: Peterson Bl/ Space Village Av ..... 17
Intersection 5: US 24 EB Ramps/Space Village Av ..... 22
Intersection 6: Meadowbrook Pkwy/ Newt Dr. ..... 24
Intersection 7: Peterson Rd/ Panamint Ct ..... 26
Signal Warrants Report ..... 28
Intersection 5: US 24 EB Ramps/Space Village Av ..... 28
Intersection 7: Peterson Rd/ Panamint Ct ..... 30

**Intersection Level Of Service Report**
**Intersection 1: Peterson Rd/ Galley Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 15.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.499 |

**Intersection Setup**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| 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 | 0 | 1 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 125.00 | 100.00 | 100.00 | 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] | 30.00 | | 30.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | Yes | |
| Crosswalk | No | | Yes | | Yes | |

**Volumes**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 262 | 128 | 91 | 241 | 750 | 138 |
| 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 | 1.0000 | 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 |
| Right Turn on Red Volume [veh/h] | 0 | 64 | 0 | 0 | 0 | 69 |
| Total Hourly Volume [veh/h] | 262 | 64 | 91 | 241 | 750 | 69 |
| Peak Hour Factor | 0.7100 | 0.7100 | 0.8500 | 0.8500 | 0.8300 | 0.8300 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 92 | 23 | 27 | 71 | 226 | 21 |
| Total Analysis Volume [veh/h] | 369 | 90 | 107 | 284 | 904 | 83 |
| 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] | 90 |
| Active Pattern | Free Running (No Pattern) |
| Coordination Type | *Free Running* |
| 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 (Basic)**

| Control Type | Permissive | Permissive | ProtPerm | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 2 | 0 | 1 | 6 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Maximum Green [s] | 45 | 0 | 15 | 45 | 30 | 0 |
| Amber [s] | 4.0 | 0.0 | 4.0 | 4.0 | 4.0 | 0.0 |
| All red [s] | 2.0 | 0.0 | 1.0 | 2.0 | 2.0 | 0.0 |
| Walk [s] | 5 | 0 | 0 | 0 | 5 | 0 |
| Pedestrian Clearance [s] | 17 | 0 | 0 | 0 | 10 | 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 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 4.0 | 0.0 | 3.0 | 4.0 | 4.0 | 0.0 |
| 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 |
| Advanced Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Advanced 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 |

**Phasing & Timing: Free Running (No Pattern)**

| | | | | | | |
|---|---|---|---|---|---|---|
| Split [s] | 14 | 0 | 9 | 14 | 9 | 0 |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 15 | 0 | 5 | 15 | 8 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.5 | 3.0 | 1.5 | 0.0 |
| Minimum Recall | Yes | | No | Yes | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |

**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, Calculated Cycle Length [s] | 52 | 52 | 52 | 52 | 52 | 52 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 4.00 | 4.00 | 0.00 | 4.00 | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 15 | 15 | 24 | 24 | 16 | 16 |
| g / C, Green / Cycle | 0.29 | 0.29 | 0.46 | 0.46 | 0.30 | 0.30 |
| (v / s)_i Volume / Saturation Flow Rate | 0.20 | 0.06 | 0.09 | 0.08 | 0.26 | 0.05 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 1179 | 3560 | 3459 | 1589 |
| c, Capacity [veh/h] | 543 | 461 | 590 | 1650 | 1054 | 484 |
| d1, Uniform Delay [s] | 16.25 | 13.83 | 8.83 | 8.10 | 16.94 | 13.20 |
| k, delay calibration | 0.11 | 0.11 | 0.04 | 0.11 | 0.04 | 0.04 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.51 | 0.20 | 0.05 | 0.05 | 0.81 | 0.06 |
| 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 | 0.68 | 0.20 | 0.18 | 0.17 | 0.86 | 0.17 |
| d, Delay for Lane Group [s/veh] | 17.76 | 14.03 | 8.88 | 8.14 | 17.76 | 13.27 |
| Lane Group LOS | B | B | A | A | B | B |
| Critical Lane Group | Yes | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 3.58 | 0.72 | 0.56 | 0.75 | 4.33 | 0.61 |
| 50th-Percentile Queue Length [ft/ln] | 89.45 | 18.04 | 13.89 | 18.81 | 108.17 | 15.26 |
| 95th-Percentile Queue Length [veh/ln] | 6.44 | 1.30 | 1.00 | 1.35 | 7.74 | 1.10 |
| 95th-Percentile Queue Length [ft/ln] | 161.02 | 32.47 | 25.00 | 33.86 | 193.45 | 27.47 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 17.76 | 14.03 | 8.88 | 8.14 | 17.76 | 13.27 |
| Movement LOS | B | B | A | A | B | B |
| d_A, Approach Delay [s/veh] | 17.03 | | 8.35 | | 17.38 | |
| Approach LOS | B | | A | | B | |
| d_I, Intersection Delay [s/veh] | 15.37 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.499 | | | | | |

**Emissions**

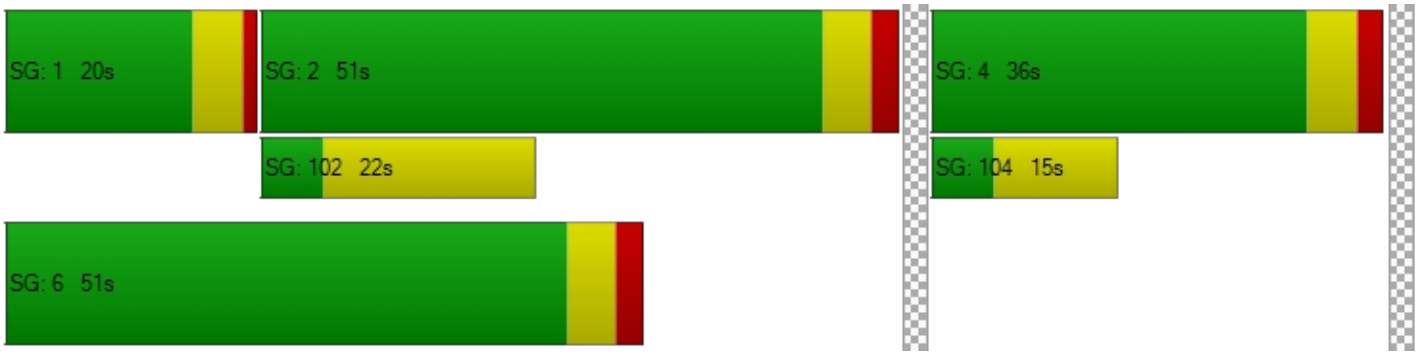
| | | | | | | |
|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 52.35 | 12.77 | 10.60 | 28.15 | 170.38 | 15.64 |
| Stops [stops/h] | 249.52 | 50.32 | 38.75 | 104.93 | 603.45 | 42.57 |
| Fuel consumption [US gal/h] | 4.87 | 1.06 | 0.84 | 2.21 | 14.30 | 1.14 |
| CO [g/h] | 340.21 | 74.14 | 59.00 | 154.42 | 999.55 | 79.72 |
| NOx [g/h] | 66.19 | 14.42 | 11.48 | 30.05 | 194.48 | 15.51 |
| VOC [g/h] | 78.85 | 17.18 | 13.67 | 35.79 | 231.66 | 18.48 |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 9.0 | 9.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 17.60 | 17.60 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 2.326 | 2.720 |
| Crosswalk LOS | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1743 | 1743 | 1162 |
| d_b, Bicycle Delay [s] | 0.43 | 0.43 | 4.53 |
| l_b,int, Bicycle LOS Score for Intersection | 2.423 | 1.882 | 1.560 |
| Bicycle LOS | B | A | A |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 2: US-24/SH-94/ Newt Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 30.2 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.736 |

**Intersection Setup**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 1000.00 | 100.00 | 1000.00 | 420.00 | 100.00 | 300.00 | 1150.00 | 100.00 | 850.00 | 950.00 | 100.00 | 950.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 1700.00 | 0.00 | 0.00 | 920.00 | 0.00 | 0.00 | 374.61 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 30.00 | | | 55.00 | | | 55.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 441 | 42 | 2 | 13 | 24 | 179 | 156 | 681 | 599 | 8 | 1758 | 43 |
| 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 | 1 | 0 | 0 | 90 | 0 | 0 | 300 | 0 | 0 | 22 |
| Total Hourly Volume [veh/h] | 441 | 42 | 1 | 13 | 24 | 89 | 156 | 681 | 299 | 8 | 1758 | 21 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8400 | 0.8400 | 0.8400 | 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] | 130 | 12 | 0 | 4 | 7 | 26 | 46 | 200 | 88 | 2 | 517 | 6 |
| Total Analysis Volume [veh/h] | 519 | 49 | 1 | 15 | 29 | 106 | 184 | 801 | 352 | 9 | 2068 | 25 |
| 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] | 140 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 52.0 |
| Offset Reference | Beginning of First Yellow |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | ProtPer | Permiss | Permiss | ProtPer | Permiss | Unsigna | ProtPer | Permiss | Unsigna | ProtPer | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 3 | 8 | 0 | 7 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 15 | 15 | 0 | 5 | 7 | 0 | 8 | 65 | 0 | 7 | 65 | 0 |
| Amber [s] | 3.5 | 4.0 | 0.0 | 3.5 | 4.0 | 0.0 | 3.5 | 6.0 | 0.0 | 3.5 | 6.0 | 0.0 |
| All red [s] | 3.0 | 2.0 | 0.0 | 3.0 | 2.0 | 0.0 | 3.0 | 1.0 | 0.0 | 3.0 | 1.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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] | 4.5 | 4.0 | 0.0 | 4.5 | 4.0 | 0.0 | 4.5 | 5.0 | 0.0 | 4.5 | 5.0 | 0.0 |
| 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 |
| Advanced Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 245.0 | 0.0 | 0.0 | 245.0 | 0.0 |
| Advanced Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6.0 | 0.0 | 0.0 | 6.0 | 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 15 | 52 | 0 | 30 | 67 | 0 | 14 | 45 | 0 | 13 | 44 | 0 |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 4 | 5 | 0 | 6 | 22 | 0 | 6 | 22 | 0 |
| Vehicle Extension [s] | 2.0 | 2.0 | 0.0 | 2.0 | 5.0 | 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 | Yes | | No | Yes | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |

**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 | L | C | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| 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 |
| l2, Clearance Lost Time [s] | 0.00 | 4.00 | 4.00 | 0.00 | 4.00 | 0.00 | 5.00 | 0.00 | 5.00 | 5.00 |
| g_i, Effective Green Time [s] | 18 | 10 | 10 | 18 | 3 | 109 | 100 | 109 | 95 | 95 |
| g / C, Green / Cycle | 0.13 | 0.07 | 0.07 | 0.13 | 0.02 | 0.78 | 0.72 | 0.78 | 0.68 | 0.68 |
| (v / s)_i Volume / Saturation Flow Rate | 0.16 | 0.01 | 0.00 | 0.01 | 0.02 | 0.50 | 0.22 | 0.01 | 0.58 | 0.02 |
| s, saturation flow rate [veh/h] | 3227 | 3560 | 1589 | 2913 | 1870 | 372 | 3560 | 743 | 3560 | 1589 |
| c, Capacity [veh/h] | 494 | 259 | 116 | 457 | 47 | 274 | 2549 | 592 | 2403 | 1073 |
| d1, Uniform Delay [s] | 61.92 | 61.01 | 60.21 | 52.95 | 67.58 | 39.35 | 7.30 | 4.13 | 17.65 | 7.51 |
| k, delay calibration | 0.11 | 0.04 | 0.04 | 0.23 | 0.23 | 0.50 | 0.50 | 0.04 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 34.23 | 0.13 | 0.01 | 0.06 | 25.15 | 12.32 | 0.32 | 0.00 | 4.32 | 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 |
| Rp, platoon ratio | 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 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 1.05 | 0.19 | 0.01 | 0.03 | 0.62 | 0.67 | 0.31 | 0.02 | 0.86 | 0.02 |
| d, Delay for Lane Group [s/veh] | 96.15 | 61.14 | 60.22 | 53.02 | 92.74 | 51.67 | 7.62 | 4.13 | 21.97 | 7.55 |
| Lane Group LOS | F | E | E | D | F | D | A | A | C | A |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 10.91 | 0.80 | 0.03 | 0.24 | 1.36 | 1.91 | 3.74 | 0.04 | 22.66 | 0.23 |
| 50th-Percentile Queue Length [ft/ln] | 272.83 | 20.02 | 0.81 | 5.91 | 34.00 | 47.67 | 93.46 | 1.08 | 566.61 | 5.76 |
| 95th-Percentile Queue Length [veh/ln] | 16.70 | 1.44 | 0.06 | 0.43 | 2.45 | 3.43 | 6.73 | 0.08 | 30.47 | 0.41 |
| 95th-Percentile Queue Length [ft/ln] | 417.46 | 36.04 | 1.46 | 10.64 | 61.19 | 85.80 | 168.23 | 1.95 | 761.80 | 10.37 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 96.15 | 61.14 | 60.22 | 53.02 | 92.74 | 0.00 | 51.67 | 7.62 | 0.00 | 4.13 | 21.97 | 7.55 |
| Movement LOS | F | E | E | D | F | | D | A | | A | C | A |
| d_A, Approach Delay [s/veh] | 93.07 | | | 26.20 | | | 12.16 | | | 21.72 | | |
| Approach LOS | F | | | C | | | B | | | C | | |
| d_I, Intersection Delay [s/veh] | 30.20 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.736 | | | | | | | | | | | |

**Emissions**

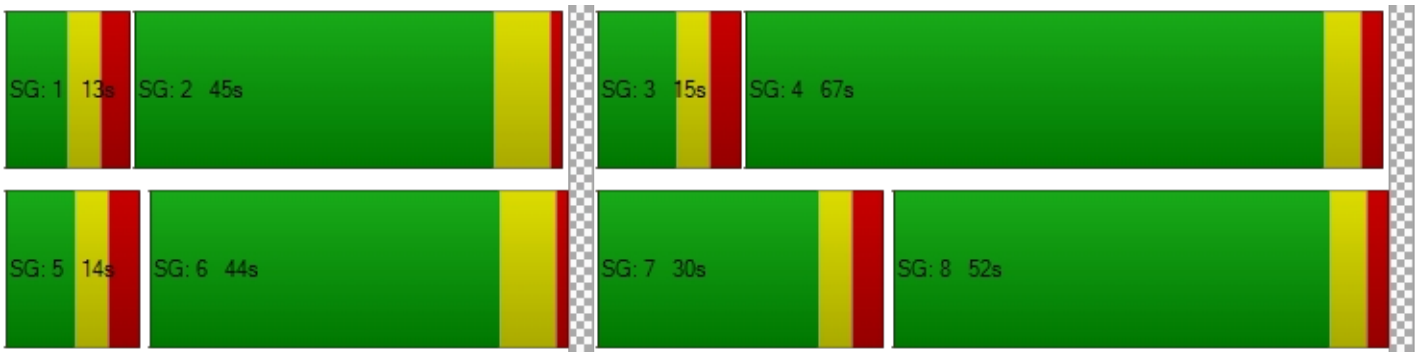
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 198.32 | 18.72 | 0.38 | 1.58 | 3.06 | 78.00 | 339.53 | 2.74 | 629.79 | 7.61 |
| Stops [stops/h] | 561.25 | 41.18 | 0.83 | 12.16 | 34.97 | 49.03 | 192.26 | 1.11 | 1165.60 | 5.93 |
| Fuel consumption [US gal/h] | 27.21 | 2.00 | 0.04 | 0.29 | 0.87 | 5.45 | 16.17 | 0.12 | 51.96 | 0.40 |
| CO [g/h] | 1902.15 | 139.86 | 2.83 | 20.56 | 60.56 | 381.24 | 1130.37 | 8.38 | 3632.29 | 28.18 |
| NOx [g/h] | 370.09 | 27.21 | 0.55 | 4.00 | 11.78 | 74.18 | 219.93 | 1.63 | 706.71 | 5.48 |
| VOC [g/h] | 440.84 | 32.41 | 0.66 | 4.77 | 14.04 | 88.36 | 261.97 | 1.94 | 841.82 | 6.53 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 61.0 | 46.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 22.29 | 31.56 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 3.752 | 3.374 |
| Crosswalk LOS | F | F | D | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 657 | 871 | 543 | 529 |
| d_b, Bicycle Delay [s] | 31.56 | 22.29 | 37.16 | 37.89 |
| l_b,int, Bicycle LOS Score for Intersection | 2.030 | 1.632 | 2.372 | 3.312 |
| Bicycle LOS | B | A | 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 3: US-24 WB Ramps/Peterson Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 25.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.606 |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 120.00 | 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | | | | No | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 306 | 326 | 0 | 0 | 713 | 285 | 0 | 0 | 0 | 303 | 0 | 66 |
| 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 | 0 | 0 | 0 | 143 | 0 | 0 | 0 | 0 | 0 | 33 |
| Total Hourly Volume [veh/h] | 306 | 326 | 0 | 0 | 713 | 142 | 0 | 0 | 0 | 303 | 0 | 33 |
| Peak Hour Factor | 0.8100 | 0.8100 | 1.0000 | 1.0000 | 0.8500 | 0.8500 | 1.0000 | 1.0000 | 1.0000 | 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] | 94 | 101 | 0 | 0 | 210 | 42 | 0 | 0 | 0 | 89 | 0 | 10 |
| Total Analysis Volume [veh/h] | 378 | 402 | 0 | 0 | 839 | 167 | 0 | 0 | 0 | 356 | 0 | 39 |
| Presence of On-Street Parking | 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 | Yes |
| Signal Coordination Group | - |
| Cycle Length [s] | 100 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 13.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | ProtPer | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 8 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 20 | 15 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 20 | 0 |
| Amber [s] | 4.0 | 4.0 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 |
| All red [s] | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 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 | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 4.0 | 4.0 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 |
| 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 |
| Advanced 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 |
| Advanced 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 18 | 70 | 0 | 0 | 52 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |
| Lead / Lag | Lead | - | - | - | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 4 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| Vehicle Extension [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 |
| Minimum Recall | No | Yes | | | Yes | | | | | | No | |
| Maximum Recall | No | Yes | | | Yes | | | | | | No | |
| Pedestrian Recall | Yes | No | | | No | | | | | | No | |

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

| Lane Group | L | C | C | R | | L | C |
|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 100 | 100 | 100 | 100 | | 100 | 100 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 4.00 | 4.00 | 4.00 | | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 64 | 64 | 46 | 46 | | 24 | 24 |
| g / C, Green / Cycle | 0.64 | 0.64 | 0.46 | 0.46 | | 0.24 | 0.24 |
| (v / s)_i Volume / Saturation Flow Rate | 0.49 | 0.13 | 0.26 | 0.12 | | 0.22 | 0.03 |
| s, saturation flow rate [veh/h] | 778 | 3204 | 3204 | 1431 | | 1603 | 1431 |
| c, Capacity [veh/h] | 508 | 2057 | 1481 | 661 | | 381 | 340 |
| d1, Uniform Delay [s] | 14.33 | 7.33 | 19.60 | 16.38 | | 37.33 | 29.85 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | | 0.31 | 0.04 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 9.56 | 0.21 | 1.58 | 0.92 | | 23.13 | 0.05 |
| 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 | 0.74 | 0.20 | 0.57 | 0.25 | | 0.93 | 0.11 |
| d, Delay for Lane Group [s/veh] | 23.89 | 7.54 | 21.18 | 17.30 | | 60.45 | 29.90 |
| Lane Group LOS | C | A | C | B | | E | C |
| Critical Lane Group | Yes | No | Yes | No | | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 4.84 | 1.68 | 7.17 | 2.45 | | 10.82 | 0.74 |
| 50th-Percentile Queue Length [ft/ln] | 120.91 | 42.05 | 179.36 | 61.19 | | 270.50 | 18.46 |
| 95th-Percentile Queue Length [veh/ln] | 8.44 | 3.03 | 11.57 | 4.41 | | 16.21 | 1.33 |
| 95th-Percentile Queue Length [ft/ln] | 211.07 | 75.68 | 289.18 | 110.14 | | 405.36 | 33.23 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 23.89 | 7.54 | 0.00 | 0.00 | 21.18 | 17.30 | 0.00 | 0.00 | 0.00 | 60.45 | 29.90 | 29.90 |
| Movement LOS | C | A | | | C | B | | | | E | C | C |
| d_A, Approach Delay [s/veh] | 15.46 | | | 20.54 | | | 0.00 | | | 57.43 | | |
| Approach LOS | B | | | C | | | A | | | E | | |
| d_I, Intersection Delay [s/veh] | 25.40 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.606 | | | | | | | | | | | |

**Emissions**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 27.40 | 29.14 | 46.02 | 9.16 | | 72.68 | 7.96 |
| Stops [stops/h] | 174.11 | 121.09 | 516.56 | 88.11 | | 389.52 | 26.58 |
| Fuel consumption [US gal/h] | 3.93 | 2.49 | 8.36 | 1.45 | | 9.52 | 0.71 |
| CO [g/h] | 274.50 | 173.72 | 584.70 | 101.49 | | 665.66 | 49.77 |
| NOx [g/h] | 53.41 | 33.80 | 113.76 | 19.75 | | 129.51 | 9.68 |
| VOC [g/h] | 63.62 | 40.26 | 135.51 | 23.52 | | 154.27 | 11.53 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 0.000 | 0.000 |
| Crosswalk LOS | F | F | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1280 | 920 | 0 | 480 |
| d_b, Bicycle Delay [s] | 6.48 | 14.58 | 50.00 | 28.88 |
| l_b,int, Bicycle LOS Score for Intersection | 2.203 | 2.508 | 4.132 | 2.266 |
| Bicycle LOS | B | B | D | B |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 4: Peterson Bl/ Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 29.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.584 |

**Intersection Setup**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 147 | 67 | 160 | 856 | 0 | 66 | 163 | 374 | 96 | 0 | 419 |
| 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 | 34 | 0 | 0 | 0 | 0 | 0 | 187 | 0 | 0 | 210 |
| Total Hourly Volume [veh/h] | 0 | 147 | 33 | 160 | 856 | 0 | 66 | 163 | 187 | 96 | 0 | 209 |
| Peak Hour Factor | 1.0000 | 0.6900 | 0.6900 | 0.8500 | 0.8500 | 1.0000 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 1.0000 | 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 | 53 | 12 | 47 | 252 | 0 | 19 | 48 | 55 | 28 | 0 | 61 |
| Total Analysis Volume [veh/h] | 0 | 213 | 48 | 188 | 1007 | 0 | 78 | 192 | 220 | 113 | 0 | 246 |
| 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] | 20.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | Permiss | Permiss | Permiss | ProtPer | Permiss | Permiss | Split | Split | Split | Split | Permiss | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 2 | 0 | 1 | 6 | 0 | 0 | 4 | 0 | 3 | 0 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 0 | 15 | 0 | 8 | 15 | 0 | 0 | 20 | 0 | 30 | 0 | 0 |
| Amber [s] | 0.0 | 4.0 | 0.0 | 4.0 | 4.0 | 0.0 | 0.0 | 4.0 | 0.0 | 4.0 | 0.0 | 0.0 |
| All red [s] | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 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 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 4.0 | 0.0 | 4.0 | 4.0 | 0.0 | 0.0 | 4.0 | 0.0 | 4.0 | 0.0 | 0.0 |
| 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 |
| Advanced 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 |
| Advanced 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 0 | 30 | 0 | 18 | 48 | 0 | 0 | 26 | 0 | 26 | 0 | 0 |
| Lead / Lag | - | - | - | Lead | - | - | - | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 4 | 0 | 4 | 4 | 0 | 0 | 4 | 0 | 4 | 0 | 0 |
| Vehicle Extension [s] | 0.0 | 2.0 | 0.0 | 3.0 | 2.0 | 0.0 | 0.0 | 3.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| Minimum Recall | | Yes | | No | Yes | | | No | | No | | |
| Maximum Recall | | Yes | | No | Yes | | | No | | No | | |
| Pedestrian Recall | | No | | Yes | No | | | No | | No | | |

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

| Lane Group | C | R | L | C | C | R | L | R |
|---|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 4.00 | 4.00 | 0.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 33 | 33 | 48 | 48 | 17 | 17 | 17 | 17 |
| g / C, Green / Cycle | 0.33 | 0.33 | 0.48 | 0.48 | 0.17 | 0.17 | 0.17 | 0.17 |
| (v / s)_i Volume / Saturation Flow Rate | 0.06 | 0.03 | 0.15 | 0.28 | 0.15 | 0.14 | 0.06 | 0.15 |
| s, saturation flow rate [veh/h] | 3560 | 1589 | 1290 | 3560 | 1843 | 1589 | 1781 | 1589 |
| c, Capacity [veh/h] | 1189 | 531 | 671 | 1700 | 314 | 271 | 307 | 274 |
| d1, Uniform Delay [s] | 23.59 | 22.87 | 15.39 | 19.03 | 40.34 | 39.96 | 36.58 | 40.54 |
| k, delay calibration | 0.50 | 0.50 | 0.43 | 0.50 | 0.15 | 0.12 | 0.04 | 0.04 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.33 | 0.34 | 0.90 | 1.52 | 8.99 | 6.53 | 0.27 | 4.27 |
| d3, Initial Queue Delay [s] | 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.18 | 0.09 | 0.28 | 0.59 | 0.86 | 0.81 | 0.37 | 0.90 |
| d, Delay for Lane Group [s/veh] | 23.92 | 23.20 | 16.29 | 20.55 | 49.32 | 46.49 | 36.86 | 44.80 |
| Lane Group LOS | C | C | B | C | D | D | D | D |
| Critical Lane Group | No | No | No | Yes | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 1.82 | 0.82 | 2.61 | 8.52 | 7.16 | 5.64 | 2.45 | 6.18 |
| 50th-Percentile Queue Length [ft/ln] | 45.54 | 20.54 | 65.26 | 213.02 | 179.07 | 141.01 | 61.25 | 154.45 |
| 95th-Percentile Queue Length [veh/ln] | 3.28 | 1.48 | 4.70 | 13.31 | 11.55 | 9.54 | 4.41 | 10.25 |
| 95th-Percentile Queue Length [ft/ln] | 81.97 | 36.98 | 117.46 | 332.70 | 288.80 | 238.38 | 110.25 | 256.36 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 23.92 | 23.20 | 16.29 | 20.55 | 0.00 | 49.32 | 49.32 | 46.49 | 36.86 | 0.00 | 44.80 |
| Movement LOS | | C | C | B | C | | D | D | D | D | | D |
| d_A, Approach Delay [s/veh] | 23.79 | | | 19.88 | | | 48.05 | | | 42.30 | | |
| Approach LOS | C | | | B | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 29.80 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.584 | | | | | | | | | | | |

**Emissions**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 38.12 | 8.59 | 13.63 | 72.99 | 30.08 | 24.51 | 15.63 | 34.02 |
| Stops [stops/h] | 131.15 | 29.58 | 93.97 | 613.49 | 257.86 | 203.05 | 88.20 | 222.41 |
| Fuel consumption [US gal/h] | 3.33 | 0.74 | 1.70 | 10.61 | 5.37 | 4.21 | 1.98 | 4.87 |
| CO [g/h] | 232.81 | 51.99 | 119.05 | 741.36 | 375.55 | 294.41 | 138.27 | 340.56 |
| NOx [g/h] | 45.30 | 10.11 | 23.16 | 144.24 | 73.07 | 57.28 | 26.90 | 66.26 |
| VOC [g/h] | 53.96 | 12.05 | 27.59 | 171.82 | 87.04 | 68.23 | 32.05 | 78.93 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 0.000 | 0.000 |
| Crosswalk LOS | F | F | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 480 | 840 | 400 | 400 |
| d_b, Bicycle Delay [s] | 28.88 | 16.82 | 32.00 | 32.00 |
| l_b,int, Bicycle LOS Score for Intersection | 1.803 | 2.545 | 2.677 | 1.560 |
| Bicycle LOS | A | B | B | A |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 5: US 24 EB Ramps/Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 44.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.472 |

**Intersection Setup**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | 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 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 290.00 | 350.00 | 405.00 | 100.00 | 485.00 |
| 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] | 30.00 | | 35.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 58 | 10 | 135 | 255 | 505 | 37 |
| 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] | 58 | 10 | 135 | 255 | 505 | 37 |
| Peak Hour Factor | 0.7300 | 0.7300 | 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] | 20 | 3 | 40 | 75 | 149 | 11 |
| Total Analysis Volume [veh/h] | 79 | 14 | 159 | 300 | 594 | 44 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| Priority Scheme | Stop | Free | Free |
|---|---|---|---|
| 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 | 0.47 | 0.03 | 0.17 | 0.00 | 0.01 | 0.00 |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 44.42 | 12.33 | 9.57 | 0.00 | 0.00 | 0.00 |
| Movement LOS | E | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 2.23 | 0.09 | 0.60 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 55.81 | 2.14 | 15.06 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 39.59 | | 3.32 | | 0.00 | |
| Approach LOS | E | | A | | A | |
| d_I, Intersection Delay [s/veh] | 4.37 | | | | | |
| Intersection LOS | E | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Meadowbrook Pkwy/ Newt Dr.**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 4.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 43 | 16 | 109 | 3 | 41 | 0 | 1 | 4 | 21 | 151 | 15 | 3 |
| 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 |
| Total Hourly Volume [veh/h] | 43 | 16 | 109 | 3 | 41 | 0 | 1 | 4 | 21 | 151 | 15 | 3 |
| Peak Hour Factor | 0.8200 | 0.8200 | 0.8200 | 0.7900 | 0.7900 | 0.7900 | 0.6600 | 0.6600 | 0.6600 | 0.8300 | 0.8300 | 0.8300 |
| 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] | 13 | 5 | 33 | 1 | 13 | 0 | 0 | 2 | 8 | 45 | 5 | 1 |
| Total Analysis Volume [veh/h] | 52 | 20 | 133 | 4 | 52 | 0 | 2 | 6 | 32 | 182 | 18 | 4 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 1 | | | 1 | | | 1 | | | 1 | | |
| Circulating Flow Rate [veh/h] | 12 | | | 257 | | | 243 | | | 75 | | |
| Exiting Flow Rate [veh/h] | 271 | | | 27 | | | 71 | | | 146 | | |
| Demand Flow Rate [veh/h] | 43 | 16 | 109 | 3 | 41 | 0 | 1 | 4 | 21 | 151 | 15 | 3 |
| Adjusted Demand Flow Rate [veh/h] | 52 | 20 | 133 | 4 | 52 | 0 | 2 | 6 | 32 | 182 | 18 | 4 |

**Lanes**

| | | | | |
|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1380.00 | 1380.00 | 1380.00 | 1380.00 |
| B (coefficient) | 0.00102 | 0.00102 | 0.00102 | 0.00102 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 210 | 58 | 41 | 209 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1363 | 1062 | 1078 | 1278 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1337 | 1041 | 1057 | 1253 |
| X, volume / capacity | 0.15 | 0.05 | 0.04 | 0.16 |

**Movement, Approach, & Intersection Results**

| | | | | |
|---|---|---|---|---|
| Lane LOS | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.54 | 0.17 | 0.12 | 0.58 |
| 95th-Percentile Queue Length [ft] | 13.54 | 4.26 | 2.95 | 14.53 |
| Approach Delay [s/veh] | 3.95 | 3.92 | 3.73 | 4.25 |
| Approach LOS | A | A | A | A |
| Intersection Delay [s/veh] | 4.05 | | | |
| Intersection LOS | A | | | |

**Intersection Level Of Service Report**
**Intersection 7: Peterson Rd/ Panamint Ct**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 52.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.048 |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 383 | 10 | 4 | 984 | 3 | 2 | 1 | 5 | 11 | 3 | 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] | 11 | 383 | 10 | 4 | 984 | 3 | 2 | 1 | 5 | 11 | 3 | 4 |
| Peak Hour Factor | 0.7300 | 0.7300 | 0.7300 | 0.8500 | 0.8500 | 0.8500 | 0.4200 | 0.4200 | 0.4200 | 0.6900 | 0.6900 | 0.6900 |
| 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] | 4 | 131 | 3 | 1 | 289 | 1 | 1 | 1 | 3 | 4 | 1 | 1 |
| Total Analysis Volume [veh/h] | 15 | 525 | 14 | 5 | 1158 | 4 | 5 | 2 | 12 | 16 | 4 | 6 |
| 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 | 0.03 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.06 | 0.02 | 0.03 | 0.11 | 0.05 | 0.01 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 11.05 | 0.00 | 0.00 | 8.52 | 0.00 | 0.00 | 51.75 | 50.99 | 15.52 | 35.52 | 52.83 | 14.73 |
| Movement LOS | B | A | A | A | A | A | F | F | C | E | F | B |
| 95th-Percentile Queue Length [veh/ln] | 0.03 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.37 | 0.37 | 0.37 | 0.59 | 0.59 | 0.59 |
| 95th-Percentile Queue Length [ft/ln] | 0.63 | 0.32 | 0.00 | 0.21 | 0.10 | 0.00 | 9.24 | 9.24 | 9.24 | 14.85 | 14.85 | 14.85 |
| d_A, Approach Delay [s/veh] | 0.30 | | | 0.04 | | | 28.79 | | | 33.39 | | |
| Approach LOS | A | | | A | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 0.92 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |

# Signal Warrants Report For Intersection 5: US 24 EB Ramps/Space Village Av

## 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 | N |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | E | W | N |
| 1 | 542 | 390 | 68 |
| 2 | 526 | 378 | 66 |
| 3 | 515 | 371 | 65 |
| 4 | 482 | 347 | 61 |
| 5 | 428 | 308 | 54 |
| 6 | 423 | 304 | 53 |
| 7 | 417 | 300 | 52 |
| 8 | 379 | 273 | 48 |
| 9 | 374 | 269 | 47 |
| 10 | 369 | 265 | 46 |
| 11 | 320 | 230 | 40 |
| 12 | 298 | 215 | 37 |
| 13 | 293 | 211 | 37 |
| 14 | 217 | 156 | 27 |
| 15 | 217 | 156 | 27 |
| 16 | 152 | 109 | 19 |
| 17 | 87 | 62 | 11 |
| 18 | 87 | 62 | 11 |
| 19 | 49 | 35 | 6 |
| 20 | 27 | 20 | 3 |
| 21 | 16 | 12 | 2 |
| 22 | 5 | 4 | 1 |
| 23 | 5 | 4 | 1 |
| 24 | 5 | 4 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 3 | 932 | 2 | 68 | No | No | No | No | No | No | No | Yes | No | No |
| 2 | 3 | 904 | 2 | 66 | No | No | No | No | No | No | No | Yes | No | No |
| 3 | 3 | 886 | 2 | 65 | No | No | No | No | No | No | No | Yes | No | No |
| 4 | 3 | 829 | 2 | 61 | No | No | No | No | No | No | No | Yes | No | No |
| 5 | 3 | 736 | 2 | 54 | No | No | No | No | No | No | No | No | No | No |
| 6 | 3 | 727 | 2 | 53 | No | No | No | No | No | No | No | No | No | No |
| 7 | 3 | 717 | 2 | 52 | No | No | No | No | No | No | No | No | No | No |
| 8 | 3 | 652 | 2 | 48 | No | No | No | No | No | No | No | No | No | No |
| 9 | 3 | 643 | 2 | 47 | No | No | No | No | No | No | No | No | No | No |
| 10 | 3 | 634 | 2 | 46 | No | No | No | No | No | No | No | No | No | No |
| 11 | 3 | 550 | 2 | 40 | No | No | No | No | No | No | No | No | No | No |
| 12 | 3 | 513 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 13 | 3 | 504 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 14 | 3 | 373 | 2 | 27 | No | No | No | No | No | No | No | No | No | No |
| 15 | 3 | 373 | 2 | 27 | No | No | No | No | No | No | No | No | No | No |
| 16 | 3 | 261 | 2 | 19 | No | No | No | No | No | No | No | No | No | No |
| 17 | 3 | 149 | 2 | 11 | No | No | No | No | No | No | No | No | No | No |
| 18 | 3 | 149 | 2 | 11 | No | No | No | No | No | No | No | No | No | No |
| 19 | 3 | 84 | 2 | 6 | No | No | No | No | No | No | No | No | No | No |
| 20 | 3 | 47 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 21 | 3 | 28 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 3 | 9 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 3 | 9 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 3 | 9 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | N |
|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 39.6 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:44 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 68 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1000 |
| 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 7: Peterson Rd/ Panamint Ct

## 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 | 404 | 991 | 18 | 8 |
| 2 | 392 | 961 | 17 | 8 |
| 3 | 384 | 941 | 17 | 8 |
| 4 | 360 | 882 | 16 | 7 |
| 5 | 319 | 783 | 14 | 6 |
| 6 | 315 | 773 | 14 | 6 |
| 7 | 311 | 763 | 14 | 6 |
| 8 | 283 | 694 | 13 | 6 |
| 9 | 279 | 684 | 12 | 6 |
| 10 | 275 | 674 | 12 | 5 |
| 11 | 238 | 585 | 11 | 5 |
| 12 | 222 | 545 | 10 | 4 |
| 13 | 218 | 535 | 10 | 4 |
| 14 | 162 | 396 | 7 | 3 |
| 15 | 162 | 396 | 7 | 3 |
| 16 | 113 | 277 | 5 | 2 |
| 17 | 65 | 159 | 3 | 1 |
| 18 | 65 | 159 | 3 | 1 |
| 19 | 36 | 89 | 2 | 1 |
| 20 | 20 | 50 | 1 | 0 |
| 21 | 12 | 30 | 1 | 0 |
| 22 | 4 | 10 | 0 | 0 |
| 23 | 4 | 10 | 0 | 0 |
| 24 | 4 | 10 | 0 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1395 | 1 | 18 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 1353 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 1325 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 1242 | 1 | 16 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 1102 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 1088 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 1074 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 977 | 1 | 13 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 963 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 949 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 823 | 1 | 11 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 767 | 1 | 10 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 753 | 1 | 10 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 558 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 558 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 390 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 224 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 224 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 125 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 70 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 42 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 14 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 14 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 14 | 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 | W |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 33.4 | 28.8 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:10 | 0:03 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 18 | 8 |
| 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** | |

# Table of Contents

Intersection Level Of Service Report ..... 2
Intersection 1: Peterson Rd/ Galley Rd ..... 2
Intersection 2: US-24/SH-94/ Newt Dr ..... 7
Intersection 3: US-24 WB Ramps/Peterson Rd ..... 12
Intersection 4: Peterson Bl/ Space Village Av ..... 17
Intersection 5: US 24 EB Ramps/Space Village Av ..... 22
Intersection 6: Meadowbrook Pkwy/ Newt Dr. ..... 24
Intersection 7: Peterson Rd/ Panamint Ct ..... 26
Signal Warrants Report ..... 28
Intersection 5: US 24 EB Ramps/Space Village Av ..... 28
Intersection 7: Peterson Rd/ Panamint Ct ..... 30

**Intersection Level Of Service Report**
**Intersection 1: Peterson Rd/ Galley Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 12.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.459 |

**Intersection Setup**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| 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 | 0 | 1 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 125.00 | 100.00 | 100.00 | 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] | 30.00 | | 30.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | Yes | |
| Crosswalk | No | | Yes | | Yes | |

**Volumes**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 273 | 798 | 191 | 169 | 233 | 79 |
| 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 | 1.0000 | 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 |
| Right Turn on Red Volume [veh/h] | 0 | 399 | 0 | 0 | 0 | 40 |
| Total Hourly Volume [veh/h] | 273 | 399 | 191 | 169 | 233 | 39 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.7600 | 0.7600 | 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] | 80 | 117 | 63 | 56 | 69 | 11 |
| Total Analysis Volume [veh/h] | 321 | 469 | 251 | 222 | 274 | 46 |
| 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] | 90 |
| Active Pattern | Free Running (No Pattern) |
| Coordination Type | *Free Running* |
| 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 (Basic)**

| Control Type | Permissive | Permissive | ProtPerm | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Signal Group | 2 | 0 | 1 | 6 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Maximum Green [s] | 45 | 0 | 15 | 45 | 30 | 0 |
| Amber [s] | 4.0 | 0.0 | 4.0 | 4.0 | 4.0 | 0.0 |
| All red [s] | 2.0 | 0.0 | 1.0 | 2.0 | 2.0 | 0.0 |
| Walk [s] | 5 | 0 | 0 | 0 | 5 | 0 |
| Pedestrian Clearance [s] | 17 | 0 | 0 | 0 | 10 | 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 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 4.0 | 0.0 | 3.0 | 4.0 | 4.0 | 0.0 |
| 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 |
| Advanced Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Advanced 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 |

**Phasing & Timing: Free Running (No Pattern)**

| | | | | | | |
|---|---|---|---|---|---|---|
| Split [s] | 14 | 0 | 9 | 14 | 9 | 0 |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 15 | 0 | 5 | 15 | 8 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.5 | 3.0 | 1.5 | 0.0 |
| Minimum Recall | Yes | | No | Yes | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |

**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, Calculated Cycle Length [s] | 47 | 47 | 47 | 47 | 47 | 47 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 4.00 | 4.00 | 0.00 | 4.00 | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 17 | 17 | 27 | 27 | 8 | 8 |
| g / C, Green / Cycle | 0.36 | 0.36 | 0.58 | 0.58 | 0.17 | 0.17 |
| (v / s)_i Volume / Saturation Flow Rate | 0.17 | 0.30 | 0.25 | 0.06 | 0.08 | 0.03 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 1015 | 3560 | 3459 | 1589 |
| c, Capacity [veh/h] | 674 | 573 | 726 | 2050 | 582 | 268 |
| d1, Uniform Delay [s] | 11.59 | 13.61 | 5.52 | 4.50 | 17.61 | 16.70 |
| k, delay calibration | 0.11 | 0.11 | 0.17 | 0.11 | 0.04 | 0.04 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.52 | 2.97 | 0.45 | 0.02 | 0.22 | 0.11 |
| 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 | 0.48 | 0.82 | 0.35 | 0.11 | 0.47 | 0.17 |
| d, Delay for Lane Group [s/veh] | 12.11 | 16.58 | 5.97 | 4.52 | 17.83 | 16.81 |
| Lane Group LOS | B | B | A | A | B | B |
| Critical Lane Group | No | Yes | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 2.21 | 4.09 | 0.86 | 0.32 | 1.16 | 0.37 |
| 50th-Percentile Queue Length [ft/ln] | 55.17 | 102.31 | 21.56 | 7.98 | 29.08 | 9.32 |
| 95th-Percentile Queue Length [veh/ln] | 3.97 | 7.37 | 1.55 | 0.57 | 2.09 | 0.67 |
| 95th-Percentile Queue Length [ft/ln] | 99.31 | 184.16 | 38.81 | 14.36 | 52.34 | 16.78 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 12.11 | 16.58 | 5.97 | 4.52 | 17.83 | 16.81 |
| Movement LOS | B | B | A | A | B | B |
| d_A, Approach Delay [s/veh] | 14.76 | | 5.29 | | 17.69 | |
| Approach LOS | B | | A | | B | |
| d_I, Intersection Delay [s/veh] | 12.52 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.459 | | | | | |

**Emissions**

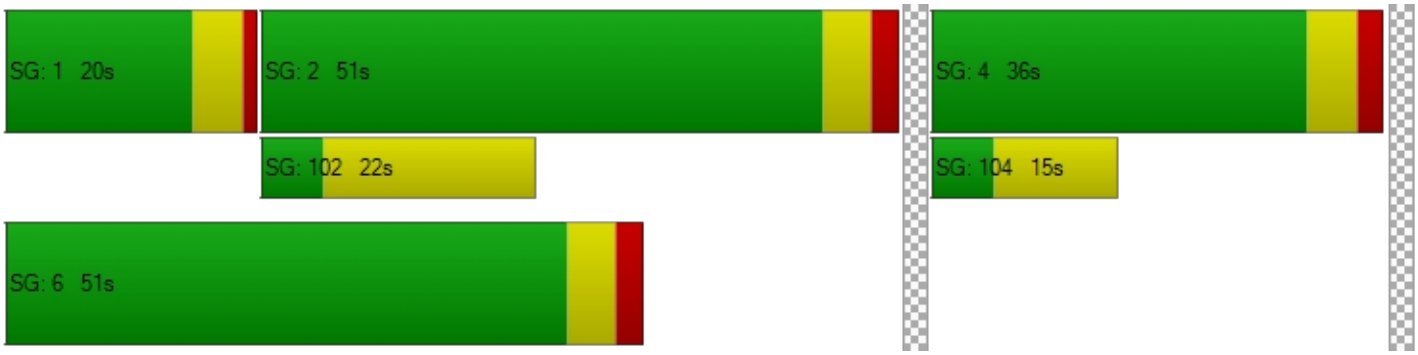
| | | | | | | |
|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 45.54 | 66.54 | 24.88 | 22.00 | 51.64 | 8.67 |
| Stops [stops/h] | 169.77 | 314.81 | 66.35 | 49.09 | 178.96 | 28.69 |
| Fuel consumption [US gal/h] | 3.60 | 6.06 | 1.70 | 1.38 | 4.31 | 0.70 |
| CO [g/h] | 251.91 | 423.67 | 118.53 | 96.56 | 301.18 | 49.18 |
| NOx [g/h] | 49.01 | 82.43 | 23.06 | 18.79 | 58.60 | 9.57 |
| VOC [g/h] | 58.38 | 98.19 | 27.47 | 22.38 | 69.80 | 11.40 |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 9.0 | 9.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 15.26 | 15.26 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 2.312 | 2.803 |
| Crosswalk LOS | F | B | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1923 | 1923 | 1282 |
| d_b, Bicycle Delay [s] | 0.03 | 0.03 | 3.01 |
| l_b,int, Bicycle LOS Score for Intersection | 3.521 | 1.950 | 1.560 |
| Bicycle LOS | D | A | A |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 2: US-24/SH-94/ Newt Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 29.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.693 |

**Intersection Setup**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 1000.00 | 100.00 | 1000.00 | 420.00 | 100.00 | 300.00 | 1150.00 | 100.00 | 850.00 | 950.00 | 100.00 | 950.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 1700.00 | 0.00 | 0.00 | 920.00 | 0.00 | 0.00 | 374.61 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 30.00 | | | 55.00 | | | 55.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | Yes | | | Yes | | |

**Volumes**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 405 | 31 | 4 | 26 | 50 | 166 | 155 | 1723 | 394 | 7 | 851 | 24 |
| 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 | 2 | 0 | 0 | 83 | 0 | 0 | 197 | 0 | 0 | 12 |
| Total Hourly Volume [veh/h] | 405 | 31 | 2 | 26 | 50 | 83 | 155 | 1723 | 197 | 7 | 851 | 12 |
| Peak Hour Factor | 0.8200 | 0.8200 | 0.8200 | 0.7200 | 0.7200 | 0.7200 | 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] | 123 | 9 | 1 | 9 | 17 | 29 | 46 | 507 | 58 | 2 | 250 | 4 |
| Total Analysis Volume [veh/h] | 494 | 38 | 2 | 36 | 69 | 115 | 182 | 2027 | 232 | 8 | 1001 | 14 |
| 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] | 140 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 52.0 |
| Offset Reference | Beginning of First Yellow |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | ProtPer | Permiss | Permiss | ProtPer | Permiss | Unsigna | ProtPer | Permiss | Unsigna | ProtPer | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 3 | 8 | 0 | 7 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 15 | 15 | 0 | 5 | 7 | 0 | 8 | 65 | 0 | 7 | 65 | 0 |
| Amber [s] | 3.5 | 4.0 | 0.0 | 3.5 | 4.0 | 0.0 | 3.5 | 6.0 | 0.0 | 3.5 | 6.0 | 0.0 |
| All red [s] | 3.0 | 2.0 | 0.0 | 3.0 | 2.0 | 0.0 | 3.0 | 1.0 | 0.0 | 3.0 | 1.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 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] | 4.5 | 4.0 | 0.0 | 4.5 | 4.0 | 0.0 | 4.5 | 5.0 | 0.0 | 4.5 | 5.0 | 0.0 |
| 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 |
| Advanced Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 245.0 | 0.0 | 0.0 | 245.0 | 0.0 |
| Advanced Detector Length [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 6.0 | 0.0 | 0.0 | 6.0 | 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 12 | 35 | 0 | 63 | 86 | 0 | 13 | 29 | 0 | 13 | 29 | 0 |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 4 | 5 | 0 | 6 | 22 | 0 | 6 | 22 | 0 |
| Vehicle Extension [s] | 2.0 | 2.0 | 0.0 | 2.0 | 5.0 | 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 | Yes | | No | Yes | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |

**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 | L | C | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 | 140 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| 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 |
| l2, Clearance Lost Time [s] | 0.00 | 4.00 | 4.00 | 0.00 | 4.00 | 0.00 | 5.00 | 0.00 | 5.00 | 5.00 |
| g_i, Effective Green Time [s] | 19 | 10 | 10 | 19 | 7 | 108 | 100 | 108 | 95 | 95 |
| g / C, Green / Cycle | 0.14 | 0.07 | 0.07 | 0.14 | 0.05 | 0.77 | 0.71 | 0.77 | 0.68 | 0.68 |
| (v / s)_i Volume / Saturation Flow Rate | 0.16 | 0.01 | 0.00 | 0.01 | 0.04 | 0.27 | 0.57 | 0.03 | 0.28 | 0.01 |
| s, saturation flow rate [veh/h] | 3035 | 3560 | 1589 | 2965 | 1870 | 675 | 3560 | 299 | 3560 | 1589 |
| c, Capacity [veh/h] | 433 | 252 | 113 | 490 | 99 | 524 | 2529 | 225 | 2418 | 1079 |
| d1, Uniform Delay [s] | 61.31 | 61.08 | 60.50 | 52.46 | 65.16 | 5.91 | 13.63 | 14.78 | 10.03 | 7.27 |
| k, delay calibration | 0.12 | 0.04 | 0.04 | 0.23 | 0.23 | 0.50 | 0.50 | 0.04 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 70.53 | 0.10 | 0.02 | 0.13 | 16.96 | 1.82 | 2.78 | 0.02 | 0.52 | 0.02 |
| 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 |
| Rp, platoon ratio | 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 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 1.14 | 0.15 | 0.02 | 0.07 | 0.69 | 0.35 | 0.80 | 0.04 | 0.41 | 0.01 |
| d, Delay for Lane Group [s/veh] | 131.84 | 61.18 | 60.53 | 52.60 | 82.13 | 7.72 | 16.41 | 14.80 | 10.56 | 7.30 |
| Lane Group LOS | F | E | E | D | F | A | B | B | B | A |
| Critical Lane Group | Yes | No | No | No | Yes | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 11.54 | 0.62 | 0.07 | 0.57 | 2.90 | 1.27 | 17.95 | 0.04 | 6.05 | 0.13 |
| 50th-Percentile Queue Length [ft/ln] | 288.52 | 15.52 | 1.63 | 14.16 | 72.54 | 31.76 | 448.86 | 1.03 | 151.21 | 3.14 |
| 95th-Percentile Queue Length [veh/ln] | 18.11 | 1.12 | 0.12 | 1.02 | 5.22 | 2.29 | 24.90 | 0.07 | 10.08 | 0.23 |
| 95th-Percentile Queue Length [ft/ln] | 452.72 | 27.93 | 2.93 | 25.49 | 130.57 | 57.17 | 622.59 | 1.86 | 252.04 | 5.66 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 131.84 | 61.18 | 60.53 | 52.60 | 82.13 | 0.00 | 7.72 | 16.41 | 0.00 | 14.80 | 10.56 | 7.30 |
| Movement LOS | F | E | E | D | F | | A | B | | B | B | A |
| d_A, Approach Delay [s/veh] | 126.54 | | | 40.21 | | | 14.41 | | | 10.54 | | |
| Approach LOS | F | | | D | | | B | | | B | | |
| d_I, Intersection Delay [s/veh] | 29.56 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.693 | | | | | | | | | | | |

**Emissions**

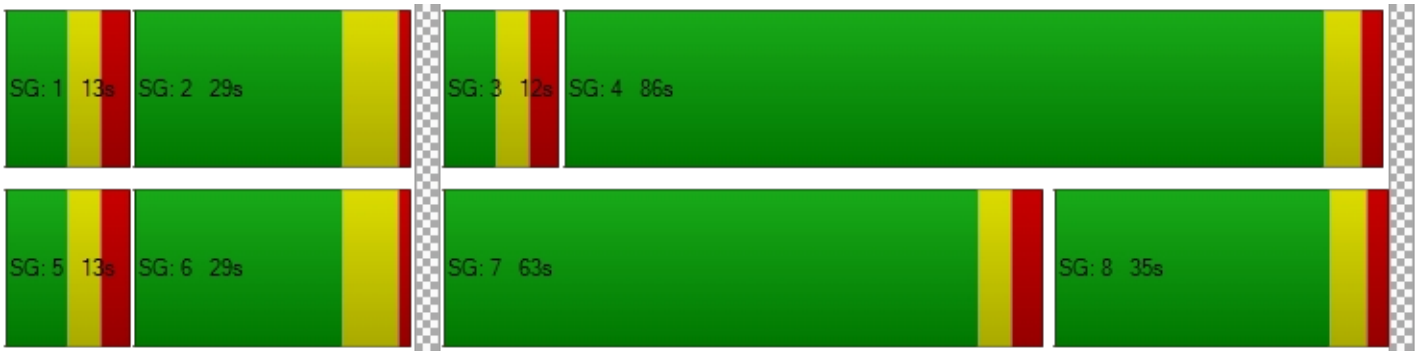
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 193.61 | 14.89 | 0.78 | 3.80 | 7.28 | 77.15 | 859.22 | 2.44 | 304.85 | 4.26 |
| Stops [stops/h] | 593.53 | 31.93 | 1.67 | 29.13 | 74.61 | 32.67 | 923.37 | 1.06 | 311.05 | 3.23 |
| Fuel consumption [US gal/h] | 30.75 | 1.56 | 0.08 | 0.70 | 1.86 | 3.47 | 52.66 | 0.13 | 18.13 | 0.22 |
| CO [g/h] | 2149.59 | 109.34 | 5.73 | 49.11 | 130.36 | 242.80 | 3681.24 | 8.76 | 1266.98 | 15.62 |
| NOx [g/h] | 418.23 | 21.27 | 1.11 | 9.56 | 25.36 | 47.24 | 716.24 | 1.70 | 246.51 | 3.04 |
| VOC [g/h] | 498.19 | 25.34 | 1.33 | 11.38 | 30.21 | 56.27 | 853.16 | 2.03 | 293.64 | 3.62 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 80.0 | 29.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 12.86 | 44.00 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 3.826 | 3.416 |
| Crosswalk LOS | F | F | D | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 414 | 1143 | 314 | 314 |
| d_b, Bicycle Delay [s] | 44.00 | 12.86 | 49.73 | 49.73 |
| l_b,int, Bicycle LOS Score for Intersection | 2.002 | 1.733 | 3.382 | 2.413 |
| Bicycle LOS | B | A | C | B |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 3: US-24 WB Ramps/Peterson Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 4.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.359 |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 120.00 | 100.00 | 100.00 | 100.00 | 100.00 | 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 | 450.00 | 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 | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 476 | 1010 | 0 | 0 | 250 | 168 | 0 | 0 | 0 | 24 | 0 | 70 |
| 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 | 0 | 0 | 0 | 84 | 0 | 0 | 0 | 0 | 0 | 35 |
| Total Hourly Volume [veh/h] | 476 | 1010 | 0 | 0 | 250 | 84 | 0 | 0 | 0 | 24 | 0 | 35 |
| Peak Hour Factor | 0.8500 | 0.8500 | 1.0000 | 1.0000 | 0.8500 | 0.8500 | 1.0000 | 1.0000 | 1.0000 | 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] | 140 | 297 | 0 | 0 | 74 | 25 | 0 | 0 | 0 | 7 | 0 | 10 |
| Total Analysis Volume [veh/h] | 560 | 1188 | 0 | 0 | 294 | 99 | 0 | 0 | 0 | 28 | 0 | 41 |
| Presence of On-Street Parking | 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] | 125 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 116.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | ProtPer | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 5 | 2 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 8 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 20 | 15 | 0 | 0 | 15 | 0 | 0 | 0 | 0 | 0 | 20 | 0 |
| Amber [s] | 4.0 | 4.0 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 |
| All red [s] | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 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 | |
| I1, Start-Up Lost Time [s] | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 4.0 | 4.0 | 0.0 | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 |
| 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 |
| Advanced 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 |
| Advanced 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 54 | 97 | 0 | 0 | 43 | 0 | 0 | 0 | 0 | 0 | 28 | 0 |
| Lead / Lag | Lead | - | - | - | - | - | - | - | - | - | - | - |
| Minimum Green [s] | 4 | 4 | 0 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 0 |
| Vehicle Extension [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 |
| Minimum Recall | No | Yes | | | Yes | | | | | | No | |
| Maximum Recall | No | Yes | | | Yes | | | | | | No | |
| Pedestrian Recall | Yes | No | | | No | | | | | | No | |

