

# CIMARRON HILLS SOUTHEAST MIXED USE FILING No. 1

## TRAFFIC IMPACT STUDY

**Prepared for:**

El Paso County, CO

**Prepared by:**



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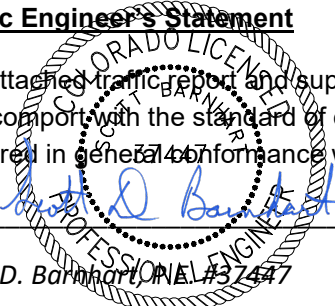
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**On Behalf of:**

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 performance with the criteria established by the County for traffic reports.



July 16, 2024

\_\_\_\_\_  
Scott D. Barnhart, P.E. #37447

\_\_\_\_\_  
Date

**Developer's Statement**

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

\_\_\_\_\_  
Dean Venezia

\_\_\_\_\_  
Date

Jovenchi-I LLC

4779 N Academy Blvd.

Colorado Springs, CO 80918

July 16, 2024

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# Introduction

The Cimarron Hills Southeast Mixed Use 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 attached dwelling units (DU) and a 4,000 square foot (sf) Church.

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

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 (2030) 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.

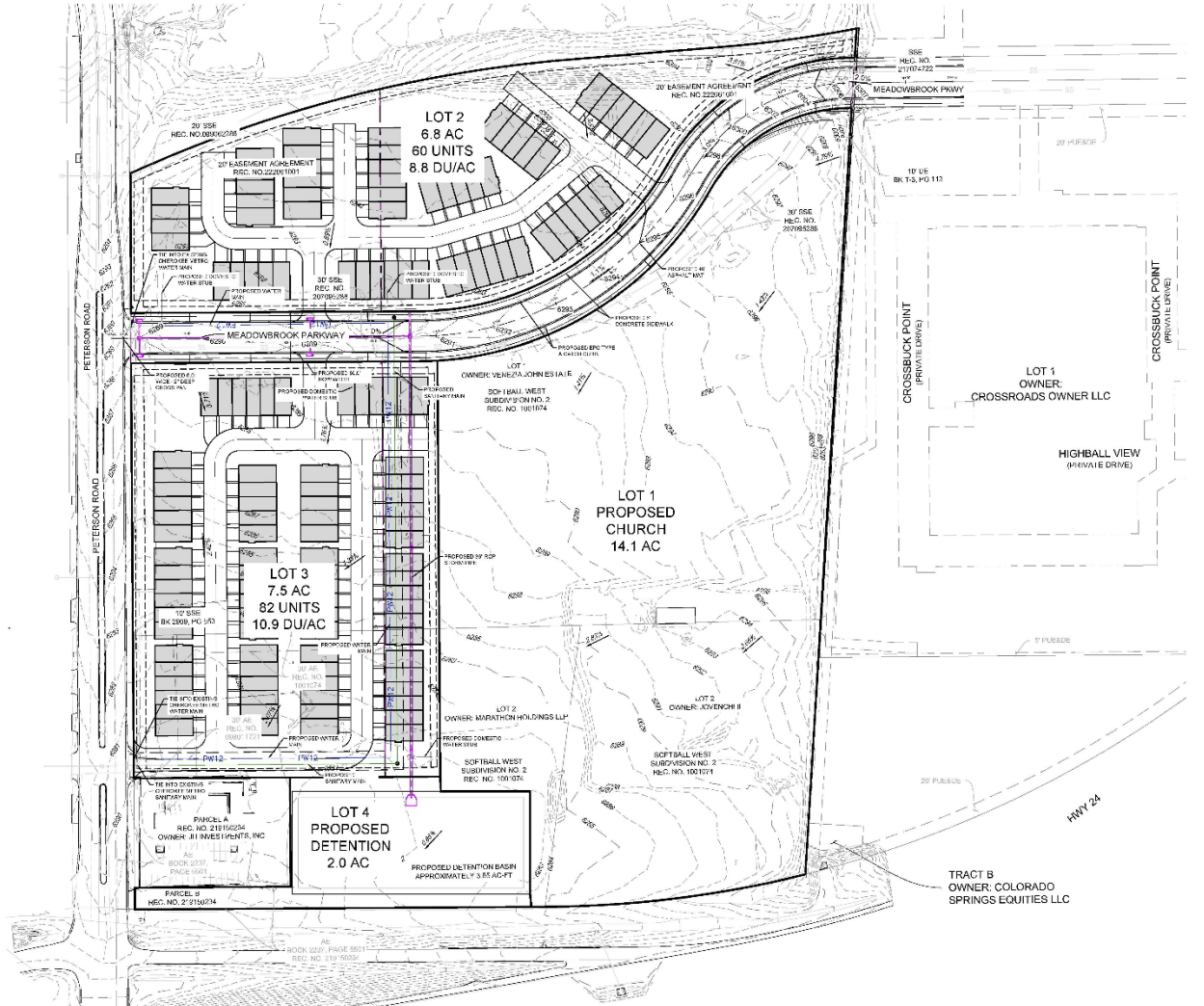
**Figure 1. Vicinity Map**



## Proposed Development

The Project will consist of a church site that will be approximately 4,000 sf and 142 single-family attached housing units. Figure 2 illustrates the Project site plan.

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



## Area Conditions

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

## Study Area Land Use

The Project will be constructed on vacant land and is bound on the west by Peterson Road, on the north by the East Fork of Sand Creek and on the south by Panamint Court.

## 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 a Minor Arterial in the 2040 El Paso County (EPC) Major Transportation Corridors Plan (MTCP). 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. 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.

**US-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. Each direction is separated by a median. This facility does not provide a sidewalk. The ADT threshold capacity for this road is equal to 48,000 vehicles. The posted speed limit is 55 mph on this roadway. The CDOT access category for this roadway is E-X.

**US-94/Meadowbrook Parkway** is a north-south road connecting Meadowbrook Parkway to Peterson Road. US-94 is classified as a principal arterial that provides two lanes in each direction. No sidewalk is provided along this road. The ADT threshold capacity for this road is 20,000 vehicles. The posted speed limit is 55 mph on this roadway for US-94 and 30 mph for Meadowbrook parkway. Meadowbrook Parkway is classified as a local street.

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 Road/Space Village Avenue
- US-24 EB Ramps /Space Village Road
- Meadowbrook Parkway/ US-24
- 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)

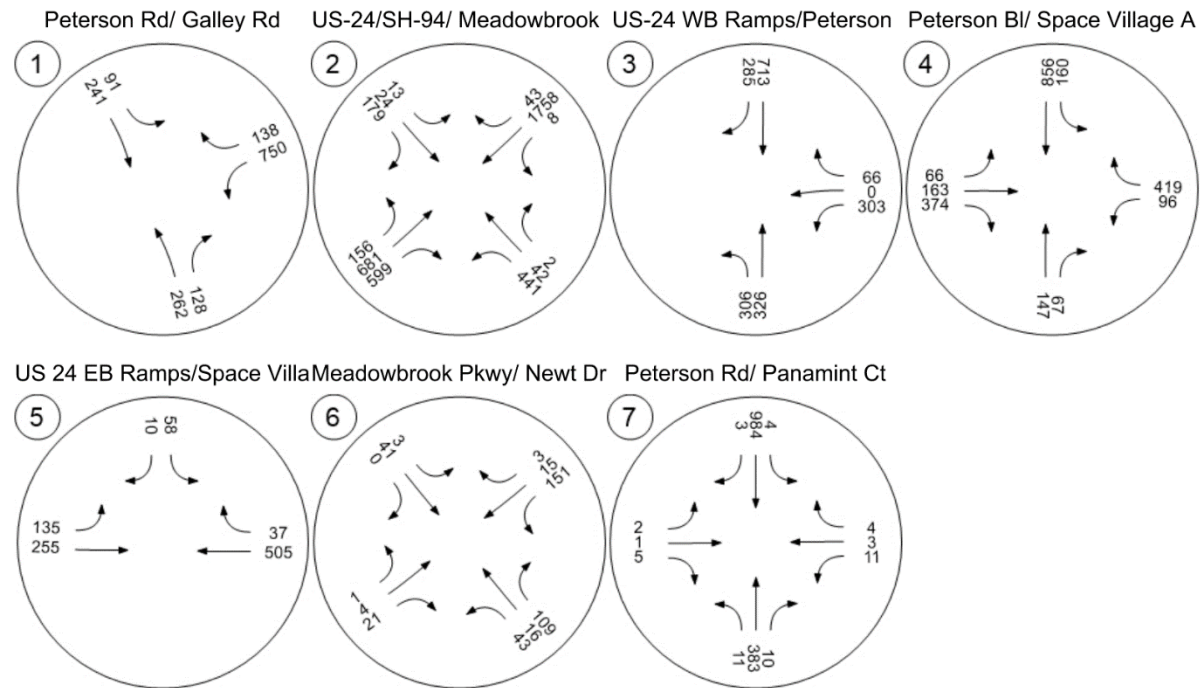
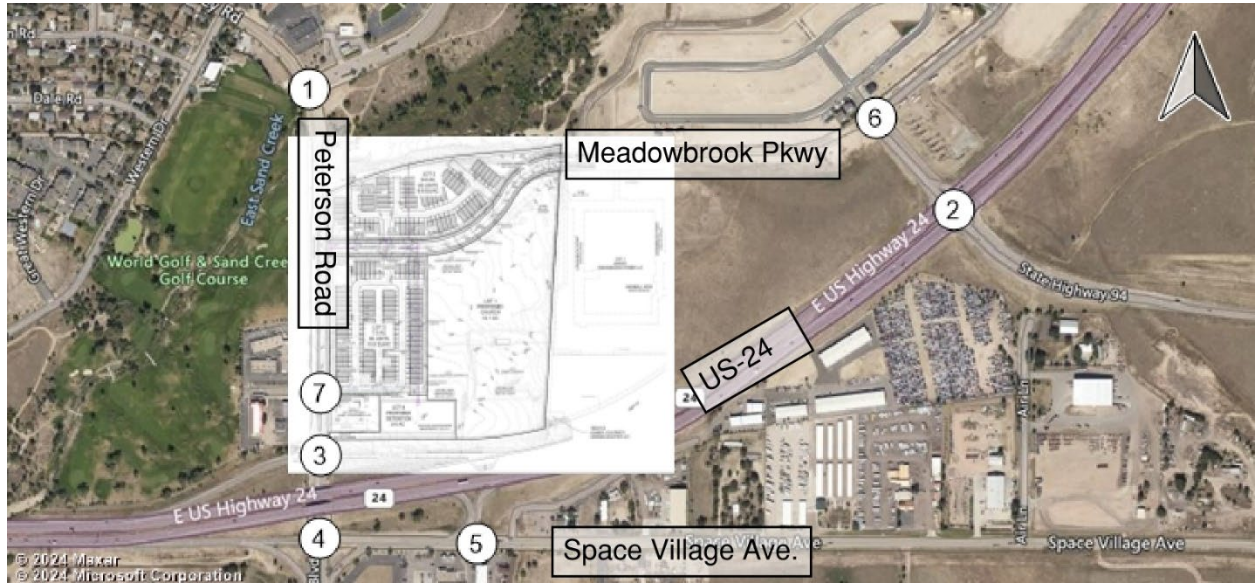


Figure 4. Existing Conditions Traffic Volumes (PM Peak Hour)

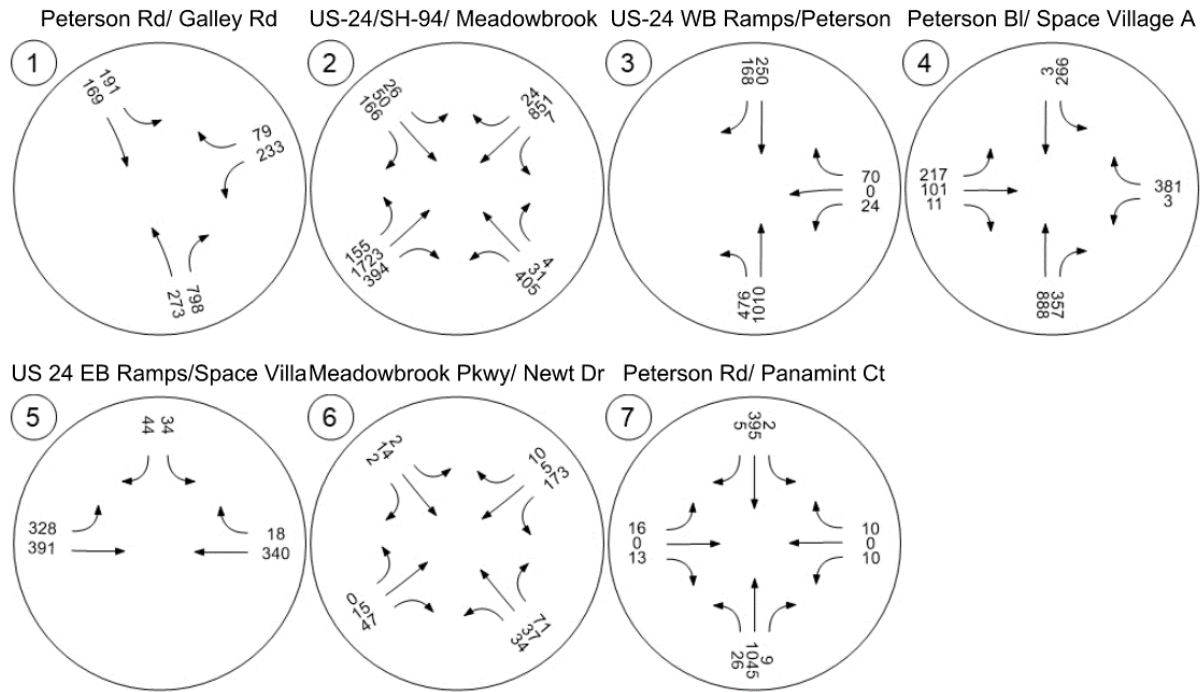
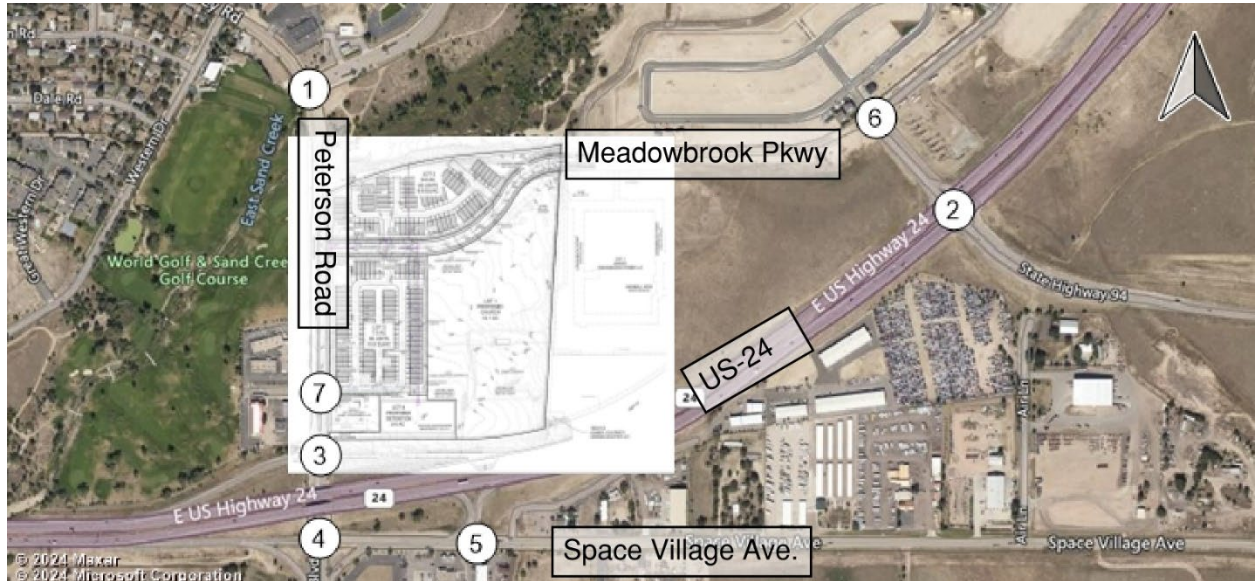
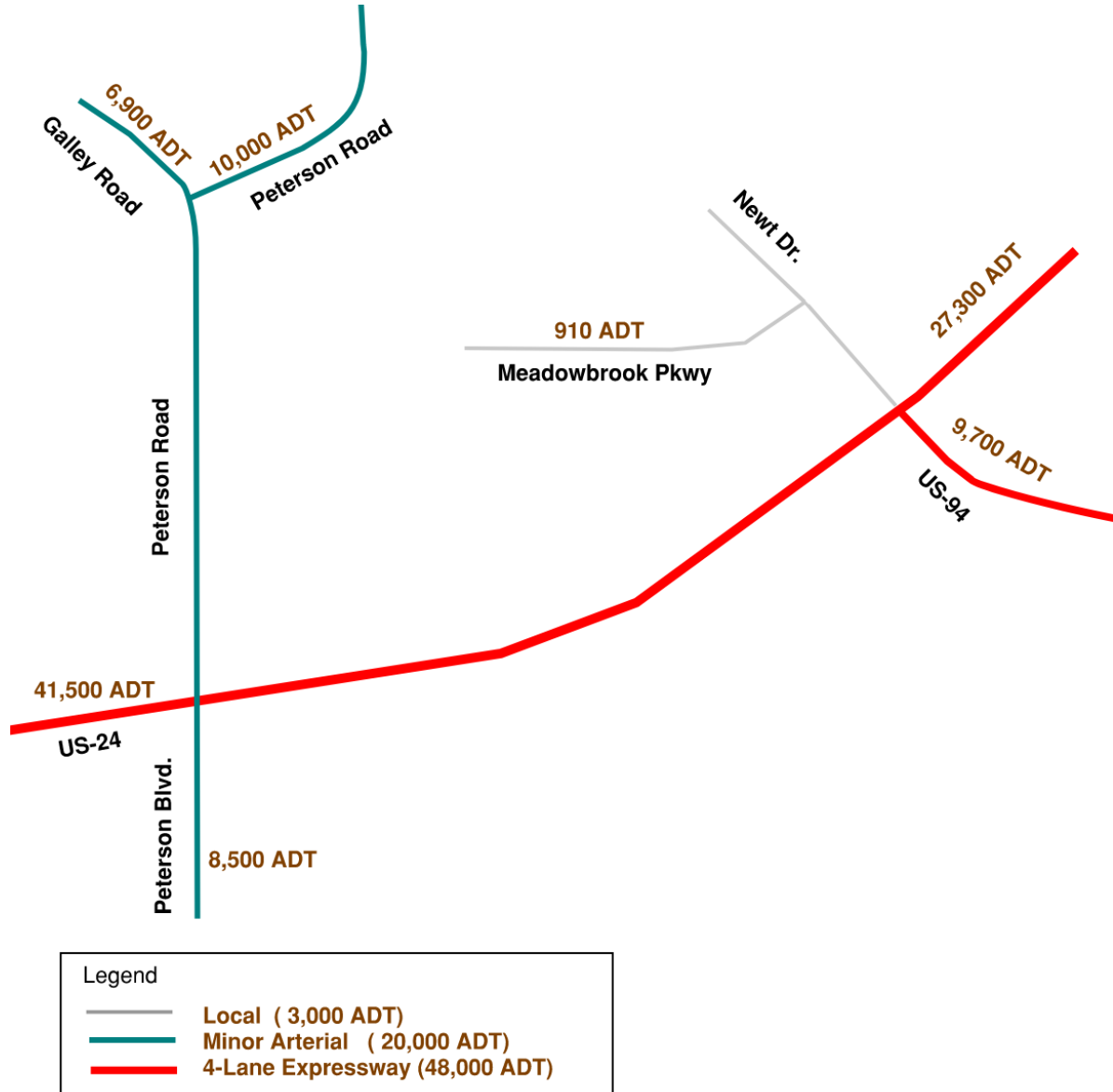
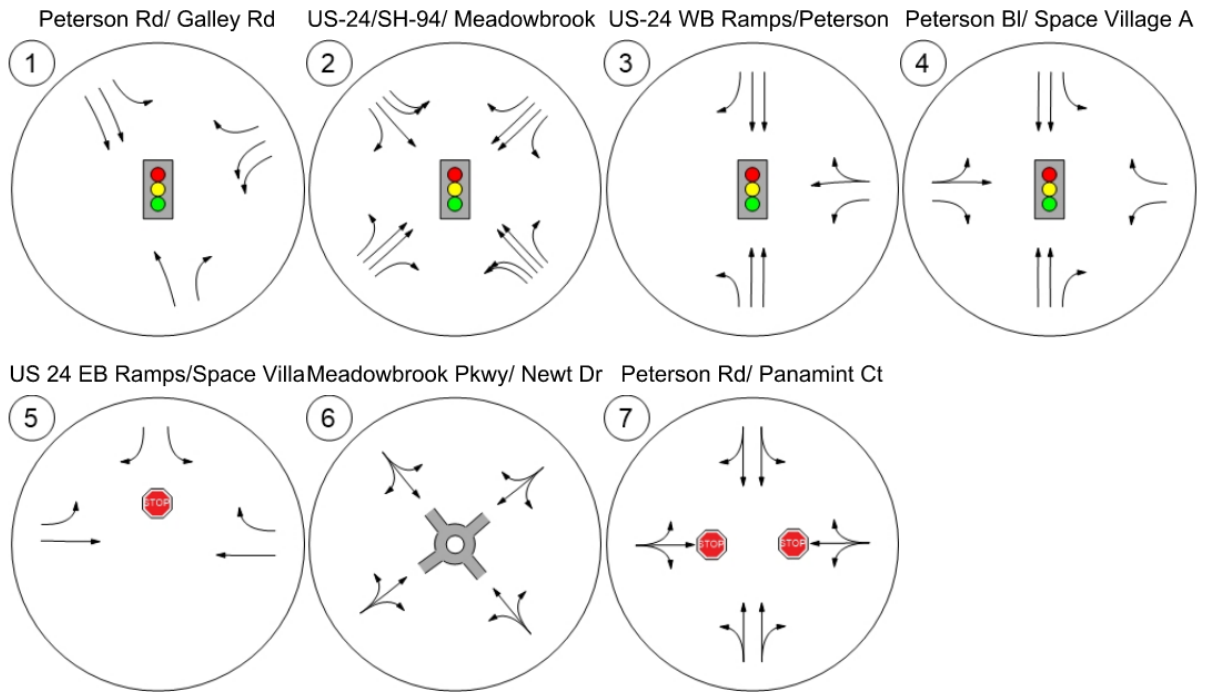


Figure 5. Existing Conditions Daily Traffic Volumes and Roadway Classification



**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/ Meadowbrook Pkwy	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/ Meadowbrook Pkwy	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.

Table 1 and Table 2 indicate study area intersections 1,2,3 and 6 operate at an acceptable level-of-service. While study area intersections 4, 5 and 7 operate below the acceptable LOS. Acceptable operations are defined as any intersection that operates at LOS D or better. Peterson Bl/Space Village Avenue (#4) resulted with a LOS of E with the westbound right turn being the worst movement. The city is planning on implementing a roundabout replacing the signal, so no mitigation was needed for the existing conditions. US-24 EB Ramps/Space Village Ave. (#5) resulted in a LOS F with the SB left turn being the worst movement. The queue analysis showed the 95-percentile queue is no more than 3 vehicles for the deficient movement. Therefore, no mitigation is required. As for Peterson Road/Panamint Court (#7), the

intersection does not meet signal warrants while the queue analysis shows less than 1 vehicle queuing for the westbound movements. Since the high delay is experienced by few vehicles and the queue is not more than a vehicle, the intersection is left unmitigated

Turn Lane evaluations for the existing conditions is summarized in Table 3, below.

**Table 3. Existing Conditions Turn Lane Evaluations**

ID	Intersection	Agency	Control Type	Movement	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	Minor Arterial	35	798	184	135	140	184	460	Continuos	-
				SBL	Minor Arterial	35	191	39	135	140	39	315	Median	-
				WBL	Minor Arterial	40	750	193	155	360	193	710	Continuos	-
				WBR	Minor Arterial	40	138	27	155	160	27	340	420	-
2	US-24/SH-94/Meadowbrook	CDOT	Signalized	NBL	E-X	60	441	453	600	444	221	1265	1000	265
				NBR	E-X	60	4	3	600	222	0	820	1000	-
				SBL	NR-C	35	26	26	0	96	25	120	420	-
				SBR	NR-C	35	179	0	0	96	0	95	300	-
				EBL	E-X	60	156	86	600	222	156	980	1150	-
				EBR	E-X	60	599	0	600	222	0	820	1125	-
				WBL	E-X	60	8	2	600	222	25	845	950	-
3	US-24 WB Ramps/Peterson Rd	CDOT	Signalized	NBL	NR-C	35	476	181	0	96	476	570	300	This intersection will be converted into a roundabout
				SBR	NR-C	35	285	100	0	96	285	380	230	
				WBR	F-R	35	70	62	0	96	70	165	930	
				WBL	F-R	35	303	390	0	96	303	400	930	
4	Peterson Bl/Space Village Av	CDOT	Signalized	NBR	NR-C	35	357	258	0	96	357	455	400	This intersection will be converted into a roundabout
				SBL	NR-C	35	266	316	0	96	266	360	85	
				EBL	F-R	35	217	525	0	96	217	315	900	
				EBR	F-R	35	374	238	0	96	374	470	1200	
				WBR	NR-C	35	419	419	0	96	419	515	500	
				WBL	NR-C	35	96	110	0	96	96	190	500	
5	US-24 EB Ramps/Space Village Av	CDOT	Stop-Controlled	SBL	F-R	35	58	56	0	96	50	145	Continuos	-
				SBR	F-R	35	44	7	0	96	45	140	290	-
				EBL	NR-C	40	328	39	0	120	328	450	350	-
				WBR	NR-C	40	37	0	Not Required					Continuos

Summary of turn lane improvements are as follows:

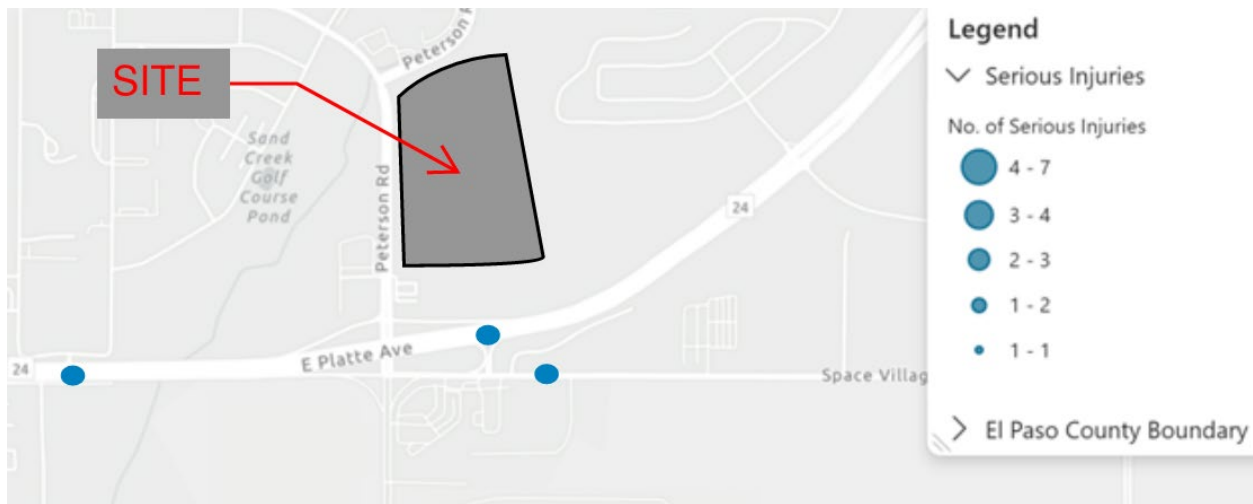
**US-24/SH-94/Meadowbrook Parkway (#2)**

- A 265-ft extension of northbound left-turn.

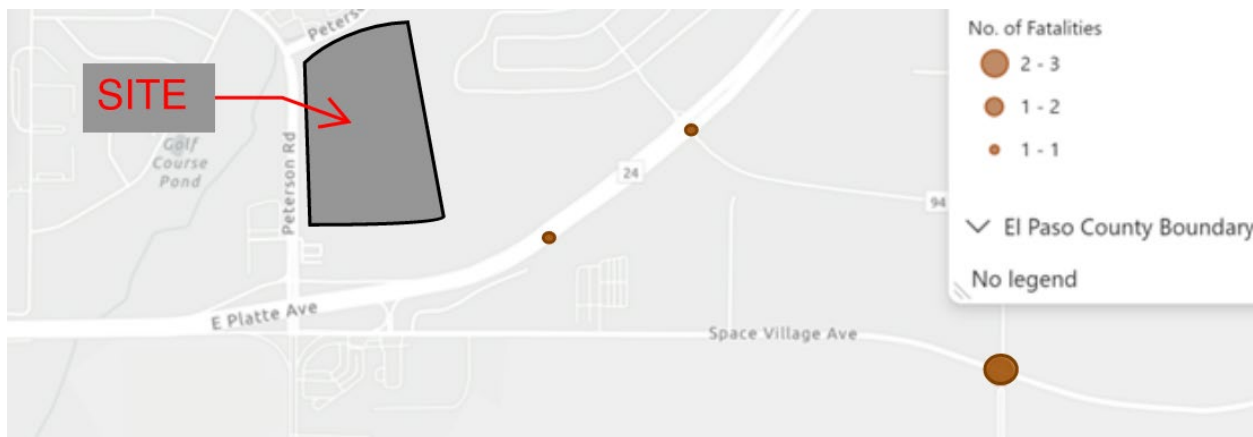
## Crash History

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 different 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, 11th Edition*. This methodology consists of choosing an independent variable for the land use for a particular time of day. The independent variable correlates to the variation in trip ends and is related to the land use. The value of the independent variable is either multiplied by a weighted average or used in a regression equation to calculate the trips generated by the land use. The *ITE Trip Generation Manual* provides guidance on when to use the weighted average versus the regression equation. 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. It was assumed that 100 percent of trips will be made by personal vehicles.

**Table 4. Cimarron Hills Southeast Mixed Use Filing No.1 Trip Generation**

Cimarron Hills Southeast Mixed Use Filing No.1											
ITE Land Use and Code	Size	Units	Weekday			AM Peak Hour			PM Peak Hour		
			Total	Entering	Exiting	Total	Entering	Exiting	Total	Entering	Exiting
215- Single-Family Attached Housing	142	DU	980	490	490	62	15	47	78	46	32
560- Church	4	GFA	30	15	15	1	1	0	2	1	1
<b>Total</b>			<b>1,010</b>	<b>505</b>	<b>505</b>	<b>63</b>	<b>16</b>	<b>47</b>	<b>80</b>	<b>47</b>	<b>33</b>

\*GFA is 1,000 square-feet.

### 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 horizon year provided by El Paso County.



Figure 9. Trip Distribution



The site trips for both the AM and PM peak hours are shown in Figure 10 and Figure 11, and daily site trips are shown in Figure 12.

**Figure 10. Cimarron Hills Southeast Mixed Use Filing No.1 Project Trips (AM Peak Hour)**

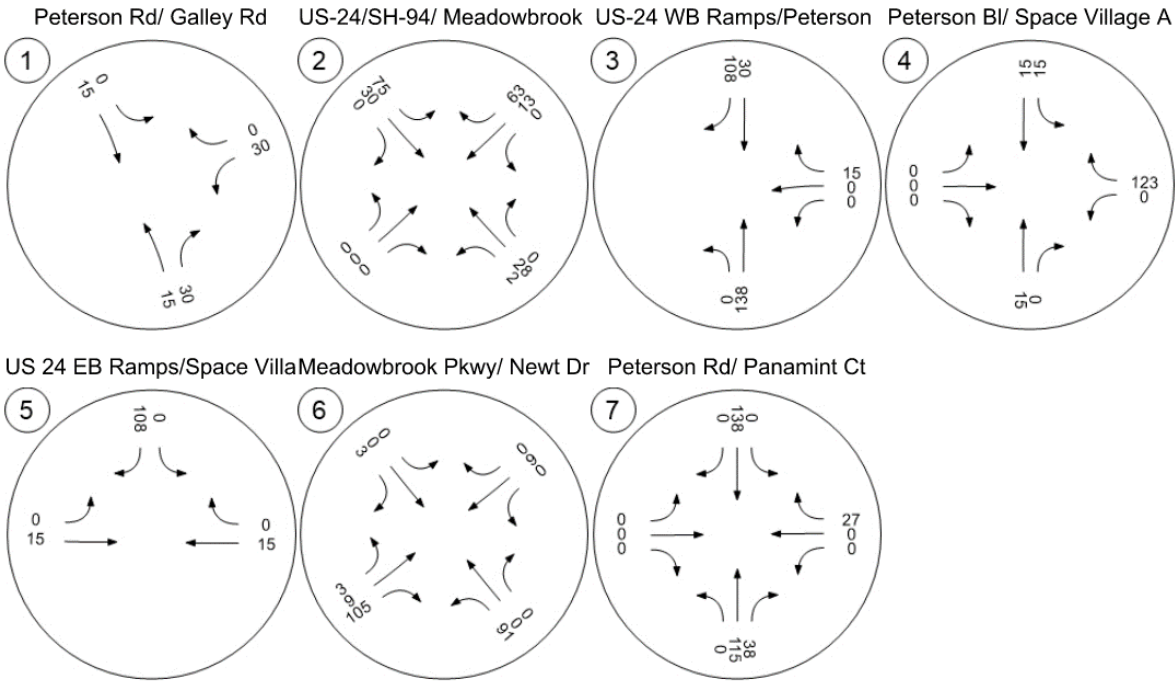
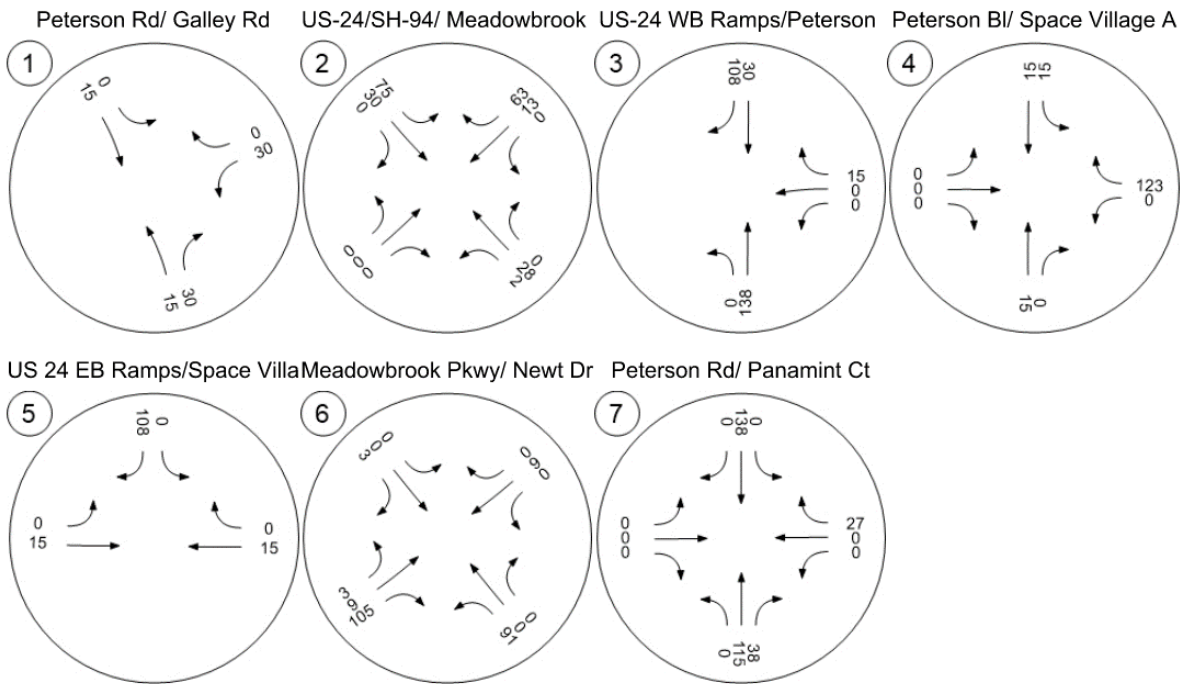
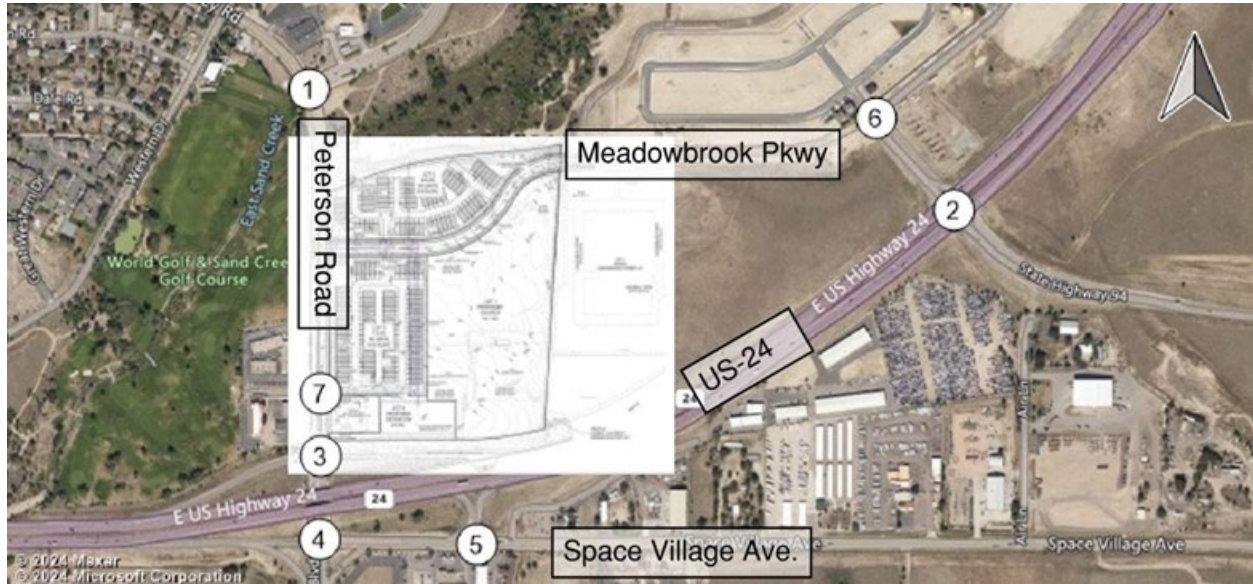


Figure 11. Cimarron Hills Southeast Mixed Use Filing No.1 Project Trips (PM Peak Hour)



**Figure 12. Cimarron Hills Southeast Mixed Use Filing No.1 Daily Trips**



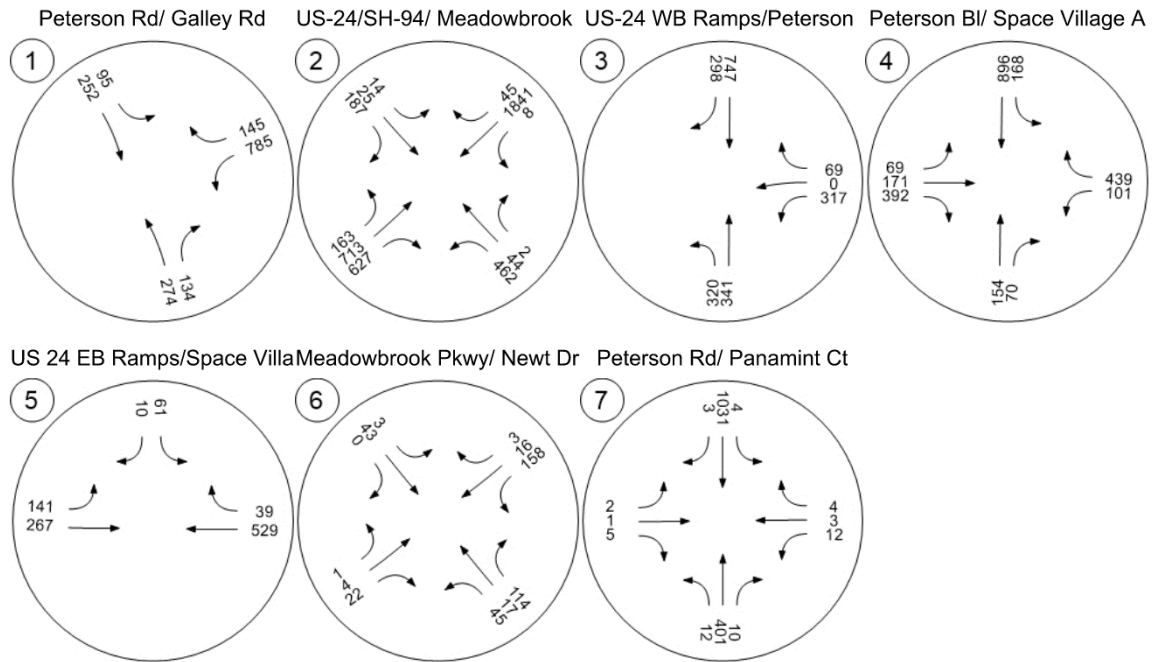
## Traffic Analysis

Traffic conditions both with and without the project were analyzed for buildout year (2030) and horizon year (2045) conditions.