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

| Lane Group | L | C | C | R | | L | C |
|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 125 | 125 | 125 | 125 | | 125 | 125 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 0.00 | 4.00 | 4.00 | 4.00 | | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 108 | 108 | 93 | 93 | | 5 | 5 |
| g / C, Green / Cycle | 0.87 | 0.87 | 0.74 | 0.74 | | 0.04 | 0.04 |
| (v / s)_i Volume / Saturation Flow Rate | 0.51 | 0.33 | 0.08 | 0.06 | | 0.02 | 0.03 |
| s, saturation flow rate [veh/h] | 1091 | 3560 | 3560 | 1589 | | 1781 | 1589 |
| c, Capacity [veh/h] | 1005 | 3084 | 2635 | 1176 | | 67 | 60 |
| d1, Uniform Delay [s] | 1.74 | 1.68 | 4.60 | 4.51 | | 58.79 | 59.40 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | | 0.04 | 0.04 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 2.23 | 0.37 | 0.09 | 0.14 | | 1.51 | 4.97 |
| 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 | 0.56 | 0.39 | 0.11 | 0.08 | | 0.42 | 0.68 |
| d, Delay for Lane Group [s/veh] | 3.97 | 2.04 | 4.69 | 4.65 | | 60.30 | 64.37 |
| Lane Group LOS | A | A | A | A | | E | E |
| Critical Lane Group | No | Yes | No | No | | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 2.06 | 1.73 | 1.01 | 0.69 | | 0.90 | 1.37 |
| 50th-Percentile Queue Length [ft/ln] | 51.51 | 43.13 | 25.33 | 17.32 | | 22.42 | 34.19 |
| 95th-Percentile Queue Length [veh/ln] | 3.71 | 3.11 | 1.82 | 1.25 | | 1.61 | 2.46 |
| 95th-Percentile Queue Length [ft/ln] | 92.72 | 77.64 | 45.59 | 31.18 | | 40.35 | 61.55 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 3.97 | 2.04 | 0.00 | 0.00 | 4.69 | 4.65 | 0.00 | 0.00 | 0.00 | 60.30 | 64.37 | 64.37 |
| Movement LOS | A | A | | | A | A | | | | E | E | E |
| d_A, Approach Delay [s/veh] | 2.66 | | | 4.68 | | | 0.00 | | | 62.72 | | |
| Approach LOS | A | | | A | | | A | | | E | | |
| d_I, Intersection Delay [s/veh] | 4.90 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |
| Intersection V/C | 0.359 | | | | | | | | | | | |

**Emissions**

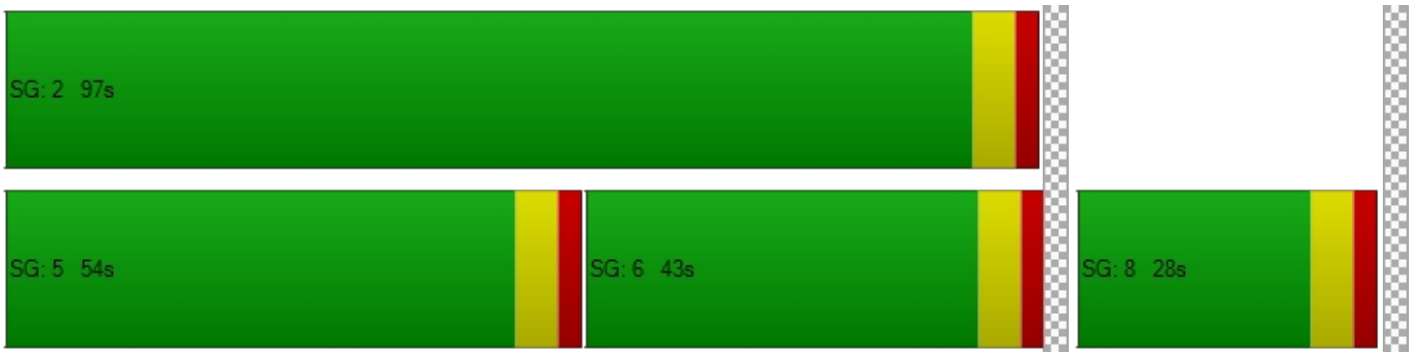
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 40.59 | 86.11 | 16.13 | 5.43 | | 5.72 | 8.37 |
| Stops [stops/h] | 59.34 | 99.38 | 58.36 | 19.95 | | 25.83 | 39.39 |
| Fuel consumption [US gal/h] | 2.45 | 4.59 | 1.27 | 0.43 | | 0.72 | 1.10 |
| CO [g/h] | 171.34 | 320.72 | 88.56 | 29.88 | | 50.44 | 76.83 |
| NOx [g/h] | 33.34 | 62.40 | 17.23 | 5.81 | | 9.81 | 14.95 |
| VOC [g/h] | 39.71 | 74.33 | 20.53 | 6.92 | | 11.69 | 17.81 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 0.000 | 0.000 |
| Crosswalk LOS | F | F | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1456 | 592 | 0 | 352 |
| d_b, Bicycle Delay [s] | 4.62 | 30.98 | 62.50 | 42.44 |
| l_b,int, Bicycle LOS Score for Intersection | 3.002 | 1.953 | 4.132 | 1.731 |
| Bicycle LOS | C | A | D | A |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 4: Peterson Bl/ Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 66.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.775 |

**Intersection Setup**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 888 | 357 | 266 | 3 | 0 | 217 | 101 | 11 | 3 | 0 | 381 |
| 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 | 179 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 191 |
| Total Hourly Volume [veh/h] | 0 | 888 | 178 | 266 | 3 | 0 | 217 | 101 | 5 | 3 | 0 | 190 |
| Peak Hour Factor | 1.0000 | 0.8100 | 0.8100 | 0.8500 | 0.8500 | 1.0000 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 1.0000 | 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 | 274 | 55 | 78 | 1 | 0 | 64 | 30 | 1 | 1 | 0 | 56 |
| Total Analysis Volume [veh/h] | 0 | 1096 | 220 | 313 | 4 | 0 | 255 | 119 | 6 | 4 | 0 | 224 |
| 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] | 125 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 1.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | Permiss | Permiss | Permiss | ProtPer | Permiss | Permiss | Split | Split | Split | Split | Permiss | Split |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Signal Group | 0 | 2 | 0 | 1 | 6 | 0 | 0 | 4 | 0 | 3 | 0 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 0 | 15 | 0 | 8 | 15 | 0 | 0 | 30 | 0 | 30 | 0 | 0 |
| Amber [s] | 0.0 | 4.0 | 0.0 | 4.0 | 4.0 | 0.0 | 0.0 | 4.0 | 0.0 | 4.0 | 0.0 | 0.0 |
| All red [s] | 0.0 | 2.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| Walk [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 |
| Pedestrian Clearance [s] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 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 | 2.0 | 2.0 | 0.0 | 0.0 | 2.0 | 0.0 | 2.0 | 0.0 | 0.0 |
| I2, Clearance Lost Time [s] | 0.0 | 4.0 | 0.0 | 4.0 | 4.0 | 0.0 | 0.0 | 4.0 | 0.0 | 4.0 | 0.0 | 0.0 |
| 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 |
| Advanced 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 |
| Advanced 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 0 | 42 | 0 | 24 | 66 | 0 | 0 | 36 | 0 | 23 | 0 | 0 |
| Lead / Lag | - | - | - | Lead | - | - | - | - | - | Lead | - | - |
| Minimum Green [s] | 0 | 4 | 0 | 4 | 4 | 0 | 0 | 4 | 0 | 4 | 0 | 0 |
| Vehicle Extension [s] | 0.0 | 2.0 | 0.0 | 3.0 | 2.0 | 0.0 | 0.0 | 3.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| Minimum Recall | | Yes | | No | Yes | | | No | | No | | |
| Maximum Recall | | Yes | | No | Yes | | | No | | No | | |
| Pedestrian Recall | | No | | Yes | No | | | No | | No | | |

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

| Lane Group | C | R | L | C | C | R | L | R |
|---|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 125 | 125 | 125 | 125 | 125 | 125 | 125 | 125 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 4.00 | 4.00 | 0.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 38 | 38 | 62 | 62 | 28 | 28 | 17 | 17 |
| g / C, Green / Cycle | 0.31 | 0.31 | 0.50 | 0.50 | 0.22 | 0.22 | 0.14 | 0.14 |
| (v / s)_i Volume / Saturation Flow Rate | 0.31 | 0.14 | 0.35 | 0.00 | 0.21 | 0.00 | 0.00 | 0.14 |
| s, saturation flow rate [veh/h] | 3560 | 1589 | 900 | 3560 | 1808 | 1589 | 1781 | 1589 |
| c, Capacity [veh/h] | 1088 | 486 | 407 | 1772 | 402 | 353 | 242 | 216 |
| d1, Uniform Delay [s] | 43.40 | 34.97 | 34.41 | 15.79 | 47.65 | 37.94 | 46.76 | 54.00 |
| k, delay calibration | 0.50 | 0.50 | 0.50 | 0.50 | 0.31 | 0.11 | 0.04 | 0.06 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 29.02 | 3.03 | 13.08 | 0.00 | 21.93 | 0.02 | 0.01 | 30.65 |
| d3, Initial Queue Delay [s] | 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 1.01 | 0.45 | 0.77 | 0.00 | 0.93 | 0.02 | 0.02 | 1.04 |
| d, Delay for Lane Group [s/veh] | 72.41 | 38.00 | 47.49 | 15.79 | 69.59 | 37.96 | 46.77 | 84.65 |
| Lane Group LOS | F | D | D | B | E | D | D | F |
| Critical Lane Group | Yes | No | Yes | No | Yes | No | No | Yes |
| 50th-Percentile Queue Length [veh/ln] | 21.00 | 5.82 | 7.00 | 0.03 | 13.83 | 0.15 | 0.11 | 8.62 |
| 50th-Percentile Queue Length [ft/ln] | 525.06 | 145.57 | 174.96 | 0.74 | 345.80 | 3.68 | 2.73 | 215.62 |
| 95th-Percentile Queue Length [veh/ln] | 28.65 | 9.78 | 11.34 | 0.05 | 19.93 | 0.27 | 0.20 | 13.65 |
| 95th-Percentile Queue Length [ft/ln] | 716.33 | 244.50 | 283.42 | 1.34 | 498.29 | 6.63 | 4.92 | 341.31 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 72.41 | 38.00 | 47.49 | 15.79 | 0.00 | 69.59 | 69.59 | 37.96 | 46.77 | 0.00 | 84.65 |
| Movement LOS | | F | D | D | B | | E | E | D | D | | F |
| d_A, Approach Delay [s/veh] | 66.66 | | | 47.09 | | | 69.09 | | | 83.99 | | |
| Approach LOS | E | | | D | | | E | | | F | | |
| d_I, Intersection Delay [s/veh] | 66.07 | | | | | | | | | | | |
| Intersection LOS | E | | | | | | | | | | | |
| Intersection V/C | 0.775 | | | | | | | | | | | |

**Emissions**

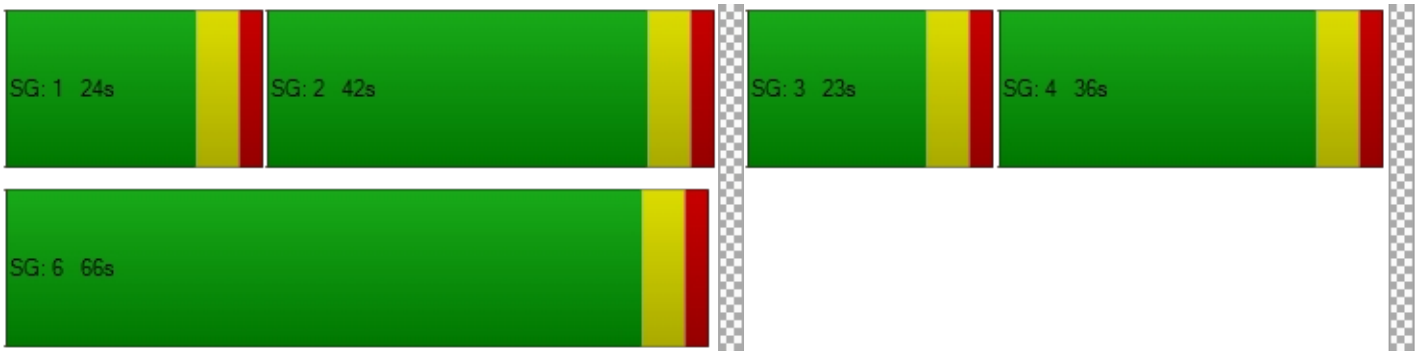
| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 196.16 | 39.37 | 22.69 | 0.29 | 41.67 | 0.67 | 0.55 | 30.98 |
| Stops [stops/h] | 1209.74 | 167.69 | 201.55 | 1.71 | 398.37 | 4.24 | 3.15 | 248.40 |
| Fuel consumption [US gal/h] | 30.91 | 4.25 | 5.07 | 0.03 | 9.21 | 0.10 | 0.08 | 6.51 |
| CO [g/h] | 2160.44 | 296.97 | 354.51 | 2.39 | 643.90 | 6.80 | 5.47 | 454.76 |
| NOx [g/h] | 420.34 | 57.78 | 68.97 | 0.47 | 125.28 | 1.32 | 1.06 | 88.48 |
| VOC [g/h] | 500.70 | 68.83 | 82.16 | 0.55 | 149.23 | 1.58 | 1.27 | 105.40 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 0.000 | 0.000 |
| Crosswalk LOS | F | F | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 576 | 960 | 480 | 272 |
| d_b, Bicycle Delay [s] | 31.68 | 16.90 | 36.10 | 46.66 |
| l_b,int, Bicycle LOS Score for Intersection | 2.793 | 1.821 | 2.197 | 1.560 |
| Bicycle LOS | C | A | B | A |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 5: US 24 EB Ramps/Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 101.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.543 |

**Intersection Setup**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration | | | | | | |
| Turning Movement | Left | Right | Left | Thru | Thru | 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 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 100.00 | 290.00 | 350.00 | 405.00 | 100.00 | 485.00 |
| 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] | 30.00 | | 35.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 34 | 44 | 328 | 391 | 340 | 18 |
| 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] | 34 | 44 | 328 | 391 | 340 | 18 |
| 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] | 10 | 13 | 96 | 115 | 100 | 5 |
| Total Analysis Volume [veh/h] | 40 | 52 | 386 | 460 | 400 | 21 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| Priority Scheme | Stop | Free | Free |
|---|---|---|---|
| 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 | 0.54 | 0.08 | 0.34 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 101.05 | 11.02 | 9.78 | 0.00 | 0.00 | 0.00 |
| Movement LOS | F | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 2.30 | 0.26 | 1.52 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 57.57 | 6.50 | 37.88 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 50.16 | | 4.46 | | 0.00 | |
| Approach LOS | F | | A | | A | |
| d_I, Intersection Delay [s/veh] | 6.17 | | | | | |
| Intersection LOS | F | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Meadowbrook Pkwy/ Newt Dr.**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 4.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 34 | 37 | 71 | 2 | 14 | 2 | 0 | 15 | 47 | 173 | 5 | 10 |
| 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 |
| Total Hourly Volume [veh/h] | 34 | 37 | 71 | 2 | 14 | 2 | 0 | 15 | 47 | 173 | 5 | 10 |
| Peak Hour Factor | 0.7800 | 0.7800 | 0.7800 | 0.7100 | 0.7100 | 0.7100 | 0.4000 | 0.4000 | 0.4000 | 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] | 11 | 12 | 23 | 1 | 5 | 1 | 0 | 9 | 29 | 51 | 1 | 3 |
| Total Analysis Volume [veh/h] | 44 | 47 | 91 | 3 | 20 | 3 | 0 | 38 | 118 | 204 | 6 | 12 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 1 | | | 1 | | | 1 | | | 1 | | |
| Circulating Flow Rate [veh/h] | 42 | | | 259 | | | 232 | | | 93 | | |
| Exiting Flow Rate [veh/h] | 349 | | | 60 | | | 54 | | | 135 | | |
| Demand Flow Rate [veh/h] | 34 | 37 | 71 | 2 | 14 | 2 | 0 | 15 | 47 | 173 | 5 | 10 |
| Adjusted Demand Flow Rate [veh/h] | 44 | 47 | 91 | 3 | 20 | 3 | 0 | 38 | 118 | 204 | 6 | 12 |

**Lanes**

| | | | | |
|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1380.00 | 1380.00 | 1380.00 | 1380.00 |
| B (coefficient) | 0.00102 | 0.00102 | 0.00102 | 0.00102 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 186 | 27 | 160 | 227 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1323 | 1060 | 1090 | 1256 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1297 | 1039 | 1069 | 1231 |
| X, volume / capacity | 0.14 | 0.03 | 0.15 | 0.18 |

**Movement, Approach, & Intersection Results**

| | | | | |
|---|---|---|---|---|
| Lane LOS | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.49 | 0.08 | 0.51 | 0.66 |
| 95th-Percentile Queue Length [ft] | 12.21 | 1.92 | 12.77 | 16.42 |
| Approach Delay [s/veh] | 3.93 | 3.68 | 4.68 | 4.47 |
| Approach LOS | A | A | A | A |
| Intersection Delay [s/veh] | 4.32 | | | |
| Intersection LOS | A | | | |

**Intersection Level Of Service Report**
**Intersection 7: Peterson Rd/ Panamint Ct**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 60.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.162 |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 26 | 1045 | 9 | 2 | 395 | 5 | 16 | 0 | 13 | 10 | 0 | 10 |
| 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] | 26 | 1045 | 9 | 2 | 395 | 5 | 16 | 0 | 13 | 10 | 0 | 10 |
| Peak Hour Factor | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.8500 | 0.7900 | 0.7900 | 0.7900 | 0.8200 | 0.8200 | 0.8200 |
| 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 | 307 | 3 | 1 | 116 | 1 | 5 | 0 | 4 | 3 | 0 | 3 |
| Total Analysis Volume [veh/h] | 31 | 1229 | 11 | 2 | 465 | 6 | 20 | 0 | 16 | 12 | 0 | 12 |
| 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 | 0.03 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.14 | 0.00 | 0.02 | 0.16 | 0.00 | 0.03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 8.35 | 0.00 | 0.00 | 11.46 | 0.00 | 0.00 | 33.41 | 54.19 | 12.79 | 60.04 | 57.47 | 19.89 |
| Movement LOS | A | A | A | B | A | A | D | F | B | F | F | C |
| 95th-Percentile Queue Length [veh/ln] | 0.05 | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.56 | 0.56 | 0.56 | 0.67 | 0.67 | 0.67 |
| 95th-Percentile Queue Length [ft/ln] | 1.31 | 0.66 | 0.00 | 0.08 | 0.04 | 0.00 | 14.11 | 14.11 | 14.11 | 16.67 | 16.67 | 16.67 |
| d_A, Approach Delay [s/veh] | 0.20 | | | 0.05 | | | 24.24 | | | 39.96 | | |
| Approach LOS | A | | | A | | | C | | | E | | |
| d_I, Intersection Delay [s/veh] | 1.17 | | | | | | | | | | | |
| Intersection LOS | F | | | | | | | | | | | |

# Signal Warrants Report For Intersection 5: US 24 EB Ramps/Space Village Av

## 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 | N |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | E | W | N |
| 1 | 358 | 719 | 78 |
| 2 | 347 | 697 | 76 |
| 3 | 340 | 683 | 74 |
| 4 | 319 | 640 | 69 |
| 5 | 283 | 568 | 62 |
| 6 | 279 | 561 | 61 |
| 7 | 276 | 554 | 60 |
| 8 | 251 | 503 | 55 |
| 9 | 247 | 496 | 54 |
| 10 | 243 | 489 | 53 |
| 11 | 211 | 424 | 46 |
| 12 | 197 | 395 | 43 |
| 13 | 193 | 388 | 42 |
| 14 | 143 | 288 | 31 |
| 15 | 143 | 288 | 31 |
| 16 | 100 | 201 | 22 |
| 17 | 57 | 115 | 12 |
| 18 | 57 | 115 | 12 |
| 19 | 32 | 65 | 7 |
| 20 | 18 | 36 | 4 |
| 21 | 11 | 22 | 2 |
| 22 | 4 | 7 | 1 |
| 23 | 4 | 7 | 1 |
| 24 | 4 | 7 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 3 | 1077 | 2 | 78 | No | No | No | No | No | No | Yes | Yes | No | No |
| 2 | 3 | 1044 | 2 | 76 | No | No | No | No | No | No | Yes | Yes | No | No |
| 3 | 3 | 1023 | 2 | 74 | No | No | No | No | No | No | Yes | Yes | No | No |
| 4 | 3 | 959 | 2 | 69 | No | No | No | No | No | No | No | Yes | No | No |
| 5 | 3 | 851 | 2 | 62 | No | No | No | No | No | No | No | Yes | No | No |
| 6 | 3 | 840 | 2 | 61 | No | No | No | No | No | No | No | Yes | No | No |
| 7 | 3 | 830 | 2 | 60 | No | No | No | No | No | No | No | Yes | No | No |
| 8 | 3 | 754 | 2 | 55 | No | No | No | No | No | No | No | No | No | No |
| 9 | 3 | 743 | 2 | 54 | No | No | No | No | No | No | No | No | No | No |
| 10 | 3 | 732 | 2 | 53 | No | No | No | No | No | No | No | No | No | No |
| 11 | 3 | 635 | 2 | 46 | No | No | No | No | No | No | No | No | No | No |
| 12 | 3 | 592 | 2 | 43 | No | No | No | No | No | No | No | No | No | No |
| 13 | 3 | 581 | 2 | 42 | No | No | No | No | No | No | No | No | No | No |
| 14 | 3 | 431 | 2 | 31 | No | No | No | No | No | No | No | No | No | No |
| 15 | 3 | 431 | 2 | 31 | No | No | No | No | No | No | No | No | No | No |
| 16 | 3 | 301 | 2 | 22 | No | No | No | No | No | No | No | No | No | No |
| 17 | 3 | 172 | 2 | 12 | No | No | No | No | No | No | No | No | No | No |
| 18 | 3 | 172 | 2 | 12 | No | No | No | No | No | No | No | No | No | No |
| 19 | 3 | 97 | 2 | 7 | No | No | No | No | No | No | No | No | No | No |
| 20 | 3 | 54 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 21 | 3 | 33 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 3 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 3 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 3 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 7 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | N |
|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 50.2 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 1:05 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 78 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1155 |
| 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 7: Peterson Rd/ Panamint Ct

## 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 | 1080 | 402 | 20 | 29 |
| 2 | 1048 | 390 | 19 | 28 |
| 3 | 1026 | 382 | 19 | 28 |
| 4 | 961 | 358 | 18 | 26 |
| 5 | 853 | 318 | 16 | 23 |
| 6 | 842 | 314 | 16 | 23 |
| 7 | 832 | 310 | 15 | 22 |
| 8 | 756 | 281 | 14 | 20 |
| 9 | 745 | 277 | 14 | 20 |
| 10 | 734 | 273 | 14 | 20 |
| 11 | 637 | 237 | 12 | 17 |
| 12 | 594 | 221 | 11 | 16 |
| 13 | 583 | 217 | 11 | 16 |
| 14 | 432 | 161 | 8 | 12 |
| 15 | 432 | 161 | 8 | 12 |
| 16 | 302 | 113 | 6 | 8 |
| 17 | 173 | 64 | 3 | 5 |
| 18 | 173 | 64 | 3 | 5 |
| 19 | 97 | 36 | 2 | 3 |
| 20 | 54 | 20 | 1 | 1 |
| 21 | 32 | 12 | 1 | 1 |
| 22 | 11 | 4 | 0 | 0 |
| 23 | 11 | 4 | 0 | 0 |
| 24 | 11 | 4 | 0 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1482 | 1 | 29 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 1438 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 1408 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 1319 | 1 | 26 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 1171 | 1 | 23 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 1156 | 1 | 23 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 1142 | 1 | 22 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 1037 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 1022 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 1007 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 874 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 815 | 1 | 16 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 800 | 1 | 16 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 593 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 593 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 415 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 237 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 237 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 133 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 74 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 44 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 15 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 15 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 15 | 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 | W |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 40 | 24.2 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:13 | 0:11 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 20 | 29 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 1531 | 1531 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Appendix C- Trip Generation

## PROJECT DETAILS

| | | | |
|---|---|---|---|
| Project Name: | Cimarron Hills | Type of Project: | |
| Project No: | | City: | |
| Country: | | Built-up Area(Sq.ft): | |
| Analyst Name: | Timothy Cason | Clients Name: | |
| Date: | 4/29/2026 | 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 | AM Peak Hour | 3 | 1 | 0 | | 56 | 167 | 223 |
| Scenario - 1 | PM Peak Hour | 3 | 1 | 0 | | 181 | 111 | 292 |
| Scenario - 1 | Weekday | 3 | 1 | 0 | | 1747 | 1747 | 3494 |

## Scenario - 1

Scenario Name: AM Peak Hour
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

## VEHICLE TRIPS BEFORE REDUCTION

| Land Use & Data Source | Location | IV | Size | Time Period | Method / Rate/Equation | Entry / Split% | Exit / Split% | Total |
|---|---|---|---|---|---|---|---|---|
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | General Urban/Suburban | Dwelling Units | 301 | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. | Best Fit (LIN) | 28 | 90 | 118 |
| Data Source: Trip Generation Manual, 12th Ed | | | | | T = 0.35(X) + 12.93 | 24% | 76% | |
| 210 - Single-Family Detached Housing | General Urban/Suburban | Dwelling Units | 60 | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. | Best Fit (LIN) | 12 | 33 | 45 |
| Data Source: Trip Generation Manual, 12th Ed | | | | | T = 0.67(X) + 5.59 | 27% | 73% | |
| 210(1) - Single-Family Detached Housing | General Urban/Suburban | Dwelling Units | 82 | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. | Best Fit (LIN) | 16 | 44 | 60 |
| Data Source: Trip Generation Manual, 12th Ed | | | | | T = 0.67(X) + 5.59 | 27% | 73% | |

## 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 (%) |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 24 | 76 |
| 210 - Single-Family Detached Housing | 100 | 100 | 1 | 1 | 27 | 73 |
| 210(1) - Single-Family Detached Housing | 100 | 100 | 1 | 1 | 27 | 73 |

**ESTIMATED BASELINE SITE PERSON TRIPS:**

| Land Use | Baseline Site Vehicle Mode Share | | Baseline Site Vehicle Occupancy | | Baseline Site Vehicle Directional Split | |
|---|---|---|---|---|---|---|
| | Entry (%) | Exit (%) | Entry | Exit | Entry (%) | Exit (%) |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 28 | 90 | 0 | 0 | 28 | 90 |
| | 118 | | 0 | | 118 | |
| 210 - Single-Family Detached Housing | 12 | 33 | 0 | 0 | 12 | 33 |
| | 45 | | 0 | | 45 | |
| 210(1) - Single-Family Detached Housing | 16 | 44 | 0 | 0 | 16 | 44 |
| | 60 | | 0 | | 60 | |

## Scenario - 2

Scenario Name: PM Peak Hour
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

## VEHICLE TRIPS BEFORE REDUCTION

| Land Use & Data Source | Location | IV | Size | Time Period | Method<br>Rate/Equation | Entry<br>Split% | Exit<br>Split% | Total |
|---|---|---|---|---|---|---|---|---|
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | General Urban/Suburban | Dwelling Units | 301 | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. | Best Fit (LIN) | 94 | 58 | 152 |
| Data Source: Trip Generation Manual, 12th Ed | | | | | T = 0.48(X) + 7.35 | 62% | 38% | |
| 210 - Single-Family Detached Housing | General Urban/Suburban | Dwelling Units | 60 | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. | Best Fit (LOG) | 37 | 23 | 60 |
| Data Source: Trip Generation Manual, 12th Ed | | | | | Ln(T) =0.92Ln(X) + 0.33 | 62% | 38% | |
| 210(1) - Single-Family Detached Housing | General Urban/Suburban | Dwelling Units | 82 | Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. | Best Fit (LOG) | 50 | 30 | 80 |
| Data Source: Trip Generation Manual, 12th Ed | | | | | Ln(T) =0.92Ln(X) + 0.33 | 62% | 38% | |

## 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 (%) |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 62 | 38 |
| 210 - Single-Family Detached Housing | 100 | 100 | 1 | 1 | 62 | 38 |
| 210(1) - Single-Family Detached Housing | 100 | 100 | 1 | 1 | 62 | 38 |

**ESTIMATED BASELINE SITE PERSON TRIPS:**

| Land Use | Baseline Site Vehicle Mode Share | | Baseline Site Vehicle Occupancy | | Baseline Site Vehicle Directional Split | |
|---|---|---|---|---|---|---|
| | Entry (%) | Exit (%) | Entry | Exit | Entry (%) | Exit (%) |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 94 | 58 | 0 | 0 | 94 | 58 |
| | 152 | | 0 | | 152 | |
| 210 - Single-Family Detached Housing | 37 | 23 | 0 | 0 | 37 | 23 |
| | 60 | | 0 | | 60 | |
| 210(1) - Single-Family Detached Housing | 50 | 30 | 0 | 0 | 50 | 30 |
| | 80 | | 0 | | 80 | |

## Scenario - 3

Scenario Name: Weekday
User Group:
Dev. phase: 1
No. of Years to Project Traffic : 0
Analyst Note:
Warning:

## VEHICLE TRIPS BEFORE REDUCTION

| Land Use & Data Source | Location | IV | Size | Time Period | Method | Entry | Exit | Total |
|---|---|---|---|---|---|---|---|---|
| | | | | | Rate/Equation | Split% | Split% | |
| **220 - Multifamily Housing (Low-Rise) - Not** | **General** | **Dwelling Units** | **301** | **Weekday** | **Best Fit (LIN)** | **908** | **908** | **1816** |
| **Data Source: Trip Generation Manual, 12th Ed** | **Urban/Suburban** | | | | T = 5.63(X) + 120.45 | 50% | 50% | |
| **210 - Single-Family Detached Housing** | **General** | **Dwelling Units** | **60** | **Weekday** | **Best Fit (LIN)** | **375** | **375** | **750** |
| **Data Source: Trip Generation Manual, 12th Ed** | **Urban/Suburban** | | | | T = 8.07(X) + 265.45 | 50% | 50% | |
| **210(1) - Single-Family Detached Housing** | **General** | **Dwelling Units** | **82** | **Weekday** | **Best Fit (LIN)** | **464** | **464** | **928** |
| **Data Source: Trip Generation Manual, 12th Ed** | **Urban/Suburban** | | | | T = 8.07(X) + 265.45 | 50% | 50% | |

## 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 (%) |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 100 | 100 | 1 | 1 | 50 | 50 |
| 210 - Single-Family Detached Housing | 100 | 100 | 1 | 1 | 50 | 50 |
| 210(1) - Single-Family Detached Housing | 100 | 100 | 1 | 1 | 50 | 50 |

**ESTIMATED BASELINE SITE PERSON TRIPS:**

| Land Use | Baseline Site Vehicle Mode Share | | Baseline Site Vehicle Occupancy | | Baseline Site Vehicle Directional Split | |
|---|---|---|---|---|---|---|
| | Entry (%) | Exit (%) | Entry | Exit | Entry (%) | Exit (%) |
| 220 - Multifamily Housing (Low-Rise) - Not Close to Rail Transit | 908 | 908 | 0 | 0 | 908 | 908 |
| | 1816 | | 0 | | 1816 | |
| 210 - Single-Family Detached Housing | 375 | 375 | 0 | 0 | 375 | 375 |
| | 750 | | 0 | | 750 | |
| 210(1) - Single-Family Detached Housing | 464 | 464 | 0 | 0 | 464 | 464 |
| | 928 | | 0 | | 928 | |

# Appendix D- Buildout Conditions

# Table of Contents

Intersection Level Of Service Report ..... 2
Intersection 1: Peterson Rd/ Galley Rd ..... 2
Intersection 2: US-24/SH-94/ Newt Dr ..... 7
Intersection 3: US-24 WB Ramps/Peterson Rd ..... 12
Intersection 4: Peterson Bl/ Space Village Av ..... 14
Intersection 5: US 24 EB Ramps/Space Village Av ..... 16
Intersection 6: Meadowbrook Pkwy/ Newt Dr. ..... 18
Intersection 7: Peterson Rd/ Panamint Ct ..... 20
Signal Warrants Report ..... 22
Intersection 5: US 24 EB Ramps/Space Village Av ..... 22
Intersection 7: Peterson Rd/ Panamint Ct ..... 24

**Intersection Level Of Service Report**
**Intersection 1: Peterson Rd/ Galley Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 14.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.451 |

**Intersection Setup**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| 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 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 125.00 | 100.00 | 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] | 30.00 | | 30.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | Yes | |
| Crosswalk | No | | Yes | | Yes | |

**Volumes**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 262 | 128 | 91 | 241 | 750 | 138 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| 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] | 27 | 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 | 66 | 0 | 0 | 0 | 71 |
| Total Hourly Volume [veh/h] | 295 | 65 | 93 | 247 | 768 | 70 |
| 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] | 80 | 18 | 25 | 67 | 209 | 19 |
| Total Analysis Volume [veh/h] | 321 | 71 | 101 | 268 | 835 | 76 |
| 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] | 90 |
| Active Pattern | Free Running (No Pattern) |
| Coordination Type | *Free Running* |
| 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 (Basic)**

| Control Type | Permissive | Permissive | ProtPerm | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | No | | | |
| Signal Group | 2 | 0 | 1 | 6 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Maximum Green [s] | 45 | 0 | 15 | 45 | 30 | 0 |
| Amber [s] | 4.0 | 0.0 | 4.0 | 4.0 | 4.0 | 0.0 |
| All red [s] | 2.0 | 0.0 | 1.0 | 2.0 | 2.0 | 0.0 |
| Walk [s] | 5.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 |
| Pedestrian Clearance [s] | 17.0 | 0.0 | 0.0 | 0.0 | 10.0 | 0.0 |
| 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 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 4.0 | 0.0 | 3.0 | 4.0 | 4.0 | 0.0 |
| 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 |
| Advanced Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Advanced 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 |

**Phasing & Timing: Free Running (No Pattern)**

| | | | | | | |
|---|---|---|---|---|---|---|
| Split [s] | 14.0 | 0.0 | 9.0 | 14.0 | 9.0 | 0.0 |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 15 | 0 | 5 | 15 | 8 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.5 | 3.0 | 1.5 | 0.0 |
| Minimum Recall | Yes | | No | Yes | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |

**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, Calculated Cycle Length [s] | 50 | 50 | 50 | 50 | 50 | 50 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 4.00 | 4.00 | 0.00 | 4.00 | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 15.0 | 15.0 | 23.8 | 23.8 | 14.2 | 14.2 |
| g / C, Green / Cycle | 0.30 | 0.30 | 0.48 | 0.48 | 0.28 | 0.28 |
| (v / s)_i Volume / Saturation Flow Rate | 0.17 | 0.04 | 0.08 | 0.08 | 0.24 | 0.05 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 1218 | 3560 | 3459 | 1589 |
| c, Capacity [veh/h] | 559 | 475 | 648 | 1690 | 988 | 454 |
| d1, Uniform Delay [s] | 14.87 | 12.90 | 7.92 | 7.48 | 16.85 | 13.42 |
| k, delay calibration | 0.11 | 0.11 | 0.04 | 0.11 | 0.04 | 0.04 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.94 | 0.14 | 0.04 | 0.04 | 0.78 | 0.06 |
| 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 | 0.57 | 0.15 | 0.16 | 0.16 | 0.84 | 0.17 |
| d, Delay for Lane Group [s/veh] | 15.81 | 13.04 | 7.96 | 7.52 | 17.63 | 13.49 |
| Lane Group LOS | B | B | A | A | B | B |
| Critical Lane Group | Yes | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 2.80 | 0.53 | 0.48 | 0.65 | 3.86 | 0.55 |
| 50th-Percentile Queue Length [ft/ln] | 69.97 | 13.20 | 11.97 | 16.21 | 96.53 | 13.81 |
| 95th-Percentile Queue Length [veh/ln] | 5.04 | 0.95 | 0.86 | 1.17 | 6.95 | 0.99 |
| 95th-Percentile Queue Length [ft/ln] | 125.95 | 23.76 | 21.55 | 29.18 | 173.76 | 24.86 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 15.81 | 13.04 | 7.96 | 7.52 | 17.63 | 13.49 |
| Movement LOS | B | B | A | A | B | B |
| d_A, Approach Delay [s/veh] | 15.31 | | 7.64 | | 17.29 | |
| Approach LOS | B | | A | | B | |
| d_I, Intersection Delay [s/veh] | 14.69 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.451 | | | | | |

**Emissions**

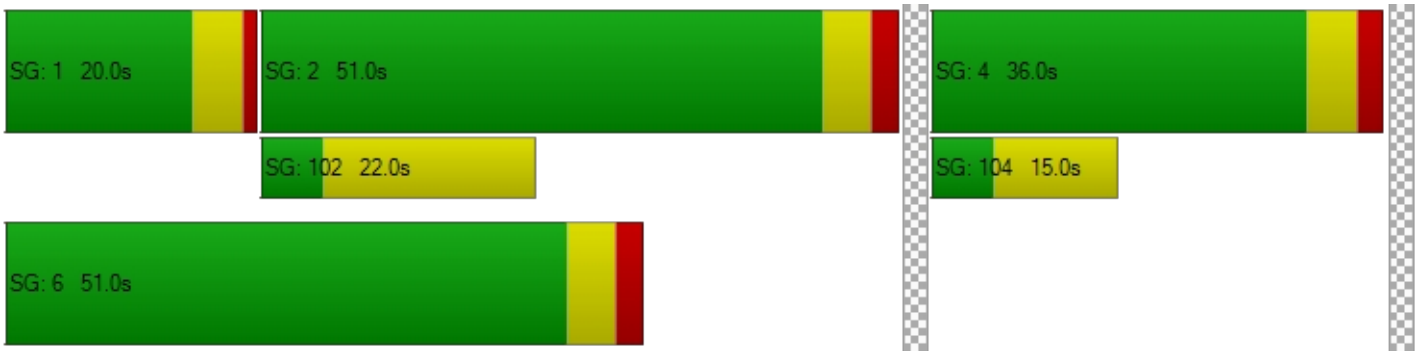
| | | | | | | |
|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 45.54 | 10.07 | 10.01 | 26.56 | 157.38 | 14.32 |
| Stops [stops/h] | 201.57 | 38.02 | 34.49 | 93.39 | 556.14 | 39.78 |
| Fuel consumption [US gal/h] | 4.02 | 0.81 | 0.77 | 2.02 | 13.18 | 1.05 |
| CO [g/h] | 281.09 | 56.84 | 53.57 | 141.16 | 921.14 | 73.66 |
| NOx [g/h] | 54.69 | 11.06 | 10.42 | 27.46 | 179.22 | 14.33 |
| VOC [g/h] | 65.14 | 13.17 | 12.42 | 32.72 | 213.48 | 17.07 |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 9.0 | 9.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 16.81 | 16.81 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 2.306 | 2.698 |
| Crosswalk LOS | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1800 | 1800 | 1200 |
| d_b, Bicycle Delay [s] | 0.25 | 0.25 | 4.00 |
| l_b,int, Bicycle LOS Score for Intersection | 2.315 | 1.864 | 1.560 |
| Bicycle LOS | B | A | A |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 2: US-24/SH-94/ Newt Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 39.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.729 |

**Intersection Setup**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 3 | 0 | 1 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 645.00 | 100.00 | 475.00 | 375.00 | 100.00 | 300.00 | 850.00 | 100.00 | 600.00 | 800.00 | 100.00 | 800.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 1700.00 | 0.00 | 0.00 | 330.00 | 0.00 | 0.00 | 960.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 30.00 | | | 55.00 | | | 55.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 441 | 42 | 2 | 13 | 24 | 179 | 156 | 681 | 599 | 8 | 1758 | 43 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| 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] | 342 | 48 | 0 | 25 | 51 | 278 | 268 | 123 | 222 | 0 | 0 | 25 |
| 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 | 1 | 0 | 0 | 231 | 0 | 0 | 418 | 0 | 0 | 35 |
| Total Hourly Volume [veh/h] | 793 | 91 | 1 | 38 | 76 | 230 | 428 | 820 | 417 | 8 | 1799 | 34 |
| 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] | 215 | 25 | 0 | 10 | 21 | 63 | 116 | 223 | 113 | 2 | 489 | 9 |
| Total Analysis Volume [veh/h] | 862 | 99 | 1 | 41 | 83 | 250 | 465 | 891 | 453 | 9 | 1955 | 37 |
| 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 Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 52.0 |
| Offset Reference | Beginning of First Yellow |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Unsigna | Protecte | Permiss | Unsigna | ProtPer | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | | | | | | | | No | | |
| Signal Group | 3 | 8 | 0 | 7 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 15 | 15 | 0 | 5 | 7 | 0 | 8 | 65 | 0 | 7 | 65 | 0 |
| Amber [s] | 3.5 | 4.0 | 0.0 | 3.5 | 4.0 | 0.0 | 3.5 | 6.0 | 0.0 | 3.5 | 6.0 | 0.0 |
| All red [s] | 3.0 | 2.0 | 0.0 | 3.0 | 2.0 | 0.0 | 3.0 | 1.0 | 0.0 | 3.0 | 1.0 | 0.0 |
| Walk [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 |
| Pedestrian Clearance [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 |
| 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] | 4.5 | 4.0 | 0.0 | 4.5 | 4.0 | 0.0 | 4.5 | 5.0 | 0.0 | 4.5 | 5.0 | 0.0 |
| 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 |
| Advanced 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 |
| Advanced 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 28.0 | 24.0 | 0.0 | 19.0 | 15.0 | 0.0 | 25.0 | 64.0 | 0.0 | 13.0 | 52.0 | 0.0 |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 4 | 5 | 0 | 6 | 22 | 0 | 6 | 22 | 0 |
| Vehicle Extension [s] | 2.0 | 2.0 | 0.0 | 2.0 | 5.0 | 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 | Yes | | No | Yes | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |

**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 | L | C | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 6.50 | 6.00 | 6.00 | 6.50 | 6.00 | 6.50 | 7.00 | 7.00 | 7.00 | 7.00 |
| 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 |
| l2, Clearance Lost Time [s] | 4.50 | 4.00 | 4.00 | 4.50 | 4.00 | 4.50 | 5.00 | 0.00 | 5.00 | 5.00 |
| g_i, Effective Green Time [s] | 21.5 | 25.3 | 25.3 | 3.1 | 6.9 | 18.1 | 64.1 | 72.1 | 47.6 | 47.6 |
| g / C, Green / Cycle | 0.18 | 0.21 | 0.21 | 0.03 | 0.06 | 0.15 | 0.53 | 0.60 | 0.40 | 0.40 |
| (v / s)_i Volume / Saturation Flow Rate | 0.17 | 0.05 | 0.00 | 0.01 | 0.04 | 0.13 | 0.17 | 0.01 | 0.38 | 0.02 |
| s, saturation flow rate [veh/h] | 5188 | 1870 | 1589 | 3459 | 1870 | 3459 | 5094 | 722 | 5094 | 1589 |
| c, Capacity [veh/h] | 929 | 393 | 334 | 90 | 107 | 521 | 2717 | 460 | 2019 | 630 |
| d1, Uniform Delay [s] | 48.48 | 39.51 | 37.44 | 57.59 | 55.80 | 50.01 | 15.84 | 10.24 | 35.48 | 22.39 |
| k, delay calibration | 0.04 | 0.04 | 0.04 | 0.04 | 0.23 | 0.04 | 0.50 | 0.04 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.88 | 0.12 | 0.00 | 1.33 | 22.05 | 2.21 | 0.32 | 0.01 | 13.84 | 0.18 |
| 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 |
| Rp, platoon ratio | 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 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.93 | 0.25 | 0.00 | 0.45 | 0.78 | 0.89 | 0.33 | 0.02 | 0.97 | 0.06 |
| d, Delay for Lane Group [s/veh] | 50.36 | 39.63 | 37.44 | 58.92 | 77.85 | 52.22 | 16.16 | 10.24 | 49.32 | 22.56 |
| Lane Group LOS | D | D | D | E | E | D | B | B | D | C |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 8.20 | 2.34 | 0.02 | 0.63 | 3.13 | 6.68 | 4.23 | 0.08 | 19.61 | 0.64 |
| 50th-Percentile Queue Length [ft/ln] | 205.11 | 58.57 | 0.56 | 15.77 | 78.37 | 167.12 | 105.71 | 2.12 | 490.30 | 16.03 |
| 95th-Percentile Queue Length [veh/ln] | 12.90 | 4.22 | 0.04 | 1.14 | 5.64 | 10.93 | 7.60 | 0.15 | 26.87 | 1.15 |
| 95th-Percentile Queue Length [ft/ln] | 322.55 | 105.43 | 1.01 | 28.38 | 141.07 | 273.13 | 190.01 | 3.81 | 671.87 | 28.85 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 50.36 | 39.63 | 37.44 | 58.92 | 77.85 | 0.00 | 52.22 | 16.16 | 0.00 | 10.24 | 49.32 | 22.56 |
| Movement LOS | D | D | D | E | E | | D | B | | B | D | C |
| d_A, Approach Delay [s/veh] | 49.24 | | | 25.08 | | | 21.82 | | | 48.65 | | |
| Approach LOS | D | | | C | | | C | | | D | | |
| d_I, Intersection Delay [s/veh] | 39.93 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.729 | | | | | | | | | | | |

**Emissions**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 337.84 | 38.80 | 0.39 | 4.33 | 8.76 | 197.11 | 377.68 | 2.74 | 595.38 | 11.27 |
| Stops [stops/h] | 738.39 | 70.29 | 0.67 | 37.84 | 94.04 | 401.10 | 380.54 | 2.54 | 1765.07 | 19.23 |
| Fuel consumption [US gal/h] | 33.85 | 3.40 | 0.03 | 0.88 | 2.19 | 18.98 | 22.63 | 0.16 | 72.32 | 0.90 |
| CO [g/h] | 2366.09 | 237.79 | 2.32 | 61.43 | 153.43 | 1327.05 | 1582.03 | 11.02 | 5055.35 | 63.19 |
| NOx [g/h] | 460.35 | 46.27 | 0.45 | 11.95 | 29.85 | 258.20 | 307.81 | 2.14 | 983.59 | 12.29 |
| VOC [g/h] | 548.36 | 55.11 | 0.54 | 14.24 | 35.56 | 307.56 | 366.65 | 2.55 | 1171.63 | 14.65 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 0.000 | 0.000 |
| Crosswalk LOS | F | F | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 300 | 150 | 950 | 750 |
| d_b, Bicycle Delay [s] | 43.35 | 51.34 | 16.54 | 23.44 |
| l_b,int, Bicycle LOS Score for Intersection | 3.149 | 1.764 | 2.305 | 2.679 |
| Bicycle LOS | C | A | 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 3: US-24 WB Ramps/Peterson Rd**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 9.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | | | | | |  | | |
| Turning Movement | Left | Thru | Right | U-tu | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 15.00 | 15.00 | 12.00 | 12.00 | 12.00 | 14.00 | 13.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.0 | 100.0 | 100.0 | 1.00 | 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 | 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 | 0.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 306 | 326 | 0 | 0 | 0 | 713 | 285 | 0 | 0 | 0 | 303 | 0 | 66 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 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 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | | |
| Growth Factor | 1.0234 | 1.0234 | 1.0234 | 1.023 | 1.023 | 1.023 | 1.023 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 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 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 7 | 0 | 0 | -11 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 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 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 313 | 334 | 0 | 7 | 0 | 730 | 281 | 0 | 0 | 0 | 310 | 0 | 68 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.920 | 0.920 | 0.920 | 0.920 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 85 | 91 | 0 | 2 | 0 | 198 | 76 | 0 | 0 | 0 | 84 | 0 | 18 |
| Total Analysis Volume [veh/h] | 340 | 363 | 0 | 8 | 0 | 793 | 305 | 0 | 0 | 0 | 337 | 0 | 74 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | | 1 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 8 | | | 691 | | | | 1161 | | | 725 | | |
| Exiting Flow Rate [veh/h] | 1153 | | | 454 | | | | 347 | | | 0 | | |
| Demand Flow Rate [veh/h] | 313 | 334 | 0 | 7 | 0 | 730 | 281 | 0 | 0 | 0 | 310 | 0 | 68 |
| Adjusted Demand Flow Rate [veh/h] | 340 | 363 | 0 | 8 | 0 | 793 | 305 | 0 | 0 | 0 | 337 | 0 | 74 |

**Lanes**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 1420.00 | | 1350.00 | 1420.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00085 | | 0.00092 | 0.00085 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 347 | 371 | 384 | 434 | 0 | | 344 | 76 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1340 | 1411 | 716 | 790 | 1058 | | 693 | 767 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1314 | 1383 | 702 | 775 | 1037 | | 680 | 752 |
| X, volume / capacity | 0.26 | 0.26 | 0.54 | 0.55 | 0.29 | | 0.50 | 0.10 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Lane LOS | A | A | B | B | A | | B | A |
| 95th-Percentile Queue Length [veh] | 1.04 | 1.06 | 3.22 | 3.38 | 1.23 | | 2.77 | 0.33 |
| 95th-Percentile Queue Length [ft] | 25.97 | 26.48 | 80.56 | 84.55 | 30.85 | | 69.37 | 8.16 |
| Approach Delay [s/veh] | 4.91 | | 11.34 | | | 0.00 | 11.61 | |
| Approach LOS | A | | B | | | A | B | |
| Intersection Delay [s/veh] | 9.36 | | | | | | | |
| Intersection LOS | A | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Peterson Bl/ Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 6.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 10.00 | 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 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 286.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 49.21 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | No | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 147 | 67 | 160 | 856 | 0 | 66 | 163 | 374 | 96 | 0 | 419 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| 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] | 0 | 150 | 69 | 164 | 876 | 0 | 68 | 167 | 383 | 98 | 0 | 429 |
| 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 | 41 | 19 | 45 | 238 | 0 | 18 | 45 | 104 | 27 | 0 | 117 |
| Total Analysis Volume [veh/h] | 0 | 163 | 75 | 178 | 952 | 0 | 74 | 182 | 416 | 107 | 0 | 466 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | 2 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 443 | | | 109 | | | 1262 | | | 242 | | |
| Exiting Flow Rate [veh/h] | 1080 | | | 717 | | | 0 | | | 367 | | |
| Demand Flow Rate [veh/h] | 0 | 150 | 69 | 164 | 876 | 0 | 68 | 167 | 383 | 98 | 0 | 429 |
| Adjusted Demand Flow Rate [veh/h] | 0 | 163 | 75 | 178 | 952 | 0 | 74 | 182 | 416 | 107 | 0 | 466 |

**Lanes**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1420.00 | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 0.00 | 1350.00 | 1420.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00085 | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00000 | 0.00092 | 0.00085 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 79 | 89 | 0 | 542 | 611 | 76 | 186 | 0 | 110 | 476 |
| Capacity of Entry and Bypass Lanes [veh/h] | 899 | 975 | 1040 | 1222 | 1295 | 423 | 486 | 102000 | 1081 | 1157 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 881 | 956 | 1019 | 1198 | 1269 | 415 | 477 | 100000 | 1060 | 1134 |
| X, volume / capacity | 0.09 | 0.09 | 0.07 | 0.44 | 0.47 | 0.18 | 0.38 | 0.00 | 0.10 | 0.41 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane LOS | A | A | A | A | A | B | B | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.28 | 0.30 | 0.24 | 2.33 | 2.60 | 0.64 | 1.77 | 0.00 | 0.34 | 2.04 |
| 95th-Percentile Queue Length [ft] | 7.12 | 7.43 | 5.95 | 58.18 | 65.03 | 16.05 | 44.25 | 0.00 | 8.40 | 51.10 |
| Approach Delay [s/veh] | 4.57 | | | 7.66 | | 5.07 | | | 6.84 | |
| Approach LOS | A | | | A | | A | | | A | |
| Intersection Delay [s/veh] | 6.53 | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: US 24 EB Ramps/Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 34.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.343 |

**Intersection Setup**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | 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 | 1 |
| Entry Pocket Length [ft] | 100.00 | 290.00 | 400.00 | 100.00 | 100.00 | 485.00 |
| 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] | 30.00 | | 35.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 58 | 10 | 135 | 255 | 505 | 37 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| 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] | 59 | 10 | 138 | 261 | 517 | 38 |
| 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] | 16 | 3 | 38 | 71 | 140 | 10 |
| Total Analysis Volume [veh/h] | 64 | 11 | 150 | 284 | 562 | 41 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| Priority Scheme | Stop | Free | Free |
|---|---|---|---|
| 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 | 0.34 | 0.02 | 0.15 | 0.00 | 0.01 | 0.00 |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 34.08 | 11.98 | 9.36 | 0.00 | 0.00 | 0.00 |
| Movement LOS | D | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 1.43 | 0.06 | 0.54 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 35.84 | 1.60 | 13.57 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 30.84 | | 3.24 | | 0.00 | |
| Approach LOS | D | | A | | A | |
| d_I, Intersection Delay [s/veh] | 3.34 | | | | | |
| Intersection LOS | D | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Meadowbrook Pkwy/ Newt Dr.**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 3.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 |
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 16 | 109 | 3 | 41 | 0 | 0 | 0 | 0 | 151 | 0 | 3 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0234 | 1.0000 | 1.0234 |
| 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 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 25 | 112 | 3 | 42 | 0 | 0 | 0 | 0 | 182 | 0 | 3 |
| 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 | 7 | 30 | 1 | 11 | 0 | 0 | 0 | 0 | 49 | 0 | 1 |
| Total Analysis Volume [veh/h] | 0 | 27 | 122 | 3 | 46 | 0 | 0 | 0 | 0 | 198 | 0 | 3 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 1 | | | 1 | | | 1 | | | 1 | | |
| Circulating Flow Rate [veh/h] | 3 | | | 202 | | | 252 | | | 28 | | |
| Exiting Flow Rate [veh/h] | 249 | | | 31 | | | 0 | | | 128 | | |
| Demand Flow Rate [veh/h] | 0 | 25 | 112 | 3 | 42 | 0 | 0 | 0 | 0 | 182 | 0 | 3 |
| Adjusted Demand Flow Rate [veh/h] | 0 | 27 | 122 | 3 | 46 | 0 | 0 | 0 | 0 | 198 | 0 | 3 |

**Lanes**

| | | | | | |
|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1380.00 | 1380.00 | 1380.00 | 1420.00 | 1420.00 |
| B (coefficient) | 0.00102 | 0.00102 | 0.00102 | 0.00091 | 0.00091 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 152 | 50 | 0 | 202 | 4 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1376 | 1124 | 1068 | 1385 | 1385 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1349 | 1102 | 1047 | 1358 | 1358 |
| X, volume / capacity | 0.11 | 0.04 | 0.00 | 0.15 | 0.00 |

**Movement, Approach, & Intersection Results**

| | | | | | |
|---|---|---|---|---|---|
| Lane LOS | A | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.37 | 0.14 | 0.00 | 0.51 | 0.01 |
| 95th-Percentile Queue Length [ft] | 9.29 | 3.49 | 0.00 | 12.76 | 0.17 |
| Approach Delay [s/veh] | 3.55 | 3.64 | 3.44 | 3.82 | |
| Approach LOS | A | A | A | A | |
| Intersection Delay [s/veh] | 3.70 | | | | |
| Intersection LOS | A | | | | |