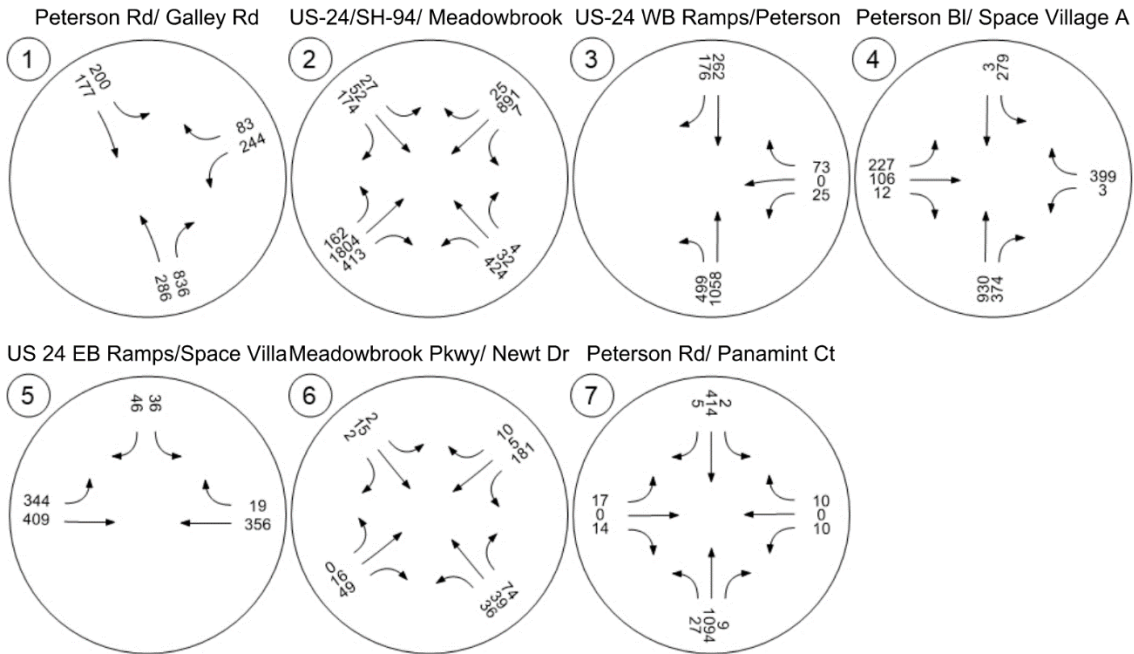
### Buildout (2030) No Project Conditions

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 SH 24 were used to obtain the growth rate. According to the TCDS, the traffic counts does not include the Covid Year of 2020. The growth factor for the buildout year (2030), and horizon year (2045) were calculated as 1.0473, and 1.1754, respectively.

Figure 13. Buildout (2030) No Project Traffic Volumes (AM Peak Hour)



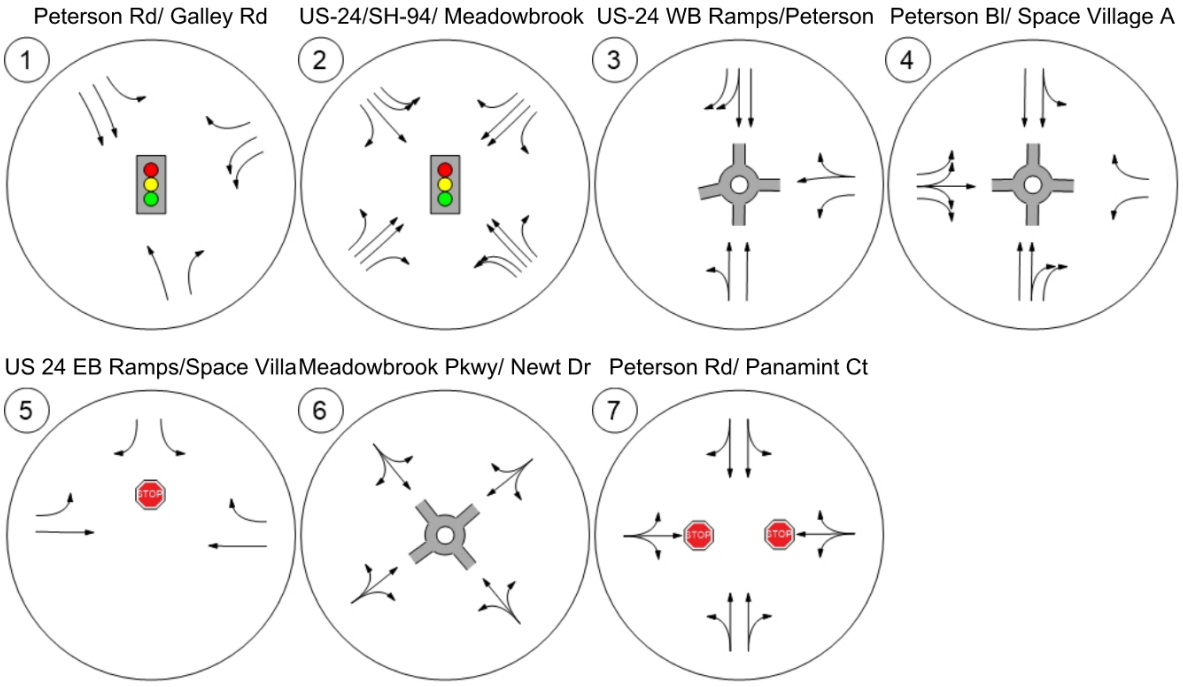
**Figure 14. Buildout (2030) No Project Traffic Volumes (PM Peak Hour)**



**Figure 15. Buildout (2030) No Project Daily Traffic**

The assumed intersection configurations are shown in Figure 16. The City is planning on changing the signalized intersections into roundabouts for intersections 3 and 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 scenario is shown in Table 5 and Table 6. The turn lane evaluations for the buildout no project is shown in Table 7.

**Figure 16. Buildout (2030) No Project Intersection Configurations**





**Table 5. Buildout (2030) 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	0.482	15.2	B
2	US-24/SH-94/ Meadowbrook Pkwy	Signalized	HCM 7th Edition	SB Thru	0.824	49.6	D
3	US-24 WB Ramps/Peterson Rd	Roundabout	HCM 7th Edition	SB Thru		7.5	A
4	Peterson Bl/ Space Village Av	Roundabout	HCM 7th Edition	EB Right		15.5	C
5	US 24 EB Ramps/Space Village Av	Two-way stop	HCM 7th Edition	SB Left	0.472	48.1	E
6	Meadowbrook Pkwy/ Newt Dr.	Roundabout	HCM 7th Edition	WB Left		4.1	A
7	Peterson Rd/ Panamint Ct	Two-way stop	HCM 7th Edition	EB Left	0.026	52.1	F

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

**Table 6. Buildout (2030) 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	0.470	12.7	B
2	US-24/SH-94/ Meadowbrook Pkwy	Signalized	HCM 7th Edition	SB Thru	0.775	36.8	D
3	US-24 WB Ramps/Peterson Rd	Roundabout	HCM 7th Edition	WB Right		6.7	A
4	Peterson Bl/ Space Village Av	Roundabout	HCM 7th Edition	WB Right		30.0	D
5	US 24 EB Ramps/Space Village Av	Two-way stop	HCM 7th Edition	SB Left	0.660	135.4	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 Left	0.184	68.5	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 5 and Table 6 indicate most study area intersections operate at an acceptable level-of-service at buildout without the project traffic. US 24 EB Ramp/Space Village Avenue (#5) operates at LOS F during both AM and PM peak hours. Queue analysis showed the 95-percentile queue is less than 2.84 vehicles in the PM peak, and less than 2.2 vehicles in the AM peak. Since the queue is no more than 3 vehicles in both AM and PM peak for the deficient movement (southbound left-turn), Matrix does not recommend any mitigation at this intersection. Moreover, Peterson Road/Panamint Court (#7) will be converted into a

RIRO intersection with construction of the project. Therefore, no mitigation is recommended in the background conditions.

**Table 7. Buildout (2030) Background Turn Lane Evaluations**

ID	Intersection	Agency	Control Type	Movement	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	Minor Arterial	35	836	194	135	140	194	470	Continuous	-
				SBL	Minor Arterial	35	200	36	135	140	36	310	Median	-
				WBL	Minor Arterial	40	785	199	155	360	199	715	Continuous	-
				WBR	Minor Arterial	40	145	28	155	160	28	345	420	-
2	US-24/SH-94/Meadowbrook	CDOT	Signalized	NBL	E-X	60	462	506	600	444	231	1275	1000	10
				NBR	E-X	60	4	3	600	222	0	820	1000	-
				SBL	NR-C	35	27	30	0	96	25	120	420	-
				SBR	NR-C	35	187	0	0	96	0	95	300	-
				EBL	E-X	60	163	225	600	222	163	985	1150	-
				EBR	E-X	60	627	0	600	222	0	820	1125	-
				WBL	E-X	60	8	4	600	222	25	845	950	-
				WBR	E-X	60	45	0	600	222	0	820	950	-
5	US-24 EB Ramps/Space Village Av	CDOT	Stop-Controlled	SBL	F-R	35	61	71	0	96	100	195	Continuous	-
				SBR	F-R	35	46	7	0	96	45	140	290	-
				EBL	NR-C	40	344	42	0	120	344	465	350	-
				WBR	NR-C	40	39	0	Not Required			Continuous	-	

Design speed is based on the EPC ECM criteria.

Summary of recommended turn lane improvements are as follows:

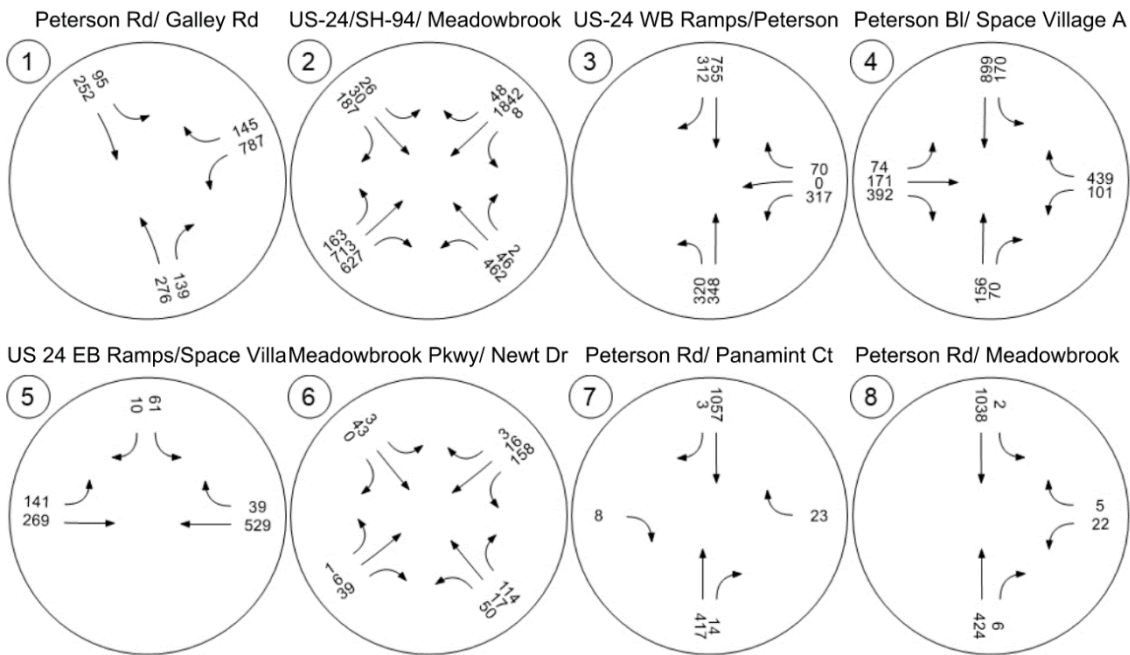
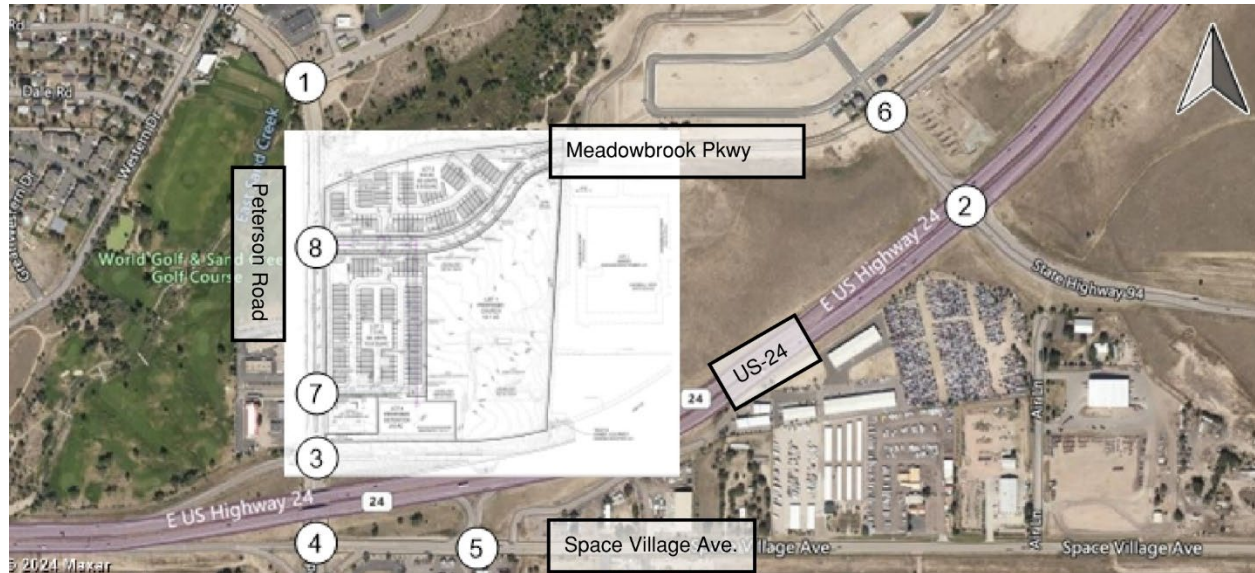
**US-24/SH-94/Meadowbrook Parkway (#2)**

- A 10-ft extension of northbound left-turn.

## Buildout (2030) With Project Conditions

Buildout traffic volumes with the project traffic added are shown in Figure 17 and Figure 18 for AM peak hour and PM peak hour. The daily traffic volumes are shown in Figure 19. The intersection configurations are shown in Figure 20.

**Figure 17. Buildout (2030) With Project Traffic Volumes (AM Peak Hour)**



**Figure 18. Buildout (2030) With Project Traffic Volumes (PM Peak Hour)**

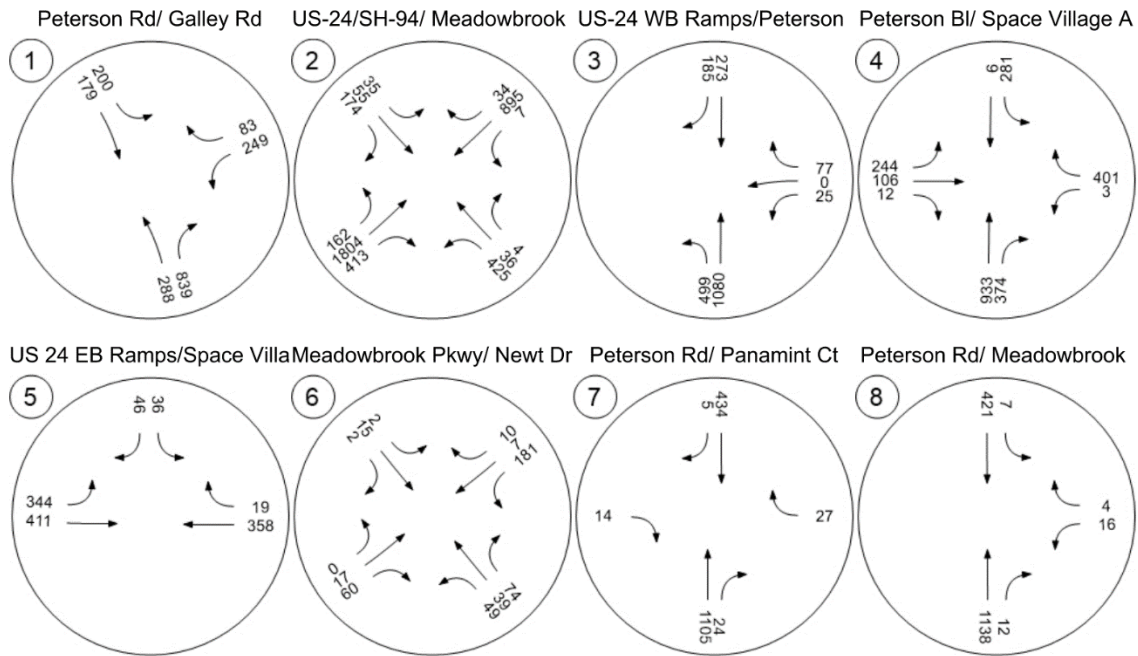
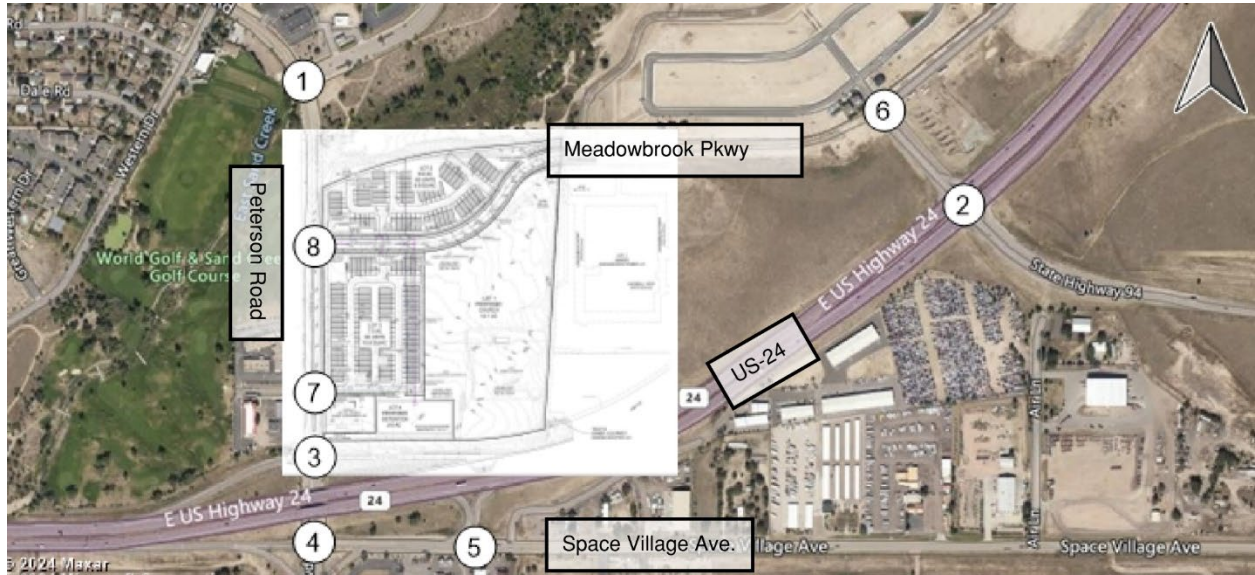
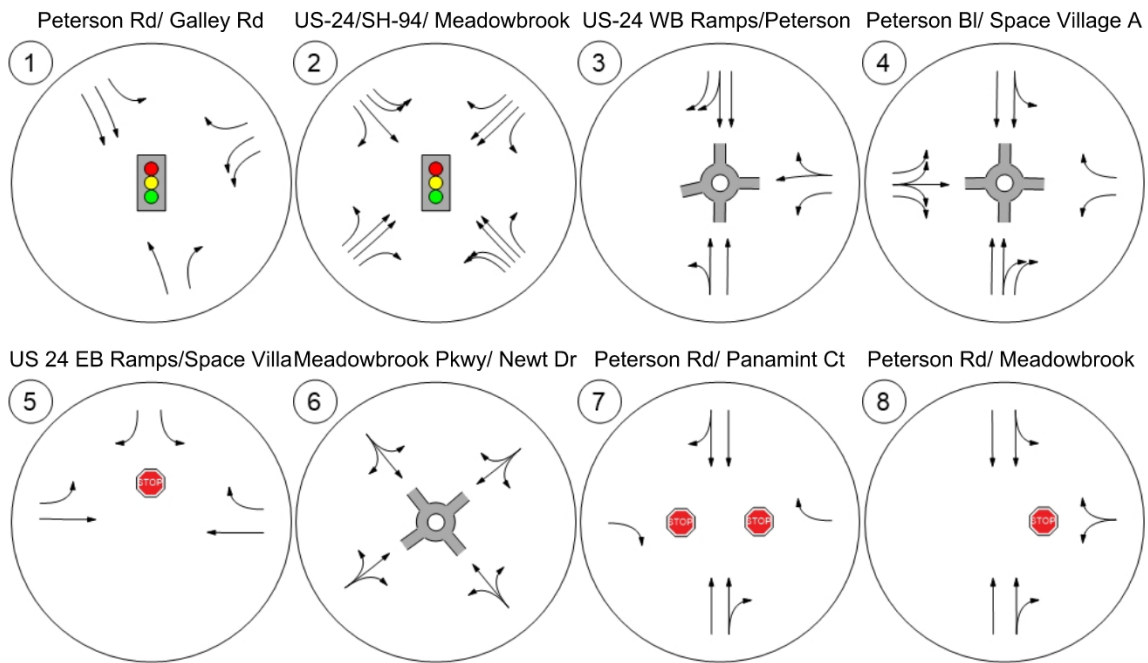
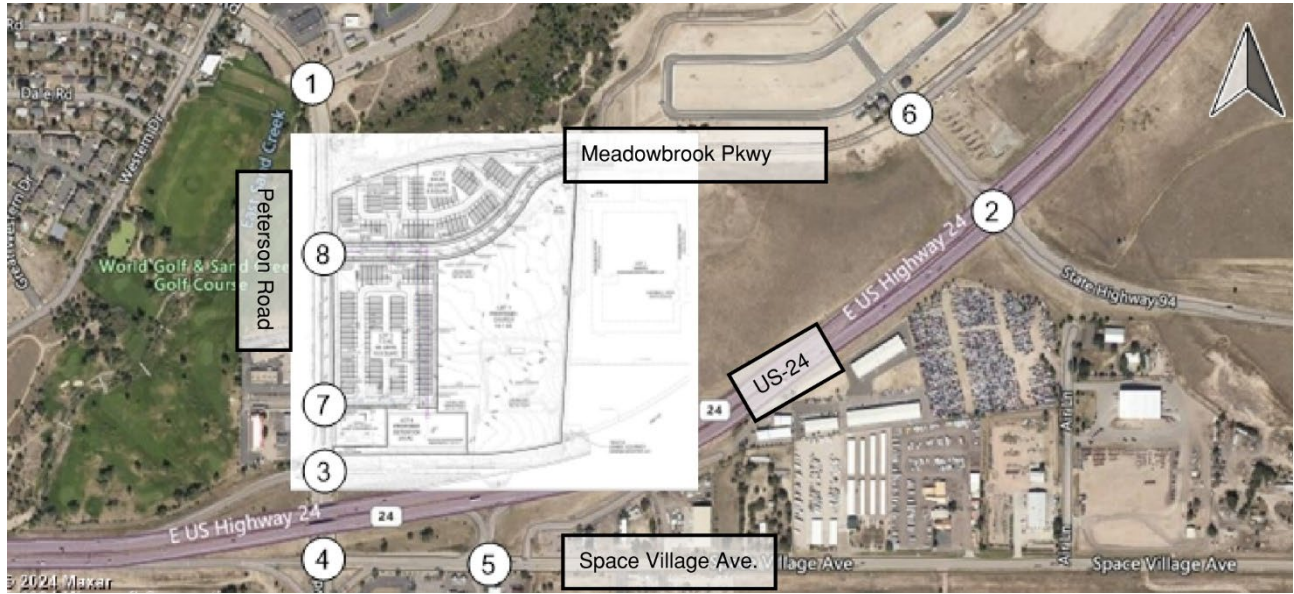


Figure 19. Buildout (2030) With Project Daily Traffic Volumes



**Figure 20. Buildout (2030) 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 (2030) 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	0.484	15.2	B
2	US-24/SH-94/ Meadowbrook Pkwy	Signalized	HCM 7th Edition	SB Thru	0.822	48.1	D
3	US-24 WB Ramps/Peterson Rd	Roundabout	HCM 7th Edition	SB Thru		11.5	B
4	Peterson Bl/ Space Village Av	Roundabout	HCM 7th Edition	EB Right		15.6	C
5	US 24 EB Ramps/Space Village Av	Two-way stop	HCM 7th Edition	SB Left	0.473	48.3	E
6	Meadowbrook Pkwy/ Newt Dr.	Roundabout	HCM 7th Edition	WB Left		4.1	A
7	Peterson Rd/ Panamint Ct	Two-way stop	HCM 7th Edition	EB Right	0.021	13.6	B
8	Peterson Rd/ Meadowbrook Pk	Two-way stop	HCM 7th Edition	WB Left	0.130	25.4	D

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

**Table 9. Buildout (2030) 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	0.472	12.8	B
2	US-24/SH-94/ Meadowbrook Pkwy	Signalized	HCM 7th Edition	SB Thru	0.777	34.8	C
3	US-24 WB Ramps/Peterson Rd	Roundabout	HCM 7th Edition	WB Right		11.0	B
4	Peterson Bl/ Space Village Av	Roundabout	HCM 7th Edition	WB Right		32.5	D
5	US 24 EB Ramps/Space Village Av	Two-way stop	HCM 7th Edition	SB Left	0.665	137.4	F
6	Meadowbrook Pkwy/ Newt Dr.	Roundabout	HCM 7th Edition	WB Left		4.3	A
7	Peterson Rd/ Panamint Ct	Two-way stop	HCM 7th Edition	WB Right	0.079	14.7	B
8	Peterson Rd/ Meadowbrook Pk	Two-way stop	HCM 7th Edition	WB Left	0.203	52.1	F

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

Table 8 and Table 9 indicate that 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). The queue for the worst movement at intersection (#5) is less than 3 vehicles and for the worst movement at intersection (#8) is less than one vehicle. Therefore, Matrix does not recommend any mitigation. Additionally, the peak hour southbound left-turn volume at intersection (#8) is 7 vehicles which is below the threshold that

requires a separate left-turn deceleration lane per the El Paso County Engineering Criteria Manual (EPECM).

The turn lane evaluations are summarized in Table 10.

**Table 10. Buildout (2030) With Project Turn Lane Evaluations**

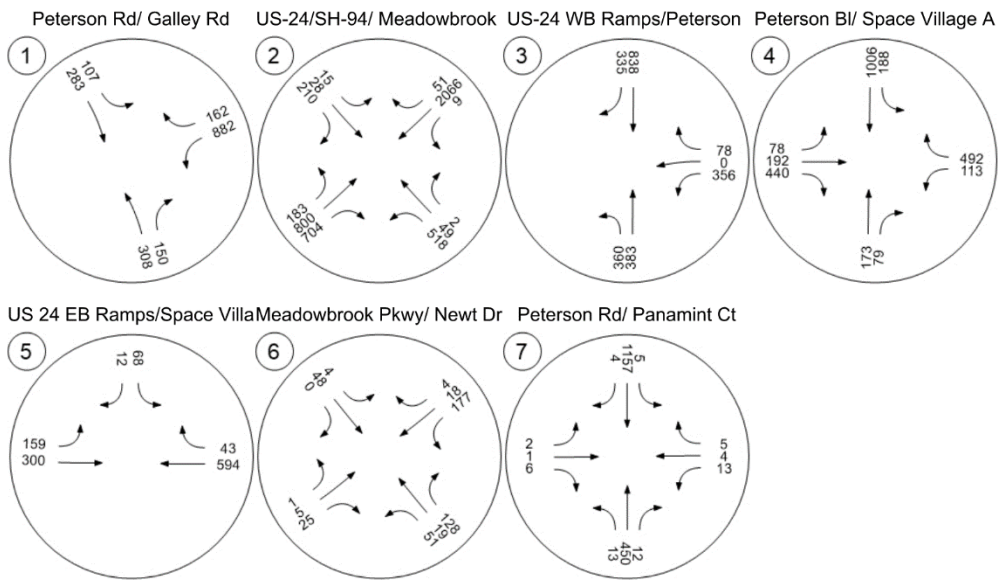
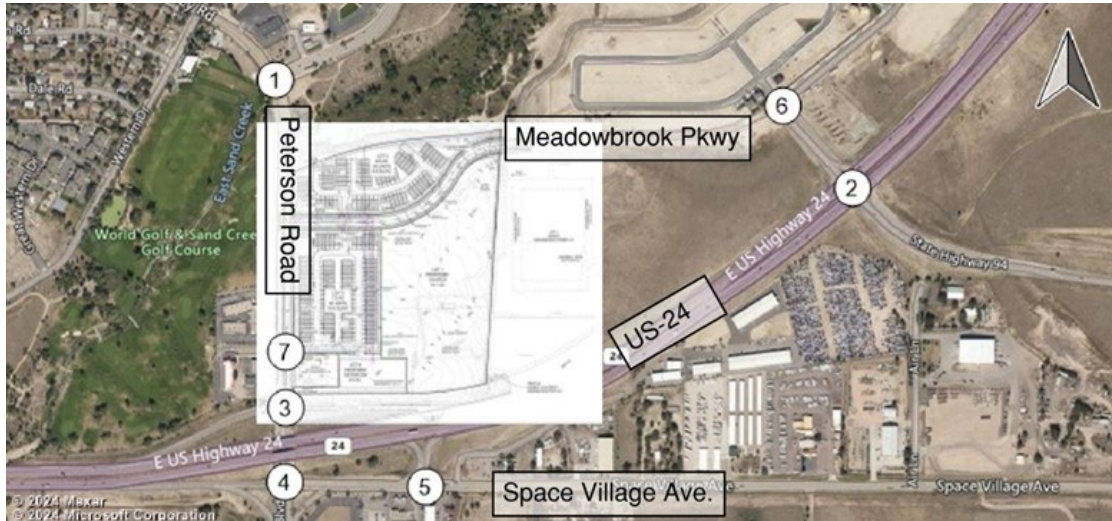
ID	Intersection	Agency	Control Type	Movement	No. of Lanes	Roadway Classification	Design Speed (mph)	Turning Volume (vph)	Queue (ft)	Deceleration (ft)	Taper (ft)	Storage (ft)	Total (ft)	Provided (ft)	Improvement (ft)
1	Galley Rd/Peterson Rd	EPC	Signalized	NBR	1	Minor Arterial	35	839	194	135	140	194	470	Continuous	-
				SBL	1	Minor Arterial	35	200	36	135	140	36	310	Meldan	-
				WBL	2	Minor Arterial	40	787	200	155	320	200	675	Continuous	-
				WBR	1	Minor Arterial	40	145	28	155	160	28	345	420	-
2	US-24/SH-94/Meadowbrook	CDOT	Signalized	NBL	2	E-X	60	462	539	600	444	231	1275	1000	-
				NBR	1	E-X	60	4	2	600	222	0	820	1000	-
				SBL	2	NR-C	35	35	25	0	96	25	120	420	-
				SBR	1	NR-C	35	187	0	0	96	0	95	300	-
				EBL	1	E-X	60	163	42	600	222	163	985	1150	-
				EBR	1	E-X	60	627	0	600	222	0	820	1125	-
				WBL	1	E-X	60	8	5	600	222	25	845	950	-
				WBR	1	E-X	60	48	21	600	222	0	820	950	-
5	US-24 EB Ramps/ Space Village Av	CDOT	Stop-Controlled	SBL	1	F-R	35	61	72	0	96	51	145	Continuous	-
				SBR	1	F-R	35	46	7	0	96	0	95	290	-
				EBL	1	NR-C	40	344	42	0	120	344	465	350	-
				WBR	1	NR-C	40	39	0	Not Required			Continuous	-	
7	Peterson Rd/ Panamint Ct	EPC	Stop-Controlled	NBR	1	Minor Arterial	35	24	0	Not Required			Continuous	-	
				SBR	1	Minor Arterial	35	5	0	Not Required			0	-	

## Horizon (2045) No Project Conditions

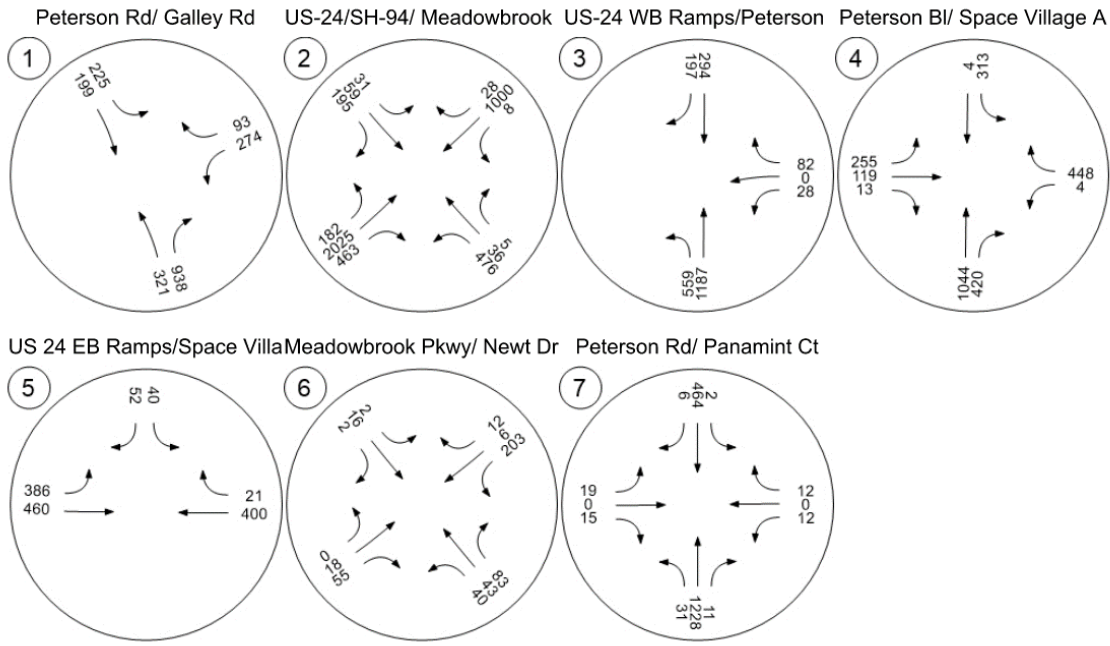
The horizon year traffic volumes without the project are shown in Figure 21 and Figure 22, and daily traffic volumes are shown in Figure 23. To calculate the background volumes, an annual growth rate of 0.7% was applied to the collected counts from 2009-2023 at Peterson Road N/O SH 24. The collected counts did not account for 2020 (Covid Year), 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 percent 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. 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 Road/Space Village Avenue (#4) were adjusted to reflect this improvement. An excerpt of this design can be found in Appendix F – Supporting Documents.



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



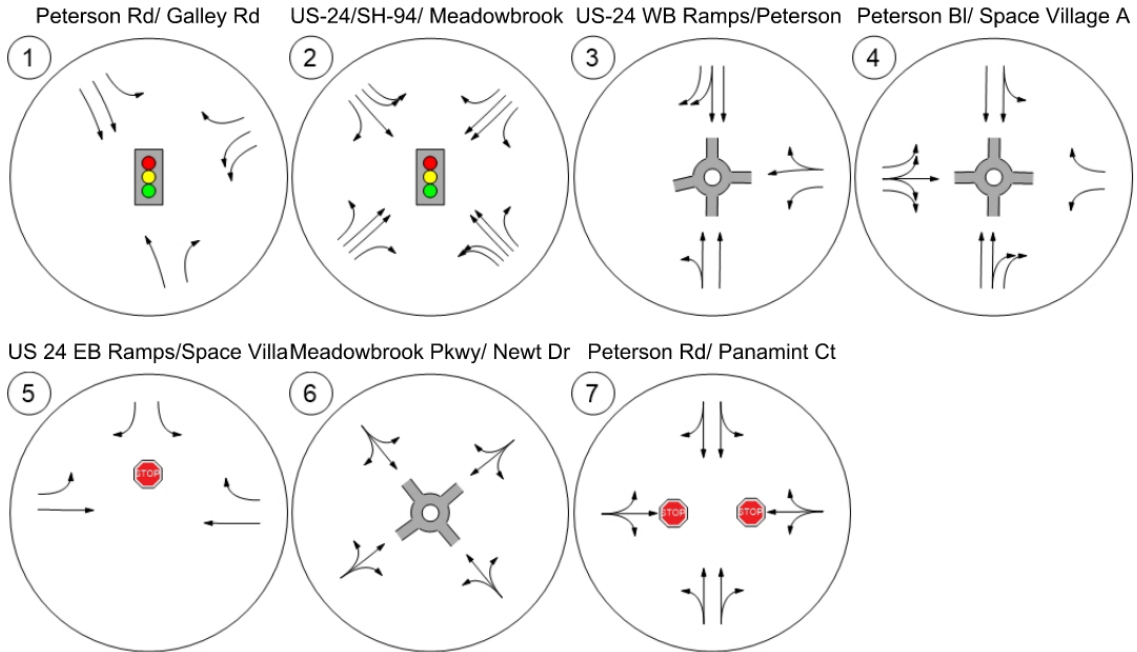
**Figure 22. Horizon (2045) No Project Traffic Volumes (PM Peak Hour)**



**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	WB Left	0.484	15.2	B
2	US-24/SH-94/ Meadowbrook Pkwy	Signalized	HCM 7th Edition	SB Thru	0.827	50.3	D
3	US-24 WB Ramps/Peterson Rd	Roundabout	HCM 7th Edition	SB Thru		7.6	A
4	Peterson Bl/ Space Village Av	Roundabout	HCM 7th Edition	EB Right		15.8	C
5	US 24 EB Ramps/Space Village Av	Two-way stop	HCM 7th Edition	SB Left	0.477	49.0	E
6	Meadowbrook Pkwy/ Newt Dr.	Roundabout	HCM 7th Edition	WB Left		4.1	A
7	Peterson Rd/ Panamint Ct	Two-way stop	HCM 7th Edition	EB Left	0.026	52.7	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 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	0.472	12.8	B
2	US-24/SH-94/ Meadowbrook Pkwy	Signalized	HCM 7th Edition	SB Thru	0.779	37.5	D
3	US-24 WB Ramps/Peterson Rd	Roundabout	HCM 7th Edition	WB Right		6.7	A
4	Peterson Bl/ Space Village Av	Roundabout	HCM 7th Edition	WB Right		31.0	D
5	US 24 EB Ramps/Space Village Av	Two-way stop	HCM 7th Edition	SB Left	0.668	138.5	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 Left	0.202	70.7	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.

As shown in Table 11 and Table 12, all intersections operate at acceptable LOS, except for the intersection of US-24 EB Ramps and Space Village Avenue (#5) that operates at LOS F during the AM and PM peak hour, as well as intersection of Peterson Road and Panamint Court (#7) that operates at LOS F. The queue is minimal at intersection #5 therefore no mitigation is necessary. The intersection of Peterson Road and Panamint Court (#7) does not meet warrants for the installation of a traffic signal and

the queue analysis resulted with a queue of less than 1 vehicle for both westbound left and right turn. Therefore, no mitigation is required at this intersection.

Turn lane evaluations are summarized in Table 13.

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

ID	Intersection	Agency	Control Type	Movement	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	Minor Arterial	35	938	195	135	140	195	470	Continuous	-
				SBL	Minor Arterial	35	225	37	135	140	37	310	Median	-
				WBL	Minor Arterial	40	882	200	155	360	200	715	Continuous	-
				WBR	Minor Arterial	40	162	28	155	160	28	345	420	-
2	US-24/SH-94/Meadowbrook	CDOT	Signalized	NBL	E-X	60	518	397	600	444	259	1305	1000	30
				NBR	E-X	60	5	3	600	222	0	820	1000	-
				SBL	NR-C	35	31	32	0	96	25	120	420	-
				SBR	NR-C	35	210	0	0	96	0	95	300	-
				EBL	E-X	60	183	190	600	222	183	1005	1150	-
				EBR	E-X	60	704	0	600	222	0	820	1125	-
				WBL	E-X	60	9	4	600	222	25	845	950	-
WBR	E-X	60	51	14	600	222	0	820	950	-				
5	US-24 EB Ramps/Space Village Av	CDOT	Stop-Controlled	SBL	F-R	35	68	72	0	96	55	150	Continuous	-
				SBR	F-R	35	52	7	0	96	45	140	290	-
				EBL	NR-C	40	386	42	0	120	386	505	350	-
				WBR	NR-C	40	43	0	Not Required			Continuous	-	

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

Summary of recommended turn lane improvements are as follows:

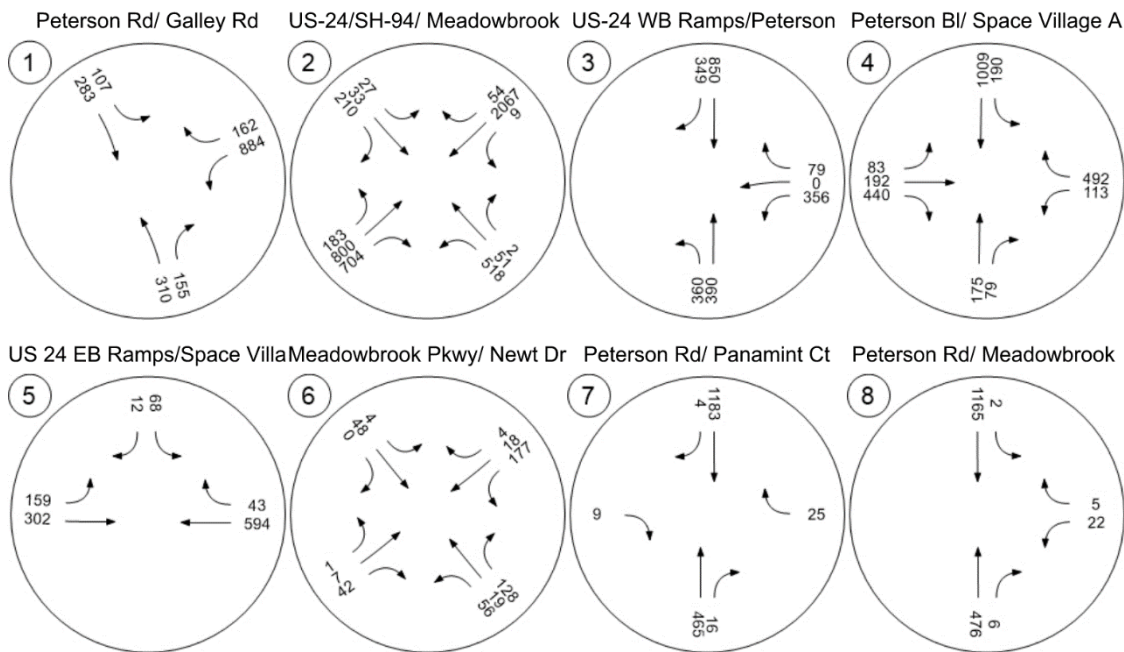
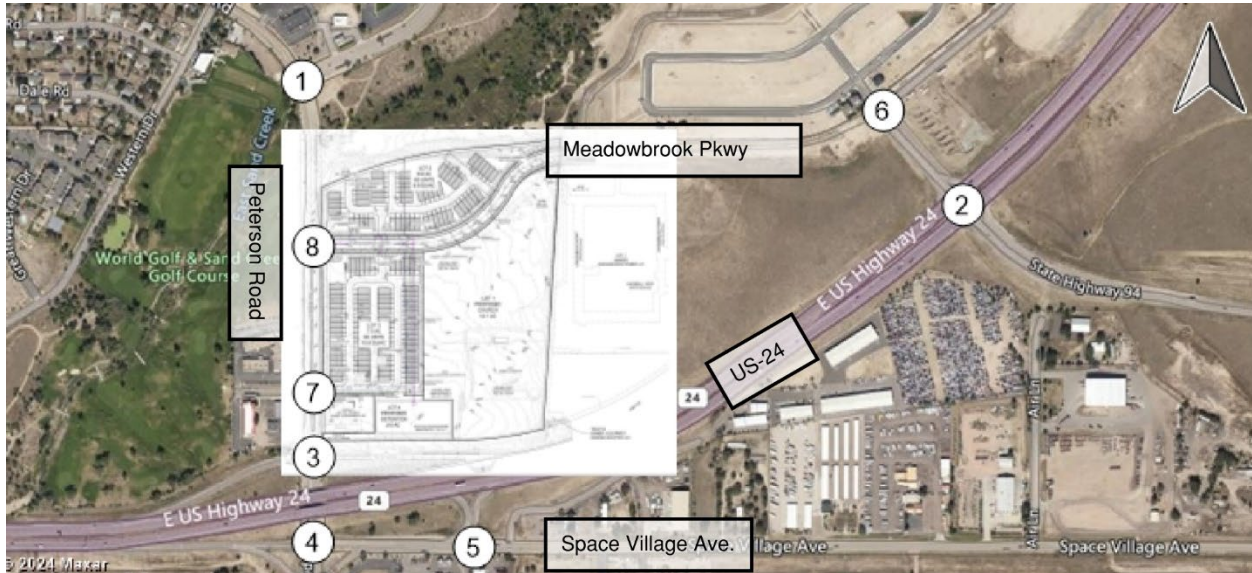
**US-24/SH-94/Meadowbrook Parkway (#2)**

- A 30-ft extension of northbound left-turn.

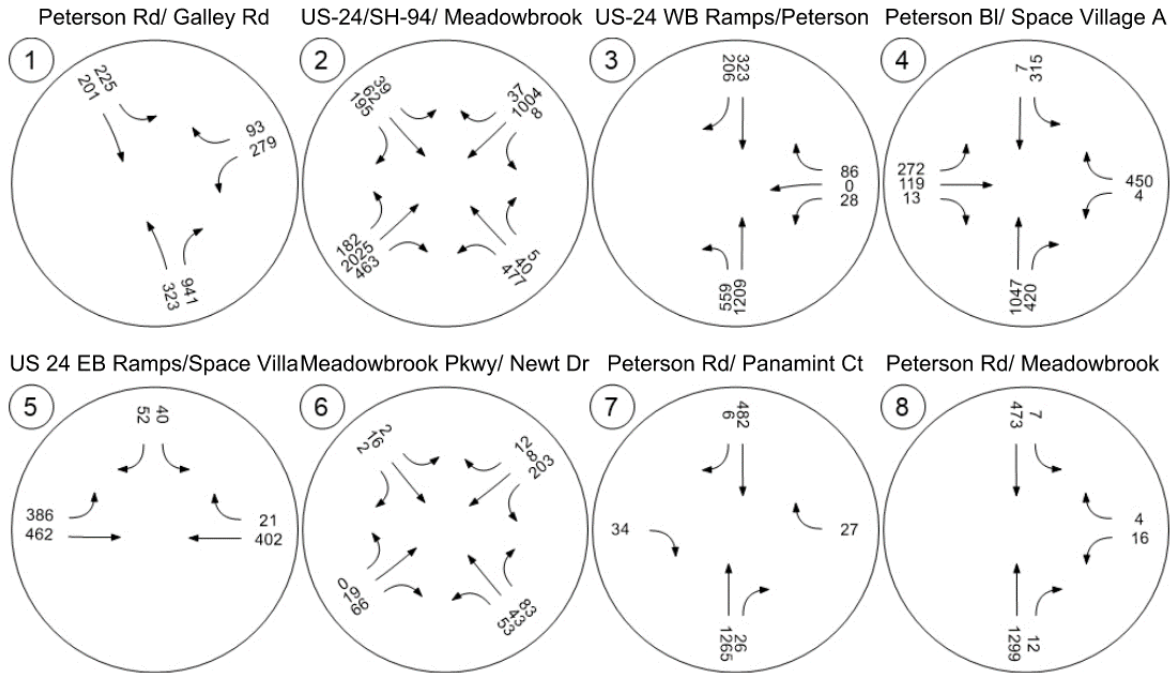
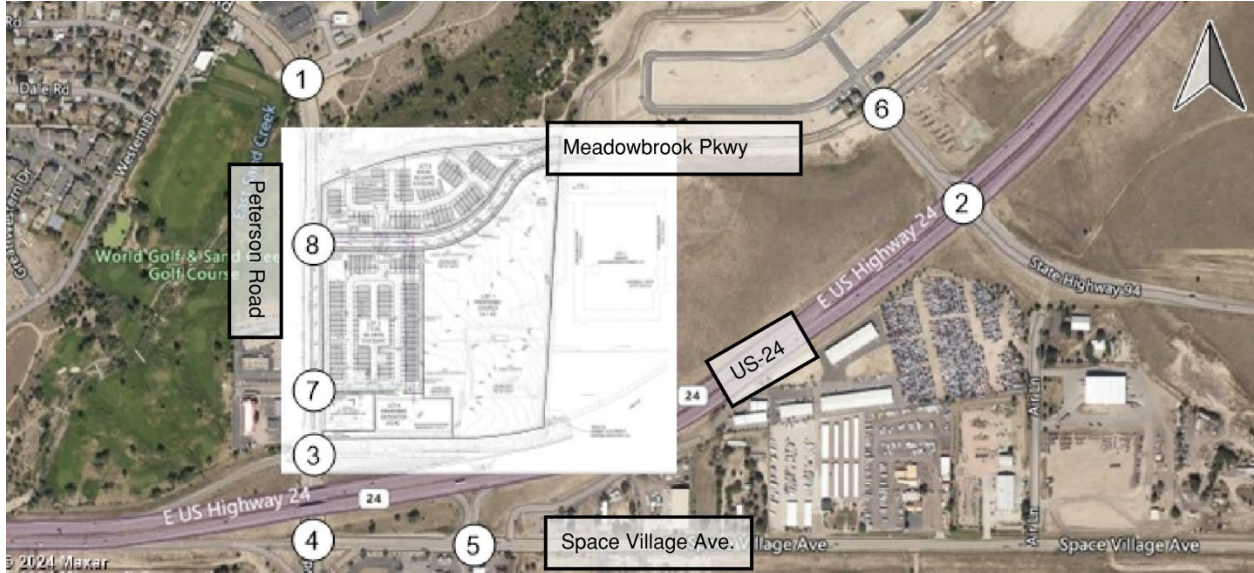
## Horizon (2045) With Project Conditions

When the project traffic is added to the 2045 traffic, the resulting AM, PM and daily traffic volumes are as shown in Figure 25, Figure 26, and Figure 27. The site traffic was re-assigned to account for the restrictions on Meadowbrook Parkway and Panamint Court in the horizon year. The new site traffic assignments can be found in Appendix F – Supporting Documents.

**Figure 25. Horizon (2045) With Project Traffic Volumes (AM Peak Hour)**



**Figure 26. Horizon (2045) With Project Traffic Volumes (PM Peak Hour)**





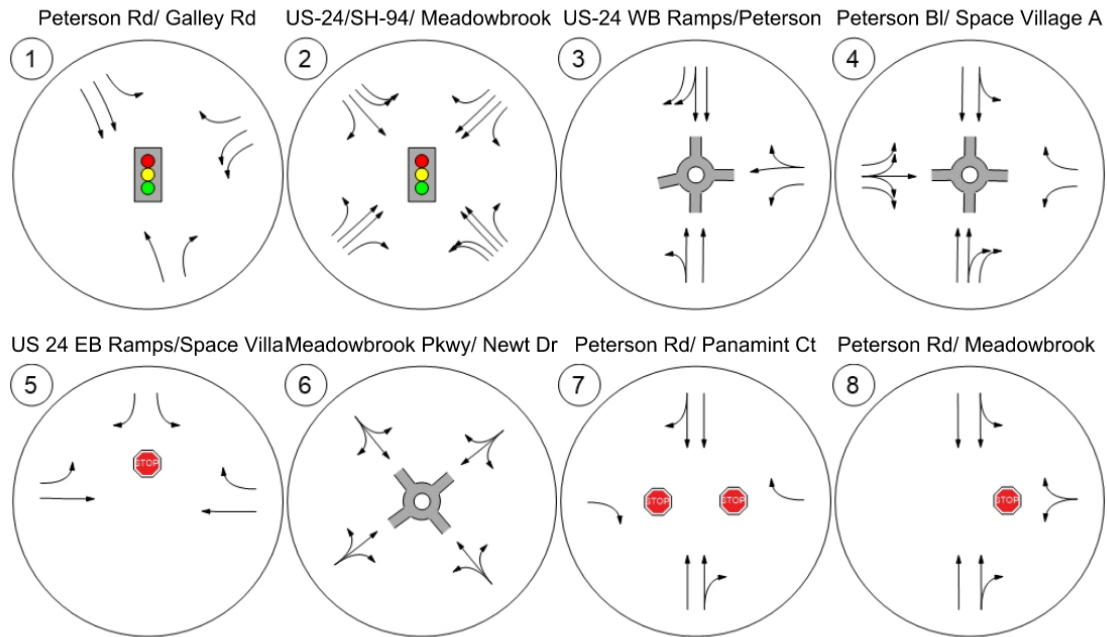
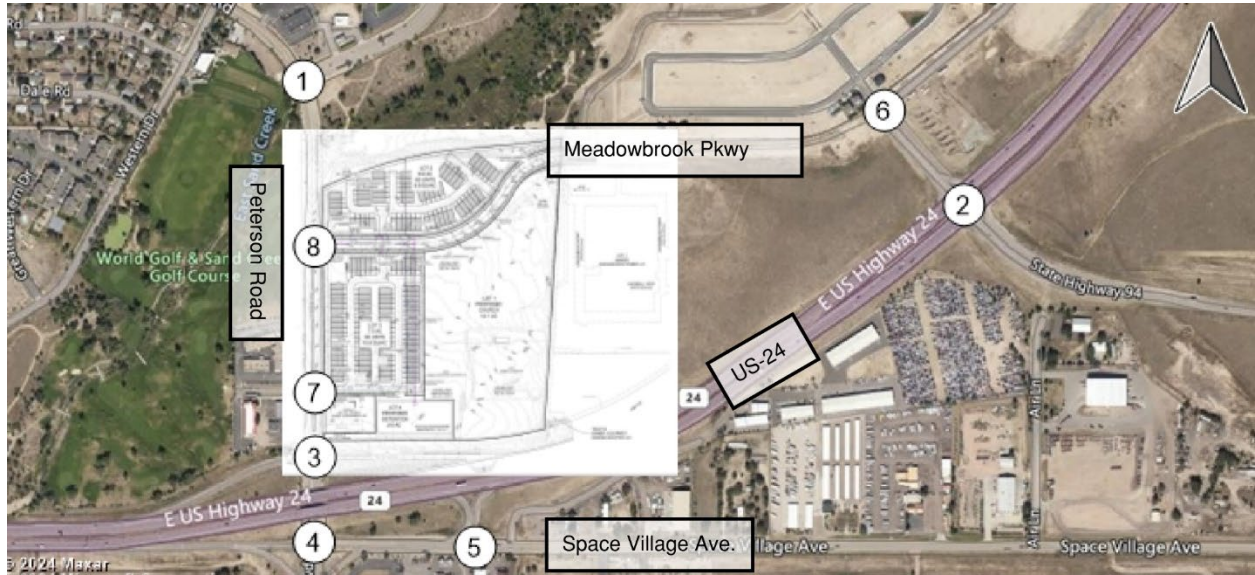
**Figure 27. Horizon (2045) With Project Daily Traffic Volumes**



The intersection configurations are shown in Figure 28.

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 28. 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	WB Left	0.486	15.3	B
2	US-24/SH-94/ Meadowbrook Pkwy	Signalized	HCM 7th Edition	EB Left	0.825	48.5	D
3	US-24 WB Ramps/Peterson Rd	Roundabout	HCM 7th Edition	SB Thru		11.7	B
4	Peterson Bl/ Space Village Av	Roundabout	HCM 7th Edition	EB Right		15.9	C
5	US 24 EB Ramps/Space Village Av	Two-way stop	HCM 7th Edition	SB Left	0.479	49.2	E
6	Meadowbrook Pkwy/ Newt Dr.	Roundabout	HCM 7th Edition	WB Left		4.1	A
7	Peterson Rd/ Panamint Ct	Two-way stop	HCM 7th Edition	EB Right	0.021	13.6	B
8	Peterson Rd/ Meadowbrook Pk	Two-way stop	HCM 7th Edition	WB Left	0.115	25.2	D

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

**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	0.474	12.8	B
2	US-24/SH-94/ Meadowbrook Pkwy	Signalized	HCM 7th Edition	SB Thru	0.780	35.5	D
3	US-24 WB Ramps/Peterson Rd	Roundabout	HCM 7th Edition	WB Right		11.1	B
4	Peterson Bl/ Space Village Av	Roundabout	HCM 7th Edition	WB Right		33.1	D
5	US 24 EB Ramps/Space Village Av	Two-way stop	HCM 7th Edition	SB Left	0.672	140.1	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	0.071	14.8	B
8	Peterson Rd/ Meadowbrook Pk	Two-way stop	HCM 7th Edition	WB Left	0.189	53.3	F

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

Turn lane evaluations are shown in Table 16.

As shown in Table 14, and Table 15 all intersections operate at an acceptable LOS except for the intersection of US 24 EB ramps and Space Village Avenue (#5) and Peterson Road and Meadowbrook Parkway (#8). Similar to the previous scenarios, the queue for deficient movements at intersection #5 (southbound left-turn) is less than 3 vehicles. For Peterson Road and Meadowbrook Parkway (#8), a queue analysis showed the 95-percentile queue is less than 1 vehicle. The queue is minimal for both

intersections; therefore, no mitigation is necessary. As for the southbound left turn for Peterson Road and Meadowbrook Parkway (#8), according to El Paso County Engineering Criteria Manual Section 2.2, an exclusive left-turn lane is required for any access with a project peak hour turning volume of 25 vehicles per hour or greater for a minor arterial and lower classifications. Since the volume is less than 25 VPH, no turn lane is required for this project. For the northbound right-turn, exclusive right turn lane is required for any access with a project peak hour turning volume of 50 VPH or greater. El Paso County also states that an acceleration lane is generally not required for minor arterials and lower classifications. The volume does not exceed the peak hour turning volume threshold for a deceleration lane, therefore no exclusive right turn lane is required.

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

ID	Intersection	Agency	Control Type	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	35	941	195	135	140	195	470	Continuous	-
				SBL	1	Minor Arterial	35	225	37	135	140	37	310	Meidan	-
				WBL	2	Minor Arterial	40	884	200	155	320	200	675	Continuous	-
				WBR	1	Minor Arterial	40	162	28	155	160	28	345	420	-
2	US-24/SH-94/Meadowbrook	CDOT	Signalized	NBL	2	E-X	60	518	540	600	444	221	1265	1000	-
				NBR	1	E-X	60	5	3	600	222	0	820	1000	-
				SBL	2	NR-C	35	39	40	0	96	25	120	420	-
				SBR	1	NR-C	35	210	0	0	96	0	95	300	-
				EBL	1	E-X	60	183	231	600	222	183	1005	1150	-
				EBR	1	E-X	60	704	0	600	222	0	820	1125	-
				WBL	1	E-X	60	9	5	600	222	25	845	950	-
WBR	1	E-X	60	54	0	600	222	0	820	950	-				
5	US-24 EB Ramps/ Space Village Av	CDOT	Stop-Controlled	SBL	1	F-R	35	68	72	0	96	68	165	Continuous	-
				SBR	1	F-R	35	52	7	0	96	0	95	290	-
				EBL	1	NR-C	40	386	42	0	120	344	465	350	-
				WBR	1	NR-C	40	43	0	Not Required			Continuous	-	
7	Peterson Rd/ Panamint Ct	EPC	Stop-Controlled	NBR	1	Minor Arterial	35	26	0	Not Required			Continuous	-	
				SBR	1	Minor Arterial	35	6	0	Not Required			0	-	

## Conclusions and Recommendations

In this study, the traffic impact of Peterson Road and Meadowbrook Parkway on the adjacent roadways was assessed. The project traffic will not cause any impact on the roadways. The summary of required improvements is shown in Table 17.

**Table 17. Summary of Required Improvements**

ID	Intersection	Improvement	Year	Responsibility
I	Galley Rd/Peterson Rd	A 265-ft extension of northbound left-turn.	Existing	The Project has no responsibility for these improvements.
I	Galley Rd/Peterson Rd	A 10-ft extension of northbound left-turn.	Buildout (2030) Background	The Project has no responsibility for these improvements.
I	Galley Rd/Peterson Rd	A 30-ft extension of northbound left-turn.	Horizon (2045) Background	The Project has no responsibility for these improvements.

## **Appendix A- Traffic Counts**

**All Traffic Data Services**  
 9660 W 44th Ave  
 Wheat Ridge, CO 80033  
[www.alltrafficdata.net](http://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		<b>382</b>	<b>305</b>	<b>687</b>						
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		<b>397</b>	296	693						
04:00		352	<b>360</b>	<b>712</b>						
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	<b>877</b>	<b>1071</b>						
08:00		206	482	688						
09:00		172	212	384						
10:00		184	193	377						
11:00		<b>263</b>	186	449						
12:00 PM		228	211	439						
01:00		244	198	442						
02:00		377	227	604						
03:00		688	<b>321</b>	1009						
04:00		<b>989</b>	312	<b>1301</b>						
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		<b>1785</b>	<b>2445</b>	<b>4230</b>					
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	<b>1777</b>	<b>3805</b>					
05:00		<b>2123</b>	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		<b>313</b>	<b>542</b>							<b>855</b>
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		<b>425</b>	<b>358</b>							<b>783</b>
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		<b>485</b>	<b>631</b>	<b>1116</b>					
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		<b>466</b>	<b>429</b>	<b>895</b>					
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](http://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		<b>696</b>	<b>1809</b>							<b>2505</b>
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		<b>1705</b>	<b>876</b>							<b>2581</b>
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							

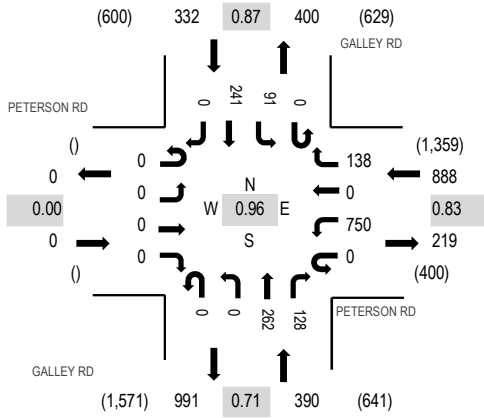
Location: 1 GALLEY RD & PETERSON RD AM

Date: Tuesday, April 2, 2024

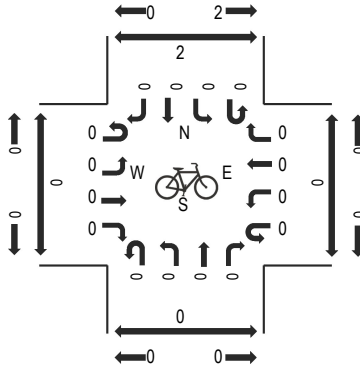
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM

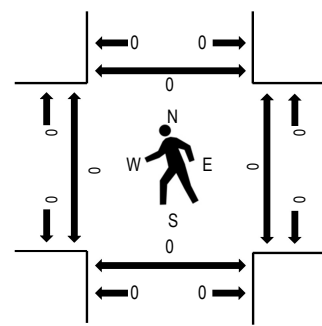
### Peak Hour - Motorized Vehicles



### 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				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	0	0	0	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

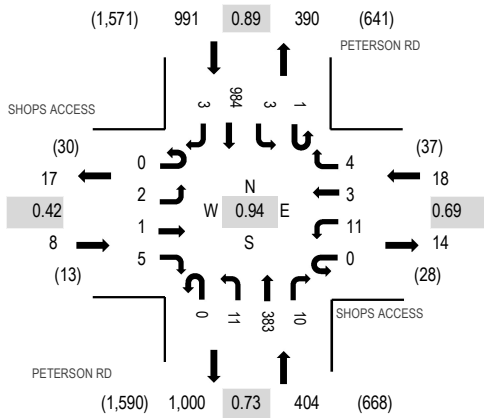
Location: 2 PETERSON RD & SHOPS ACCESS AM

Date: Tuesday, April 2, 2024

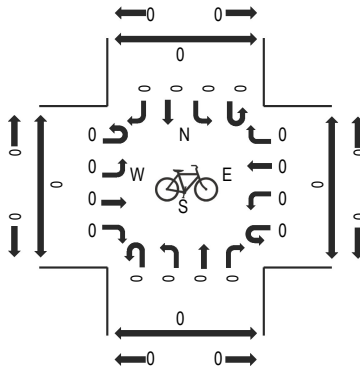
Peak Hour: 07:15 AM - 08:15 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM

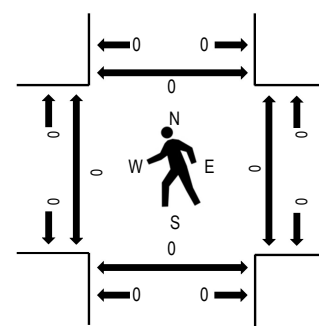
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians

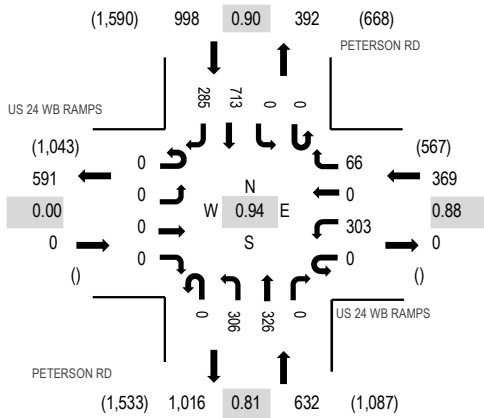


Note: Total study counts contained in parentheses.

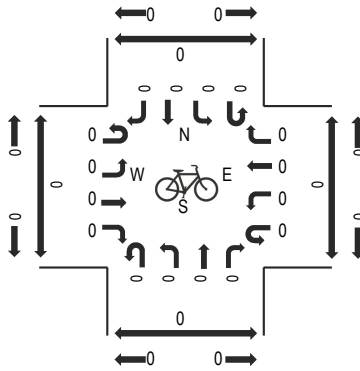
### Traffic Counts - Motorized Vehicles

Interval Start Time	SHOPS ACCESS Eastbound				SHOPS ACCESS Westbound				PETERSON RD Northbound				PETERSON RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
	7:00 AM	0	1	0	0	0	3	1	2	1	2	63	3	0	0	218			0	294	1,407	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

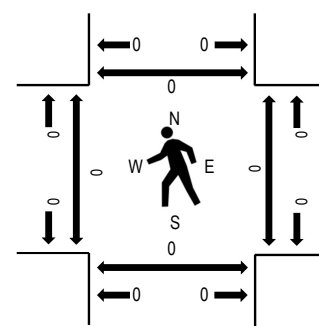
### Peak Hour - Motorized Vehicles



### 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				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru			Right	West	East	South	North
7:00 AM	0	0	0	0	0	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



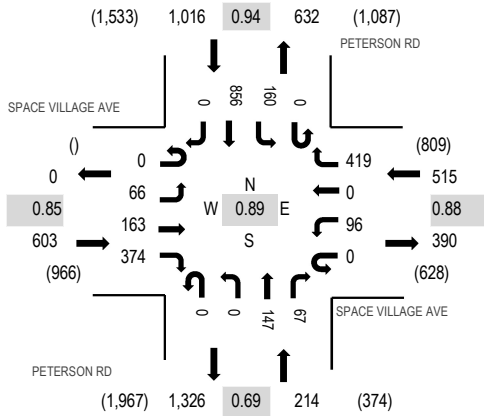
Location: 4 PETERSON RD & SPACE VILLAGE AVE AM

Date: Tuesday, April 2, 2024

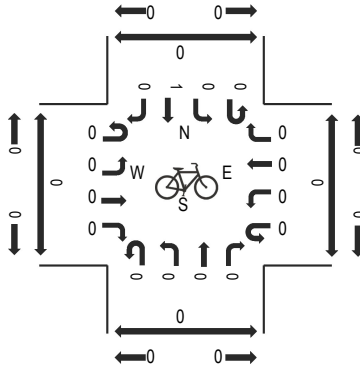
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM

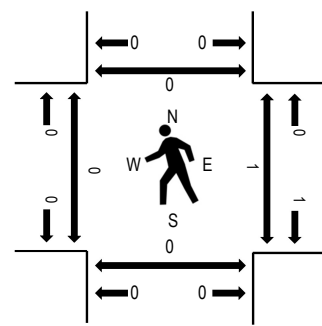
### Peak Hour - Motorized Vehicles



### 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				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	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

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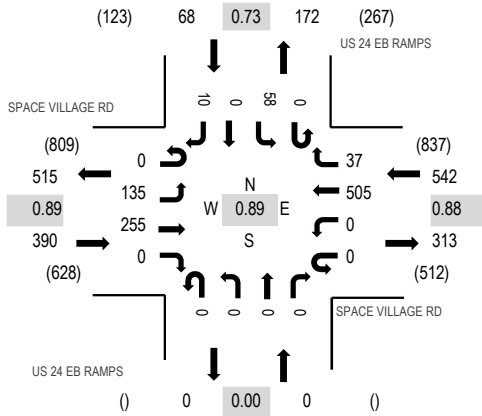
Location: 5 US 24 EB RAMPS & SPACE VILLAGE RD AM

Date: Tuesday, April 2, 2024

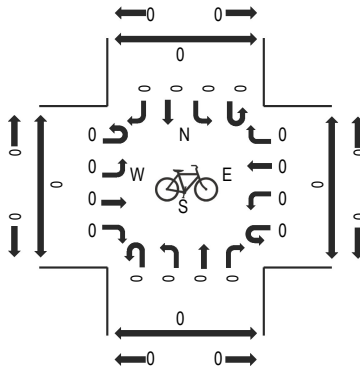
Peak Hour: 07:00 AM - 08:00 AM

Peak 15-Minutes: 07:30 AM - 07:45 AM

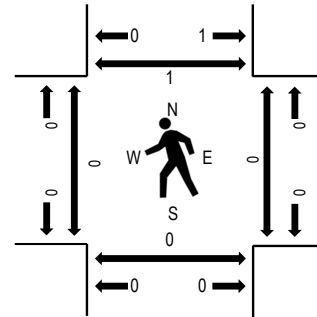
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians

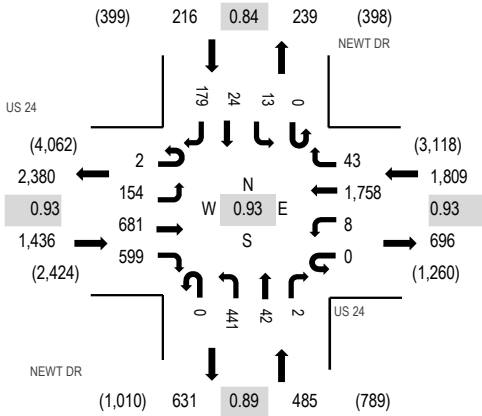


Note: Total study counts contained in parentheses.

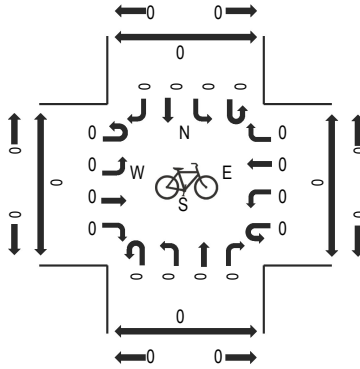
### Traffic Counts - Motorized Vehicles

Interval Start Time	SPACE VILLAGE RD Eastbound				SPACE VILLAGE RD Westbound				US 24 EB RAMPS Northbound				US 24 EB RAMPS Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
	7:00 AM	0	26	48	0	0	0	103	8	0	0	0	0	0	5	0			1	191	1,000	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

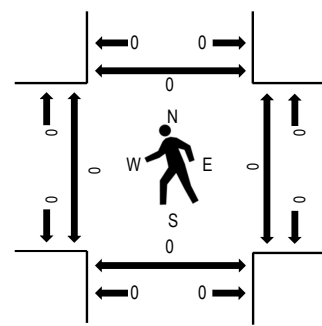
### Peak Hour - Motorized Vehicles



### 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				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	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

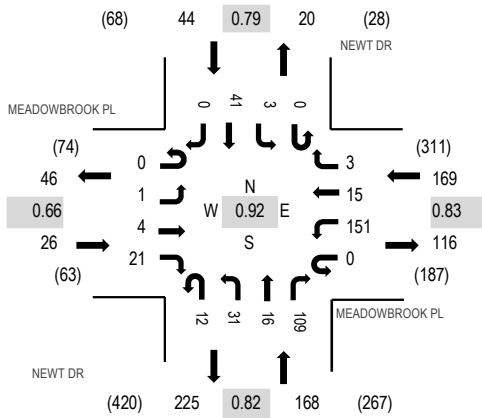
Location: 7 NEWT DR & MEADOWBROOK PL AM

Date: Tuesday, April 2, 2024

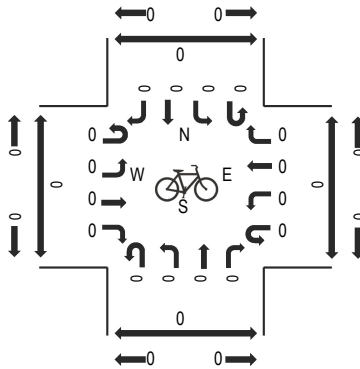
Peak Hour: 07:00 AM - 08:00 AM

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

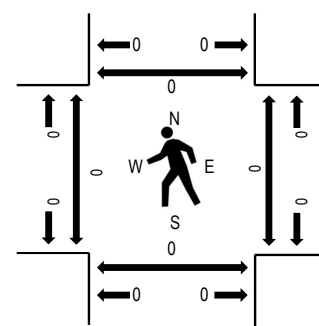
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians

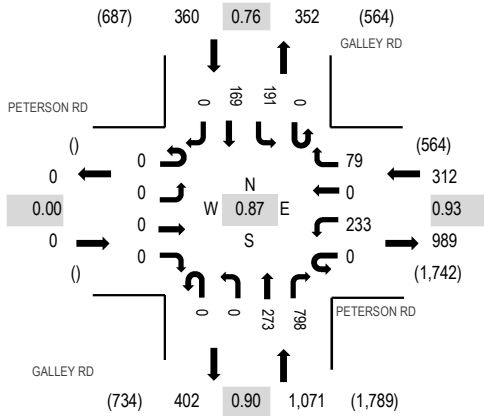


Note: Total study counts contained in parentheses.

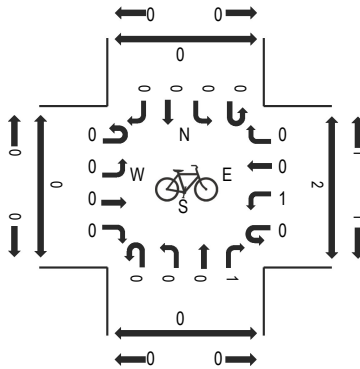
### Traffic Counts - Motorized Vehicles

Interval Start Time	MEADOWBROOK PL Eastbound				MEADOWBROOK PL Westbound				NEWT DR Northbound				NEWT DR Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
7:00 AM	0	0	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

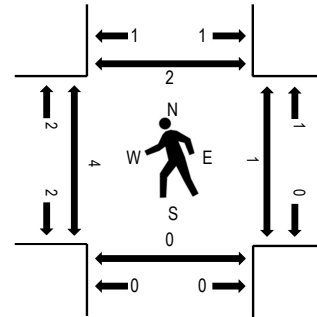
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians

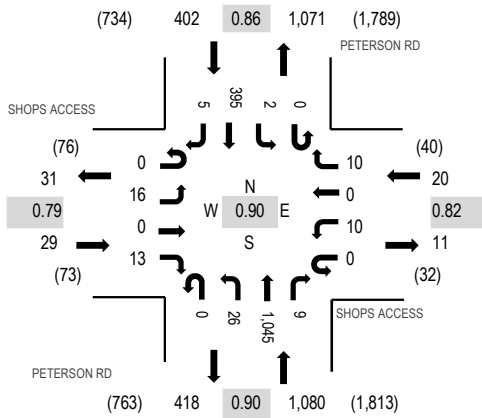


Note: Total study counts contained in parentheses.

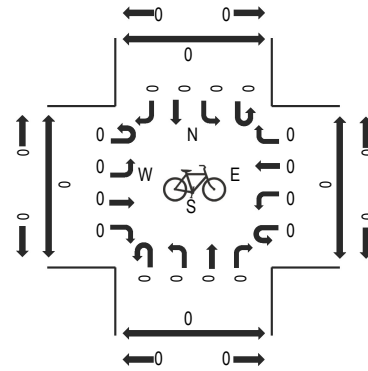
### Traffic Counts - Motorized Vehicles

Interval Start Time	PETERSON RD Eastbound				PETERSON RD Westbound				GALLEY RD Northbound				GALLEY RD Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	0	0	0	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

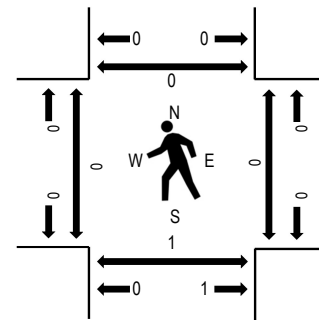
### Peak Hour - Motorized Vehicles



### 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				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	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

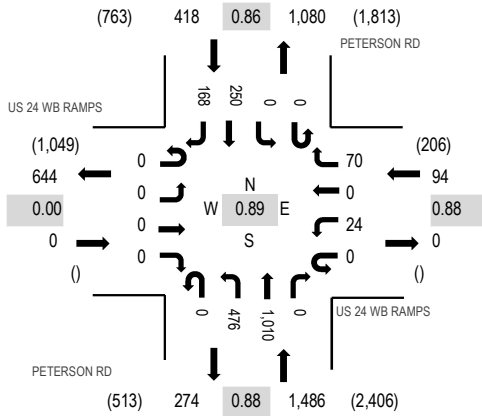
Location: 3 PETERSON RD & US 24 WB RAMPS PM

Date: Tuesday, April 2, 2024

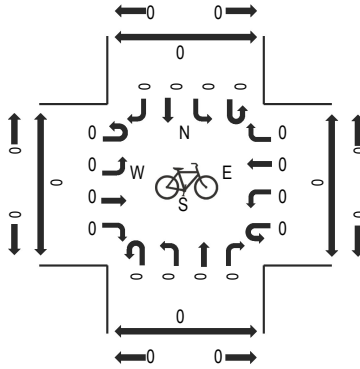
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:00 PM - 04:15 PM

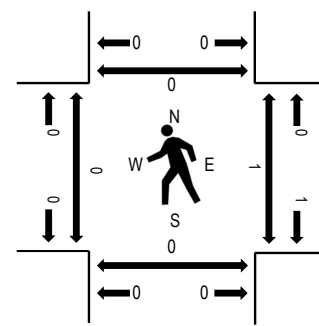
### Peak Hour - Motorized Vehicles



### 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				Total	Rolling Hour	Pedestrian Crossings				
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North	
4:00 PM	0	0	0	0	0	1	0	20	0	141	279	0	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	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	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	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	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	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	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	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	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	0	250	168	1,998		0	1	0	0

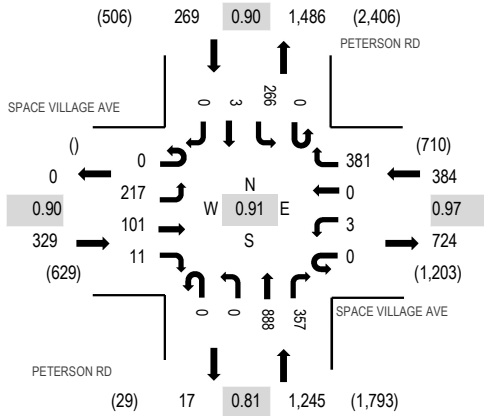
Location: 4 PETERSON RD & SPACE VILLAGE AVE PM

Date: Tuesday, April 2, 2024

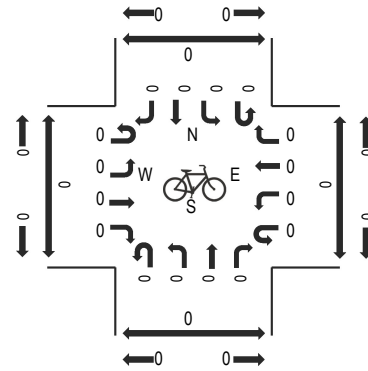
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:00 PM - 04:15 PM

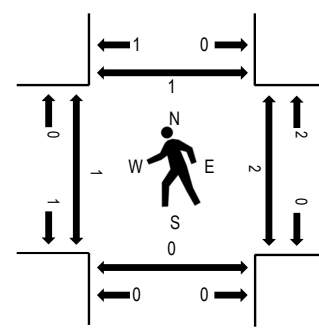
### Peak Hour - Motorized Vehicles



### 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				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
	4:00 PM	0	42	19	2	0	1	0	95	0	0	283	101	0	66	2			0	611	2,227	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



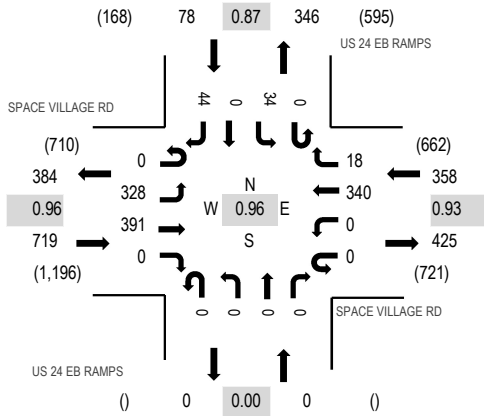
Location: 5 US 24 EB RAMPS & SPACE VILLAGE RD PM

Date: Tuesday, April 2, 2024

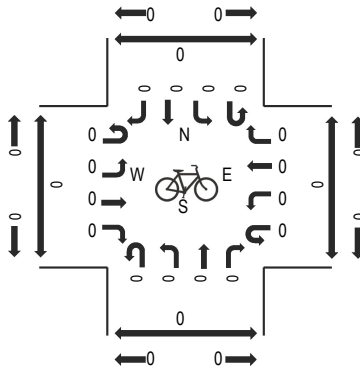
Peak Hour: 04:00 PM - 05:00 PM

Peak 15-Minutes: 04:00 PM - 04:15 PM

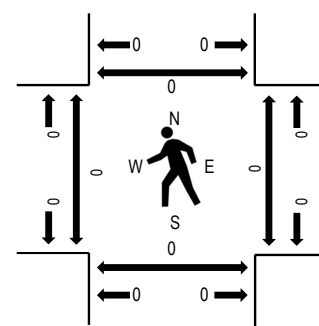
### Peak Hour - Motorized Vehicles



### Peak Hour - Bicycles



### Peak Hour - Pedestrians

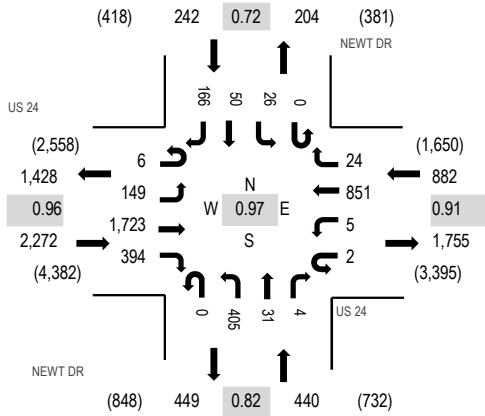


Note: Total study counts contained in parentheses.