**Intersection Level Of Service Report**
**Intersection 7: Peterson Rd/ Panamint Ct**

| | | | |
|---|---|---|---|
| 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): | 0.019 |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 383 | 10 | 4 | 984 | 3 | 2 | 1 | 5 | 11 | 3 | 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| 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] | -11 | 13 | 5 | -4 | 4 | 0 | -2 | -1 | 3 | -11 | -3 | 14 |
| 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 | 405 | 15 | 0 | 1011 | 3 | 0 | 0 | 8 | 0 | 0 | 18 |
| 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 | 110 | 4 | 0 | 275 | 1 | 0 | 0 | 2 | 0 | 0 | 5 |
| Total Analysis Volume [veh/h] | 0 | 440 | 16 | 0 | 1099 | 3 | 0 | 0 | 9 | 0 | 0 | 20 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop | Stop |
|---|---|---|---|---|
| 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 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.67 | 0.00 | 0.00 | 9.77 |
| Movement LOS | | A | A | | A | A | | | B | | | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 | 0.08 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.44 | 0.00 | 0.00 | 1.99 |
| d_A, Approach Delay [s/veh] | 0.00 | | | 0.00 | | | 12.67 | | | 9.77 | | |
| Approach LOS | A | | | A | | | B | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.20 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

# Signal Warrants Report For Intersection 5: US 24 EB Ramps/Space Village Av

## 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 | N |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | E | W | N |
| 1 | 555 | 399 | 69 |
| 2 | 538 | 387 | 67 |
| 3 | 527 | 379 | 66 |
| 4 | 494 | 355 | 61 |
| 5 | 438 | 315 | 55 |
| 6 | 433 | 311 | 54 |
| 7 | 427 | 307 | 53 |
| 8 | 389 | 279 | 48 |
| 9 | 383 | 275 | 48 |
| 10 | 377 | 271 | 47 |
| 11 | 327 | 235 | 41 |
| 12 | 305 | 219 | 38 |
| 13 | 300 | 215 | 37 |
| 14 | 222 | 160 | 28 |
| 15 | 222 | 160 | 28 |
| 16 | 155 | 112 | 19 |
| 17 | 89 | 64 | 11 |
| 18 | 89 | 64 | 11 |
| 19 | 50 | 36 | 6 |
| 20 | 28 | 20 | 3 |
| 21 | 17 | 12 | 2 |
| 22 | 6 | 4 | 1 |
| 23 | 6 | 4 | 1 |
| 24 | 6 | 4 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 954 | 2 | 69 | No | No | No | No | No | No | No | Yes | No | No |
| 2 | 2 | 925 | 2 | 67 | No | No | No | No | No | No | No | Yes | No | No |
| 3 | 2 | 906 | 2 | 66 | No | No | No | No | No | No | No | Yes | No | No |
| 4 | 2 | 849 | 2 | 61 | No | No | No | No | No | No | No | Yes | No | No |
| 5 | 2 | 753 | 2 | 55 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 744 | 2 | 54 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 734 | 2 | 53 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 668 | 2 | 48 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 658 | 2 | 48 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 648 | 2 | 47 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 562 | 2 | 41 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 524 | 2 | 38 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 515 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 382 | 2 | 28 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 382 | 2 | 28 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 267 | 2 | 19 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 153 | 2 | 11 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 153 | 2 | 11 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 86 | 2 | 6 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 48 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 29 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 10 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 10 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 10 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | N |
|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 30.8 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:35 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 69 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1023 |
| 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 7: Peterson Rd/ Panamint Ct

## 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 | 420 | 1014 | 18 | 8 |
| 2 | 407 | 984 | 17 | 8 |
| 3 | 399 | 963 | 17 | 8 |
| 4 | 374 | 902 | 16 | 7 |
| 5 | 332 | 801 | 14 | 6 |
| 6 | 328 | 791 | 14 | 6 |
| 7 | 323 | 781 | 14 | 6 |
| 8 | 294 | 710 | 13 | 6 |
| 9 | 290 | 700 | 12 | 6 |
| 10 | 286 | 690 | 12 | 5 |
| 11 | 248 | 598 | 11 | 5 |
| 12 | 231 | 558 | 10 | 4 |
| 13 | 227 | 548 | 10 | 4 |
| 14 | 168 | 406 | 7 | 3 |
| 15 | 168 | 406 | 7 | 3 |
| 16 | 118 | 284 | 5 | 2 |
| 17 | 67 | 162 | 3 | 1 |
| 18 | 67 | 162 | 3 | 1 |
| 19 | 38 | 91 | 2 | 1 |
| 20 | 21 | 51 | 1 | 0 |
| 21 | 13 | 30 | 1 | 0 |
| 22 | 4 | 10 | 0 | 0 |
| 23 | 4 | 10 | 0 | 0 |
| 24 | 4 | 10 | 0 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1434 | 1 | 18 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 1391 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 1362 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 1276 | 1 | 16 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 1133 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 1119 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 1104 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 1004 | 1 | 13 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 990 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 976 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 846 | 1 | 11 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 789 | 1 | 10 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 775 | 1 | 10 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 574 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 574 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 402 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 229 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 229 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 129 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 72 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 43 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 14 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 14 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 14 | 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 | W |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 9.8 | 12.7 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:02 | 0:01 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 18 | 8 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 1460 | 1460 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Table of Contents

Intersection Level Of Service Report ..... 2
Intersection 1: Peterson Rd/ Galley Rd ..... 2
Intersection 2: US-24/SH-94/ Newt Dr ..... 7
Intersection 3: US-24 WB Ramps/Peterson Rd ..... 12
Intersection 4: Peterson Bl/ Space Village Av ..... 14
Intersection 5: US 24 EB Ramps/Space Village Av ..... 16
Intersection 6: Meadowbrook Pkwy/ Newt Dr. ..... 18
Intersection 7: Peterson Rd/ Panamint Ct ..... 20
Signal Warrants Report ..... 22
Intersection 5: US 24 EB Ramps/Space Village Av ..... 22
Intersection 7: Peterson Rd/ Panamint Ct ..... 24

**Intersection Level Of Service Report**
**Intersection 1: Peterson Rd/ Galley Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 12.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.426 |

**Intersection Setup**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| 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 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 125.00 | 100.00 | 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] | 30.00 | | 30.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | Yes | |
| Crosswalk | No | | Yes | | Yes | |

**Volumes**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 273 | 798 | 191 | 169 | 233 | 79 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| 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] | 53 | 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 | 409 | 0 | 0 | 0 | 41 |
| Total Hourly Volume [veh/h] | 332 | 408 | 195 | 173 | 238 | 40 |
| 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] | 90 | 111 | 53 | 47 | 65 | 11 |
| Total Analysis Volume [veh/h] | 361 | 443 | 212 | 188 | 259 | 43 |
| 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] | 90 |
| Active Pattern | Free Running (No Pattern) |
| Coordination Type | *Free Running* |
| 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 (Basic)**

| Control Type | Permissive | Permissive | ProtPerm | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | No | | | |
| Signal Group | 2 | 0 | 1 | 6 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Maximum Green [s] | 45 | 0 | 15 | 45 | 30 | 0 |
| Amber [s] | 4.0 | 0.0 | 4.0 | 4.0 | 4.0 | 0.0 |
| All red [s] | 2.0 | 0.0 | 1.0 | 2.0 | 2.0 | 0.0 |
| Walk [s] | 5.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 |
| Pedestrian Clearance [s] | 17.0 | 0.0 | 0.0 | 0.0 | 10.0 | 0.0 |
| 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 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 4.0 | 0.0 | 3.0 | 4.0 | 4.0 | 0.0 |
| 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 |
| Advanced Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Advanced 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 |

**Phasing & Timing: Free Running (No Pattern)**

| | | | | | | |
|---|---|---|---|---|---|---|
| Split [s] | 14.0 | 0.0 | 9.0 | 14.0 | 9.0 | 0.0 |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 15 | 0 | 5 | 15 | 8 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.5 | 3.0 | 1.5 | 0.0 |
| Minimum Recall | Yes | | No | Yes | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |

**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, Calculated Cycle Length [s] | 45 | 45 | 45 | 45 | 45 | 45 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 4.00 | 4.00 | 0.00 | 4.00 | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 15.7 | 15.7 | 25.3 | 25.3 | 7.8 | 7.8 |
| g / C, Green / Cycle | 0.35 | 0.35 | 0.56 | 0.56 | 0.17 | 0.17 |
| (v / s)_i Volume / Saturation Flow Rate | 0.19 | 0.28 | 0.21 | 0.05 | 0.07 | 0.03 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 1010 | 3560 | 3459 | 1589 |
| c, Capacity [veh/h] | 650 | 553 | 702 | 1999 | 599 | 275 |
| d1, Uniform Delay [s] | 11.93 | 13.35 | 5.70 | 4.59 | 16.71 | 15.89 |
| k, delay calibration | 0.11 | 0.11 | 0.07 | 0.11 | 0.04 | 0.04 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.74 | 2.76 | 0.14 | 0.02 | 0.18 | 0.10 |
| 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 | 0.56 | 0.80 | 0.30 | 0.09 | 0.43 | 0.16 |
| d, Delay for Lane Group [s/veh] | 12.67 | 16.11 | 5.84 | 4.61 | 16.90 | 15.99 |
| Lane Group LOS | B | B | A | A | B | B |
| Critical Lane Group | No | Yes | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 2.51 | 3.68 | 0.66 | 0.27 | 1.03 | 0.33 |
| 50th-Percentile Queue Length [ft/ln] | 62.73 | 92.10 | 16.49 | 6.65 | 25.79 | 8.21 |
| 95th-Percentile Queue Length [veh/ln] | 4.52 | 6.63 | 1.19 | 0.48 | 1.86 | 0.59 |
| 95th-Percentile Queue Length [ft/ln] | 112.91 | 165.77 | 29.69 | 11.97 | 46.42 | 14.77 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 12.67 | 16.11 | 5.84 | 4.61 | 16.90 | 15.99 |
| Movement LOS | B | B | A | A | B | B |
| d_A, Approach Delay [s/veh] | 14.56 | | 5.26 | | 16.77 | |
| Approach LOS | B | | A | | B | |
| d_I, Intersection Delay [s/veh] | 12.54 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.426 | | | | | |

**Emissions**

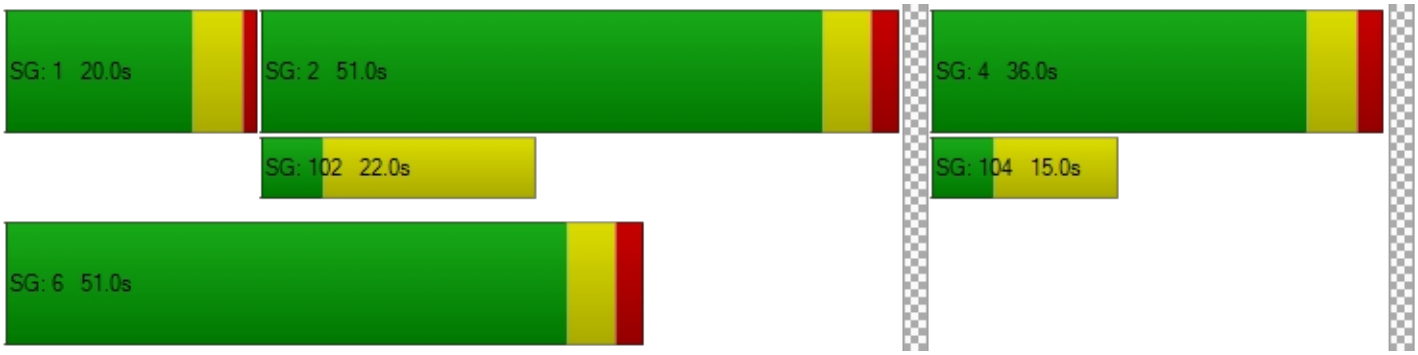
| | | | | | | |
|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 51.21 | 62.85 | 21.01 | 18.63 | 48.81 | 8.10 |
| Stops [stops/h] | 199.99 | 293.61 | 52.58 | 42.41 | 164.44 | 26.17 |
| Fuel consumption [US gal/h] | 4.14 | 5.66 | 1.41 | 1.18 | 3.99 | 0.65 |
| CO [g/h] | 289.70 | 395.74 | 98.39 | 82.33 | 278.77 | 45.13 |
| NOx [g/h] | 56.36 | 77.00 | 19.14 | 16.02 | 54.24 | 8.78 |
| VOC [g/h] | 67.14 | 91.72 | 22.80 | 19.08 | 64.61 | 10.46 |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 9.0 | 9.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 14.48 | 14.48 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 2.302 | 2.761 |
| Crosswalk LOS | F | B | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1993 | 1993 | 1328 |
| d_b, Bicycle Delay [s] | 0.00 | 0.00 | 2.55 |
| l_b,int, Bicycle LOS Score for Intersection | 3.561 | 1.890 | 1.560 |
| Bicycle LOS | D | A | A |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 2: US-24/SH-94/ Newt Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 29.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.615 |

**Intersection Setup**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 3 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 645.00 | 100.00 | 475.00 | 375.00 | 100.00 | 300.00 | 850.00 | 100.00 | 600.00 | 800.00 | 100.00 | 800.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 1700.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 960.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 30.00 | | | 55.00 | | | 55.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 405 | 31 | 4 | 26 | 50 | 166 | 155 | 1723 | 394 | 7 | 851 | 24 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| 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] | 360 | 40 | 0 | 17 | 35 | 188 | 221 | 115 | 280 | 0 | 0 | 20 |
| 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 | 2 | 0 | 0 | 179 | 0 | 0 | 342 | 0 | 0 | 23 |
| Total Hourly Volume [veh/h] | 774 | 72 | 2 | 44 | 86 | 179 | 380 | 1878 | 341 | 7 | 871 | 22 |
| 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] | 210 | 20 | 1 | 12 | 23 | 49 | 103 | 510 | 93 | 2 | 237 | 6 |
| Total Analysis Volume [veh/h] | 841 | 78 | 2 | 48 | 93 | 195 | 413 | 2041 | 371 | 8 | 947 | 24 |
| 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] | 110 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 52.0 |
| Offset Reference | Beginning of First Yellow |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Unsigna | Protecte | Permiss | Unsigna | ProtPer | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | | | | | | | | No | | |
| Signal Group | 3 | 8 | 0 | 7 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 15 | 15 | 0 | 5 | 7 | 0 | 8 | 65 | 0 | 7 | 65 | 0 |
| Amber [s] | 3.5 | 4.0 | 0.0 | 3.5 | 4.0 | 0.0 | 3.5 | 6.0 | 0.0 | 3.5 | 6.0 | 0.0 |
| All red [s] | 3.0 | 2.0 | 0.0 | 3.0 | 2.0 | 0.0 | 3.0 | 1.0 | 0.0 | 3.0 | 1.0 | 0.0 |
| Walk [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 |
| Pedestrian Clearance [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 |
| 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] | 4.5 | 4.0 | 0.0 | 4.5 | 4.0 | 0.0 | 4.5 | 5.0 | 0.0 | 4.5 | 5.0 | 0.0 |
| 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 |
| Advanced 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 |
| Advanced 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 28.0 | 24.0 | 0.0 | 22.0 | 18.0 | 0.0 | 30.0 | 51.0 | 0.0 | 13.0 | 34.0 | 0.0 |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 4 | 5 | 0 | 6 | 22 | 0 | 6 | 22 | 0 |
| Vehicle Extension [s] | 2.0 | 2.0 | 0.0 | 2.0 | 5.0 | 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 | Yes | | No | Yes | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |

**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 | L | C | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |
| L, Total Lost Time per Cycle [s] | 6.50 | 6.00 | 6.00 | 6.50 | 6.00 | 6.50 | 7.00 | 7.00 | 7.00 | 7.00 |
| 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 |
| l2, Clearance Lost Time [s] | 4.50 | 4.00 | 4.00 | 4.50 | 4.00 | 4.50 | 5.00 | 0.00 | 5.00 | 5.00 |
| g_i, Effective Green Time [s] | 19.9 | 23.8 | 23.8 | 3.2 | 7.1 | 15.4 | 55.6 | 63.5 | 41.6 | 41.6 |
| g / C, Green / Cycle | 0.18 | 0.22 | 0.22 | 0.03 | 0.06 | 0.14 | 0.51 | 0.58 | 0.38 | 0.38 |
| (v / s)_i Volume / Saturation Flow Rate | 0.16 | 0.04 | 0.00 | 0.01 | 0.05 | 0.12 | 0.40 | 0.02 | 0.19 | 0.02 |
| s, saturation flow rate [veh/h] | 5188 | 1870 | 1589 | 3459 | 1870 | 3459 | 5094 | 353 | 5094 | 1589 |
| c, Capacity [veh/h] | 938 | 404 | 344 | 103 | 122 | 484 | 2573 | 231 | 1924 | 600 |
| d1, Uniform Delay [s] | 44.05 | 35.26 | 33.83 | 52.51 | 50.58 | 46.21 | 22.48 | 16.56 | 26.16 | 21.62 |
| k, delay calibration | 0.04 | 0.04 | 0.04 | 0.04 | 0.23 | 0.04 | 0.50 | 0.04 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.30 | 0.09 | 0.00 | 1.22 | 18.68 | 1.70 | 2.61 | 0.02 | 0.90 | 0.12 |
| 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 |
| Rp, platoon ratio | 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 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.90 | 0.19 | 0.01 | 0.47 | 0.76 | 0.85 | 0.79 | 0.03 | 0.49 | 0.04 |
| d, Delay for Lane Group [s/veh] | 45.36 | 35.34 | 33.83 | 53.73 | 69.26 | 47.91 | 25.09 | 16.58 | 27.06 | 21.74 |
| Lane Group LOS | D | D | C | D | E | D | C | B | C | C |
| Critical Lane Group | Yes | No | No | No | Yes | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 7.14 | 1.63 | 0.04 | 0.67 | 3.15 | 5.34 | 13.20 | 0.07 | 5.97 | 0.39 |
| 50th-Percentile Queue Length [ft/ln] | 178.58 | 40.75 | 1.00 | 16.74 | 78.67 | 133.41 | 330.01 | 1.82 | 149.17 | 9.64 |
| 95th-Percentile Queue Length [veh/ln] | 11.53 | 2.93 | 0.07 | 1.21 | 5.66 | 9.12 | 19.16 | 0.13 | 9.97 | 0.69 |
| 95th-Percentile Queue Length [ft/ln] | 288.16 | 73.36 | 1.80 | 30.13 | 141.60 | 228.12 | 478.97 | 3.28 | 249.33 | 17.36 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 45.36 | 35.34 | 33.83 | 53.73 | 69.26 | 0.00 | 47.91 | 25.09 | 0.00 | 16.58 | 27.06 | 21.74 |
| Movement LOS | D | D | C | D | E | | D | C | | B | C | C |
| d_A, Approach Delay [s/veh] | 44.48 | | | 28.19 | | | 25.40 | | | 26.84 | | |
| Approach LOS | D | | | C | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 29.71 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.615 | | | | | | | | | | | |

**Emissions**

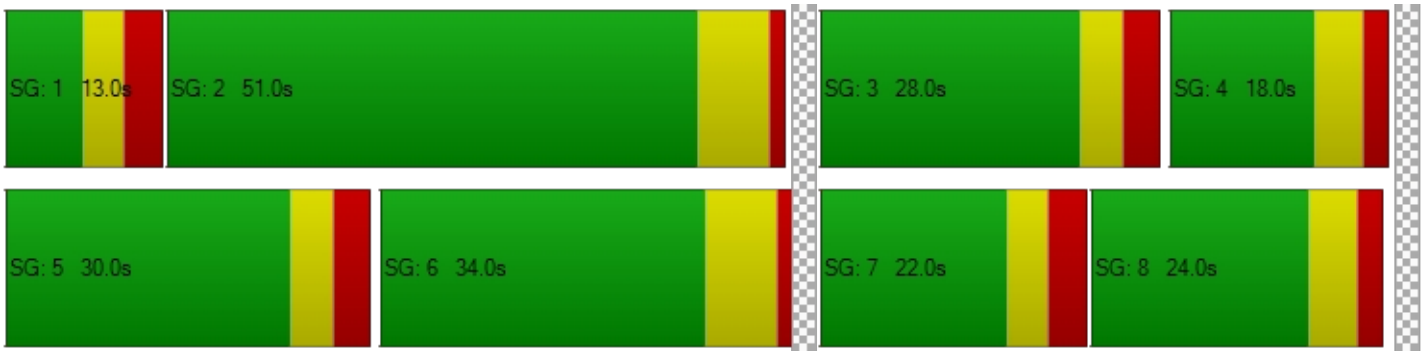
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 329.61 | 30.57 | 0.78 | 5.07 | 9.82 | 175.07 | 865.16 | 2.44 | 288.40 | 7.31 |
| Stops [stops/h] | 701.34 | 53.35 | 1.31 | 43.82 | 102.98 | 349.28 | 1296.04 | 2.39 | 585.85 | 12.62 |
| Fuel consumption [US gal/h] | 31.81 | 2.57 | 0.06 | 0.98 | 2.28 | 16.37 | 63.43 | 0.15 | 25.74 | 0.59 |
| CO [g/h] | 2223.87 | 179.96 | 4.50 | 68.18 | 159.62 | 1144.25 | 4434.08 | 10.69 | 1799.49 | 40.90 |
| NOx [g/h] | 432.68 | 35.01 | 0.88 | 13.27 | 31.06 | 222.63 | 862.71 | 2.08 | 350.12 | 7.96 |
| VOC [g/h] | 515.40 | 41.71 | 1.04 | 15.80 | 36.99 | 265.19 | 1027.64 | 2.48 | 417.05 | 9.48 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 0.000 | 0.000 |
| Crosswalk LOS | F | F | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 327 | 218 | 800 | 491 |
| d_b, Bicycle Delay [s] | 38.47 | 43.65 | 19.80 | 31.31 |
| l_b,int, Bicycle LOS Score for Intersection | 3.083 | 1.792 | 2.909 | 2.111 |
| Bicycle LOS | C | A | C | B |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 3: US-24 WB Ramps/Peterson Rd**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 9.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | | | | | |  | | |
| Turning Movement | Left | Thru | Right | U-tu | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 15.00 | 15.00 | 12.00 | 12.00 | 12.00 | 14.00 | 13.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.0 | 100.0 | 100.0 | 0.00 | 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 | 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 | 0.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 476 | 1010 | 0 | 0 | 0 | 250 | 168 | 0 | 0 | 0 | 24 | 0 | 70 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 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 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | | |
| Growth Factor | 1.0234 | 1.0234 | 1.0234 | 1.023 | 1.023 | 1.023 | 1.023 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 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 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 18 | 0 | 0 | -10 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 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 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 487 | 1034 | 0 | 18 | 0 | 256 | 162 | 0 | 0 | 0 | 25 | 0 | 72 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.920 | 0.920 | 0.920 | 0.920 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 132 | 281 | 0 | 5 | 0 | 70 | 44 | 0 | 0 | 0 | 7 | 0 | 20 |
| Total Analysis Volume [veh/h] | 529 | 1124 | 0 | 20 | 0 | 278 | 176 | 0 | 0 | 0 | 27 | 0 | 78 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | | 1 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 20 | | | 567 | | | | 332 | | | 1706 | | |
| Exiting Flow Rate [veh/h] | 311 | | | 1246 | | | | 540 | | | 0 | | |
| Demand Flow Rate [veh/h] | 487 | 1034 | 0 | 18 | 0 | 256 | 162 | 0 | 0 | 0 | 25 | 0 | 72 |
| Adjusted Demand Flow Rate [veh/h] | 529 | 1124 | 0 | 20 | 0 | 278 | 176 | 0 | 0 | 0 | 27 | 0 | 78 |

**Lanes**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 1420.00 | | 1350.00 | 1420.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00085 | | 0.00092 | 0.00085 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 793 | 894 | 143 | 162 | 0 | | 28 | 80 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1325 | 1396 | 802 | 877 | 898 | | 281 | 333 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1299 | 1369 | 786 | 860 | 881 | | 276 | 327 |
| X, volume / capacity | 0.60 | 0.64 | 0.18 | 0.18 | 0.20 | | 0.10 | 0.24 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Lane LOS | A | B | A | A | A | | B | C |
| 95th-Percentile Queue Length [veh] | 4.20 | 4.94 | 0.65 | 0.67 | 0.74 | | 0.32 | 0.92 |
| 95th-Percentile Queue Length [ft] | 104.88 | 123.58 | 16.15 | 16.75 | 18.59 | | 8.07 | 22.88 |
| Approach Delay [s/veh] | 10.11 | | 6.19 | | | 0.00 | 15.48 | |
| Approach LOS | B | | A | | | A | C | |
| Intersection Delay [s/veh] | 9.53 | | | | | | | |
| Intersection LOS | A | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Peterson Bl/ Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 17.2 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 50.00 | 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 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 296.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 49.21 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | No | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 888 | 357 | 266 | 3 | 0 | 217 | 101 | 11 | 3 | 0 | 381 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| 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] | 0 | 909 | 365 | 272 | 3 | 0 | 222 | 103 | 11 | 3 | 0 | 390 |
| 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 | 247 | 99 | 74 | 1 | 0 | 60 | 28 | 3 | 1 | 0 | 106 |
| Total Analysis Volume [veh/h] | 0 | 988 | 397 | 296 | 3 | 0 | 241 | 112 | 12 | 3 | 0 | 424 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | 2 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 662 | | | 3 | | | 308 | | | 1254 | | |
| Exiting Flow Rate [veh/h] | 6 | | | 1686 | | | 0 | | | 416 | | |
| Demand Flow Rate [veh/h] | 0 | 909 | 365 | 272 | 3 | 0 | 222 | 103 | 11 | 3 | 0 | 390 |
| Adjusted Demand Flow Rate [veh/h] | 0 | 988 | 397 | 296 | 3 | 0 | 241 | 112 | 12 | 3 | 0 | 424 |

**Lanes**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1420.00 | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 0.00 | 1350.00 | 1420.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00085 | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00000 | 0.00092 | 0.00085 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 474 | 535 | 0 | 302 | 4 | 246 | 115 | 0 | 4 | 433 |
| Capacity of Entry and Bypass Lanes [veh/h] | 735 | 809 | 997 | 1347 | 1417 | 1017 | 1093 | 102000 | 427 | 490 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 720 | 794 | 978 | 1320 | 1389 | 997 | 1072 | 100000 | 418 | 480 |
| X, volume / capacity | 0.65 | 0.66 | 0.41 | 0.22 | 0.00 | 0.24 | 0.10 | 0.00 | 0.01 | 0.88 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane LOS | C | C | A | A | A | A | A | A | A | E |
| 95th-Percentile Queue Length [veh] | 4.75 | 5.07 | 2.00 | 0.86 | 0.01 | 0.95 | 0.35 | 0.00 | 0.02 | 9.60 |
| 95th-Percentile Queue Length [ft] | 118.68 | 126.69 | 49.93 | 21.54 | 0.16 | 23.67 | 8.73 | 0.00 | 0.54 | 240.05 |
| Approach Delay [s/veh] | 14.13 | | | 4.62 | | 5.25 | | | 46.11 | |
| Approach LOS | B | | | A | | A | | | E | |
| Intersection Delay [s/veh] | 17.19 | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: US 24 EB Ramps/Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 75.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.438 |

**Intersection Setup**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | 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 | 1 |
| Entry Pocket Length [ft] | 100.00 | 290.00 | 400.00 | 100.00 | 100.00 | 485.00 |
| 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] | 30.00 | | 35.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 34 | 44 | 328 | 391 | 340 | 18 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| 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] | 35 | 45 | 336 | 400 | 348 | 18 |
| 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] | 10 | 12 | 91 | 109 | 95 | 5 |
| Total Analysis Volume [veh/h] | 38 | 49 | 365 | 435 | 378 | 20 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| 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 | 0.44 | 0.07 | 0.31 | 0.00 | 0.00 | 0.00 |
| d_M, Delay for Movement [s/veh] | 75.58 | 10.81 | 9.52 | 0.00 | 0.00 | 0.00 |
| Movement LOS | F | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 1.81 | 0.24 | 1.36 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 45.14 | 5.91 | 33.94 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 39.10 | | 4.34 | | 0.00 | |
| Approach LOS | E | | A | | A | |
| d_I, Intersection Delay [s/veh] | 5.35 | | | | | |
| Intersection LOS | F | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Meadowbrook Pkwy/ Newt Dr.**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 3.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 |
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 37 | 71 | 2 | 14 | 0 | 0 | 0 | 0 | 173 | 0 | 10 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| 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 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 38 | 103 | 2 | 14 | 0 | 0 | 0 | 0 | 195 | 0 | 10 |
| 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 | 10 | 28 | 1 | 4 | 0 | 0 | 0 | 0 | 53 | 0 | 3 |
| Total Analysis Volume [veh/h] | 0 | 41 | 112 | 2 | 15 | 0 | 0 | 0 | 0 | 212 | 0 | 11 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 1 | | | 1 | | | 1 | | | 1 | | |
| Circulating Flow Rate [veh/h] | 2 | | | 216 | | | 234 | | | 42 | | |
| Exiting Flow Rate [veh/h] | 232 | | | 53 | | | 0 | | | 116 | | |
| Demand Flow Rate [veh/h] | 0 | 38 | 103 | 2 | 14 | 0 | 0 | 0 | 0 | 195 | 0 | 10 |
| Adjusted Demand Flow Rate [veh/h] | 0 | 41 | 112 | 2 | 15 | 0 | 0 | 0 | 0 | 212 | 0 | 11 |

**Lanes**

| | | | | | |
|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1380.00 | 1380.00 | 1380.00 | 1420.00 | 1420.00 |
| B (coefficient) | 0.00102 | 0.00102 | 0.00102 | 0.00091 | 0.00091 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 157 | 18 | 0 | 217 | 12 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1378 | 1107 | 1088 | 1367 | 1367 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1351 | 1086 | 1067 | 1341 | 1341 |
| X, volume / capacity | 0.11 | 0.02 | 0.00 | 0.16 | 0.01 |

**Movement, Approach, & Intersection Results**

| | | | | | |
|---|---|---|---|---|---|
| Lane LOS | A | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.38 | 0.05 | 0.00 | 0.56 | 0.02 |
| 95th-Percentile Queue Length [ft] | 9.56 | 1.19 | 0.00 | 14.04 | 0.62 |
| Approach Delay [s/veh] | 3.57 | 3.45 | 3.38 | 3.92 | |
| Approach LOS | A | A | A | A | |
| Intersection Delay [s/veh] | 3.77 | | | | |
| Intersection LOS | A | | | | |

**Intersection Level Of Service Report**
**Intersection 7: Peterson Rd/ Panamint Ct**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 13.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.050 |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 26 | 1045 | 9 | 2 | 395 | 5 | 16 | 0 | 13 | 10 | 0 | 10 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| 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] | -27 | 43 | 2 | -2 | 2 | 0 | -16 | 0 | 16 | -10 | 0 | 10 |
| 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 | 1112 | 11 | 0 | 406 | 5 | 0 | 0 | 29 | 0 | 0 | 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] | 0 | 302 | 3 | 0 | 110 | 1 | 0 | 0 | 8 | 0 | 0 | 5 |
| Total Analysis Volume [veh/h] | 0 | 1209 | 12 | 0 | 441 | 5 | 0 | 0 | 32 | 0 | 0 | 22 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop | Stop |
|---|---|---|---|---|
| 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 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.05 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 9.81 | 0.00 | 0.00 | 13.67 |
| Movement LOS | | A | A | | A | A | | | A | | | B |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 | 0.00 | 0.16 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.20 | 0.00 | 0.00 | 3.96 |
| d_A, Approach Delay [s/veh] | 0.00 | | | 0.00 | | | 9.81 | | | 13.67 | | |
| Approach LOS | A | | | A | | | A | | | B | | |
| d_I, Intersection Delay [s/veh] | 0.36 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

# Signal Warrants Report For Intersection 5: US 24 EB Ramps/Space Village Av

## 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 | N |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | E | W | N |
| 1 | 366 | 736 | 80 |
| 2 | 355 | 714 | 78 |
| 3 | 348 | 699 | 76 |
| 4 | 326 | 655 | 71 |
| 5 | 289 | 581 | 63 |
| 6 | 285 | 574 | 62 |
| 7 | 282 | 567 | 62 |
| 8 | 256 | 515 | 56 |
| 9 | 253 | 508 | 55 |
| 10 | 249 | 500 | 54 |
| 11 | 216 | 434 | 47 |
| 12 | 201 | 405 | 44 |
| 13 | 198 | 397 | 43 |
| 14 | 146 | 294 | 32 |
| 15 | 146 | 294 | 32 |
| 16 | 102 | 206 | 22 |
| 17 | 59 | 118 | 13 |
| 18 | 59 | 118 | 13 |
| 19 | 33 | 66 | 7 |
| 20 | 18 | 37 | 4 |
| 21 | 11 | 22 | 2 |
| 22 | 4 | 7 | 1 |
| 23 | 4 | 7 | 1 |
| 24 | 4 | 7 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1102 | 2 | 80 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 2 | 2 | 1069 | 2 | 78 | No | No | No | No | No | No | Yes | Yes | No | No |
| 3 | 2 | 1047 | 2 | 76 | No | No | No | No | No | No | Yes | Yes | No | No |
| 4 | 2 | 981 | 2 | 71 | No | No | No | No | No | No | Yes | Yes | No | No |
| 5 | 2 | 870 | 2 | 63 | No | No | No | No | No | No | No | Yes | No | No |
| 6 | 2 | 859 | 2 | 62 | No | No | No | No | No | No | No | Yes | No | No |
| 7 | 2 | 849 | 2 | 62 | No | No | No | No | No | No | No | Yes | No | No |
| 8 | 2 | 771 | 2 | 56 | No | No | No | No | No | No | No | Yes | No | No |
| 9 | 2 | 761 | 2 | 55 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 749 | 2 | 54 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 650 | 2 | 47 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 606 | 2 | 44 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 595 | 2 | 43 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 440 | 2 | 32 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 440 | 2 | 32 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 308 | 2 | 22 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 177 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 177 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 99 | 2 | 7 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 55 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 33 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 8 | 0 | 0 |

## Warrant 3 Condition A

| | |
|---|---|
| Orientation | N |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 39.1 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:52 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 80 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1182 |
| 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 7: Peterson Rd/ Panamint Ct

## 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 | 1123 | 411 | 20 | 29 |
| 2 | 1089 | 399 | 19 | 28 |
| 3 | 1067 | 390 | 19 | 28 |
| 4 | 999 | 366 | 18 | 26 |
| 5 | 887 | 325 | 16 | 23 |
| 6 | 876 | 321 | 16 | 23 |
| 7 | 865 | 316 | 15 | 22 |
| 8 | 786 | 288 | 14 | 20 |
| 9 | 775 | 284 | 14 | 20 |
| 10 | 764 | 279 | 14 | 20 |
| 11 | 663 | 242 | 12 | 17 |
| 12 | 618 | 226 | 11 | 16 |
| 13 | 606 | 222 | 11 | 16 |
| 14 | 449 | 164 | 8 | 12 |
| 15 | 449 | 164 | 8 | 12 |
| 16 | 314 | 115 | 6 | 8 |
| 17 | 180 | 66 | 3 | 5 |
| 18 | 180 | 66 | 3 | 5 |
| 19 | 101 | 37 | 2 | 3 |
| 20 | 56 | 21 | 1 | 1 |
| 21 | 34 | 12 | 1 | 1 |
| 22 | 11 | 4 | 0 | 0 |
| 23 | 11 | 4 | 0 | 0 |
| 24 | 11 | 4 | 0 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1534 | 1 | 29 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 1488 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 1457 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 1365 | 1 | 26 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 1212 | 1 | 23 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 1197 | 1 | 23 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 1181 | 1 | 22 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 1074 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 1059 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 1043 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 905 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 844 | 1 | 16 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 828 | 1 | 16 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 613 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 613 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 429 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 246 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 246 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 138 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 77 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 46 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 15 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 15 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 15 | 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 | W |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 13.7 | 9.8 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:04 | 0:04 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 20 | 29 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 1583 | 1583 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Table of Contents

Intersection Level Of Service Report ..... 2
Intersection 1: Peterson Rd/ Galley Rd ..... 2
Intersection 2: US-24/SH-94/ Newt Dr ..... 7
Intersection 3: US-24 WB Ramps/Peterson Rd ..... 12
Intersection 4: Peterson Bl/ Space Village Av ..... 14
Intersection 5: US 24 EB Ramps/Space Village Av ..... 16
Intersection 6: Meadowbrook Pkwy/ Newt Dr. ..... 18
Intersection 7: Peterson Rd/ Panamint Ct ..... 20
Intersection 8: Peterson Rd/ Meadowbrook Pk ..... 22
Intersection 9: Meadowbrook Pk/Access 1 ..... 24
Signal Warrants Report ..... 26
Intersection 5: US 24 EB Ramps/Space Village Av ..... 26
Intersection 7: Peterson Rd/ Panamint Ct ..... 28
Intersection 8: Peterson Rd/ Meadowbrook Pk ..... 30
Intersection 9: Meadowbrook Pk/Access 1 ..... 32

**Intersection Level Of Service Report**
**Intersection 1: Peterson Rd/ Galley Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 14.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.454 |

**Intersection Setup**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| 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 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 125.00 | 100.00 | 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] | 30.00 | | 30.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | Yes | |
| Crosswalk | No | | Yes | | Yes | |

**Volumes**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 262 | 128 | 91 | 241 | 750 | 138 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 5 | 9 | 0 | 1 | 3 | 0 |
| Diverted Trips [veh/h] | 27 | 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 | 70 | 0 | 0 | 0 | 71 |
| Total Hourly Volume [veh/h] | 300 | 70 | 93 | 248 | 771 | 70 |
| 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] | 82 | 19 | 25 | 67 | 210 | 19 |
| Total Analysis Volume [veh/h] | 326 | 76 | 101 | 270 | 838 | 76 |
| 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] | 90 |
| Active Pattern | Free Running (No Pattern) |
| Coordination Type | *Free Running* |
| 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 (Basic)**

| Control Type | Permissive | Permissive | ProtPerm | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | No | | | |
| Signal Group | 2 | 0 | 1 | 6 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Maximum Green [s] | 45 | 0 | 15 | 45 | 30 | 0 |
| Amber [s] | 4.0 | 0.0 | 4.0 | 4.0 | 4.0 | 0.0 |
| All red [s] | 2.0 | 0.0 | 1.0 | 2.0 | 2.0 | 0.0 |
| Walk [s] | 5.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 |
| Pedestrian Clearance [s] | 17.0 | 0.0 | 0.0 | 0.0 | 10.0 | 0.0 |
| 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 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 4.0 | 0.0 | 3.0 | 4.0 | 4.0 | 0.0 |
| 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 |
| Advanced Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Advanced 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 |

**Phasing & Timing: Free Running (No Pattern)**

| | | | | | | |
|---|---|---|---|---|---|---|
| Split [s] | 14.0 | 0.0 | 9.0 | 14.0 | 9.0 | 0.0 |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 15 | 0 | 5 | 15 | 8 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.5 | 3.0 | 1.5 | 0.0 |
| Minimum Recall | Yes | | No | Yes | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |

**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, Calculated Cycle Length [s] | 50 | 50 | 50 | 50 | 50 | 50 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 4.00 | 4.00 | 0.00 | 4.00 | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 15.0 | 15.0 | 23.8 | 23.8 | 14.3 | 14.3 |
| g / C, Green / Cycle | 0.30 | 0.30 | 0.47 | 0.47 | 0.29 | 0.29 |
| (v / s)_i Volume / Saturation Flow Rate | 0.17 | 0.05 | 0.08 | 0.08 | 0.24 | 0.05 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 1212 | 3560 | 3459 | 1589 |
| c, Capacity [veh/h] | 558 | 474 | 643 | 1689 | 991 | 456 |
| d1, Uniform Delay [s] | 14.96 | 12.97 | 7.97 | 7.50 | 16.86 | 13.41 |
| k, delay calibration | 0.11 | 0.11 | 0.04 | 0.11 | 0.04 | 0.04 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.97 | 0.16 | 0.04 | 0.04 | 0.79 | 0.06 |
| 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 | 0.58 | 0.16 | 0.16 | 0.16 | 0.85 | 0.17 |
| d, Delay for Lane Group [s/veh] | 15.93 | 13.12 | 8.01 | 7.55 | 17.64 | 13.48 |
| Lane Group LOS | B | B | A | A | B | B |
| Critical Lane Group | Yes | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 2.86 | 0.57 | 0.48 | 0.66 | 3.88 | 0.55 |
| 50th-Percentile Queue Length [ft/ln] | 71.54 | 14.21 | 12.02 | 16.40 | 97.03 | 13.82 |
| 95th-Percentile Queue Length [veh/ln] | 5.15 | 1.02 | 0.87 | 1.18 | 6.99 | 0.99 |
| 95th-Percentile Queue Length [ft/ln] | 128.78 | 25.59 | 21.64 | 29.53 | 174.66 | 24.87 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 15.93 | 13.12 | 8.01 | 7.55 | 17.64 | 13.48 |
| Movement LOS | B | B | A | A | B | B |
| d_A, Approach Delay [s/veh] | 15.40 | | 7.67 | | 17.29 | |
| Approach LOS | B | | A | | B | |
| d_I, Intersection Delay [s/veh] | 14.73 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.454 | | | | | |

**Emissions**

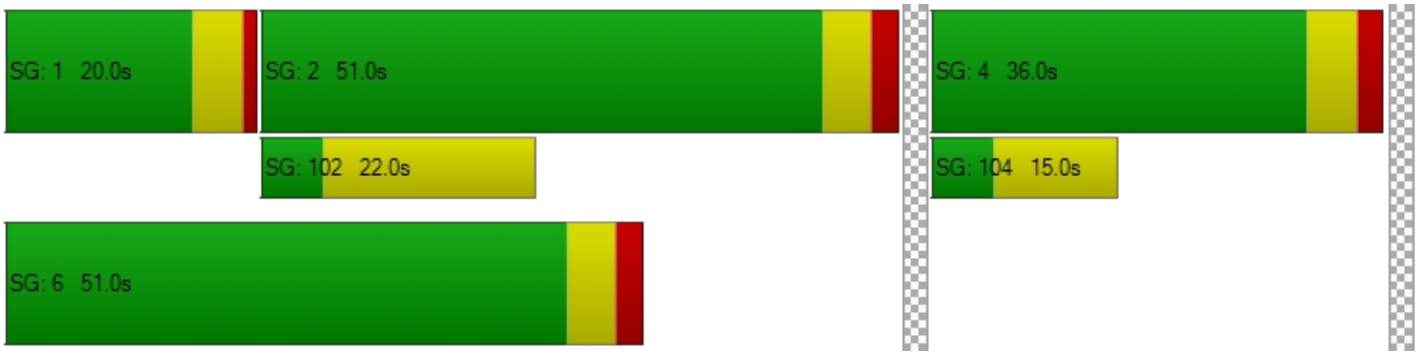
| | | | | | | |
|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 46.25 | 10.78 | 10.01 | 26.76 | 157.94 | 14.32 |
| Stops [stops/h] | 205.79 | 40.89 | 34.58 | 94.37 | 558.22 | 39.74 |
| Fuel consumption [US gal/h] | 4.10 | 0.87 | 0.77 | 2.04 | 13.23 | 1.05 |
| CO [g/h] | 286.43 | 61.01 | 53.67 | 142.43 | 924.58 | 73.63 |
| NOx [g/h] | 55.73 | 11.87 | 10.44 | 27.71 | 179.89 | 14.32 |
| VOC [g/h] | 66.38 | 14.14 | 12.44 | 33.01 | 214.28 | 17.06 |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 9.0 | 9.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 16.84 | 16.84 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 2.307 | 2.700 |
| Crosswalk LOS | F | B | B |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1798 | 1798 | 1199 |
| d_b, Bicycle Delay [s] | 0.26 | 0.26 | 4.02 |
| l_b,int, Bicycle LOS Score for Intersection | 2.338 | 1.866 | 1.560 |
| Bicycle LOS | B | A | A |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 2: US-24/SH-94/ Newt Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 41.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.734 |

**Intersection Setup**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 3 | 0 | 1 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 760.00 | 100.00 | 475.00 | 375.00 | 100.00 | 300.00 | 850.00 | 100.00 | 850.00 | 800.00 | 100.00 | 800.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 600.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 960.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 30.00 | | | 55.00 | | | 55.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 441 | 42 | 2 | 13 | 24 | 179 | 156 | 681 | 599 | 8 | 1758 | 43 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 3 | 0 | 23 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 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] | 342 | 48 | 0 | 25 | 51 | 278 | 268 | 123 | 222 | 0 | 0 | 25 |
| 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 | 1 | 0 | 0 | 231 | 0 | 0 | 418 | 0 | 0 | 38 |
| Total Hourly Volume [veh/h] | 793 | 94 | 1 | 61 | 85 | 230 | 428 | 820 | 417 | 8 | 1799 | 38 |
| 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] | 215 | 26 | 0 | 17 | 23 | 63 | 116 | 223 | 113 | 2 | 489 | 10 |
| Total Analysis Volume [veh/h] | 862 | 102 | 1 | 66 | 92 | 250 | 465 | 891 | 453 | 9 | 1955 | 41 |
| 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] | 52.0 |
| Offset Reference | Beginning of First Yellow |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Unsigna | Protecte | Permiss | Unsigna | ProtPer | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | | | | | | | | No | | |
| Signal Group | 3 | 8 | 0 | 7 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 15 | 15 | 0 | 5 | 7 | 0 | 8 | 65 | 0 | 7 | 65 | 0 |
| Amber [s] | 3.5 | 4.0 | 0.0 | 3.5 | 4.0 | 0.0 | 3.5 | 6.0 | 0.0 | 3.5 | 6.0 | 0.0 |
| All red [s] | 3.0 | 2.0 | 0.0 | 3.0 | 2.0 | 0.0 | 3.0 | 1.0 | 0.0 | 3.0 | 1.0 | 0.0 |
| Walk [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 |
| Pedestrian Clearance [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 |
| 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] | 4.5 | 4.0 | 0.0 | 4.5 | 4.0 | 0.0 | 4.5 | 5.0 | 0.0 | 4.5 | 5.0 | 0.0 |
| 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 |
| Advanced 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 |
| Advanced 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 28.0 | 24.0 | 0.0 | 20.0 | 16.0 | 0.0 | 25.0 | 63.0 | 0.0 | 13.0 | 51.0 | 0.0 |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 4 | 5 | 0 | 6 | 22 | 0 | 6 | 22 | 0 |
| Vehicle Extension [s] | 2.0 | 2.0 | 0.0 | 2.0 | 5.0 | 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 | Yes | | No | Yes | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |

**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 | L | C | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 6.50 | 6.00 | 6.00 | 6.50 | 6.00 | 6.50 | 7.00 | 7.00 | 7.00 | 7.00 |
| 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 |
| l2, Clearance Lost Time [s] | 4.50 | 4.00 | 4.00 | 4.50 | 4.00 | 4.50 | 5.00 | 0.00 | 5.00 | 5.00 |
| g_i, Effective Green Time [s] | 21.5 | 25.1 | 25.1 | 3.9 | 7.5 | 18.1 | 63.4 | 71.5 | 46.9 | 46.9 |
| g / C, Green / Cycle | 0.18 | 0.21 | 0.21 | 0.03 | 0.06 | 0.15 | 0.53 | 0.60 | 0.39 | 0.39 |
| (v / s)_i Volume / Saturation Flow Rate | 0.17 | 0.05 | 0.00 | 0.02 | 0.05 | 0.13 | 0.17 | 0.01 | 0.38 | 0.03 |
| s, saturation flow rate [veh/h] | 5188 | 1870 | 1589 | 3459 | 1870 | 3459 | 5094 | 723 | 5094 | 1589 |
| c, Capacity [veh/h] | 929 | 391 | 332 | 114 | 118 | 521 | 2688 | 455 | 1989 | 621 |
| d1, Uniform Delay [s] | 48.48 | 39.70 | 37.56 | 57.20 | 55.42 | 50.00 | 16.22 | 10.53 | 36.17 | 22.88 |
| k, delay calibration | 0.04 | 0.04 | 0.04 | 0.04 | 0.23 | 0.04 | 0.50 | 0.04 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.88 | 0.13 | 0.00 | 1.72 | 20.94 | 2.19 | 0.33 | 0.01 | 16.50 | 0.20 |
| 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 |
| Rp, platoon ratio | 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 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.93 | 0.26 | 0.00 | 0.58 | 0.78 | 0.89 | 0.33 | 0.02 | 0.98 | 0.07 |
| d, Delay for Lane Group [s/veh] | 50.36 | 39.83 | 37.56 | 58.92 | 76.35 | 52.19 | 16.56 | 10.54 | 52.67 | 23.08 |
| Lane Group LOS | D | D | D | E | E | D | B | B | D | C |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 8.20 | 2.42 | 0.02 | 1.02 | 3.43 | 6.68 | 4.30 | 0.09 | 20.27 | 0.72 |
| 50th-Percentile Queue Length [ft/ln] | 205.11 | 60.57 | 0.56 | 25.38 | 85.70 | 167.06 | 107.43 | 2.16 | 506.71 | 18.02 |
| 95th-Percentile Queue Length [veh/ln] | 12.90 | 4.36 | 0.04 | 1.83 | 6.17 | 10.92 | 7.70 | 0.16 | 27.65 | 1.30 |
| 95th-Percentile Queue Length [ft/ln] | 322.55 | 109.03 | 1.01 | 45.69 | 154.25 | 273.04 | 192.43 | 3.89 | 691.30 | 32.44 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 50.36 | 39.83 | 37.56 | 58.92 | 76.35 | 0.00 | 52.19 | 16.56 | 0.00 | 10.54 | 52.67 | 23.08 |
| Movement LOS | D | D | D | E | E | | D | B | | B | D | C |
| d_A, Approach Delay [s/veh] | 49.23 | | | 28.13 | | | 22.01 | | | 51.87 | | |
| Approach LOS | D | | | C | | | C | | | D | | |
| d_I, Intersection Delay [s/veh] | 41.44 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.734 | | | | | | | | | | | |

**Emissions**

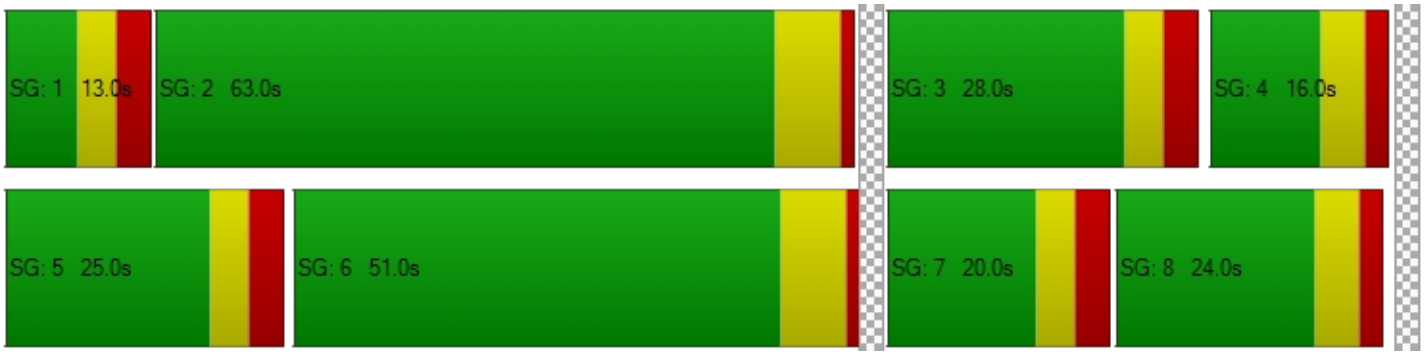
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 337.84 | 39.98 | 0.39 | 6.97 | 9.71 | 197.11 | 377.68 | 2.74 | 595.38 | 12.49 |
| Stops [stops/h] | 738.39 | 72.69 | 0.67 | 60.92 | 102.84 | 400.94 | 386.76 | 2.59 | 1824.16 | 21.63 |
| Fuel consumption [US gal/h] | 33.85 | 3.51 | 0.03 | 1.41 | 2.40 | 18.98 | 22.82 | 0.16 | 74.75 | 1.01 |
| CO [g/h] | 2366.09 | 245.64 | 2.33 | 98.88 | 167.56 | 1326.60 | 1595.12 | 11.12 | 5225.14 | 70.74 |
| NOx [g/h] | 460.35 | 47.79 | 0.45 | 19.24 | 32.60 | 258.11 | 310.35 | 2.16 | 1016.62 | 13.76 |
| VOC [g/h] | 548.36 | 56.93 | 0.54 | 22.92 | 38.83 | 307.45 | 369.68 | 2.58 | 1210.98 | 16.39 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 0.000 | 0.000 |
| Crosswalk LOS | F | F | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 300 | 167 | 933 | 733 |
| d_b, Bicycle Delay [s] | 43.35 | 50.42 | 17.07 | 24.07 |
| l_b,int, Bicycle LOS Score for Intersection | 3.154 | 1.820 | 2.305 | 2.683 |
| Bicycle LOS | C | A | 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 3: US-24 WB Ramps/Peterson Rd**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 9.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | | | | | |  | | |
| Turning Movement | Left | Thru | Right | U-tu | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 15.00 | 15.00 | 12.00 | 12.00 | 12.00 | 14.00 | 13.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.0 | 100.0 | 100.0 | 1.00 | 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 | 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 | 0.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 306 | 326 | 0 | 0 | 0 | 713 | 285 | 0 | 0 | 0 | 303 | 0 | 66 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 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 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | | |
| Growth Factor | 1.0234 | 1.0234 | 1.0234 | 1.023 | 1.023 | 1.023 | 1.023 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 12 | 0 | 0 | 0 | 10 | 30 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 7 | 0 | 0 | -11 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 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 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 313 | 346 | 0 | 7 | 0 | 740 | 311 | 0 | 0 | 0 | 310 | 0 | 68 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.920 | 0.920 | 0.920 | 0.920 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 85 | 94 | 0 | 2 | 0 | 201 | 85 | 0 | 0 | 0 | 84 | 0 | 18 |
| Total Analysis Volume [veh/h] | 340 | 376 | 0 | 8 | 0 | 804 | 338 | 0 | 0 | 0 | 337 | 0 | 74 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | | 1 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 8 | | | 691 | | | | 1172 | | | 738 | | |
| Exiting Flow Rate [veh/h] | 1164 | | | 467 | | | | 347 | | | 0 | | |
| Demand Flow Rate [veh/h] | 313 | 346 | 0 | 7 | 0 | 740 | 311 | 0 | 0 | 0 | 310 | 0 | 68 |
| Adjusted Demand Flow Rate [veh/h] | 340 | 376 | 0 | 8 | 0 | 804 | 338 | 0 | 0 | 0 | 337 | 0 | 74 |

**Lanes**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 1420.00 | | 1350.00 | 1420.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00085 | | 0.00092 | 0.00085 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 347 | 384 | 390 | 439 | 0 | | 344 | 76 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1340 | 1411 | 716 | 790 | 1058 | | 685 | 759 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1314 | 1383 | 702 | 775 | 1037 | | 671 | 744 |
| X, volume / capacity | 0.26 | 0.27 | 0.54 | 0.56 | 0.33 | | 0.50 | 0.10 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Lane LOS | A | A | B | B | A | | B | A |
| 95th-Percentile Queue Length [veh] | 1.04 | 1.11 | 3.31 | 3.48 | 1.43 | | 2.84 | 0.33 |
| 95th-Percentile Queue Length [ft] | 25.97 | 27.77 | 82.72 | 86.88 | 35.70 | | 70.88 | 8.26 |
| Approach Delay [s/veh] | 4.96 | | 11.48 | | | 0.00 | 11.85 | |
| Approach LOS | A | | B | | | A | B | |
| Intersection Delay [s/veh] | 9.49 | | | | | | | |
| Intersection LOS | A | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Peterson Bl/ Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 6.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 250.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 286.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | No | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 147 | 67 | 160 | 856 | 0 | 66 | 163 | 374 | 96 | 0 | 419 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 1 | 0 | 5 | 5 | 0 | 10 | 0 | 0 | 0 | 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 |
| Total Hourly Volume [veh/h] | 0 | 151 | 69 | 169 | 881 | 0 | 78 | 167 | 383 | 98 | 0 | 430 |
| 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 | 41 | 19 | 46 | 239 | 0 | 21 | 45 | 104 | 27 | 0 | 117 |
| Total Analysis Volume [veh/h] | 0 | 164 | 75 | 184 | 958 | 0 | 85 | 182 | 416 | 107 | 0 | 467 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | 2 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 460 | | | 109 | | | 1274 | | | 254 | | |
| Exiting Flow Rate [veh/h] | 1086 | | | 730 | | | 0 | | | 373 | | |
| Demand Flow Rate [veh/h] | 0 | 151 | 69 | 169 | 881 | 0 | 78 | 167 | 383 | 98 | 0 | 430 |
| Adjusted Demand Flow Rate [veh/h] | 0 | 164 | 75 | 184 | 958 | 0 | 85 | 182 | 416 | 107 | 0 | 467 |