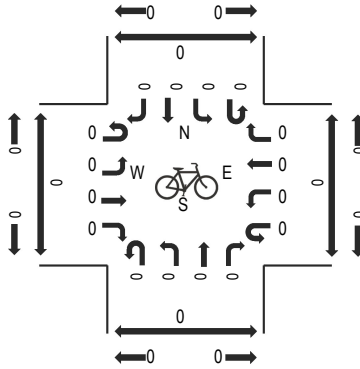
### Traffic Counts - Motorized Vehicles

Interval Start Time	SPACE VILLAGE RD Eastbound				SPACE VILLAGE RD Westbound				US 24 EB RAMPS Northbound				US 24 EB RAMPS Southbound				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	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

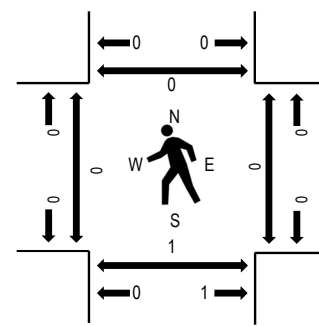
### Peak Hour - Motorized Vehicles



### 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				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	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

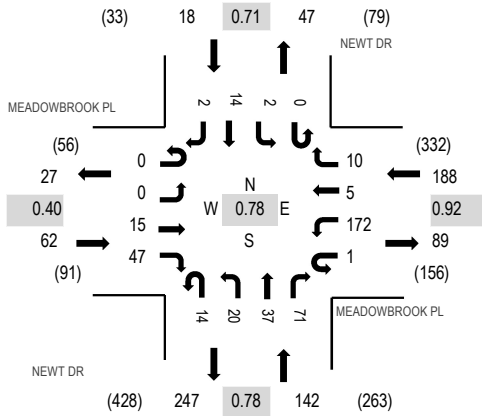
Location: 7 NEWT DR & MEADOWBROOK PL PM

Date: Tuesday, April 2, 2024

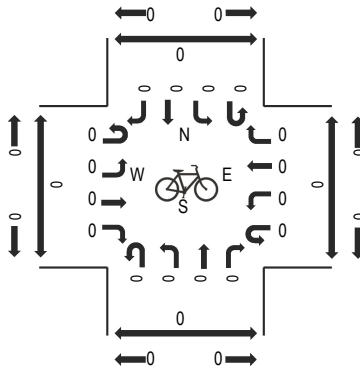
Peak Hour: 04:15 PM - 05:15 PM

Peak 15-Minutes: 05:00 PM - 05:15 PM

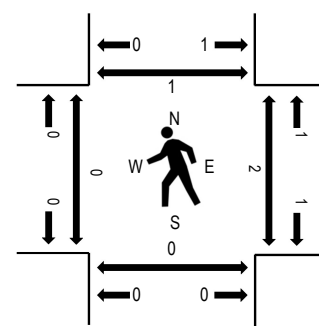
### Peak Hour - Motorized Vehicles



### 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				Total	Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right			West	East	South	North
4:00 PM	0	0	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

## **Appendix B- Existing Conditions**

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**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	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
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
l, 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**

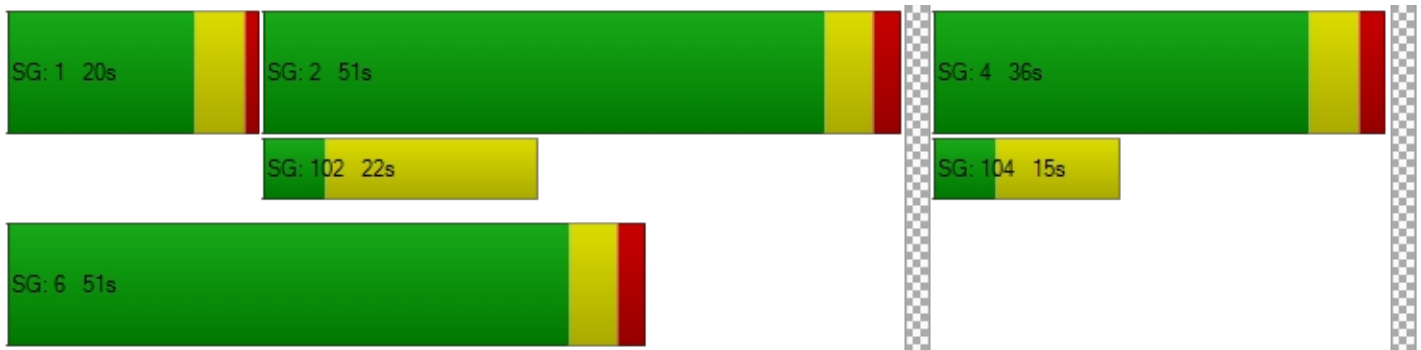
Vehicle Miles Traveled [mph]	52.35	12.77	10.60	28.15	170.38	15.64
Stops [stops/h]	249.52	50.32	38.75	104.93	603.45	42.57
Fuel consumption [US gal/h]	4.87	1.06	0.84	2.21	14.30	1.14
CO [g/h]	340.21	74.14	59.00	154.42	999.55	79.72
NOx [g/h]	66.19	14.42	11.48	30.05	194.48	15.51
VOC [g/h]	78.85	17.18	13.67	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 [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		17.60		17.60	
I_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	
I_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/ Meadowbrook Pkwy**

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			Meadowbrook Pkwy			US-24			US-24		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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			Meadowbrook Pkwy			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
l, 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**

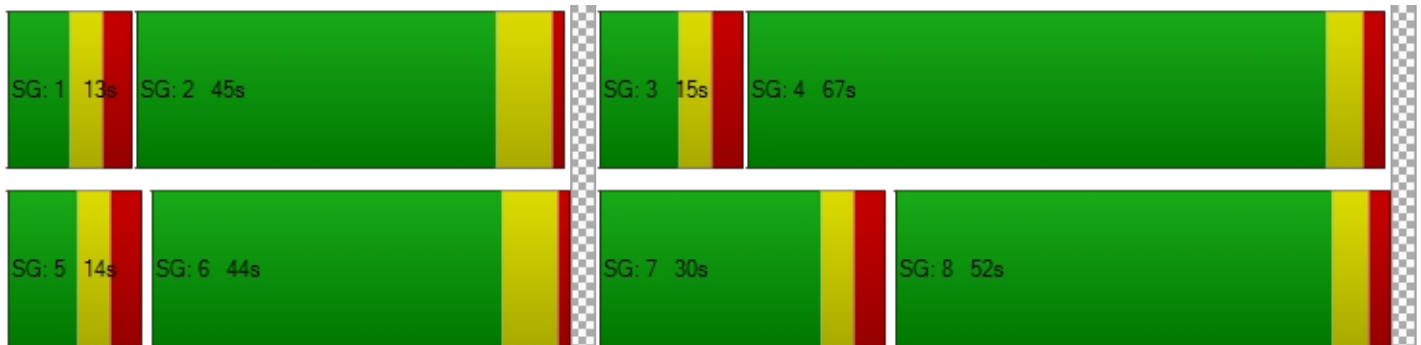
Vehicle Miles Traveled [mph]	198.32	18.72	0.38	1.58	3.06	78.00	339.53	2.74	629.79	7.61
Stops [stops/h]	561.25	41.18	0.83	12.16	34.97	49.03	192.26	1.11	1165.60	5.93
Fuel consumption [US gal/h]	27.21	2.00	0.04	0.29	0.87	5.45	16.17	0.12	51.96	0.40
CO [g/h]	1902.15	139.86	2.83	20.56	60.56	381.24	1130.37	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 [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			22.29			31.56		
I_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		
I_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
l, 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**

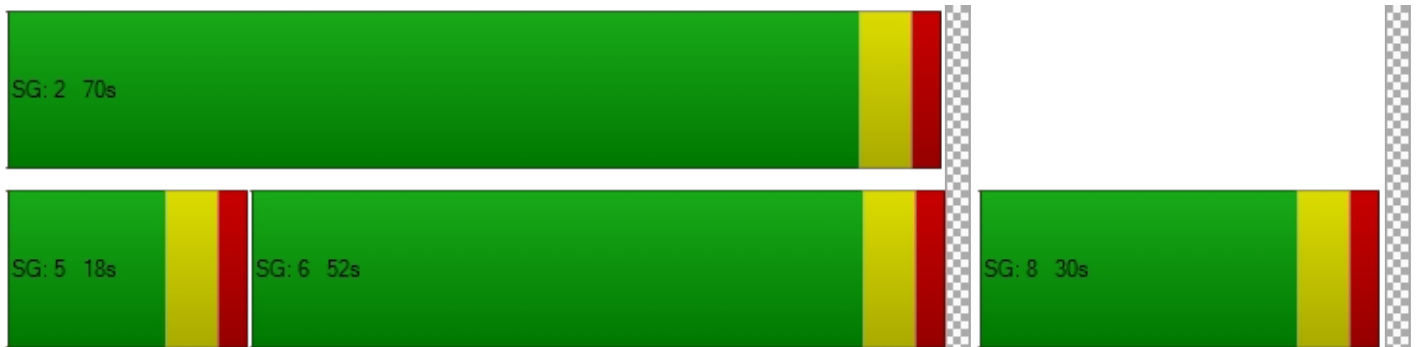
Vehicle Miles Traveled [mph]	27.40	29.14	46.02	9.16		72.68	7.96
Stops [stops/h]	174.11	121.09	516.56	88.11		389.52	26.58
Fuel consumption [US gal/h]	3.93	2.49	8.36	1.45		9.52	0.71
CO [g/h]	274.50	173.72	584.70	101.49		665.66	49.77
NOx [g/h]	53.41	33.80	113.76	19.75		129.51	9.68
VOC [g/h]	63.62	40.26	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 [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		0.00
I_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
I_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
l, 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**

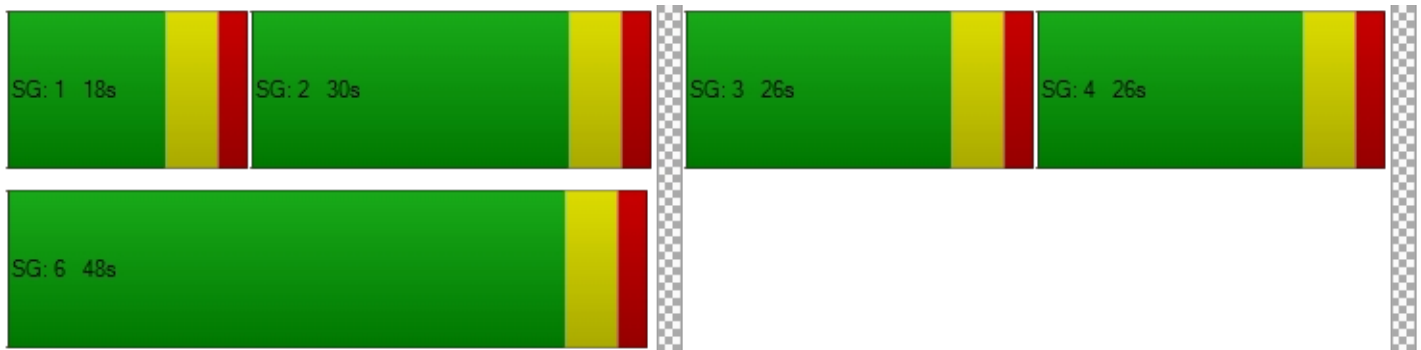
Vehicle Miles Traveled [mph]	38.12	8.59	13.63	72.99	30.08	24.51	15.63	34.02
Stops [stops/h]	131.15	29.58	93.97	613.49	257.86	203.05	88.20	222.41
Fuel consumption [US gal/h]	3.33	0.74	1.70	10.61	5.37	4.21	1.98	4.87
CO [g/h]	232.81	51.99	119.05	741.36	375.55	294.41	138.27	340.56
NOx [g/h]	45.30	10.11	23.16	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 [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_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
I_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	Meadowbrook Pkwy			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	Meadowbrook Pkwy			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**

Override Calculated Critical Headway	No			No			No			No		
User-Defined Critical Headway [s]	4.00			4.00			4.00			4.00		
Override 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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
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]: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
<b>Warrant Met for Intersection</b>	<b>No</b>

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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
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: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
<b>Warrant Met for Intersection</b>	<b>No</b>	

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**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	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
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
l, 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**

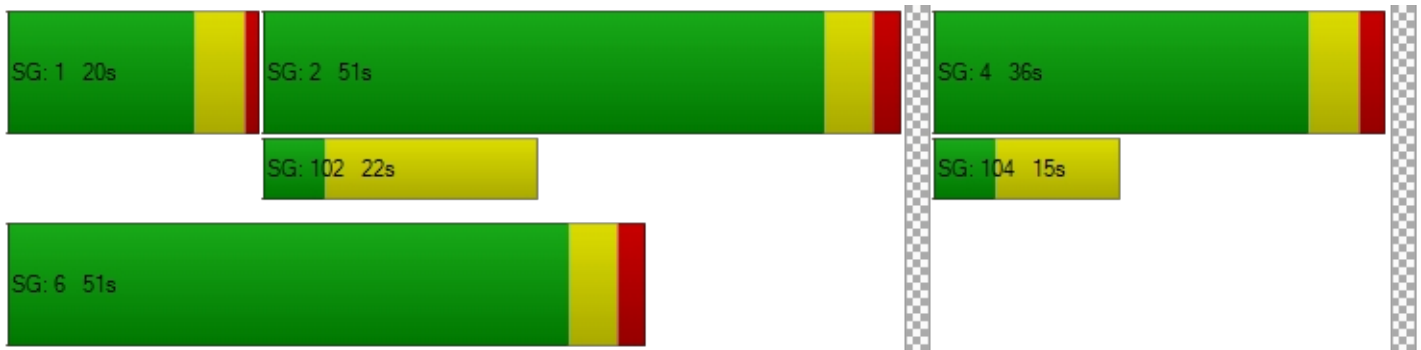
Vehicle Miles Traveled [mph]	45.54	66.54	24.88	22.00	51.64	8.67
Stops [stops/h]	169.77	314.81	66.35	49.09	178.96	28.69
Fuel consumption [US gal/h]	3.60	6.06	1.70	1.38	4.31	0.70
CO [g/h]	251.91	423.67	118.53	96.56	301.18	49.18
NOx [g/h]	49.01	82.43	23.06	18.79	58.60	9.57
VOC [g/h]	58.38	98.19	27.47	22.38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

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		15.26		15.26	
I_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	
I_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/ Meadowbrook Pkwy**

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			Meadowbrook Pkwy			US-24			US-24		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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			Meadowbrook Pkwy			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
l, 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**

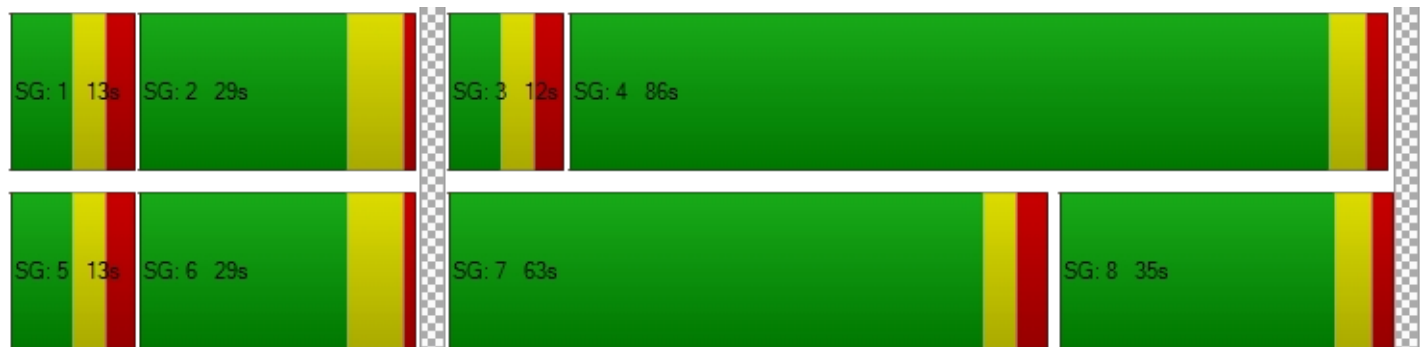
Vehicle Miles Traveled [mph]	193.61	14.89	0.78	3.80	7.28	77.15	859.22	2.44	304.85	4.26
Stops [stops/h]	593.53	31.93	1.67	29.13	74.61	32.67	923.37	1.06	311.05	3.23
Fuel consumption [US gal/h]	30.75	1.56	0.08	0.70	1.86	3.47	52.66	0.13	18.13	0.22
CO [g/h]	2149.59	109.34	5.73	49.11	130.36	242.80	3681.24	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 [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			12.86			44.00		
I_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		
I_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					
	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration												
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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
l, 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 [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		0.00		0.00		0.00	
I_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	
I_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
l, 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**

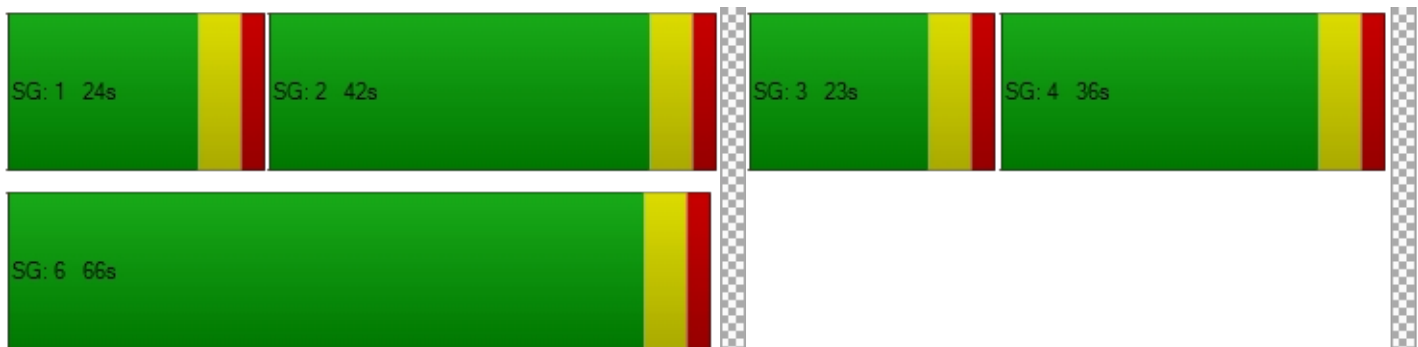
Vehicle Miles Traveled [mph]	196.16	39.37	22.69	0.29	41.67	0.67	0.55	30.98
Stops [stops/h]	1209.74	167.69	201.55	1.71	398.37	4.24	3.15	248.40
Fuel consumption [US gal/h]	30.91	4.25	5.07	0.03	9.21	0.10	0.08	6.51
CO [g/h]	2160.44	296.97	354.51	2.39	643.90	6.80	5.47	454.76
NOx [g/h]	420.34	57.78	68.97	0.47	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 [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00	0.00	0.00	0.00
d_p, Pedestrian Delay [s]	0.00	0.00	0.00	0.00
I_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
I_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	Meadowbrook Pkwy			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	Meadowbrook Pkwy			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**

Override Calculated Critical Headway	No			No			No			No		
User-Defined Critical Headway [s]	4.00			4.00			4.00			4.00		
Override 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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
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]: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
<b>Warrant Met for Intersection</b>	<b>No</b>



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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
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: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
<b>Warrant Met for Intersection</b>	<b>No</b>	

## **Appendix C- Trip Generation**

**PROJECT DETAILS**

Project Name: Peterson_Meadowbrook	Type of Project:
Project No:	City:
Country:	Built-up Area(Sq.ft):
Analyst Name: Scott Barnhart	Clients Name:
Date: 6/14/2024	ZIP/Postal Code:
State/Province:	No. of Scenarios: 3
Analysis Region:	

**SCENARIO SUMMARY**

Scenarios	Name	No. of Land Uses	Phases of Development	No. of Years to Project Traffic	User Group	Estimated New Vehicle Trips		
						Entry	Exit	Total
Scenario - 1	Daily Traffic	3	1	0		505	505	1010
Scenario - 2	AM Peak Hour	3	1	0		16	47	63
Scenario - 3	Pm Peak hour	3	1	0		47	33	80

**Scenario - 1**

Scenario Name: Daily Traffic

User Group:

Dev. phase: 1

No. of Years to Project 0  
Traffic :

Analyst Note:

Warning:

**VEHICLE TRIPS BEFORE REDUCTION**

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
215 - Single-Family Attached Housing Data Source: Trip Generation Manual, 11th Ed	General Urban/Suburban	Dwelling Units	60	Weekday	Best Fit (LIN) $T = 7.62(X) - 50.48$	203 50%	203 50%	406
215(1) - Single-Family Attached Housing Data Source: Trip Generation Manual, 11th Ed	General Urban/Suburban	Dwelling Units	82	Weekday	Best Fit (LIN) $T = 7.62(X) - 50.48$	287 50%	287 50%	574
560 - Church Data Source: Trip Generation Manual, 11th Ed	General Urban/Suburban	1000 Sq. Ft. GFA	4	Weekday	Average 7.60	15 50%	15 50%	30

**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 (%)
215 - Single-Family Attached Housing	100	100	1	1	50	50
215(1) - Single-Family Attached Housing	100	100	1	1	50	50
560 - Church	100	100	1	1	50	50

**ESTIMATED BASELINE SITE PERSON TRIPS:**

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
215 - Single-Family Attached Housing	203	203	0	0	203	203
	406		0		406	
215(1) - Single-Family Attached Housing	287	287	0	0	287	287
	574		0		574	
560 - Church	15	15	0	0	15	15
	30		0		30	

**NEW VEHICLE TRIPS**

Land Use	New Vehicle Trips		
	Entry	Exit	Total
215 - Single-Family Attached Housing	203	203	406
215(1) - Single-Family Attached Housing	287	287	574
560 - Church	15	15	30

**RESULTS**

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	505	505	1010
External Vehicle Trips	505	505	1010
New Vehicle Trips	505	505	1010

**Scenario - 2**

Scenario Name: AM Peak Hour

User Group:

Dev. phase: 1

No. of Years to Project 0  
Traffic :

Analyst Note:

Warning:

**VEHICLE TRIPS BEFORE REDUCTION**

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
215 - Single-Family Attached Housing Data Source: Trip Generation Manual, 11th Ed	General Urban/Suburban	Dwelling Units	60	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LIN) T = 0.52(X) - 5.70	6 25%	19 75%	25
215(1) - Single-Family Attached Housing Data Source: Trip Generation Manual, 11th Ed	General Urban/Suburban	Dwelling Units	82	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LIN) T = 0.52(X) - 5.70	9 25%	28 75%	37
560 - Church Data Source: Trip Generation Manual, 11th Ed	General Urban/Suburban	1000 Sq. Ft. GFA	4	Weekday, Peak Hour of Adjacent Street Traffic,	Average 0.32	1 62%	0 38%	1

**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 (%)
215 - Single-Family Attached Housing	100	100	1	1	25	75
215(1) - Single-Family Attached Housing	100	100	1	1	25	75
560 - Church	100	100	1	1	62	38

**ESTIMATED BASELINE SITE PERSON TRIPS:**

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
215 - Single-Family Attached Housing	6	19	0	0	6	19
	25		0		25	
215(1) - Single-Family Attached Housing	9	28	0	0	9	28
	37		0		37	
560 - Church	1	0	0	0	1	0
	1		0		1	

**NEW VEHICLE TRIPS**

Land Use	New Vehicle Trips		
	Entry	Exit	Total
215 - Single-Family Attached Housing	6	19	25
215(1) - Single-Family Attached Housing	9	28	37
560 - Church	1	0	1

**RESULTS**

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	16	47	63
External Vehicle Trips	16	47	63
New Vehicle Trips	16	47	63

**Scenario - 3**

Scenario Name: Pm Peak hour

User Group:

Dev. phase: 1

No. of Years to Project 0  
Traffic :

Analyst Note:

Warning:

**VEHICLE TRIPS BEFORE REDUCTION**

Land Use & Data Source	Location	IV	Size	Time Period	Method	Entry	Exit	Total
					Rate/Equation	Split%	Split%	
215 - Single-Family Attached Housing Data Source: Trip Generation Manual, 11th Ed	General Urban/Suburban	Dwelling Units	60	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LIN) T = 0.60(X) - 3.93	19 59%	13 41%	32
215(1) - Single-Family Attached Housing Data Source: Trip Generation Manual, 11th Ed	General Urban/Suburban	Dwelling Units	82	Weekday, Peak Hour of Adjacent Street Traffic,	Best Fit (LIN) T = 0.60(X) - 3.93	27 59%	19 41%	46
560 - Church Data Source: Trip Generation Manual, 11th Ed	General Urban/Suburban	1000 Sq. Ft. GFA	4	Weekday, Peak Hour of Adjacent Street Traffic,	Average 0.49	1 44%	1 56%	2

**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 (%)
215 - Single-Family Attached Housing	100	100	1	1	59	41
215(1) - Single-Family Attached Housing	100	100	1	1	59	41
560 - Church	100	100	1	1	44	56

**ESTIMATED BASELINE SITE PERSON TRIPS:**

Land Use	Person Trips by Vehicle		Person Trips by Other Modes		Total Baseline Site Person Trips	
	Entry	Exit	Entry	Exit	Entry	Exit
215 - Single-Family Attached Housing	19	13	0	0	19	13
	32		0		32	
215(1) - Single-Family Attached Housing	27	19	0	0	27	19
	46		0		46	
560 - Church	1	1	0	0	1	1
	2		0		2	

**NEW VEHICLE TRIPS**

Land Use	New Vehicle Trips		
	Entry	Exit	Total
215 - Single-Family Attached Housing	19	13	32
215(1) - Single-Family Attached Housing	27	19	46
560 - Church	1	1	2

**RESULTS**

Site Totals	Entry	Exit	Total
Vehicle Trips Before Reduction	47	33	80
External Vehicle Trips	47	33	80
New Vehicle Trips	47	33	80

## **Appendix D- Buildout Conditions**



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

Control Type:	Signalized	Delay (sec / veh):	15.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.482

**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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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	67	0	0	0	73
Total Hourly Volume [veh/h]	274	67	95	252	785	72
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]	81	20	28	74	231	21
Total Analysis Volume [veh/h]	322	79	112	296	924	85
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	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
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	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.17	0.05	0.09	0.08	0.27	0.05
s, saturation flow rate [veh/h]	1870	1589	1218	3560	3459	1589
c, Capacity [veh/h]	537	456	620	1639	1071	492
d1, Uniform Delay [s]	16.04	13.97	8.77	8.29	16.98	13.14
k, delay calibration	0.11	0.11	0.04	0.11	0.04	0.04
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.08	0.18	0.05	0.05	0.83	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	0.60	0.17	0.18	0.18	0.86	0.17
d, Delay for Lane Group [s/veh]	17.12	14.15	8.82	8.34	17.81	13.20
Lane Group LOS	B	B	A	A	B	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.05	0.64	0.60	0.81	4.47	0.63
50th-Percentile Queue Length [ft/ln]	76.26	16.00	14.91	20.14	111.71	15.68
95th-Percentile Queue Length [veh/ln]	5.49	1.15	1.07	1.45	7.94	1.13
95th-Percentile Queue Length [ft/ln]	137.27	28.81	26.85	36.26	198.38	28.23

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	17.12	14.15	8.82	8.34	17.81	13.20
Movement LOS	B	B	A	A	B	B
d_A, Approach Delay [s/veh]	16.53		8.47		17.42	
Approach LOS	B		A		B	
d_I, Intersection Delay [s/veh]	15.22					
Intersection LOS	B					
Intersection V/C	0.482					

**Emissions**

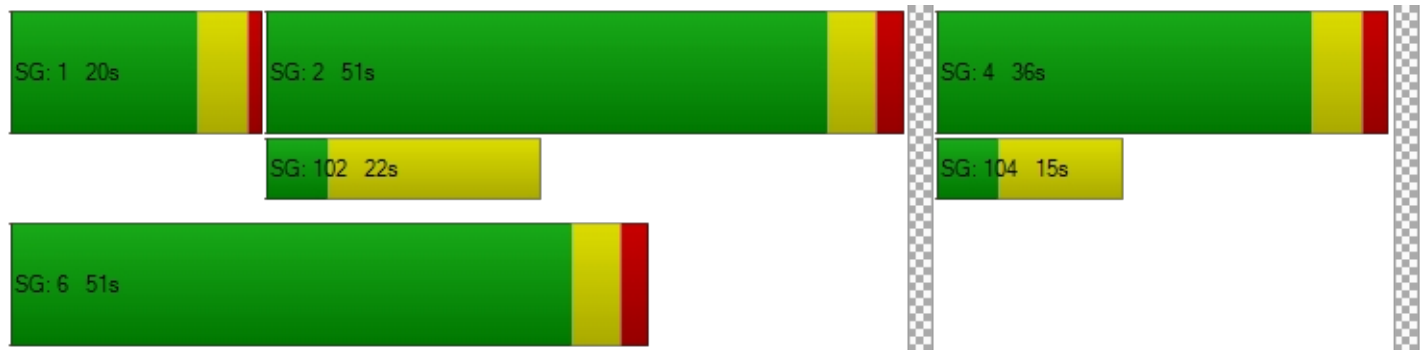
Vehicle Miles Traveled [mph]	45.68	11.21	11.10	29.34	174.15	16.02
Stops [stops/h]	210.79	44.23	41.23	111.36	617.58	43.34
Fuel consumption [US gal/h]	4.17	0.93	0.89	2.33	14.63	1.17
CO [g/h]	291.26	65.23	61.91	162.55	1022.75	81.44
NOx [g/h]	56.67	12.69	12.05	31.63	198.99	15.84
VOC [g/h]	67.50	15.12	14.35	37.67	237.03	18.87

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		17.83		17.83	
I_p,int, Pedestrian LOS Score for Intersectio	0.000		2.320		2.733	
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]	1728		1728		1152	
d_b, Bicycle Delay [s]	0.48		0.48		4.69	
I_b,int, Bicycle LOS Score for Intersection	2.332		1.896		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/ Meadowbrook Pkwy**

Control Type:	Signalized	Delay (sec / veh):	46.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.819

**Intersection Setup**

Name	SH-94			Meadowbrook Pkwy			US-24			US-24		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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			Meadowbrook Pkwy			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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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	94	0	0	314	0	0	23
Total Hourly Volume [veh/h]	462	44	1	14	25	93	163	713	313	8	1841	22
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	136	13	0	4	7	27	48	210	92	2	541	6
Total Analysis Volume [veh/h]	544	52	1	16	29	109	192	839	368	9	2166	26
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]	190
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	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	0.0	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	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]	36	100	0	13	77	0	16	64	0	13	61	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]	190	190	190	190	190	190	190	190	190	190
L, Total Lost Time per Cycle [s]	6.50	6.00	6.00	6.50	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]	4.50	4.00	4.00	4.50	4.00	0.00	5.00	0.00	5.00	5.00
g_i, Effective Green Time [s]	30	31	31	2	4	137	128	137	121	121
g / C, Green / Cycle	0.16	0.16	0.16	0.01	0.02	0.72	0.67	0.72	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.16	0.01	0.00	0.00	0.02	0.56	0.24	0.01	0.61	0.02
s, saturation flow rate [veh/h]	3459	3560	1589	3459	1870	342	3560	711	3560	1589
c, Capacity [veh/h]	537	587	262	42	40	201	2401	500	2266	1011
d1, Uniform Delay [s]	80.25	67.25	66.31	93.16	92.37	77.74	13.18	8.53	32.09	12.78
k, delay calibration	0.04	0.04	0.04	0.04	0.23	0.50	0.50	0.04	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	14.39	0.02	0.00	2.14	39.97	52.33	0.40	0.01	11.08	0.05
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	1.01	0.09	0.00	0.38	0.72	0.95	0.35	0.02	0.96	0.03
d, Delay for Lane Group [s/veh]	94.64	67.27	66.31	95.30	132.35	130.07	13.59	8.54	43.17	12.82
Lane Group LOS	F	E	E	F	F	F	B	A	D	B
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	13.97	1.06	0.04	0.41	1.88	5.23	7.35	0.10	45.40	0.41
50th-Percentile Queue Length [ft/ln]	349.15	26.48	1.01	10.21	47.12	130.81	183.78	2.44	1135.00	10.35
95th-Percentile Queue Length [veh/ln]	20.23	1.91	0.07	0.73	3.39	8.98	11.80	0.18	56.45	0.74
95th-Percentile Queue Length [ft/ln]	505.66	47.67	1.81	18.37	84.82	224.60	294.94	4.39	1411.25	18.62

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	94.64	67.27	66.31	95.30	132.35	0.00	130.07	13.59	0.00	8.54	43.17	12.82
Movement LOS	F	E	E	F	F		F	B		A	D	B
d_A, Approach Delay [s/veh]	92.21			38.86			27.06			42.67		
Approach LOS	F			D			C			D		
d_I, Intersection Delay [s/veh]	46.10											
Intersection LOS	D											
Intersection V/C	0.819											

**Emissions**

Vehicle Miles Traveled [mph]	213.21	20.38	0.39	1.69	3.06	81.39	355.64	2.74	659.64	7.92
Stops [stops/h]	529.24	40.14	0.76	15.47	35.71	99.14	278.57	1.85	1720.42	7.84
Fuel consumption [US gal/h]	27.44	2.14	0.04	0.47	1.10	9.64	19.39	0.14	73.05	0.48
CO [g/h]	1917.94	149.53	2.85	32.52	77.18	674.17	1355.39	9.90	5105.99	33.44
NOx [g/h]	373.16	29.09	0.55	6.33	15.02	131.17	263.71	1.93	993.44	6.51
VOC [g/h]	444.50	34.65	0.66	7.54	17.89	156.25	314.13	2.30	1183.36	7.75

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			71.0			94.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			37.27			24.25		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			3.595			3.399		
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]	989			747			600			568		
d_b, Bicycle Delay [s]	24.25			37.27			46.55			48.67		
I_b,int, Bicycle LOS Score for Intersection	2.053			1.634			2.410			3.394		
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:	Roundabout	Delay (sec / veh):	11.4
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				tr						tr		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	15.00	15.00	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	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	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
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			Yes			No			Yes		

**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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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]	320	341	0	0	747	298	0	0	0	317	0	69
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	94	100	0	0	220	88	0	0	0	93	0	20
Total Analysis Volume [veh/h]	376	401	0	0	879	351	0	0	0	373	0	81
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			1			2		
Circulating Flow Rate [veh/h]	0			764			1277			793		
Exiting Flow Rate [veh/h]	1277			492			384			0		
Demand Flow Rate [veh/h]	320	341	0	0	747	298	0	0	0	317	0	69
Adjusted Demand Flow Rate [veh/h]	376	401	0	0	879	351	0	0	0	373	0	81

**Lanes**

Override 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
Override 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]	384	410	422	476	0		381	83
Capacity of Entry and Bypass Lanes [veh/h]	1350	1420	669	742	1025		652	724
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Capacity per Entry Lane [veh/h]	1324	1393	656	728	1005		639	710
X, volume / capacity	0.28	0.29	0.63	0.64	0.35		0.58	0.11

**Movement, Approach, & Intersection Results**

Lane LOS	A	A	C	C	A		C	A
95th-Percentile Queue Length [veh]	1.18	1.20	4.46	4.68	1.58		3.78	0.38
95th-Percentile Queue Length [ft]	29.47	30.05	111.49	116.95	39.50		94.62	9.61
Approach Delay [s/veh]	5.14		14.22				0.00	14.41
Approach LOS	A		B				A	B
Intersection Delay [s/veh]	11.39							
Intersection LOS	B							

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

Control Type:	Roundabout	Delay (sec / veh):	15.5
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	r						r			r		
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	0	0	0	0	0	0	0	0	0	1
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	1.00
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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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	154	70	168	896	0	69	171	392	101	0	439
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	45	21	49	264	0	20	50	115	30	0	129
Total Analysis Volume [veh/h]	0	181	82	198	1054	0	81	201	461	119	0	516
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			2			2		
Circulating Flow Rate [veh/h]	490			121			1398			267		
Exiting Flow Rate [veh/h]	1196			794			0			407		
Demand Flow Rate [veh/h]	0	154	70	168	896	0	69	171	392	101	0	439
Adjusted Demand Flow Rate [veh/h]	0	181	82	198	1054	0	81	201	461	119	0	516

**Lanes**

Override Calculated Critical Headway	No	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	4.00
Override Calculated Follow-Up Time	No	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	3.00
A (intercept)	1350.00	1420.00	1420.00	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00	1420.00
B (coefficient)	0.00092	0.00085	0.00085	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085	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	0.98
Entry Flow Rate [veh/h]	87	98	0	601	677	83	206	0	122	527	
Capacity of Entry and Bypass Lanes [veh/h]	861	937	1005	1208	1281	373	433	514	1056	1132	
Pedestrian Impedance	1.00	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]	844	919	986	1184	1256	366	425	504	1036	1110	
X, volume / capacity	0.10	0.10	0.08	0.50	0.53	0.22	0.47	0.92	0.11	0.47	

**Movement, Approach, & Intersection Results**

Lane LOS	A	A	A	A	A	B	C	F	A	A	
95th-Percentile Queue Length [veh]	0.34	0.35	0.27	2.86	3.22	0.83	2.48	10.76	0.39	2.52	
95th-Percentile Queue Length [ft]	8.38	8.72	6.79	71.40	80.54	20.86	62.05	268.92	9.71	63.09	
Approach Delay [s/veh]	4.86			8.59			37.61			7.64	
Approach LOS	A			A			E			A	
Intersection Delay [s/veh]	15.49										
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):	48.1
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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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]	61	10	141	267	529	39
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]	18	3	41	79	156	11
Total Analysis Volume [veh/h]	72	12	166	314	622	46
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	0.02	0.18	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	48.10	12.58	9.76	0.00	0.00	0.00
Movement LOS	E	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.20	0.08	0.65	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	55.02	1.89	16.36	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	43.03		3.38		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	4.25					
Intersection LOS	E					

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

Control Type:	Roundabout	Delay (sec / veh):	4.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

**Intersection Setup**

Name	Meadowbrook Pkwy			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	Meadowbrook Pkwy			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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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]	45	17	114	3	43	0	1	4	22	158	16	3
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	13	5	34	1	13	0	0	1	6	46	5	1
Total Analysis Volume [veh/h]	53	20	134	4	51	0	1	5	26	186	19	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			263			246			75		
Exiting Flow Rate [veh/h]	268			26			73			146		
Demand Flow Rate [veh/h]	45	17	114	3	43	0	1	4	22	158	16	3
Adjusted Demand Flow Rate [veh/h]	53	20	134	4	51	0	1	5	26	186	19	4

**Lanes**

Override Calculated Critical Headway	No			No			No			No		
User-Defined Critical Headway [s]	4.00			4.00			4.00			4.00		
Override 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]	212			57			33			214		
Capacity of Entry and Bypass Lanes [veh/h]	1366			1056			1074			1278		
Pedestrian Impedance	1.00			1.00			1.00			1.00		
Capacity per Entry Lane [veh/h]	1339			1035			1053			1253		
X, volume / capacity	0.15			0.05			0.03			0.17		

**Movement, Approach, & Intersection Results**

Lane LOS	A			A			A			A		
95th-Percentile Queue Length [veh]	0.55			0.17			0.09			0.60		
95th-Percentile Queue Length [ft]	13.66			4.21			2.35			14.95		
Approach Delay [s/veh]	3.95			3.94			3.68			4.28		
Approach LOS	A			A			A			A		
Intersection Delay [s/veh]	4.07											
Intersection LOS	A											

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

Control Type: Two-way stop  
 Analysis Method: HCM 7th Edition  
 Analysis Period: 15 minutes

Delay (sec / veh): 52.1  
 Level Of Service: F  
 Volume to Capacity (v/c): 0.026

**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	2	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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]	12	401	10	4	1031	3	2	1	5	12	3	4
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	118	3	1	303	1	1	0	1	4	1	1
Total Analysis Volume [veh/h]	14	472	12	5	1213	4	2	1	6	14	4	5
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	0.02	0.00	0.00	0.00	0.01	0.00	0.03	0.01	0.01	0.09	0.05	0.01
d_M, Delay for Movement [s/veh]	11.34	0.00	0.00	8.35	0.00	0.00	52.13	49.28	14.32	32.80	51.86	13.68
Movement LOS	B	A	A	A	A	A	F	E	B	D	F	B
95th-Percentile Queue Length [veh/ln]	0.02	0.01	0.00	0.01	0.00	0.00	0.16	0.16	0.16	0.50	0.50	0.50
95th-Percentile Queue Length [ft/ln]	0.59	0.29	0.00	0.21	0.10	0.00	4.02	4.02	4.02	12.56	12.56	12.56
d_A, Approach Delay [s/veh]	0.32			0.03			26.60			31.96		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	0.67											
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	568	408	71
2	551	396	69
3	540	388	67
4	506	363	63
5	449	322	56
6	443	318	55
7	437	314	55
8	398	286	50
9	392	282	49
10	386	277	48
11	335	241	42
12	312	224	39
13	307	220	38
14	227	163	28
15	227	163	28
16	159	114	20
17	91	65	11
18	91	65	11
19	51	37	6
20	28	20	4
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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	3	976	2	71	No	No	No	No	No	No	Yes	Yes	No	No
2	3	947	2	69	No	No	No	No	No	No	No	Yes	No	No
3	3	928	2	67	No	No	No	No	No	No	No	Yes	No	No
4	3	869	2	63	No	No	No	No	No	No	No	Yes	No	No
5	3	771	2	56	No	No	No	No	No	No	No	Yes	No	No
6	3	761	2	55	No	No	No	No	No	No	No	No	No	No
7	3	751	2	55	No	No	No	No	No	No	No	No	No	No
8	3	684	2	50	No	No	No	No	No	No	No	No	No	No
9	3	674	2	49	No	No	No	No	No	No	No	No	No	No
10	3	663	2	48	No	No	No	No	No	No	No	No	No	No
11	3	576	2	42	No	No	No	No	No	No	No	No	No	No
12	3	536	2	39	No	No	No	No	No	No	No	No	No	No
13	3	527	2	38	No	No	No	No	No	No	No	No	No	No
14	3	390	2	28	No	No	No	No	No	No	No	No	No	No
15	3	390	2	28	No	No	No	No	No	No	No	No	No	No
16	3	273	2	20	No	No	No	No	No	No	No	No	No	No
17	3	156	2	11	No	No	No	No	No	No	No	No	No	No
18	3	156	2	11	No	No	No	No	No	No	No	No	No	No
19	3	88	2	6	No	No	No	No	No	No	No	No	No	No
20	3	48	2	4	No	No	No	No	No	No	No	No	No	No
21	3	29	2	2	No	No	No	No	No	No	No	No	No	No
22	3	10	2	1	No	No	No	No	No	No	No	No	No	No
23	3	10	2	1	No	No	No	No	No	No	No	No	No	No
24	3	10	2	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	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	43
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach ([h]:mm)	0:50
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	71
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1047
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
<b>Warrant Met for Intersection</b>	<b>No</b>

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	423	1038	19	8
2	410	1007	18	8
3	402	986	18	8
4	376	924	17	7
5	334	820	15	6
6	330	810	15	6
7	326	799	15	6
8	296	727	13	6
9	292	716	13	6
10	288	706	13	5
11	250	612	11	5
12	233	571	10	4
13	228	561	10	4
14	169	415	8	3
15	169	415	8	3
16	118	291	5	2
17	68	166	3	1
18	68	166	3	1
19	38	93	2	1
20	21	52	1	0
21	13	31	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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	1461	1	19	No	No	No	No	No	No	No	No	No	No
2	2	1417	1	18	No	No	No	No	No	No	No	No	No	No
3	2	1388	1	18	No	No	No	No	No	No	No	No	No	No
4	2	1300	1	17	No	No	No	No	No	No	No	No	No	No
5	2	1154	1	15	No	No	No	No	No	No	No	No	No	No
6	2	1140	1	15	No	No	No	No	No	No	No	No	No	No
7	2	1125	1	15	No	No	No	No	No	No	No	No	No	No
8	2	1023	1	13	No	No	No	No	No	No	No	No	No	No
9	2	1008	1	13	No	No	No	No	No	No	No	No	No	No
10	2	994	1	13	No	No	No	No	No	No	No	No	No	No
11	2	862	1	11	No	No	No	No	No	No	No	No	No	No
12	2	804	1	10	No	No	No	No	No	No	No	No	No	No
13	2	789	1	10	No	No	No	No	No	No	No	No	No	No
14	2	584	1	8	No	No	No	No	No	No	No	No	No	No
15	2	584	1	8	No	No	No	No	No	No	No	No	No	No
16	2	409	1	5	No	No	No	No	No	No	No	No	No	No
17	2	234	1	3	No	No	No	No	No	No	No	No	No	No
18	2	234	1	3	No	No	No	No	No	No	No	No	No	No
19	2	131	1	2	No	No	No	No	No	No	No	No	No	No
20	2	73	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	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)	32	26.6
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:10	0:03
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	19	8
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1488	1488
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
<b>Warrant Met for Intersection</b>	<b>No</b>	

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

Control Type:	Signalized	Delay (sec / veh):	12.7
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.470