**Lanes**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1420.00 | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 0.00 | 1350.00 | 1420.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00085 | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00000 | 0.00092 | 0.00085 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 79 | 89 | 0 | 548 | 618 | 87 | 186 | 0 | 110 | 477 |
| Capacity of Entry and Bypass Lanes [veh/h] | 885 | 961 | 1034 | 1222 | 1295 | 419 | 481 | 102000 | 1069 | 1145 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 867 | 942 | 1014 | 1198 | 1269 | 410 | 472 | 100000 | 1048 | 1122 |
| X, volume / capacity | 0.09 | 0.09 | 0.07 | 0.45 | 0.48 | 0.21 | 0.39 | 0.00 | 0.10 | 0.42 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane LOS | A | A | A | A | A | B | B | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.29 | 0.30 | 0.24 | 2.37 | 2.65 | 0.77 | 1.80 | 0.00 | 0.34 | 2.09 |
| 95th-Percentile Queue Length [ft] | 7.30 | 7.61 | 5.98 | 59.26 | 66.29 | 19.25 | 44.93 | 0.00 | 8.51 | 52.16 |
| Approach Delay [s/veh] | 4.63 | | | 7.73 | | 5.31 | | | 6.96 | |
| Approach LOS | A | | | A | | A | | | A | |
| Intersection Delay [s/veh] | 6.66 | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: US 24 EB Ramps/Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 34.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.346 |

**Intersection Setup**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | 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 | 1 |
| Entry Pocket Length [ft] | 100.00 | 290.00 | 400.00 | 100.00 | 100.00 | 485.00 |
| 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] | 30.00 | | 35.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 58 | 10 | 135 | 255 | 505 | 37 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 5 | 1 | 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] | 59 | 10 | 138 | 266 | 518 | 38 |
| 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] | 16 | 3 | 38 | 72 | 141 | 10 |
| Total Analysis Volume [veh/h] | 64 | 11 | 150 | 289 | 563 | 41 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| Priority Scheme | Stop | Free | Free |
|---|---|---|---|
| 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 | 0.35 | 0.02 | 0.15 | 0.00 | 0.01 | 0.00 |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 34.44 | 11.99 | 9.37 | 0.00 | 0.00 | 0.00 |
| Movement LOS | D | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 1.45 | 0.06 | 0.54 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 36.23 | 1.60 | 13.59 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 31.15 | | 3.20 | | 0.00 | |
| Approach LOS | D | | A | | A | |
| d_I, Intersection Delay [s/veh] | 3.35 | | | | | |
| Intersection LOS | D | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Meadowbrook Pkwy/ Newt Dr.**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 3.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 |
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 16 | 109 | 3 | 41 | 0 | 0 | 0 | 0 | 151 | 0 | 3 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0234 | 1.0000 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 10 | 0 | 0 | 0 | 0 | 0 | 1 | 3 | 32 | 0 | 1 | 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 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 10 | 16 | 121 | 3 | 42 | 0 | 1 | 3 | 32 | 182 | 1 | 3 |
| 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] | 3 | 4 | 33 | 1 | 11 | 0 | 0 | 1 | 9 | 49 | 0 | 1 |
| Total Analysis Volume [veh/h] | 11 | 17 | 132 | 3 | 46 | 0 | 1 | 3 | 35 | 198 | 1 | 3 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 1 | | | 1 | | | 1 | | | 1 | | |
| Circulating Flow Rate [veh/h] | 7 | | | 214 | | | 252 | | | 30 | | |
| Exiting Flow Rate [veh/h] | 285 | | | 21 | | | 12 | | | 141 | | |
| Demand Flow Rate [veh/h] | 10 | 16 | 121 | 3 | 42 | 0 | 1 | 3 | 32 | 182 | 1 | 3 |
| Adjusted Demand Flow Rate [veh/h] | 11 | 17 | 132 | 3 | 46 | 0 | 1 | 3 | 35 | 198 | 1 | 3 |

**Lanes**

| | | | | | |
|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1380.00 | 1380.00 | 1380.00 | 1420.00 | 1420.00 |
| B (coefficient) | 0.00102 | 0.00102 | 0.00102 | 0.00091 | 0.00091 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 164 | 50 | 40 | 203 | 4 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1370 | 1110 | 1068 | 1383 | 1383 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1344 | 1088 | 1047 | 1356 | 1356 |
| X, volume / capacity | 0.12 | 0.05 | 0.04 | 0.15 | 0.00 |

**Movement, Approach, & Intersection Results**

| | | | | | |
|---|---|---|---|---|---|
| Lane LOS | A | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.40 | 0.14 | 0.12 | 0.51 | 0.01 |
| 95th-Percentile Queue Length [ft] | 10.11 | 3.54 | 2.90 | 12.86 | 0.17 |
| Approach Delay [s/veh] | 3.64 | 3.69 | 3.76 | 3.83 | |
| Approach LOS | A | A | A | A | |
| Intersection Delay [s/veh] | 3.74 | | | | |
| Intersection LOS | A | | | | |

**Intersection Level Of Service Report**
**Intersection 7: Peterson Rd/ Panamint Ct**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 12.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.019 |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 383 | 10 | 4 | 984 | 3 | 2 | 1 | 5 | 11 | 3 | 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 6 | 6 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Diverted Trips [veh/h] | -11 | 13 | 5 | -4 | 4 | 0 | -2 | -1 | 3 | -11 | -3 | 14 |
| 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 | 411 | 21 | 0 | 1051 | 3 | 0 | 0 | 8 | 0 | 0 | 25 |
| 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 | 112 | 6 | 0 | 286 | 1 | 0 | 0 | 2 | 0 | 0 | 7 |
| Total Analysis Volume [veh/h] | 0 | 447 | 23 | 0 | 1142 | 3 | 0 | 0 | 9 | 0 | 0 | 27 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop | Stop |
|---|---|---|---|---|
| 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 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.93 | 0.00 | 0.00 | 9.87 |
| Movement LOS | | A | A | | A | A | | | B | | | A |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.06 | 0.00 | 0.00 | 0.11 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.49 | 0.00 | 0.00 | 2.73 |
| d_A, Approach Delay [s/veh] | 0.00 | | | 0.00 | | | 12.93 | | | 9.87 | | |
| Approach LOS | A | | | A | | | B | | | A | | |
| d_I, Intersection Delay [s/veh] | 0.23 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 8: Peterson Rd/ Meadowbrook Pk**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 24.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.190 |

**Intersection Setup**

| Name | Peterson Rd | | Peterson Rd | | Meadowbrook Pk | |
|---|---|---|---|---|---|---|
| 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 | 0 | 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 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | Peterson Rd | | Peterson Rd | | Meadowbrook Pk | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 390 | 0 | 0 | 991 | 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 | 1.0234 | 1.0000 | 1.0000 | 1.0234 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 7 | 6 | 4 | 0 | 40 | 7 |
| Diverted Trips [veh/h] | 27 | 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] | 433 | 6 | 4 | 1014 | 40 | 7 |
| 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] | 118 | 2 | 1 | 276 | 11 | 2 |
| Total Analysis Volume [veh/h] | 471 | 7 | 4 | 1102 | 43 | 8 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop |
|---|---|---|---|
| Flared Lane | | | No |
| 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 | 0.00 | 0.00 | 0.00 | 0.01 | 0.19 | 0.01 |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 8.34 | 0.00 | 24.37 | 13.22 |
| Movement LOS | A | A | A | A | C | B |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.01 | 0.00 | 0.73 | 0.73 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.17 | 0.08 | 18.23 | 18.23 |
| d_A, Approach Delay [s/veh] | 0.00 | | 0.03 | | 22.62 | |
| Approach LOS | A | | A | | C | |
| d_I, Intersection Delay [s/veh] | 0.73 | | | | | |
| Intersection LOS | C | | | | | |

**Intersection Level Of Service Report**
**Intersection 9: Meadowbrook Pk/Access 1**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 8.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.052 |

**Intersection Setup**

| Name | Access A | | | Access A | | | Meadowbrook Pk | | | Meadowbrook Pk | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Access A | | | Access A | | | Meadowbrook Pk | | | Meadowbrook Pk | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 47 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 10 | 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] | 47 | 0 | 36 | 0 | 0 | 0 | 0 | 0 | 10 | 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] | 13 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 |
| Total Analysis Volume [veh/h] | 51 | 0 | 39 | 0 | 0 | 0 | 0 | 0 | 11 | 12 | 0 | 0 |
| 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 | 0.05 | 0.00 | 0.04 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 8.91 | 0.00 | 8.47 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.26 | 0.00 | 0.00 |
| Movement LOS | A | | A | | | | | A | A | A | A | |
| 95th-Percentile Queue Length [veh/ln] | 0.17 | 0.00 | 0.11 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 4.15 | 0.00 | 2.81 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.56 | 0.56 | 0.00 |
| d_A, Approach Delay [s/veh] | 8.72 | | | 0.00 | | | 0.00 | | | 7.26 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 7.71 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

# Signal Warrants Report For Intersection 5: US 24 EB Ramps/Space Village Av

## 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 | N |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | E | W | N |
| 1 | 556 | 404 | 69 |
| 2 | 539 | 392 | 67 |
| 3 | 528 | 384 | 66 |
| 4 | 495 | 360 | 61 |
| 5 | 439 | 319 | 55 |
| 6 | 434 | 315 | 54 |
| 7 | 428 | 311 | 53 |
| 8 | 389 | 283 | 48 |
| 9 | 384 | 279 | 48 |
| 10 | 378 | 275 | 47 |
| 11 | 328 | 238 | 41 |
| 12 | 306 | 222 | 38 |
| 13 | 300 | 218 | 37 |
| 14 | 222 | 162 | 28 |
| 15 | 222 | 162 | 28 |
| 16 | 156 | 113 | 19 |
| 17 | 89 | 65 | 11 |
| 18 | 89 | 65 | 11 |
| 19 | 50 | 36 | 6 |
| 20 | 28 | 20 | 3 |
| 21 | 17 | 12 | 2 |
| 22 | 6 | 4 | 1 |
| 23 | 6 | 4 | 1 |
| 24 | 6 | 4 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 960 | 2 | 69 | No | No | No | No | No | No | No | Yes | No | No |
| 2 | 2 | 931 | 2 | 67 | No | No | No | No | No | No | No | Yes | No | No |
| 3 | 2 | 912 | 2 | 66 | No | No | No | No | No | No | No | Yes | No | No |
| 4 | 2 | 855 | 2 | 61 | No | No | No | No | No | No | No | Yes | No | No |
| 5 | 2 | 758 | 2 | 55 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 749 | 2 | 54 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 739 | 2 | 53 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 672 | 2 | 48 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 663 | 2 | 48 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 653 | 2 | 47 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 566 | 2 | 41 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 528 | 2 | 38 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 518 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 384 | 2 | 28 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 384 | 2 | 28 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 269 | 2 | 19 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 154 | 2 | 11 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 154 | 2 | 11 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 86 | 2 | 6 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 48 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 29 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 10 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 10 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 10 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | N |
|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 31.2 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:35 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 69 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1029 |
| 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 7: Peterson Rd/ Panamint Ct

## 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 | 432 | 1054 | 25 | 8 |
| 2 | 419 | 1022 | 24 | 8 |
| 3 | 410 | 1001 | 24 | 8 |
| 4 | 384 | 938 | 22 | 7 |
| 5 | 341 | 833 | 20 | 6 |
| 6 | 337 | 822 | 20 | 6 |
| 7 | 333 | 812 | 19 | 6 |
| 8 | 302 | 738 | 18 | 6 |
| 9 | 298 | 727 | 17 | 6 |
| 10 | 294 | 717 | 17 | 5 |
| 11 | 255 | 622 | 15 | 5 |
| 12 | 238 | 580 | 14 | 4 |
| 13 | 233 | 569 | 14 | 4 |
| 14 | 173 | 422 | 10 | 3 |
| 15 | 173 | 422 | 10 | 3 |
| 16 | 121 | 295 | 7 | 2 |
| 17 | 69 | 169 | 4 | 1 |
| 18 | 69 | 169 | 4 | 1 |
| 19 | 39 | 95 | 2 | 1 |
| 20 | 22 | 53 | 1 | 0 |
| 21 | 13 | 32 | 1 | 0 |
| 22 | 4 | 11 | 0 | 0 |
| 23 | 4 | 11 | 0 | 0 |
| 24 | 4 | 11 | 0 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1486 | 1 | 25 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 1441 | 1 | 24 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 1411 | 1 | 24 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 1322 | 1 | 22 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 1174 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 1159 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 1145 | 1 | 19 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 1040 | 1 | 18 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 1025 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 1011 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 877 | 1 | 15 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 818 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 802 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 595 | 1 | 10 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 595 | 1 | 10 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 416 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 238 | 1 | 4 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 238 | 1 | 4 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 134 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 75 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 45 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 15 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 15 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 15 | 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 | W |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 9.9 | 12.9 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:04 | 0:01 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 25 | 8 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 1519 | 1519 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Signal Warrants Report For Intersection 8: Peterson Rd/ Meadowbrook Pk

## 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 |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | S | N | E |
| 1 | 439 | 1018 | 47 |
| 2 | 426 | 987 | 46 |
| 3 | 417 | 967 | 45 |
| 4 | 391 | 906 | 42 |
| 5 | 347 | 804 | 37 |
| 6 | 342 | 794 | 37 |
| 7 | 338 | 784 | 36 |
| 8 | 307 | 713 | 33 |
| 9 | 303 | 702 | 32 |
| 10 | 299 | 692 | 32 |
| 11 | 259 | 601 | 28 |
| 12 | 241 | 560 | 26 |
| 13 | 237 | 550 | 25 |
| 14 | 176 | 407 | 19 |
| 15 | 176 | 407 | 19 |
| 16 | 123 | 285 | 13 |
| 17 | 70 | 163 | 8 |
| 18 | 70 | 163 | 8 |
| 19 | 40 | 92 | 4 |
| 20 | 22 | 51 | 2 |
| 21 | 13 | 31 | 1 |
| 22 | 4 | 10 | 0 |
| 23 | 4 | 10 | 0 |
| 24 | 4 | 10 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1457 | 1 | 47 | No | No | No | No | No | No | No | Yes | No | No |
| 2 | 2 | 1413 | 1 | 46 | No | No | No | No | No | No | No | Yes | No | No |
| 3 | 2 | 1384 | 1 | 45 | No | No | No | No | No | No | No | Yes | No | No |
| 4 | 2 | 1297 | 1 | 42 | No | No | No | No | No | No | No | Yes | No | No |
| 5 | 2 | 1151 | 1 | 37 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 1136 | 1 | 37 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 1122 | 1 | 36 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 1020 | 1 | 33 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 1005 | 1 | 32 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 991 | 1 | 32 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 860 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 801 | 1 | 26 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 787 | 1 | 25 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 583 | 1 | 19 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 583 | 1 | 19 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 408 | 1 | 13 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 233 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 233 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 132 | 1 | 4 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 73 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 44 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 14 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 14 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 14 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |

## Warrant 3 Condition A

| | |
|---|---|
| Orientation | E |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 22.6 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:17 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 47 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1504 |
| 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 9: Meadowbrook Pk/Access 1

## 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 | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | E | W | S |
| 1 | 11 | 10 | 83 |
| 2 | 11 | 10 | 81 |
| 3 | 10 | 10 | 79 |
| 4 | 10 | 9 | 74 |
| 5 | 9 | 8 | 66 |
| 6 | 9 | 8 | 65 |
| 7 | 8 | 8 | 64 |
| 8 | 8 | 7 | 58 |
| 9 | 8 | 7 | 57 |
| 10 | 7 | 7 | 56 |
| 11 | 6 | 6 | 49 |
| 12 | 6 | 6 | 46 |
| 13 | 6 | 5 | 45 |
| 14 | 4 | 4 | 33 |
| 15 | 4 | 4 | 33 |
| 16 | 3 | 3 | 23 |
| 17 | 2 | 2 | 13 |
| 18 | 2 | 2 | 13 |
| 19 | 1 | 1 | 7 |
| 20 | 1 | 1 | 4 |
| 21 | 0 | 0 | 2 |
| 22 | 0 | 0 | 1 |
| 23 | 0 | 0 | 1 |
| 24 | 0 | 0 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 1 | 21 | 2 | 83 | No | No | No | No | No | No | No | No | No | No |
| 2 | 1 | 21 | 2 | 81 | No | No | No | No | No | No | No | No | No | No |
| 3 | 1 | 20 | 2 | 79 | No | No | No | No | No | No | No | No | No | No |
| 4 | 1 | 19 | 2 | 74 | No | No | No | No | No | No | No | No | No | No |
| 5 | 1 | 17 | 2 | 66 | No | No | No | No | No | No | No | No | No | No |
| 6 | 1 | 17 | 2 | 65 | No | No | No | No | No | No | No | No | No | No |
| 7 | 1 | 16 | 2 | 64 | No | No | No | No | No | No | No | No | No | No |
| 8 | 1 | 15 | 2 | 58 | No | No | No | No | No | No | No | No | No | No |
| 9 | 1 | 15 | 2 | 57 | No | No | No | No | No | No | No | No | No | No |
| 10 | 1 | 14 | 2 | 56 | No | No | No | No | No | No | No | No | No | No |
| 11 | 1 | 12 | 2 | 49 | No | No | No | No | No | No | No | No | No | No |
| 12 | 1 | 12 | 2 | 46 | No | No | No | No | No | No | No | No | No | No |
| 13 | 1 | 11 | 2 | 45 | No | No | No | No | No | No | No | No | No | No |
| 14 | 1 | 8 | 2 | 33 | No | No | No | No | No | No | No | No | No | No |
| 15 | 1 | 8 | 2 | 33 | No | No | No | No | No | No | No | No | No | No |
| 16 | 1 | 6 | 2 | 23 | No | No | No | No | No | No | No | No | No | No |
| 17 | 1 | 4 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 18 | 1 | 4 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 19 | 1 | 2 | 2 | 7 | No | No | No | No | No | No | No | No | No | No |
| 20 | 1 | 2 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 21 | 1 | 0 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 1 | 0 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 1 | 0 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 1 | 0 | 2 | 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 |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 8.7 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:12 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 83 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 104 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | No |
| Warrant Met for Approach | No |
| **Warrant Met for Intersection** | **No** |

# Table of Contents

Intersection Level Of Service Report ..... 2
Intersection 1: Peterson Rd/ Galley Rd ..... 2
Intersection 2: US-24/SH-94/ Newt Dr ..... 7
Intersection 3: US-24 WB Ramps/Peterson Rd ..... 12
Intersection 4: Peterson Bl/ Space Village Av ..... 14
Intersection 5: US 24 EB Ramps/Space Village Av ..... 16
Intersection 6: Meadowbrook Pkwy/ Newt Dr. ..... 18
Intersection 7: Peterson Rd/ Panamint Ct ..... 20
Intersection 8: Peterson Rd/ Meadowbrook Pk ..... 22
Intersection 9: Meadowbrook Pk/Access 1 ..... 24
Signal Warrants Report ..... 26
Intersection 5: US 24 EB Ramps/Space Village Av ..... 26
Intersection 7: Peterson Rd/ Panamint Ct ..... 28
Intersection 8: Peterson Rd/ Meadowbrook Pk ..... 30
Intersection 9: Meadowbrook Pk/Access 1 ..... 32

**Intersection Level Of Service Report**
**Intersection 1: Peterson Rd/ Galley Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 12.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.431 |

**Intersection Setup**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| 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 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 125.00 | 100.00 | 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] | 30.00 | | 30.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | Yes | |
| Crosswalk | No | | Yes | | Yes | |

**Volumes**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 273 | 798 | 191 | 169 | 233 | 79 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 3 | 6 | 0 | 5 | 9 | 0 |
| Diverted Trips [veh/h] | 53 | 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 | 412 | 0 | 0 | 0 | 41 |
| Total Hourly Volume [veh/h] | 335 | 411 | 195 | 178 | 247 | 40 |
| 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] | 91 | 112 | 53 | 48 | 67 | 11 |
| Total Analysis Volume [veh/h] | 364 | 447 | 212 | 193 | 268 | 43 |
| 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] | 90 |
| Active Pattern | Free Running (No Pattern) |
| Coordination Type | *Free Running* |
| 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 (Basic)**

| Control Type | Permissive | Permissive | ProtPerm | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | No | | | |
| Signal Group | 2 | 0 | 1 | 6 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Maximum Green [s] | 45 | 0 | 15 | 45 | 30 | 0 |
| Amber [s] | 4.0 | 0.0 | 4.0 | 4.0 | 4.0 | 0.0 |
| All red [s] | 2.0 | 0.0 | 1.0 | 2.0 | 2.0 | 0.0 |
| Walk [s] | 5.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 |
| Pedestrian Clearance [s] | 17.0 | 0.0 | 0.0 | 0.0 | 10.0 | 0.0 |
| 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 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 4.0 | 0.0 | 3.0 | 4.0 | 4.0 | 0.0 |
| 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 |
| Advanced Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Advanced 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 |

**Phasing & Timing: Free Running (No Pattern)**

| | | | | | | |
|---|---|---|---|---|---|---|
| Split [s] | 14.0 | 0.0 | 9.0 | 14.0 | 9.0 | 0.0 |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 15 | 0 | 5 | 15 | 8 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.5 | 3.0 | 1.5 | 0.0 |
| Minimum Recall | Yes | | No | Yes | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |

**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, Calculated Cycle Length [s] | 45 | 45 | 45 | 45 | 45 | 45 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 4.00 | 4.00 | 0.00 | 4.00 | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 15.9 | 15.9 | 25.5 | 25.5 | 7.9 | 7.9 |
| g / C, Green / Cycle | 0.35 | 0.35 | 0.56 | 0.56 | 0.17 | 0.17 |
| (v / s)_i Volume / Saturation Flow Rate | 0.19 | 0.28 | 0.21 | 0.05 | 0.08 | 0.03 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 1005 | 3560 | 3459 | 1589 |
| c, Capacity [veh/h] | 655 | 556 | 700 | 2005 | 598 | 275 |
| d1, Uniform Delay [s] | 11.92 | 13.36 | 5.70 | 4.59 | 16.85 | 15.98 |
| k, delay calibration | 0.11 | 0.11 | 0.07 | 0.11 | 0.04 | 0.04 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.74 | 2.77 | 0.16 | 0.02 | 0.20 | 0.10 |
| 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 | 0.56 | 0.80 | 0.30 | 0.10 | 0.45 | 0.16 |
| d, Delay for Lane Group [s/veh] | 12.66 | 16.13 | 5.86 | 4.61 | 17.04 | 16.07 |
| Lane Group LOS | B | B | A | A | B | B |
| Critical Lane Group | No | Yes | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 2.54 | 3.73 | 0.66 | 0.27 | 1.08 | 0.33 |
| 50th-Percentile Queue Length [ft/ln] | 63.44 | 93.35 | 16.58 | 6.85 | 26.96 | 8.26 |
| 95th-Percentile Queue Length [veh/ln] | 4.57 | 6.72 | 1.19 | 0.49 | 1.94 | 0.59 |
| 95th-Percentile Queue Length [ft/ln] | 114.18 | 168.02 | 29.85 | 12.34 | 48.52 | 14.87 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 12.66 | 16.13 | 5.86 | 4.61 | 17.04 | 16.07 |
| Movement LOS | B | B | A | A | B | B |
| d_A, Approach Delay [s/veh] | 14.57 | | 5.26 | | 16.91 | |
| Approach LOS | B | | A | | B | |
| d_I, Intersection Delay [s/veh] | 12.58 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.431 | | | | | |

**Emissions**

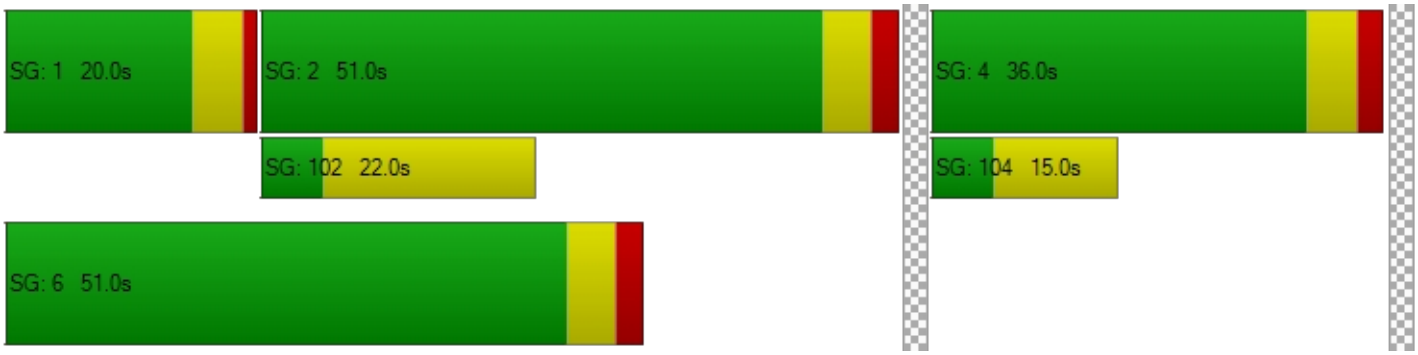
| | | | | | | |
|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 51.64 | 63.42 | 21.01 | 19.13 | 50.51 | 8.10 |
| Stops [stops/h] | 201.33 | 296.27 | 52.63 | 43.50 | 171.10 | 26.23 |
| Fuel consumption [US gal/h] | 4.18 | 5.71 | 1.41 | 1.21 | 4.14 | 0.65 |
| CO [g/h] | 291.92 | 399.45 | 98.46 | 84.50 | 289.51 | 45.21 |
| NOx [g/h] | 56.80 | 77.72 | 19.16 | 16.44 | 56.33 | 8.80 |
| VOC [g/h] | 67.66 | 92.58 | 22.82 | 19.58 | 67.10 | 10.48 |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 9.0 | 9.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 14.58 | 14.58 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 2.304 | 2.765 |
| Crosswalk LOS | F | B | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1984 | 1984 | 1322 |
| d_b, Bicycle Delay [s] | 0.00 | 0.00 | 2.60 |
| l_b,int, Bicycle LOS Score for Intersection | 3.578 | 1.894 | 1.560 |
| Bicycle LOS | D | A | A |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 2: US-24/SH-94/ Newt Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 30.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.618 |

**Intersection Setup**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 3 | 0 | 1 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 760.00 | 100.00 | 475.00 | 375.00 | 100.00 | 300.00 | 850.00 | 100.00 | 600.00 | 800.00 | 100.00 | 800.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 600.00 | 0.00 | 0.00 | 330.00 | 0.00 | 0.00 | 960.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 30.00 | | | 55.00 | | | 55.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 405 | 31 | 4 | 26 | 50 | 166 | 155 | 1723 | 394 | 7 | 851 | 24 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 9 | 0 | 15 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 24 |
| 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] | 360 | 40 | 0 | 17 | 35 | 188 | 221 | 115 | 280 | 0 | 0 | 20 |
| 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 | 2 | 0 | 0 | 179 | 0 | 0 | 342 | 0 | 0 | 35 |
| Total Hourly Volume [veh/h] | 774 | 81 | 2 | 59 | 92 | 179 | 380 | 1878 | 341 | 7 | 871 | 34 |
| 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] | 210 | 22 | 1 | 16 | 25 | 49 | 103 | 510 | 93 | 2 | 237 | 9 |
| Total Analysis Volume [veh/h] | 841 | 88 | 2 | 64 | 100 | 195 | 413 | 2041 | 371 | 8 | 947 | 37 |
| 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] | 110 |
| Active Pattern | Pattern 1 |
| Coordination Type | Time of Day Pattern Coordinated |
| Actuation Type | Fully actuated |
| Offset [s] | 52.0 |
| Offset Reference | Beginning of First Yellow |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Unsigna | Protecte | Permiss | Unsigna | ProtPer | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | | | | | | | | No | | |
| Signal Group | 3 | 8 | 0 | 7 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 15 | 15 | 0 | 5 | 7 | 0 | 8 | 65 | 0 | 7 | 65 | 0 |
| Amber [s] | 3.5 | 4.0 | 0.0 | 3.5 | 4.0 | 0.0 | 3.5 | 6.0 | 0.0 | 3.5 | 6.0 | 0.0 |
| All red [s] | 3.0 | 2.0 | 0.0 | 3.0 | 2.0 | 0.0 | 3.0 | 1.0 | 0.0 | 3.0 | 1.0 | 0.0 |
| Walk [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 |
| Pedestrian Clearance [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 |
| 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] | 4.5 | 4.0 | 0.0 | 4.5 | 4.0 | 0.0 | 4.5 | 5.0 | 0.0 | 4.5 | 5.0 | 0.0 |
| 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 |
| Advanced 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 |
| Advanced 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 27.0 | 24.0 | 0.0 | 22.0 | 19.0 | 0.0 | 30.0 | 51.0 | 0.0 | 13.0 | 34.0 | 0.0 |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 4 | 5 | 0 | 6 | 22 | 0 | 6 | 22 | 0 |
| Vehicle Extension [s] | 2.0 | 2.0 | 0.0 | 2.0 | 5.0 | 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 | Yes | | No | Yes | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |

**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 | L | C | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 | 110 |
| L, Total Lost Time per Cycle [s] | 6.50 | 6.00 | 6.00 | 6.50 | 6.00 | 6.50 | 7.00 | 7.00 | 7.00 | 7.00 |
| 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 |
| l2, Clearance Lost Time [s] | 4.50 | 4.00 | 4.00 | 4.50 | 4.00 | 4.50 | 5.00 | 0.00 | 5.00 | 5.00 |
| g_i, Effective Green Time [s] | 19.7 | 23.8 | 23.8 | 3.6 | 7.6 | 15.4 | 55.3 | 63.2 | 41.3 | 41.3 |
| g / C, Green / Cycle | 0.18 | 0.22 | 0.22 | 0.03 | 0.07 | 0.14 | 0.50 | 0.57 | 0.38 | 0.38 |
| (v / s)_i Volume / Saturation Flow Rate | 0.16 | 0.05 | 0.00 | 0.02 | 0.05 | 0.12 | 0.40 | 0.02 | 0.19 | 0.02 |
| s, saturation flow rate [veh/h] | 5188 | 1870 | 1589 | 3459 | 1870 | 3459 | 5094 | 353 | 5094 | 1589 |
| c, Capacity [veh/h] | 930 | 403 | 343 | 115 | 130 | 484 | 2558 | 230 | 1910 | 596 |
| d1, Uniform Delay [s] | 44.22 | 35.51 | 33.88 | 52.38 | 50.30 | 46.21 | 22.74 | 16.77 | 26.40 | 22.00 |
| k, delay calibration | 0.04 | 0.04 | 0.04 | 0.04 | 0.23 | 0.04 | 0.50 | 0.04 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.42 | 0.10 | 0.00 | 1.57 | 18.06 | 1.70 | 2.70 | 0.02 | 0.92 | 0.20 |
| 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 |
| Rp, platoon ratio | 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 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.90 | 0.22 | 0.01 | 0.56 | 0.77 | 0.85 | 0.80 | 0.03 | 0.50 | 0.06 |
| d, Delay for Lane Group [s/veh] | 45.64 | 35.61 | 33.88 | 53.95 | 68.36 | 47.91 | 25.44 | 16.79 | 27.32 | 22.20 |
| Lane Group LOS | D | D | C | D | E | D | C | B | C | C |
| Critical Lane Group | Yes | No | No | No | Yes | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 7.17 | 1.85 | 0.04 | 0.89 | 3.35 | 5.34 | 13.32 | 0.07 | 6.00 | 0.60 |
| 50th-Percentile Queue Length [ft/ln] | 179.21 | 46.29 | 1.00 | 22.37 | 83.82 | 133.41 | 332.92 | 1.84 | 150.08 | 15.09 |
| 95th-Percentile Queue Length [veh/ln] | 11.56 | 3.33 | 0.07 | 1.61 | 6.04 | 9.12 | 19.30 | 0.13 | 10.02 | 1.09 |
| 95th-Percentile Queue Length [ft/ln] | 288.98 | 83.32 | 1.81 | 40.27 | 150.88 | 228.12 | 482.54 | 3.32 | 250.54 | 27.16 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 45.64 | 35.61 | 33.88 | 53.95 | 68.36 | 0.00 | 47.91 | 25.44 | 0.00 | 16.79 | 27.32 | 22.20 |
| Movement LOS | D | D | C | D | E | | D | C | | B | C | C |
| d_A, Approach Delay [s/veh] | 44.67 | | | 30.00 | | | 25.65 | | | 27.04 | | |
| Approach LOS | D | | | C | | | C | | | C | | |
| d_I, Intersection Delay [s/veh] | 30.01 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |
| Intersection V/C | 0.618 | | | | | | | | | | | |

**Emissions**

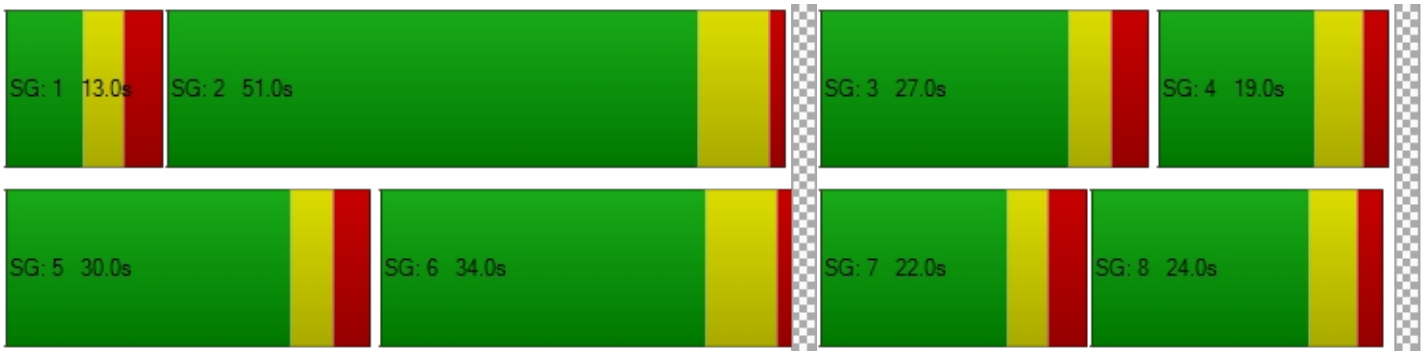
| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 329.61 | 34.49 | 0.78 | 6.75 | 10.55 | 175.07 | 865.16 | 2.44 | 288.40 | 11.27 |
| Stops [stops/h] | 703.79 | 60.60 | 1.31 | 58.58 | 109.73 | 349.29 | 1307.47 | 2.41 | 589.41 | 19.75 |
| Fuel consumption [US gal/h] | 31.91 | 2.92 | 0.06 | 1.30 | 2.43 | 16.37 | 63.79 | 0.15 | 25.86 | 0.91 |
| CO [g/h] | 2230.48 | 203.90 | 4.50 | 91.17 | 169.97 | 1144.29 | 4459.00 | 10.74 | 1807.64 | 63.68 |
| NOx [g/h] | 433.97 | 39.67 | 0.88 | 17.74 | 33.07 | 222.64 | 867.56 | 2.09 | 351.70 | 12.39 |
| VOC [g/h] | 516.94 | 47.25 | 1.04 | 21.13 | 39.39 | 265.20 | 1033.42 | 2.49 | 418.94 | 14.76 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 0.000 | 0.000 |
| Crosswalk LOS | F | F | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 327 | 236 | 800 | 491 |
| d_b, Bicycle Delay [s] | 38.47 | 42.77 | 19.80 | 31.31 |
| l_b,int, Bicycle LOS Score for Intersection | 3.099 | 1.830 | 2.909 | 2.124 |
| Bicycle LOS | C | A | C | B |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 3: US-24 WB Ramps/Peterson Rd**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 9.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | | | | | |  | | |
| Turning Movement | Left | Thru | Right | U-tu | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 15.00 | 15.00 | 12.00 | 12.00 | 12.00 | 14.00 | 13.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.0 | 100.0 | 100.0 | 100.0 | 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 | 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 | 0.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 476 | 1010 | 0 | 0 | 0 | 253 | 168 | 0 | 0 | 0 | 24 | 0 | 70 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 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 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | | |
| Growth Factor | 1.0234 | 1.0234 | 1.0234 | 1.023 | 1.023 | 1.023 | 1.023 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 44 | 0 | 0 | 0 | 6 | 19 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 18 | 0 | 0 | -10 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 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 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 487 | 1078 | 0 | 18 | 0 | 265 | 181 | 0 | 0 | 0 | 25 | 0 | 72 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.920 | 0.920 | 0.920 | 0.920 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 132 | 293 | 0 | 5 | 0 | 72 | 49 | 0 | 0 | 0 | 7 | 0 | 20 |
| Total Analysis Volume [veh/h] | 529 | 1172 | 0 | 20 | 0 | 288 | 197 | 0 | 0 | 0 | 27 | 0 | 78 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | | 2 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 20 | | | 567 | | | | 342 | | | 1755 | | |
| Exiting Flow Rate [veh/h] | 321 | | | 1295 | | | | 540 | | | 0 | | |
| Demand Flow Rate [veh/h] | 487 | 1078 | 0 | 18 | 0 | 265 | 181 | 0 | 0 | 0 | 25 | 0 | 72 |
| Adjusted Demand Flow Rate [veh/h] | 529 | 1172 | 0 | 20 | 0 | 288 | 197 | 0 | 0 | 0 | 27 | 0 | 78 |

**Lanes**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 1420.00 | | 1350.00 | 1420.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00085 | | 0.00092 | 0.00085 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 816 | 920 | 148 | 167 | 0 | | 28 | 80 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1325 | 1396 | 802 | 877 | 898 | | 269 | 320 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1299 | 1369 | 786 | 860 | 881 | | 264 | 314 |
| X, volume / capacity | 0.62 | 0.66 | 0.18 | 0.19 | 0.22 | | 0.10 | 0.25 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Lane LOS | B | B | A | A | A | | C | C |
| 95th-Percentile Queue Length [veh] | 4.48 | 5.31 | 0.67 | 0.70 | 0.86 | | 0.34 | 0.96 |
| 95th-Percentile Queue Length [ft] | 112.01 | 132.79 | 16.80 | 17.44 | 21.42 | | 8.47 | 24.09 |
| Approach Delay [s/veh] | 10.53 | | 6.34 | | | 0.00 | 16.32 | |
| Approach LOS | B | | A | | | A | C | |
| Intersection Delay [s/veh] | 9.88 | | | | | | | |
| Intersection LOS | A | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Peterson Bl/ Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 19.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 250.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 286.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | No | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 888 | 357 | 266 | 3 | 0 | 217 | 101 | 11 | 3 | 0 | 381 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 5 | 0 | 3 | 3 | 0 | 34 | 0 | 0 | 0 | 0 | 5 |
| 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 | 914 | 365 | 275 | 6 | 0 | 256 | 103 | 11 | 3 | 0 | 395 |
| 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 | 248 | 99 | 75 | 2 | 0 | 70 | 28 | 3 | 1 | 0 | 107 |
| Total Analysis Volume [veh/h] | 0 | 993 | 397 | 299 | 7 | 0 | 278 | 112 | 12 | 3 | 0 | 429 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | 2 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 703 | | | 3 | | | 315 | | | 1296 | | |
| Exiting Flow Rate [veh/h] | 10 | | | 1734 | | | 0 | | | 419 | | |
| Demand Flow Rate [veh/h] | 0 | 914 | 365 | 275 | 6 | 0 | 256 | 103 | 11 | 3 | 0 | 395 |
| Adjusted Demand Flow Rate [veh/h] | 0 | 993 | 397 | 299 | 7 | 0 | 278 | 112 | 12 | 3 | 0 | 429 |

**Lanes**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1420.00 | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 0.00 | 1350.00 | 1420.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00085 | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00000 | 0.00092 | 0.00085 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 477 | 537 | 0 | 305 | 8 | 284 | 115 | 0 | 4 | 438 |
| Capacity of Entry and Bypass Lanes [veh/h] | 708 | 782 | 995 | 1347 | 1417 | 1011 | 1087 | 102000 | 410 | 472 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 694 | 767 | 975 | 1320 | 1389 | 991 | 1065 | 100000 | 402 | 463 |
| X, volume / capacity | 0.67 | 0.69 | 0.41 | 0.23 | 0.01 | 0.28 | 0.11 | 0.00 | 0.01 | 0.93 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane LOS | C | C | A | A | A | A | A | A | A | F |
| 95th-Percentile Queue Length [veh] | 5.22 | 5.56 | 2.01 | 0.87 | 0.02 | 1.16 | 0.35 | 0.00 | 0.02 | 10.76 |
| 95th-Percentile Queue Length [ft] | 130.44 | 138.89 | 50.14 | 21.82 | 0.38 | 28.89 | 8.79 | 0.00 | 0.56 | 269.04 |
| Approach Delay [s/veh] | 15.32 | | | 4.61 | | 5.66 | | | 55.09 | |
| Approach LOS | C | | | A | | A | | | F | |
| Intersection Delay [s/veh] | 19.28 | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: US 24 EB Ramps/Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 77.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.445 |

**Intersection Setup**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | 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 | 1 |
| Entry Pocket Length [ft] | 100.00 | 290.00 | 400.00 | 100.00 | 100.00 | 485.00 |
| 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] | 30.00 | | 35.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 34 | 44 | 328 | 391 | 340 | 18 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 3 | 5 | 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] | 35 | 45 | 336 | 403 | 353 | 18 |
| 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] | 10 | 12 | 91 | 110 | 96 | 5 |
| Total Analysis Volume [veh/h] | 38 | 49 | 365 | 438 | 384 | 20 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| Priority Scheme | Stop | Free | Free |
|---|---|---|---|
| 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 | 0.44 | 0.07 | 0.32 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 77.31 | 10.86 | 9.55 | 0.00 | 0.00 | 0.00 |
| Movement LOS | F | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 1.84 | 0.24 | 1.37 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 45.90 | 5.96 | 34.19 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 39.88 | | 4.34 | | 0.00 | |
| Approach LOS | E | | A | | A | |
| d_I, Intersection Delay [s/veh] | 5.38 | | | | | |
| Intersection LOS | F | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Meadowbrook Pkwy/ Newt Dr.**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 3.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 |
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 37 | 71 | 2 | 14 | 0 | 0 | 0 | 0 | 173 | 0 | 10 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0234 | 1.0000 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 33 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 21 | 0 | 3 | 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 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 33 | 38 | 103 | 2 | 14 | 1 | 1 | 2 | 21 | 195 | 3 | 10 |
| 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] | 9 | 10 | 28 | 1 | 4 | 0 | 0 | 1 | 6 | 53 | 1 | 3 |
| Total Analysis Volume [veh/h] | 36 | 41 | 112 | 2 | 15 | 1 | 1 | 2 | 23 | 212 | 3 | 11 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 1 | | | 1 | | | 1 | | | 1 | | |
| Circulating Flow Rate [veh/h] | 5 | | | 256 | | | 234 | | | 80 | | |
| Exiting Flow Rate [veh/h] | 255 | | | 54 | | | 41 | | | 118 | | |
| Demand Flow Rate [veh/h] | 33 | 38 | 103 | 2 | 14 | 1 | 1 | 2 | 21 | 195 | 3 | 10 |
| Adjusted Demand Flow Rate [veh/h] | 36 | 41 | 112 | 2 | 15 | 1 | 1 | 2 | 23 | 212 | 3 | 11 |

**Lanes**

| | | | | | |
|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1380.00 | 1380.00 | 1380.00 | 1420.00 | 1420.00 |
| B (coefficient) | 0.00102 | 0.00102 | 0.00102 | 0.00091 | 0.00091 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 193 | 19 | 27 | 220 | 12 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1373 | 1063 | 1088 | 1321 | 1321 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1346 | 1042 | 1067 | 1295 | 1295 |
| X, volume / capacity | 0.14 | 0.02 | 0.02 | 0.17 | 0.01 |

**Movement, Approach, & Intersection Results**

| | | | | | |
|---|---|---|---|---|---|
| Lane LOS | A | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.49 | 0.05 | 0.07 | 0.59 | 0.03 |
| 95th-Percentile Queue Length [ft] | 12.21 | 1.32 | 1.87 | 14.87 | 0.64 |
| Approach Delay [s/veh] | 3.81 | 3.60 | 3.58 | 4.10 | |
| Approach LOS | A | A | A | A | |
| Intersection Delay [s/veh] | 3.93 | | | | |
| Intersection LOS | A | | | | |

**Intersection Level Of Service Report**
**Intersection 7: Peterson Rd/ Panamint Ct**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 14.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.064 |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 26 | 1045 | 9 | 2 | 395 | 5 | 16 | 0 | 13 | 10 | 0 | 10 |
| 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 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 | 1.0234 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 22 | 22 | 0 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| Diverted Trips [veh/h] | -27 | 43 | 2 | -2 | 2 | 0 | -16 | 0 | 16 | -10 | 0 | 10 |
| 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 | 1134 | 33 | 0 | 431 | 5 | 0 | 0 | 29 | 0 | 0 | 25 |
| 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 | 308 | 9 | 0 | 117 | 1 | 0 | 0 | 8 | 0 | 0 | 7 |
| Total Analysis Volume [veh/h] | 0 | 1233 | 36 | 0 | 468 | 5 | 0 | 0 | 32 | 0 | 0 | 27 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop | Stop |
|---|---|---|---|---|
| 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 | 0.01 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 | 0.06 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 9.91 | 0.00 | 0.00 | 14.12 |
| Movement LOS | | A | A | | A | A | | | A | | | B |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 | 0.00 | 0.20 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.27 | 0.00 | 0.00 | 5.11 |
| d_A, Approach Delay [s/veh] | 0.00 | | | 0.00 | | | 9.91 | | | 14.12 | | |
| Approach LOS | A | | | A | | | A | | | B | | |
| d_I, Intersection Delay [s/veh] | 0.39 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 8: Peterson Rd/ Meadowbrook Pk**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 48.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.248 |

**Intersection Setup**

| Name | Peterson Rd | | Peterson Rd | | Meadowbrook Pk | |
|---|---|---|---|---|---|---|
| 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 | 0 | 0 | 0 | 1 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 235.00 | 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] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | Peterson Rd | | Peterson Rd | | Meadowbrook Pk | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 1055 | 0 | 0 | 402 | 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 | 1.0234 | 1.0000 | 1.0000 | 1.0234 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 5 | 22 | 14 | 0 | 25 | 5 |
| Diverted Trips [veh/h] | 53 | 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] | 1138 | 22 | 14 | 411 | 25 | 5 |
| 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] | 309 | 6 | 4 | 112 | 7 | 1 |
| Total Analysis Volume [veh/h] | 1237 | 24 | 15 | 447 | 27 | 5 |
| 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 | 0.03 | 0.00 | 0.25 | 0.01 |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 11.60 | 0.00 | 48.66 | 13.59 |
| Movement LOS | A | A | B | A | E | B |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.03 | 0.01 | 0.91 | 0.04 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.63 | 0.32 | 22.72 | 0.89 |
| d_A, Approach Delay [s/veh] | 0.00 | | 0.38 | | 43.18 | |
| Approach LOS | A | | A | | E | |
| d_I, Intersection Delay [s/veh] | 0.89 | | | | | |
| Intersection LOS | E | | | | | |

**Intersection Level Of Service Report**
**Intersection 9: Meadowbrook Pk/Access 1**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.039 |

**Intersection Setup**

| Name | Access A | | | Access A | | | Meadowbrook Pk | | | Meadowbrook Pk | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Access A | | | Access A | | | Meadowbrook Pk | | | Meadowbrook Pk | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 5 | 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] | 30 | 0 | 24 | 0 | 0 | 0 | 0 | 0 | 36 | 37 | 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] | 30 | 0 | 24 | 0 | 0 | 0 | 0 | 5 | 36 | 37 | 5 | 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] | 8 | 0 | 7 | 0 | 0 | 0 | 0 | 1 | 10 | 10 | 1 | 0 |
| Total Analysis Volume [veh/h] | 33 | 0 | 26 | 0 | 0 | 0 | 0 | 5 | 39 | 40 | 5 | 0 |
| 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 | 0.04 | 0.00 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.42 | 0.00 | 8.51 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 7.35 | 0.00 | 0.00 |
| Movement LOS | A | | A | | | | | A | A | A | A | |
| 95th-Percentile Queue Length [veh/ln] | 0.12 | 0.00 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 3.04 | 0.00 | 1.90 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.75 | 1.75 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.02 | | | 0.00 | | | 0.00 | | | 6.53 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 5.58 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

# Signal Warrants Report For Intersection 5: US 24 EB Ramps/Space Village Av

## 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 | N |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | E | W | N |
| 1 | 371 | 739 | 80 |
| 2 | 360 | 717 | 78 |
| 3 | 352 | 702 | 76 |
| 4 | 330 | 658 | 71 |
| 5 | 293 | 584 | 63 |
| 6 | 289 | 576 | 62 |
| 7 | 286 | 569 | 62 |
| 8 | 260 | 517 | 56 |
| 9 | 256 | 510 | 55 |
| 10 | 252 | 503 | 54 |
| 11 | 219 | 436 | 47 |
| 12 | 204 | 406 | 44 |
| 13 | 200 | 399 | 43 |
| 14 | 148 | 296 | 32 |
| 15 | 148 | 296 | 32 |
| 16 | 104 | 207 | 22 |
| 17 | 59 | 118 | 13 |
| 18 | 59 | 118 | 13 |
| 19 | 33 | 67 | 7 |
| 20 | 19 | 37 | 4 |
| 21 | 11 | 22 | 2 |
| 22 | 4 | 7 | 1 |
| 23 | 4 | 7 | 1 |
| 24 | 4 | 7 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1110 | 2 | 80 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 2 | 2 | 1077 | 2 | 78 | No | No | No | No | No | No | Yes | Yes | No | No |
| 3 | 2 | 1054 | 2 | 76 | No | No | No | No | No | No | Yes | Yes | No | No |
| 4 | 2 | 988 | 2 | 71 | No | No | No | No | No | No | Yes | Yes | No | No |
| 5 | 2 | 877 | 2 | 63 | No | No | No | No | No | No | No | Yes | No | No |
| 6 | 2 | 865 | 2 | 62 | No | No | No | No | No | No | No | Yes | No | No |
| 7 | 2 | 855 | 2 | 62 | No | No | No | No | No | No | No | Yes | No | No |
| 8 | 2 | 777 | 2 | 56 | No | No | No | No | No | No | No | Yes | No | No |
| 9 | 2 | 766 | 2 | 55 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 755 | 2 | 54 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 655 | 2 | 47 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 610 | 2 | 44 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 599 | 2 | 43 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 444 | 2 | 32 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 444 | 2 | 32 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 311 | 2 | 22 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 177 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 177 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 100 | 2 | 7 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 56 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 33 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 8 | 0 | 0 |

## Warrant 3 Condition A

| | |
|---|---|
| Orientation | N |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 39.9 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:53 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 80 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1190 |
| 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 7: Peterson Rd/ Panamint Ct

## 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 | 1167 | 436 | 25 | 29 |
| 2 | 1132 | 423 | 24 | 28 |
| 3 | 1109 | 414 | 24 | 28 |
| 4 | 1039 | 388 | 22 | 26 |
| 5 | 922 | 344 | 20 | 23 |
| 6 | 910 | 340 | 20 | 23 |
| 7 | 899 | 336 | 19 | 22 |
| 8 | 817 | 305 | 18 | 20 |
| 9 | 805 | 301 | 17 | 20 |
| 10 | 794 | 296 | 17 | 20 |
| 11 | 689 | 257 | 15 | 17 |
| 12 | 642 | 240 | 14 | 16 |
| 13 | 630 | 235 | 14 | 16 |
| 14 | 467 | 174 | 10 | 12 |
| 15 | 467 | 174 | 10 | 12 |
| 16 | 327 | 122 | 7 | 8 |
| 17 | 187 | 70 | 4 | 5 |
| 18 | 187 | 70 | 4 | 5 |
| 19 | 105 | 39 | 2 | 3 |
| 20 | 58 | 22 | 1 | 1 |
| 21 | 35 | 13 | 1 | 1 |
| 22 | 12 | 4 | 0 | 0 |
| 23 | 12 | 4 | 0 | 0 |
| 24 | 12 | 4 | 0 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1603 | 1 | 29 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 1555 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 1523 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 1427 | 1 | 26 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 1266 | 1 | 23 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 1250 | 1 | 23 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 1235 | 1 | 22 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 1122 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 1106 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 1090 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 946 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 882 | 1 | 16 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 865 | 1 | 16 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 641 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 641 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 449 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 257 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 257 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 144 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 80 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 48 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 16 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 16 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 16 | 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 | W |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 14.1 | 9.9 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:05 | 0:04 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 25 | 29 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 1657 | 1657 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Signal Warrants Report For Intersection 8: Peterson Rd/ Meadowbrook Pk

## 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 |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | S | N | E |
| 1 | 1160 | 425 | 30 |
| 2 | 1125 | 412 | 29 |
| 3 | 1102 | 404 | 29 |
| 4 | 1032 | 378 | 27 |
| 5 | 916 | 336 | 24 |
| 6 | 905 | 332 | 23 |
| 7 | 893 | 327 | 23 |
| 8 | 812 | 298 | 21 |
| 9 | 800 | 293 | 21 |
| 10 | 789 | 289 | 20 |
| 11 | 684 | 251 | 18 |
| 12 | 638 | 234 | 17 |
| 13 | 626 | 230 | 16 |
| 14 | 464 | 170 | 12 |
| 15 | 464 | 170 | 12 |
| 16 | 325 | 119 | 8 |
| 17 | 186 | 68 | 5 |
| 18 | 186 | 68 | 5 |
| 19 | 104 | 38 | 3 |
| 20 | 58 | 21 | 2 |
| 21 | 35 | 13 | 1 |
| 22 | 12 | 4 | 0 |
| 23 | 12 | 4 | 0 |
| 24 | 12 | 4 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1585 | 2 | 30 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 1537 | 2 | 29 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 1506 | 2 | 29 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 1410 | 2 | 27 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 1252 | 2 | 24 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 1237 | 2 | 23 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 1220 | 2 | 23 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 1110 | 2 | 21 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 1093 | 2 | 21 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 1078 | 2 | 20 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 935 | 2 | 18 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 872 | 2 | 17 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 856 | 2 | 16 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 634 | 2 | 12 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 634 | 2 | 12 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 444 | 2 | 8 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 254 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 254 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 142 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 79 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 48 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 16 | 2 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 16 | 2 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 16 | 2 | 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) | 43.2 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:21 |
| 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 | 1615 |
| 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 9: Meadowbrook Pk/Access 1

## 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 | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | E | W | S |
| 1 | 42 | 41 | 54 |
| 2 | 41 | 40 | 52 |
| 3 | 40 | 39 | 51 |
| 4 | 37 | 36 | 48 |
| 5 | 33 | 32 | 43 |
| 6 | 33 | 32 | 42 |
| 7 | 32 | 32 | 42 |
| 8 | 29 | 29 | 38 |
| 9 | 29 | 28 | 37 |
| 10 | 29 | 28 | 37 |
| 11 | 25 | 24 | 32 |
| 12 | 23 | 23 | 30 |
| 13 | 23 | 22 | 29 |
| 14 | 17 | 16 | 22 |
| 15 | 17 | 16 | 22 |
| 16 | 12 | 11 | 15 |
| 17 | 7 | 7 | 9 |
| 18 | 7 | 7 | 9 |
| 19 | 4 | 4 | 5 |
| 20 | 2 | 2 | 3 |
| 21 | 1 | 1 | 2 |
| 22 | 0 | 0 | 1 |
| 23 | 0 | 0 | 1 |
| 24 | 0 | 0 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 1 | 83 | 2 | 54 | No | No | No | No | No | No | No | No | No | No |
| 2 | 1 | 81 | 2 | 52 | No | No | No | No | No | No | No | No | No | No |
| 3 | 1 | 79 | 2 | 51 | No | No | No | No | No | No | No | No | No | No |
| 4 | 1 | 73 | 2 | 48 | No | No | No | No | No | No | No | No | No | No |
| 5 | 1 | 65 | 2 | 43 | No | No | No | No | No | No | No | No | No | No |
| 6 | 1 | 65 | 2 | 42 | No | No | No | No | No | No | No | No | No | No |
| 7 | 1 | 64 | 2 | 42 | No | No | No | No | No | No | No | No | No | No |
| 8 | 1 | 58 | 2 | 38 | No | No | No | No | No | No | No | No | No | No |
| 9 | 1 | 57 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 10 | 1 | 57 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 11 | 1 | 49 | 2 | 32 | No | No | No | No | No | No | No | No | No | No |
| 12 | 1 | 46 | 2 | 30 | No | No | No | No | No | No | No | No | No | No |
| 13 | 1 | 45 | 2 | 29 | No | No | No | No | No | No | No | No | No | No |
| 14 | 1 | 33 | 2 | 22 | No | No | No | No | No | No | No | No | No | No |
| 15 | 1 | 33 | 2 | 22 | No | No | No | No | No | No | No | No | No | No |
| 16 | 1 | 23 | 2 | 15 | No | No | No | No | No | No | No | No | No | No |
| 17 | 1 | 14 | 2 | 9 | No | No | No | No | No | No | No | No | No | No |
| 18 | 1 | 14 | 2 | 9 | No | No | No | No | No | No | No | No | No | No |
| 19 | 1 | 8 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 20 | 1 | 4 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 21 | 1 | 2 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 1 | 0 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 1 | 0 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 1 | 0 | 2 | 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 |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 9 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:08 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 54 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 137 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | No |
| Warrant Met for Approach | No |
| **Warrant Met for Intersection** | **No** |

# Appendix E- Horizon Conditions

# Table of Contents

Intersection Level Of Service Report ..... 2
Intersection 1: Peterson Rd/ Galley Rd ..... 2
Intersection 2: US-24/SH-94/ Newt Dr ..... 7
Intersection 3: US-24 WB Ramps/Peterson Rd ..... 12
Intersection 4: Peterson Bl/ Space Village Av ..... 14
Intersection 5: US 24 EB Ramps/Space Village Av ..... 16
Intersection 6: Meadowbrook Pkwy/ Newt Dr. ..... 18
Intersection 7: Peterson Rd/ Panamint Ct ..... 20
Signal Warrants Report ..... 22
Intersection 5: US 24 EB Ramps/Space Village Av ..... 22
Intersection 7: Peterson Rd/ Panamint Ct ..... 24

**Intersection Level Of Service Report**
**Intersection 1: Peterson Rd/ Galley Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 15.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.519 |

**Intersection Setup**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| 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 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 125.00 | 100.00 | 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] | 30.00 | | 30.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | Yes | |
| Crosswalk | No | | Yes | | Yes | |

**Volumes**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 262 | 128 | 91 | 241 | 750 | 138 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| 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] | 32 | 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 | 75 | 0 | 0 | 0 | 81 |
| Total Hourly Volume [veh/h] | 340 | 75 | 107 | 283 | 881 | 81 |
| 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] | 92 | 20 | 29 | 77 | 239 | 22 |
| Total Analysis Volume [veh/h] | 370 | 82 | 116 | 308 | 958 | 88 |
| 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] | 90 |
| Active Pattern | Free Running (No Pattern) |
| Coordination Type | *Free Running* |
| 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 (Basic)**

| Control Type | Permissive | Permissive | ProtPerm | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | No | | | |
| Signal Group | 2 | 0 | 1 | 6 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Maximum Green [s] | 45 | 0 | 15 | 45 | 30 | 0 |
| Amber [s] | 4.0 | 0.0 | 4.0 | 4.0 | 4.0 | 0.0 |
| All red [s] | 2.0 | 0.0 | 1.0 | 2.0 | 2.0 | 0.0 |
| Walk [s] | 5.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 |
| Pedestrian Clearance [s] | 17.0 | 0.0 | 0.0 | 0.0 | 10.0 | 0.0 |
| 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 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 4.0 | 0.0 | 3.0 | 4.0 | 4.0 | 0.0 |
| 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 |
| Advanced Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Advanced 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 |

**Phasing & Timing: Free Running (No Pattern)**

| | | | | | | |
|---|---|---|---|---|---|---|
| Split [s] | 14.0 | 0.0 | 9.0 | 14.0 | 9.0 | 0.0 |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 15 | 0 | 5 | 15 | 8 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.5 | 3.0 | 1.5 | 0.0 |
| Minimum Recall | Yes | | No | Yes | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |

**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, Calculated Cycle Length [s] | 53 | 53 | 53 | 53 | 53 | 53 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 4.00 | 4.00 | 0.00 | 4.00 | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 15.0 | 15.0 | 24.1 | 24.1 | 16.8 | 16.8 |
| g / C, Green / Cycle | 0.28 | 0.28 | 0.46 | 0.46 | 0.32 | 0.32 |
| (v / s)_i Volume / Saturation Flow Rate | 0.20 | 0.05 | 0.10 | 0.09 | 0.28 | 0.06 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 1187 | 3560 | 3459 | 1589 |
| c, Capacity [veh/h] | 530 | 450 | 577 | 1621 | 1100 | 506 |
| d1, Uniform Delay [s] | 16.97 | 14.35 | 9.36 | 8.60 | 17.03 | 13.04 |
| k, delay calibration | 0.11 | 0.11 | 0.04 | 0.11 | 0.04 | 0.04 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.68 | 0.19 | 0.06 | 0.06 | 0.87 | 0.06 |
| 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 | 0.70 | 0.18 | 0.20 | 0.19 | 0.87 | 0.17 |
| d, Delay for Lane Group [s/veh] | 18.65 | 14.54 | 9.42 | 8.66 | 17.90 | 13.10 |
| Lane Group LOS | B | B | A | A | B | B |
| Critical Lane Group | Yes | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 3.77 | 0.68 | 0.64 | 0.87 | 4.71 | 0.65 |
| 50th-Percentile Queue Length [ft/ln] | 94.32 | 17.12 | 16.11 | 21.87 | 117.87 | 16.32 |
| 95th-Percentile Queue Length [veh/ln] | 6.79 | 1.23 | 1.16 | 1.57 | 8.28 | 1.17 |
| 95th-Percentile Queue Length [ft/ln] | 169.78 | 30.82 | 29.00 | 39.36 | 206.90 | 29.37 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 18.65 | 14.54 | 9.42 | 8.66 | 17.90 | 13.10 |
| Movement LOS | B | B | A | A | B | B |
| d_A, Approach Delay [s/veh] | 17.90 | | 8.87 | | 17.50 | |
| Approach LOS | B | | A | | B | |
| d_I, Intersection Delay [s/veh] | 15.69 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.519 | | | | | |

**Emissions**

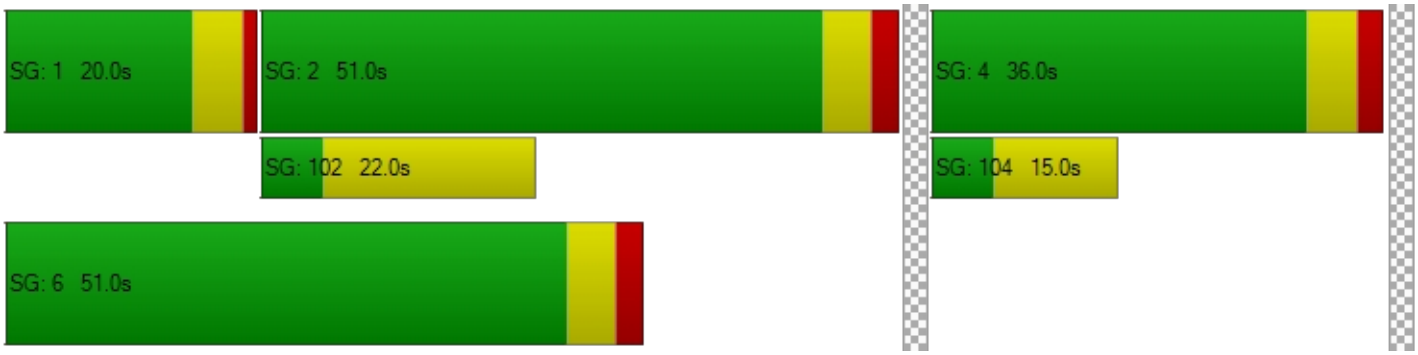
| | | | | | | |
|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 52.49 | 11.63 | 11.50 | 30.52 | 180.56 | 16.59 |
| Stops [stops/h] | 256.80 | 46.62 | 43.87 | 119.07 | 641.87 | 44.43 |
| Fuel consumption [US gal/h] | 4.98 | 0.98 | 0.94 | 2.46 | 15.20 | 1.20 |
| CO [g/h] | 348.38 | 68.44 | 65.58 | 171.76 | 1062.49 | 83.94 |
| NOx [g/h] | 67.78 | 13.32 | 12.76 | 33.42 | 206.72 | 16.33 |
| VOC [g/h] | 80.74 | 15.86 | 15.20 | 39.81 | 246.24 | 19.46 |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 9.0 | 9.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 18.21 | 18.21 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 2.339 | 2.760 |
| Crosswalk LOS | F | B | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1702 | 1702 | 1134 |
| d_b, Bicycle Delay [s] | 0.59 | 0.59 | 4.95 |
| l_b,int, Bicycle LOS Score for Intersection | 2.429 | 1.909 | 1.560 |
| Bicycle LOS | B | A | A |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 2: US-24/SH-94/ Newt Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 41.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.836 |

**Intersection Setup**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 3 | 0 | 1 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 760.00 | 100.00 | 475.00 | 420.00 | 100.00 | 300.00 | 850.00 | 100.00 | 600.00 | 800.00 | 100.00 | 800.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 1700.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 960.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 30.00 | | | 55.00 | | | 55.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 441 | 42 | 2 | 13 | 24 | 179 | 156 | 681 | 599 | 8 | 1758 | 43 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| 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] | 420 | 53 | 0 | 28 | 55 | 302 | 295 | 137 | 315 | 0 | 0 | 27 |
| 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 | 1 | 0 | 0 | 256 | 0 | 0 | 510 | 0 | 0 | 39 |
| Total Hourly Volume [veh/h] | 938 | 102 | 1 | 43 | 83 | 256 | 478 | 937 | 509 | 9 | 2066 | 39 |
| 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] | 255 | 28 | 0 | 12 | 23 | 70 | 130 | 255 | 138 | 2 | 561 | 11 |
| Total Analysis Volume [veh/h] | 1020 | 111 | 1 | 47 | 90 | 278 | 520 | 1018 | 553 | 10 | 2246 | 42 |
| 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 Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 52.0 |
| Offset Reference | Beginning of First Yellow |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Unsigna | Protecte | Permiss | Unsigna | ProtPer | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | | | | | | | | No | | |
| Signal Group | 3 | 8 | 0 | 7 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 15 | 15 | 0 | 5 | 7 | 0 | 8 | 65 | 0 | 7 | 65 | 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 |
| Walk [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 |
| Pedestrian Clearance [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 |
| 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 |
| 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 |
| Advanced 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 |
| Advanced 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 28.0 | 24.0 | 0.0 | 18.0 | 14.0 | 0.0 | 24.0 | 68.0 | 0.0 | 10.0 | 54.0 | 0.0 |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 4 | 5 | 0 | 6 | 22 | 0 | 6 | 22 | 0 |
| Vehicle Extension [s] | 2.0 | 2.0 | 0.0 | 2.0 | 5.0 | 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 | Yes | | No | Yes | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |

**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 | L | C | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 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 |
| 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 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 0.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 24.0 | 28.1 | 28.1 | 3.2 | 7.4 | 20.0 | 70.9 | 76.6 | 52.6 | 52.6 |
| g / C, Green / Cycle | 0.20 | 0.23 | 0.23 | 0.03 | 0.06 | 0.17 | 0.59 | 0.64 | 0.44 | 0.44 |
| (v / s)_i Volume / Saturation Flow Rate | 0.20 | 0.06 | 0.00 | 0.01 | 0.05 | 0.15 | 0.20 | 0.02 | 0.44 | 0.03 |
| s, saturation flow rate [veh/h] | 5188 | 1870 | 1589 | 3459 | 1870 | 3459 | 5094 | 614 | 5094 | 1589 |
| c, Capacity [veh/h] | 1038 | 437 | 372 | 96 | 115 | 576 | 3006 | 423 | 2233 | 697 |
| d1, Uniform Delay [s] | 47.80 | 37.43 | 35.23 | 57.49 | 55.49 | 49.06 | 12.59 | 8.58 | 33.69 | 19.43 |
| k, delay calibration | 0.04 | 0.04 | 0.04 | 0.04 | 0.23 | 0.04 | 0.50 | 0.04 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 4.91 | 0.11 | 0.00 | 1.43 | 21.06 | 2.22 | 0.31 | 0.01 | 20.41 | 0.17 |
| 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 |
| Rp, platoon ratio | 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 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.98 | 0.25 | 0.00 | 0.49 | 0.78 | 0.90 | 0.34 | 0.02 | 1.01 | 0.06 |
| d, Delay for Lane Group [s/veh] | 52.71 | 37.55 | 35.23 | 58.92 | 76.55 | 51.28 | 12.90 | 8.59 | 54.10 | 19.60 |
| Lane Group LOS | D | D | D | E | E | D | B | A | F | B |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 10.06 | 2.55 | 0.02 | 0.72 | 3.36 | 7.45 | 4.17 | 0.08 | 23.70 | 0.67 |
| 50th-Percentile Queue Length [ft/ln] | 251.40 | 63.76 | 0.54 | 18.07 | 84.00 | 186.23 | 104.18 | 2.04 | 592.54 | 16.65 |
| 95th-Percentile Queue Length [veh/ln] | 15.26 | 4.59 | 0.04 | 1.30 | 6.05 | 11.93 | 7.50 | 0.15 | 31.82 | 1.20 |
| 95th-Percentile Queue Length [ft/ln] | 381.41 | 114.76 | 0.97 | 32.53 | 151.21 | 298.13 | 187.52 | 3.68 | 795.56 | 29.97 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 52.71 | 37.55 | 35.23 | 58.92 | 76.55 | 0.00 | 51.28 | 12.90 | 0.00 | 8.59 | 54.10 | 19.60 |
| Movement LOS | D | D | D | E | E | | D | B | | A | F | B |
| d_A, Approach Delay [s/veh] | 51.21 | | | 24.58 | | | 19.44 | | | 53.27 | | |
| Approach LOS | D | | | C | | | B | | | D | | |
| d_I, Intersection Delay [s/veh] | 41.85 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.836 | | | | | | | | | | | |

**Emissions**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 399.77 | 43.50 | 0.39 | 4.96 | 9.50 | 220.42 | 431.52 | 3.05 | 684.00 | 12.79 |
| Stops [stops/h] | 905.03 | 76.51 | 0.65 | 43.38 | 100.80 | 446.94 | 375.04 | 2.45 | 2133.14 | 19.98 |
| Fuel consumption [US gal/h] | 41.12 | 3.72 | 0.03 | 1.01 | 2.35 | 21.10 | 24.07 | 0.16 | 87.23 | 0.97 |
| CO [g/h] | 2874.54 | 260.33 | 2.26 | 70.42 | 164.25 | 1475.00 | 1682.73 | 11.53 | 6097.27 | 67.56 |
| NOx [g/h] | 559.28 | 50.65 | 0.44 | 13.70 | 31.96 | 286.98 | 327.40 | 2.24 | 1186.31 | 13.14 |
| VOC [g/h] | 666.20 | 60.34 | 0.52 | 16.32 | 38.07 | 341.84 | 389.99 | 2.67 | 1413.10 | 15.66 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 0.000 | 0.000 |
| Crosswalk LOS | F | F | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 333 | 167 | 1067 | 833 |
| d_b, Bicycle Delay [s] | 41.67 | 50.42 | 13.07 | 20.42 |
| l_b,int, Bicycle LOS Score for Intersection | 3.429 | 1.786 | 2.406 | 2.845 |
| Bicycle LOS | C | A | 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 3: US-24 WB Ramps/Peterson Rd**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 12.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | | | | | |  | | |
| Turning Movement | Left | Thru | Right | U-tu | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 15.00 | 15.00 | 12.00 | 12.00 | 12.00 | 14.00 | 13.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.0 | 100.0 | 100.0 | 1.00 | 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 | 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 | 0.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 306 | 326 | 0 | 0 | 0 | 713 | 285 | 0 | 0 | 0 | 303 | 0 | 66 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 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 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | | |
| Growth Factor | 1.1750 | 1.1750 | 1.1750 | 1.175 | 1.175 | 1.175 | 1.175 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 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 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 8 | 0 | 0 | -13 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 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 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 360 | 383 | 0 | 8 | 0 | 838 | 322 | 0 | 0 | 0 | 356 | 0 | 78 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.920 | 0.920 | 0.920 | 0.920 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 98 | 104 | 0 | 2 | 0 | 228 | 88 | 0 | 0 | 0 | 97 | 0 | 21 |
| Total Analysis Volume [veh/h] | 391 | 416 | 0 | 9 | 0 | 911 | 350 | 0 | 0 | 0 | 387 | 0 | 85 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | | 1 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 9 | | | 794 | | | | 1333 | | | 832 | | |
| Exiting Flow Rate [veh/h] | 1324 | | | 520 | | | | 399 | | | 0 | | |
| Demand Flow Rate [veh/h] | 360 | 383 | 0 | 8 | 0 | 838 | 322 | 0 | 0 | 0 | 356 | 0 | 78 |
| Adjusted Demand Flow Rate [veh/h] | 391 | 416 | 0 | 9 | 0 | 911 | 350 | 0 | 0 | 0 | 387 | 0 | 85 |

**Lanes**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 1420.00 | | 1350.00 | 1420.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00085 | | 0.00092 | 0.00085 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 399 | 425 | 442 | 498 | 0 | | 395 | 87 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1339 | 1409 | 651 | 724 | 1012 | | 628 | 700 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1313 | 1382 | 638 | 710 | 992 | | 616 | 687 |
| X, volume / capacity | 0.30 | 0.30 | 0.68 | 0.69 | 0.35 | | 0.63 | 0.12 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Lane LOS | A | A | C | C | A | | C | A |
| 95th-Percentile Queue Length [veh] | 1.26 | 1.28 | 5.24 | 5.51 | 1.60 | | 4.40 | 0.42 |
| 95th-Percentile Queue Length [ft] | 31.48 | 31.98 | 131.12 | 137.68 | 40.09 | | 110.09 | 10.54 |
| Approach Delay [s/veh] | 5.31 | | 16.13 | | | 0.00 | 16.26 | |
| Approach LOS | A | | C | | | A | C | |
| Intersection Delay [s/veh] | 12.73 | | | | | | | |
| Intersection LOS | B | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Peterson Bl/ Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 6.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 50.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 250.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 286.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 49.21 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | No | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 147 | 67 | 160 | 856 | 0 | 66 | 163 | 374 | 96 | 0 | 419 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| 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] | 0 | 173 | 79 | 188 | 1006 | 0 | 78 | 192 | 439 | 113 | 0 | 492 |
| 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 | 47 | 21 | 51 | 273 | 0 | 21 | 52 | 119 | 31 | 0 | 134 |
| Total Analysis Volume [veh/h] | 0 | 188 | 86 | 204 | 1093 | 0 | 85 | 209 | 477 | 123 | 0 | 535 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | 2 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 508 | | | 125 | | | 1448 | | | 278 | | |
| Exiting Flow Rate [veh/h] | 1240 | | | 278 | | | 0 | | | 421 | | |
| Demand Flow Rate [veh/h] | 0 | 173 | 79 | 188 | 1006 | 0 | 78 | 192 | 439 | 113 | 0 | 492 |
| Adjusted Demand Flow Rate [veh/h] | 0 | 188 | 86 | 204 | 1093 | 0 | 85 | 209 | 477 | 123 | 0 | 535 |

**Lanes**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1420.00 | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 0.00 | 1420.00 | 0.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00085 | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00000 | 0.00085 | 0.00000 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 91 | 102 | 0 | 622 | 702 | 87 | 214 | 0 | 126 | 0 |
| Capacity of Entry and Bypass Lanes [veh/h] | 847 | 923 | 993 | 1203 | 1277 | 357 | 415 | 102000 | 1121 | 102000 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 830 | 905 | 974 | 1180 | 1252 | 350 | 407 | 100000 | 1099 | 100000 |
| X, volume / capacity | 0.11 | 0.11 | 0.09 | 0.52 | 0.55 | 0.24 | 0.51 | 0.00 | 0.11 | 0.01 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane LOS | A | A | A | A | A | B | C | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.36 | 0.37 | 0.29 | 3.08 | 3.48 | 0.94 | 2.85 | 0.00 | 0.38 | 0.00 |
| 95th-Percentile Queue Length [ft] | 8.91 | 9.26 | 7.25 | 76.93 | 87.12 | 23.47 | 71.18 | 0.00 | 9.43 | 0.00 |
| Approach Delay [s/veh] | 4.98 | | | 8.97 | | 7.17 | | | 0.79 | |
| Approach LOS | A | | | A | | A | | | A | |
| Intersection Delay [s/veh] | 6.35 | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: US 24 EB Ramps/Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 56.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.527 |

**Intersection Setup**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | 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 | 1 |
| Entry Pocket Length [ft] | 100.00 | 290.00 | 400.00 | 100.00 | 100.00 | 485.00 |
| 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] | 30.00 | | 35.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 58 | 10 | 135 | 255 | 505 | 37 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| 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] | 68 | 12 | 159 | 300 | 593 | 43 |
| 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] | 18 | 3 | 43 | 82 | 161 | 12 |
| Total Analysis Volume [veh/h] | 74 | 13 | 173 | 326 | 645 | 47 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| 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 | 0.53 | 0.03 | 0.19 | 0.00 | 0.01 | 0.00 |
| d_M, Delay for Movement [s/veh] | 56.12 | 12.84 | 9.93 | 0.00 | 0.00 | 0.00 |
| Movement LOS | F | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 2.55 | 0.08 | 0.71 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 63.87 | 2.12 | 17.64 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 49.65 | | 3.44 | | 0.00 | |
| Approach LOS | E | | A | | A | |
| d_I, Intersection Delay [s/veh] | 4.72 | | | | | |
| Intersection LOS | F | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Meadowbrook Pkwy/ Newt Dr.**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 3.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 |
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 16 | 109 | 3 | 41 | 0 | 0 | 0 | 0 | 151 | 0 | 3 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| 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 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 19 | 137 | 4 | 48 | 0 | 0 | 0 | 0 | 204 | 0 | 4 |
| 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 | 5 | 37 | 1 | 13 | 0 | 0 | 0 | 0 | 55 | 0 | 1 |
| Total Analysis Volume [veh/h] | 0 | 21 | 149 | 4 | 52 | 0 | 0 | 0 | 0 | 222 | 0 | 4 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 1 | | | 1 | | | 1 | | | 1 | | |
| Circulating Flow Rate [veh/h] | 4 | | | 226 | | | 284 | | | 21 | | |
| Exiting Flow Rate [veh/h] | 279 | | | 26 | | | 0 | | | 156 | | |
| Demand Flow Rate [veh/h] | 0 | 19 | 137 | 4 | 48 | 0 | 0 | 0 | 0 | 204 | 0 | 4 |
| Adjusted Demand Flow Rate [veh/h] | 0 | 21 | 149 | 4 | 52 | 0 | 0 | 0 | 0 | 222 | 0 | 4 |

**Lanes**

| | | | | | |
|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1380.00 | 1380.00 | 1380.00 | 1420.00 | 1420.00 |
| B (coefficient) | 0.00102 | 0.00102 | 0.00102 | 0.00091 | 0.00091 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 174 | 58 | 0 | 227 | 5 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1375 | 1096 | 1034 | 1393 | 1393 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1348 | 1074 | 1014 | 1366 | 1366 |
| X, volume / capacity | 0.13 | 0.05 | 0.00 | 0.16 | 0.00 |

**Movement, Approach, & Intersection Results**

| | | | | | |
|---|---|---|---|---|---|
| Lane LOS | A | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.43 | 0.16 | 0.00 | 0.58 | 0.01 |
| 95th-Percentile Queue Length [ft] | 10.80 | 4.12 | 0.00 | 14.50 | 0.22 |
| Approach Delay [s/veh] | 3.69 | 3.80 | 3.55 | 3.94 | |
| Approach LOS | A | A | A | A | |
| Intersection Delay [s/veh] | 3.83 | | | | |
| Intersection LOS | A | | | | |

**Intersection Level Of Service Report**
**Intersection 7: Peterson Rd/ Panamint Ct**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 13.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.024 |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 383 | 10 | 4 | 984 | 3 | 2 | 1 | 5 | 11 | 3 | 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| 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] | -13 | 15 | 6 | -5 | 5 | 0 | -2 | -1 | 3 | -13 | -4 | 17 |
| 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 | 465 | 18 | 0 | 1161 | 4 | 0 | 0 | 9 | 0 | 0 | 22 |
| 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 | 126 | 5 | 0 | 315 | 1 | 0 | 0 | 2 | 0 | 0 | 6 |
| Total Analysis Volume [veh/h] | 0 | 505 | 20 | 0 | 1262 | 4 | 0 | 0 | 10 | 0 | 0 | 24 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop | Stop |
|---|---|---|---|---|
| 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 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.02 | 0.00 | 0.00 | 0.03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 13.73 | 0.00 | 0.00 | 10.06 |
| Movement LOS | | A | A | | A | A | | | B | | | B |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.00 | 0.00 | 0.10 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.82 | 0.00 | 0.00 | 2.53 |
| d_A, Approach Delay [s/veh] | 0.00 | | | 0.00 | | | 13.73 | | | 10.06 | | |
| Approach LOS | A | | | A | | | B | | | B | | |
| d_I, Intersection Delay [s/veh] | 0.21 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

# Signal Warrants Report For Intersection 5: US 24 EB Ramps/Space Village Av

## 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 | N |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | E | W | N |
| 1 | 636 | 459 | 80 |
| 2 | 617 | 445 | 78 |
| 3 | 604 | 436 | 76 |
| 4 | 566 | 409 | 71 |
| 5 | 502 | 363 | 63 |
| 6 | 496 | 358 | 62 |
| 7 | 490 | 353 | 62 |
| 8 | 445 | 321 | 56 |
| 9 | 439 | 317 | 55 |
| 10 | 432 | 312 | 54 |
| 11 | 375 | 271 | 47 |
| 12 | 350 | 252 | 44 |
| 13 | 343 | 248 | 43 |
| 14 | 254 | 184 | 32 |
| 15 | 254 | 184 | 32 |
| 16 | 178 | 129 | 22 |
| 17 | 102 | 73 | 13 |
| 18 | 102 | 73 | 13 |
| 19 | 57 | 41 | 7 |
| 20 | 32 | 23 | 4 |
| 21 | 19 | 14 | 2 |
| 22 | 6 | 5 | 1 |
| 23 | 6 | 5 | 1 |
| 24 | 6 | 5 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1095 | 2 | 80 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 2 | 2 | 1062 | 2 | 78 | No | No | No | No | No | No | Yes | Yes | No | No |
| 3 | 2 | 1040 | 2 | 76 | No | No | No | No | No | No | Yes | Yes | No | No |
| 4 | 2 | 975 | 2 | 71 | No | No | No | No | No | No | Yes | Yes | No | No |
| 5 | 2 | 865 | 2 | 63 | No | No | No | No | No | No | No | Yes | No | No |
| 6 | 2 | 854 | 2 | 62 | No | No | No | No | No | No | No | Yes | No | No |
| 7 | 2 | 843 | 2 | 62 | No | No | No | No | No | No | No | Yes | No | No |
| 8 | 2 | 766 | 2 | 56 | No | No | No | No | No | No | No | Yes | No | No |
| 9 | 2 | 756 | 2 | 55 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 744 | 2 | 54 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 646 | 2 | 47 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 602 | 2 | 44 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 591 | 2 | 43 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 438 | 2 | 32 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 438 | 2 | 32 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 307 | 2 | 22 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 175 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 175 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 98 | 2 | 7 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 55 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 33 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 8 | 0 | 0 |

## Warrant 3 Condition A

| | |
|---|---|
| Orientation | N |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 49.7 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 1:06 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 80 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1175 |
| 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 7: Peterson Rd/ Panamint Ct

## 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 | 483 | 1165 | 22 | 9 |
| 2 | 469 | 1130 | 21 | 9 |
| 3 | 459 | 1107 | 21 | 9 |
| 4 | 430 | 1037 | 20 | 8 |
| 5 | 382 | 920 | 17 | 7 |
| 6 | 377 | 909 | 17 | 7 |
| 7 | 372 | 897 | 17 | 7 |
| 8 | 338 | 816 | 15 | 6 |
| 9 | 333 | 804 | 15 | 6 |
| 10 | 328 | 792 | 15 | 6 |
| 11 | 285 | 687 | 13 | 5 |
| 12 | 266 | 641 | 12 | 5 |
| 13 | 261 | 629 | 12 | 5 |
| 14 | 193 | 466 | 9 | 4 |
| 15 | 193 | 466 | 9 | 4 |
| 16 | 135 | 326 | 6 | 3 |
| 17 | 77 | 186 | 4 | 1 |
| 18 | 77 | 186 | 4 | 1 |
| 19 | 43 | 105 | 2 | 1 |
| 20 | 24 | 58 | 1 | 0 |
| 21 | 14 | 35 | 1 | 0 |
| 22 | 5 | 12 | 0 | 0 |
| 23 | 5 | 12 | 0 | 0 |
| 24 | 5 | 12 | 0 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1648 | 1 | 22 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 1599 | 1 | 21 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 1566 | 1 | 21 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 1467 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 1302 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 1286 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 1269 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 1154 | 1 | 15 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 1137 | 1 | 15 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 1120 | 1 | 15 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 972 | 1 | 13 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 907 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 890 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 659 | 1 | 9 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 659 | 1 | 9 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 461 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 263 | 1 | 4 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 263 | 1 | 4 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 148 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 82 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 49 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 17 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 17 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 17 | 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 | W |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 10.1 | 13.7 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:03 | 0:02 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 22 | 9 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 1679 | 1679 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Table of Contents

Intersection Level Of Service Report ..... 2
Intersection 1: Peterson Rd/ Galley Rd ..... 2
Intersection 2: US-24/SH-94/ Newt Dr ..... 7
Intersection 3: US-24 WB Ramps/Peterson Rd ..... 12
Intersection 4: Peterson Bl/ Space Village Av ..... 14
Intersection 5: US 24 EB Ramps/Space Village Av ..... 16
Intersection 6: Meadowbrook Pkwy/ Newt Dr. ..... 18
Intersection 7: Peterson Rd/ Panamint Ct ..... 20
Signal Warrants Report ..... 22
Intersection 5: US 24 EB Ramps/Space Village Av ..... 22
Intersection 7: Peterson Rd/ Panamint Ct ..... 24

**Intersection Level Of Service Report**
**Intersection 1: Peterson Rd/ Galley Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 13.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.485 |

**Intersection Setup**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| 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 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 125.00 | 100.00 | 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] | 30.00 | | 30.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | Yes | |
| Crosswalk | No | | Yes | | Yes | |

**Volumes**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 273 | 798 | 191 | 169 | 233 | 79 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| 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] | 43 | 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 | 469 | 0 | 0 | 0 | 47 |
| Total Hourly Volume [veh/h] | 364 | 469 | 224 | 199 | 274 | 46 |
| 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] | 99 | 127 | 61 | 54 | 74 | 13 |
| Total Analysis Volume [veh/h] | 396 | 510 | 243 | 216 | 298 | 50 |
| 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] | 90 |
| Active Pattern | Free Running (No Pattern) |
| Coordination Type | *Free Running* |
| 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 (Basic)**

| Control Type | Permissive | Permissive | ProtPerm | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | No | | | |
| Signal Group | 2 | 0 | 1 | 6 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Maximum Green [s] | 45 | 0 | 15 | 45 | 30 | 0 |
| Amber [s] | 4.0 | 0.0 | 4.0 | 4.0 | 4.0 | 0.0 |
| All red [s] | 2.0 | 0.0 | 1.0 | 2.0 | 2.0 | 0.0 |
| Walk [s] | 5.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 |
| Pedestrian Clearance [s] | 17.0 | 0.0 | 0.0 | 0.0 | 10.0 | 0.0 |
| 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 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 4.0 | 0.0 | 3.0 | 4.0 | 4.0 | 0.0 |
| 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 |
| Advanced Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Advanced 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 |

**Phasing & Timing: Free Running (No Pattern)**

| | | | | | | |
|---|---|---|---|---|---|---|
| Split [s] | 14.0 | 0.0 | 9.0 | 14.0 | 9.0 | 0.0 |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 15 | 0 | 5 | 15 | 8 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.5 | 3.0 | 1.5 | 0.0 |
| Minimum Recall | Yes | | No | Yes | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |

**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, Calculated Cycle Length [s] | 49 | 49 | 49 | 49 | 49 | 49 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 4.00 | 4.00 | 0.00 | 4.00 | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 18.8 | 18.8 | 28.8 | 28.8 | 7.9 | 7.9 |
| g / C, Green / Cycle | 0.39 | 0.39 | 0.59 | 0.59 | 0.16 | 0.16 |
| (v / s)_i Volume / Saturation Flow Rate | 0.21 | 0.32 | 0.26 | 0.06 | 0.09 | 0.03 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 938 | 3560 | 3459 | 1589 |
| c, Capacity [veh/h] | 723 | 614 | 677 | 2106 | 563 | 259 |
| d1, Uniform Delay [s] | 11.65 | 13.52 | 5.75 | 4.34 | 18.73 | 17.67 |
| k, delay calibration | 0.11 | 0.11 | 0.23 | 0.11 | 0.04 | 0.04 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.65 | 2.97 | 0.67 | 0.02 | 0.29 | 0.13 |
| 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 | 0.55 | 0.83 | 0.36 | 0.10 | 0.53 | 0.19 |
| d, Delay for Lane Group [s/veh] | 12.30 | 16.50 | 6.43 | 4.36 | 19.01 | 17.80 |
| Lane Group LOS | B | B | A | A | B | B |
| Critical Lane Group | No | Yes | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 2.86 | 4.58 | 0.87 | 0.31 | 1.36 | 0.43 |
| 50th-Percentile Queue Length [ft/ln] | 71.43 | 114.58 | 21.83 | 7.78 | 34.06 | 10.85 |
| 95th-Percentile Queue Length [veh/ln] | 5.14 | 8.09 | 1.57 | 0.56 | 2.45 | 0.78 |
| 95th-Percentile Queue Length [ft/ln] | 128.57 | 202.35 | 39.30 | 14.01 | 61.31 | 19.52 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 12.30 | 16.50 | 6.43 | 4.36 | 19.01 | 17.80 |
| Movement LOS | B | B | A | A | B | B |
| d_A, Approach Delay [s/veh] | 14.66 | | 5.45 | | 18.84 | |
| Approach LOS | B | | A | | B | |
| d_I, Intersection Delay [s/veh] | 13.04 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.485 | | | | | |

**Emissions**

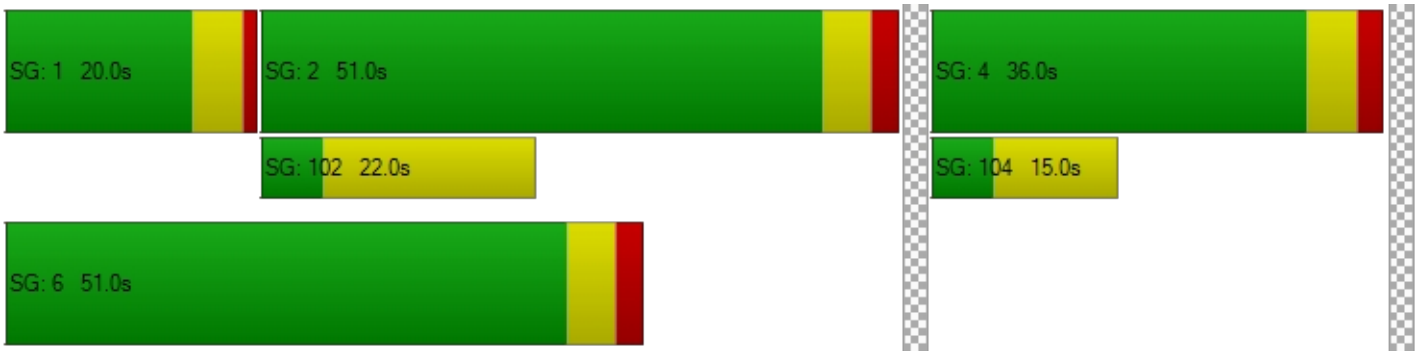
| | | | | | | |
|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 56.18 | 72.35 | 24.08 | 21.41 | 56.17 | 9.42 |
| Stops [stops/h] | 211.11 | 338.66 | 64.53 | 46.01 | 201.34 | 32.06 |
| Fuel consumption [US gal/h] | 4.47 | 6.56 | 1.67 | 1.33 | 4.81 | 0.78 |
| CO [g/h] | 312.50 | 458.69 | 116.44 | 92.76 | 336.09 | 54.62 |
| NOx [g/h] | 60.80 | 89.24 | 22.65 | 18.05 | 65.39 | 10.63 |
| VOC [g/h] | 72.43 | 106.31 | 26.99 | 21.50 | 77.89 | 12.66 |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 9.0 | 9.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 16.19 | 16.19 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 2.332 | 2.851 |
| Crosswalk LOS | F | B | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1847 | 1847 | 1232 |
| d_b, Bicycle Delay [s] | 0.14 | 0.14 | 3.60 |
| l_b,int, Bicycle LOS Score for Intersection | 3.828 | 1.938 | 1.560 |
| Bicycle LOS | D | A | A |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 2: US-24/SH-94/ Newt Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 43.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.760 |

**Intersection Setup**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 3 | 0 | 1 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 760.00 | 100.00 | 475.00 | 375.00 | 100.00 | 300.00 | 850.00 | 100.00 | 600.00 | 800.00 | 100.00 | 800.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 1700.00 | 0.00 | 0.00 | 300.00 | 0.00 | 0.00 | 960.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 30.00 | | | 55.00 | | | 55.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 405 | 31 | 4 | 26 | 50 | 166 | 155 | 1723 | 394 | 7 | 851 | 24 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| 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] | 596 | 49 | 0 | 21 | 43 | 232 | 270 | 194 | 562 | 0 | 0 | 24 |
| 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 | 3 | 0 | 0 | 214 | 0 | 0 | 513 | 0 | 0 | 26 |
| Total Hourly Volume [veh/h] | 1072 | 85 | 2 | 52 | 102 | 213 | 452 | 2219 | 512 | 8 | 1000 | 26 |
| 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] | 291 | 23 | 1 | 14 | 28 | 58 | 123 | 603 | 139 | 2 | 272 | 7 |
| Total Analysis Volume [veh/h] | 1165 | 92 | 2 | 57 | 111 | 232 | 491 | 2412 | 557 | 9 | 1087 | 28 |
| 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 Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 52.0 |
| Offset Reference | Beginning of First Yellow |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Unsigna | Protecte | Permiss | Unsigna | ProtPer | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | | | | | | | | No | | |
| Signal Group | 3 | 8 | 0 | 7 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 15 | 15 | 0 | 5 | 7 | 0 | 8 | 65 | 0 | 7 | 65 | 0 |
| Amber [s] | 3.5 | 4.0 | 0.0 | 3.5 | 4.0 | 0.0 | 3.5 | 6.0 | 0.0 | 3.5 | 6.0 | 0.0 |
| All red [s] | 3.0 | 2.0 | 0.0 | 3.0 | 2.0 | 0.0 | 3.0 | 1.0 | 0.0 | 3.0 | 1.0 | 0.0 |
| Walk [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 |
| Pedestrian Clearance [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 |
| 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] | 4.5 | 4.0 | 0.0 | 4.5 | 4.0 | 0.0 | 4.5 | 5.0 | 0.0 | 4.5 | 5.0 | 0.0 |
| 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 |
| Advanced 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 |
| Advanced 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 33.0 | 26.0 | 0.0 | 22.0 | 15.0 | 0.0 | 33.0 | 59.0 | 0.0 | 13.0 | 39.0 | 0.0 |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 4 | 5 | 0 | 6 | 22 | 0 | 6 | 22 | 0 |
| Vehicle Extension [s] | 2.0 | 2.0 | 0.0 | 2.0 | 5.0 | 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 | Yes | | No | Yes | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |

**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 | L | C | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 6.50 | 6.00 | 6.00 | 6.50 | 6.00 | 6.50 | 7.00 | 7.00 | 7.00 | 7.00 |
| 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 |
| l2, Clearance Lost Time [s] | 4.50 | 4.00 | 4.00 | 4.50 | 4.00 | 4.50 | 5.00 | 0.00 | 5.00 | 5.00 |
| g_i, Effective Green Time [s] | 26.5 | 31.8 | 31.8 | 3.5 | 8.8 | 19.2 | 57.1 | 65.2 | 39.5 | 39.5 |
| g / C, Green / Cycle | 0.22 | 0.26 | 0.26 | 0.03 | 0.07 | 0.16 | 0.48 | 0.54 | 0.33 | 0.33 |
| (v / s)_i Volume / Saturation Flow Rate | 0.22 | 0.05 | 0.00 | 0.02 | 0.06 | 0.14 | 0.47 | 0.03 | 0.21 | 0.02 |
| s, saturation flow rate [veh/h] | 5188 | 1870 | 1589 | 3459 | 1870 | 3459 | 5094 | 297 | 5094 | 1589 |
| c, Capacity [veh/h] | 1146 | 494 | 420 | 103 | 137 | 554 | 2423 | 184 | 1676 | 523 |
| d1, Uniform Delay [s] | 46.75 | 34.16 | 32.52 | 57.41 | 54.78 | 49.32 | 31.34 | 26.73 | 34.34 | 27.50 |
| k, delay calibration | 0.04 | 0.04 | 0.04 | 0.04 | 0.26 | 0.04 | 0.50 | 0.04 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 12.29 | 0.07 | 0.00 | 1.70 | 22.70 | 1.96 | 17.29 | 0.04 | 1.96 | 0.19 |
| 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 |
| Rp, platoon ratio | 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 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 1.02 | 0.19 | 0.00 | 0.55 | 0.81 | 0.89 | 1.00 | 0.05 | 0.65 | 0.05 |
| d, Delay for Lane Group [s/veh] | 59.04 | 34.23 | 32.53 | 59.11 | 77.48 | 51.28 | 48.63 | 26.77 | 36.30 | 27.69 |
| Lane Group LOS | F | C | C | E | E | D | D | C | D | C |
| Critical Lane Group | Yes | No | No | No | Yes | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 12.06 | 1.99 | 0.04 | 0.88 | 4.17 | 7.01 | 24.42 | 0.10 | 8.75 | 0.55 |
| 50th-Percentile Queue Length [ft/ln] | 301.57 | 49.77 | 1.03 | 21.96 | 104.23 | 175.29 | 610.39 | 2.58 | 218.78 | 13.77 |
| 95th-Percentile Queue Length [veh/ln] | 17.92 | 3.58 | 0.07 | 1.58 | 7.50 | 11.35 | 32.52 | 0.19 | 13.60 | 0.99 |
| 95th-Percentile Queue Length [ft/ln] | 448.08 | 89.58 | 1.85 | 39.54 | 187.62 | 283.86 | 812.98 | 4.65 | 340.07 | 24.79 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 59.04 | 34.23 | 32.53 | 59.11 | 77.48 | 0.00 | 51.28 | 48.63 | 0.00 | 26.77 | 36.30 | 27.69 |
| Movement LOS | F | C | C | E | E | | D | D | | C | D | C |
| d_A, Approach Delay [s/veh] | 57.19 | | | 31.42 | | | 41.72 | | | 36.01 | | |
| Approach LOS | E | | | C | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 43.80 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.760 | | | | | | | | | | | |

**Emissions**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 456.60 | 36.06 | 0.78 | 6.02 | 11.72 | 208.13 | 1022.42 | 2.74 | 331.04 | 8.53 |
| Stops [stops/h] | 1085.65 | 59.72 | 1.24 | 52.72 | 125.08 | 420.70 | 2197.41 | 3.10 | 787.61 | 16.53 |
| Fuel consumption [US gal/h] | 49.44 | 2.96 | 0.06 | 1.22 | 2.92 | 19.90 | 98.89 | 0.20 | 33.73 | 0.75 |
| CO [g/h] | 3455.55 | 206.65 | 4.36 | 85.59 | 204.34 | 1390.98 | 6912.09 | 13.86 | 2357.89 | 52.43 |
| NOx [g/h] | 672.32 | 40.21 | 0.85 | 16.65 | 39.76 | 270.63 | 1344.84 | 2.70 | 458.76 | 10.20 |
| VOC [g/h] | 800.86 | 47.89 | 1.01 | 19.84 | 47.36 | 322.37 | 1601.94 | 3.21 | 546.46 | 12.15 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 0.000 | 0.000 |
| Crosswalk LOS | F | F | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 333 | 150 | 867 | 533 |
| d_b, Bicycle Delay [s] | 41.67 | 51.34 | 19.27 | 32.27 |
| l_b,int, Bicycle LOS Score for Intersection | 3.642 | 1.837 | 3.156 | 2.192 |
| Bicycle LOS | D | A | C | B |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 3: US-24 WB Ramps/Peterson Rd**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 12.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | | Eastbound | | | Westbound | | |
| Lane Configuration | | | | | | | | | | | | | |
| Turning Movement | Left | Thru | Right | U-tu | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 15.00 | 15.00 | 12.00 | 12.00 | 12.00 | 14.00 | 13.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.0 | 100.0 | 100.0 | 1.00 | 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 | 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 | 0.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 476 | 1010 | 0 | 0 | 0 | 250 | 168 | 0 | 0 | 0 | 24 | 0 | 70 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 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 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | | |
| Growth Factor | 1.1750 | 1.1750 | 1.1750 | 1.175 | 1.175 | 1.175 | 1.175 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 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 | 0 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 21 | 0 | -6 | -6 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 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 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 559 | 1187 | 0 | 21 | 0 | 288 | 191 | 0 | 0 | 0 | 28 | 0 | 82 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.920 | 0.920 | 0.920 | 0.920 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 152 | 323 | 0 | 6 | 0 | 78 | 52 | 0 | 0 | 0 | 8 | 0 | 22 |
| Total Analysis Volume [veh/h] | 608 | 1290 | 0 | 23 | 0 | 313 | 208 | 0 | 0 | 0 | 30 | 0 | 89 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | | 1 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 23 | | | 651 | | | | 373 | | | 1959 | | |
| Exiting Flow Rate [veh/h] | 350 | | | 1430 | | | | 620 | | | 0 | | |
| Demand Flow Rate [veh/h] | 559 | 1187 | 0 | 21 | 0 | 288 | 191 | 0 | 0 | 0 | 28 | 0 | 82 |
| Adjusted Demand Flow Rate [veh/h] | 608 | 1290 | 0 | 23 | 0 | 313 | 208 | 0 | 0 | 0 | 30 | 0 | 89 |

**Lanes**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 1420.00 | | 1350.00 | 1420.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00085 | | 0.00092 | 0.00085 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 910 | 1027 | 162 | 182 | 0 | | 31 | 91 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1322 | 1392 | 742 | 817 | 839 | | 223 | 269 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1296 | 1365 | 728 | 801 | 822 | | 219 | 264 |
| X, volume / capacity | 0.69 | 0.74 | 0.22 | 0.22 | 0.25 | | 0.14 | 0.34 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Lane LOS | B | B | A | A | A | | C | C |
| 95th-Percentile Queue Length [veh] | 5.94 | 7.24 | 0.82 | 0.85 | 1.00 | | 0.47 | 1.44 |
| 95th-Percentile Queue Length [ft] | 148.44 | 181.07 | 20.56 | 21.22 | 25.09 | | 11.72 | 35.94 |
| Approach Delay [s/veh] | 12.75 | | 7.13 | | | 0.00 | 21.59 | |
| Approach LOS | B | | A | | | A | C | |
| Intersection Delay [s/veh] | 11.97 | | | | | | | |
| Intersection LOS | B | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Peterson Bl/ Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 14.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 250.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 286.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 49.21 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | No | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 888 | 357 | 266 | 3 | 0 | 217 | 101 | 11 | 3 | 0 | 381 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| 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] | 0 | 1043 | 419 | 313 | 4 | 0 | 255 | 119 | 13 | 4 | 0 | 448 |
| 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 | 283 | 114 | 85 | 1 | 0 | 69 | 32 | 4 | 1 | 0 | 122 |
| Total Analysis Volume [veh/h] | 0 | 1134 | 455 | 340 | 4 | 0 | 277 | 129 | 14 | 4 | 0 | 487 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | 2 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 761 | | | 4 | | | 355 | | | 1439 | | |
| Exiting Flow Rate [veh/h] | 8 | | | 1439 | | | 0 | | | 478 | | |
| Demand Flow Rate [veh/h] | 0 | 1043 | 419 | 313 | 4 | 0 | 255 | 119 | 13 | 4 | 0 | 448 |
| Adjusted Demand Flow Rate [veh/h] | 0 | 1134 | 455 | 340 | 4 | 0 | 277 | 129 | 14 | 4 | 0 | 487 |

**Lanes**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1420.00 | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 0.00 | 1420.00 | 0.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00085 | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00000 | 0.00085 | 0.00000 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 544 | 614 | 0 | 347 | 5 | 283 | 132 | 0 | 5 | 0 |
| Capacity of Entry and Bypass Lanes [veh/h] | 671 | 744 | 946 | 1345 | 1416 | 974 | 1051 | 102000 | 418 | 102000 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 658 | 730 | 928 | 1319 | 1388 | 955 | 1030 | 100000 | 410 | 100000 |
| X, volume / capacity | 0.81 | 0.82 | 0.49 | 0.26 | 0.00 | 0.29 | 0.13 | 0.00 | 0.01 | 0.00 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane LOS | D | D | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 8.36 | 9.01 | 2.76 | 1.03 | 0.01 | 1.21 | 0.43 | 0.00 | 0.03 | 0.00 |
| 95th-Percentile Queue Length [ft] | 209.12 | 225.20 | 69.06 | 25.84 | 0.22 | 30.22 | 10.70 | 0.00 | 0.74 | 0.00 |
| Approach Delay [s/veh] | 23.01 | | | 4.94 | | 5.87 | | | 0.07 | |
| Approach LOS | C | | | A | | A | | | A | |
| Intersection Delay [s/veh] | 14.33 | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: US 24 EB Ramps/Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 170.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.756 |

**Intersection Setup**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | 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 | 1 |
| Entry Pocket Length [ft] | 100.00 | 290.00 | 400.00 | 100.00 | 100.00 | 485.00 |
| 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] | 30.00 | | 35.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 34 | 44 | 328 | 391 | 340 | 18 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| 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] | 40 | 52 | 385 | 459 | 400 | 21 |
| 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] | 11 | 14 | 105 | 125 | 109 | 6 |
| Total Analysis Volume [veh/h] | 43 | 57 | 418 | 499 | 435 | 23 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| Priority Scheme | Stop | Free | Free |
|---|---|---|---|
| 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 | 0.76 | 0.09 | 0.38 | 0.00 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 170.03 | 11.38 | 10.24 | 0.00 | 0.00 | 0.00 |
| Movement LOS | F | B | B | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 3.24 | 0.30 | 1.79 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 81.01 | 7.55 | 44.83 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 79.60 | | 4.67 | | 0.00 | |
| Approach LOS | F | | A | | A | |
| d_I, Intersection Delay [s/veh] | 8.30 | | | | | |
| Intersection LOS | F | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Meadowbrook Pkwy/ Newt Dr.**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 3.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 |
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 37 | 71 | 2 | 14 | 0 | 0 | 0 | 0 | 173 | 0 | 10 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| 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 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 0 | 43 | 113 | 2 | 16 | 0 | 0 | 0 | 0 | 221 | 0 | 12 |
| 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 | 12 | 31 | 1 | 4 | 0 | 0 | 0 | 0 | 60 | 0 | 3 |
| Total Analysis Volume [veh/h] | 0 | 47 | 123 | 2 | 17 | 0 | 0 | 0 | 0 | 240 | 0 | 13 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 1 | | | 1 | | | 1 | | | 1 | | |
| Circulating Flow Rate [veh/h] | 2 | | | 245 | | | 264 | | | 48 | | |
| Exiting Flow Rate [veh/h] | 262 | | | 61 | | | 0 | | | 128 | | |
| Demand Flow Rate [veh/h] | 0 | 43 | 113 | 2 | 16 | 0 | 0 | 0 | 0 | 221 | 0 | 12 |
| Adjusted Demand Flow Rate [veh/h] | 0 | 47 | 123 | 2 | 17 | 0 | 0 | 0 | 0 | 240 | 0 | 13 |

**Lanes**

| | | | | | |
|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1380.00 | 1380.00 | 1380.00 | 1420.00 | 1420.00 |
| B (coefficient) | 0.00102 | 0.00102 | 0.00102 | 0.00091 | 0.00091 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 174 | 20 | 0 | 245 | 14 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1378 | 1076 | 1055 | 1360 | 1360 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1351 | 1054 | 1034 | 1333 | 1333 |
| X, volume / capacity | 0.13 | 0.02 | 0.00 | 0.18 | 0.01 |

**Movement, Approach, & Intersection Results**

| | | | | | |
|---|---|---|---|---|---|
| Lane LOS | A | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.43 | 0.06 | 0.00 | 0.66 | 0.03 |
| 95th-Percentile Queue Length [ft] | 10.77 | 1.38 | 0.00 | 16.39 | 0.74 |
| Approach Delay [s/veh] | 3.68 | 3.57 | 3.48 | 4.12 | |
| Approach LOS | A | A | A | A | |
| Intersection Delay [s/veh] | 3.93 | | | | |
| Intersection LOS | A | | | | |

**Intersection Level Of Service Report**
**Intersection 7: Peterson Rd/ Panamint Ct**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 15.1 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.068 |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 26 | 1045 | 9 | 2 | 395 | 5 | 16 | 0 | 13 | 10 | 0 | 10 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| 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] | -31 | 50 | 2 | -2 | 2 | 0 | -19 | 0 | 19 | -12 | 0 | 12 |
| 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 | 1278 | 13 | 0 | 466 | 6 | 0 | 0 | 34 | 0 | 0 | 24 |
| 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 | 347 | 4 | 0 | 127 | 2 | 0 | 0 | 9 | 0 | 0 | 7 |
| Total Analysis Volume [veh/h] | 0 | 1389 | 14 | 0 | 507 | 7 | 0 | 0 | 37 | 0 | 0 | 26 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop | Stop |
|---|---|---|---|---|
| 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 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.05 | 0.00 | 0.00 | 0.07 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10.11 | 0.00 | 0.00 | 15.14 |
| Movement LOS | | A | A | | A | A | | | B | | | C |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.16 | 0.00 | 0.00 | 0.22 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.93 | 0.00 | 0.00 | 5.47 |
| d_A, Approach Delay [s/veh] | 0.00 | | | 0.00 | | | 10.11 | | | 15.14 | | |
| Approach LOS | A | | | A | | | B | | | C | | |
| d_I, Intersection Delay [s/veh] | 0.39 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