**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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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	418	0	0	0	42
Total Hourly Volume [veh/h]	286	418	200	177	244	41
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]	84	123	59	52	72	12
Total Analysis Volume [veh/h]	336	492	235	208	287	48
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	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
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]	18	18	28	28	8	8
g / C, Green / Cycle	0.37	0.37	0.58	0.58	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.18	0.31	0.24	0.06	0.08	0.03
s, saturation flow rate [veh/h]	1870	1589	979	3560	3459	1589
c, Capacity [veh/h]	700	595	708	2070	576	265
d1, Uniform Delay [s]	11.35	13.48	5.45	4.43	18.03	17.04
k, delay calibration	0.11	0.11	0.16	0.11	0.04	0.04
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.51	3.00	0.41	0.02	0.25	0.12
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	0.83	0.33	0.10	0.50	0.18
d, Delay for Lane Group [s/veh]	11.86	16.49	5.86	4.45	18.27	17.16
Lane Group LOS	B	B	A	A	B	B
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.30	4.33	0.80	0.30	1.25	0.40
50th-Percentile Queue Length [ft/ln]	57.55	108.19	19.95	7.46	31.33	9.97
95th-Percentile Queue Length [veh/ln]	4.14	7.74	1.44	0.54	2.26	0.72
95th-Percentile Queue Length [ft/ln]	103.58	193.48	35.91	13.43	56.39	17.95

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	11.86	16.49	5.86	4.45	18.27	17.16
Movement LOS	B	B	A	A	B	B
d_A, Approach Delay [s/veh]	14.61		5.20		18.11	
Approach LOS	B		A		B	
d_I, Intersection Delay [s/veh]	12.74					
Intersection LOS	B					
Intersection V/C	0.470					

**Emissions**

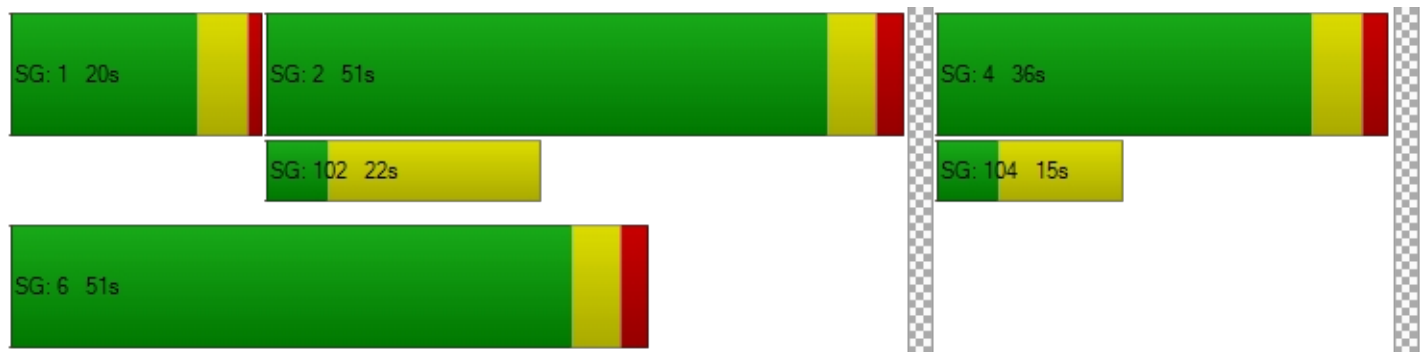
Vehicle Miles Traveled [mph]	47.67	69.80	23.29	20.61	54.09	9.05
Stops [stops/h]	174.51	328.08	60.49	45.25	190.02	30.25
Fuel consumption [US gal/h]	3.74	6.34	1.57	1.29	4.56	0.74
CO [g/h]	261.26	442.94	109.98	89.96	318.62	51.73
NOx [g/h]	50.83	86.18	21.40	17.50	61.99	10.06
VOC [g/h]	60.55	102.66	25.49	20.85	73.84	11.99

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		15.60		15.60	
I_p,int, Pedestrian LOS Score for Intersectio	0.000		2.310		2.812	
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]	1895		1895		1264	
d_b, Bicycle Delay [s]	0.07		0.07		3.22	
I_b,int, Bicycle LOS Score for Intersection	3.616		1.925		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/ Meadowbrook Pkwy**

Control Type:	Signalized	Delay (sec / veh):	34.2
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.774

**Intersection Setup**

Name	SH-94			Meadowbrook Pkwy			US-24			US-24		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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			Meadowbrook Pkwy			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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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	87	0	0	207	0	0	13
Total Hourly Volume [veh/h]	424	32	2	27	52	87	162	1804	206	7	891	12
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	125	9	1	8	15	26	48	531	61	2	262	4
Total Analysis Volume [veh/h]	499	38	2	32	61	102	191	2122	242	8	1048	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]	160
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	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	245.0	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	6.0	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]	30	41	0	60	71	0	14	46	0	13	45	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]	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	6.50	6.00	6.00	6.50	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]	4.50	4.00	4.00	4.50	4.00	0.00	5.00	0.00	5.00	5.00
g_i, Effective Green Time [s]	24	27	27	3	7	110	102	110	96	96
g / C, Green / Cycle	0.15	0.17	0.17	0.02	0.04	0.69	0.63	0.69	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.14	0.01	0.00	0.01	0.03	0.29	0.60	0.03	0.29	0.01
s, saturation flow rate [veh/h]	3459	3560	1589	3459	1870	668	3560	282	3560	1589
c, Capacity [veh/h]	508	611	273	70	84	432	2259	156	2132	952
d1, Uniform Delay [s]	68.04	55.49	54.97	77.52	75.43	12.70	26.47	33.15	18.25	12.99
k, delay calibration	0.04	0.04	0.04	0.04	0.23	0.50	0.50	0.04	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.92	0.02	0.00	1.73	22.24	3.26	9.24	0.05	0.81	0.03
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	0.06	0.01	0.46	0.73	0.44	0.94	0.05	0.49	0.01
d, Delay for Lane Group [s/veh]	75.96	55.51	54.97	79.25	97.67	15.97	35.72	33.20	19.06	13.02
Lane Group LOS	E	E	D	E	F	B	D	C	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.44	0.63	0.07	0.67	3.02	2.51	34.95	0.08	10.48	0.20
50th-Percentile Queue Length [ft/ln]	261.04	15.78	1.65	16.85	75.38	62.71	873.63	2.04	261.92	5.05
95th-Percentile Queue Length [veh/ln]	15.74	1.14	0.12	1.21	5.43	4.52	44.64	0.15	15.79	0.36
95th-Percentile Queue Length [ft/ln]	393.53	28.40	2.97	30.33	135.69	112.88	1116.00	3.68	394.63	9.10

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	75.96	55.51	54.97	79.25	97.67	0.00	15.97	35.72	0.00	33.20	19.06	13.02
Movement LOS	E	E	D	E	F		B	D		C	B	B
d_A, Approach Delay [s/veh]	74.44			47.19			31.30			19.09		
Approach LOS	E			D			C			B		
d_I, Intersection Delay [s/veh]	34.20											
Intersection LOS	C											
Intersection V/C	0.774											

**Emissions**

Vehicle Miles Traveled [mph]	195.57	14.89	0.78	3.38	6.44	80.96	899.49	2.44	319.16	4.26
Stops [stops/h]	469.87	28.40	1.48	30.33	67.85	56.44	1572.53	1.84	471.46	4.55
Fuel consumption [US gal/h]	22.98	1.45	0.08	0.82	1.85	4.38	74.72	0.17	23.50	0.26
CO [g/h]	1606.47	101.70	5.32	57.50	129.46	305.97	5222.99	11.86	1642.53	18.47
NOx [g/h]	312.56	19.79	1.04	11.19	25.19	59.53	1016.20	2.31	319.58	3.59
VOC [g/h]	372.32	23.57	1.23	13.33	30.00	70.91	1210.48	2.75	380.67	4.28

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			65.0			35.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			28.20			48.83		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			3.607			3.453		
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]	438			813			488			475		
d_b, Bicycle Delay [s]	48.83			28.20			45.75			46.51		
I_b,int, Bicycle LOS Score for Intersection	2.006			1.713			3.468			2.453		
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:	Roundabout	Delay (sec / veh):	10.8
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				tr						tr		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	15.00	15.00	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	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	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
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			Yes			No			Yes		

**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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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]	499	1058	0	0	262	176	0	0	0	25	0	73
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	147	311	0	0	77	52	0	0	0	7	0	21
Total Analysis Volume [veh/h]	587	1245	0	0	308	207	0	0	0	29	0	86
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			1			2		
Circulating Flow Rate [veh/h]	0			628			344			1869		
Exiting Flow Rate [veh/h]	344			1358			599			0		
Demand Flow Rate [veh/h]	499	1058	0	0	262	176	0	0	0	25	0	73
Adjusted Demand Flow Rate [veh/h]	587	1245	0	0	308	207	0	0	0	29	0	86

**Lanes**

Override 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
Override 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]	879	991	148	167	0		30	88
Capacity of Entry and Bypass Lanes [veh/h]	1350	1420	758	833	854		242	291
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Capacity per Entry Lane [veh/h]	1324	1393	743	817	837		238	285
X, volume / capacity	0.65	0.70	0.19	0.20	0.25		0.12	0.30

**Movement, Approach, & Intersection Results**

Lane LOS	B	B	A	A	A		C	C
95th-Percentile Queue Length [veh]	5.13	6.19	0.72	0.74	0.97		0.41	1.24
95th-Percentile Queue Length [ft]	128.25	154.71	17.99	18.58	24.35		10.28	30.97
Approach Delay [s/veh]	11.37		6.82				0.00	19.14
Approach LOS	B		A				A	C
Intersection Delay [s/veh]	10.78							
Intersection LOS	B							

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

Control Type:	Roundabout	Delay (sec / veh):	30.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
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	0	0	0	0	0	0	0	0	0	1
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	1.00
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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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	930	374	279	3	0	227	106	12	3	0	399
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	274	110	82	1	0	67	31	4	1	0	117
Total Analysis Volume [veh/h]	0	1094	440	328	4	0	267	125	14	4	0	469
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			2			2		
Circulating Flow Rate [veh/h]	734			4			343			1388		
Exiting Flow Rate [veh/h]	8			1867			0			462		
Demand Flow Rate [veh/h]	0	930	374	279	3	0	227	106	12	3	0	399
Adjusted Demand Flow Rate [veh/h]	0	1094	440	328	4	0	267	125	14	4	0	469

**Lanes**

Override Calculated Critical Headway	No	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	4.00
Override Calculated Follow-Up Time	No	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	3.00
A (intercept)	1350.00	1420.00	1420.00	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00	1420.00
B (coefficient)	0.00092	0.00085	0.00085	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085	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	0.98
Entry Flow Rate [veh/h]	525	592	0	335	5	212	188	0	5	479	
Capacity of Entry and Bypass Lanes [veh/h]	687	761	959	1345	1416	985	1062	1411	377	437	
Pedestrian Impedance	1.00	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]	674	746	940	1319	1388	966	1041	1383	370	428	
X, volume / capacity	0.76	0.78	0.47	0.25	0.00	0.22	0.18	0.01	0.01	1.10	

**Movement, Approach, & Intersection Results**

Lane LOS	C	C	A	A	A	A	A	A	A	A	F
95th-Percentile Queue Length [veh]	7.13	7.66	2.54	0.99	0.01	0.82	0.64	0.03	0.03	0.03	16.09
95th-Percentile Queue Length [ft]	178.27	191.43	63.43	24.64	0.22	20.39	16.04	0.77	0.82	0.82	402.14
Approach Delay [s/veh]	19.71			4.85			5.38			102.29	
Approach LOS	C			A			A			F	
Intersection Delay [s/veh]	30.02										
Intersection LOS	D										



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

Control Type:	Two-way stop	Delay (sec / veh):	135.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.660

**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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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]	36	46	344	409	356	19
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]	11	14	101	120	105	6
Total Analysis Volume [veh/h]	42	54	405	481	419	22
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	0.66	0.09	0.36	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	135.45	11.20	10.03	0.00	0.00	0.00
Movement LOS	F	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	2.84	0.28	1.67	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	70.97	6.95	41.76	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	65.56		4.59		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	7.28					
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	Meadowbrook Pkwy			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	Meadowbrook Pkwy			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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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]	36	39	74	2	15	2	0	16	49	181	5	10
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	11	22	1	4	1	0	5	14	53	1	3
Total Analysis Volume [veh/h]	42	46	87	2	18	2	0	19	58	213	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]	21			266			238			90		
Exiting Flow Rate [veh/h]	295			59			51			110		
Demand Flow Rate [veh/h]	36	39	74	2	15	2	0	16	49	181	5	10
Adjusted Demand Flow Rate [veh/h]	42	46	87	2	18	2	0	19	58	213	6	12

**Lanes**

Override Calculated Critical Headway	No			No			No			No		
User-Defined Critical Headway [s]	4.00			4.00			4.00			4.00		
Override 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]	179			23			79			236		
Capacity of Entry and Bypass Lanes [veh/h]	1351			1052			1083			1260		
Pedestrian Impedance	1.00			1.00			1.00			1.00		
Capacity per Entry Lane [veh/h]	1324			1032			1062			1235		
X, volume / capacity	0.13			0.02			0.07			0.19		

**Movement, Approach, & Intersection Results**

Lane LOS	A			A			A			A		
95th-Percentile Queue Length [veh]	0.46			0.07			0.23			0.69		
95th-Percentile Queue Length [ft]	11.39			1.63			5.85			17.17		
Approach Delay [s/veh]	3.79			3.67			4.02			4.52		
Approach LOS	A			A			A			A		
Intersection Delay [s/veh]	4.16											
Intersection LOS	A											

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

Control Type:	Two-way stop	Delay (sec / veh):	68.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.184

**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	2	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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]	27	1094	9	2	414	5	17	0	14	10	0	10
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	322	3	1	122	1	5	0	4	3	0	3
Total Analysis Volume [veh/h]	32	1287	11	2	487	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	0.15	0.00	0.02	0.18	0.00	0.03
d_M, Delay for Movement [s/veh]	8.41	0.00	0.00	11.80	0.00	0.00	36.56	60.78	13.49	68.48	65.29	22.14
Movement LOS	A	A	A	B	A	A	E	F	B	F	F	C
95th-Percentile Queue Length [veh/ln]	0.05	0.03	0.00	0.00	0.00	0.00	0.62	0.62	0.62	0.76	0.76	0.76
95th-Percentile Queue Length [ft/ln]	1.36	0.68	0.00	0.08	0.04	0.00	15.55	15.55	15.55	18.96	18.96	18.96
d_A, Approach Delay [s/veh]	0.20			0.05			26.31			45.31		
Approach LOS	A			A			D			E		
d_I, Intersection Delay [s/veh]	1.23											
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	375	753	82
2	364	730	80
3	356	715	78
4	334	670	73
5	296	595	65
6	293	587	64
7	289	580	63
8	263	527	57
9	259	520	57
10	255	512	56
11	221	444	48
12	206	414	45
13	203	407	44
14	150	301	33
15	150	301	33
16	105	211	23
17	60	120	13
18	60	120	13
19	34	68	7
20	19	38	4
21	11	23	2
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 Condition B	
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%			
1	3	1128	2	82	No	No	No	No	No	Yes	Yes	Yes	No	No	
2	3	1094	2	80	No	No	No	No	No	Yes	Yes	Yes	No	No	
3	3	1071	2	78	No	No	No	No	No	No	Yes	Yes	No	No	
4	3	1004	2	73	No	No	No	No	No	No	Yes	Yes	No	No	
5	3	891	2	65	No	No	No	No	No	No	No	Yes	No	No	
6	3	880	2	64	No	No	No	No	No	No	No	Yes	No	No	
7	3	869	2	63	No	No	No	No	No	No	No	Yes	No	No	
8	3	790	2	57	No	No	No	No	No	No	No	Yes	No	No	
9	3	779	2	57	No	No	No	No	No	No	No	Yes	No	No	
10	3	767	2	56	No	No	No	No	No	No	No	Yes	No	No	
11	3	665	2	48	No	No	No	No	No	No	No	No	No	No	
12	3	620	2	45	No	No	No	No	No	No	No	No	No	No	
13	3	610	2	44	No	No	No	No	No	No	No	No	No	No	
14	3	451	2	33	No	No	No	No	No	No	No	No	No	No	
15	3	451	2	33	No	No	No	No	No	No	No	No	No	No	
16	3	316	2	23	No	No	No	No	No	No	No	No	No	No	
17	3	180	2	13	No	No	No	No	No	No	No	No	No	No	
18	3	180	2	13	No	No	No	No	No	No	No	No	No	No	
19	3	102	2	7	No	No	No	No	No	No	No	No	No	No	
20	3	57	2	4	No	No	No	No	No	No	No	No	No	No	
21	3	34	2	2	No	No	No	No	No	No	No	No	No	No	
22	3	12	2	1	No	No	No	No	No	No	No	No	No	No	
23	3	12	2	1	No	No	No	No	No	No	No	No	No	No	
24	3	12	2	1	No	No	No	No	No	No	No	No	No	No	
Hours Met					0	0	0	0	0	0	2	4	10	0	0

### Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	65.6
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	1:29
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	82
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1210
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
<b>Warrant Met for Intersection</b>	<b>No</b>



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	1130	421	20	31
2	1096	408	19	30
3	1074	400	19	29
4	1006	375	18	28
5	893	333	16	24
6	881	328	16	24
7	870	324	15	24
8	791	295	14	22
9	780	290	14	21
10	768	286	14	21
11	667	248	12	18
12	622	232	11	17
13	610	227	11	17
14	452	168	8	12
15	452	168	8	12
16	316	118	6	9
17	181	67	3	5
18	181	67	3	5
19	102	38	2	3
20	57	21	1	2
21	34	13	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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	1551	1	31	No	No	No	No	No	No	No	No	No	No
2	2	1504	1	30	No	No	No	No	No	No	No	No	No	No
3	2	1474	1	29	No	No	No	No	No	No	No	No	No	No
4	2	1381	1	28	No	No	No	No	No	No	No	No	No	No
5	2	1226	1	24	No	No	No	No	No	No	No	No	No	No
6	2	1209	1	24	No	No	No	No	No	No	No	No	No	No
7	2	1194	1	24	No	No	No	No	No	No	No	No	No	No
8	2	1086	1	22	No	No	No	No	No	No	No	No	No	No
9	2	1070	1	21	No	No	No	No	No	No	No	No	No	No
10	2	1054	1	21	No	No	No	No	No	No	No	No	No	No
11	2	915	1	18	No	No	No	No	No	No	No	No	No	No
12	2	854	1	17	No	No	No	No	No	No	No	No	No	No
13	2	837	1	17	No	No	No	No	No	No	No	No	No	No
14	2	620	1	12	No	No	No	No	No	No	No	No	No	No
15	2	620	1	12	No	No	No	No	No	No	No	No	No	No
16	2	434	1	9	No	No	No	No	No	No	No	No	No	No
17	2	248	1	5	No	No	No	No	No	No	No	No	No	No
18	2	248	1	5	No	No	No	No	No	No	No	No	No	No
19	2	140	1	3	No	No	No	No	No	No	No	No	No	No
20	2	78	1	2	No	No	No	No	No	No	No	No	No	No
21	2	47	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)	45.3	26.3
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:15	0:13
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	20	31
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1602	1602
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
<b>Warrant Met for Intersection</b>	<b>No</b>	

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

Control Type:	Signalized	Delay (sec / veh):	15.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

**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	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	5	0	0	2	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	70	0	0	0	73
Total Hourly Volume [veh/h]	276	69	95	252	787	72
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]	81	20	28	74	231	21
Total Analysis Volume [veh/h]	325	81	112	296	926	85
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	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
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	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.17	0.05	0.09	0.08	0.27	0.05
s, saturation flow rate [veh/h]	1870	1589	1214	3560	3459	1589
c, Capacity [veh/h]	536	456	617	1638	1073	493
d1, Uniform Delay [s]	16.09	14.01	8.80	8.31	16.98	13.14
k, delay calibration	0.11	0.11	0.04	0.11	0.04	0.04
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.11	0.18	0.05	0.05	0.83	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	0.61	0.18	0.18	0.18	0.86	0.17
d, Delay for Lane Group [s/veh]	17.20	14.19	8.85	8.36	17.81	13.20
Lane Group LOS	B	B	A	A	B	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.09	0.66	0.60	0.81	4.48	0.63
50th-Percentile Queue Length [ft/ln]	77.30	16.46	14.95	20.19	112.07	15.68
95th-Percentile Queue Length [veh/ln]	5.57	1.19	1.08	1.45	7.95	1.13
95th-Percentile Queue Length [ft/ln]	139.13	29.63	26.91	36.35	198.87	28.23

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	17.20	14.19	8.85	8.36	17.81	13.20
Movement LOS	B	B	A	A	B	B
d_A, Approach Delay [s/veh]	16.60		8.50		17.42	
Approach LOS	B		A		B	
d_I, Intersection Delay [s/veh]	15.24					
Intersection LOS	B					
Intersection V/C	0.484					

**Emissions**

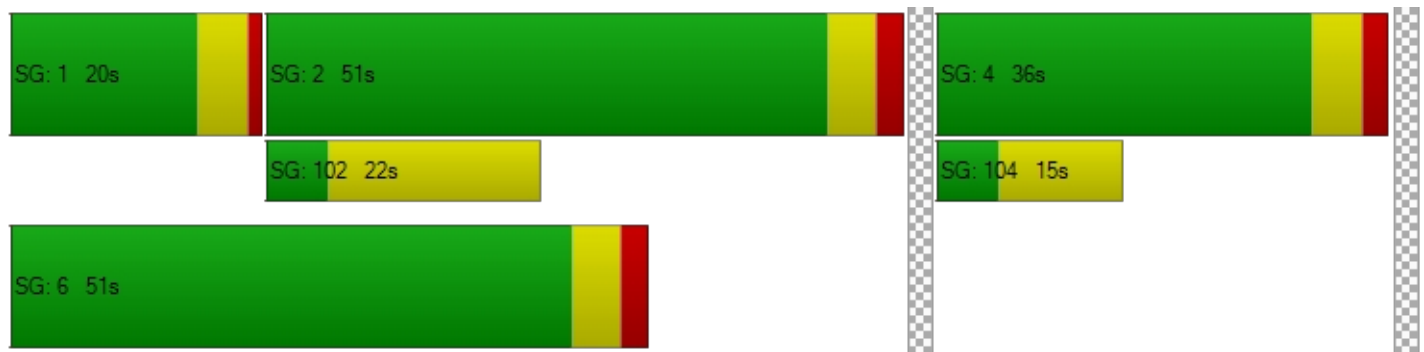
Vehicle Miles Traveled [mph]	46.11	11.49	11.10	29.34	174.53	16.02
Stops [stops/h]	213.46	45.45	41.29	111.52	618.95	43.31
Fuel consumption [US gal/h]	4.21	0.96	0.89	2.33	14.66	1.16
CO [g/h]	294.63	66.97	61.99	162.69	1025.03	81.41
NOx [g/h]	57.32	13.03	12.06	31.65	199.43	15.84
VOC [g/h]	68.28	15.52	14.37	37.71	237.56	18.87

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		17.85		17.85	
I_p,int, Pedestrian LOS Score for Intersectio	0.000		2.321		2.735	
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]	1726		1726		1151	
d_b, Bicycle Delay [s]	0.49		0.49		4.70	
I_b,int, Bicycle LOS Score for Intersection	2.345		1.896		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/ Meadowbrook Pkwy**

Control Type:	Signalized	Delay (sec / veh):	48.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.822

**Intersection Setup**

Name	SH-94			Meadowbrook Pkwy			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			Meadowbrook Pkwy			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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	12	5	0	0	0	0	0	1	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
Right Turn on Red Volume [veh/h]	0	0	1	0	0	94	0	0	314	0	0	24
Total Hourly Volume [veh/h]	462	46	1	26	30	93	163	713	313	8	1842	24
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	136	14	0	8	9	27	48	210	92	2	542	7
Total Analysis Volume [veh/h]	544	54	1	31	35	109	192	839	368	9	2167	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]	200
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	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	245.0	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	6.0	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]	37	39	0	66	68	0	17	33	0	62	78	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]	200	200	200	200	200	200	200	200	200	200
L, Total Lost Time per Cycle [s]	6.50	6.00	6.00	6.50	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]	4.50	4.00	4.00	4.50	4.00	0.00	5.00	0.00	5.00	5.00
g_i, Effective Green Time [s]	31	32	32	3	5	145	136	145	128	128
g / C, Green / Cycle	0.15	0.16	0.16	0.02	0.03	0.72	0.68	0.72	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.16	0.02	0.00	0.01	0.02	0.56	0.24	0.01	0.61	0.02
s, saturation flow rate [veh/h]	3459	3560	1589	3459	1870	344	3560	709	3560	1589
c, Capacity [veh/h]	527	574	256	58	48	203	2421	500	2277	1016
d1, Uniform Delay [s]	84.75	71.42	70.39	97.56	96.78	80.28	13.40	8.70	33.21	13.23
k, delay calibration	0.04	0.04	0.04	0.04	0.23	0.50	0.50	0.04	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	20.37	0.03	0.00	2.86	36.81	50.90	0.39	0.01	10.51	0.05
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	1.03	0.09	0.00	0.54	0.73	0.95	0.35	0.02	0.95	0.03
d, Delay for Lane Group [s/veh]	105.12	71.45	70.39	100.42	133.58	131.17	13.80	8.70	43.72	13.28
Lane Group LOS	F	E	E	F	F	F	B	A	D	B
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	14.89	1.17	0.04	0.83	2.32	5.29	7.68	0.10	47.62	0.47
50th-Percentile Queue Length [ft/ln]	372.31	29.23	1.07	20.81	57.90	132.29	191.93	2.57	1190.51	11.76
95th-Percentile Queue Length [veh/ln]	21.55	2.10	0.08	1.50	4.17	9.06	12.22	0.18	58.94	0.85
95th-Percentile Queue Length [ft/ln]	538.76	52.62	1.92	37.45	104.22	226.60	305.53	4.62	1473.45	21.16

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	105.12	71.45	70.39	100.42	133.58	0.00	131.17	13.80	0.00	8.70	43.72	13.28
Movement LOS	F	E	E	F	F		F	B		A	D	B
d_A, Approach Delay [s/veh]	102.03			48.98			27.35			43.19		
Approach LOS	F			D			C			D		
d_I, Intersection Delay [s/veh]	48.14											
Intersection LOS	D											
Intersection V/C	0.822											

**Emissions**

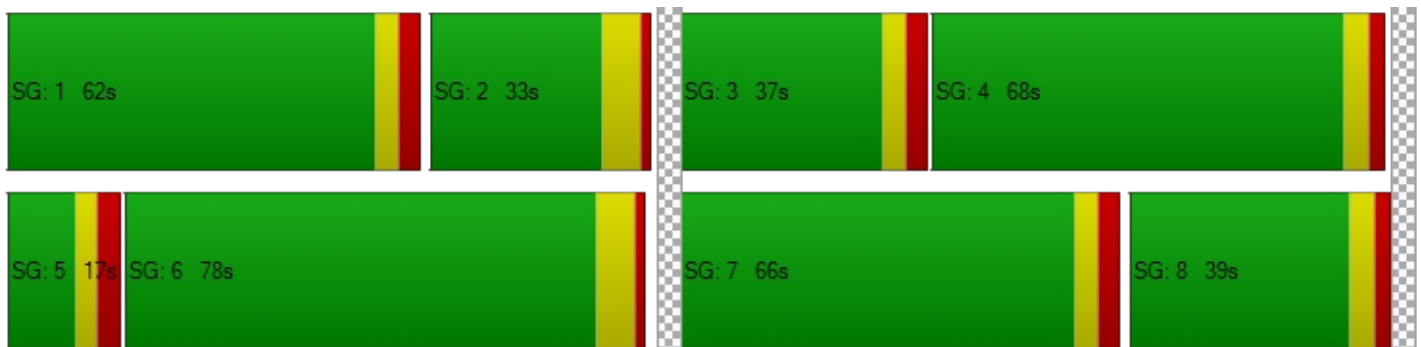
Vehicle Miles Traveled [mph]	213.21	21.16	0.39	3.27	3.69	81.39	355.64	2.74	659.94	8.53
Stops [stops/h]	536.12	42.09	0.77	29.96	41.69	95.25	276.38	1.85	1714.34	8.46
Fuel consumption [US gal/h]	28.73	2.27	0.04	0.93	1.33	9.62	19.39	0.14	73.20	0.52
CO [g/h]	2007.94	159.01	2.92	65.26	93.22	672.13	1355.08	9.92	5116.36	36.22
NOx [g/h]	390.67	30.94	0.57	12.70	18.14	130.77	263.65	1.93	995.46	7.05
VOC [g/h]	465.36	36.85	0.68	15.12	21.60	155.77	314.05	2.30	1185.77	8.39

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			62.0			33.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			47.61			69.72		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			3.605			3.447		
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]	330			620			260			710		
d_b, Bicycle Delay [s]	69.72			47.61			75.69			41.60		
I_b,int, Bicycle LOS Score for Intersection	2.055			1.669			2.410			3.398		
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:	Roundabout	Delay (sec / veh):	11.5
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				tr						tr		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	15.00	15.00	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	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	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
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			Yes			No			Yes		

**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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	0	0	8	14	0	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]	320	348	0	0	755	312	0	0	0	317	0	70
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	94	102	0	0	222	92	0	0	0	93	0	21
Total Analysis Volume [veh/h]	376	409	0	0	888	367	0	0	0	373	0	82
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			1			2		
Circulating Flow Rate [veh/h]	0			764			1286			801		
Exiting Flow Rate [veh/h]	1286			501			384			0		
Demand Flow Rate [veh/h]	320	348	0	0	755	312	0	0	0	317	0	70
Adjusted Demand Flow Rate [veh/h]	376	409	0	0	888	367	0	0	0	373	0	82

**Lanes**

Override 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
Override 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]	384	418	426	481	0		381	84
Capacity of Entry and Bypass Lanes [veh/h]	1350	1420	669	742	1025		647	719
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Capacity per Entry Lane [veh/h]	1324	1393	656	728	1005		634	705
X, volume / capacity	0.28	0.29	0.64	0.65	0.37		0.59	0.12

**Movement, Approach, & Intersection Results**

Lane LOS	A	A	C	C	A		C	A
95th-Percentile Queue Length [veh]	1.18	1.24	4.56	4.79	1.69		3.84	0.39
95th-Percentile Queue Length [ft]	29.47	30.89	114.03	119.70	42.26		96.03	9.82
Approach Delay [s/veh]	5.17		14.40				0.00	14.61
Approach LOS	A		B				A	B
Intersection Delay [s/veh]	11.53							
Intersection LOS	B							

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

Control Type:	Roundabout	Delay (sec / veh):	15.6
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	0	0	0	0	0	0	0	0	0	1
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	1.00
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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	2	3	3	5	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	156	70	170	899	3	74	171	392	101	0	439
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	46	21	50	264	1	22	50	115	30	0	129
Total Analysis Volume [veh/h]	0	184	82	200	1058	4	87	201	461	119	0	516
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			2			2		
Circulating Flow Rate [veh/h]	498			121			1405			276		
Exiting Flow Rate [veh/h]	1201			803			0			409		
Demand Flow Rate [veh/h]	0	156	70	170	899	0	74	171	392	101	0	439
Adjusted Demand Flow Rate [veh/h]	0	184	82	200	1058	0	87	201	461	119	0	516

**Lanes**

Override Calculated Critical Headway	No	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	4.00
Override Calculated Follow-Up Time	No	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	3.00
A (intercept)	1350.00	1420.00	1420.00	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00	1420.00
B (coefficient)	0.00092	0.00085	0.00085	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085	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	0.98
Entry Flow Rate [veh/h]	89	100	0	604	681	89	206	0	122	527	
Capacity of Entry and Bypass Lanes [veh/h]	854	931	1003	1208	1281	371	431	512	1047	1123	
Pedestrian Impedance	1.00	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]	838	912	984	1184	1256	364	422	502	1027	1101	
X, volume / capacity	0.10	0.11	0.08	0.50	0.53	0.24	0.48	0.92	0.12	0.47	

**Movement, Approach, & Intersection Results**

Lane LOS	A	A	A	A	A	B	C	F	A	A	
95th-Percentile Queue Length [veh]	0.34	0.36	0.27	2.88	3.25	0.92	2.50	10.84	0.39	2.56	
95th-Percentile Queue Length [ft]	8.61	8.95	6.81	72.05	81.31	22.98	62.57	271.11	9.80	63.96	
Approach Delay [s/veh]	4.90			8.63			37.95			7.73	
Approach LOS	A			A			E			A	
Intersection Delay [s/veh]	15.64										
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):	48.3
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.473

**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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	2	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]	61	10	141	269	529	39
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]	18	3	41	79	156	11
Total Analysis Volume [veh/h]	72	12	166	316	622	46
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	0.02	0.18	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	48.31	12.58	9.76	0.00	0.00	0.00
Movement LOS	E	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.21	0.08	0.65	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	55.23	1.89	16.36	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	43.21		3.36		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	4.25					
Intersection LOS	E					

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

Control Type:	Roundabout	Delay (sec / veh):	4.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

**Intersection Setup**

Name	Meadowbrook Pkwy			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	Meadowbrook Pkwy			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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	0	0	0	0	2	17	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]	50	17	114	3	43	0	1	6	39	158	16	3
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	15	5	34	1	13	0	0	2	11	46	5	1
Total Analysis Volume [veh/h]	59	20	134	4	51	0	1	7	46	186	19	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			269			246			82		
Exiting Flow Rate [veh/h]	289			26			80			148		
Demand Flow Rate [veh/h]	50	17	114	3	43	0	1	6	39	158	16	3
Adjusted Demand Flow Rate [veh/h]	59	20	134	4	51	0	1	7	46	186	19	4

**Lanes**

Override Calculated Critical Headway	No			No			No			No		
User-Defined Critical Headway [s]	4.00			4.00			4.00			4.00		
Override 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]	218			57			56			214		
Capacity of Entry and Bypass Lanes [veh/h]	1363			1049			1074			1270		
Pedestrian Impedance	1.00			1.00			1.00			1.00		
Capacity per Entry Lane [veh/h]	1337			1029			1053			1245		
X, volume / capacity	0.16			0.05			0.05			0.17		

**Movement, Approach, & Intersection Results**

Lane LOS	A			A			A			A		
95th-Percentile Queue Length [veh]	0.57			0.17			0.16			0.60		
95th-Percentile Queue Length [ft]	14.17			4.23			4.05			15.06		
Approach Delay [s/veh]	4.00			3.97			3.86			4.31		
Approach LOS	A			A			A			A		
Intersection Delay [s/veh]	4.11											
Intersection LOS	A											

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

Control Type:	Two-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

**Intersection Setup**

Name	Peterson Rd			Peterson Rd			Panamint Ct			Panamint Ct		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	IT			IT			R			R		
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	2	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	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	394	10	4	988	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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	4	0	22	0	0	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	12	417	14	4	1057	3	2	1	8	12	3	23
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	123	4	1	311	1	1	0	2	4	1	7
Total Analysis Volume [veh/h]	14	491	16	5	1244	4	2	1	9	14	4	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	13.59	0.00	0.00	10.01
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	0.06	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	1.61	0.00	0.00	2.81
d_A, Approach Delay [s/veh]	0.00			0.00			13.59			10.01		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.22											
Intersection LOS	B											

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

Control Type:	Two-way stop	Delay (sec / veh):	25.4
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.130

**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	Yes		Yes		Yes	

**Volumes**

Name	Peterson Rd		Peterson Rd		Meadowbrook Pk	
Base Volume Input [veh/h]	403	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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	6	2	0	22	5
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]	424	6	2	1038	22	5
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]	125	2	1	305	6	1
Total Analysis Volume [veh/h]	499	7	2	1221	26	6
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	0.13	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	8.41	0.00	25.39	12.28
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.47	0.47
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.08	0.04	11.74	11.74
d_A, Approach Delay [s/veh]	0.00		0.01		22.93	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.43					
Intersection LOS	D					

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	568	410	71
2	551	398	69
3	540	390	67
4	506	365	63
5	449	324	56
6	443	320	55
7	437	316	55
8	398	287	50
9	392	283	49
10	386	279	48
11	335	242	42
12	312	226	39
13	307	221	38
14	227	164	28
15	227	164	28
16	159	115	20
17	91	66	11
18	91	66	11
19	51	37	6
20	28	21	4
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 Condition B	
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%			
1	3	978	2	71	No	No	No	No	No	No	Yes	Yes	No	No	
2	3	949	2	69	No	No	No	No	No	No	No	Yes	No	No	
3	3	930	2	67	No	No	No	No	No	No	No	Yes	No	No	
4	3	871	2	63	No	No	No	No	No	No	No	Yes	No	No	
5	3	773	2	56	No	No	No	No	No	No	No	Yes	No	No	
6	3	763	2	55	No	No	No	No	No	No	No	No	No	No	
7	3	753	2	55	No	No	No	No	No	No	No	No	No	No	
8	3	685	2	50	No	No	No	No	No	No	No	No	No	No	
9	3	675	2	49	No	No	No	No	No	No	No	No	No	No	
10	3	665	2	48	No	No	No	No	No	No	No	No	No	No	
11	3	577	2	42	No	No	No	No	No	No	No	No	No	No	
12	3	538	2	39	No	No	No	No	No	No	No	No	No	No	
13	3	528	2	38	No	No	No	No	No	No	No	No	No	No	
14	3	391	2	28	No	No	No	No	No	No	No	No	No	No	
15	3	391	2	28	No	No	No	No	No	No	No	No	No	No	
16	3	274	2	20	No	No	No	No	No	No	No	No	No	No	
17	3	157	2	11	No	No	No	No	No	No	No	No	No	No	
18	3	157	2	11	No	No	No	No	No	No	No	No	No	No	
19	3	88	2	6	No	No	No	No	No	No	No	No	No	No	
20	3	49	2	4	No	No	No	No	No	No	No	No	No	No	
21	3	29	2	2	No	No	No	No	No	No	No	No	No	No	
22	3	10	2	1	No	No	No	No	No	No	No	No	No	No	
23	3	10	2	1	No	No	No	No	No	No	No	No	No	No	
24	3	10	2	1	No	No	No	No	No	No	No	No	No	No	
Hours Met					0	0	0	0	0	0	0	1	5	0	0

### Warrant 3 Condition A

Orientation	N
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:mm)	0:51
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	71
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1049
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
<b>Warrant Met for Intersection</b>	<b>No</b>

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	431	1060	23	8
2	418	1028	22	8
3	409	1007	22	8
4	384	943	20	7
5	340	837	18	6
6	336	827	18	6
7	332	816	18	6
8	302	742	16	6
9	297	731	16	6
10	293	721	16	5
11	254	625	14	5
12	237	583	13	4
13	233	572	12	4
14	172	424	9	3
15	172	424	9	3
16	121	297	6	2
17	69	170	4	1
18	69	170	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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	1491	1	23	No	No	No	No	No	No	No	No	No	No
2	2	1446	1	22	No	No	No	No	No	No	No	No	No	No
3	2	1416	1	22	No	No	No	No	No	No	No	No	No	No
4	2	1327	1	20	No	No	No	No	No	No	No	No	No	No
5	2	1177	1	18	No	No	No	No	No	No	No	No	No	No
6	2	1163	1	18	No	No	No	No	No	No	No	No	No	No
7	2	1148	1	18	No	No	No	No	No	No	No	No	No	No
8	2	1044	1	16	No	No	No	No	No	No	No	No	No	No
9	2	1028	1	16	No	No	No	No	No	No	No	No	No	No
10	2	1014	1	16	No	No	No	No	No	No	No	No	No	No
11	2	879	1	14	No	No	No	No	No	No	No	No	No	No
12	2	820	1	13	No	No	No	No	No	No	No	No	No	No
13	2	805	1	12	No	No	No	No	No	No	No	No	No	No
14	2	596	1	9	No	No	No	No	No	No	No	No	No	No
15	2	596	1	9	No	No	No	No	No	No	No	No	No	No
16	2	418	1	6	No	No	No	No	No	No	No	No	No	No
17	2	239	1	4	No	No	No	No	No	No	No	No	No	No
18	2	239	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)	10	13.6
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:03	0:01
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	23	8
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1522	1522
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
<b>Warrant Met for Intersection</b>	<b>No</b>	

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	430	1040	27
2	417	1009	26
3	409	988	26
4	383	926	24
5	340	822	21
6	335	811	21
7	331	801	21
8	301	728	19
9	297	718	19
10	292	707	18
11	254	614	16
12	237	572	15
13	232	562	15
14	172	416	11
15	172	416	11
16	120	291	8
17	69	166	4
18	69	166	4
19	39	94	2
20	22	52	1
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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	1470	1	27	No	No	No	No	No	No	No	No	No	No
2	2	1426	1	26	No	No	No	No	No	No	No	No	No	No
3	2	1397	1	26	No	No	No	No	No	No	No	No	No	No
4	2	1309	1	24	No	No	No	No	No	No	No	No	No	No
5	2	1162	1	21	No	No	No	No	No	No	No	No	No	No
6	2	1146	1	21	No	No	No	No	No	No	No	No	No	No
7	2	1132	1	21	No	No	No	No	No	No	No	No	No	No
8	2	1029	1	19	No	No	No	No	No	No	No	No	No	No
9	2	1015	1	19	No	No	No	No	No	No	No	No	No	No
10	2	999	1	18	No	No	No	No	No	No	No	No	No	No
11	2	868	1	16	No	No	No	No	No	No	No	No	No	No
12	2	809	1	15	No	No	No	No	No	No	No	No	No	No
13	2	794	1	15	No	No	No	No	No	No	No	No	No	No
14	2	588	1	11	No	No	No	No	No	No	No	No	No	No
15	2	588	1	11	No	No	No	No	No	No	No	No	No	No
16	2	411	1	8	No	No	No	No	No	No	No	No	No	No
17	2	235	1	4	No	No	No	No	No	No	No	No	No	No
18	2	235	1	4	No	No	No	No	No	No	No	No	No	No
19	2	133	1	2	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	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
Total Stopped Delay Per Vehicle on Minor Approach (s)	22.9
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:10
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	27
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1497
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
<b>Warrant Met for Intersection</b>	<b>No</b>