# Signal Warrants Report For Intersection 5: US 24 EB Ramps/Space Village Av

## 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 | N |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | E | W | N |
| 1 | 421 | 844 | 92 |
| 2 | 408 | 819 | 89 |
| 3 | 400 | 802 | 87 |
| 4 | 375 | 751 | 82 |
| 5 | 333 | 667 | 73 |
| 6 | 328 | 658 | 72 |
| 7 | 324 | 650 | 71 |
| 8 | 295 | 591 | 64 |
| 9 | 290 | 582 | 63 |
| 10 | 286 | 574 | 63 |
| 11 | 248 | 498 | 54 |
| 12 | 232 | 464 | 51 |
| 13 | 227 | 456 | 50 |
| 14 | 168 | 338 | 37 |
| 15 | 168 | 338 | 37 |
| 16 | 118 | 236 | 26 |
| 17 | 67 | 135 | 15 |
| 18 | 67 | 135 | 15 |
| 19 | 38 | 76 | 8 |
| 20 | 21 | 42 | 5 |
| 21 | 13 | 25 | 3 |
| 22 | 4 | 8 | 1 |
| 23 | 4 | 8 | 1 |
| 24 | 4 | 8 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1265 | 2 | 92 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 2 | 2 | 1227 | 2 | 89 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 3 | 2 | 1202 | 2 | 87 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 4 | 2 | 1126 | 2 | 82 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 5 | 2 | 1000 | 2 | 73 | No | No | No | No | No | No | Yes | Yes | No | No |
| 6 | 2 | 986 | 2 | 72 | No | No | No | No | No | No | Yes | Yes | No | No |
| 7 | 2 | 974 | 2 | 71 | No | No | No | No | No | No | Yes | Yes | No | No |
| 8 | 2 | 886 | 2 | 64 | No | No | No | No | No | No | No | Yes | No | No |
| 9 | 2 | 872 | 2 | 63 | No | No | No | No | No | No | No | Yes | No | No |
| 10 | 2 | 860 | 2 | 63 | No | No | No | No | No | No | No | Yes | No | No |
| 11 | 2 | 746 | 2 | 54 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 696 | 2 | 51 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 683 | 2 | 50 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 506 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 506 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 354 | 2 | 26 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 202 | 2 | 15 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 202 | 2 | 15 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 114 | 2 | 8 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 63 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 38 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 12 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 12 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 12 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 4 | 7 | 10 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | N |
|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 79.6 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 2:02 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 92 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1357 |
| 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 7: Peterson Rd/ Panamint Ct

## 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, W |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|---|---|---|---|---|
| | N | S | E | W |
| 1 | 472 | 1291 | 24 | 34 |
| 2 | 458 | 1252 | 23 | 33 |
| 3 | 448 | 1226 | 23 | 32 |
| 4 | 420 | 1149 | 21 | 30 |
| 5 | 373 | 1020 | 19 | 27 |
| 6 | 368 | 1007 | 19 | 27 |
| 7 | 363 | 994 | 18 | 26 |
| 8 | 330 | 904 | 17 | 24 |
| 9 | 326 | 891 | 17 | 23 |
| 10 | 321 | 878 | 16 | 23 |
| 11 | 278 | 762 | 14 | 20 |
| 12 | 260 | 710 | 13 | 19 |
| 13 | 255 | 697 | 13 | 18 |
| 14 | 189 | 516 | 10 | 14 |
| 15 | 189 | 516 | 10 | 14 |
| 16 | 132 | 361 | 7 | 10 |
| 17 | 76 | 207 | 4 | 5 |
| 18 | 76 | 207 | 4 | 5 |
| 19 | 42 | 116 | 2 | 3 |
| 20 | 24 | 65 | 1 | 2 |
| 21 | 14 | 39 | 1 | 1 |
| 22 | 5 | 13 | 0 | 0 |
| 23 | 5 | 13 | 0 | 0 |
| 24 | 5 | 13 | 0 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1763 | 1 | 34 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 1710 | 1 | 33 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 1674 | 1 | 32 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 1569 | 1 | 30 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 1393 | 1 | 27 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 1375 | 1 | 27 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 1357 | 1 | 26 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 1234 | 1 | 24 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 1217 | 1 | 23 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 1199 | 1 | 23 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 1040 | 1 | 20 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 970 | 1 | 19 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 952 | 1 | 18 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 705 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 705 | 1 | 14 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 493 | 1 | 10 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 283 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 283 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 158 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 89 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 53 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 18 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 18 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 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 | W |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 15.1 | 10.1 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:06 | 0:05 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 24 | 34 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 1821 | 1821 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Table of Contents

Intersection Level Of Service Report ..... 2
Intersection 1: Peterson Rd/ Galley Rd ..... 2
Intersection 2: US-24/SH-94/ Newt Dr ..... 7
Intersection 3: US-24 WB Ramps/Peterson Rd ..... 12
Intersection 4: Peterson Bl/ Space Village Av ..... 14
Intersection 5: US 24 EB Ramps/Space Village Av ..... 16
Intersection 6: Meadowbrook Pkwy/ Newt Dr. ..... 18
Intersection 7: Peterson Rd/ Panamint Ct ..... 20
Intersection 8: Peterson Rd/ Meadowbrook Pk ..... 22
Intersection 9: Meadowbrook Pk/Access 1 ..... 24
Intersection 10: Meadowbrook Pk/ Access 2 ..... 26
Signal Warrants Report ..... 28
Intersection 5: US 24 EB Ramps/Space Village Av ..... 28
Intersection 7: Peterson Rd/ Panamint Ct ..... 30
Intersection 8: Peterson Rd/ Meadowbrook Pk ..... 32
Intersection 9: Meadowbrook Pk/Access 1 ..... 34
Intersection 10: Meadowbrook Pk/ Access 2 ..... 36

**Intersection Level Of Service Report**
**Intersection 1: Peterson Rd/ Galley Rd**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 15.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.526 |

**Intersection Setup**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| 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 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 125.00 | 100.00 | 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] | 30.00 | | 30.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | Yes | |
| Crosswalk | No | | Yes | | Yes | |

**Volumes**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 262 | 128 | 91 | 241 | 750 | 138 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 9 | 16 | 0 | 3 | 6 | 0 |
| Diverted Trips [veh/h] | 32 | 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 | 83 | 0 | 0 | 0 | 81 |
| Total Hourly Volume [veh/h] | 349 | 83 | 107 | 286 | 887 | 81 |
| 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] | 95 | 23 | 29 | 78 | 241 | 22 |
| Total Analysis Volume [veh/h] | 379 | 90 | 116 | 311 | 964 | 88 |
| 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] | 90 |
| Active Pattern | Free Running (No Pattern) |
| Coordination Type | *Free Running* |
| 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 (Basic)**

| Control Type | Permissive | Permissive | ProtPerm | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | No | | | |
| Signal Group | 2 | 0 | 1 | 6 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Maximum Green [s] | 45 | 0 | 15 | 45 | 30 | 0 |
| Amber [s] | 4.0 | 0.0 | 4.0 | 4.0 | 4.0 | 0.0 |
| All red [s] | 2.0 | 0.0 | 1.0 | 2.0 | 2.0 | 0.0 |
| Walk [s] | 5.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 |
| Pedestrian Clearance [s] | 17.0 | 0.0 | 0.0 | 0.0 | 10.0 | 0.0 |
| 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 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 4.0 | 0.0 | 3.0 | 4.0 | 4.0 | 0.0 |
| 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 |
| Advanced Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Advanced 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 |

**Phasing & Timing: Free Running (No Pattern)**

| | | | | | | |
|---|---|---|---|---|---|---|
| Split [s] | 14.0 | 0.0 | 9.0 | 14.0 | 9.0 | 0.0 |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 15 | 0 | 5 | 15 | 8 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.5 | 3.0 | 1.5 | 0.0 |
| Minimum Recall | Yes | | No | Yes | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |

**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, Calculated Cycle Length [s] | 53 | 53 | 53 | 53 | 53 | 53 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 4.00 | 4.00 | 0.00 | 4.00 | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 15.0 | 15.0 | 24.1 | 24.1 | 16.9 | 16.9 |
| g / C, Green / Cycle | 0.28 | 0.28 | 0.45 | 0.45 | 0.32 | 0.32 |
| (v / s)_i Volume / Saturation Flow Rate | 0.20 | 0.06 | 0.10 | 0.09 | 0.28 | 0.06 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 1177 | 3560 | 3459 | 1589 |
| c, Capacity [veh/h] | 528 | 449 | 568 | 1617 | 1106 | 508 |
| d1, Uniform Delay [s] | 17.15 | 14.49 | 9.48 | 8.67 | 17.04 | 13.01 |
| k, delay calibration | 0.11 | 0.11 | 0.04 | 0.11 | 0.04 | 0.04 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 1.84 | 0.22 | 0.07 | 0.06 | 0.87 | 0.06 |
| 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 | 0.72 | 0.20 | 0.20 | 0.19 | 0.87 | 0.17 |
| d, Delay for Lane Group [s/veh] | 18.99 | 14.71 | 9.55 | 8.72 | 17.91 | 13.07 |
| Lane Group LOS | B | B | A | A | B | B |
| Critical Lane Group | Yes | No | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 3.92 | 0.76 | 0.65 | 0.89 | 4.76 | 0.65 |
| 50th-Percentile Queue Length [ft/ln] | 98.04 | 19.00 | 16.23 | 22.26 | 118.94 | 16.32 |
| 95th-Percentile Queue Length [veh/ln] | 7.06 | 1.37 | 1.17 | 1.60 | 8.33 | 1.18 |
| 95th-Percentile Queue Length [ft/ln] | 176.48 | 34.20 | 29.22 | 40.07 | 208.37 | 29.38 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 18.99 | 14.71 | 9.55 | 8.72 | 17.91 | 13.07 |
| Movement LOS | B | B | A | A | B | B |
| d_A, Approach Delay [s/veh] | 18.17 | | 8.95 | | 17.50 | |
| Approach LOS | B | | A | | B | |
| d_I, Intersection Delay [s/veh] | 15.79 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.526 | | | | | |

**Emissions**

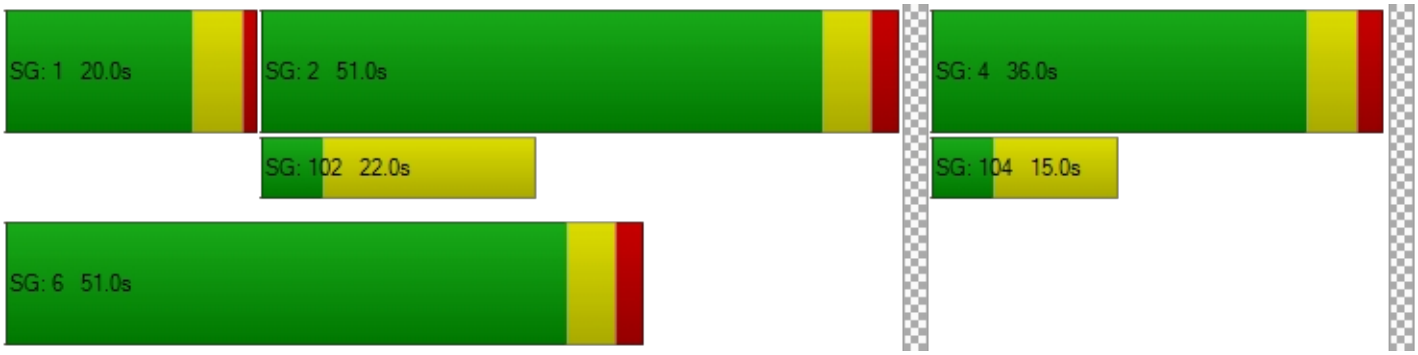
| | | | | | | |
|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 53.77 | 12.77 | 11.50 | 30.82 | 181.69 | 16.59 |
| Stops [stops/h] | 266.21 | 51.58 | 44.08 | 120.89 | 645.90 | 44.32 |
| Fuel consumption [US gal/h] | 5.15 | 1.08 | 0.94 | 2.49 | 15.30 | 1.20 |
| CO [g/h] | 359.92 | 75.50 | 65.86 | 173.98 | 1069.22 | 83.85 |
| NOx [g/h] | 70.03 | 14.69 | 12.81 | 33.85 | 208.03 | 16.31 |
| VOC [g/h] | 83.42 | 17.50 | 15.26 | 40.32 | 247.80 | 19.43 |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 9.0 | 9.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 18.28 | 18.28 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 2.343 | 2.765 |
| Crosswalk LOS | F | B | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1697 | 1697 | 1131 |
| d_b, Bicycle Delay [s] | 0.61 | 0.61 | 5.00 |
| l_b,int, Bicycle LOS Score for Intersection | 2.470 | 1.912 | 1.560 |
| Bicycle LOS | B | A | A |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 2: US-24/SH-94/ Newt Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 45.2 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.846 |

**Intersection Setup**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 3 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 1 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 760.00 | 100.00 | 475.00 | 375.00 | 100.00 | 300.00 | 850.00 | 100.00 | 600.00 | 800.00 | 100.00 | 800.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 1700.00 | 0.00 | 0.00 | 250.00 | 0.00 | 0.00 | 960.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 30.00 | | | 55.00 | | | 55.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 441 | 42 | 2 | 13 | 24 | 179 | 156 | 681 | 599 | 8 | 1758 | 43 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 1 | 5 | 0 | 42 | 16 | 0 | 0 | 0 | 0 | 0 | 2 | 12 |
| 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] | 420 | 53 | 0 | 28 | 55 | 302 | 295 | 137 | 315 | 0 | 0 | 27 |
| 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 | 1 | 0 | 0 | 256 | 0 | 0 | 510 | 0 | 0 | 45 |
| Total Hourly Volume [veh/h] | 939 | 107 | 1 | 85 | 99 | 256 | 478 | 937 | 509 | 9 | 2068 | 45 |
| 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] | 255 | 29 | 0 | 23 | 27 | 70 | 130 | 255 | 138 | 2 | 562 | 12 |
| Total Analysis Volume [veh/h] | 1021 | 116 | 1 | 92 | 108 | 278 | 520 | 1018 | 553 | 10 | 2248 | 49 |
| 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 Isolated |
| Actuation Type | Fully actuated |
| Offset [s] | 13.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | Protecte | Permiss | Permiss | Protecte | Permiss | Unsigna | Protecte | Permiss | Unsigna | ProtPer | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | | | | | | | | No | | |
| Signal Group | 3 | 8 | 0 | 7 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 15 | 15 | 0 | 5 | 7 | 0 | 8 | 65 | 0 | 7 | 65 | 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 |
| Walk [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 |
| Pedestrian Clearance [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 |
| 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 |
| 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 |
| Advanced 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 |
| Advanced 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 28.0 | 23.0 | 0.0 | 19.0 | 14.0 | 0.0 | 24.0 | 68.0 | 0.0 | 10.0 | 54.0 | 0.0 |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 4 | 5 | 0 | 6 | 22 | 0 | 6 | 22 | 0 |
| Vehicle Extension [s] | 2.0 | 2.0 | 0.0 | 2.0 | 5.0 | 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 | Yes | | No | Yes | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |

**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 | L | C | L | C | R |
|---|---|---|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 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 |
| 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 |
| l2, Clearance Lost Time [s] | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 2.00 | 0.00 | 2.00 | 2.00 |
| g_i, Effective Green Time [s] | 24.0 | 27.6 | 27.6 | 5.0 | 8.6 | 19.9 | 69.6 | 75.4 | 51.5 | 51.5 |
| g / C, Green / Cycle | 0.20 | 0.23 | 0.23 | 0.04 | 0.07 | 0.17 | 0.58 | 0.63 | 0.43 | 0.43 |
| (v / s)_i Volume / Saturation Flow Rate | 0.20 | 0.06 | 0.00 | 0.03 | 0.06 | 0.15 | 0.20 | 0.02 | 0.44 | 0.03 |
| s, saturation flow rate [veh/h] | 5188 | 1870 | 1589 | 3459 | 1870 | 3459 | 5094 | 615 | 5094 | 1589 |
| c, Capacity [veh/h] | 1038 | 429 | 365 | 147 | 135 | 573 | 2954 | 416 | 2184 | 682 |
| d1, Uniform Delay [s] | 47.81 | 37.97 | 35.64 | 56.51 | 54.83 | 49.15 | 13.23 | 9.07 | 34.27 | 20.20 |
| k, delay calibration | 0.04 | 0.04 | 0.04 | 0.04 | 0.27 | 0.04 | 0.50 | 0.04 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 5.04 | 0.12 | 0.00 | 1.63 | 23.35 | 2.33 | 0.32 | 0.01 | 27.14 | 0.20 |
| 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 |
| Rp, platoon ratio | 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 |

**Lane Group Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 0.98 | 0.27 | 0.00 | 0.63 | 0.80 | 0.91 | 0.34 | 0.02 | 1.03 | 0.07 |
| d, Delay for Lane Group [s/veh] | 52.85 | 38.09 | 35.64 | 58.14 | 78.18 | 51.47 | 13.56 | 9.07 | 61.41 | 20.40 |
| Lane Group LOS | D | D | D | E | E | D | B | A | F | C |
| Critical Lane Group | Yes | No | No | No | Yes | Yes | No | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 10.08 | 2.69 | 0.02 | 1.41 | 4.09 | 7.46 | 4.32 | 0.09 | 24.63 | 0.80 |
| 50th-Percentile Queue Length [ft/ln] | 252.00 | 67.29 | 0.54 | 35.15 | 102.23 | 186.60 | 107.91 | 2.13 | 615.86 | 19.95 |
| 95th-Percentile Queue Length [veh/ln] | 15.29 | 4.84 | 0.04 | 2.53 | 7.36 | 11.94 | 7.72 | 0.15 | 33.49 | 1.44 |
| 95th-Percentile Queue Length [ft/ln] | 382.17 | 121.12 | 0.98 | 63.28 | 184.01 | 298.62 | 193.09 | 3.84 | 837.14 | 35.91 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 52.85 | 38.09 | 35.64 | 58.14 | 78.18 | 0.00 | 51.47 | 13.56 | 0.00 | 9.07 | 61.41 | 20.40 |
| Movement LOS | D | D | D | E | E | | D | B | | A | F | C |
| d_A, Approach Delay [s/veh] | 51.33 | | | 30.25 | | | 19.82 | | | 60.32 | | |
| Approach LOS | D | | | C | | | B | | | E | | |
| d_I, Intersection Delay [s/veh] | 45.16 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.846 | | | | | | | | | | | |

**Emissions**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 400.16 | 45.46 | 0.39 | 9.71 | 11.40 | 220.42 | 431.52 | 3.05 | 684.61 | 14.92 |
| Stops [stops/h] | 907.19 | 80.75 | 0.65 | 84.37 | 122.67 | 447.84 | 388.48 | 2.56 | 2217.11 | 23.94 |
| Fuel consumption [US gal/h] | 41.22 | 3.92 | 0.03 | 1.95 | 2.87 | 21.14 | 24.46 | 0.17 | 92.17 | 1.15 |
| CO [g/h] | 2881.03 | 274.00 | 2.27 | 136.60 | 200.27 | 1477.57 | 1709.68 | 11.73 | 6443.02 | 80.19 |
| NOx [g/h] | 560.54 | 53.31 | 0.44 | 26.58 | 38.96 | 287.48 | 332.64 | 2.28 | 1253.58 | 15.60 |
| VOC [g/h] | 667.71 | 63.50 | 0.53 | 31.66 | 46.41 | 342.44 | 396.23 | 2.72 | 1493.23 | 18.59 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 0.000 | 0.000 |
| Crosswalk LOS | F | F | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 317 | 167 | 1067 | 833 |
| d_b, Bicycle Delay [s] | 42.50 | 50.42 | 13.07 | 20.42 |
| l_b,int, Bicycle LOS Score for Intersection | 3.439 | 1.890 | 2.406 | 2.853 |
| Bicycle LOS | C | A | 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 3: US-24 WB Ramps/Peterson Rd**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 13.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | | | | | |  | | |
| Turning Movement | Left | Thru | Right | U-tu | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 15.00 | 15.00 | 12.00 | 12.00 | 12.00 | 14.00 | 13.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.0 | 100.0 | 100.0 | 1.00 | 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 | 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 | 0.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 306 | 326 | 0 | 0 | 0 | 716 | 285 | 0 | 0 | 0 | 303 | 0 | 66 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 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 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | | |
| Growth Factor | 1.1750 | 1.1750 | 1.1750 | 1.175 | 1.175 | 1.175 | 1.175 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 26 | 0 | 0 | 0 | 24 | 54 | 0 | 0 | 0 | 0 | 0 | 3 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 8 | 0 | 0 | -13 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 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 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 360 | 409 | 0 | 8 | 0 | 865 | 376 | 0 | 0 | 0 | 356 | 0 | 81 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.920 | 0.920 | 0.920 | 0.920 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 98 | 111 | 0 | 2 | 0 | 235 | 102 | 0 | 0 | 0 | 97 | 0 | 22 |
| Total Analysis Volume [veh/h] | 391 | 445 | 0 | 9 | 0 | 940 | 409 | 0 | 0 | 0 | 387 | 0 | 88 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | | 2 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 9 | | | 794 | | | | 1363 | | | 862 | | |
| Exiting Flow Rate [veh/h] | 1354 | | | 553 | | | | 399 | | | 0 | | |
| Demand Flow Rate [veh/h] | 360 | 409 | 0 | 8 | 0 | 865 | 376 | 0 | 0 | 0 | 356 | 0 | 81 |
| Adjusted Demand Flow Rate [veh/h] | 391 | 445 | 0 | 9 | 0 | 940 | 409 | 0 | 0 | 0 | 387 | 0 | 88 |

**Lanes**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 1420.00 | | 1350.00 | 1420.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00085 | | 0.00092 | 0.00085 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 401 | 452 | 455 | 514 | 0 | | 395 | 90 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1339 | 1409 | 651 | 724 | 1012 | | 611 | 683 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1313 | 1382 | 638 | 710 | 992 | | 599 | 670 |
| X, volume / capacity | 0.30 | 0.32 | 0.70 | 0.71 | 0.41 | | 0.65 | 0.13 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Lane LOS | A | A | C | C | A | | C | A |
| 95th-Percentile Queue Length [veh] | 1.27 | 1.40 | 5.65 | 5.95 | 2.05 | | 4.66 | 0.45 |
| 95th-Percentile Queue Length [ft] | 31.70 | 35.00 | 141.19 | 148.65 | 51.19 | | 116.48 | 11.29 |
| Approach Delay [s/veh] | 5.42 | | 16.85 | | | 0.00 | 17.20 | |
| Approach LOS | A | | C | | | A | C | |
| Intersection Delay [s/veh] | 13.33 | | | | | | | |
| Intersection LOS | B | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Peterson Bl/ Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 6.6 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 250.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 286.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | No | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 147 | 67 | 160 | 856 | 0 | 66 | 163 | 374 | 96 | 0 | 419 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 3 | 0 | 9 | 9 | 6 | 20 | 0 | 0 | 0 | 0 | 3 |
| 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 | 176 | 79 | 197 | 1015 | 6 | 98 | 192 | 439 | 113 | 0 | 495 |
| 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 | 48 | 21 | 54 | 276 | 2 | 27 | 52 | 119 | 31 | 0 | 135 |
| Total Analysis Volume [veh/h] | 0 | 191 | 86 | 214 | 1103 | 7 | 107 | 209 | 477 | 123 | 0 | 538 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | 2 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 541 | | | 125 | | | 1469 | | | 304 | | |
| Exiting Flow Rate [veh/h] | 1251 | | | 304 | | | 0 | | | 431 | | |
| Demand Flow Rate [veh/h] | 0 | 176 | 79 | 197 | 1015 | 0 | 98 | 192 | 439 | 113 | 0 | 495 |
| Adjusted Demand Flow Rate [veh/h] | 0 | 191 | 86 | 214 | 1103 | 0 | 107 | 209 | 477 | 123 | 0 | 538 |

**Lanes**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1420.00 | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 0.00 | 1420.00 | 0.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00085 | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00000 | 0.00085 | 0.00000 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 92 | 104 | 0 | 632 | 712 | 110 | 214 | 0 | 126 | 0 |
| Capacity of Entry and Bypass Lanes [veh/h] | 821 | 897 | 985 | 1203 | 1277 | 350 | 408 | 102000 | 1097 | 102000 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 805 | 880 | 965 | 1180 | 1252 | 343 | 400 | 100000 | 1076 | 100000 |
| X, volume / capacity | 0.11 | 0.12 | 0.09 | 0.52 | 0.56 | 0.31 | 0.52 | 0.00 | 0.11 | 0.01 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane LOS | A | A | A | A | A | C | C | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.38 | 0.39 | 0.29 | 3.17 | 3.60 | 1.30 | 2.93 | 0.00 | 0.39 | 0.00 |
| 95th-Percentile Queue Length [ft] | 9.38 | 9.72 | 7.32 | 79.27 | 89.93 | 32.61 | 73.28 | 0.00 | 9.66 | 0.00 |
| Approach Delay [s/veh] | 5.12 | | | 9.12 | | 7.82 | | | 0.81 | |
| Approach LOS | A | | | A | | A | | | A | |
| Intersection Delay [s/veh] | 6.62 | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: US 24 EB Ramps/Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 57.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.537 |

**Intersection Setup**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | 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 | 1 |
| Entry Pocket Length [ft] | 100.00 | 290.00 | 400.00 | 100.00 | 100.00 | 485.00 |
| 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] | 30.00 | | 35.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 58 | 10 | 135 | 255 | 505 | 37 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 9 | 3 | 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] | 68 | 12 | 159 | 309 | 596 | 43 |
| 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] | 18 | 3 | 43 | 84 | 162 | 12 |
| Total Analysis Volume [veh/h] | 74 | 13 | 173 | 336 | 648 | 47 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | |
|---|---|---|---|
| Priority Scheme | Stop | Free | Free |
| 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 | 0.54 | 0.03 | 0.19 | 0.00 | 0.01 | 0.00 |
| d_M, Delay for Movement [s/veh] | 57.94 | 12.87 | 9.94 | 0.00 | 0.00 | 0.00 |
| Movement LOS | F | B | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 2.62 | 0.09 | 0.71 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 65.46 | 2.13 | 17.69 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 51.20 | | 3.38 | | 0.00 | |
| Approach LOS | F | | A | | A | |
| d_I, Intersection Delay [s/veh] | 4.78 | | | | | |
| Intersection LOS | F | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Meadowbrook Pkwy/ Newt Dr.**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 4.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 |
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 16 | 109 | 3 | 41 | 0 | 0 | 0 | 0 | 151 | 0 | 3 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.1750 | 1.0000 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 17 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 58 | 0 | 1 | 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 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 17 | 19 | 137 | 4 | 48 | 0 | 1 | 5 | 58 | 204 | 1 | 4 |
| 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] | 5 | 5 | 37 | 1 | 13 | 0 | 0 | 1 | 16 | 55 | 0 | 1 |
| Total Analysis Volume [veh/h] | 18 | 21 | 149 | 4 | 52 | 0 | 1 | 5 | 63 | 222 | 1 | 4 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 1 | | | 1 | | | 1 | | | 1 | | |
| Circulating Flow Rate [veh/h] | 10 | | | 246 | | | 284 | | | 41 | | |
| Exiting Flow Rate [veh/h] | 344 | | | 27 | | | 19 | | | 161 | | |
| Demand Flow Rate [veh/h] | 17 | 19 | 137 | 4 | 48 | 0 | 1 | 5 | 58 | 204 | 1 | 4 |
| Adjusted Demand Flow Rate [veh/h] | 18 | 21 | 149 | 4 | 52 | 0 | 1 | 5 | 63 | 222 | 1 | 4 |

**Lanes**

| | | | | | |
|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1380.00 | 1380.00 | 1380.00 | 1420.00 | 1420.00 |
| B (coefficient) | 0.00102 | 0.00102 | 0.00102 | 0.00091 | 0.00091 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 192 | 58 | 71 | 228 | 5 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1366 | 1074 | 1034 | 1369 | 1369 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1339 | 1053 | 1014 | 1342 | 1342 |
| X, volume / capacity | 0.14 | 0.05 | 0.07 | 0.17 | 0.00 |

**Movement, Approach, & Intersection Results**

| | | | | | |
|---|---|---|---|---|---|
| Lane LOS | A | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.49 | 0.17 | 0.22 | 0.60 | 0.01 |
| 95th-Percentile Queue Length [ft] | 12.21 | 4.21 | 5.47 | 14.89 | 0.22 |
| Approach Delay [s/veh] | 3.83 | 3.88 | 4.15 | 4.03 | |
| Approach LOS | A | A | A | A | |
| Intersection Delay [s/veh] | 3.96 | | | | |
| Intersection LOS | A | | | | |

**Intersection Level Of Service Report**
**Intersection 7: Peterson Rd/ Panamint Ct**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 14.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.033 |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 11 | 383 | 10 | 4 | 984 | 3 | 2 | 1 | 8 | 11 | 3 | 18 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 19 | 10 | 0 | 78 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Diverted Trips [veh/h] | -13 | 15 | 6 | -5 | 5 | 0 | -2 | -1 | 3 | -13 | -4 | 17 |
| 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 | 484 | 28 | 0 | 1239 | 4 | 0 | 0 | 12 | 0 | 0 | 48 |
| 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 | 132 | 8 | 0 | 337 | 1 | 0 | 0 | 3 | 0 | 0 | 13 |
| Total Analysis Volume [veh/h] | 0 | 526 | 30 | 0 | 1347 | 4 | 0 | 0 | 13 | 0 | 0 | 52 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop | Stop |
|---|---|---|---|---|
| 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 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.03 | 0.00 | 0.00 | 0.07 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 14.39 | 0.00 | 0.00 | 10.39 |
| Movement LOS | | A | A | | A | A | | | B | | | B |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.00 | 0.00 | 0.23 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.54 | 0.00 | 0.00 | 5.83 |
| d_A, Approach Delay [s/veh] | 0.00 | | | 0.00 | | | 14.39 | | | 10.39 | | |
| Approach LOS | A | | | A | | | B | | | B | | |
| d_I, Intersection Delay [s/veh] | 0.37 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 8: Peterson Rd/ Meadowbrook Pk**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 42.9 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | E |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.481 |

**Intersection Setup**

| Name | Peterson Rd | | Peterson Rd | | Meadowbrook Pk | |
|---|---|---|---|---|---|---|
| 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 | 1 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 235.00 | 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] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | Peterson Rd | | Peterson Rd | | Meadowbrook Pk | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 390 | 0 | 0 | 991 | 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 | 1.1750 | 1.0000 | 1.0000 | 1.1750 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 10 | 19 | 9 | 0 | 78 | 15 |
| Diverted Trips [veh/h] | 30 | 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] | 498 | 19 | 9 | 1164 | 78 | 15 |
| 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] | 135 | 5 | 2 | 316 | 21 | 4 |
| Total Analysis Volume [veh/h] | 541 | 21 | 10 | 1265 | 85 | 16 |
| 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 | 0.48 | 0.02 |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 8.59 | 0.00 | 42.93 | 10.06 |
| Movement LOS | A | A | A | A | E | B |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.02 | 0.01 | 2.31 | 0.07 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.42 | 0.21 | 57.84 | 1.69 |
| d_A, Approach Delay [s/veh] | 0.00 | | 0.07 | | 37.73 | |
| Approach LOS | A | | A | | E | |
| d_I, Intersection Delay [s/veh] | 2.01 | | | | | |
| Intersection LOS | E | | | | | |

**Intersection Level Of Service Report**
**Intersection 9: Meadowbrook Pk/Access 1**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.4 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.008 |

**Intersection Setup**

| Name | Access A | | | Access A | | | Meadowbrook Pk | | | Meadowbrook Pk | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Access A | | | Access A | | | Meadowbrook Pk | | | Meadowbrook Pk | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 72 | 0 | 52 | 6 | 0 | 11 | 4 | 4 | 20 | 14 | 11 | 2 |
| 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] | 72 | 0 | 52 | 6 | 0 | 11 | 4 | 4 | 20 | 14 | 11 | 2 |
| 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] | 20 | 0 | 14 | 2 | 0 | 3 | 1 | 1 | 5 | 4 | 3 | 1 |
| Total Analysis Volume [veh/h] | 78 | 0 | 57 | 7 | 0 | 12 | 4 | 4 | 22 | 15 | 12 | 2 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | | 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 | 0.09 | 0.00 | 0.05 | 0.01 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 9.39 | 0.00 | 8.57 | 9.41 | 9.55 | 8.45 | 7.25 | 0.00 | 0.00 | 7.29 | 0.00 | 0.00 |
| Movement LOS | A | | A | A | A | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.28 | 0.00 | 0.17 | 0.06 | 0.06 | 0.06 | 0.01 | 0.01 | 0.01 | 0.03 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 7.12 | 0.00 | 4.24 | 1.50 | 1.50 | 1.50 | 0.20 | 0.20 | 0.20 | 0.72 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.05 | | | 8.80 | | | 0.97 | | | 3.77 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 7.17 | | | | | | | | | | | |
| Intersection LOS | A | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 10: Meadowbrook Pk/ Access 2**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.008 |

**Intersection Setup**

| Name | Meadowbrook Pk | | Meadowbrook Pk | | Access B | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Eastbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 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 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | Meadowbrook Pk | | Meadowbrook Pk | | Access B | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 0 | 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] | 4 | 58 | 16 | 2 | 6 | 11 |
| 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] | 4 | 58 | 16 | 2 | 6 | 11 |
| 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] | 1 | 16 | 4 | 1 | 2 | 3 |
| Total Analysis Volume [veh/h] | 4 | 63 | 17 | 2 | 7 | 12 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop |
|---|---|---|---|
| Flared Lane | | | No |
| 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 | 0.00 | 0.00 | 0.00 | 0.00 | 0.01 | 0.01 |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 7.26 | 0.00 | 0.00 | 0.00 | 9.03 | 8.46 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.01 | 0.01 | 0.00 | 0.00 | 0.06 | 0.06 |
| 95th-Percentile Queue Length [ft/ln] | 0.17 | 0.17 | 0.00 | 0.00 | 1.45 | 1.45 |
| d_A, Approach Delay [s/veh] | 0.43 | | 0.00 | | 8.67 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 1.85 | | | | | |
| Intersection LOS | A | | | | | |

# Signal Warrants Report For Intersection 5: US 24 EB Ramps/Space Village Av

## 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 | N |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | E | W | N |
| 1 | 639 | 468 | 80 |
| 2 | 620 | 454 | 78 |
| 3 | 607 | 445 | 76 |
| 4 | 569 | 417 | 71 |
| 5 | 505 | 370 | 63 |
| 6 | 498 | 365 | 62 |
| 7 | 492 | 360 | 62 |
| 8 | 447 | 328 | 56 |
| 9 | 441 | 323 | 55 |
| 10 | 435 | 318 | 54 |
| 11 | 377 | 276 | 47 |
| 12 | 351 | 257 | 44 |
| 13 | 345 | 253 | 43 |
| 14 | 256 | 187 | 32 |
| 15 | 256 | 187 | 32 |
| 16 | 179 | 131 | 22 |
| 17 | 102 | 75 | 13 |
| 18 | 102 | 75 | 13 |
| 19 | 58 | 42 | 7 |
| 20 | 32 | 23 | 4 |
| 21 | 19 | 14 | 2 |
| 22 | 6 | 5 | 1 |
| 23 | 6 | 5 | 1 |
| 24 | 6 | 5 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1107 | 2 | 80 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 2 | 2 | 1074 | 2 | 78 | No | No | No | No | No | No | Yes | Yes | No | No |
| 3 | 2 | 1052 | 2 | 76 | No | No | No | No | No | No | Yes | Yes | No | No |
| 4 | 2 | 986 | 2 | 71 | No | No | No | No | No | No | Yes | Yes | No | No |
| 5 | 2 | 875 | 2 | 63 | No | No | No | No | No | No | No | Yes | No | No |
| 6 | 2 | 863 | 2 | 62 | No | No | No | No | No | No | No | Yes | No | No |
| 7 | 2 | 852 | 2 | 62 | No | No | No | No | No | No | No | Yes | No | No |
| 8 | 2 | 775 | 2 | 56 | No | No | No | No | No | No | No | Yes | No | No |
| 9 | 2 | 764 | 2 | 55 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 753 | 2 | 54 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 653 | 2 | 47 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 608 | 2 | 44 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 598 | 2 | 43 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 443 | 2 | 32 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 443 | 2 | 32 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 310 | 2 | 22 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 177 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 177 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 100 | 2 | 7 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 55 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 33 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 11 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 8 | 0 | 0 |

## Warrant 3 Condition A

| | |
|---|---|
| Orientation | N |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 51.2 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 1:08 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 80 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1187 |
| 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 7: Peterson Rd/ Panamint Ct

## 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 | 512 | 1243 | 48 | 12 |
| 2 | 497 | 1206 | 47 | 12 |
| 3 | 486 | 1181 | 46 | 11 |
| 4 | 456 | 1106 | 43 | 11 |
| 5 | 404 | 982 | 38 | 9 |
| 6 | 399 | 970 | 37 | 9 |
| 7 | 394 | 957 | 37 | 9 |
| 8 | 358 | 870 | 34 | 8 |
| 9 | 353 | 858 | 33 | 8 |
| 10 | 348 | 845 | 33 | 8 |
| 11 | 302 | 733 | 28 | 7 |
| 12 | 282 | 684 | 26 | 7 |
| 13 | 276 | 671 | 26 | 6 |
| 14 | 205 | 497 | 19 | 5 |
| 15 | 205 | 497 | 19 | 5 |
| 16 | 143 | 348 | 13 | 3 |
| 17 | 82 | 199 | 8 | 2 |
| 18 | 82 | 199 | 8 | 2 |
| 19 | 46 | 112 | 4 | 1 |
| 20 | 26 | 62 | 2 | 1 |
| 21 | 15 | 37 | 1 | 0 |
| 22 | 5 | 12 | 0 | 0 |
| 23 | 5 | 12 | 0 | 0 |
| 24 | 5 | 12 | 0 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1755 | 1 | 48 | No | No | No | No | No | No | No | Yes | No | No |
| 2 | 2 | 1703 | 1 | 47 | No | No | No | No | No | No | No | Yes | No | No |
| 3 | 2 | 1667 | 1 | 46 | No | No | No | No | No | No | No | Yes | No | No |
| 4 | 2 | 1562 | 1 | 43 | No | No | No | No | No | No | No | Yes | No | No |
| 5 | 2 | 1386 | 1 | 38 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 1369 | 1 | 37 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 1351 | 1 | 37 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 1228 | 1 | 34 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 1211 | 1 | 33 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 1193 | 1 | 33 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 1035 | 1 | 28 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 966 | 1 | 26 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 947 | 1 | 26 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 702 | 1 | 19 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 702 | 1 | 19 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 491 | 1 | 13 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 281 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 281 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 158 | 1 | 4 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 88 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 52 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 17 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 17 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 17 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | E | W |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 10.4 | 14.4 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:08 | 0:02 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 48 | 12 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 1815 | 1815 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Signal Warrants Report For Intersection 8: Peterson Rd/ Meadowbrook Pk

## 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 |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | S | N | E |
| 1 | 517 | 1173 | 93 |
| 2 | 501 | 1138 | 90 |
| 3 | 491 | 1114 | 88 |
| 4 | 460 | 1044 | 83 |
| 5 | 408 | 927 | 73 |
| 6 | 403 | 915 | 73 |
| 7 | 398 | 903 | 72 |
| 8 | 362 | 821 | 65 |
| 9 | 357 | 809 | 64 |
| 10 | 352 | 798 | 63 |
| 11 | 305 | 692 | 55 |
| 12 | 284 | 645 | 51 |
| 13 | 279 | 633 | 50 |
| 14 | 207 | 469 | 37 |
| 15 | 207 | 469 | 37 |
| 16 | 145 | 328 | 26 |
| 17 | 83 | 188 | 15 |
| 18 | 83 | 188 | 15 |
| 19 | 47 | 106 | 8 |
| 20 | 26 | 59 | 5 |
| 21 | 16 | 35 | 3 |
| 22 | 5 | 12 | 1 |
| 23 | 5 | 12 | 1 |
| 24 | 5 | 12 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 3 | 1690 | 2 | 93 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 2 | 3 | 1639 | 2 | 90 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 3 | 3 | 1605 | 2 | 88 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 4 | 3 | 1504 | 2 | 83 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 5 | 3 | 1335 | 2 | 73 | No | No | No | No | No | No | Yes | Yes | No | No |
| 6 | 3 | 1318 | 2 | 73 | No | No | No | No | No | No | Yes | Yes | No | No |
| 7 | 3 | 1301 | 2 | 72 | No | No | No | No | No | No | Yes | Yes | No | No |
| 8 | 3 | 1183 | 2 | 65 | No | No | No | No | No | No | No | Yes | No | No |
| 9 | 3 | 1166 | 2 | 64 | No | No | No | No | No | No | No | Yes | No | No |
| 10 | 3 | 1150 | 2 | 63 | No | No | No | No | No | No | No | Yes | No | No |
| 11 | 3 | 997 | 2 | 55 | No | No | No | No | No | No | No | No | No | No |
| 12 | 3 | 929 | 2 | 51 | No | No | No | No | No | No | No | No | No | No |
| 13 | 3 | 912 | 2 | 50 | No | No | No | No | No | No | No | No | No | No |
| 14 | 3 | 676 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 15 | 3 | 676 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 16 | 3 | 473 | 2 | 26 | No | No | No | No | No | No | No | No | No | No |
| 17 | 3 | 271 | 2 | 15 | No | No | No | No | No | No | No | No | No | No |
| 18 | 3 | 271 | 2 | 15 | No | No | No | No | No | No | No | No | No | No |
| 19 | 3 | 153 | 2 | 8 | No | No | No | No | No | No | No | No | No | No |
| 20 | 3 | 85 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 21 | 3 | 51 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 22 | 3 | 17 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 3 | 17 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 3 | 17 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 4 | 7 | 10 | 0 | 0 |

## Warrant 3 Condition A

| | |
|---|---|
| Orientation | E |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 37.7 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:58 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 93 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1783 |
| 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 9: Meadowbrook Pk/Access 1

## 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 | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|---|---|---|---|---|
| | E | W | S | N |
| 1 | 27 | 28 | 124 | 17 |
| 2 | 26 | 27 | 120 | 16 |
| 3 | 26 | 27 | 118 | 16 |
| 4 | 24 | 25 | 110 | 15 |
| 5 | 21 | 22 | 98 | 13 |
| 6 | 21 | 22 | 97 | 13 |
| 7 | 21 | 22 | 95 | 13 |
| 8 | 19 | 20 | 87 | 12 |
| 9 | 19 | 19 | 86 | 12 |
| 10 | 18 | 19 | 84 | 12 |
| 11 | 16 | 17 | 73 | 10 |
| 12 | 15 | 15 | 68 | 9 |
| 13 | 15 | 15 | 67 | 9 |
| 14 | 11 | 11 | 50 | 7 |
| 15 | 11 | 11 | 50 | 7 |
| 16 | 8 | 8 | 35 | 5 |
| 17 | 4 | 4 | 20 | 3 |
| 18 | 4 | 4 | 20 | 3 |
| 19 | 2 | 3 | 11 | 2 |
| 20 | 1 | 1 | 6 | 1 |
| 21 | 1 | 1 | 4 | 1 |
| 22 | 0 | 0 | 1 | 0 |
| 23 | 0 | 0 | 1 | 0 |
| 24 | 0 | 0 | 1 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 55 | 2 | 124 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 53 | 2 | 120 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 53 | 2 | 118 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 49 | 2 | 110 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 43 | 2 | 98 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 43 | 2 | 97 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 43 | 2 | 95 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 39 | 2 | 87 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 38 | 2 | 86 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 37 | 2 | 84 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 33 | 2 | 73 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 30 | 2 | 68 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 30 | 2 | 67 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 22 | 2 | 50 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 22 | 2 | 50 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 16 | 2 | 35 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 8 | 2 | 20 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 8 | 2 | 20 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 5 | 2 | 11 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 2 | 2 | 6 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 2 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 0 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 0 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 0 | 2 | 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) | 9 | 8.8 |
| Number of Lanes on Minor Street Approach | 2 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:18 | 0:02 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 124 | 17 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 196 | 196 |
| 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 10: Meadowbrook Pk/ Access 2

## 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 | W |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | N | S | W |
| 1 | 18 | 62 | 17 |
| 2 | 17 | 60 | 16 |
| 3 | 17 | 59 | 16 |
| 4 | 16 | 55 | 15 |
| 5 | 14 | 49 | 13 |
| 6 | 14 | 48 | 13 |
| 7 | 14 | 48 | 13 |
| 8 | 13 | 43 | 12 |
| 9 | 12 | 43 | 12 |
| 10 | 12 | 42 | 12 |
| 11 | 11 | 37 | 10 |
| 12 | 10 | 34 | 9 |
| 13 | 10 | 33 | 9 |
| 14 | 7 | 25 | 7 |
| 15 | 7 | 25 | 7 |
| 16 | 5 | 17 | 5 |
| 17 | 3 | 10 | 3 |
| 18 | 3 | 10 | 3 |
| 19 | 2 | 6 | 2 |
| 20 | 1 | 3 | 1 |
| 21 | 1 | 2 | 1 |
| 22 | 0 | 1 | 0 |
| 23 | 0 | 1 | 0 |
| 24 | 0 | 1 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 1 | 80 | 1 | 17 | No | No | No | No | No | No | No | No | No | No |
| 2 | 1 | 77 | 1 | 16 | No | No | No | No | No | No | No | No | No | No |
| 3 | 1 | 76 | 1 | 16 | No | No | No | No | No | No | No | No | No | No |
| 4 | 1 | 71 | 1 | 15 | No | No | No | No | No | No | No | No | No | No |
| 5 | 1 | 63 | 1 | 13 | No | No | No | No | No | No | No | No | No | No |
| 6 | 1 | 62 | 1 | 13 | No | No | No | No | No | No | No | No | No | No |
| 7 | 1 | 62 | 1 | 13 | No | No | No | No | No | No | No | No | No | No |
| 8 | 1 | 56 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 9 | 1 | 55 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 10 | 1 | 54 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 11 | 1 | 48 | 1 | 10 | No | No | No | No | No | No | No | No | No | No |
| 12 | 1 | 44 | 1 | 9 | No | No | No | No | No | No | No | No | No | No |
| 13 | 1 | 43 | 1 | 9 | No | No | No | No | No | No | No | No | No | No |
| 14 | 1 | 32 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| 15 | 1 | 32 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| 16 | 1 | 22 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 17 | 1 | 13 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 18 | 1 | 13 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 19 | 1 | 8 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 20 | 1 | 4 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 21 | 1 | 3 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 22 | 1 | 1 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 1 | 1 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 1 | 1 | 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 | W |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 8.7 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:02 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 17 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 97 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | No |
| Warrant Met for Approach | No |
| **Warrant Met for Intersection** | **No** |

# Table of Contents

Intersection Level Of Service Report ..... 2
Intersection 1: Peterson Rd/ Galley Rd ..... 2
Intersection 2: US-24/SH-94/ Newt Dr ..... 7
Intersection 3: US-24 WB Ramps/Peterson Rd ..... 12
Intersection 4: Peterson Bl/ Space Village Av ..... 14
Intersection 5: US 24 EB Ramps/Space Village Av ..... 16
Intersection 6: Meadowbrook Pkwy/ Newt Dr. ..... 18
Intersection 7: Peterson Rd/ Panamint Ct ..... 20
Intersection 8: Peterson Rd/ Meadowbrook Pk ..... 22
Intersection 9: Meadowbrook Pk/Access 1 ..... 24
Intersection 10: Meadowbrook Pk/ Access 2 ..... 26
Signal Warrants Report ..... 28
Intersection 5: US 24 EB Ramps/Space Village Av ..... 28
Intersection 7: Peterson Rd/ Panamint Ct ..... 30
Intersection 8: Peterson Rd/ Meadowbrook Pk ..... 32
Intersection 9: Meadowbrook Pk/Access 1 ..... 34
Intersection 10: Meadowbrook Pk/ Access 2 ..... 36

**Intersection Level Of Service Report**
**Intersection 1: Peterson Rd/ Galley Rd**

| | | | |
|---|---|---|---|
| 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): | 0.493 |

**Intersection Setup**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| 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 | 0 | 1 | 1 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 125.00 | 100.00 | 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] | 30.00 | | 30.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Curb Present | No | | No | | Yes | |
| Crosswalk | No | | Yes | | Yes | |

**Volumes**

| Name | Peterson Rd | | Galley Rd | | Peterson Rd | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 273 | 798 | 191 | 169 | 233 | 79 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 6 | 11 | 0 | 10 | 18 | 0 |
| Diverted Trips [veh/h] | 43 | 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 | 475 | 0 | 0 | 0 | 47 |
| Total Hourly Volume [veh/h] | 370 | 474 | 224 | 209 | 292 | 46 |
| 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] | 101 | 129 | 61 | 57 | 79 | 13 |
| Total Analysis Volume [veh/h] | 402 | 515 | 243 | 227 | 317 | 50 |
| 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] | 90 |
| Active Pattern | Free Running (No Pattern) |
| Coordination Type | *Free Running* |
| 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 (Basic)**

| Control Type | Permissive | Permissive | ProtPerm | Permissive | Permissive | Permissive |
|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | No | | | |
| Signal Group | 2 | 0 | 1 | 6 | 4 | 0 |
| Auxiliary Signal Groups | | | | | | |
| Maximum Green [s] | 45 | 0 | 15 | 45 | 30 | 0 |
| Amber [s] | 4.0 | 0.0 | 4.0 | 4.0 | 4.0 | 0.0 |
| All red [s] | 2.0 | 0.0 | 1.0 | 2.0 | 2.0 | 0.0 |
| Walk [s] | 5.0 | 0.0 | 0.0 | 0.0 | 5.0 | 0.0 |
| Pedestrian Clearance [s] | 17.0 | 0.0 | 0.0 | 0.0 | 10.0 | 0.0 |
| 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 | 2.0 | 2.0 | 2.0 | 0.0 |
| I2, Clearance Lost Time [s] | 4.0 | 0.0 | 3.0 | 4.0 | 4.0 | 0.0 |
| 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 |
| Advanced Detector Location [ft] | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Advanced 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 |

**Phasing & Timing: Free Running (No Pattern)**

| | | | | | | |
|---|---|---|---|---|---|---|
| Split [s] | 14.0 | 0.0 | 9.0 | 14.0 | 9.0 | 0.0 |
| Lead / Lag | - | - | Lead | - | Lead | - |
| Minimum Green [s] | 15 | 0 | 5 | 15 | 8 | 0 |
| Vehicle Extension [s] | 3.0 | 0.0 | 0.5 | 3.0 | 1.5 | 0.0 |
| Minimum Recall | Yes | | No | Yes | No | |
| Maximum Recall | No | | No | No | No | |
| Pedestrian Recall | No | | No | No | No | |

**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, Calculated Cycle Length [s] | 49 | 49 | 49 | 49 | 49 | 49 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 | 6.00 |
| l1_p, Permitted Start-Up Lost Time [s] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| l2, Clearance Lost Time [s] | 4.00 | 4.00 | 0.00 | 4.00 | 4.00 | 4.00 |
| g_i, Effective Green Time [s] | 19.1 | 19.1 | 29.1 | 29.1 | 8.0 | 8.0 |
| g / C, Green / Cycle | 0.39 | 0.39 | 0.59 | 0.59 | 0.16 | 0.16 |
| (v / s)_i Volume / Saturation Flow Rate | 0.21 | 0.32 | 0.26 | 0.06 | 0.09 | 0.03 |
| s, saturation flow rate [veh/h] | 1870 | 1589 | 931 | 3560 | 3459 | 1589 |
| c, Capacity [veh/h] | 729 | 619 | 673 | 2113 | 561 | 258 |
| d1, Uniform Delay [s] | 11.65 | 13.53 | 5.78 | 4.33 | 18.98 | 17.80 |
| k, delay calibration | 0.11 | 0.11 | 0.24 | 0.11 | 0.04 | 0.04 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 0.65 | 2.98 | 0.71 | 0.02 | 0.33 | 0.13 |
| 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 | 0.55 | 0.83 | 0.36 | 0.11 | 0.57 | 0.19 |
| d, Delay for Lane Group [s/veh] | 12.31 | 16.51 | 6.49 | 4.36 | 19.31 | 17.93 |
| Lane Group LOS | B | B | A | A | B | B |
| Critical Lane Group | No | Yes | Yes | No | Yes | No |
| 50th-Percentile Queue Length [veh/ln] | 2.92 | 4.65 | 0.88 | 0.33 | 1.47 | 0.44 |
| 50th-Percentile Queue Length [ft/ln] | 72.89 | 116.32 | 22.02 | 8.22 | 36.82 | 10.94 |
| 95th-Percentile Queue Length [veh/ln] | 5.25 | 8.19 | 1.59 | 0.59 | 2.65 | 0.79 |
| 95th-Percentile Queue Length [ft/ln] | 131.19 | 204.76 | 39.64 | 14.80 | 66.28 | 19.70 |

**Movement, Approach, & Intersection Results**

| | | | | | | |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 12.31 | 16.51 | 6.49 | 4.36 | 19.31 | 17.93 |
| Movement LOS | B | B | A | A | B | B |
| d_A, Approach Delay [s/veh] | 14.67 | | 5.46 | | 19.12 | |
| Approach LOS | B | | A | | B | |
| d_I, Intersection Delay [s/veh] | 13.13 | | | | | |
| Intersection LOS | B | | | | | |
| Intersection V/C | 0.493 | | | | | |

**Emissions**

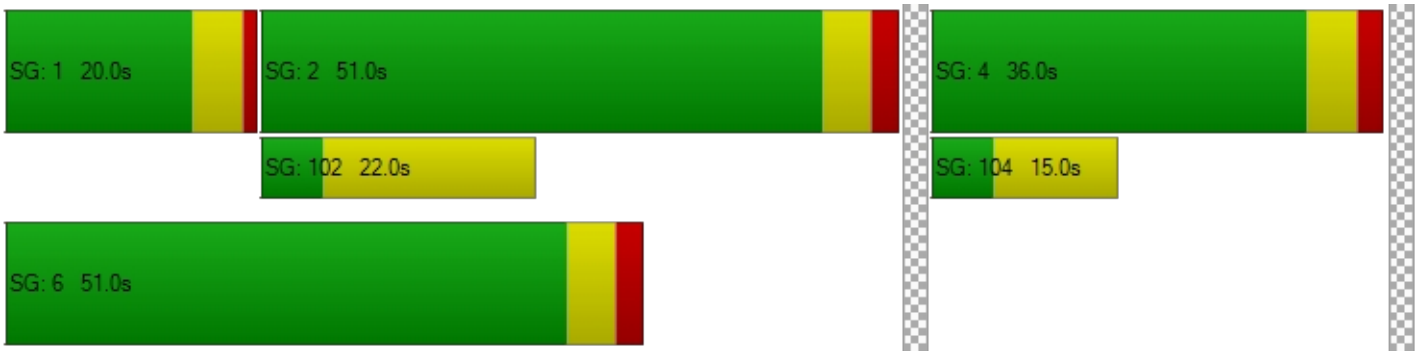
| | | | | | | |
|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 57.03 | 73.06 | 24.08 | 22.50 | 59.75 | 9.42 |
| Stops [stops/h] | 214.17 | 341.80 | 64.71 | 48.31 | 216.40 | 32.15 |
| Fuel consumption [US gal/h] | 4.54 | 6.63 | 1.67 | 1.39 | 5.15 | 0.78 |
| CO [g/h] | 317.20 | 463.20 | 116.72 | 97.46 | 360.04 | 54.77 |
| NOx [g/h] | 61.72 | 90.12 | 22.71 | 18.96 | 70.05 | 10.66 |
| VOC [g/h] | 73.51 | 107.35 | 27.05 | 22.59 | 83.44 | 12.69 |

**Other Modes**

| | | | |
|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 9.0 | 9.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 16.33 | 16.33 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 2.337 | 2.859 |
| Crosswalk LOS | F | B | C |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 1836 | 1836 | 1224 |
| d_b, Bicycle Delay [s] | 0.16 | 0.16 | 3.69 |
| l_b,int, Bicycle LOS Score for Intersection | 3.856 | 1.947 | 1.560 |
| Bicycle LOS | D | A | A |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 2: US-24/SH-94/ Newt Dr**

| | | | |
|---|---|---|---|
| Control Type: | Signalized | Delay (sec / veh): | 46.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | D |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.767 |