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

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.472

**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	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	3	0	2	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
Right Turn on Red Volume [veh/h]	0	420	0	0	0	42
Total Hourly Volume [veh/h]	288	419	200	179	249	41
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]	85	123	59	53	73	12
Total Analysis Volume [veh/h]	339	493	235	211	293	48
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	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
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]	48	48	48	48	48	48
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	18	28	28	8	8
g / C, Green / Cycle	0.37	0.37	0.58	0.58	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.18	0.31	0.24	0.06	0.08	0.03
s, saturation flow rate [veh/h]	1870	1589	977	3560	3459	1589
c, Capacity [veh/h]	701	596	706	2071	576	265
d1, Uniform Delay [s]	11.36	13.49	5.46	4.43	18.09	17.07
k, delay calibration	0.11	0.11	0.17	0.11	0.04	0.04
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.52	3.00	0.42	0.02	0.26	0.12
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	0.83	0.33	0.10	0.51	0.18
d, Delay for Lane Group [s/veh]	11.88	16.49	5.88	4.45	18.35	17.19
Lane Group LOS	B	B	A	A	B	B
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.33	4.34	0.80	0.30	1.28	0.40
50th-Percentile Queue Length [ft/ln]	58.21	108.54	20.00	7.58	32.12	9.99
95th-Percentile Queue Length [veh/ln]	4.19	7.76	1.44	0.55	2.31	0.72
95th-Percentile Queue Length [ft/ln]	104.78	193.97	36.00	13.65	57.82	17.99

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	11.88	16.49	5.88	4.45	18.35	17.19
Movement LOS	B	B	A	A	B	B
d_A, Approach Delay [s/veh]	14.61		5.21		18.18	
Approach LOS	B		A		B	
d_I, Intersection Delay [s/veh]	12.77					
Intersection LOS	B					
Intersection V/C	0.472					

**Emissions**

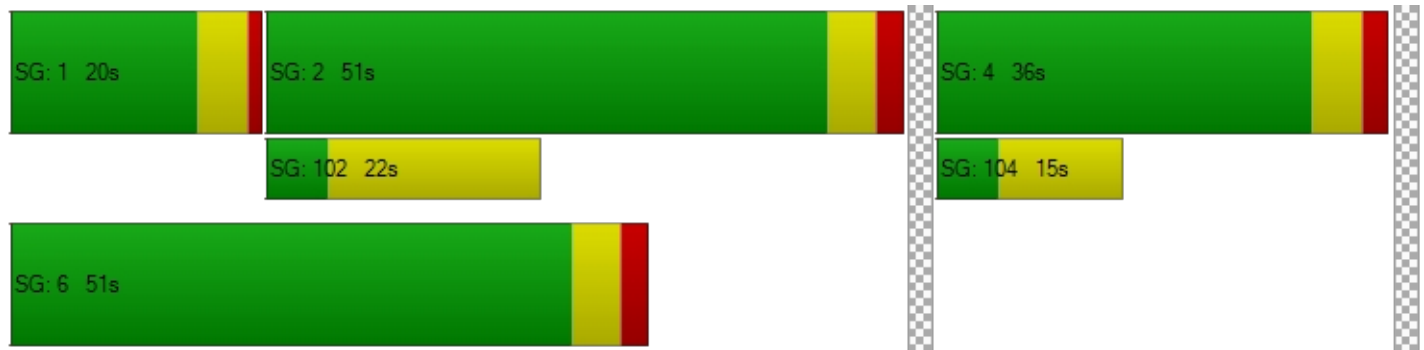
Vehicle Miles Traveled [mph]	48.09	69.94	23.29	20.91	55.22	9.05
Stops [stops/h]	176.27	328.68	60.56	45.92	194.54	30.26
Fuel consumption [US gal/h]	3.77	6.35	1.57	1.31	4.66	0.74
CO [g/h]	263.77	443.82	110.08	91.27	325.88	51.75
NOx [g/h]	51.32	86.35	21.42	17.76	63.40	10.07
VOC [g/h]	61.13	102.86	25.51	21.15	75.53	11.99

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		15.63		15.63	
I_p,int, Pedestrian LOS Score for Intersectio	0.000		2.312		2.815	
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]	1893		1893		1262	
d_b, Bicycle Delay [s]	0.07		0.07		3.24	
I_b,int, Bicycle LOS Score for Intersection	3.625		1.928		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/ Meadowbrook Pkwy**

Control Type:	Signalized	Delay (sec / veh):	34.8
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.777

**Intersection Setup**

Name	SH-94			Meadowbrook Pkwy			US-24			US-24		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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			Meadowbrook Pkwy			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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	4	0	8	3	0	0	0	0	0	4	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	2	0	0	87	0	0	207	0	0	17
Total Hourly Volume [veh/h]	425	36	2	35	55	87	162	1804	206	7	895	17
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	125	11	1	10	16	26	48	531	61	2	263	5
Total Analysis Volume [veh/h]	500	42	2	41	65	102	191	2122	242	8	1053	20
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]	160
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	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	0.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.0	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]	30	41	0	61	72	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]	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	6.50	6.00	6.00	6.50	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]	4.50	4.00	4.00	4.50	4.00	0.00	5.00	0.00	5.00	5.00
g_i, Effective Green Time [s]	24	28	28	3	8	109	101	109	95	95
g / C, Green / Cycle	0.15	0.17	0.17	0.02	0.05	0.68	0.63	0.68	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.14	0.01	0.00	0.01	0.03	0.29	0.60	0.03	0.30	0.01
s, saturation flow rate [veh/h]	3459	3560	1589	3459	1870	663	3560	283	3560	1589
c, Capacity [veh/h]	508	613	274	77	89	427	2249	155	2123	948
d1, Uniform Delay [s]	68.07	55.47	54.88	77.40	75.18	12.97	26.86	33.60	18.52	13.21
k, delay calibration	0.04	0.04	0.04	0.04	0.23	0.50	0.50	0.04	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.23	0.02	0.00	2.13	21.55	3.37	9.67	0.05	0.83	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	0.98	0.07	0.01	0.53	0.73	0.45	0.94	0.05	0.50	0.02
d, Delay for Lane Group [s/veh]	76.30	55.49	54.89	79.54	96.74	16.34	36.53	33.65	19.36	13.25
Lane Group LOS	E	E	D	E	F	B	D	C	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.49	0.70	0.07	0.87	3.19	2.54	35.38	0.08	10.64	0.29
50th-Percentile Queue Length [ft/ln]	262.17	17.44	1.65	21.63	79.77	63.54	884.41	2.07	265.96	7.31
95th-Percentile Queue Length [veh/ln]	15.80	1.26	0.12	1.56	5.74	4.57	45.13	0.15	15.99	0.53
95th-Percentile Queue Length [ft/ln]	394.94	31.40	2.97	38.93	143.58	114.37	1128.27	3.72	399.69	13.16

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	76.30	55.49	54.89	79.54	96.74	0.00	16.34	36.53	0.00	33.65	19.36	13.25
Movement LOS	E	E	D	E	F		B	D		C	B	B
d_A, Approach Delay [s/veh]	74.61			49.48			32.01			19.35		
Approach LOS	E			D			C			B		
d_I, Intersection Delay [s/veh]	34.82											
Intersection LOS	C											
Intersection V/C	0.777											

**Emissions**

Vehicle Miles Traveled [mph]	195.96	16.46	0.78	4.33	6.86	80.96	899.49	2.44	320.68	6.09
Stops [stops/h]	471.91	31.40	1.48	38.93	71.79	57.19	1591.94	1.86	478.73	6.58
Fuel consumption [US gal/h]	23.08	1.61	0.08	1.06	1.96	4.41	75.43	0.17	23.77	0.38
CO [g/h]	1613.50	112.40	5.32	73.86	136.89	307.96	5272.79	11.94	1661.32	26.55
NOx [g/h]	313.93	21.87	1.04	14.37	26.63	59.92	1025.89	2.32	323.23	5.17
VOC [g/h]	373.94	26.05	1.23	17.12	31.73	71.37	1222.02	2.77	385.03	6.15

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			66.0			35.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			27.61			48.83		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			3.607			3.465		
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]	438			825			475			463		
d_b, Bicycle Delay [s]	48.83			27.61			46.51			47.28		
I_b,int, Bicycle LOS Score for Intersection	2.010			1.735			3.468			2.465		
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:	Roundabout	Delay (sec / veh):	11.0
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				tr						tr		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	15.00	15.00	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	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	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
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			Yes			No			Yes		

**Volumes**

Name	Peterson Rd			Peterson Rd			US-24 WB Ramps					
Base Volume Input [veh/h]	476	1010	0	0	253	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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	22	0	0	8	9	0	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	499	1080	0	0	273	185	0	0	0	25	0	77
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	147	318	0	0	80	54	0	0	0	7	0	23
Total Analysis Volume [veh/h]	587	1271	0	0	321	218	0	0	0	29	0	91
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			1			2		
Circulating Flow Rate [veh/h]	0			628			357			1895		
Exiting Flow Rate [veh/h]	357			1389			599			0		
Demand Flow Rate [veh/h]	499	1080	0	0	273	185	0	0	0	25	0	77
Adjusted Demand Flow Rate [veh/h]	587	1271	0	0	321	218	0	0	0	29	0	91

**Lanes**

Override 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
Override 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]	891	1005	154	174	0		30	93
Capacity of Entry and Bypass Lanes [veh/h]	1350	1420	758	833	854		237	284
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Capacity per Entry Lane [veh/h]	1324	1393	743	817	837		232	279
X, volume / capacity	0.66	0.71	0.20	0.21	0.26		0.13	0.33

**Movement, Approach, & Intersection Results**

Lane LOS	B	B	A	A	A		C	C
95th-Percentile Queue Length [veh]	5.32	6.44	0.76	0.78	1.04		0.42	1.38
95th-Percentile Queue Length [ft]	132.90	160.93	18.93	19.56	26.07		10.57	34.46
Approach Delay [s/veh]	11.64		6.95				0.00	20.19
Approach LOS	B		A				A	C
Intersection Delay [s/veh]	11.04							
Intersection LOS	B							

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

Control Type:	Roundabout	Delay (sec / veh):	32.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
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	0	0	0	0	0	0	0	0	0	1
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	1.00
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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
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	2	3	3	17	0	0	0	0	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]	0	933	374	281	6	3	244	106	12	3	0	401
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	274	110	83	2	1	72	31	4	1	0	118
Total Analysis Volume [veh/h]	0	1098	440	331	7	4	287	125	14	4	0	472
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			2			2		
Circulating Flow Rate [veh/h]	758			4			349			1413		
Exiting Flow Rate [veh/h]	11			1894			0			465		
Demand Flow Rate [veh/h]	0	933	374	281	6	0	244	106	12	3	0	401
Adjusted Demand Flow Rate [veh/h]	0	1098	440	331	7	0	287	125	14	4	0	472

**Lanes**

Override Calculated Critical Headway	No	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	4.00
Override Calculated Follow-Up Time	No	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	3.00
A (intercept)	1350.00	1420.00	1420.00	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00	1420.00
B (coefficient)	0.00092	0.00085	0.00085	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085	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	0.98
Entry Flow Rate [veh/h]	527	594	0	338	8	223	198	0	5	482	
Capacity of Entry and Bypass Lanes [veh/h]	673	746	957	1345	1416	980	1056	1407	369	428	
Pedestrian Impedance	1.00	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]	660	732	938	1319	1388	961	1035	1379	361	419	
X, volume / capacity	0.78	0.80	0.47	0.25	0.01	0.23	0.19	0.01	0.01	0.01	1.13

**Movement, Approach, & Intersection Results**

Lane LOS	D	D	A	A	A	A	A	A	B	F	
95th-Percentile Queue Length [veh]	7.60	8.15	2.55	1.00	0.02	0.87	0.69	0.03	0.03	17.02	
95th-Percentile Queue Length [ft]	189.93	203.71	63.72	24.94	0.38	21.87	17.15	0.77	0.84	425.62	
Approach Delay [s/veh]	21.06			4.85			5.53			113.07	
Approach LOS	C			A			A			F	
Intersection Delay [s/veh]	32.47										
Intersection LOS	D										

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

Control Type:	Two-way stop	Delay (sec / veh):	137.4
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.665

**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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	2	2	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]	36	46	344	411	358	19
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]	11	14	101	121	105	6
Total Analysis Volume [veh/h]	42	54	405	484	421	22
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	0.66	0.09	0.36	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	137.42	11.22	10.04	0.00	0.00	0.00
Movement LOS	F	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	2.86	0.28	1.67	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	71.52	6.97	41.87	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	66.43		4.58		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	7.31					
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	Meadowbrook Pkwy			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	Meadowbrook Pkwy			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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	0	0	0	0	0	0	1	11	0	2	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]	49	39	74	2	15	2	0	17	60	181	7	10
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	14	11	22	1	4	1	0	5	18	53	2	3
Total Analysis Volume [veh/h]	58	46	87	2	18	2	0	20	71	213	8	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]	22			285			238			106		
Exiting Flow Rate [veh/h]	308			59			69			111		
Demand Flow Rate [veh/h]	49	39	74	2	15	2	0	17	60	181	7	10
Adjusted Demand Flow Rate [veh/h]	58	46	87	2	18	2	0	20	71	213	8	12

**Lanes**

Override Calculated Critical Headway	No			No			No			No		
User-Defined Critical Headway [s]	4.00			4.00			4.00			4.00		
Override 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]	195			23			93			238		
Capacity of Entry and Bypass Lanes [veh/h]	1349			1033			1083			1239		
Pedestrian Impedance	1.00			1.00			1.00			1.00		
Capacity per Entry Lane [veh/h]	1323			1013			1062			1215		
X, volume / capacity	0.14			0.02			0.09			0.19		

**Movement, Approach, & Intersection Results**

Lane LOS	A			A			A			A		
95th-Percentile Queue Length [veh]	0.50			0.07			0.28			0.71		
95th-Percentile Queue Length [ft]	12.62			1.67			7.01			17.71		
Approach Delay [s/veh]	3.90			3.74			4.14			4.63		
Approach LOS	A			A			A			A		
Intersection Delay [s/veh]	4.25											
Intersection LOS	A											

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

Control Type: Two-way stop  
 Analysis Method: HCM 7th Edition  
 Analysis Period: 15 minutes

Delay (sec / veh): 14.7  
 Level Of Service: B  
 Volume to Capacity (v/c): 0.079

**Intersection Setup**

Name	Peterson Rd			Peterson Rd			Panamint Ct			Panamint Ct		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	I T			I T			R			R		
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	2	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	15	0	16	0	0	0	0	0	0	3
Diverted Trips [veh/h]	0	0	0	0	4	0	0	0	0	0	0	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]	27	1105	24	2	434	5	17	0	14	10	0	27
Peak Hour Factor	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500	0.8500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	325	7	1	128	1	5	0	4	3	0	8
Total Analysis Volume [veh/h]	32	1300	28	2	511	6	20	0	16	12	0	32
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	0.08
d_M, Delay for Movement [s/veh]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.97	0.00	0.00	14.70
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	0.07	0.00	0.00	0.26
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.66	0.00	0.00	6.43
d_A, Approach Delay [s/veh]	0.00			0.00			9.97			14.70		
Approach LOS	A			A			A			B		
d_I, Intersection Delay [s/veh]	0.33											
Intersection LOS	B											

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

Control Type:	Two-way stop	Delay (sec / veh):	52.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.203

**Intersection Setup**

Name	Peterson Rd		Peterson Rd		Meadowbrook Pk	
Approach	Northbound		Southbound		Westbound	
Lane Configuration					T	
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	Yes		Yes		Yes	

**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	1.0473	1.0473	1.0473	1.0473	1.0473	1.0473
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	12	7	0	16	4
Diverted Trips [veh/h]	14	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	12	7	421	16	4
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]	335	4	2	124	5	1
Total Analysis Volume [veh/h]	1339	14	8	495	19	5
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	0.02	0.00	0.20	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	12.14	0.00	52.12	22.77
Movement LOS	A	A	B	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.77	0.77
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.33	0.17	19.25	19.25
d_A, Approach Delay [s/veh]	0.00		0.19		46.01	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	0.64					
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	377	755	82
2	366	732	80
3	358	717	78
4	336	672	73
5	298	596	65
6	294	589	64
7	290	581	63
8	264	529	57
9	260	521	57
10	256	513	56
11	222	445	48
12	207	415	45
13	204	408	44
14	151	302	33
15	151	302	33
16	106	211	23
17	60	121	13
18	60	121	13
19	34	68	7
20	19	38	4
21	11	23	2
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 Condition B	
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%			
1	3	1132	2	82	No	No	No	No	No	Yes	Yes	Yes	No	No	
2	3	1098	2	80	No	No	No	No	No	Yes	Yes	Yes	No	No	
3	3	1075	2	78	No	No	No	No	No	No	Yes	Yes	No	No	
4	3	1008	2	73	No	No	No	No	No	No	Yes	Yes	No	No	
5	3	894	2	65	No	No	No	No	No	No	No	Yes	No	No	
6	3	883	2	64	No	No	No	No	No	No	No	Yes	No	No	
7	3	871	2	63	No	No	No	No	No	No	No	Yes	No	No	
8	3	793	2	57	No	No	No	No	No	No	No	Yes	No	No	
9	3	781	2	57	No	No	No	No	No	No	No	Yes	No	No	
10	3	769	2	56	No	No	No	No	No	No	No	Yes	No	No	
11	3	667	2	48	No	No	No	No	No	No	No	No	No	No	
12	3	622	2	45	No	No	No	No	No	No	No	No	No	No	
13	3	612	2	44	No	No	No	No	No	No	No	No	No	No	
14	3	453	2	33	No	No	No	No	No	No	No	No	No	No	
15	3	453	2	33	No	No	No	No	No	No	No	No	No	No	
16	3	317	2	23	No	No	No	No	No	No	No	No	No	No	
17	3	181	2	13	No	No	No	No	No	No	No	No	No	No	
18	3	181	2	13	No	No	No	No	No	No	No	No	No	No	
19	3	102	2	7	No	No	No	No	No	No	No	No	No	No	
20	3	57	2	4	No	No	No	No	No	No	No	No	No	No	
21	3	34	2	2	No	No	No	No	No	No	No	No	No	No	
22	3	12	2	1	No	No	No	No	No	No	No	No	No	No	
23	3	12	2	1	No	No	No	No	No	No	No	No	No	No	
24	3	12	2	1	No	No	No	No	No	No	No	No	No	No	
Hours Met					0	0	0	0	0	0	2	4	10	0	0

### Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	66.4
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	1:30
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	82
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1214
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
<b>Warrant Met for Intersection</b>	<b>No</b>



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	1129	439	27	14
2	1095	426	26	14
3	1073	417	26	13
4	1005	391	24	12
5	892	347	21	11
6	881	342	21	11
7	869	338	21	11
8	790	307	19	10
9	779	303	19	10
10	768	299	18	10
11	666	259	16	8
12	621	241	15	8
13	610	237	15	8
14	452	176	11	6
15	452	176	11	6
16	316	123	8	4
17	181	70	4	2
18	181	70	4	2
19	102	40	2	1
20	56	22	1	1
21	34	13	1	0
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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	1568	1	27	No	No	No	No	No	No	No	No	No	No
2	2	1521	1	26	No	No	No	No	No	No	No	No	No	No
3	2	1490	1	26	No	No	No	No	No	No	No	No	No	No
4	2	1396	1	24	No	No	No	No	No	No	No	No	No	No
5	2	1239	1	21	No	No	No	No	No	No	No	No	No	No
6	2	1223	1	21	No	No	No	No	No	No	No	No	No	No
7	2	1207	1	21	No	No	No	No	No	No	No	No	No	No
8	2	1097	1	19	No	No	No	No	No	No	No	No	No	No
9	2	1082	1	19	No	No	No	No	No	No	No	No	No	No
10	2	1067	1	18	No	No	No	No	No	No	No	No	No	No
11	2	925	1	16	No	No	No	No	No	No	No	No	No	No
12	2	862	1	15	No	No	No	No	No	No	No	No	No	No
13	2	847	1	15	No	No	No	No	No	No	No	No	No	No
14	2	628	1	11	No	No	No	No	No	No	No	No	No	No
15	2	628	1	11	No	No	No	No	No	No	No	No	No	No
16	2	439	1	8	No	No	No	No	No	No	No	No	No	No
17	2	251	1	4	No	No	No	No	No	No	No	No	No	No
18	2	251	1	4	No	No	No	No	No	No	No	No	No	No
19	2	142	1	2	No	No	No	No	No	No	No	No	No	No
20	2	78	1	1	No	No	No	No	No	No	No	No	No	No
21	2	47	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)	14.7	10
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:06	0:02
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	27	14
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1609	1609
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
<b>Warrant Met for Intersection</b>	<b>No</b>	

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	1150	428	20
2	1116	415	19
3	1093	407	19
4	1024	381	18
5	909	338	16
6	897	334	16
7	886	330	15
8	805	300	14
9	793	295	14
10	782	291	14
11	679	253	12
12	633	235	11
13	621	231	11
14	460	171	8
15	460	171	8
16	322	120	6
17	184	68	3
18	184	68	3
19	104	39	2
20	58	21	1
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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	1578	1	20	No	No	No	No	No	No	No	No	No	No
2	2	1531	1	19	No	No	No	No	No	No	No	No	No	No
3	2	1500	1	19	No	No	No	No	No	No	No	No	No	No
4	2	1405	1	18	No	No	No	No	No	No	No	No	No	No
5	2	1247	1	16	No	No	No	No	No	No	No	No	No	No
6	2	1231	1	16	No	No	No	No	No	No	No	No	No	No
7	2	1216	1	15	No	No	No	No	No	No	No	No	No	No
8	2	1105	1	14	No	No	No	No	No	No	No	No	No	No
9	2	1088	1	14	No	No	No	No	No	No	No	No	No	No
10	2	1073	1	14	No	No	No	No	No	No	No	No	No	No
11	2	932	1	12	No	No	No	No	No	No	No	No	No	No
12	2	868	1	11	No	No	No	No	No	No	No	No	No	No
13	2	852	1	11	No	No	No	No	No	No	No	No	No	No
14	2	631	1	8	No	No	No	No	No	No	No	No	No	No
15	2	631	1	8	No	No	No	No	No	No	No	No	No	No
16	2	442	1	6	No	No	No	No	No	No	No	No	No	No
17	2	252	1	3	No	No	No	No	No	No	No	No	No	No
18	2	252	1	3	No	No	No	No	No	No	No	No	No	No
19	2	143	1	2	No	No	No	No	No	No	No	No	No	No
20	2	79	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
Total Stopped Delay Per Vehicle on Minor Approach (s)	46
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:15
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	20
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1598
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
<b>Warrant Met for Intersection</b>	<b>No</b>

## **Appendix E- Horizon Conditions**

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

Control Type:	Signalized	Delay (sec / veh):	15.2
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.484

**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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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	75	0	0	0	81
Total Hourly Volume [veh/h]	308	75	107	283	882	81
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	81	20	28	74	232	21
Total Analysis Volume [veh/h]	324	79	113	298	928	85
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	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
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	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.17	0.05	0.09	0.08	0.27	0.05
s, saturation flow rate [veh/h]	1870	1589	1217	3560	3459	1589
c, Capacity [veh/h]	536	455	617	1637	1075	494
d1, Uniform Delay [s]	16.11	14.02	8.82	8.33	16.99	13.13
k, delay calibration	0.11	0.11	0.04	0.11	0.04	0.04
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.10	0.18	0.05	0.05	0.83	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	0.60	0.17	0.18	0.18	0.86	0.17
d, Delay for Lane Group [s/veh]	17.22	14.20	8.87	8.38	17.82	13.19
Lane Group LOS	B	B	A	A	B	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.09	0.64	0.61	0.82	4.50	0.63
50th-Percentile Queue Length [ft/ln]	77.17	16.07	15.13	20.39	112.46	15.69
95th-Percentile Queue Length [veh/ln]	5.56	1.16	1.09	1.47	7.98	1.13
95th-Percentile Queue Length [ft/ln]	138.91	28.92	27.24	36.71	199.42	28.25

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	17.22	14.20	8.87	8.38	17.82	13.19
Movement LOS	B	B	A	A	B	B
d_A, Approach Delay [s/veh]	16.63		8.52		17.43	
Approach LOS	B		A		B	
d_I, Intersection Delay [s/veh]	15.25					
Intersection LOS	B					
Intersection V/C	0.484					

**Emissions**

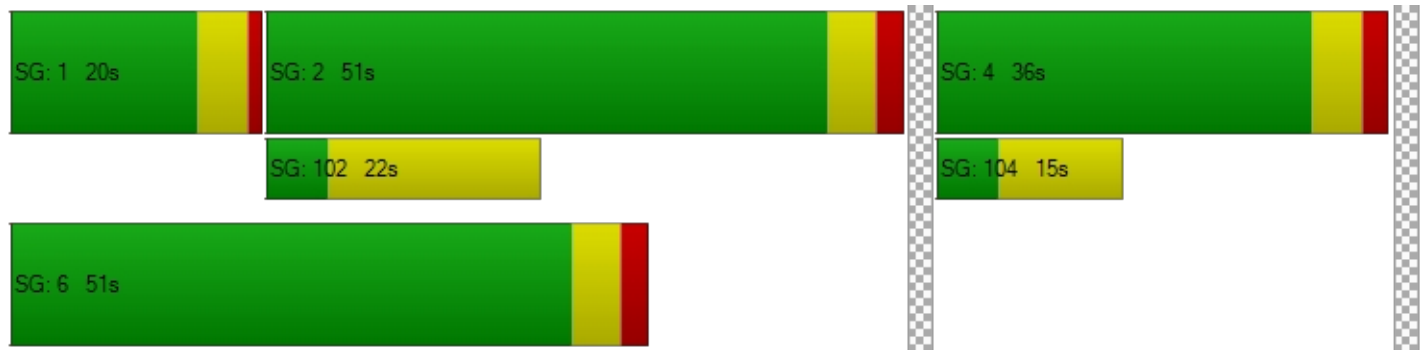
Vehicle Miles Traveled [mph]	45.97	11.21	11.20	29.53	174.90	16.02
Stops [stops/h]	212.88	44.32	41.74	112.50	620.42	43.29
Fuel consumption [US gal/h]	4.20	0.93	0.90	2.35	14.70	1.16
CO [g/h]	293.84	65.32	62.61	163.98	1027.43	81.39
NOx [g/h]	57.17	12.71	12.18	31.90	199.90	15.84
VOC [g/h]	68.10	15.14	14.51	38.00	238.12	18.86

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		17.88		17.88	
I_p,int, Pedestrian LOS Score for Intersectio	0.000		2.324		2.750	
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]	1724		1724		1149	
d_b, Bicycle Delay [s]	0.50		0.50		4.72	
I_b,int, Bicycle LOS Score for Intersection	2.348		1.899		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/ Meadowbrook Pkwy**

Control Type:	Signalized	Delay (sec / veh):	34.4
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.765

**Intersection Setup**

Name	SH-94			Meadowbrook Pkwy			US-24			US-24		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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			Meadowbrook Pkwy			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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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	105	0	0	352	0	0	26
Total Hourly Volume [veh/h]	518	49	1	15	28	105	183	800	352	9	2066	25
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	136	13	0	4	7	28	48	211	93	2	544	7
Total Analysis Volume [veh/h]	545	52	1	16	29	111	193	842	371	9	2175	26
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]	170
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	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	0.0	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	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]	25	88	0	13	76	0	13	56	0	13	56	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]	170	170	170	170	170	170	170	170	170	170
L, Total Lost Time per Cycle [s]	6.50	6.00	6.00	6.50	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]	4.50	4.00	4.00	4.50	4.00	0.00	5.00	0.00	5.00	5.00
g_i, Effective Green Time [s]	19	20	20	2	4	128	120	128	115	115
g / C, Green / Cycle	0.11	0.12	0.12	0.01	0.02	0.75	0.70	0.75	0.68	0.68
(v / s)_i Volume / Saturation Flow Rate	0.11	0.01	0.00	0.00	0.02	0.61	0.24	0.01	0.61	0.02
s, saturation flow rate [veh/h]	5188	3560	1589	3459	1870	314	3560	711	3560	1589
c, Capacity [veh/h]	565	424	189	43	42	209	2504	536	2412	1077
d1, Uniform Delay [s]	75.43	66.95	66.02	83.27	82.46	62.30	9.80	6.00	22.75	9.00
k, delay calibration	0.04	0.04	0.04	0.04	0.23	0.50	0.50	0.04	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.32	0.05	0.00	1.94	34.15	44.87	0.36	0.00	6.04	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	0.97	0.12	0.01	0.37	0.68	0.92	0.34	0.02	0.90	0.02
d, Delay for Lane Group [s/veh]	80.75	67.00	66.02	85.21	116.61	107.16	10.17	6.01	28.79	9.04
Lane Group LOS	F	E	E	F	F	F	B	A	C	A
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	8.00	0.99	0.04	0.36	1.68	4.25	5.63	0.07	33.32	0.31
50th-Percentile Queue Length [ft/ln]	200.11	24.87	0.95	9.08	41.94	106.23	140.63	1.73	833.07	7.71
95th-Percentile Queue Length [veh/ln]	12.64	1.79	0.07	0.65	3.02	7.63	9.51	0.12	42.79	0.56
95th-Percentile Queue Length [ft/ln]	316.10	44.77	1.70	16.35	75.49	190.75	237.87	3.12	1069.74	13.88

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	80.75	67.00	66.02	85.21	116.61	0.00	107.16	10.17	0.00	6.01	28.79	9.04
Movement LOS	F	E	E	F	F		F	B		A	C	A
d_A, Approach Delay [s/veh]	79.53			31.63			21.08			28.46		
Approach LOS	E			C			C			C		
d_I, Intersection Delay [s/veh]	34.39											
Intersection LOS	C											
Intersection V/C	0.765											

**Emissions**

Vehicle Miles Traveled [mph]	213.60	20.38	0.39	1.69	3.06	81.81	356.91	2.74	662.38	7.92
Stops [stops/h]	508.51	42.14	0.80	15.39	35.52	89.99	238.25	1.47	1411.32	6.53
Fuel consumption [US gal/h]	25.54	2.17	0.04	0.43	1.01	8.62	18.11	0.13	61.11	0.43
CO [g/h]	1785.56	151.91	2.90	30.19	70.62	602.26	1265.65	9.08	4271.76	30.34
NOx [g/h]	347.41	29.56	0.56	5.87	13.74	117.18	246.25	1.77	831.13	5.90
VOC [g/h]	413.82	35.21	0.67	7.00	16.37	139.58	293.33	2.11	990.02	7.03

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			70.0			82.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			29.41			22.78		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			3.588			3.404		
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]	965			824			576			576		
d_b, Bicycle Delay [s]	22.78			29.41			43.06			43.06		
I_b,int, Bicycle LOS Score for Intersection	2.054			1.634			2.413			3.404		
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:	Roundabout	Delay (sec / veh):	11.5
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				tr						tr		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	15.00	15.00	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	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	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
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			Yes			No			Yes		

**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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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]	360	383	0	0	838	335	0	0	0	356	0	78
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	95	101	0	0	221	88	0	0	0	94	0	21
Total Analysis Volume [veh/h]	379	403	0	0	882	353	0	0	0	375	0	82
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			1			2		
Circulating Flow Rate [veh/h]	0			769			1282			798		
Exiting Flow Rate [veh/h]	1282			495			387			0		
Demand Flow Rate [veh/h]	360	383	0	0	838	335	0	0	0	356	0	78
Adjusted Demand Flow Rate [veh/h]	379	403	0	0	882	353	0	0	0	375	0	82

**Lanes**

Override 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
Override 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]	387	412	423	477	0		383	84
Capacity of Entry and Bypass Lanes [veh/h]	1350	1420	666	739	1023		649	721
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Capacity per Entry Lane [veh/h]	1324	1393	653	725	1003		636	707
X, volume / capacity	0.29	0.29	0.64	0.65	0.35		0.59	0.12

**Movement, Approach, & Intersection Results**

Lane LOS	A	A	C	C	A		C	A
95th-Percentile Queue Length [veh]	1.19	1.21	4.54	4.76	1.60		3.86	0.39
95th-Percentile Queue Length [ft]	29.79	30.26	113.44	118.97	39.99		96.56	9.80
Approach Delay [s/veh]	5.16		14.42				0.00	14.63
Approach LOS	A		B				A	B
Intersection Delay [s/veh]	11.53							
Intersection LOS	B							

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

Control Type:	Roundabout	Delay (sec / veh):	15.8
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	0	0	0	0	0	0	0	0	0	1
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	1.00
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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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	440	113	0	492
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	46	21	49	265	0	21	51	116	30	0	129
Total Analysis Volume [veh/h]	0	182	83	198	1059	0	82	202	463	119	0	518
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			2			2		
Circulating Flow Rate [veh/h]	492			121			1404			269		
Exiting Flow Rate [veh/h]	1202			798			0			408		
Demand Flow Rate [veh/h]	0	173	79	188	1006	0	78	192	440	113	0	492
Adjusted Demand Flow Rate [veh/h]	0	182	83	198	1059	0	82	202	463	119	0	518

**Lanes**

Override Calculated Critical Headway	No	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	4.00
Override Calculated Follow-Up Time	No	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	3.00
A (intercept)	1350.00	1420.00	1420.00	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00	1420.00
B (coefficient)	0.00092	0.00085	0.00085	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085	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	0.98
Entry Flow Rate [veh/h]	88	99	0	603	680	84	207	0	122	529	
Capacity of Entry and Bypass Lanes [veh/h]	859	935	1004	1208	1281	372	431	512	1054	1130	
Pedestrian Impedance	1.00	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]	842	917	985	1184	1256	364	423	502	1034	1108	
X, volume / capacity	0.10	0.11	0.08	0.50	0.53	0.23	0.48	0.92	0.12	0.47	

**Movement, Approach, & Intersection Results**

Lane LOS	A	A	A	A	A	B	C	F	A	A	
95th-Percentile Queue Length [veh]	0.34	0.35	0.28	2.88	3.25	0.85	2.52	11.00	0.39	2.55	
95th-Percentile Queue Length [ft]	8.45	8.79	6.89	71.94	81.19	21.30	63.01	274.91	9.73	63.72	
Approach Delay [s/veh]	4.87			8.63			38.67			7.69	
Approach LOS	A			A			E			A	
Intersection Delay [s/veh]	15.80										
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):	49.0
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.477

**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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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	594	43
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	3	42	79	156	11
Total Analysis Volume [veh/h]	72	13	167	316	625	45
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	0.48	0.03	0.18	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	48.97	12.63	9.78	0.00	0.00	0.00
Movement LOS	E	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.23	0.08	0.66	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	55.86	2.06	16.51	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	43.41		3.38		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	4.30					
Intersection LOS	E					

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

Control Type:	Roundabout	Delay (sec / veh):	4.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

**Intersection Setup**

Name	Meadowbrook Pkwy			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	Meadowbrook Pkwy			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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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]	51	19	128	4	48	0	1	5	25	177	18	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	34	1	13	0	0	1	7	47	5	1
Total Analysis Volume [veh/h]	54	20	135	4	51	0	1	5	26	186	19	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			264			246			77		
Exiting Flow Rate [veh/h]	268			26			74			147		
Demand Flow Rate [veh/h]	51	19	128	4	48	0	1	5	25	177	18	4
Adjusted Demand Flow Rate [veh/h]	54	20	135	4	51	0	1	5	26	186	19	4

**Lanes**

Override Calculated Critical Headway	No	No	No	No
User-Defined Critical Headway [s]	4.00	4.00	4.00	4.00
Override 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]	214	57	33	214
Capacity of Entry and Bypass Lanes [veh/h]	1366	1055	1074	1277
Pedestrian Impedance	1.00	1.00	1.00	1.00
Capacity per Entry Lane [veh/h]	1339	1034	1053	1252
X, volume / capacity	0.16	0.05	0.03	0.17

**Movement, Approach, & Intersection Results**

Lane LOS	A	A	A	A
95th-Percentile Queue Length [veh]	0.55	0.17	0.09	0.60
95th-Percentile Queue Length [ft]	13.82	4.21	2.35	14.97
Approach Delay [s/veh]	3.97	3.95	3.68	4.29
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	4.08			
Intersection LOS	A			



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

Control Type: Two-way stop  
 Analysis Method: HCM 7th Edition  
 Analysis Period: 15 minutes

Delay (sec / veh): 52.7  
 Level Of Service: F  
 Volume to Capacity (v/c): 0.026

**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	2	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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]	13	450	12	5	1157	4	2	1	6	13	4	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	118	3	1	304	1	1	0	2	3	1	1
Total Analysis Volume [veh/h]	14	474	13	5	1218	4	2	1	6	14	4	5
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	0.02	0.00	0.00	0.00	0.01	0.00	0.03	0.01	0.01	0.09	0.05	0.01
d_M, Delay for Movement [s/veh]	11.37	0.00	0.00	8.36	0.00	0.00	52.67	49.80	14.37	33.10	52.41	13.77
Movement LOS	B	A	A	A	A	A	F	E	B	D	F	B
95th-Percentile Queue Length [veh/ln]	0.02	0.01	0.00	0.01	0.00	0.00	0.16	0.16	0.16	0.51	0.51	0.51
95th-Percentile Queue Length [ft/ln]	0.59	0.29	0.00	0.21	0.10	0.00	4.06	4.06	4.06	12.69	12.69	12.69
d_A, Approach Delay [s/veh]	0.32			0.03			26.82			32.25		
Approach LOS	A			A			D			D		
d_I, Intersection Delay [s/veh]	0.67											
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	637	459	80
2	618	445	78
3	605	436	76
4	567	409	71
5	503	363	63
6	497	358	62
7	490	353	62
8	446	321	56
9	440	317	55
10	433	312	54
11	376	271	47
12	350	252	44
13	344	248	43
14	255	184	32
15	255	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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	3	1096	2	80	No	No	No	No	No	Yes	Yes	Yes	No	No
2	3	1063	2	78	No	No	No	No	No	No	Yes	Yes	No	No
3	3	1041	2	76	No	No	No	No	No	No	Yes	Yes	No	No
4	3	976	2	71	No	No	No	No	No	No	Yes	Yes	No	No
5	3	866	2	63	No	No	No	No	No	No	No	Yes	No	No
6	3	855	2	62	No	No	No	No	No	No	No	Yes	No	No
7	3	843	2	62	No	No	No	No	No	No	No	Yes	No	No
8	3	767	2	56	No	No	No	No	No	No	No	Yes	No	No
9	3	757	2	55	No	No	No	No	No	No	No	No	No	No
10	3	745	2	54	No	No	No	No	No	No	No	No	No	No
11	3	647	2	47	No	No	No	No	No	No	No	No	No	No
12	3	602	2	44	No	No	No	No	No	No	No	No	No	No
13	3	592	2	43	No	No	No	No	No	No	No	No	No	No
14	3	439	2	32	No	No	No	No	No	No	No	No	No	No
15	3	439	2	32	No	No	No	No	No	No	No	No	No	No
16	3	307	2	22	No	No	No	No	No	No	No	No	No	No
17	3	175	2	13	No	No	No	No	No	No	No	No	No	No
18	3	175	2	13	No	No	No	No	No	No	No	No	No	No
19	3	98	2	7	No	No	No	No	No	No	No	No	No	No
20	3	55	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	1	4	8	0	0

### Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	43.4
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:57
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	1176
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
<b>Warrant Met for Intersection</b>	<b>No</b>

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	475	1166	22	9
2	461	1131	21	9
3	451	1108	21	9
4	423	1038	20	8
5	375	921	17	7
6	371	909	17	7
7	366	898	17	7
8	333	816	15	6
9	328	805	15	6
10	323	793	15	6
11	280	688	13	5
12	261	641	12	5
13	257	630	12	5
14	190	466	9	4
15	190	466	9	4
16	133	326	6	3
17	76	187	4	1
18	76	187	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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	1641	1	22	No	No	No	No	No	No	No	No	No	No
2	2	1592	1	21	No	No	No	No	No	No	No	No	No	No
3	2	1559	1	21	No	No	No	No	No	No	No	No	No	No
4	2	1461	1	20	No	No	No	No	No	No	No	No	No	No
5	2	1296	1	17	No	No	No	No	No	No	No	No	No	No
6	2	1280	1	17	No	No	No	No	No	No	No	No	No	No
7	2	1264	1	17	No	No	No	No	No	No	No	No	No	No
8	2	1149	1	15	No	No	No	No	No	No	No	No	No	No
9	2	1133	1	15	No	No	No	No	No	No	No	No	No	No
10	2	1116	1	15	No	No	No	No	No	No	No	No	No	No
11	2	968	1	13	No	No	No	No	No	No	No	No	No	No
12	2	902	1	12	No	No	No	No	No	No	No	No	No	No
13	2	887	1	12	No	No	No	No	No	No	No	No	No	No
14	2	656	1	9	No	No	No	No	No	No	No	No	No	No
15	2	656	1	9	No	No	No	No	No	No	No	No	No	No
16	2	459	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)	32.3	26.8
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:11	0:04
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	1672	1672
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
<b>Warrant Met for Intersection</b>	<b>No</b>	

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

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.472

**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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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	469	0	0	0	47
Total Hourly Volume [veh/h]	321	469	225	199	274	46
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	84	123	59	52	72	12
Total Analysis Volume [veh/h]	338	494	237	209	288	48
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	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
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]	48	48	48	48	48	48
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	18	28	28	8	8
g / C, Green / Cycle	0.37	0.37	0.58	0.58	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.18	0.31	0.24	0.06	0.08	0.03
s, saturation flow rate [veh/h]	1870	1589	977	3560	3459	1589
c, Capacity [veh/h]	702	597	707	2074	574	264
d1, Uniform Delay [s]	11.36	13.50	5.46	4.42	18.11	17.12
k, delay calibration	0.11	0.11	0.17	0.11	0.04	0.04
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.51	3.01	0.44	0.02	0.25	0.12
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	0.83	0.34	0.10	0.50	0.18
d, Delay for Lane Group [s/veh]	11.87	16.51	5.90	4.44	18.36	17.24
Lane Group LOS	B	B	A	A	B	B
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.32	4.36	0.81	0.30	1.26	0.40
50th-Percentile Queue Length [ft/ln]	58.07	109.02	20.26	7.50	31.61	10.03
95th-Percentile Queue Length [veh/ln]	4.18	7.79	1.46	0.54	2.28	0.72
95th-Percentile Queue Length [ft/ln]	104.53	194.64	36.47	13.50	56.90	18.05

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	11.87	16.51	5.90	4.44	18.36	17.24
Movement LOS	B	B	A	A	B	B
d_A, Approach Delay [s/veh]	14.63		5.21		18.20	
Approach LOS	B		A		B	
d_I, Intersection Delay [s/veh]	12.77					
Intersection LOS	B					
Intersection V/C	0.472					

**Emissions**

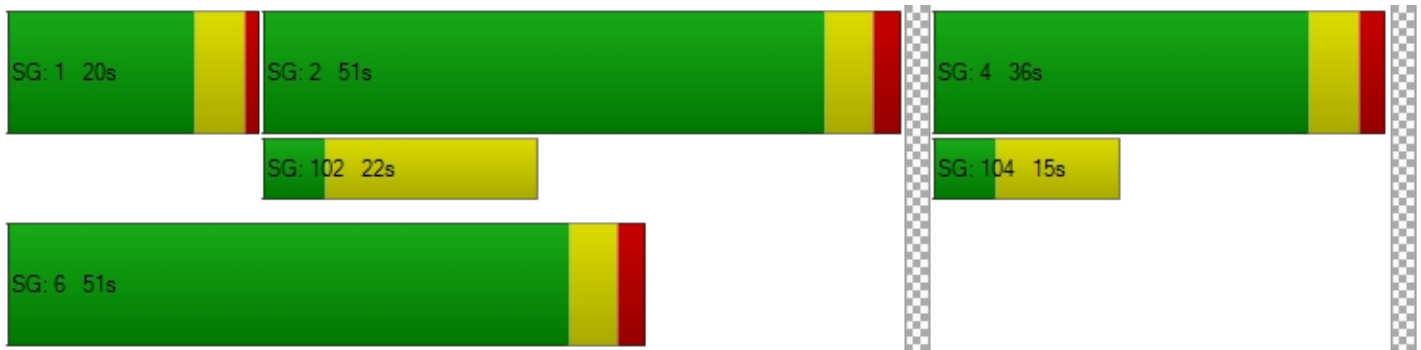
Vehicle Miles Traveled [mph]	47.95	70.08	23.49	20.71	54.28	9.05
Stops [stops/h]	175.55	329.56	61.24	45.35	191.14	30.31
Fuel consumption [US gal/h]	3.76	6.37	1.59	1.29	4.58	0.74
CO [g/h]	262.87	444.98	111.12	90.32	320.33	51.81
NOx [g/h]	51.14	86.58	21.62	17.57	62.32	10.08
VOC [g/h]	60.92	103.13	25.75	20.93	74.24	12.01

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		15.67		15.67	
I_p,int, Pedestrian LOS Score for Intersectio	0.000		2.313		2.835	
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]	1889		1889		1260	
d_b, Bicycle Delay [s]	0.07		0.07		3.26	
I_b,int, Bicycle LOS Score for Intersection	3.706		1.928		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/ Meadowbrook Pkwy**

Control Type:	Signalized	Delay (sec / veh):	34.5
Analysis Method:	HCM 7th Edition	Level Of Service:	C
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.778

**Intersection Setup**

Name	SH-94			Meadowbrook Pkwy			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			Meadowbrook Pkwy			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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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	3	0	0	98	0	0	232	0	0	14
Total Hourly Volume [veh/h]	476	36	2	31	59	97	182	2025	231	8	1000	14
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	125	9	1	8	16	26	48	533	61	2	263	4
Total Analysis Volume [veh/h]	501	38	2	33	62	102	192	2132	243	8	1053	15
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]	160
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	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	245.0	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	6.0	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]	30	41	0	60	71	0	14	46	0	13	45	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]	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	6.50	6.00	6.00	6.50	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]	4.50	4.00	4.00	4.50	4.00	0.00	5.00	0.00	5.00	5.00
g_i, Effective Green Time [s]	24	28	28	3	7	110	101	110	96	96
g / C, Green / Cycle	0.15	0.17	0.17	0.02	0.05	0.69	0.63	0.69	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.14	0.01	0.00	0.01	0.03	0.29	0.60	0.03	0.30	0.01
s, saturation flow rate [veh/h]	3459	3560	1589	3459	1870	665	3560	281	3560	1589
c, Capacity [veh/h]	508	612	273	71	85	429	2256	154	2130	951
d1, Uniform Delay [s]	68.09	55.44	54.92	77.50	75.37	12.83	26.76	33.82	18.34	13.04
k, delay calibration	0.04	0.04	0.04	0.04	0.23	0.50	0.50	0.04	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.56	0.02	0.00	1.77	22.07	3.34	9.81	0.05	0.82	0.03
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	0.99	0.06	0.01	0.47	0.73	0.45	0.94	0.05	0.49	0.02
d, Delay for Lane Group [s/veh]	76.65	55.45	54.92	79.27	97.44	16.17	36.56	33.87	19.17	13.07
Lane Group LOS	E	E	D	E	F	B	D	C	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.53	0.63	0.07	0.70	3.06	2.53	35.57	0.08	10.57	0.22
50th-Percentile Queue Length [ft/ln]	263.33	15.77	1.65	17.38	76.48	63.37	889.34	2.05	264.27	5.43
95th-Percentile Queue Length [veh/ln]	15.86	1.14	0.12	1.25	5.51	4.56	45.36	0.15	15.90	0.39
95th-Percentile Queue Length [ft/ln]	396.39	28.39	2.97	31.28	137.67	114.06	1133.88	3.69	397.58	9.77



**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	76.65	55.45	54.92	79.27	97.44	0.00	16.17	36.56	0.00	33.87	19.17	13.07
Movement LOS	E	E	D	E	F		B	D		C	B	B
d_A, Approach Delay [s/veh]	75.08			45.09			31.73			19.19		
Approach LOS	E			D			C			B		
d_I, Intersection Delay [s/veh]	34.51											
Intersection LOS	C											
Intersection V/C	0.778											

**Emissions**

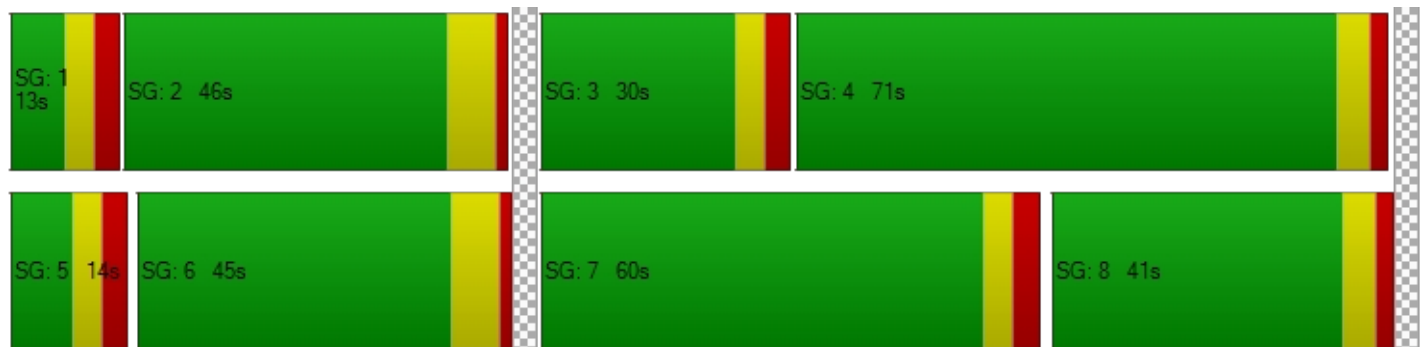
Vehicle Miles Traveled [mph]	196.36	14.89	0.78	3.48	6.54	81.39	903.73	2.44	320.68	4.57
Stops [stops/h]	473.99	28.39	1.48	31.28	68.84	57.03	1600.82	1.84	475.69	4.89
Fuel consumption [US gal/h]	23.19	1.45	0.08	0.85	1.88	4.41	75.83	0.17	23.67	0.28
CO [g/h]	1620.71	101.65	5.32	59.30	131.33	308.52	5300.38	11.94	1654.54	19.82
NOx [g/h]	315.33	19.78	1.04	11.54	25.55	60.03	1031.26	2.32	321.91	3.86
VOC [g/h]	375.62	23.56	1.23	13.74	30.44	71.50	1228.41	2.77	383.46	4.59

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			65.0			35.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			28.20			48.83		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			3.611			3.460		
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]	438			813			488			475		
d_b, Bicycle Delay [s]	48.83			28.20			45.75			46.51		
I_b,int, Bicycle LOS Score for Intersection	2.008			1.716			3.477			2.459		
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:	Roundabout	Delay (sec / veh):	10.8
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				tr						tr		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	15.00	15.00	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	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	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
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			Yes			No			Yes		

**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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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]	559	1187	0	0	294	197	0	0	0	28	0	82
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	147	312	0	0	77	52	0	0	0	7	0	22
Total Analysis Volume [veh/h]	588	1249	0	0	309	207	0	0	0	29	0	86
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			1			2		
Circulating Flow Rate [veh/h]	0			629			345			1874		
Exiting Flow Rate [veh/h]	345			1362			600			0		
Demand Flow Rate [veh/h]	559	1187	0	0	294	197	0	0	0	28	0	82
Adjusted Demand Flow Rate [veh/h]	588	1249	0	0	309	207	0	0	0	29	0	86

**Lanes**

Override 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
Override 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]	881	994	149	168	0		30	88
Capacity of Entry and Bypass Lanes [veh/h]	1350	1420	757	832	853		241	289
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Capacity per Entry Lane [veh/h]	1324	1393	742	816	837		237	284
X, volume / capacity	0.65	0.70	0.20	0.20	0.25		0.12	0.30

**Movement, Approach, & Intersection Results**

Lane LOS	B	B	A	A	A		C	C
95th-Percentile Queue Length [veh]	5.17	6.24	0.72	0.75	0.97		0.41	1.25
95th-Percentile Queue Length [ft]	129.13	155.88	18.08	18.68	24.37		10.34	31.14
Approach Delay [s/veh]	11.42		6.83				0.00	19.26
Approach LOS	B		A				A	C
Intersection Delay [s/veh]	10.82							
Intersection LOS	B							

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

Control Type:	Roundabout	Delay (sec / veh):	31.0
Analysis Method:	HCM 7th Edition	Level Of Service:	D
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	0	0	0	0	0	0	0	0	0	1
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	1.00
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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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	1044	420	313	4	0	255	119	13	4	0	448
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	275	111	82	1	0	67	31	3	1	0	118
Total Analysis Volume [veh/h]	0	1099	442	329	4	0	268	125	14	4	0	472
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			2			2		
Circulating Flow Rate [veh/h]	736			4			344			1394		
Exiting Flow Rate [veh/h]	8			1876			0			463		
Demand Flow Rate [veh/h]	0	1044	420	313	4	0	255	119	13	4	0	448
Adjusted Demand Flow Rate [veh/h]	0	1099	442	329	4	0	268	125	14	4	0	472

**Lanes**

Override Calculated Critical Headway	No	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	4.00
Override Calculated Follow-Up Time	No	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	3.00
A (intercept)	1350.00	1420.00	1420.00	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00	1420.00
B (coefficient)	0.00092	0.00085	0.00085	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085	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	0.98
Entry Flow Rate [veh/h]	527	595	0	336	5	213	189	0	5	482	
Capacity of Entry and Bypass Lanes [veh/h]	686	760	958	1345	1416	984	1061	1411	375	435	
Pedestrian Impedance	1.00	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]	673	745	940	1319	1388	965	1040	1383	367	426	
X, volume / capacity	0.77	0.78	0.47	0.25	0.00	0.22	0.18	0.01	0.01	1.11	

**Movement, Approach, & Intersection Results**

Lane LOS	C	C	A	A	A	A	A	A	A	A	F
95th-Percentile Queue Length [veh]	7.25	7.79	2.56	0.99	0.01	0.82	0.64	0.03	0.03	0.03	16.52
95th-Percentile Queue Length [ft]	181.30	194.76	64.04	24.74	0.22	20.48	16.11	0.77	0.83	0.83	412.98
Approach Delay [s/veh]	20.01			4.86			5.39			106.65	
Approach LOS	C			A			A			F	
Intersection Delay [s/veh]	30.98										
Intersection LOS	D										

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

Control Type:	Two-way stop	Delay (sec / veh):	138.5
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.668

**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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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	386	460	400	21
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	14	102	121	105	6
Total Analysis Volume [veh/h]	42	55	406	484	421	22
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	0.67	0.09	0.36	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	138.46	11.23	10.05	0.00	0.00	0.00
Movement LOS	F	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	2.87	0.28	1.68	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	71.81	7.11	42.03	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	66.32		4.59		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	7.35					
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	Meadowbrook Pkwy			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	Meadowbrook Pkwy			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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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]	40	43	83	2	16	2	0	18	55	203	6	12
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	11	22	1	4	1	0	5	14	53	2	3
Total Analysis Volume [veh/h]	42	45	87	2	17	2	0	19	58	214	6	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]	21			267			238			89		
Exiting Flow Rate [veh/h]	295			59			51			110		
Demand Flow Rate [veh/h]	40	43	83	2	16	2	0	18	55	203	6	12
Adjusted Demand Flow Rate [veh/h]	42	45	87	2	17	2	0	19	58	214	6	13

**Lanes**

Override Calculated Critical Headway	No			No			No			No		
User-Defined Critical Headway [s]	4.00			4.00			4.00			4.00		
Override 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]	178			22			79			238		
Capacity of Entry and Bypass Lanes [veh/h]	1351			1051			1083			1261		
Pedestrian Impedance	1.00			1.00			1.00			1.00		
Capacity per Entry Lane [veh/h]	1324			1031			1062			1236		
X, volume / capacity	0.13			0.02			0.07			0.19		

**Movement, Approach, & Intersection Results**

Lane LOS	A			A			A			A		
95th-Percentile Queue Length [veh]	0.45			0.06			0.23			0.69		
95th-Percentile Queue Length [ft]	11.32			1.56			5.85			17.33		
Approach Delay [s/veh]	3.79			3.67			4.02			4.53		
Approach LOS	A			A			A			A		
Intersection Delay [s/veh]	4.16											
Intersection LOS	A											

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

Control Type:	Two-way stop	Delay (sec / veh):	70.7
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.202

**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	2	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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]	31	1228	11	2	464	6	19	0	15	12	0	12
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	323	3	1	122	2	5	0	4	3	0	3
Total Analysis Volume [veh/h]	33	1293	12	2	488	6	20	0	16	13	0	13
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	0.16	0.00	0.02	0.20	0.00	0.03
d_M, Delay for Movement [s/veh]	8.41	0.00	0.00	11.84	0.00	0.00	37.08	61.74	13.61	70.66	67.32	23.41
Movement LOS	A	A	A	B	A	A	E	F	B	F	F	C
95th-Percentile Queue Length [veh/ln]	0.06	0.03	0.00	0.00	0.00	0.00	0.63	0.63	0.63	0.85	0.85	0.85
95th-Percentile Queue Length [ft/ln]	1.40	0.70	0.00	0.08	0.04	0.00	15.79	15.79	15.79	21.22	21.22	21.22
d_A, Approach Delay [s/veh]	0.21			0.05			26.65			47.03		
Approach LOS	A			A			D			E		
d_I, Intersection Delay [s/veh]	1.31											
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	421	846	92
2	408	821	89
3	400	804	87
4	375	753	82
5	333	668	73
6	328	660	72
7	324	651	71
8	295	592	64
9	290	584	63
10	286	575	63
11	248	499	54
12	232	465	51
13	227	457	50
14	168	338	37
15	168	338	37
16	118	237	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 Condition B	
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%			
1	3	1267	2	92	No	No	No	No	No	Yes	Yes	Yes	No	No	
2	3	1229	2	89	No	No	No	No	No	Yes	Yes	Yes	No	No	
3	3	1204	2	87	No	No	No	No	No	Yes	Yes	Yes	No	No	
4	3	1128	2	82	No	No	No	No	No	Yes	Yes	Yes	No	No	
5	3	1001	2	73	No	No	No	No	No	No	Yes	Yes	No	No	
6	3	988	2	72	No	No	No	No	No	No	Yes	Yes	No	No	
7	3	975	2	71	No	No	No	No	No	No	Yes	Yes	No	No	
8	3	887	2	64	No	No	No	No	No	No	No	Yes	No	No	
9	3	874	2	63	No	No	No	No	No	No	No	Yes	No	No	
10	3	861	2	63	No	No	No	No	No	No	No	Yes	No	No	
11	3	747	2	54	No	No	No	No	No	No	No	No	No	No	
12	3	697	2	51	No	No	No	No	No	No	No	No	No	No	
13	3	684	2	50	No	No	No	No	No	No	No	No	No	No	
14	3	506	2	37	No	No	No	No	No	No	No	No	No	No	
15	3	506	2	37	No	No	No	No	No	No	No	No	No	No	
16	3	355	2	26	No	No	No	No	No	No	No	No	No	No	
17	3	202	2	15	No	No	No	No	No	No	No	No	No	No	
18	3	202	2	15	No	No	No	No	No	No	No	No	No	No	
19	3	114	2	8	No	No	No	No	No	No	No	No	No	No	
20	3	63	2	5	No	No	No	No	No	No	No	No	No	No	
21	3	38	2	3	No	No	No	No	No	No	No	No	No	No	
22	3	12	2	1	No	No	No	No	No	No	No	No	No	No	
23	3	12	2	1	No	No	No	No	No	No	No	No	No	No	
24	3	12	2	1	No	No	No	No	No	No	No	No	No	No	
Hours Met					0	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)	66.3
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	1:41
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	1359
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
<b>Warrant Met for Intersection</b>	<b>No</b>

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	1270	472	24	34
2	1232	458	23	33
3	1207	448	23	32
4	1130	420	21	30
5	1003	373	19	27
6	991	368	19	27
7	978	363	18	26
8	889	330	17	24
9	876	326	17	23
10	864	321	16	23
11	749	278	14	20
12	699	260	13	19
13	686	255	13	18
14	508	189	10	14
15	508	189	10	14
16	356	132	7	10
17	203	76	4	5
18	203	76	4	5
19	114	42	2	3
20	64	24	1	2
21	38	14	1	1
22	13	5	0	0
23	13	5	0	0
24	13	5	0	0

### Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	1742	1	34	No	No	No	No	No	No	No	No	No	No
2	2	1690	1	33	No	No	No	No	No	No	No	No	No	No
3	2	1655	1	32	No	No	No	No	No	No	No	No	No	No
4	2	1550	1	30	No	No	No	No	No	No	No	No	No	No
5	2	1376	1	27	No	No	No	No	No	No	No	No	No	No
6	2	1359	1	27	No	No	No	No	No	No	No	No	No	No
7	2	1341	1	26	No	No	No	No	No	No	No	No	No	No
8	2	1219	1	24	No	No	No	No	No	No	No	No	No	No
9	2	1202	1	23	No	No	No	No	No	No	No	No	No	No
10	2	1185	1	23	No	No	No	No	No	No	No	No	No	No
11	2	1027	1	20	No	No	No	No	No	No	No	No	No	No
12	2	959	1	19	No	No	No	No	No	No	No	No	No	No
13	2	941	1	18	No	No	No	No	No	No	No	No	No	No
14	2	697	1	14	No	No	No	No	No	No	No	No	No	No
15	2	697	1	14	No	No	No	No	No	No	No	No	No	No
16	2	488	1	10	No	No	No	No	No	No	No	No	No	No
17	2	279	1	5	No	No	No	No	No	No	No	No	No	No
18	2	279	1	5	No	No	No	No	No	No	No	No	No	No
19	2	156	1	3	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	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)	47	26.6
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:18	0:15
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	1800	1800
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
<b>Warrant Met for Intersection</b>	<b>No</b>	

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

Control Type:	Signalized	Delay (sec / veh):	15.3
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.486

**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	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	5	0	0	2	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	78	0	0	0	81
Total Hourly Volume [veh/h]	310	77	107	283	884	81
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	82	20	28	74	233	21
Total Analysis Volume [veh/h]	326	81	113	298	931	85
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	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
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	0.31	0.31
(v / s)_i Volume / Saturation Flow Rate	0.17	0.05	0.09	0.08	0.27	0.05
s, saturation flow rate [veh/h]	1870	1589	1214	3560	3459	1589
c, Capacity [veh/h]	535	455	615	1636	1078	495
d1, Uniform Delay [s]	16.17	14.07	8.86	8.36	16.99	13.12
k, delay calibration	0.11	0.11	0.04	0.11	0.04	0.04
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.13	0.19	0.05	0.05	0.84	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	0.61	0.18	0.18	0.18	0.86	0.17
d, Delay for Lane Group [s/veh]	17.30	14.25	8.91	8.41	17.82	13.18
Lane Group LOS	B	B	A	A	B	B
Critical Lane Group	Yes	No	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	3.12	0.66	0.61	0.82	4.52	0.63
50th-Percentile Queue Length [ft/ln]	77.98	16.54	15.19	20.47	112.98	15.69
95th-Percentile Queue Length [veh/ln]	5.61	1.19	1.09	1.47	8.01	1.13
95th-Percentile Queue Length [ft/ln]	140.36	29.77	27.34	36.84	200.14	28.25

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	17.30	14.25	8.91	8.41	17.82	13.18
Movement LOS	B	B	A	A	B	B
d_A, Approach Delay [s/veh]	16.69		8.55		17.44	
Approach LOS	B		A		B	
d_I, Intersection Delay [s/veh]	15.28					
Intersection LOS	B					
Intersection V/C	0.486					

**Emissions**

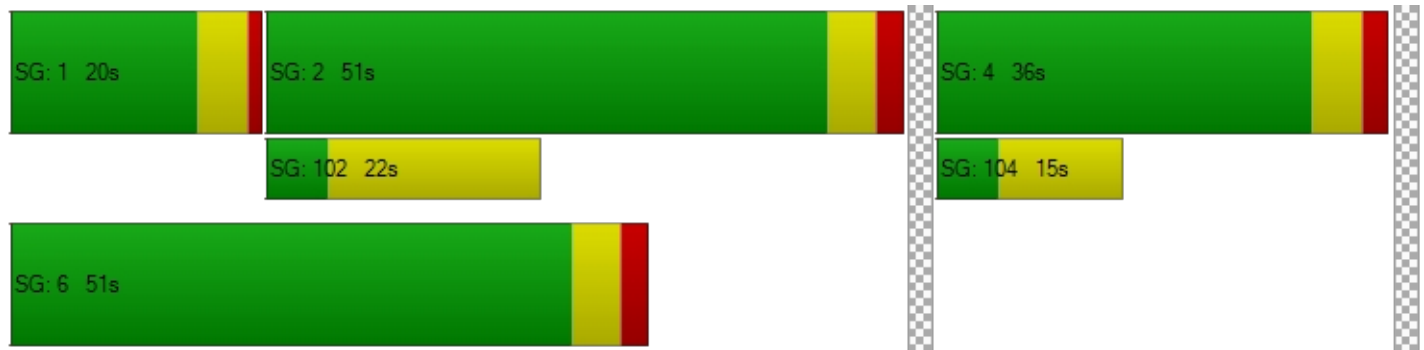
Vehicle Miles Traveled [mph]	46.25	11.49	11.20	29.53	175.47	16.02
Stops [stops/h]	214.81	45.55	41.84	112.75	622.47	43.24
Fuel consumption [US gal/h]	4.24	0.96	0.90	2.35	14.75	1.16
CO [g/h]	296.26	67.08	62.71	164.19	1030.82	81.35
NOx [g/h]	57.64	13.05	12.20	31.94	200.56	15.83
VOC [g/h]	68.66	15.55	14.53	38.05	238.90	18.85

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		17.91		17.91	
I_p,int, Pedestrian LOS Score for Intersectio	0.000		2.324		2.752	
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]	1722		1722		1148	
d_b, Bicycle Delay [s]	0.51		0.51		4.75	
I_b,int, Bicycle LOS Score for Intersection	2.360		1.899		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/ Meadowbrook Pkwy**

Control Type:	Signalized	Delay (sec / veh):	48.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.825

**Intersection Setup**

Name	SH-94			Meadowbrook Pkwy			US-24			US-24		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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			Meadowbrook Pkwy			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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	12	5	0	0	0	0	0	1	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
Right Turn on Red Volume [veh/h]	0	0	1	0	0	105	0	0	352	0	0	27
Total Hourly Volume [veh/h]	518	51	1	27	33	105	183	800	352	9	2067	27
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	136	13	0	7	9	28	48	211	93	2	544	7
Total Analysis Volume [veh/h]	545	54	1	28	35	111	193	842	371	9	2176	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]	200
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	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	245.0	245.0	0.0	245.0	245.0	0.0
Advanced Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	6.0	6.0	0.0	6.0	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]	37	94	0	11	68	0	17	33	0	62	78	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]	200	200	200	200	200	200	200	200	200	200
L, Total Lost Time per Cycle [s]	6.50	6.00	6.00	6.50	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]	4.50	4.00	4.00	4.50	4.00	0.00	5.00	0.00	5.00	5.00
g_i, Effective Green Time [s]	31	32	32	3	5	145	136	145	128	128
g / C, Green / Cycle	0.15	0.16	0.16	0.02	0.03	0.72	0.68	0.72	0.64	0.64
(v / s)_i Volume / Saturation Flow Rate	0.16	0.02	0.00	0.01	0.02	0.56	0.24	0.01	0.61	0.02
s, saturation flow rate [veh/h]	3459	3560	1589	3459	1870	342	3560	707	3560	1589
c, Capacity [veh/h]	527	578	258	55	48	201	2421	499	2277	1016
d1, Uniform Delay [s]	84.75	71.27	70.23	97.66	96.78	82.37	13.42	8.71	33.42	13.23
k, delay calibration	0.04	0.04	0.04	0.04	0.23	0.50	0.50	0.04	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	21.04	0.03	0.00	2.75	36.81	53.37	0.40	0.01	10.99	0.05
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	1.03	0.09	0.00	0.51	0.73	0.96	0.35	0.02	0.96	0.03
d, Delay for Lane Group [s/veh]	105.79	71.29	70.23	100.41	133.58	135.74	13.81	8.71	44.42	13.28
Lane Group LOS	F	E	E	F	F	F	B	A	D	B
Critical Lane Group	Yes	No	No	No	Yes	Yes	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	14.94	1.17	0.04	0.75	2.32	5.43	7.71	0.10	48.25	0.47
50th-Percentile Queue Length [ft/ln]	373.53	29.20	1.07	18.80	57.90	135.69	192.83	2.57	1206.18	11.76
95th-Percentile Queue Length [veh/ln]	21.63	2.10	0.08	1.35	4.17	9.25	12.27	0.18	59.64	0.85
95th-Percentile Queue Length [ft/ln]	540.75	52.56	1.92	33.84	104.22	231.21	306.70	4.62	1490.96	21.16

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	105.79	71.29	70.23	100.41	133.58	0.00	135.74	13.81	0.00	8.71	44.42	13.28
Movement LOS	F	E	E	F	F		F	B		A	D	B
d_A, Approach Delay [s/veh]	102.63			44.56			27.27			43.88		
Approach LOS	F			D			C			D		
d_I, Intersection Delay [s/veh]	48.51											
Intersection LOS	D											
Intersection V/C	0.825											

**Emissions**

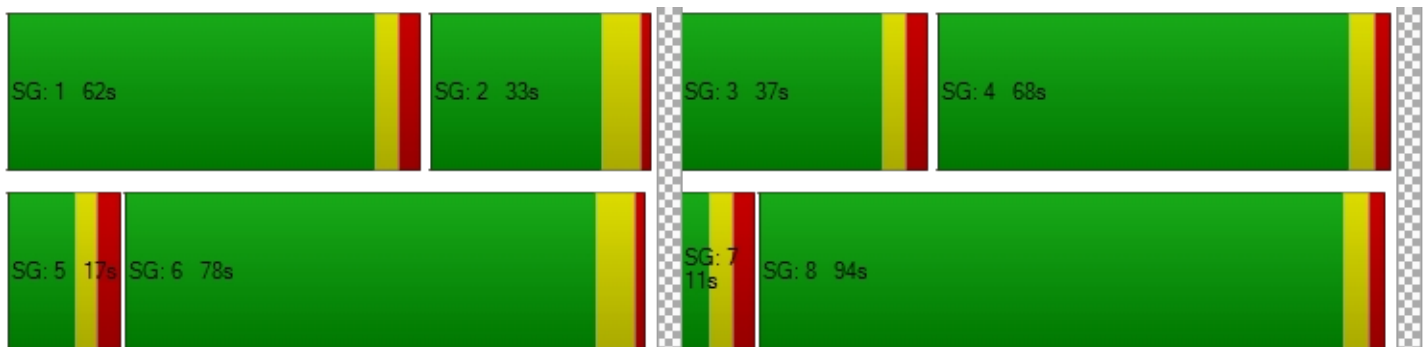
Vehicle Miles Traveled [mph]	213.60	21.16	0.39	2.96	3.69	81.81	356.91	2.74	662.69	8.53
Stops [stops/h]	537.88	42.05	0.77	27.07	41.69	97.70	277.68	1.85	1736.90	8.46
Fuel consumption [US gal/h]	28.87	2.27	0.04	0.84	1.33	9.88	19.46	0.14	74.10	0.52
CO [g/h]	2017.80	158.84	2.91	58.94	93.22	690.70	1360.53	9.93	5179.34	36.22
NOx [g/h]	392.59	30.90	0.57	11.47	18.14	134.39	264.71	1.93	1007.71	7.05
VOC [g/h]	467.65	36.81	0.68	13.66	21.60	160.08	315.32	2.30	1200.36	8.39

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			62.0			88.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			47.61			31.36		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			3.607			3.422		
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]	880			620			260			710		
d_b, Bicycle Delay [s]	31.36			47.61			75.69			41.60		
I_b,int, Bicycle LOS Score for Intersection	2.055			1.664			2.413			3.408		
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:	Roundabout	Delay (sec / veh):	11.7
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				tr						tr		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	15.00	15.00	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	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	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
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			Yes			No			Yes		

**Volumes**

Name	Peterson Rd			Peterson Rd			US-24 WB Ramps					
Base Volume Input [veh/h]	306	326	0	0	716	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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	7	0	0	8	14	0	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]	360	390	0	0	850	349	0	0	0	356	0	79
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	95	103	0	0	224	92	0	0	0	94	0	21
Total Analysis Volume [veh/h]	379	411	0	0	895	367	0	0	0	375	0	83
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			1			2		
Circulating Flow Rate [veh/h]	0			769			1295			806		
Exiting Flow Rate [veh/h]	1295			504			387			0		
Demand Flow Rate [veh/h]	360	390	0	0	850	349	0	0	0	356	0	79
Adjusted Demand Flow Rate [veh/h]	379	411	0	0	895	367	0	0	0	375	0	83

**Lanes**

Override 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
Override 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]	387	420	430	484	0		383	85
Capacity of Entry and Bypass Lanes [veh/h]	1350	1420	666	739	1023		644	716
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Capacity per Entry Lane [veh/h]	1324	1393	653	725	1003		631	702
X, volume / capacity	0.29	0.30	0.64	0.66	0.37		0.59	0.12

**Movement, Approach, & Intersection Results**

Lane LOS	A	A	C	C	A		C	A
95th-Percentile Queue Length [veh]	1.19	1.24	4.69	4.92	1.70		3.92	0.40
95th-Percentile Queue Length [ft]	29.79	31.10	117.21	123.06	42.42		98.00	10.01
Approach Delay [s/veh]	5.19		14.70				0.00	14.84
Approach LOS	A		B				A	B
Intersection Delay [s/veh]	11.73							
Intersection LOS	B							

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

Control Type:	Roundabout	Delay (sec / veh):	15.9
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	0	0	0	0	0	0	0	0	0	1
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	1.00
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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	2	0	2	3	3	5	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	175	79	190	1009	3	83	192	440	113	0	492
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	46	21	50	266	1	22	51	116	30	0	129
Total Analysis Volume [veh/h]	0	184	83	200	1062	3	87	202	463	119	0	518
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			2			2		
Circulating Flow Rate [veh/h]	499			121			1409			276		
Exiting Flow Rate [veh/h]	1205			805			0			410		
Demand Flow Rate [veh/h]	0	175	79	190	1009	0	83	192	440	113	0	492
Adjusted Demand Flow Rate [veh/h]	0	184	83	200	1062	0	87	202	463	119	0	518

**Lanes**

Override Calculated Critical Headway	No	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	4.00
Override Calculated Follow-Up Time	No	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	3.00
A (intercept)	1350.00	1420.00	1420.00	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00	1420.00
B (coefficient)	0.00092	0.00085	0.00085	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085	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	0.98
Entry Flow Rate [veh/h]	89	100	0	606	683	89	207	0	122	529	
Capacity of Entry and Bypass Lanes [veh/h]	854	930	1003	1208	1281	370	429	511	1047	1123	
Pedestrian Impedance	1.00	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]	837	912	983	1184	1256	363	421	501	1027	1101	
X, volume / capacity	0.10	0.11	0.08	0.50	0.53	0.24	0.48	0.93	0.12	0.47	

**Movement, Approach, & Intersection Results**

Lane LOS	A	A	A	A	A	B	C	F	A	A	
95th-Percentile Queue Length [veh]	0.34	0.36	0.28	2.90	3.27	0.92	2.54	11.06	0.39	2.58	
95th-Percentile Queue Length [ft]	8.62	8.96	6.90	72.48	81.83	23.09	63.46	276.59	9.80	64.40	
Approach Delay [s/veh]	4.91			8.66			38.92			7.76	
Approach LOS	A			A			E			A	
Intersection Delay [s/veh]	15.92										
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):	49.2
Analysis Method:	HCM 7th Edition	Level Of Service:	E
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.479

**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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	2	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	302	594	43
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	18	3	42	79	156	11
Total Analysis Volume [veh/h]	72	13	167	318	625	45
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	0.48	0.03	0.18	0.00	0.01	0.00
d_M, Delay for Movement [s/veh]	49.19	12.63	9.78	0.00	0.00	0.00
Movement LOS	E	B	A	A	A	A
95th-Percentile Queue Length [veh/ln]	2.24	0.08	0.66	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	56.07	2.06	16.51	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	43.60		3.37		0.00	
Approach LOS	E		A		A	
d_I, Intersection Delay [s/veh]	4.31					
Intersection LOS	E					



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

Control Type:	Roundabout	Delay (sec / veh):	4.1
Analysis Method:	HCM 7th Edition	Level Of Service:	A
Analysis Period:	15 minutes		

**Intersection Setup**

Name	Meadowbrook Pkwy			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	Meadowbrook Pkwy			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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	5	0	0	0	0	0	0	2	17	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]	56	19	128	4	48	0	1	7	42	177	18	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	5	34	1	13	0	0	2	11	47	5	1
Total Analysis Volume [veh/h]	59	20	135	4	51	0	1	7	44	186	19	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			269			246			82		
Exiting Flow Rate [veh/h]	287			26			80			149		
Demand Flow Rate [veh/h]	56	19	128	4	48	0	1	7	42	177	18	4
Adjusted Demand Flow Rate [veh/h]	59	20	135	4	51	0	1	7	44	186	19	4

**Lanes**

Override Calculated Critical Headway	No			No			No			No		
User-Defined Critical Headway [s]	4.00			4.00			4.00			4.00		
Override 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]	219			57			54			214		
Capacity of Entry and Bypass Lanes [veh/h]	1363			1049			1074			1270		
Pedestrian Impedance	1.00			1.00			1.00			1.00		
Capacity per Entry Lane [veh/h]	1337			1029			1053			1245		
X, volume / capacity	0.16			0.05			0.05			0.17		

**Movement, Approach, & Intersection Results**

Lane LOS	A			A			A			A		
95th-Percentile Queue Length [veh]	0.57			0.17			0.16			0.60		
95th-Percentile Queue Length [ft]	14.24			4.23			3.89			15.06		
Approach Delay [s/veh]	4.01			3.97			3.84			4.31		
Approach LOS	A			A			A			A		
Intersection Delay [s/veh]	4.11											
Intersection LOS	A											

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

Control Type:	Two-way stop	Delay (sec / veh):	13.6
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.021

**Intersection Setup**

Name	Peterson Rd			Peterson Rd			Panamint Ct			Panamint Ct		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	I T			I T			R			R		
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	2	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	4	4	0	22	0	0	0	0	0	0	4
Diverted Trips [veh/h]	0	11	0	0	4	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]	13	465	16	5	1183	4	2	1	9	13	4	25
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	122	4	1	311	1	1	0	2	3	1	7
Total Analysis Volume [veh/h]	14	489	17	5	1245	4	2	1	9	14	4	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	0.00	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	13.59	0.00	0.00	10.00
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	1.61	0.00	0.00	2.70
d_A, Approach Delay [s/veh]	0.00			0.00			13.59			10.00		
Approach LOS	A			A			B			A		
d_I, Intersection Delay [s/veh]	0.21											
Intersection LOS	B											

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

Control Type:	Two-way stop	Delay (sec / veh):	25.2
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.115

**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	Yes		Yes		Yes	

**Volumes**

Name	Peterson Rd		Peterson Rd		Meadowbrook Pk	
Base Volume Input [veh/h]	403	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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	6	2	0	22	5
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]	476	6	2	1165	22	5
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	125	2	1	307	6	1
Total Analysis Volume [veh/h]	501	6	2	1226	23	5
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	0.01	0.12	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	8.42	0.00	25.21	11.99
Movement LOS	A	A	A	A	D	B
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.00	0.00	0.41	0.41
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.08	0.04	10.25	10.25
d_A, Approach Delay [s/veh]	0.00		0.01		22.85	
Approach LOS	A		A		C	
d_I, Intersection Delay [s/veh]	0.37					
Intersection LOS	D					

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	637	461	80
2	618	447	78
3	605	438	76
4	567	410	71
5	503	364	63
6	497	360	62
7	490	355	62
8	446	323	56
9	440	318	55
10	433	313	54
11	376	272	47
12	350	254	44
13	344	249	43
14	255	184	32
15	255	184	32
16	178	129	22
17	102	74	13
18	102	74	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 Condition B	
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%			
1	3	1098	2	80	No	No	No	No	No	Yes	Yes	Yes	No	No	
2	3	1065	2	78	No	No	No	No	No	No	Yes	Yes	No	No	
3	3	1043	2	76	No	No	No	No	No	No	Yes	Yes	No	No	
4	3	977	2	71	No	No	No	No	No	No	Yes	Yes	No	No	
5	3	867	2	63	No	No	No	No	No	No	No	Yes	No	No	
6	3	857	2	62	No	No	No	No	No	No	No	Yes	No	No	
7	3	845	2	62	No	No	No	No	No	No	No	Yes	No	No	
8	3	769	2	56	No	No	No	No	No	No	No	Yes	No	No	
9	3	758	2	55	No	No	No	No	No	No	No	No	No	No	
10	3	746	2	54	No	No	No	No	No	No	No	No	No	No	
11	3	648	2	47	No	No	No	No	No	No	No	No	No	No	
12	3	604	2	44	No	No	No	No	No	No	No	No	No	No	
13	3	593	2	43	No	No	No	No	No	No	No	No	No	No	
14	3	439	2	32	No	No	No	No	No	No	No	No	No	No	
15	3	439	2	32	No	No	No	No	No	No	No	No	No	No	
16	3	307	2	22	No	No	No	No	No	No	No	No	No	No	
17	3	176	2	13	No	No	No	No	No	No	No	No	No	No	
18	3	176	2	13	No	No	No	No	No	No	No	No	No	No	
19	3	98	2	7	No	No	No	No	No	No	No	No	No	No	
20	3	55	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	1	4	8	0	0

### Warrant 3 Condition A

Orientation	N
Total Stopped Delay Per Vehicle on Minor Approach (s)	43.6
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:58
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	1178
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
<b>Warrant Met for Intersection</b>	<b>No</b>



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	481	1187	25	9
2	467	1151	24	9
3	457	1128	24	9
4	428	1056	22	8
5	380	938	20	7
6	375	926	20	7
7	370	914	19	7
8	337	831	18	6
9	332	819	17	6
10	327	807	17	6
11	284	700	15	5
12	265	653	14	5
13	260	641	14	5
14	192	475	10	4
15	192	475	10	4
16	135	332	7	3
17	77	190	4	1
18	77	190	4	1
19	43	107	2	1
20	24	59	1	0
21	14	36	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 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	1668	1	25	No	No	No	No	No	No	No	No	No	No
2	2	1618	1	24	No	No	No	No	No	No	No	No	No	No
3	2	1585	1	24	No	No	No	No	No	No	No	No	No	No
4	2	1484	1	22	No	No	No	No	No	No	No	No	No	No
5	2	1318	1	20	No	No	No	No	No	No	No	No	No	No
6	2	1301	1	20	No	No	No	No	No	No	No	No	No	No
7	2	1284	1	19	No	No	No	No	No	No	No	No	No	No
8	2	1168	1	18	No	No	No	No	No	No	No	No	No	No
9	2	1151	1	17	No	No	No	No	No	No	No	No	No	No
10	2	1134	1	17	No	No	No	No	No	No	No	No	No	No
11	2	984	1	15	No	No	No	No	No	No	No	No	No	No
12	2	918	1	14	No	No	No	No	No	No	No	No	No	No
13	2	901	1	14	No	No	No	No	No	No	No	No	No	No
14	2	667	1	10	No	No	No	No	No	No	No	No	No	No
15	2	667	1	10	No	No	No	No	No	No	No	No	No	No
16	2	467	1	7	No	No	No	No	No	No	No	No	No	No
17	2	267	1	4	No	No	No	No	No	No	No	No	No	No
18	2	267	1	4	No	No	No	No	No	No	No	No	No	No
19	2	150	1	2	No	No	No	No	No	No	No	No	No	No
20	2	83	1	1	No	No	No	No	No	No	No	No	No	No
21	2	50	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	13.6
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:04	0:02
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	25	9
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1702	1702
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
<b>Warrant Met for Intersection</b>	<b>No</b>	

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	482	1167	27
2	468	1132	26
3	458	1109	26
4	429	1039	24
5	381	922	21
6	376	910	21
7	371	899	21
8	337	817	19
9	333	805	19
10	328	794	18
11	284	689	16
12	265	642	15
13	260	630	15
14	193	467	11
15	193	467	11
16	135	327	8
17	77	187	4
18	77	187	4
19	43	105	2
20	24	58	1
21	14	35	1
22	5	12	0
23	5	12	0
24	5	12	0

### Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	1649	1	27	No	No	No	No	No	No	No	No	No	No
2	2	1600	1	26	No	No	No	No	No	No	No	No	No	No
3	2	1567	1	26	No	No	No	No	No	No	No	No	No	No
4	2	1468	1	24	No	No	No	No	No	No	No	No	No	No
5	2	1303	1	21	No	No	No	No	No	No	No	No	No	No
6	2	1286	1	21	No	No	No	No	No	No	No	No	No	No
7	2	1270	1	21	No	No	No	No	No	No	No	No	No	No
8	2	1154	1	19	No	No	No	No	No	No	No	No	No	No
9	2	1138	1	19	No	No	No	No	No	No	No	No	No	No
10	2	1122	1	18	No	No	No	No	No	No	No	No	No	No
11	2	973	1	16	No	No	No	No	No	No	No	No	No	No
12	2	907	1	15	No	No	No	No	No	No	No	No	No	No
13	2	890	1	15	No	No	No	No	No	No	No	No	No	No
14	2	660	1	11	No	No	No	No	No	No	No	No	No	No
15	2	660	1	11	No	No	No	No	No	No	No	No	No	No
16	2	462	1	8	No	No	No	No	No	No	No	No	No	No
17	2	264	1	4	No	No	No	No	No	No	No	No	No	No
18	2	264	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
Total Stopped Delay Per Vehicle on Minor Approach (s)	22.8
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:10
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	27
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1676
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
<b>Warrant Met for Intersection</b>	<b>No</b>