**Intersection Setup**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 3 | 0 | 1 | 2 | 0 | 1 | 2 | 0 | 1 | 1 | 0 | 1 |
| Entry Pocket Length [ft] | 760.00 | 100.00 | 475.00 | 375.00 | 100.00 | 300.00 | 850.00 | 100.00 | 600.00 | 850.00 | 100.00 | 850.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 1700.00 | 0.00 | 0.00 | 920.00 | 0.00 | 0.00 | 960.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 55.00 | | | 30.00 | | | 55.00 | | | 55.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Curb Present | No | | | No | | | No | | | No | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | SH-94 | | | Newt Dr | | | US-24 | | | US-24 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 405 | 31 | 4 | 26 | 50 | 166 | 155 | 1723 | 394 | 7 | 851 | 24 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 3 | 16 | 0 | 29 | 11 | 0 | 0 | 0 | 0 | 0 | 7 | 40 |
| 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] | 596 | 49 | 0 | 21 | 43 | 232 | 270 | 194 | 562 | 0 | 0 | 24 |
| 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 | 3 | 0 | 0 | 214 | 0 | 0 | 513 | 0 | 0 | 46 |
| Total Hourly Volume [veh/h] | 1075 | 101 | 2 | 81 | 113 | 213 | 452 | 2219 | 512 | 8 | 1007 | 46 |
| 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] | 292 | 27 | 1 | 22 | 31 | 58 | 123 | 603 | 139 | 2 | 274 | 13 |
| Total Analysis Volume [veh/h] | 1168 | 110 | 2 | 88 | 123 | 232 | 491 | 2412 | 557 | 9 | 1095 | 50 |
| 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] | 19.0 |
| Offset Reference | Lead Green - Beginning of First Green |
| Permissive Mode | SingleBand |
| Lost time [s] | 0.00 |

**Phasing & Timing (Basic)**

| Control Type | Protecte | Permiss | Unsigna | Protecte | Permiss | Unsigna | Protecte | Permiss | Unsigna | ProtPer | Permiss | Permiss |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flashing Yellow Arrow | | | | | | | | | | No | | |
| Signal Group | 3 | 8 | 0 | 7 | 4 | 0 | 5 | 2 | 0 | 1 | 6 | 0 |
| Auxiliary Signal Groups | | | | | | | | | | | | |
| Maximum Green [s] | 15 | 15 | 0 | 5 | 7 | 0 | 8 | 65 | 0 | 7 | 65 | 0 |
| Amber [s] | 4.0 | 4.0 | 0.0 | 3.5 | 3.5 | 0.0 | 5.0 | 5.0 | 0.0 | 5.0 | 5.0 | 0.0 |
| All red [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 |
| Walk [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 |
| Pedestrian Clearance [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 |
| 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] | 4.0 | 4.0 | 0.0 | 3.5 | 5.5 | 0.0 | 5.0 | 5.0 | 0.0 | 8.0 | 5.0 | 0.0 |
| 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 |
| Advanced 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 |
| Advanced 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 |

**Phasing & Timing: Pattern 1**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Split [s] | 32.0 | 27.0 | 0.0 | 22.0 | 17.0 | 0.0 | 33.0 | 58.0 | 0.0 | 13.0 | 38.0 | 0.0 |
| Lead / Lag | Lead | - | - | Lead | - | - | Lead | - | - | Lead | - | - |
| Minimum Green [s] | 5 | 5 | 0 | 4 | 5 | 0 | 6 | 22 | 0 | 6 | 22 | 0 |
| Vehicle Extension [s] | 2.0 | 2.0 | 0.0 | 2.0 | 5.0 | 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 | Yes | | No | Yes | |
| Pedestrian Recall | No | No | | No | No | | No | No | | No | No | |

**Exclusive Pedestrian Phase**

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

**Lane Group Calculations**

| Lane Group | L | C | L | C | L | C | L | C | R |
|---|---|---|---|---|---|---|---|---|---|
| C, Calculated Cycle Length [s] | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 | 120 |
| L, Total Lost Time per Cycle [s] | 6.00 | 6.00 | 5.50 | 7.50 | 7.00 | 7.00 | 7.00 | 7.00 | 7.00 |
| 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 |
| l2, Clearance Lost Time [s] | 4.00 | 4.00 | 3.50 | 5.50 | 5.00 | 5.00 | 0.00 | 5.00 | 5.00 |
| g_i, Effective Green Time [s] | 26.0 | 30.9 | 4.9 | 7.8 | 19.2 | 57.1 | 64.7 | 39.5 | 39.5 |
| g / C, Green / Cycle | 0.22 | 0.26 | 0.04 | 0.06 | 0.16 | 0.48 | 0.54 | 0.33 | 0.33 |
| (v / s)_i Volume / Saturation Flow Rate | 0.23 | 0.06 | 0.03 | 0.07 | 0.14 | 0.47 | 0.03 | 0.21 | 0.03 |
| s, saturation flow rate [veh/h] | 5188 | 1870 | 3459 | 1870 | 3459 | 5094 | 286 | 5094 | 1589 |
| c, Capacity [veh/h] | 1124 | 481 | 143 | 122 | 554 | 2423 | 191 | 1675 | 523 |
| d1, Uniform Delay [s] | 47.00 | 35.19 | 56.58 | 56.10 | 49.30 | 31.34 | 26.51 | 34.43 | 27.91 |
| k, delay calibration | 0.04 | 0.04 | 0.04 | 0.23 | 0.04 | 0.50 | 0.04 | 0.50 | 0.50 |
| I, Upstream Filtering Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| d2, Incremental Delay [s] | 20.53 | 0.09 | 1.60 | 58.37 | 1.94 | 17.30 | 0.04 | 2.00 | 0.36 |
| d3, Initial Queue Delay [s] | 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 |
| PF, progression factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |

**Lane Group Results**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| X, volume / capacity | 1.04 | 0.23 | 0.62 | 1.01 | 0.89 | 1.00 | 0.05 | 0.65 | 0.10 |
| d, Delay for Lane Group [s/veh] | 67.53 | 35.28 | 58.18 | 114.47 | 51.25 | 48.64 | 26.55 | 36.44 | 28.27 |
| Lane Group LOS | F | D | E | F | D | D | C | D | C |
| Critical Lane Group | Yes | No | No | Yes | No | Yes | Yes | No | No |
| 50th-Percentile Queue Length [veh/ln] | 12.70 | 2.44 | 1.35 | 5.65 | 7.01 | 24.40 | 0.10 | 8.84 | 1.00 |
| 50th-Percentile Queue Length [ft/ln] | 317.56 | 60.88 | 33.63 | 141.33 | 175.23 | 610.05 | 2.55 | 220.89 | 24.98 |
| 95th-Percentile Queue Length [veh/ln] | 18.94 | 4.38 | 2.42 | 9.59 | 11.35 | 32.50 | 0.18 | 13.71 | 1.80 |
| 95th-Percentile Queue Length [ft/ln] | 473.44 | 109.58 | 60.54 | 239.67 | 283.77 | 812.59 | 4.59 | 342.77 | 44.97 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 67.53 | 35.28 | 0.00 | 58.18 | 114.47 | 0.00 | 51.25 | 48.64 | 0.00 | 26.55 | 36.44 | 28.27 |
| Movement LOS | F | D | | E | F | | D | D | | C | D | C |
| d_A, Approach Delay [s/veh] | 64.65 | | | 45.28 | | | 41.72 | | | 36.00 | | |
| Approach LOS | E | | | D | | | D | | | D | | |
| d_I, Intersection Delay [s/veh] | 45.95 | | | | | | | | | | | |
| Intersection LOS | D | | | | | | | | | | | |
| Intersection V/C | 0.767 | | | | | | | | | | | |

**Emissions**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Vehicle Miles Traveled [mph] | 457.77 | 43.11 | 9.29 | 12.98 | 208.13 | 1022.42 | 2.74 | 333.47 | 15.23 |
| Stops [stops/h] | 1143.23 | 73.05 | 80.72 | 169.60 | 420.55 | 2196.19 | 3.06 | 795.22 | 29.98 |
| Fuel consumption [US gal/h] | 52.60 | 3.59 | 1.87 | 4.34 | 19.89 | 98.87 | 0.20 | 34.04 | 1.35 |
| CO [g/h] | 3676.52 | 250.85 | 130.72 | 303.10 | 1390.57 | 6910.75 | 13.78 | 2379.72 | 94.64 |
| NOx [g/h] | 715.32 | 48.81 | 25.43 | 58.97 | 270.55 | 1344.58 | 2.68 | 463.01 | 18.41 |
| VOC [g/h] | 852.07 | 58.14 | 30.30 | 70.25 | 322.28 | 1601.63 | 3.19 | 551.52 | 21.93 |

**Other Modes**

| | | | | |
|---|---|---|---|---|
| g_Walk,mi, Effective Walk Time [s] | 0.0 | 0.0 | 0.0 | 0.0 |
| M_corner, Corner Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| M_CW, Crosswalk Circulation Area [ft²/ped] | 0.00 | 0.00 | 0.00 | 0.00 |
| d_p, Pedestrian Delay [s] | 0.00 | 0.00 | 0.00 | 0.00 |
| l_p,int, Pedestrian LOS Score for Intersectio | 0.000 | 0.000 | 0.000 | 0.000 |
| Crosswalk LOS | F | F | F | F |
| s_b, Saturation Flow Rate of the bicycle lane | 2000 | 2000 | 2000 | 2000 |
| c_b, Capacity of the bicycle lane [bicycles/h] | 350 | 192 | 850 | 517 |
| d_b, Bicycle Delay [s] | 40.84 | 49.05 | 19.84 | 33.00 |
| l_b,int, Bicycle LOS Score for Intersection | 3.668 | 1.908 | 3.156 | 2.220 |
| Bicycle LOS | D | A | C | B |

## Sequence

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



**Intersection Level Of Service Report**
**Intersection 3: US-24 WB Ramps/Peterson Rd**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 13.2 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approach | Northbound | | | Southbound | | | | Eastbound | | | Westbound | | |
| Lane Configuration |  | | |  | | | | | | |  | | |
| Turning Movement | Left | Thru | Right | U-tu | Left | Thru | Right | Left | Thru | Right | Left | Thru | Right |
| Lane Width [ft] | 15.00 | 15.00 | 12.00 | 12.00 | 12.00 | 14.00 | 13.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.0 | 100.0 | 100.0 | 1.00 | 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 | 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 | 0.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | Yes | | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | | | | | US-24 WB Ramps | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 476 | 1010 | 0 | 0 | 0 | 250 | 168 | 0 | 0 | 0 | 24 | 0 | 70 |
| Base Volume Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 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 | 2.00 |
| Proportion of CAVs [%] | 0.00 | | | | | | | | | | | | |
| Growth Factor | 1.1750 | 1.1750 | 1.1750 | 1.175 | 1.175 | 1.175 | 1.175 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 85 | 0 | 0 | 0 | 17 | 33 | 0 | 0 | 0 | 0 | 0 | 9 |
| Diverted Trips [veh/h] | 0 | 0 | 0 | 21 | 0 | 0 | -12 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pass-by Trips [veh/h] | 0 | 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 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 559 | 1272 | 0 | 21 | 0 | 311 | 218 | 0 | 0 | 0 | 28 | 0 | 91 |
| Peak Hour Factor | 0.9200 | 0.9200 | 0.9200 | 0.920 | 0.920 | 0.920 | 0.920 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 | 0.9200 |
| Other Adjustment Factor | 1.0000 | 1.0000 | 1.0000 | 1.000 | 1.000 | 1.000 | 1.000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.0000 |
| Total 15-Minute Volume [veh/h] | 152 | 346 | 0 | 6 | 0 | 85 | 59 | 0 | 0 | 0 | 8 | 0 | 25 |
| Total Analysis Volume [veh/h] | 608 | 1383 | 0 | 23 | 0 | 338 | 237 | 0 | 0 | 0 | 30 | 0 | 99 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | | 2 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 23 | | | 651 | | | | 399 | | | 2054 | | |
| Exiting Flow Rate [veh/h] | 375 | | | 1535 | | | | 620 | | | 0 | | |
| Demand Flow Rate [veh/h] | 559 | 1272 | 0 | 21 | 0 | 311 | 218 | 0 | 0 | 0 | 28 | 0 | 91 |
| Adjusted Demand Flow Rate [veh/h] | 608 | 1383 | 0 | 23 | 0 | 338 | 237 | 0 | 0 | 0 | 30 | 0 | 99 |

**Lanes**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 1420.00 | | 1350.00 | 1420.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00085 | | 0.00092 | 0.00085 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 955 | 1077 | 174 | 196 | 0 | | 31 | 101 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1322 | 1392 | 742 | 817 | 839 | | 204 | 248 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1296 | 1365 | 728 | 801 | 822 | | 200 | 243 |
| X, volume / capacity | 0.72 | 0.77 | 0.23 | 0.24 | 0.29 | | 0.15 | 0.41 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Lane LOS | B | B | A | A | A | | C | D |
| 95th-Percentile Queue Length [veh] | 6.78 | 8.40 | 0.90 | 0.93 | 1.20 | | 0.52 | 1.87 |
| 95th-Percentile Queue Length [ft] | 169.62 | 210.11 | 22.53 | 23.26 | 29.91 | | 12.92 | 46.75 |
| Approach Delay [s/veh] | 14.08 | | 7.44 | | | 0.00 | 25.59 | |
| Approach LOS | B | | A | | | A | D | |
| Intersection Delay [s/veh] | 13.17 | | | | | | | |
| Intersection LOS | B | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 4: Peterson Bl/ Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 16.5 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 | 250.00 | 100.00 | 100.00 | 100.00 |
| No. of Lanes in Exit Pocket | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 286.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 100.00 |
| Speed [mph] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | No | | | No | | | Yes | | |

**Volumes**

| Name | Peterson Bl | | | Peterson Rd | | | Space Village Av | | | Space Village Av | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 888 | 357 | 266 | 3 | 0 | 217 | 101 | 11 | 3 | 0 | 381 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 10 | 0 | 6 | 6 | 5 | 65 | 0 | 0 | 0 | 0 | 10 |
| 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 | 1053 | 419 | 319 | 10 | 5 | 320 | 119 | 13 | 4 | 0 | 458 |
| 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 | 286 | 114 | 87 | 3 | 1 | 87 | 32 | 4 | 1 | 0 | 124 |
| Total Analysis Volume [veh/h] | 0 | 1145 | 455 | 347 | 11 | 5 | 348 | 129 | 14 | 4 | 0 | 498 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 2 | | | 2 | | | 2 | | | 2 | | |
| Circulating Flow Rate [veh/h] | 840 | | | 4 | | | 369 | | | 1523 | | |
| Exiting Flow Rate [veh/h] | 15 | | | 1523 | | | 0 | | | 486 | | |
| Demand Flow Rate [veh/h] | 0 | 1053 | 419 | 319 | 10 | 0 | 320 | 119 | 13 | 4 | 0 | 458 |
| Adjusted Demand Flow Rate [veh/h] | 0 | 1145 | 455 | 347 | 11 | 0 | 348 | 129 | 14 | 4 | 0 | 498 |

**Lanes**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1350.00 | 1420.00 | 0.00 | 1350.00 | 1420.00 | 1350.00 | 1420.00 | 0.00 | 1420.00 | 0.00 |
| B (coefficient) | 0.00092 | 0.00085 | 0.00000 | 0.00092 | 0.00085 | 0.00092 | 0.00085 | 0.00000 | 0.00085 | 0.00000 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 549 | 619 | 0 | 354 | 12 | 355 | 132 | 0 | 5 | 0 |
| Capacity of Entry and Bypass Lanes [veh/h] | 624 | 696 | 102000 | 1345 | 1416 | 962 | 1038 | 102000 | 390 | 102000 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 611 | 682 | 100000 | 1319 | 1388 | 943 | 1018 | 100000 | 382 | 100000 |
| X, volume / capacity | 0.88 | 0.89 | 0.00 | 0.26 | 0.01 | 0.37 | 0.13 | 0.00 | 0.01 | 0.00 |

**Movement, Approach, & Intersection Results**

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Lane LOS | E | E | A | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 10.37 | 11.13 | 0.00 | 1.06 | 0.02 | 1.72 | 0.43 | 0.00 | 0.03 | 0.00 |
| 95th-Percentile Queue Length [ft] | 259.30 | 278.19 | 0.00 | 26.55 | 0.60 | 42.92 | 10.85 | 0.00 | 0.79 | 0.00 |
| Approach Delay [s/veh] | 27.19 | | | 4.95 | | 6.82 | | | 0.08 | |
| Approach LOS | D | | | A | | A | | | A | |
| Intersection Delay [s/veh] | 16.49 | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 5: US 24 EB Ramps/Space Village Av**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 179.7 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.779 |

**Intersection Setup**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Approach | Southbound | | Eastbound | | Westbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Right | Left | Thru | Thru | 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 | 1 |
| Entry Pocket Length [ft] | 100.00 | 290.00 | 400.00 | 100.00 | 100.00 | 485.00 |
| 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] | 30.00 | | 35.00 | | 35.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | US 24 EB Ramps | | Space Village Av | | Space Village Av | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 34 | 44 | 328 | 391 | 340 | 18 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 0 | 0 | 6 | 10 | 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] | 40 | 52 | 385 | 465 | 410 | 21 |
| 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] | 11 | 14 | 105 | 126 | 111 | 6 |
| Total Analysis Volume [veh/h] | 43 | 57 | 418 | 505 | 446 | 23 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| Priority Scheme | Stop | Free | Free |
|---|---|---|---|
| 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 | 0.78 | 0.09 | 0.38 | 0.01 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 179.66 | 11.48 | 10.32 | 0.00 | 0.00 | 0.00 |
| Movement LOS | F | B | B | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 3.32 | 0.31 | 1.82 | 0.00 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 83.12 | 7.66 | 45.49 | 0.00 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 83.80 | | 4.67 | | 0.00 | |
| Approach LOS | F | | A | | A | |
| d_I, Intersection Delay [s/veh] | 8.51 | | | | | |
| Intersection LOS | F | | | | | |

**Intersection Level Of Service Report**
**Intersection 6: Meadowbrook Pkwy/ Newt Dr.**

| | | | |
|---|---|---|---|
| Control Type: | Roundabout | Delay (sec / veh): | 4.2 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | | |

**Intersection Setup**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 |
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Newt Dr | | | Newt Dr | | | Meadowbrook Pk | | | Meadowbrook Pkwy | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 37 | 71 | 2 | 14 | 0 | 0 | 0 | 0 | 173 | 0 | 10 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.1750 | 1.0000 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 55 | 0 | 0 | 0 | 0 | 2 | 1 | 4 | 40 | 0 | 6 | 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 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 0 | 0 |
| Other Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total Hourly Volume [veh/h] | 55 | 43 | 113 | 2 | 16 | 2 | 1 | 4 | 40 | 221 | 6 | 12 |
| 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] | 15 | 12 | 31 | 1 | 4 | 1 | 0 | 1 | 11 | 60 | 2 | 3 |
| Total Analysis Volume [veh/h] | 60 | 47 | 123 | 2 | 17 | 2 | 1 | 4 | 43 | 240 | 7 | 13 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Number of Conflicting Circulating Lanes | 1 | | | 1 | | | 1 | | | 1 | | |
| Circulating Flow Rate [veh/h] | 7 | | | 313 | | | 264 | | | 110 | | |
| Exiting Flow Rate [veh/h] | 306 | | | 62 | | | 70 | | | 132 | | |
| Demand Flow Rate [veh/h] | 55 | 43 | 113 | 2 | 16 | 2 | 1 | 4 | 40 | 221 | 6 | 12 |
| Adjusted Demand Flow Rate [veh/h] | 60 | 47 | 123 | 2 | 17 | 2 | 1 | 4 | 43 | 240 | 7 | 13 |

**Lanes**

| | | | | | |
|---|---|---|---|---|---|
| Overwrite Calculated Critical Headway | No | No | No | No | No |
| User-Defined Critical Headway [s] | 4.00 | 4.00 | 4.00 | 4.00 | 4.00 |
| Overwrite Calculated Follow-Up Time | No | No | No | No | No |
| User-Defined Follow-Up Time [s] | 3.00 | 3.00 | 3.00 | 3.00 | 3.00 |
| A (intercept) | 1380.00 | 1380.00 | 1380.00 | 1420.00 | 1420.00 |
| B (coefficient) | 0.00102 | 0.00102 | 0.00102 | 0.00091 | 0.00091 |
| HV Adjustment Factor | 0.98 | 0.98 | 0.98 | 0.98 | 0.98 |
| Entry Flow Rate [veh/h] | 235 | 22 | 49 | 252 | 14 |
| Capacity of Entry and Bypass Lanes [veh/h] | 1370 | 1003 | 1055 | 1285 | 1285 |
| Pedestrian Impedance | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Capacity per Entry Lane [veh/h] | 1344 | 984 | 1034 | 1260 | 1260 |
| X, volume / capacity | 0.17 | 0.02 | 0.05 | 0.20 | 0.01 |

**Movement, Approach, & Intersection Results**

| | | | | | |
|---|---|---|---|---|---|
| Lane LOS | A | A | A | A | A |
| 95th-Percentile Queue Length [veh] | 0.62 | 0.07 | 0.15 | 0.73 | 0.03 |
| 95th-Percentile Queue Length [ft] | 15.43 | 1.64 | 3.65 | 18.19 | 0.78 |
| Approach Delay [s/veh] | 4.09 | 3.85 | 3.89 | 4.46 | |
| Approach LOS | A | A | A | A | |
| Intersection Delay [s/veh] | 4.23 | | | | |
| Intersection LOS | A | | | | |

**Intersection Level Of Service Report**
**Intersection 7: Peterson Rd/ Panamint Ct**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 16.8 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | C |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.133 |

**Intersection Setup**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | No | | | No | | | No | | | No | | |

**Volumes**

| Name | Peterson Rd | | | Peterson Rd | | | Panamint Ct | | | Panamint Ct | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 26 | 1045 | 9 | 2 | 395 | 5 | 16 | 0 | 29 | 10 | 0 | 20 |
| 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 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 | 1.1750 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 0 | 60 | 34 | 0 | 49 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| Diverted Trips [veh/h] | -31 | 50 | 2 | -2 | 2 | 0 | -19 | 0 | 19 | -12 | 0 | 12 |
| 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 | 1338 | 47 | 0 | 515 | 6 | 0 | 0 | 53 | 0 | 0 | 43 |
| 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 | 364 | 13 | 0 | 140 | 2 | 0 | 0 | 14 | 0 | 0 | 12 |
| Total Analysis Volume [veh/h] | 0 | 1454 | 51 | 0 | 560 | 7 | 0 | 0 | 58 | 0 | 0 | 47 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Free | Free | Stop | Stop |
|---|---|---|---|---|
| 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 | 0.01 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | 0.13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 10.49 | 0.00 | 0.00 | 16.78 |
| Movement LOS | | A | A | | A | A | | | B | | | C |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.26 | 0.00 | 0.00 | 0.46 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 6.62 | 0.00 | 0.00 | 11.40 |
| d_A, Approach Delay [s/veh] | 0.00 | | | 0.00 | | | 10.49 | | | 16.78 | | |
| Approach LOS | A | | | A | | | B | | | C | | |
| d_I, Intersection Delay [s/veh] | 0.64 | | | | | | | | | | | |
| Intersection LOS | C | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 8: Peterson Rd/ Meadowbrook Pk**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 137.0 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | F |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.735 |

**Intersection Setup**

| Name | Peterson Rd | | Peterson Rd | | Meadowbrook Pk | |
|---|---|---|---|---|---|---|
| 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 | 1 | 0 |
| Entry Pocket Length [ft] | 100.00 | 100.00 | 100.00 | 100.00 | 235.00 | 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] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | No | | No | | No | |

**Volumes**

| Name | Peterson Rd | | Peterson Rd | | Meadowbrook Pk | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 1071 | 0 | 0 | 402 | 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 | 1.1750 | 1.0000 | 1.0000 | 1.1750 | 1.0000 | 1.0000 |
| In-Process Volume [veh/h] | 0 | 0 | 0 | 0 | 0 | 0 |
| Site-Generated Trips [veh/h] | 7 | 60 | 28 | 0 | 49 | 10 |
| Diverted Trips [veh/h] | 43 | 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] | 1308 | 60 | 28 | 472 | 49 | 10 |
| 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] | 355 | 16 | 8 | 128 | 13 | 3 |
| Total Analysis Volume [veh/h] | 1422 | 65 | 30 | 513 | 53 | 11 |
| 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 | 0.07 | 0.01 | 0.74 | 0.03 |
| d_M, Delay for Movement [s/veh] | 0.00 | 0.00 | 13.07 | 0.00 | 136.99 | 14.88 |
| Movement LOS | A | A | B | A | F | B |
| 95th-Percentile Queue Length [veh/ln] | 0.00 | 0.00 | 0.05 | 0.03 | 3.42 | 0.09 |
| 95th-Percentile Queue Length [ft/ln] | 0.00 | 0.00 | 1.27 | 0.64 | 85.53 | 2.26 |
| d_A, Approach Delay [s/veh] | 0.00 | | 0.72 | | 116.00 | |
| Approach LOS | A | | A | | F | |
| d_I, Intersection Delay [s/veh] | 3.73 | | | | | |
| Intersection LOS | F | | | | | |

**Intersection Level Of Service Report**
**Intersection 9: Meadowbrook Pk/Access 1**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 10.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | B |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.068 |

**Intersection Setup**

| Name | Access A | | | Access A | | | Meadowbrook Pk | | | Meadowbrook Pk | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 1 | 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] | 30.00 | | | 30.00 | | | 30.00 | | | 30.00 | | |
| Grade [%] | 0.00 | | | 0.00 | | | 0.00 | | | 0.00 | | |
| Crosswalk | Yes | | | Yes | | | Yes | | | Yes | | |

**Volumes**

| Name | Access A | | | Access A | | | Meadowbrook Pk | | | Meadowbrook Pk | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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] | 45 | 0 | 36 | 5 | 0 | 7 | 12 | 12 | 65 | 49 | 7 | 7 |
| 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] | 45 | 0 | 36 | 5 | 0 | 7 | 12 | 12 | 65 | 49 | 7 | 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] | 12 | 0 | 10 | 1 | 0 | 2 | 3 | 3 | 18 | 13 | 2 | 2 |
| Total Analysis Volume [veh/h] | 49 | 0 | 39 | 5 | 0 | 8 | 13 | 13 | 71 | 53 | 8 | 8 |
| Pedestrian Volume [ped/h] | 0 | | | 0 | | | 0 | | | 0 | | |

**Intersection Settings**

| Priority Scheme | Stop | Stop | Free | Free |
|---|---|---|---|---|
| Flared Lane | | 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 | 0.04 | 0.01 | 0.00 | 0.01 | 0.01 | 0.00 | 0.00 | 0.04 | 0.00 | 0.00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d_M, Delay for Movement [s/veh] | 10.33 | 0.00 | 8.67 | 10.31 | 10.67 | 8.43 | 7.27 | 0.00 | 0.00 | 7.47 | 0.00 | 0.00 |
| Movement LOS | B | | A | B | B | A | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.22 | 0.00 | 0.12 | 0.04 | 0.04 | 0.04 | 0.03 | 0.03 | 0.03 | 0.11 | 0.00 | 0.00 |
| 95th-Percentile Queue Length [ft/ln] | 5.43 | 0.00 | 2.98 | 1.12 | 1.12 | 1.12 | 0.64 | 0.64 | 0.64 | 2.72 | 0.00 | 0.00 |
| d_A, Approach Delay [s/veh] | 9.60 | | | 9.15 | | | 0.97 | | | 5.73 | | |
| Approach LOS | A | | | A | | | A | | | A | | |
| d_I, Intersection Delay [s/veh] | 5.44 | | | | | | | | | | | |
| Intersection LOS | B | | | | | | | | | | | |

**Intersection Level Of Service Report**
**Intersection 10: Meadowbrook Pk/ Access 2**

| | | | |
|---|---|---|---|
| Control Type: | Two-way stop | Delay (sec / veh): | 9.3 |
| Analysis Method: | HCM 7th Edition | Level Of Service: | A |
| Analysis Period: | 15 minutes | Volume to Capacity (v/c): | 0.006 |

**Intersection Setup**

| Name | Meadowbrook Pk | | Meadowbrook Pk | | Access B | |
|---|---|---|---|---|---|---|
| Approach | Northbound | | Southbound | | Eastbound | |
| Lane Configuration |  | |  | |  | |
| Turning Movement | Left | Thru | Thru | Right | Left | Right |
| Lane Width [ft] | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 | 12.00 |
| No. of Lanes in Entry Pocket | 0 | 0 | 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 | 0 | 0 | 0 |
| Exit Pocket Length [ft] | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Speed [mph] | 30.00 | | 30.00 | | 30.00 | |
| Grade [%] | 0.00 | | 0.00 | | 0.00 | |
| Crosswalk | Yes | | Yes | | Yes | |

**Volumes**

| Name | Meadowbrook Pk | | Meadowbrook Pk | | Access B | |
|---|---|---|---|---|---|---|
| Base Volume Input [veh/h] | 0 | 0 | 0 | 0 | 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] | 12 | 41 | 56 | 7 | 5 | 7 |
| 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] | 12 | 41 | 56 | 7 | 5 | 7 |
| 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] | 3 | 11 | 15 | 2 | 1 | 2 |
| Total Analysis Volume [veh/h] | 13 | 45 | 61 | 8 | 5 | 8 |
| Pedestrian Volume [ped/h] | 0 | | 0 | | 0 | |

**Intersection Settings**

| | | | | | | |
|---|---|---|---|---|---|---|
| Priority Scheme | Free | | Free | | Stop | |
| Flared Lane | | | | | No | |
| 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 | 0.00 | 0.01 | 0.01 |
| d_M, Delay for Movement [s/veh] | 7.36 | 0.00 | 0.00 | 0.00 | 9.29 | 8.66 |
| Movement LOS | A | A | A | A | A | A |
| 95th-Percentile Queue Length [veh/ln] | 0.02 | 0.02 | 0.00 | 0.00 | 0.04 | 0.04 |
| 95th-Percentile Queue Length [ft/ln] | 0.55 | 0.55 | 0.00 | 0.00 | 1.06 | 1.06 |
| d_A, Approach Delay [s/veh] | 1.65 | | 0.00 | | 8.90 | |
| Approach LOS | A | | A | | A | |
| d_I, Intersection Delay [s/veh] | 1.51 | | | | | |
| Intersection LOS | A | | | | | |

# Signal Warrants Report For Intersection 5: US 24 EB Ramps/Space Village Av

## 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 | N |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | E | W | N |
| 1 | 431 | 850 | 92 |
| 2 | 418 | 825 | 89 |
| 3 | 409 | 808 | 87 |
| 4 | 384 | 757 | 82 |
| 5 | 340 | 672 | 73 |
| 6 | 336 | 663 | 72 |
| 7 | 332 | 655 | 71 |
| 8 | 302 | 595 | 64 |
| 9 | 297 | 587 | 63 |
| 10 | 293 | 578 | 63 |
| 11 | 254 | 502 | 54 |
| 12 | 237 | 468 | 51 |
| 13 | 233 | 459 | 50 |
| 14 | 172 | 340 | 37 |
| 15 | 172 | 340 | 37 |
| 16 | 121 | 238 | 26 |
| 17 | 69 | 136 | 15 |
| 18 | 69 | 136 | 15 |
| 19 | 39 | 77 | 8 |
| 20 | 22 | 43 | 5 |
| 21 | 13 | 26 | 3 |
| 22 | 4 | 9 | 1 |
| 23 | 4 | 9 | 1 |
| 24 | 4 | 9 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1281 | 2 | 92 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 2 | 2 | 1243 | 2 | 89 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 3 | 2 | 1217 | 2 | 87 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 4 | 2 | 1141 | 2 | 82 | No | No | No | No | No | Yes | Yes | Yes | No | No |
| 5 | 2 | 1012 | 2 | 73 | No | No | No | No | No | No | Yes | Yes | No | No |
| 6 | 2 | 999 | 2 | 72 | No | No | No | No | No | No | Yes | Yes | No | No |
| 7 | 2 | 987 | 2 | 71 | No | No | No | No | No | No | Yes | Yes | No | No |
| 8 | 2 | 897 | 2 | 64 | No | No | No | No | No | No | No | Yes | No | No |
| 9 | 2 | 884 | 2 | 63 | No | No | No | No | No | No | No | Yes | No | No |
| 10 | 2 | 871 | 2 | 63 | No | No | No | No | No | No | No | Yes | No | No |
| 11 | 2 | 756 | 2 | 54 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 705 | 2 | 51 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 692 | 2 | 50 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 512 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 512 | 2 | 37 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 359 | 2 | 26 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 205 | 2 | 15 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 205 | 2 | 15 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 116 | 2 | 8 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 65 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 39 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 13 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 13 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 13 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 4 | 7 | 10 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | N |
|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 83.8 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 2:08 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 92 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1373 |
| 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 7: Peterson Rd/ Panamint Ct

## 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 | 1385 | 521 | 43 | 53 |
| 2 | 1343 | 505 | 42 | 51 |
| 3 | 1316 | 495 | 41 | 50 |
| 4 | 1233 | 464 | 38 | 47 |
| 5 | 1094 | 412 | 34 | 42 |
| 6 | 1080 | 406 | 34 | 41 |
| 7 | 1066 | 401 | 33 | 41 |
| 8 | 969 | 365 | 30 | 37 |
| 9 | 956 | 359 | 30 | 37 |
| 10 | 942 | 354 | 29 | 36 |
| 11 | 817 | 307 | 25 | 31 |
| 12 | 762 | 287 | 24 | 29 |
| 13 | 748 | 281 | 23 | 29 |
| 14 | 554 | 208 | 17 | 21 |
| 15 | 554 | 208 | 17 | 21 |
| 16 | 388 | 146 | 12 | 15 |
| 17 | 222 | 83 | 7 | 8 |
| 18 | 222 | 83 | 7 | 8 |
| 19 | 125 | 47 | 4 | 5 |
| 20 | 69 | 26 | 2 | 3 |
| 21 | 42 | 16 | 1 | 2 |
| 22 | 14 | 5 | 0 | 1 |
| 23 | 14 | 5 | 0 | 1 |
| 24 | 14 | 5 | 0 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 1906 | 1 | 53 | No | No | No | No | No | No | Yes | Yes | No | No |
| 2 | 2 | 1848 | 1 | 51 | No | No | No | No | No | No | No | Yes | No | No |
| 3 | 2 | 1811 | 1 | 50 | No | No | No | No | No | No | No | Yes | No | No |
| 4 | 2 | 1697 | 1 | 47 | No | No | No | No | No | No | No | Yes | No | No |
| 5 | 2 | 1506 | 1 | 42 | No | No | No | No | No | No | No | Yes | No | No |
| 6 | 2 | 1486 | 1 | 41 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 1467 | 1 | 41 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 1334 | 1 | 37 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 1315 | 1 | 37 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 1296 | 1 | 36 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 1124 | 1 | 31 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 1049 | 1 | 29 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 1029 | 1 | 29 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 762 | 1 | 21 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 762 | 1 | 21 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 534 | 1 | 15 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 305 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 305 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 172 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 95 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 58 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 19 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 19 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 19 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 0 | 0 |

## Warrant 3 Condition A

| Orientation | E | W |
|---|---|---|
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 16.8 | 10.5 |
| Number of Lanes on Minor Street Approach | 1 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:12 | 0:09 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 43 | 53 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 2002 | 2002 |
| Number of Approaches on Intersection | 4 | 4 |
| Total Volume Condition Met | Yes | Yes |
| Warrant Met for Approach | No | No |
| **Warrant Met for Intersection** | **No** | |

# Signal Warrants Report For Intersection 8: Peterson Rd/ Meadowbrook Pk

## 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 |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | S | N | E |
| 1 | 1368 | 500 | 59 |
| 2 | 1327 | 485 | 57 |
| 3 | 1300 | 475 | 56 |
| 4 | 1218 | 445 | 53 |
| 5 | 1081 | 395 | 47 |
| 6 | 1067 | 390 | 46 |
| 7 | 1053 | 385 | 45 |
| 8 | 958 | 350 | 41 |
| 9 | 944 | 345 | 41 |
| 10 | 930 | 340 | 40 |
| 11 | 807 | 295 | 35 |
| 12 | 752 | 275 | 32 |
| 13 | 739 | 270 | 32 |
| 14 | 547 | 200 | 24 |
| 15 | 547 | 200 | 24 |
| 16 | 383 | 140 | 17 |
| 17 | 219 | 80 | 9 |
| 18 | 219 | 80 | 9 |
| 19 | 123 | 45 | 5 |
| 20 | 68 | 25 | 3 |
| 21 | 41 | 15 | 2 |
| 22 | 14 | 5 | 1 |
| 23 | 14 | 5 | 1 |
| 24 | 14 | 5 | 1 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 3 | 1868 | 2 | 59 | No | No | No | No | No | No | No | Yes | No | No |
| 2 | 3 | 1812 | 2 | 57 | No | No | No | No | No | No | No | Yes | No | No |
| 3 | 3 | 1775 | 2 | 56 | No | No | No | No | No | No | No | Yes | No | No |
| 4 | 3 | 1663 | 2 | 53 | No | No | No | No | No | No | No | No | No | No |
| 5 | 3 | 1476 | 2 | 47 | No | No | No | No | No | No | No | No | No | No |
| 6 | 3 | 1457 | 2 | 46 | No | No | No | No | No | No | No | No | No | No |
| 7 | 3 | 1438 | 2 | 45 | No | No | No | No | No | No | No | No | No | No |
| 8 | 3 | 1308 | 2 | 41 | No | No | No | No | No | No | No | No | No | No |
| 9 | 3 | 1289 | 2 | 41 | No | No | No | No | No | No | No | No | No | No |
| 10 | 3 | 1270 | 2 | 40 | No | No | No | No | No | No | No | No | No | No |
| 11 | 3 | 1102 | 2 | 35 | No | No | No | No | No | No | No | No | No | No |
| 12 | 3 | 1027 | 2 | 32 | No | No | No | No | No | No | No | No | No | No |
| 13 | 3 | 1009 | 2 | 32 | No | No | No | No | No | No | No | No | No | No |
| 14 | 3 | 747 | 2 | 24 | No | No | No | No | No | No | No | No | No | No |
| 15 | 3 | 747 | 2 | 24 | No | No | No | No | No | No | No | No | No | No |
| 16 | 3 | 523 | 2 | 17 | No | No | No | No | No | No | No | No | No | No |
| 17 | 3 | 299 | 2 | 9 | No | No | No | No | No | No | No | No | No | No |
| 18 | 3 | 299 | 2 | 9 | No | No | No | No | No | No | No | No | No | No |
| 19 | 3 | 168 | 2 | 5 | No | No | No | No | No | No | No | No | No | No |
| 20 | 3 | 93 | 2 | 3 | No | No | No | No | No | No | No | No | No | No |
| 21 | 3 | 56 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 3 | 19 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 3 | 19 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 3 | 19 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| Hours Met | | | | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |

## Warrant 3 Condition A

| | |
|---|---|
| Orientation | E |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 116 |
| Number of Lanes on Minor Street Approach | 2 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 1:54 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 59 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 1927 |
| 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 9: Meadowbrook Pk/Access 1

## 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 | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets | |
|---|---|---|---|---|
| | E | W | S | N |
| 1 | 63 | 89 | 81 | 12 |
| 2 | 61 | 86 | 79 | 12 |
| 3 | 60 | 85 | 77 | 11 |
| 4 | 56 | 79 | 72 | 11 |
| 5 | 50 | 70 | 64 | 9 |
| 6 | 49 | 69 | 63 | 9 |
| 7 | 49 | 69 | 62 | 9 |
| 8 | 44 | 62 | 57 | 8 |
| 9 | 43 | 61 | 56 | 8 |
| 10 | 43 | 61 | 55 | 8 |
| 11 | 37 | 53 | 48 | 7 |
| 12 | 35 | 49 | 45 | 7 |
| 13 | 34 | 48 | 44 | 6 |
| 14 | 25 | 36 | 32 | 5 |
| 15 | 25 | 36 | 32 | 5 |
| 16 | 18 | 25 | 23 | 3 |
| 17 | 10 | 14 | 13 | 2 |
| 18 | 10 | 14 | 13 | 2 |
| 19 | 6 | 8 | 7 | 1 |
| 20 | 3 | 4 | 4 | 1 |
| 21 | 2 | 3 | 2 | 0 |
| 22 | 1 | 1 | 1 | 0 |
| 23 | 1 | 1 | 1 | 0 |
| 24 | 1 | 1 | 1 | 0 |

## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 2 | 152 | 2 | 81 | No | No | No | No | No | No | No | No | No | No |
| 2 | 2 | 147 | 2 | 79 | No | No | No | No | No | No | No | No | No | No |
| 3 | 2 | 145 | 2 | 77 | No | No | No | No | No | No | No | No | No | No |
| 4 | 2 | 135 | 2 | 72 | No | No | No | No | No | No | No | No | No | No |
| 5 | 2 | 120 | 2 | 64 | No | No | No | No | No | No | No | No | No | No |
| 6 | 2 | 118 | 2 | 63 | No | No | No | No | No | No | No | No | No | No |
| 7 | 2 | 118 | 2 | 62 | No | No | No | No | No | No | No | No | No | No |
| 8 | 2 | 106 | 2 | 57 | No | No | No | No | No | No | No | No | No | No |
| 9 | 2 | 104 | 2 | 56 | No | No | No | No | No | No | No | No | No | No |
| 10 | 2 | 104 | 2 | 55 | No | No | No | No | No | No | No | No | No | No |
| 11 | 2 | 90 | 2 | 48 | No | No | No | No | No | No | No | No | No | No |
| 12 | 2 | 84 | 2 | 45 | No | No | No | No | No | No | No | No | No | No |
| 13 | 2 | 82 | 2 | 44 | No | No | No | No | No | No | No | No | No | No |
| 14 | 2 | 61 | 2 | 32 | No | No | No | No | No | No | No | No | No | No |
| 15 | 2 | 61 | 2 | 32 | No | No | No | No | No | No | No | No | No | No |
| 16 | 2 | 43 | 2 | 23 | No | No | No | No | No | No | No | No | No | No |
| 17 | 2 | 24 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 18 | 2 | 24 | 2 | 13 | No | No | No | No | No | No | No | No | No | No |
| 19 | 2 | 14 | 2 | 7 | No | No | No | No | No | No | No | No | No | No |
| 20 | 2 | 7 | 2 | 4 | No | No | No | No | No | No | No | No | No | No |
| 21 | 2 | 5 | 2 | 2 | No | No | No | No | No | No | No | No | No | No |
| 22 | 2 | 2 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 23 | 2 | 2 | 2 | 1 | No | No | No | No | No | No | No | No | No | No |
| 24 | 2 | 2 | 2 | 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) | 9.6 | 9.2 |
| Number of Lanes on Minor Street Approach | 2 | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:12 | 0:01 |
| Delay Condition Met | No | No |
| Volume on Minor Street Approach During Same Hour | 81 | 12 |
| High Minor Volume Condition Met | No | No |
| Total Entering Volume on All Approaches During Same Hour | 245 | 245 |
| 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 10: Meadowbrook Pk/ Access 2

## 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 | W |
| Speed > 40mph | No |
| Population < 10,000 | No |
| Warrant Factor | 100% |

## Warrant Analysis Traffic Volumes

| Hour | Major Streets | | Minor Streets |
|---|---|---|---|
| | N | S | W |
| 1 | 63 | 53 | 12 |
| 2 | 61 | 51 | 12 |
| 3 | 60 | 50 | 11 |
| 4 | 56 | 47 | 11 |
| 5 | 50 | 42 | 9 |
| 6 | 49 | 41 | 9 |
| 7 | 49 | 41 | 9 |
| 8 | 44 | 37 | 8 |
| 9 | 43 | 37 | 8 |
| 10 | 43 | 36 | 8 |
| 11 | 37 | 31 | 7 |
| 12 | 35 | 29 | 7 |
| 13 | 34 | 29 | 6 |
| 14 | 25 | 21 | 5 |
| 15 | 25 | 21 | 5 |
| 16 | 18 | 15 | 3 |
| 17 | 10 | 8 | 2 |
| 18 | 10 | 8 | 2 |
| 19 | 6 | 5 | 1 |
| 20 | 3 | 3 | 1 |
| 21 | 2 | 2 | 0 |
| 22 | 1 | 1 | 0 |
| 23 | 1 | 1 | 0 |
| 24 | 1 | 1 | 0 |

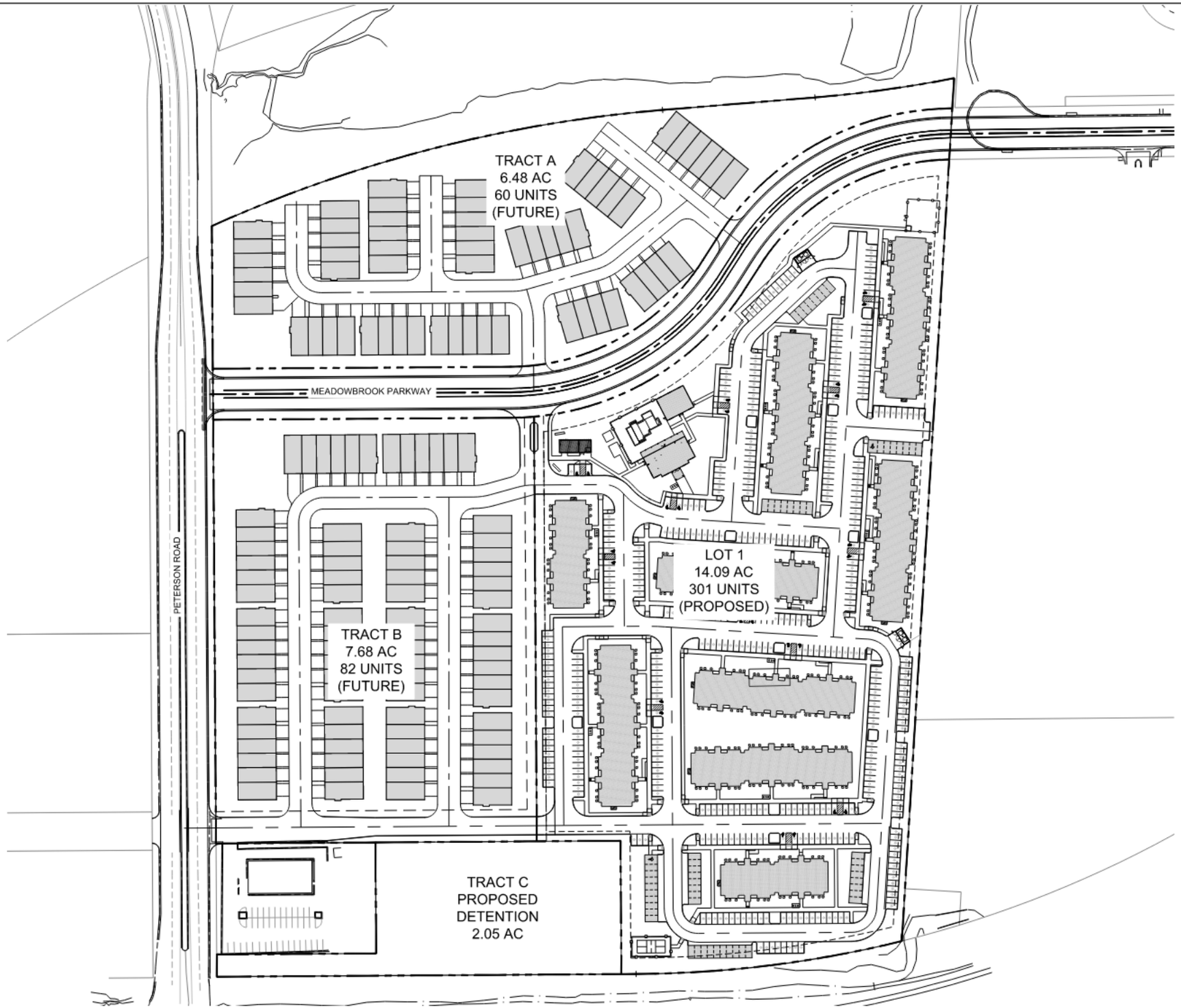
## Warrant Analysis by Hour

| Hour | Major Streets | | Minor Street | | Warrant 1 Condition A | | | | Warrant 1 Condition B | | | | Warrant 2 | Warrant 3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number | Volume | Number | Volume | 100% | 80% | 70% | 56% | 100% | 80% | 70% | 56% | | Condition B |
| 1 | 1 | 116 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 2 | 1 | 112 | 1 | 12 | No | No | No | No | No | No | No | No | No | No |
| 3 | 1 | 110 | 1 | 11 | No | No | No | No | No | No | No | No | No | No |
| 4 | 1 | 103 | 1 | 11 | No | No | No | No | No | No | No | No | No | No |
| 5 | 1 | 92 | 1 | 9 | No | No | No | No | No | No | No | No | No | No |
| 6 | 1 | 90 | 1 | 9 | No | No | No | No | No | No | No | No | No | No |
| 7 | 1 | 90 | 1 | 9 | No | No | No | No | No | No | No | No | No | No |
| 8 | 1 | 81 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 9 | 1 | 80 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 10 | 1 | 79 | 1 | 8 | No | No | No | No | No | No | No | No | No | No |
| 11 | 1 | 68 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| 12 | 1 | 64 | 1 | 7 | No | No | No | No | No | No | No | No | No | No |
| 13 | 1 | 63 | 1 | 6 | No | No | No | No | No | No | No | No | No | No |
| 14 | 1 | 46 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 15 | 1 | 46 | 1 | 5 | No | No | No | No | No | No | No | No | No | No |
| 16 | 1 | 33 | 1 | 3 | No | No | No | No | No | No | No | No | No | No |
| 17 | 1 | 18 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 18 | 1 | 18 | 1 | 2 | No | No | No | No | No | No | No | No | No | No |
| 19 | 1 | 11 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 20 | 1 | 6 | 1 | 1 | No | No | No | No | No | No | No | No | No | No |
| 21 | 1 | 4 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 22 | 1 | 2 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 23 | 1 | 2 | 1 | 0 | No | No | No | No | No | No | No | No | No | No |
| 24 | 1 | 2 | 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 | W |
| Total Stopped Delay Per Vehicle on Minor Approach (s) | 8.9 |
| Number of Lanes on Minor Street Approach | 1 |
| VehicleHours of Stopped Delay on Minor Approach ([h]h:mm) | 0:01 |
| Delay Condition Met | No |
| Volume on Minor Street Approach During Same Hour | 12 |
| High Minor Volume Condition Met | No |
| Total Entering Volume on All Approaches During Same Hour | 128 |
| Number of Approaches on Intersection | 3 |
| Total Volume Condition Met | No |
| Warrant Met for Approach | No |
| **Warrant Met for Intersection** | **No** |

# Appendix F- Supporting Documents







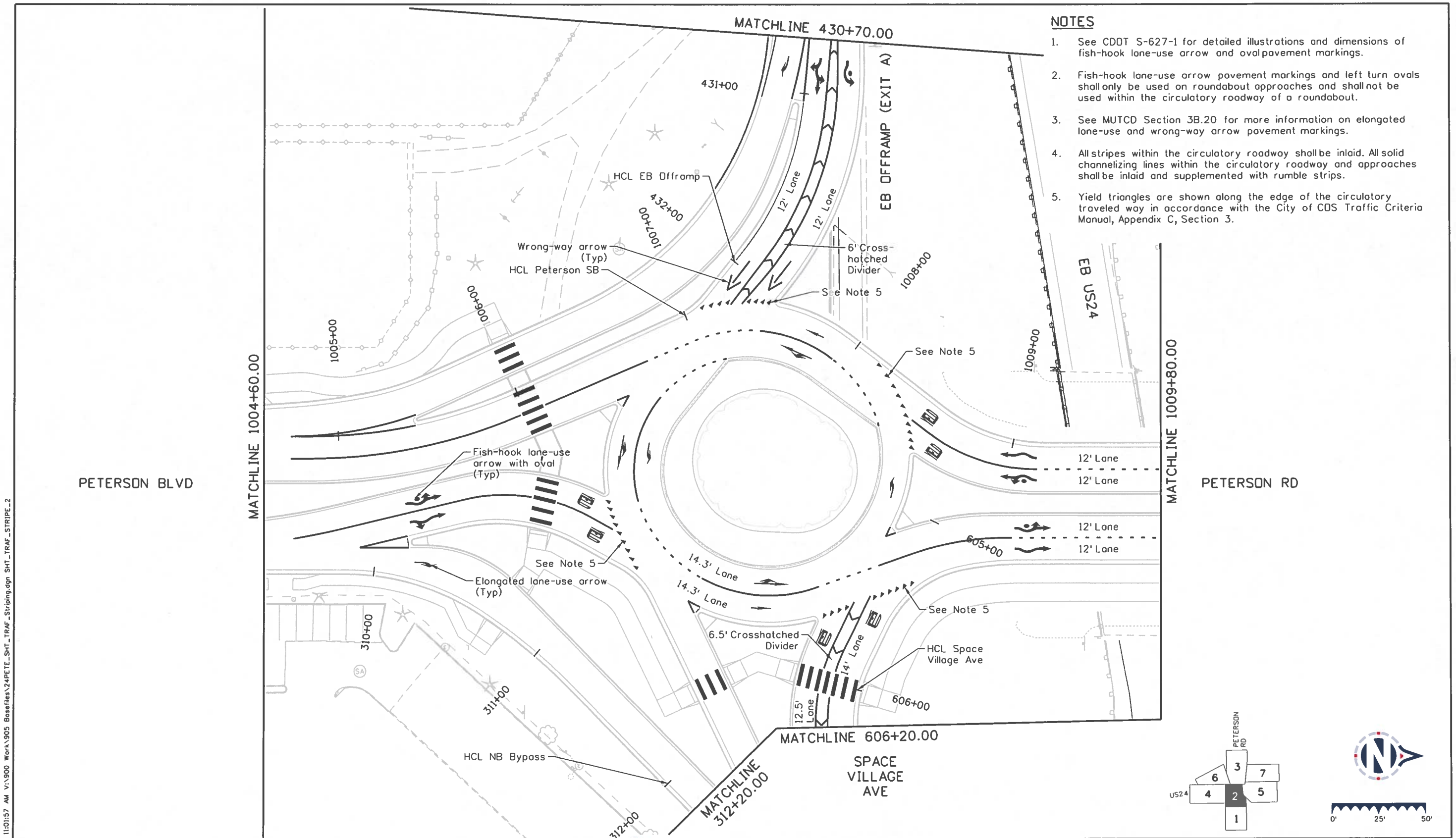
SUBDIVISION CONCEPT PLAN

Matrix
Excellence by Design
2435 Research Parkway, Suite 300
Colorado Springs, CO 80920
Contact: DREW A. DEFENDORF, PE
Phone (719) 575-0100

S:\24.1082.069 Peterson Road and Meadowbrook Parkway Overall Development\5590 CAD\5585 Exhibits

2026-04-20 Subdivision Concept Plan

CIMARRON HILLS SOUTHEAST
MIXED USE FILING NO.1




## NOTES

1. See CDOT S-627-1 for detailed illustrations and dimensions of fish-hook lane-use arrow and oval pavement markings.
2. Fish-hook lane-use arrow pavement markings and left turn ovals shall only be used on roundabout approaches and shall not be used within the circulatory roadway of a roundabout.
3. See MUTCD Section 3B.20 for more information on elongated lane-use and wrong-way arrow pavement markings.
4. All stripes within the circulatory roadway shall be inlaid. All solid channelizing lines within the circulatory roadway and approaches shall be inlaid and supplemented with rumble strips.
5. Yield triangles are shown along the edge of the circulatory traveled way in accordance with the City of COS Traffic Criteria Manual, Appendix C, Section 3.

30% PRELIMINARY - NOT FOR CONSTRUCTION


BASIS PARTNERS
Basis Partners
25 N Spruce Street, Suite 310
Colorado Springs, CO 80905
Tel: 719-299-5077, basisp.com


| | |
|---|---|
| Detailer: STV | Print Date: 12/20/2023 |
| Designer: STV | Horiz. Scale: 1"=50' |
| Reviewer: GB | Vert. Scale: N/A |

COLORADO SPRINGS

Sheet Revisions

| | Date | Comments | Init |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

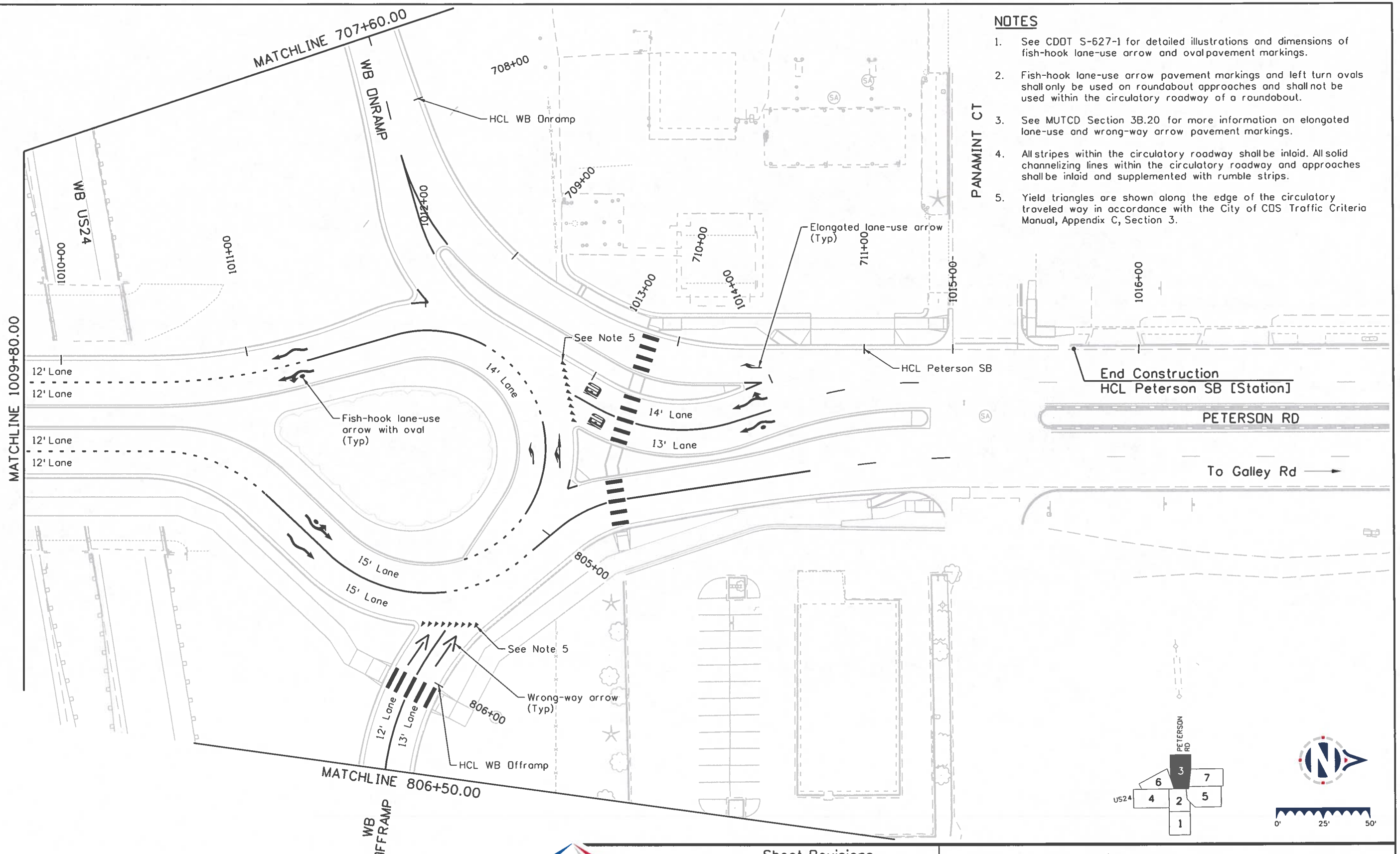
US Highway 24 & Peterson Blvd/Rd Roundabouts

STRIPING PLAN
SOUTH ROUNDABOUT

Striping 2 of 7

Sheet Number 97


K:\KeithGiven 12/20/2023 11:01:57 AM V:\900 Work\905 Basefiles\24PETE_SHT_TRAF_Striping.dgn SHT_TRAF_STRIPE_2




## NOTES

1. See CDOT S-627-1 for detailed illustrations and dimensions of fish-hook lane-use arrow and oval pavement markings.
2. Fish-hook lane-use arrow pavement markings and left turn ovals shall only be used on roundabout approaches and shall not be used within the circulatory roadway of a roundabout.
3. See MUTCD Section 3B.20 for more information on elongated lane-use and wrong-way arrow pavement markings.
4. All stripes within the circulatory roadway shall be inlaid. All solid channelizing lines within the circulatory roadway and approaches shall be inlaid and supplemented with rumble strips.
5. Yield triangles are shown along the edge of the circulatory traveled way in accordance with the City of COS Traffic Criteria Manual, Appendix C, Section 3.

30% PRELIMINARY - NOT FOR CONSTRUCTION

BASIS PARTNERS
Basis Partners
25 N Spruce Street, Suite 310
Colorado Springs, CO 80905
Tel: 719-299-5077, basisp.com

| | |
|---|---|
| Detailer: STV | Print Date: 12/20/2023 |
| Designer: STV | Horiz. Scale: 1"=50' |
| Reviewer: GB | Vert. Scale: N/A |

COLORADO SPRINGS

Sheet Revisions

| | Date | Comments | Init |
|---|---|---|---|
| 00 | | | |
| 00 | | | |
| 00 | | | |

US Highway 24 & Peterson Blvd/Rd Roundabouts

STRIPING PLAN
NORTH ROUNDABOUT

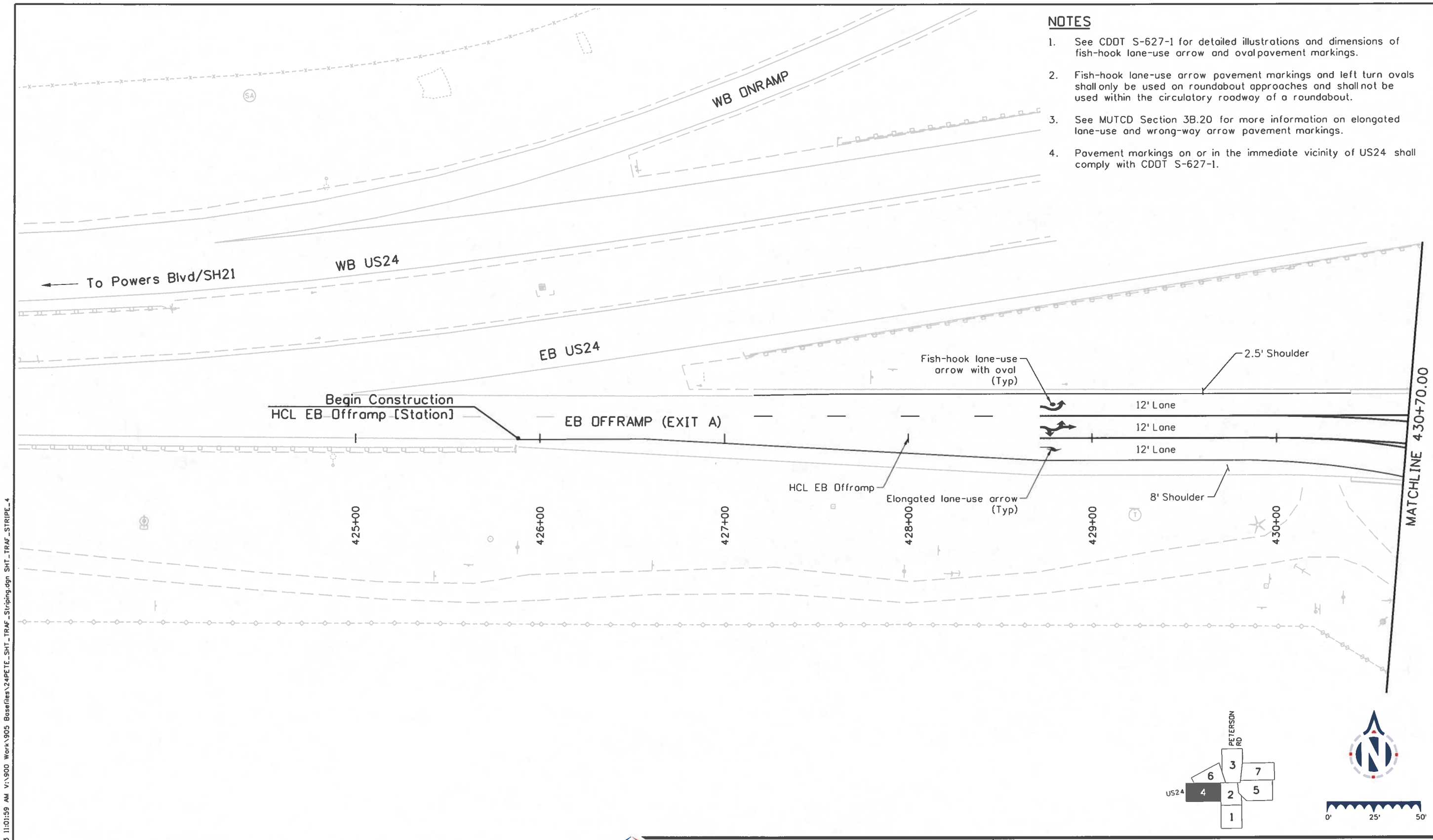
Striping 3 of 7

Sheet Number 98

KeithGiven 12/20/2023 11:01:58 AM V:\900 Work\905 Baselines\24PETE_SHT_TRAF_Striping.dgn SHT_TRAF_STRIPE_3

## NOTES

1. See CDOT S-627-1 for detailed illustrations and dimensions of fish-hook lane-use arrow and oval pavement markings.
2. Fish-hook lane-use arrow pavement markings and left turn ovals shall only be used on roundabout approaches and shall not be used within the circulatory roadway of a roundabout.
3. See MUTCD Section 3B.20 for more information on elongated lane-use and wrong-way arrow pavement markings.
4. Pavement markings on or in the immediate vicinity of US24 shall comply with CDOT S-627-1.




30% PRELIMINARY - NOT FOR CONSTRUCTION


BASIS PARTNERS
Basis Partners
25 N Spruce Street, Suite 310
Colorado Springs, CO 80905
Tel: 719-299-5077, basisp.com


| | |
|---|---|
| Detailer: STV | Print Date: 12/20/2023 |
| Designer: STV | Horiz. Scale: 1"=50' |
| Reviewer: GB | Vert. Scale: N/A |

COLORADO SPRINGS

| Sheet Revisions | | | |
|---|---|---|---|
| | Date | Comments | Init |
| | | | |
| | | | |
| | | | |

US Highway 24 & Peterson Blvd/Rd Roundabouts

STRIPING PLAN
EASTBOUND OFFRAMP (EXIT A)

Striping 4 of 7

Sheet Number 99


KeithGiven 12/20/2023 11:01:59 AM V:\900 Work\905 Basefiles\24PETE_SHT_TRAF_Striping.dgn SHT_TRAF_STRIPE_4

## NOTES

1. See CDOT S-627-1 for detailed illustrations and dimensions of fish-hook lane-use arrow and oval pavement markings.
2. Fish-hook lane-use arrow pavement markings and left turn ovals shall only be used on roundabout approaches and shall not be used within the circulatory roadway of a roundabout.
3. See MUTCD Section 3B.20 for more information on elongated lane-use and wrong-way arrow pavement markings.

EB US24

End Construction
HCL Space Village Ave [Station]

HCL Space Village Ave

Elongated lane-use arrow (Typ)

607+00

608+00

609+00

14' Lane

12' Lane

EB OFFRAMP (EXIT B)

EB ONRAMP

SPACE VILLAGE AVE

To Marksheffel Rd

Fish-hook lane-use arrow with oval (Typ)

MATCHLINE 606+20.00

MATCHLINE 312+20.00

313+00

314+00

HCL NB Bypass

PETERSON RD

US24

1 2 3 4 5 6 7

0' 25' 50'

30% PRELIMINARY - NOT FOR CONSTRUCTION

KeithGiven 12/20/2023 11:02:00 AM V:\900 Work\905 Baselines\24PETE_SHT_TRAF_Striping.dgn SHT_TRAF_STRIPE_5

BASIS PARTNERS
Basis Partners
25 N Spruce Street, Suite 310
Colorado Springs, CO 80905
Tel: 719-299-5077, basisp.com

| | |
|---|---|
| Detailer: STV | Print Date: 12/20/2023 |
| Designer: STV | Horiz. Scale: 1"=50' |
| Reviewer: GB | Vert. Scale: N/A |

COLORADO SPRINGS

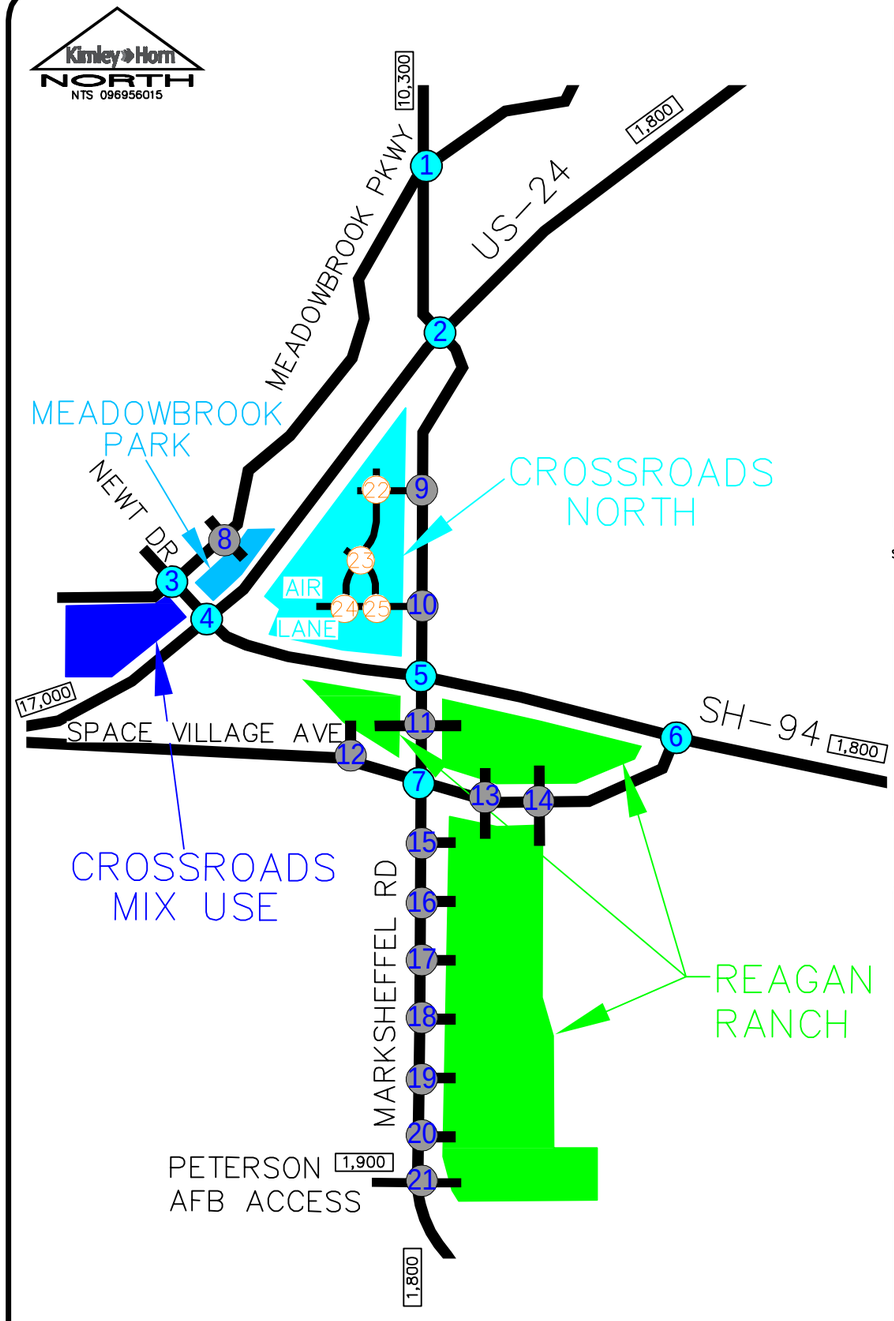
| Sheet Revisions | | | |
|---|---|---|---|
| | Date | Comments | Init |
| 00 | | | |
| 00 | | | |
| 00 | | | |

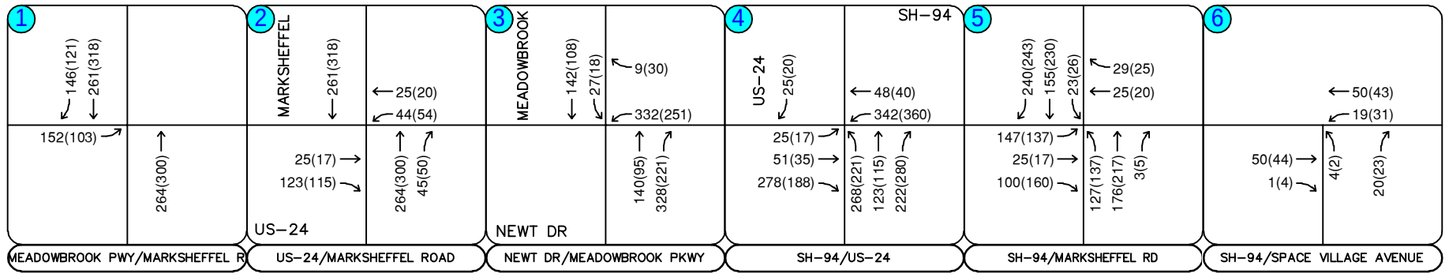
US Highway 24 & Peterson Blvd/Rd Roundabouts

STRIPING PLAN
SPACE VILLAGE AVE

Striping 5 of 7

Sheet Number 100



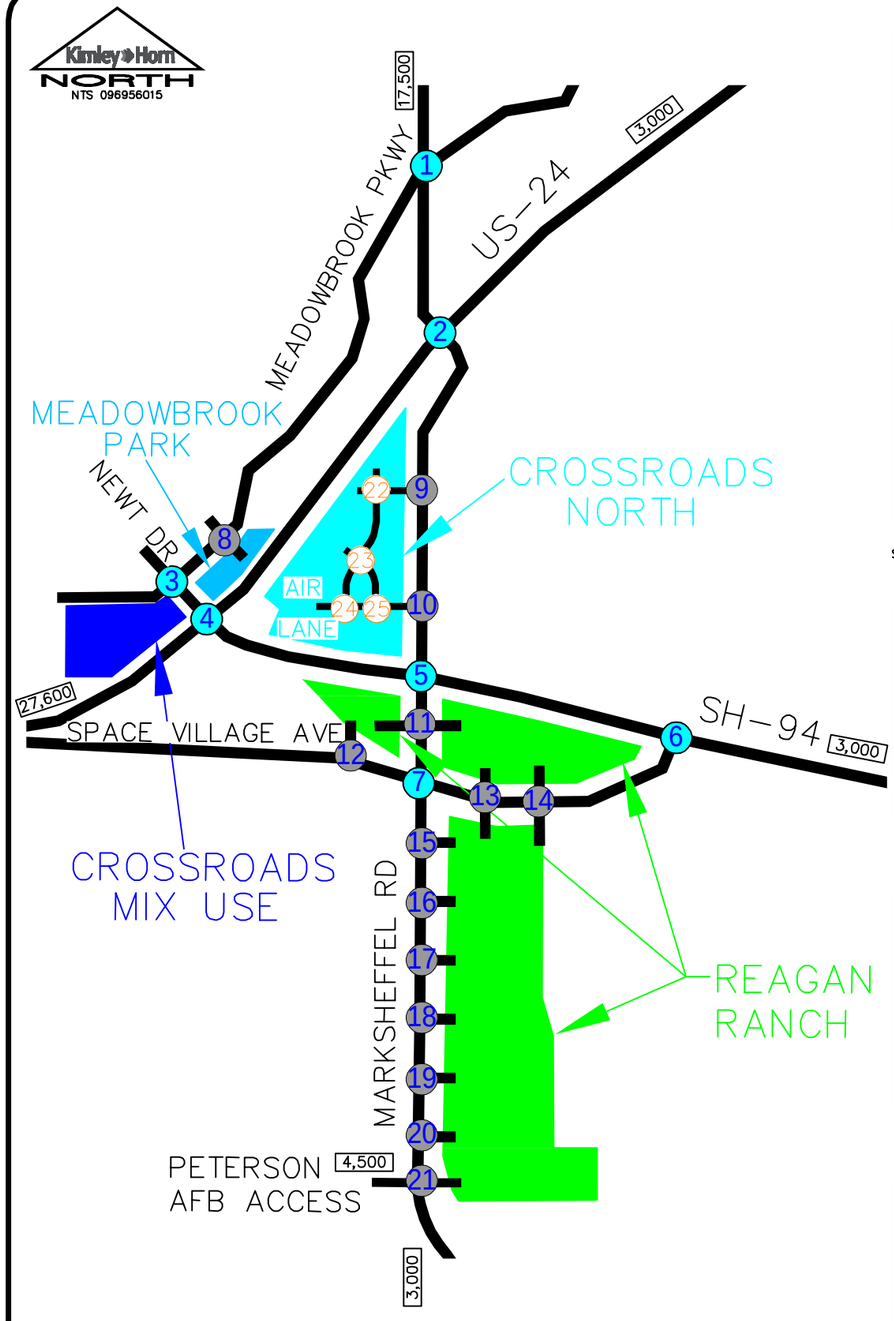

LEGEND

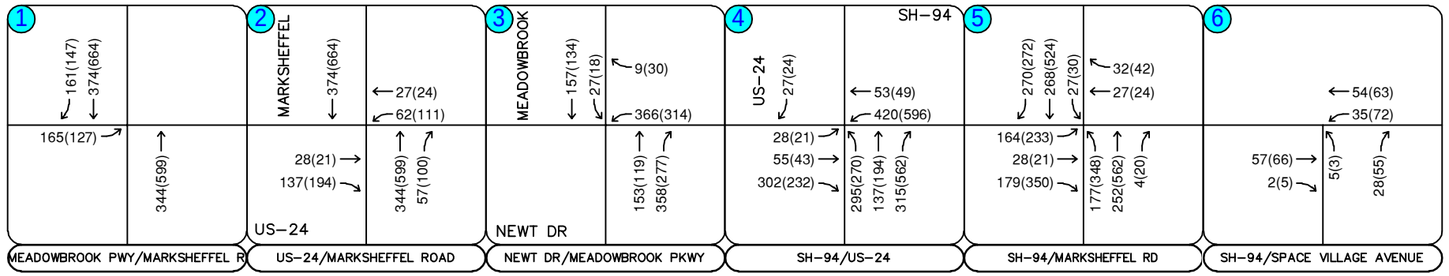
- X — Existing Key Intersection
- X — Proposed Access Intersection
- X — Proposed Internal Intersection
- XXX(XXX) — Weekday AM(PM) Peak Hour Traffic Volumes
- XX,X00 — Estimated Daily Traffic Volume

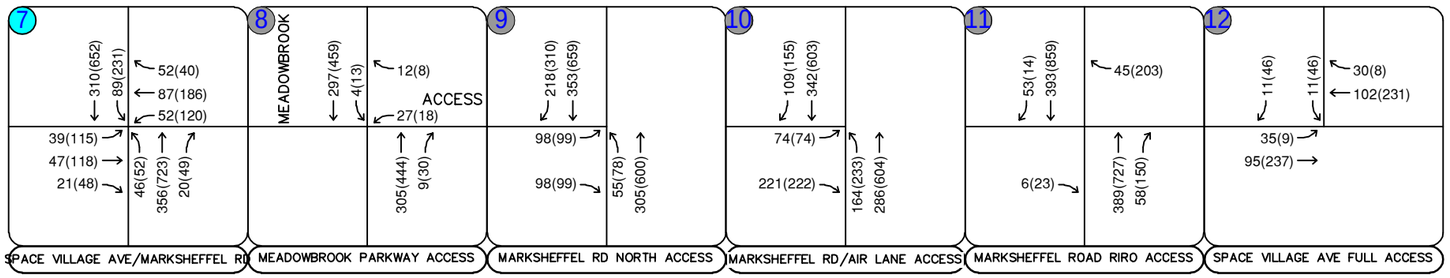
CROSSROADS–MEADOWBROOK & REAGAN RANCH
COLORADO SPRINGS, CO
2026 PROJECT TRAFFIC ASSIGNMENT

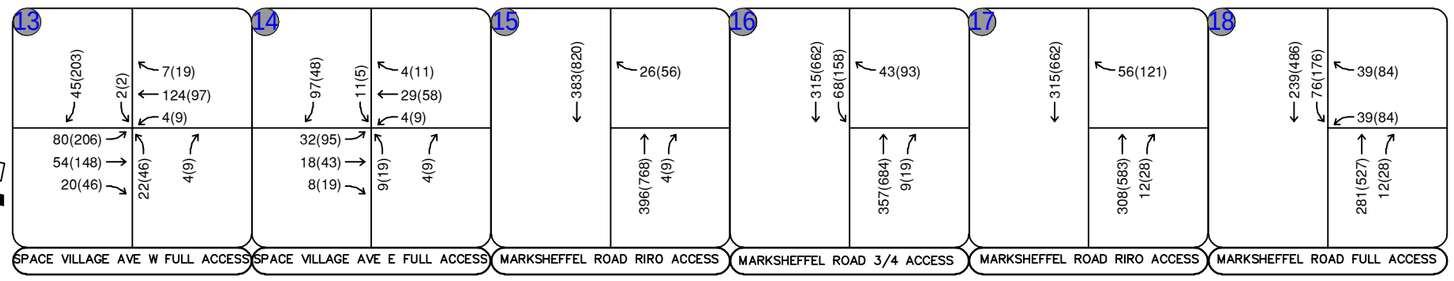
FIGURE 9

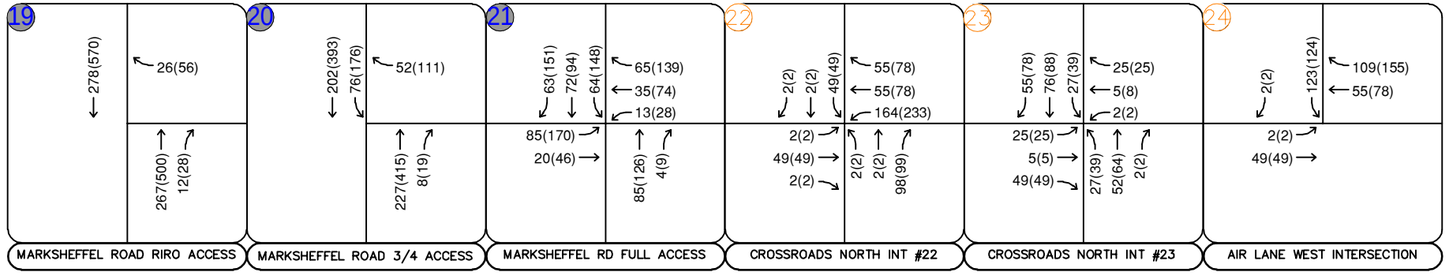
Kimley»Horn

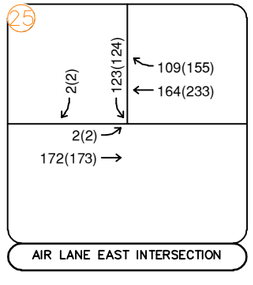



LEGEND

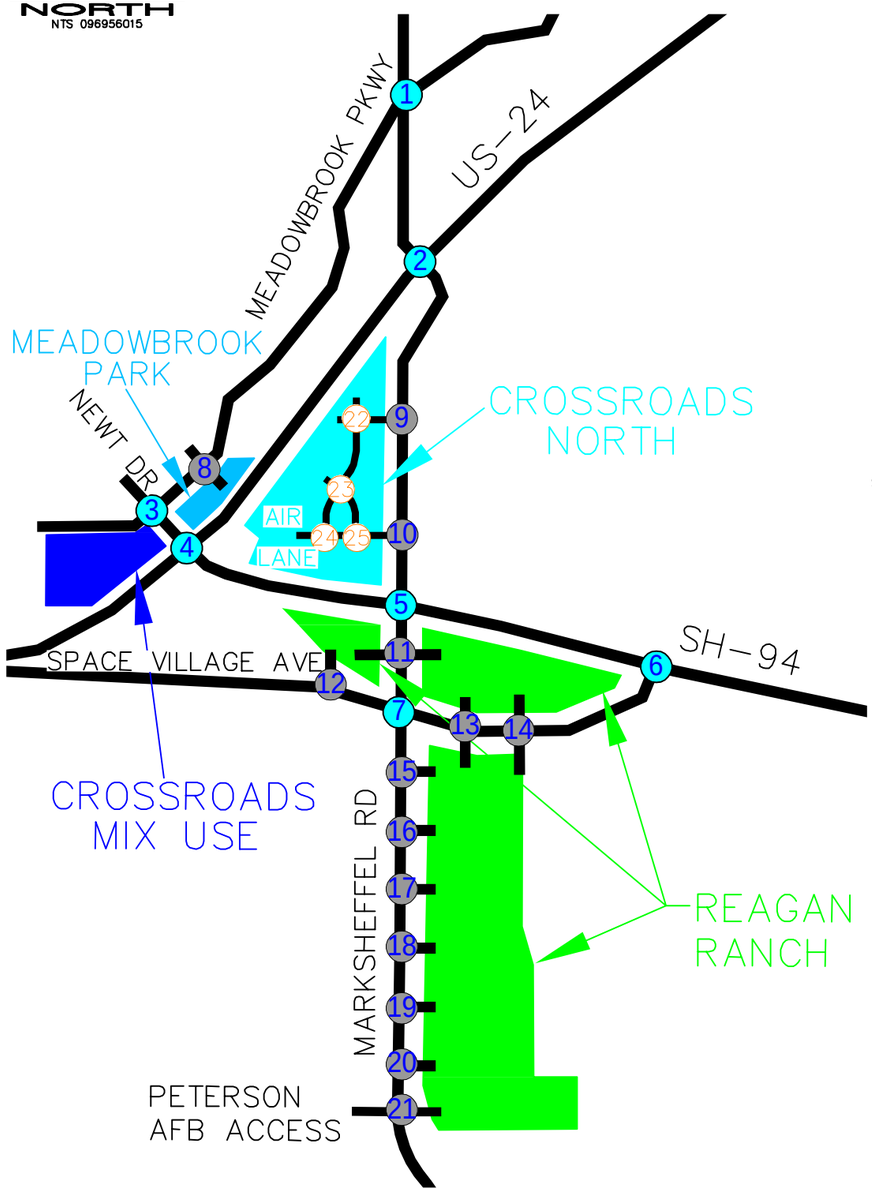
- (X) Existing Key Intersection
- (X) Proposed Access Intersection
- (X) Proposed Internal Intersection
- XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

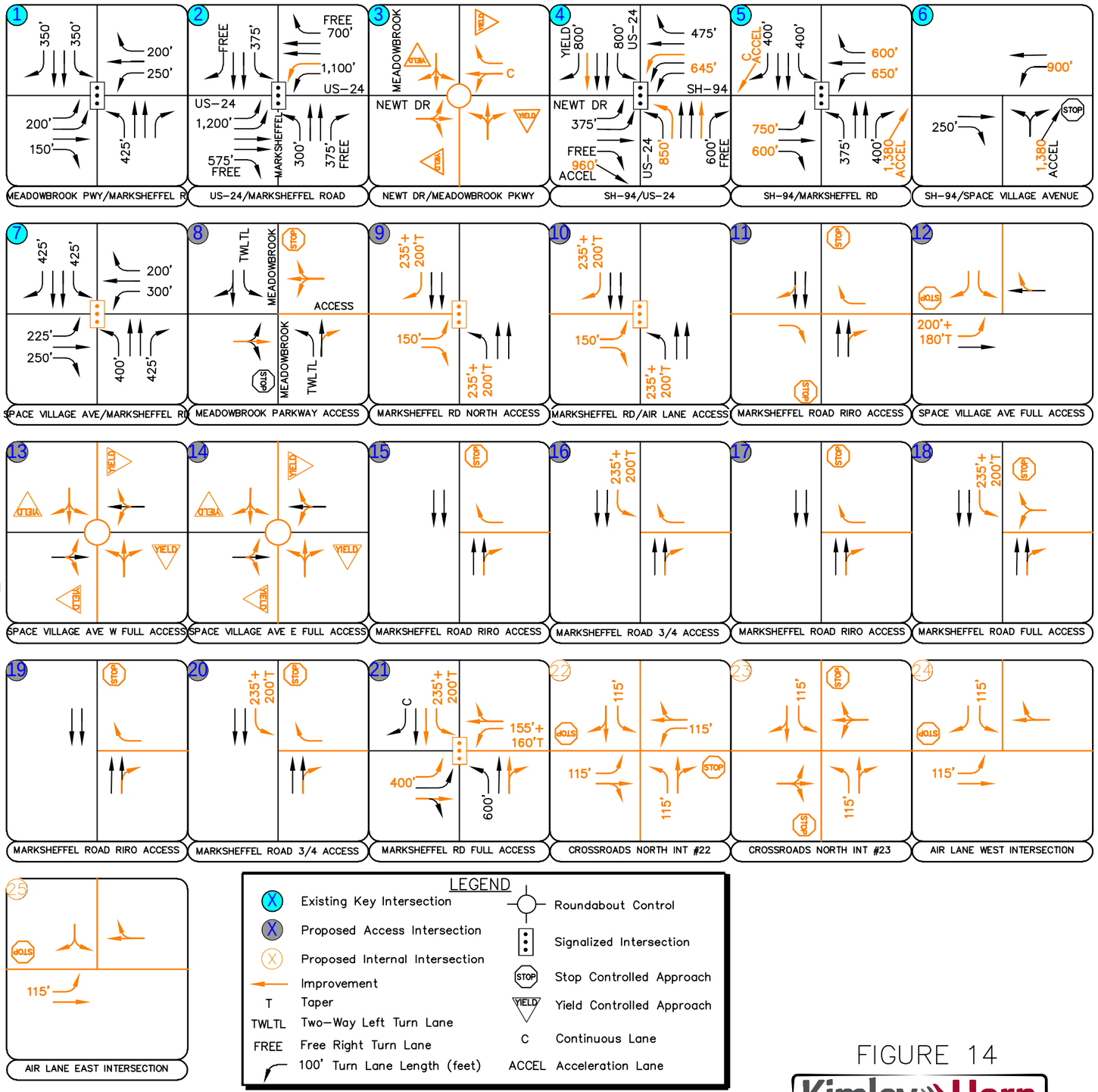
CROSSROADS–MEADOWBROOK & REAGAN RANCH
COLORADO SPRINGS, CO
2040 PROJECT TRAFFIC ASSIGNMENT

FIGURE 10

Kimley»Horn

Kimley»Horn
NORTH
NTS 096956015



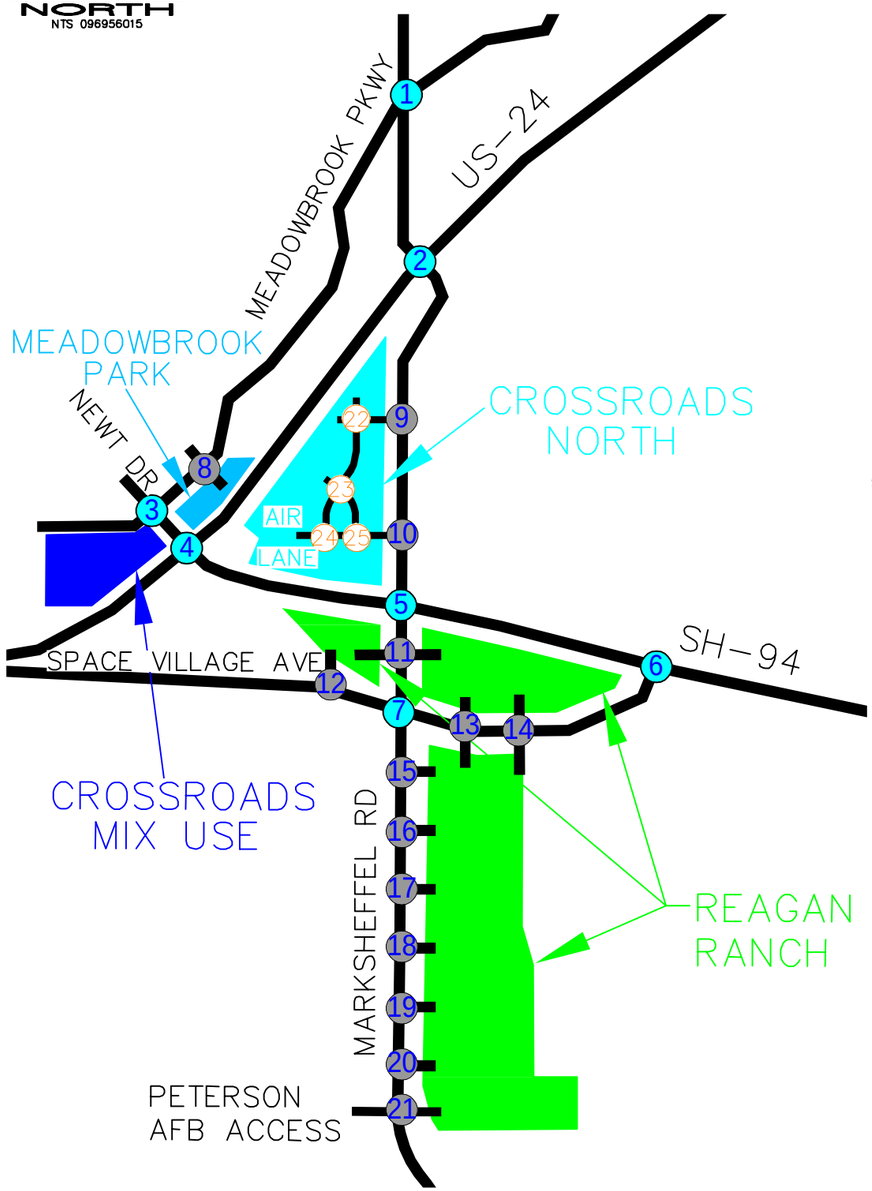



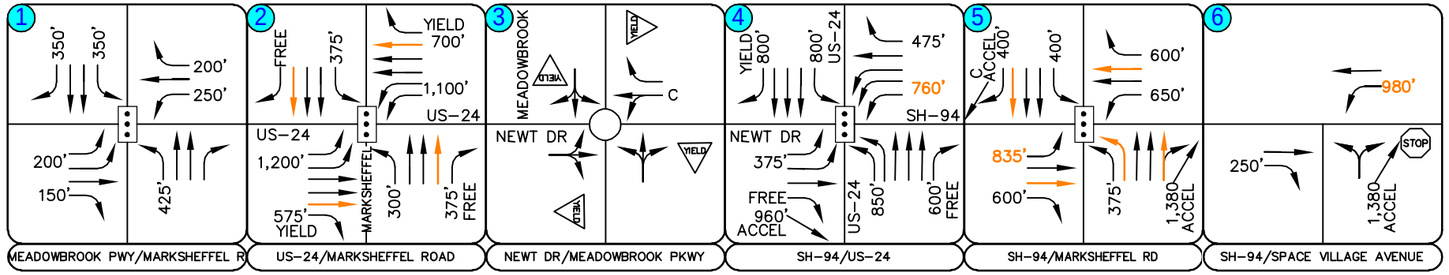

CROSSROADS–MEADOWBROOK & REAGAN RANCH
COLORADO SPRINGS, CO
2026 RECOMMENDED LANE CONFIGURATIONS

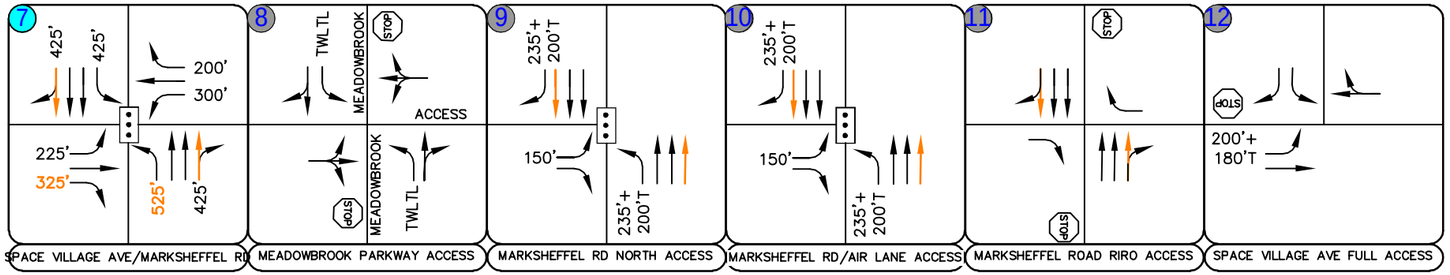
FIGURE 14

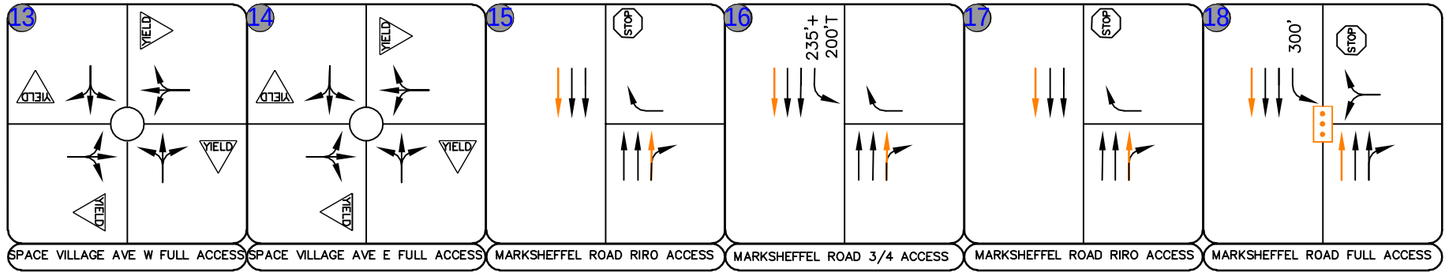
Kimley»Horn

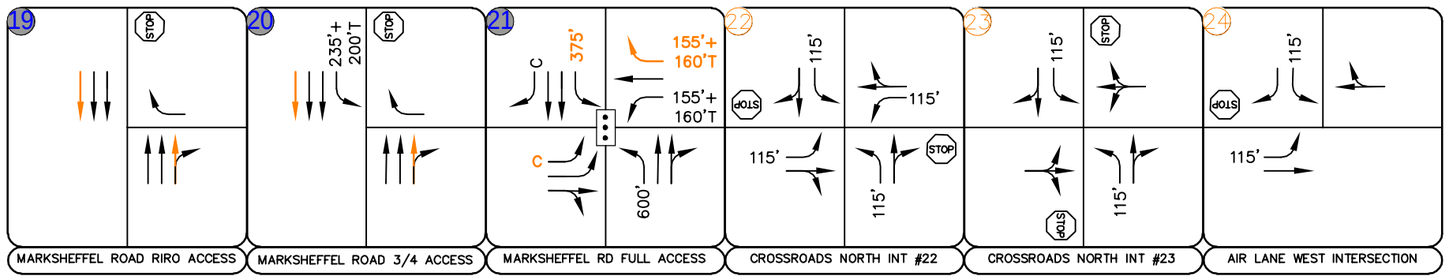
Kimley»Horn
NORTH
NTS 096956015

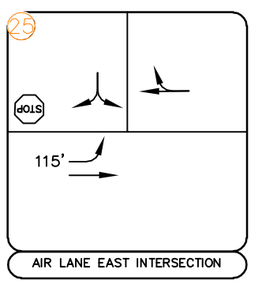


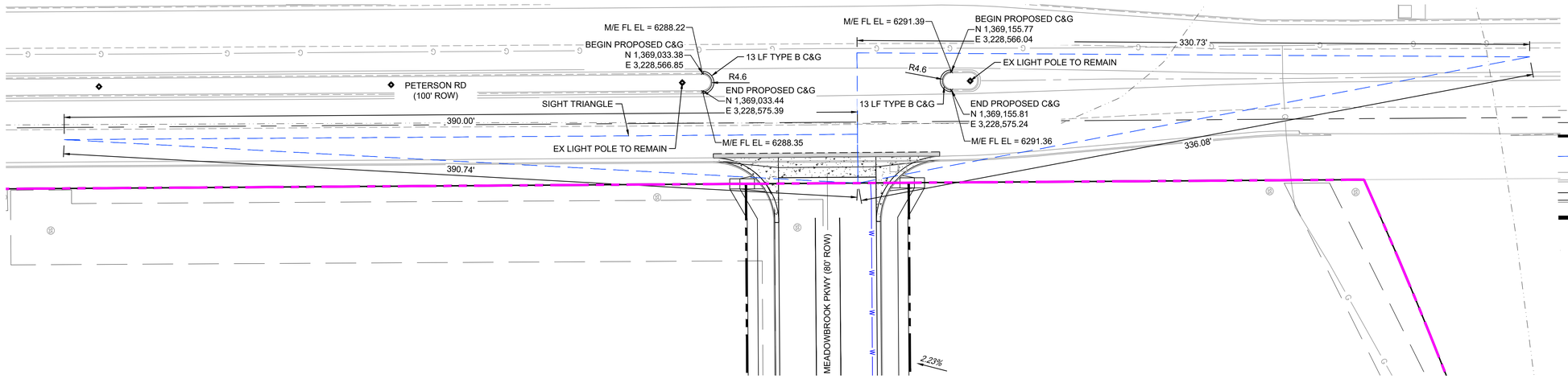

LEGEND

| | | | |
|---|---|---|---|
| X | Existing Key Intersection | | Roundabout Control |
| X | Proposed Access Intersection | | Signalized Intersection |
| X | Proposed Internal Intersection | STOP | Stop Controlled Approach |
| | Improvement | YIELD | Yield Controlled Approach |
| T | Taper | C | Continuous Lane |
| TWLTL | Two-Way Left Turn Lane | ACCEL | Acceleration Lane |
| FREE | Free Right Turn Lane | | |
| | 100' Turn Lane Length (feet) | | |

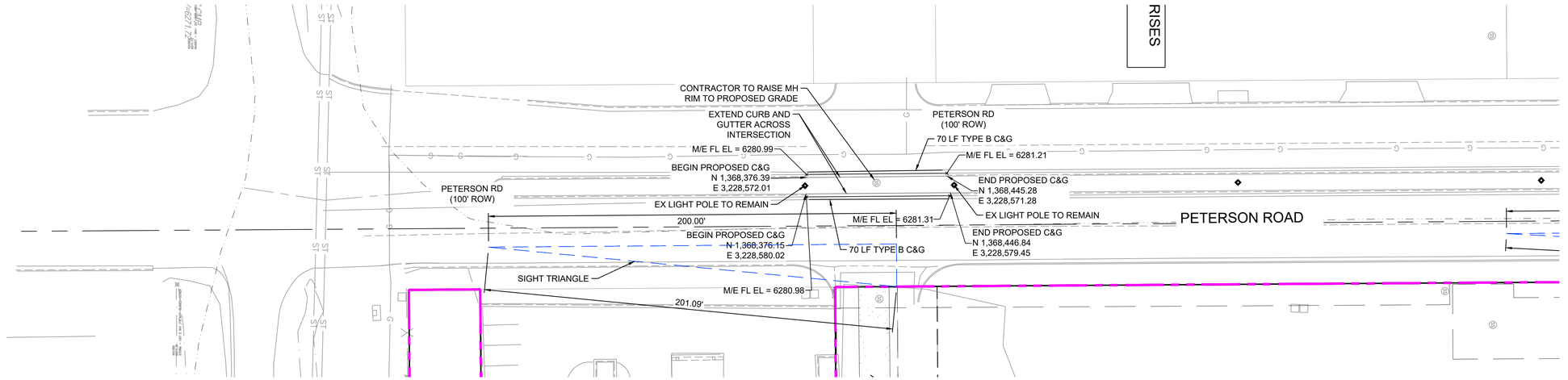
CROSSROADS–MEADOWBROOK & REAGAN RANCH
COLORADO SPRINGS, CO
2040 RECOMMENDED LANE CONFIGURATIONS

FIGURE 15

Kimley»Horn




PETERSON RD/MEADOWBROOK PKWY INTERSECTION




PETERSON RD/PANAMINT CT INTERSECTION

LEGEND

- EXISTING PAVED ROAD
- RIGHT OF WAY
- SIGHT TRIANGLE
- EXISTING CURB & GUTTER
- PROPOSED CURB & GUTTER
- PROPERTY LINE
- (SS) EXISTING SANITARY SEWER MANHOLE

Know what's below. Call before you dig.

GRAPHIC SCALE

30' 0' 30' 60'

( IN FEET )
1 inch = 30 ft.

REFERENCE DRAWINGS

X-MDG22x34
X-1382-PR-SITE
X-1382-EX-MAP
X-1382-EX-UTIL
X-1382-PR-UTIL
X-1382-EX-SITE
X-1382-EX-FEMA MAP
X-1382-PR-MAP

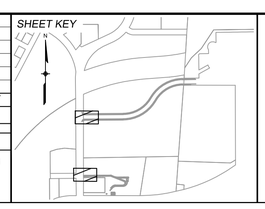
| No. | DATE | DESCRIPTION | BY |
|---|---|---|---|

REVISIONS

COMPUTER FILE MANAGEMENT

FILE NAME: S:\24.1382.003 Peterson Road and Meadowbrook Parkway Overall Development\500 CADD\504 Plan Sets\Construction Plans\Road and Storm\ST01.dwg
CTB FILE: Matrix.ctb
PLOT DATE: September 15, 2026 1:15:05 PM
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.

SHEET KEY



BENCHMARK:
NGS MONUMENT R76, BEING MONUMENTED BY A STANDARD U.S. COAST AND GEODETIC SURVEY BENCHMARK DISK SET IN THE TOP OF CONCRETE POST, STAMPED R 76 1935. ELEVATION WAS ESTABLISHED BY G.P.S OBSERVATIONS AND IS REFERENCED TO NAVD88. ELEVATION = 6,289.86 FEET.

BASIS OF BEARING:
REFERENCED TO THE WEST LINE OF THE SOUTHWEST QUARTER OF SECTION 8, TOWNSHIP 14 SOUTH, RANGE 65 WEST, BEING MONUMENTED AT THE SOUTHWEST CORNER OF SECTION 8 BY A 3-1/4" ALUMINUM CAP IN RANGEBOX "LS 22573", AND AT THE WEST QUARTER CORNER OF SECTION 8 BY A 3-1/4" BRASS CAP STAMPED "BLM US DEPT INTERIOR", ASSUMED TO BEAR NORTH 00°23'14" WEST, A DISTANCE OF 2,641.77 FEET.

PREPARED BY:
Matrix
Excellence by Design

SEAL

PRELIMINARY
THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE

FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC.
PROJECT No. 24.1382.003

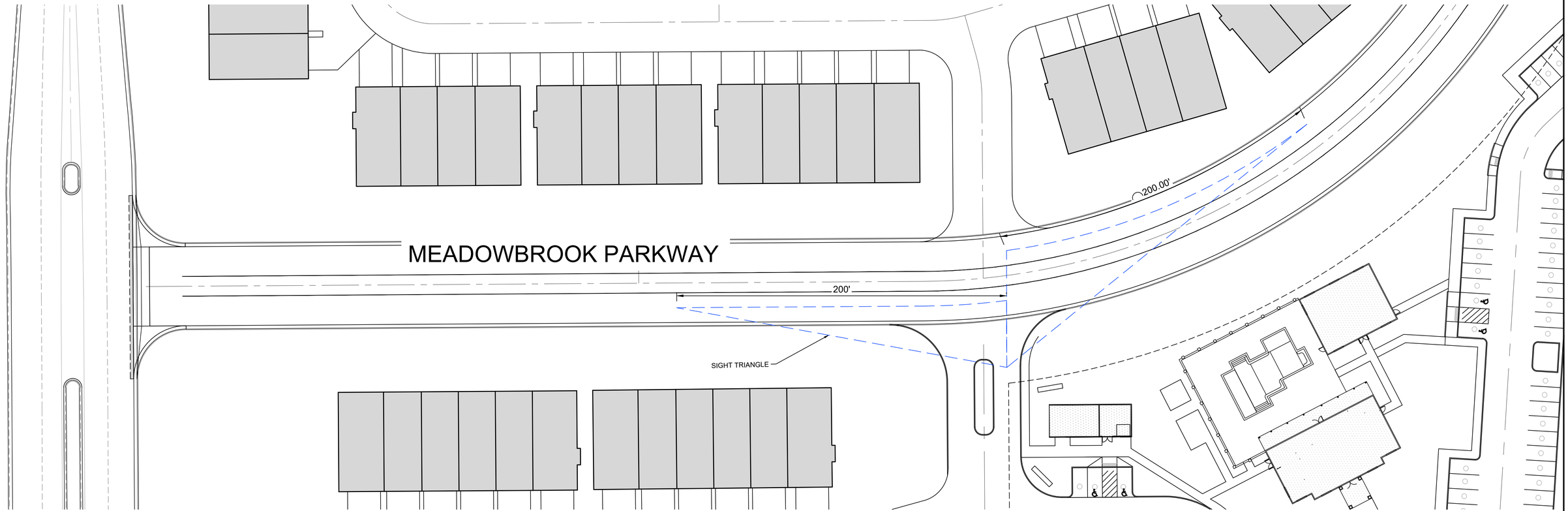
CIMARRON HILLS SOUTHEAST MIXED USE FILING NO. 1

ROADWAY, STORM, AND POND PLANS

# PETERSON ROAD IMPROVEMENTS

| | | | | | |
|---|---|---|---|---|---|
| DESIGNED BY: | MDF | SCALE | DATE ISSUED: | AUGUST 2026 | DRAWING No. |
| DRAWN BY: | WCG | HORIZ. 1" = 100' | | | |
| CHECKED BY: | DAD | VERT. N/A | SHEET | 10 OF 21 | RD05 |

Know what's **below.**
**Call** before you dig.




N

30 0 15 30
SCALE: 1"= 30'

| REFERENCE DRAWINGS |
|---|
| X-1382-EX-FEMA MAP |
| X-1382-EX-MAP |
| X-Title_EXHIBIT_D_(H) |
| X-1382-PR-SITE |
| X-1382-PR-UTIL |
| X-1382-PR-MAP |
| X-1382-EX-SITE |
| X-MDG22x34 |

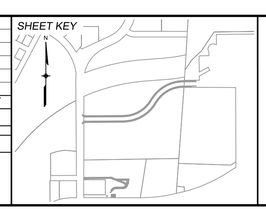
| No. | DATE | DESCRIPTION | BY |
|---|---|---|---|
| | | | |

REVISIONS

COMPUTER FILE MANAGEMENT

FILE NAME:
CTB FILE:
PLOT DATE:
THIS DRAWING IS CURRENT AS OF PLOT DATE AND MAY BE SUBJECT TO CHANGE.

SHEET KEY



BENCHMARK:
NGS MONUMENT R76, BEING MONUMENTED BY A STANDARD U.S. COAST AND GEODETIC SURVEY BENCHMARK DISK SET IN THE TOP OF CONCRETE POST, STAMPED R 76 1935. ELEVATION WAS ESTABLISHED BY G.P.S OBSERVATIONS AND IS REFERENCED TO NAVD88. ELEVATION = 6,289.86 FEET.

BASIS OF BEARING:
REFERENCED TO THE WEST LINE OF THE SOUTHWEST QUARTER OF SECTION 8, TOWNSHIP 14 SOUTH, RANGE 65 WEST, BEING MONUMENTED AT THE SOUTHWEST CORNER OF SECTION 8 BY A 3-1/4" ALUMINUM CAP IN RANGEBOX "LS 22573", AND AT THE WEST QUARTER CORNER OF SECTION 8 BY A 3-1/4" BRASS CAP STAMPED "BLM US DEPT INTERIOR", ASSUMED TO BEAR NORTH 00°23'14" WEST, A DISTANCE OF 2,641.77 FEET.

PREPARED BY:
Matrix
Excellence by Design

SEAL

*PRELIMINARY*
*THIS DRAWING HAS NOT BEEN APPROVED BY GOVERNING AGENCIES AND IS SUBJECT TO CHANGE*

*FOR AND ON BEHALF OF MATRIX DESIGN GROUP, INC.*
*PROJECT No.*

# CIMARRON HILLS SOUTHEAST MIXED USE FILING NO.1

| DESIGNED BY: | SCALE | DATE ISSUED: | DRAWING No. |
|---|---|---|---|
| DRAWN BY: | HORIZ. | | |
| CHECKED BY: | VERT. | SHEET OF | |