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

Control Type:	Signalized	Delay (sec / veh):	12.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.474

**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	1	0	0	0	0
Exit Pocket Length [ft]	0.00	49.21	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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	3	0	2	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
Right Turn on Red Volume [veh/h]	0	471	0	0	0	47
Total Hourly Volume [veh/h]	323	470	225	201	279	46
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	85	124	59	53	73	12
Total Analysis Volume [veh/h]	340	495	237	212	294	48
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	<i>Free Running</i>
Actuation Type	<i>Fully actuated</i>
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]	48	48	48	48	48	48
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	18	28	28	8	8
g / C, Green / Cycle	0.38	0.38	0.58	0.58	0.17	0.17
(v / s)_i Volume / Saturation Flow Rate	0.18	0.31	0.24	0.06	0.09	0.03
s, saturation flow rate [veh/h]	1870	1589	975	3560	3459	1589
c, Capacity [veh/h]	704	598	706	2076	574	264
d1, Uniform Delay [s]	11.37	13.51	5.46	4.42	18.17	17.14
k, delay calibration	0.11	0.11	0.17	0.11	0.04	0.04
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.52	3.01	0.45	0.02	0.26	0.12
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	0.83	0.34	0.10	0.51	0.18
d, Delay for Lane Group [s/veh]	11.88	16.51	5.91	4.44	18.43	17.26
Lane Group LOS	B	B	A	A	B	B
Critical Lane Group	No	Yes	Yes	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.34	4.37	0.81	0.30	1.30	0.40
50th-Percentile Queue Length [ft/ln]	58.52	109.37	20.30	7.62	32.41	10.04
95th-Percentile Queue Length [veh/ln]	4.21	7.81	1.46	0.55	2.33	0.72
95th-Percentile Queue Length [ft/ln]	105.34	195.13	36.55	13.72	58.33	18.08

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	11.88	16.51	5.91	4.44	18.43	17.26
Movement LOS	B	B	A	A	B	B
d_A, Approach Delay [s/veh]	14.63		5.22		18.27	
Approach LOS	B		A		B	
d_I, Intersection Delay [s/veh]	12.80					
Intersection LOS	B					
Intersection V/C	0.474					

**Emissions**

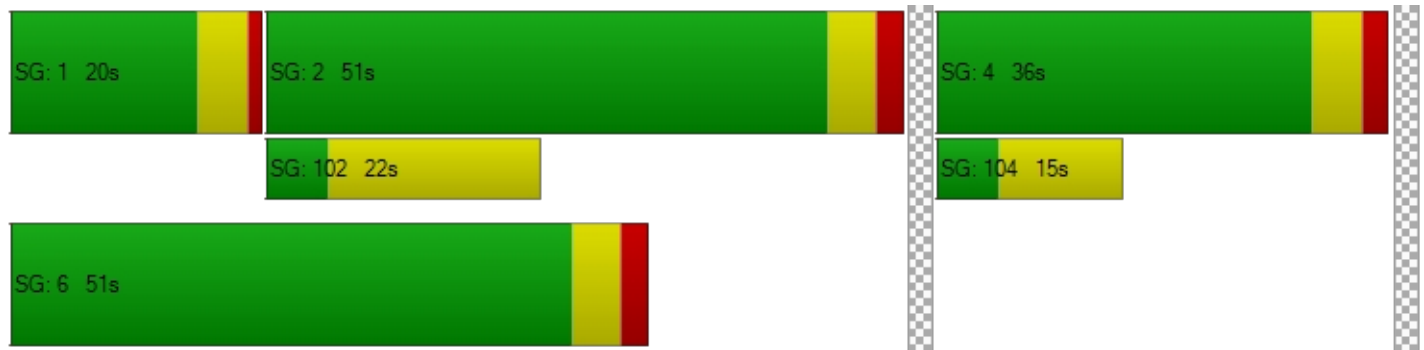
Vehicle Miles Traveled [mph]	48.24	70.23	23.49	21.01	55.41	9.05
Stops [stops/h]	176.68	330.20	61.29	46.02	195.67	30.32
Fuel consumption [US gal/h]	3.78	6.38	1.59	1.31	4.69	0.74
CO [g/h]	264.51	445.89	111.19	91.62	327.59	51.83
NOx [g/h]	51.46	86.75	21.63	17.83	63.74	10.09
VOC [g/h]	61.30	103.34	25.77	21.23	75.92	12.01

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0		9.0		9.0	
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00		0.00		0.00	
d_p, Pedestrian Delay [s]	0.00		15.70		15.70	
I_p,int, Pedestrian LOS Score for Intersectio	0.000		2.314		2.837	
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]	1887		1887		1258	
d_b, Bicycle Delay [s]	0.08		0.08		3.28	
I_b,int, Bicycle LOS Score for Intersection	3.715		1.930		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/ Meadowbrook Pkwy**

Control Type:	Signalized	Delay (sec / veh):	35.5
Analysis Method:	HCM 7th Edition	Level Of Service:	D
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.780

**Intersection Setup**

Name	SH-94			Meadowbrook Pkwy			US-24			US-24		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	[Diagram]			[Diagram]			[Diagram]			[Diagram]		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Entry Pocket	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			Meadowbrook Pkwy			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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	1	4	0	8	3	0	0	0	0	0	4	9
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right Turn on Red Volume [veh/h]	0	0	3	0	0	98	0	0	232	0	0	19
Total Hourly Volume [veh/h]	477	40	2	39	62	97	182	2025	231	8	1004	18
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	126	11	1	10	16	26	48	533	61	2	264	5
Total Analysis Volume [veh/h]	502	42	2	41	65	102	192	2132	243	8	1057	19
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]	160
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	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	6.0	0.0	4.5	5.0	0.0	7.5	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]	30	76	0	26	72	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]	160	160	160	160	160	160	160	160	160	160
L, Total Lost Time per Cycle [s]	6.50	6.00	6.00	6.50	8.00	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]	4.50	4.00	4.00	4.50	6.00	0.00	5.00	0.00	5.00	5.00
g_i, Effective Green Time [s]	24	28	28	3	6	109	101	108	95	95
g / C, Green / Cycle	0.15	0.17	0.17	0.02	0.03	0.68	0.63	0.68	0.60	0.60
(v / s)_i Volume / Saturation Flow Rate	0.15	0.01	0.00	0.01	0.03	0.29	0.60	0.03	0.30	0.01
s, saturation flow rate [veh/h]	3459	3560	1589	3459	1870	662	3560	267	3560	1589
c, Capacity [veh/h]	508	618	276	74	66	426	2248	153	2121	947
d1, Uniform Delay [s]	68.11	55.30	54.72	77.54	77.10	13.07	27.11	34.24	18.59	13.23
k, delay calibration	0.04	0.04	0.04	0.04	0.23	0.50	0.50	0.04	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	8.90	0.02	0.00	2.41	69.94	3.43	10.23	0.05	0.84	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	0.99	0.07	0.01	0.56	0.98	0.45	0.95	0.05	0.50	0.02
d, Delay for Lane Group [s/veh]	77.02	55.32	54.72	79.95	147.04	16.50	37.34	34.29	19.43	13.27
Lane Group LOS	E	E	D	E	F	B	D	C	B	B
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	Yes	No	No
50th-Percentile Queue Length [veh/ln]	10.58	0.70	0.07	0.87	3.98	2.56	35.98	0.08	10.71	0.28
50th-Percentile Queue Length [ft/ln]	264.52	17.42	1.65	21.69	99.58	64.11	899.43	2.07	267.76	6.95
95th-Percentile Queue Length [veh/ln]	15.92	1.25	0.12	1.56	7.17	4.62	45.81	0.15	16.08	0.50
95th-Percentile Queue Length [ft/ln]	397.88	31.36	2.96	39.03	179.24	115.39	1145.36	3.73	401.94	12.51

**Movement, Approach, & Intersection Results**

d_M, Delay for Movement [s/veh]	77.02	55.32	54.72	79.95	147.04	0.00	16.50	37.34	0.00	34.29	19.43	13.27
Movement LOS	E	E	D	E	F		B	D		C	B	B
d_A, Approach Delay [s/veh]	75.27			63.23			32.40			19.43		
Approach LOS	E			E			C			B		
d_I, Intersection Delay [s/veh]	35.51											
Intersection LOS	D											
Intersection V/C	0.780											

**Emissions**

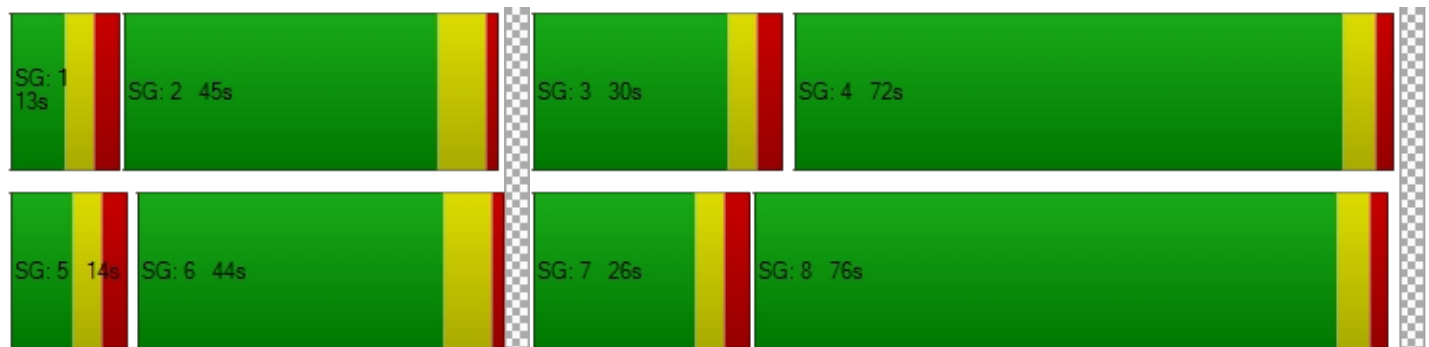
Vehicle Miles Traveled [mph]	196.75	16.46	0.78	4.33	6.86	81.39	903.73	2.44	321.90	5.79
Stops [stops/h]	476.13	31.36	1.48	39.03	89.62	57.70	1618.98	1.86	481.97	6.25
Fuel consumption [US gal/h]	23.29	1.61	0.08	1.06	2.72	4.44	76.50	0.17	23.90	0.36
CO [g/h]	1628.11	112.26	5.31	74.15	190.28	310.28	5347.48	12.02	1670.61	25.24
NOx [g/h]	316.77	21.84	1.03	14.43	37.02	60.37	1040.43	2.34	325.04	4.91
VOC [g/h]	377.33	26.02	1.23	17.18	44.10	71.91	1239.33	2.79	387.18	5.85

**Other Modes**

g_Walk,mi, Effective Walk Time [s]	0.0			0.0			66.0			70.0		
M_corner, Corner Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
M_CW, Crosswalk Circulation Area [ft <sup>2</sup> /ped]	0.00			0.00			0.00			0.00		
d_p, Pedestrian Delay [s]	0.00			0.00			27.61			25.31		
I_p,int, Pedestrian LOS Score for Intersectio	0.000			0.000			3.611			3.446		
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]	875			825			475			463		
d_b, Bicycle Delay [s]	25.31			27.61			46.51			47.28		
I_b,int, Bicycle LOS Score for Intersection	2.013			1.735			3.477			2.470		
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:	Roundabout	Delay (sec / veh):	11.1
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				tr						tr		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	15.00	15.00	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	1	0	0	0	0	0	0
Entry Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	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
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			Yes			No			Yes		

**Volumes**

Name	Peterson Rd			Peterson Rd			US-24 WB Ramps					
Base Volume Input [veh/h]	476	1010	0	0	266	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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	22	0	0	8	9	0	0	0	0	0	4
Diverted Trips [veh/h]	0	0	0	0	2	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]	559	1209	0	0	323	206	0	0	0	28	0	86
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	147	318	0	0	85	54	0	0	0	7	0	23
Total Analysis Volume [veh/h]	588	1273	0	0	340	217	0	0	0	29	0	91
Pedestrian Volume [ped/h]	0			0			0			0		



**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			1			2		
Circulating Flow Rate [veh/h]	0			629			376			1898		
Exiting Flow Rate [veh/h]	376			1391			600			0		
Demand Flow Rate [veh/h]	559	1209	0	0	323	206	0	0	0	28	0	86
Adjusted Demand Flow Rate [veh/h]	588	1273	0	0	340	217	0	0	0	29	0	91

**Lanes**

Override 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
Override 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]	893	1007	163	184	0		30	93
Capacity of Entry and Bypass Lanes [veh/h]	1350	1420	757	832	853		236	283
Pedestrian Impedance	1.00	1.00	1.00	1.00	1.00		1.00	1.00
Capacity per Entry Lane [veh/h]	1324	1393	742	816	837		231	278
X, volume / capacity	0.66	0.71	0.22	0.22	0.26		0.13	0.33

**Movement, Approach, & Intersection Results**

Lane LOS	B	B	A	A	A		C	C
95th-Percentile Queue Length [veh]	5.34	6.47	0.81	0.84	1.04		0.42	1.38
95th-Percentile Queue Length [ft]	133.45	161.67	20.37	21.05	25.94		10.60	34.58
Approach Delay [s/veh]	11.67		7.04				0.00	20.26
Approach LOS	B		A				A	C
Intersection Delay [s/veh]	11.06							
Intersection LOS	B							

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

Control Type:	Roundabout	Delay (sec / veh):	33.1
Analysis Method:	HCM 7th Edition	Level Of Service:	D
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	0	0	0	0	0	0	0	0	0	1
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	1.00
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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
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	2	3	3	17	0	0	0	0	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]	0	1047	420	315	7	3	272	119	13	4	0	450
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	276	111	83	2	1	72	31	3	1	0	118
Total Analysis Volume [veh/h]	0	1102	442	332	7	3	286	125	14	4	0	474
Pedestrian Volume [ped/h]	0			0			0			0		

**Intersection Settings**

Number of Conflicting Circulating Lanes	2			2			2			2		
Circulating Flow Rate [veh/h]	758			4			350			1416		
Exiting Flow Rate [veh/h]	11			1899			0			466		
Demand Flow Rate [veh/h]	0	1047	420	315	7	0	272	119	13	4	0	450
Adjusted Demand Flow Rate [veh/h]	0	1102	442	332	7	0	286	125	14	4	0	474

**Lanes**

Override Calculated Critical Headway	No	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	4.00
Override Calculated Follow-Up Time	No	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	3.00
A (intercept)	1350.00	1420.00	1420.00	1350.00	1420.00	1350.00	1420.00	1420.00	1350.00	1420.00	1420.00
B (coefficient)	0.00092	0.00085	0.00085	0.00092	0.00085	0.00092	0.00085	0.00085	0.00092	0.00085	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	0.98
Entry Flow Rate [veh/h]	529	596	0	339	8	223	198	0	5	484	
Capacity of Entry and Bypass Lanes [veh/h]	673	746	956	1345	1416	979	1055	1407	367	427	
Pedestrian Impedance	1.00	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]	660	732	937	1319	1388	960	1035	1379	360	418	
X, volume / capacity	0.79	0.80	0.47	0.25	0.01	0.23	0.19	0.01	0.01	1.13	

**Movement, Approach, & Intersection Results**

Lane LOS	D	D	A	A	A	A	A	A	B	F	
95th-Percentile Queue Length [veh]	7.67	8.23	2.57	1.00	0.02	0.87	0.68	0.03	0.03	17.29	
95th-Percentile Queue Length [ft]	191.82	205.83	64.33	25.04	0.38	21.83	17.12	0.77	0.84	432.32	
Approach Delay [s/veh]	21.24			4.86			5.53			115.80	
Approach LOS	C			A			A			F	
Intersection Delay [s/veh]	33.08										
Intersection LOS	D										

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

Control Type:	Two-way stop	Delay (sec / veh):	140.1
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.672

**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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	2	2	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	386	462	402	21
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	11	14	102	122	106	6
Total Analysis Volume [veh/h]	42	55	406	486	423	22
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	0.67	0.09	0.36	0.00	0.00	0.00
d_M, Delay for Movement [s/veh]	140.12	11.25	10.06	0.00	0.00	0.00
Movement LOS	F	B	B	A	A	A
95th-Percentile Queue Length [veh/ln]	2.89	0.29	1.69	0.00	0.00	0.00
95th-Percentile Queue Length [ft/ln]	72.26	7.13	42.14	0.00	0.00	0.00
d_A, Approach Delay [s/veh]	67.05		4.58		0.00	
Approach LOS	F		A		A	
d_I, Intersection Delay [s/veh]	7.39					
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	Meadowbrook Pkwy			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	Meadowbrook Pkwy			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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	13	0	0	0	0	0	0	1	11	0	2	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]	53	43	83	2	16	2	0	19	66	203	8	12
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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]	14	11	22	1	4	1	0	5	17	53	2	3
Total Analysis Volume [veh/h]	56	45	87	2	17	2	0	20	69	214	8	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]	22			284			238			103		
Exiting Flow Rate [veh/h]	306			59			67			111		
Demand Flow Rate [veh/h]	53	43	83	2	16	2	0	19	66	203	8	12
Adjusted Demand Flow Rate [veh/h]	56	45	87	2	17	2	0	20	69	214	8	13

**Lanes**

Override Calculated Critical Headway	No			No			No			No		
User-Defined Critical Headway [s]	4.00			4.00			4.00			4.00		
Override 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]	192			22			91			240		
Capacity of Entry and Bypass Lanes [veh/h]	1349			1034			1083			1243		
Pedestrian Impedance	1.00			1.00			1.00			1.00		
Capacity per Entry Lane [veh/h]	1323			1014			1062			1218		
X, volume / capacity	0.14			0.02			0.08			0.19		

**Movement, Approach, & Intersection Results**

Lane LOS	A			A			A			A		
95th-Percentile Queue Length [veh]	0.50			0.06			0.27			0.71		
95th-Percentile Queue Length [ft]	12.39			1.59			6.85			17.83		
Approach Delay [s/veh]	3.88			3.73			4.12			4.63		
Approach LOS	A			A			A			A		
Intersection Delay [s/veh]	4.24											
Intersection LOS	A											

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

Control Type:	Two-way stop	Delay (sec / veh):	14.8
Analysis Method:	HCM 7th Edition	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.071

**Intersection Setup**

Name	Peterson Rd			Peterson Rd			Panamint Ct			Panamint Ct		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	I T			I T			R			R		
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	2	0	0	0	0	0	0	0	0	0
Exit Pocket Length [ft]	0.00	0.00	49.21	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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	11	15	0	16	0	0	0	0	0	0	3
Diverted Trips [veh/h]	0	26	0	0	2	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]	31	1265	26	2	482	6	19	0	34	12	0	27
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
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	333	7	1	127	2	5	0	9	3	0	7
Total Analysis Volume [veh/h]	33	1332	27	2	507	6	20	0	36	13	0	28
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	10.09	0.00	0.00	14.84
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	0.15	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	3.81	0.00	0.00	5.71
d_A, Approach Delay [s/veh]	0.00			0.00			10.09			14.84		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	0.40											
Intersection LOS	B											

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

Control Type:	Two-way stop	Delay (sec / veh):	53.3
Analysis Method:	HCM 7th Edition	Level Of Service:	F
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.189

**Intersection Setup**

Name	Peterson Rd		Peterson Rd		Meadowbrook Pk	
Approach	Northbound		Southbound		Westbound	
Lane Configuration					T	
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	Yes		Yes		Yes	

**Volumes**

Name	Peterson Rd		Peterson Rd		Meadowbrook Pk	
Base Volume Input [veh/h]	1081	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	1.1754	1.1754	1.1754	1.1754	1.1754	1.1754
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	2	12	7	0	16	4
Diverted Trips [veh/h]	26	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]	1299	12	7	473	16	4
Peak Hour Factor	0.9500	0.9500	0.9500	0.9500	0.9500	0.9500
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	342	3	2	124	4	1
Total Analysis Volume [veh/h]	1367	13	7	498	17	4
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	0.01	0.00	0.19	0.01
d_M, Delay for Movement [s/veh]	0.00	0.00	12.32	0.00	53.30	22.59
Movement LOS	A	A	B	A	F	C
95th-Percentile Queue Length [veh/ln]	0.00	0.00	0.01	0.01	0.70	0.70
95th-Percentile Queue Length [ft/ln]	0.00	0.00	0.29	0.15	17.50	17.50
d_A, Approach Delay [s/veh]	0.00		0.17		47.45	
Approach LOS	A		A		E	
d_I, Intersection Delay [s/veh]	0.57					
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	423	848	92
2	410	823	89
3	402	806	87
4	376	755	82
5	334	670	73
6	330	661	72
7	326	653	71
8	296	594	64
9	292	585	63
10	288	577	63
11	250	500	54
12	233	466	51
13	228	458	50
14	169	339	37
15	169	339	37
16	118	237	26
17	68	136	15
18	68	136	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 Condition B	
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%			
1	3	1271	2	92	No	No	No	No	No	Yes	Yes	Yes	No	No	
2	3	1233	2	89	No	No	No	No	No	Yes	Yes	Yes	No	No	
3	3	1208	2	87	No	No	No	No	No	Yes	Yes	Yes	No	No	
4	3	1131	2	82	No	No	No	No	No	Yes	Yes	Yes	No	No	
5	3	1004	2	73	No	No	No	No	No	No	Yes	Yes	No	No	
6	3	991	2	72	No	No	No	No	No	No	Yes	Yes	No	No	
7	3	979	2	71	No	No	No	No	No	No	Yes	Yes	No	No	
8	3	890	2	64	No	No	No	No	No	No	No	Yes	No	No	
9	3	877	2	63	No	No	No	No	No	No	No	Yes	No	No	
10	3	865	2	63	No	No	No	No	No	No	No	Yes	No	No	
11	3	750	2	54	No	No	No	No	No	No	No	No	No	No	
12	3	699	2	51	No	No	No	No	No	No	No	No	No	No	
13	3	686	2	50	No	No	No	No	No	No	No	No	No	No	
14	3	508	2	37	No	No	No	No	No	No	No	No	No	No	
15	3	508	2	37	No	No	No	No	No	No	No	No	No	No	
16	3	355	2	26	No	No	No	No	No	No	No	No	No	No	
17	3	204	2	15	No	No	No	No	No	No	No	No	No	No	
18	3	204	2	15	No	No	No	No	No	No	No	No	No	No	
19	3	114	2	8	No	No	No	No	No	No	No	No	No	No	
20	3	63	2	5	No	No	No	No	No	No	No	No	No	No	
21	3	38	2	3	No	No	No	No	No	No	No	No	No	No	
22	3	12	2	1	No	No	No	No	No	No	No	No	No	No	
23	3	12	2	1	No	No	No	No	No	No	No	No	No	No	
24	3	12	2	1	No	No	No	No	No	No	No	No	No	No	
Hours Met					0	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)	67.1
Number of Lanes on Minor Street Approach	2
VehicleHours of Stopped Delay on Minor Approach (h:mm)	1:42
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	1363
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
<b>Warrant Met for Intersection</b>	<b>No</b>

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	1291	488	27	34
2	1252	473	26	33
3	1226	464	26	32
4	1149	434	24	30
5	1020	386	21	27
6	1007	381	21	27
7	994	376	21	26
8	904	342	19	24
9	891	337	19	23
10	878	332	18	23
11	762	288	16	20
12	710	268	15	19
13	697	264	15	18
14	516	195	11	14
15	516	195	11	14
16	361	137	8	10
17	207	78	4	5
18	207	78	4	5
19	116	44	2	3
20	65	24	1	2
21	39	15	1	1
22	13	5	0	0
23	13	5	0	0
24	13	5	0	0

**Warrant Analysis by Hour**

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	1779	1	34	No	No	No	No	No	No	No	No	No	No
2	2	1725	1	33	No	No	No	No	No	No	No	No	No	No
3	2	1690	1	32	No	No	No	No	No	No	No	No	No	No
4	2	1583	1	30	No	No	No	No	No	No	No	No	No	No
5	2	1406	1	27	No	No	No	No	No	No	No	No	No	No
6	2	1388	1	27	No	No	No	No	No	No	No	No	No	No
7	2	1370	1	26	No	No	No	No	No	No	No	No	No	No
8	2	1246	1	24	No	No	No	No	No	No	No	No	No	No
9	2	1228	1	23	No	No	No	No	No	No	No	No	No	No
10	2	1210	1	23	No	No	No	No	No	No	No	No	No	No
11	2	1050	1	20	No	No	No	No	No	No	No	No	No	No
12	2	978	1	19	No	No	No	No	No	No	No	No	No	No
13	2	961	1	18	No	No	No	No	No	No	No	No	No	No
14	2	711	1	14	No	No	No	No	No	No	No	No	No	No
15	2	711	1	14	No	No	No	No	No	No	No	No	No	No
16	2	498	1	10	No	No	No	No	No	No	No	No	No	No
17	2	285	1	5	No	No	No	No	No	No	No	No	No	No
18	2	285	1	5	No	No	No	No	No	No	No	No	No	No
19	2	160	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	54	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)	14.8	10.1
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:06	0:05
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	27	34
High Minor Volume Condition Met	No	No
Total Entering Volume on All Approaches During Same Hour	1840	1840
Number of Approaches on Intersection	4	4
Total Volume Condition Met	Yes	Yes
Warrant Met for Approach	No	No
<b>Warrant Met for Intersection</b>	<b>No</b>	

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	1311	480	20
2	1272	466	19
3	1245	456	19
4	1167	427	18
5	1036	379	16
6	1023	374	16
7	1009	370	15
8	918	336	14
9	905	331	14
10	891	326	14
11	773	283	12
12	721	264	11
13	708	259	11
14	524	192	8
15	524	192	8
16	367	134	6
17	210	77	3
18	210	77	3
19	118	43	2
20	66	24	1
21	39	14	1
22	13	5	0
23	13	5	0
24	13	5	0



### Warrant Analysis by Hour

Hour	Major Streets		Minor Street		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	1791	1	20	No	No	No	No	No	No	No	No	No	No
2	2	1738	1	19	No	No	No	No	No	No	No	No	No	No
3	2	1701	1	19	No	No	No	No	No	No	No	No	No	No
4	2	1594	1	18	No	No	No	No	No	No	No	No	No	No
5	2	1415	1	16	No	No	No	No	No	No	No	No	No	No
6	2	1397	1	16	No	No	No	No	No	No	No	No	No	No
7	2	1379	1	15	No	No	No	No	No	No	No	No	No	No
8	2	1254	1	14	No	No	No	No	No	No	No	No	No	No
9	2	1236	1	14	No	No	No	No	No	No	No	No	No	No
10	2	1217	1	14	No	No	No	No	No	No	No	No	No	No
11	2	1056	1	12	No	No	No	No	No	No	No	No	No	No
12	2	985	1	11	No	No	No	No	No	No	No	No	No	No
13	2	967	1	11	No	No	No	No	No	No	No	No	No	No
14	2	716	1	8	No	No	No	No	No	No	No	No	No	No
15	2	716	1	8	No	No	No	No	No	No	No	No	No	No
16	2	501	1	6	No	No	No	No	No	No	No	No	No	No
17	2	287	1	3	No	No	No	No	No	No	No	No	No	No
18	2	287	1	3	No	No	No	No	No	No	No	No	No	No
19	2	161	1	2	No	No	No	No	No	No	No	No	No	No
20	2	90	1	1	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
Total Stopped Delay Per Vehicle on Minor Approach (s)	47.5
Number of Lanes on Minor Street Approach	1
VehicleHours of Stopped Delay on Minor Approach (h:mm)	0:15
Delay Condition Met	No
Volume on Minor Street Approach During Same Hour	20
High Minor Volume Condition Met	No
Total Entering Volume on All Approaches During Same Hour	1811
Number of Approaches on Intersection	3
Total Volume Condition Met	Yes
Warrant Met for Approach	No
<b>Warrant Met for Intersection</b>	<b>No</b>

## **Appendix F- Supporting Documents**

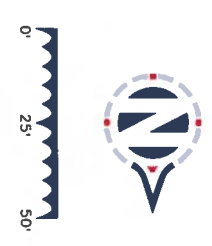
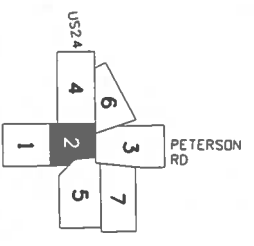
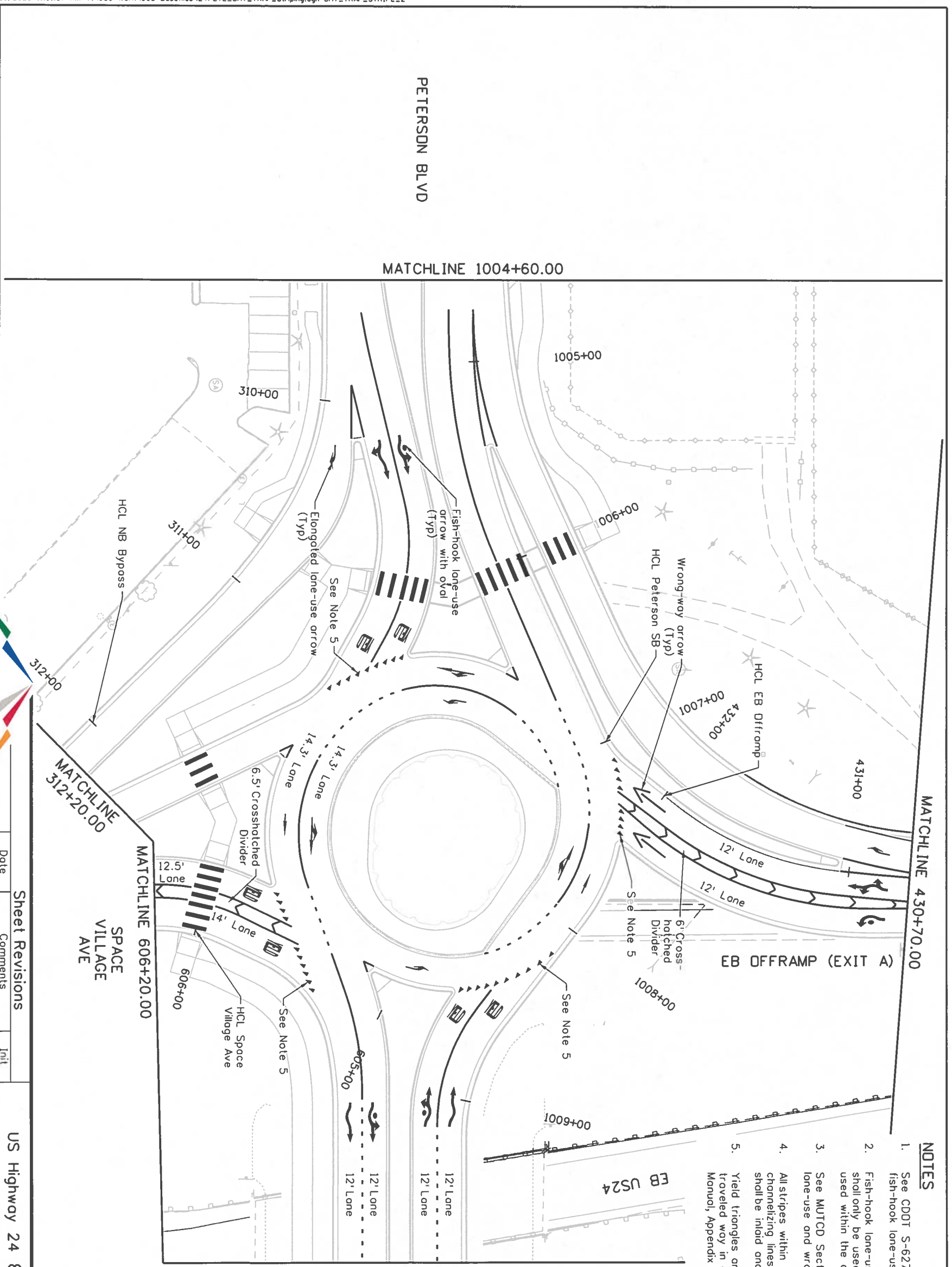
**BASIS**  
PARTNERS  
Basis Partners  
25 N Spruce Street, Suite 310  
Colorado Springs, CO 80905  
Tel: 719-299-5077, basisp.com

Detailer: STV  
Designer: STV  
Reviewer: GB  
Print Date: 12/20/2023  
Horiz. Scale: 1"=50'  
Vert. Scale: N/A

**COLORADO**  
SPRINGS

Date	Comments	Init

US Highway 24 & Peterson Blvd/Rd Roundabouts  
STRIPING PLAN  
SOUTH ROUNDABOUT  
Sheet Number 97



MATCHLINE 430+70.00

MATCHLINE 1004+60.00

MATCHLINE 1009+80.00

PETERSON BLVD

PETERSON RD

- NOTES**
1. See CDDT 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.

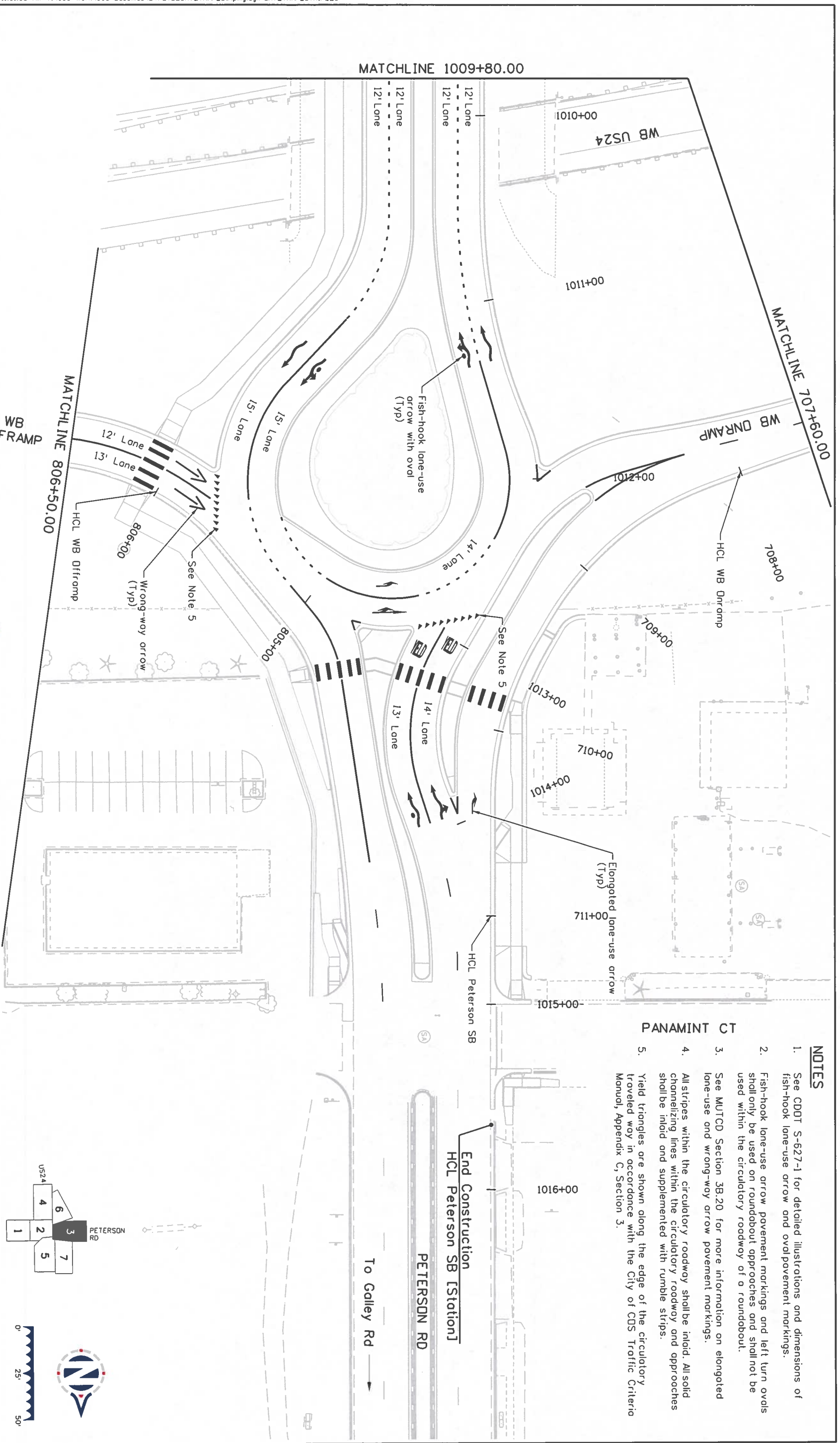
**BASIS PARTNERS**  
 Basis Partners  
 25 N Spruce Street, Suite 310  
 Colorado Springs, CO 80905  
 Tel: 719-299-5077, basisp.com

Detailer: STV  
 Designer: STV  
 Reviewer: GB  
 Print Date: 12/20/2023  
 Horiz. Scale: 1"=50'  
 Vert. Scale: N/A

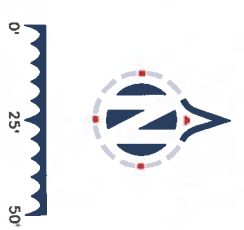
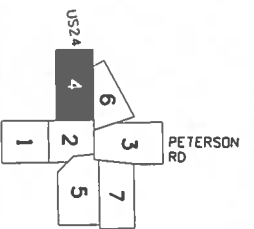
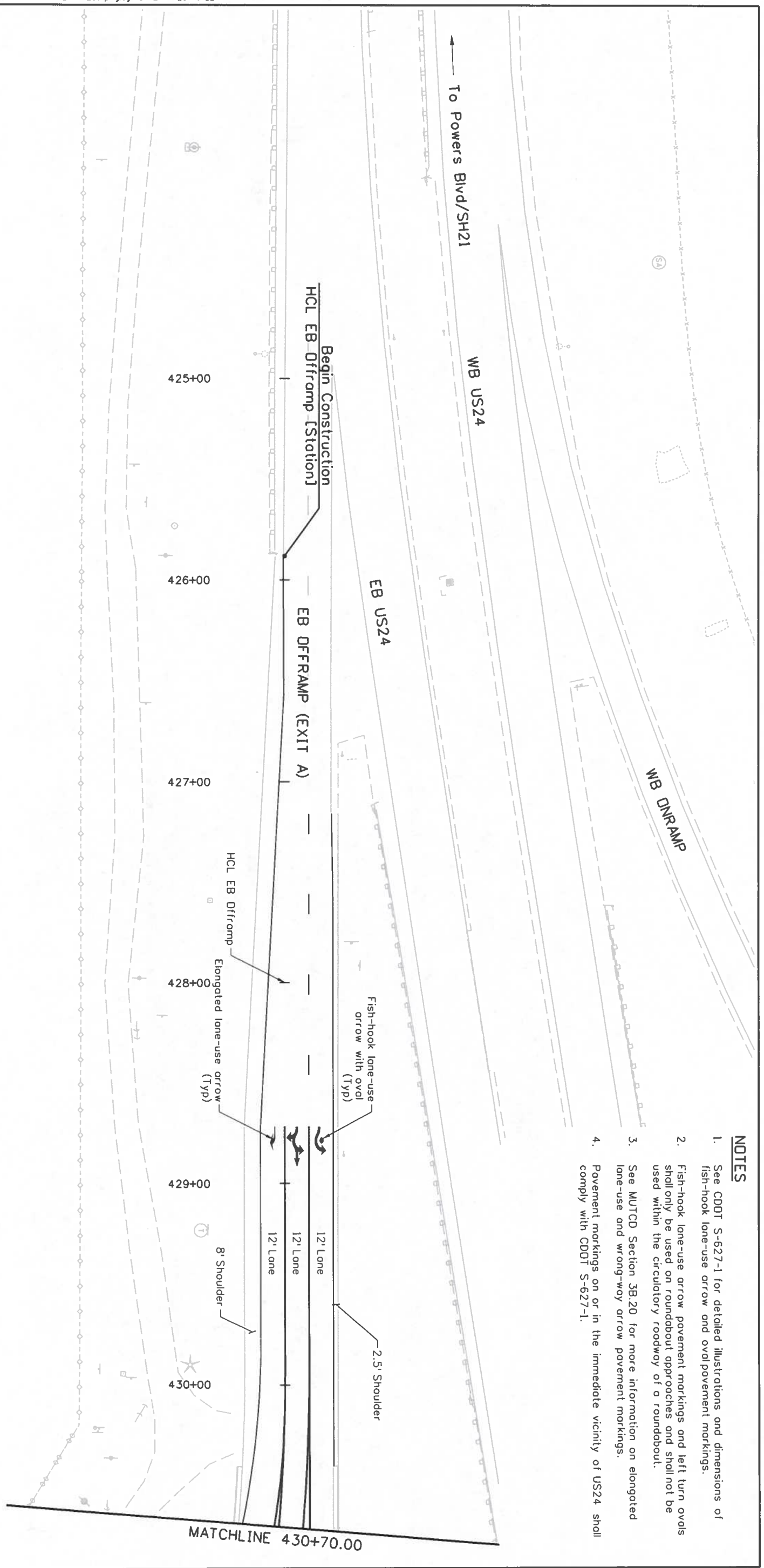


Sheet Revisions	
Date	Comments

US Highway 24 & Peterson Blvd/Rd Roundabouts  
 STRIPING PLAN  
 NORTH ROUNDABOUT  
 Striping 3 of 7  
 Sheet Number 98



- NOTES**
1. See CDDT 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 CDDT S-627-1.



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Detailer: STV  
 Designer: STV  
 Reviewer: GB  
 Print Date: 12/20/2023  
 Horiz. Scale: 1"=50'  
 Vert. Scale: N/A



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

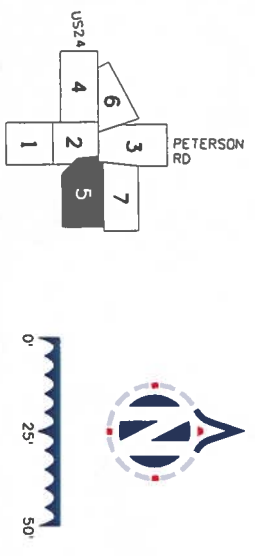
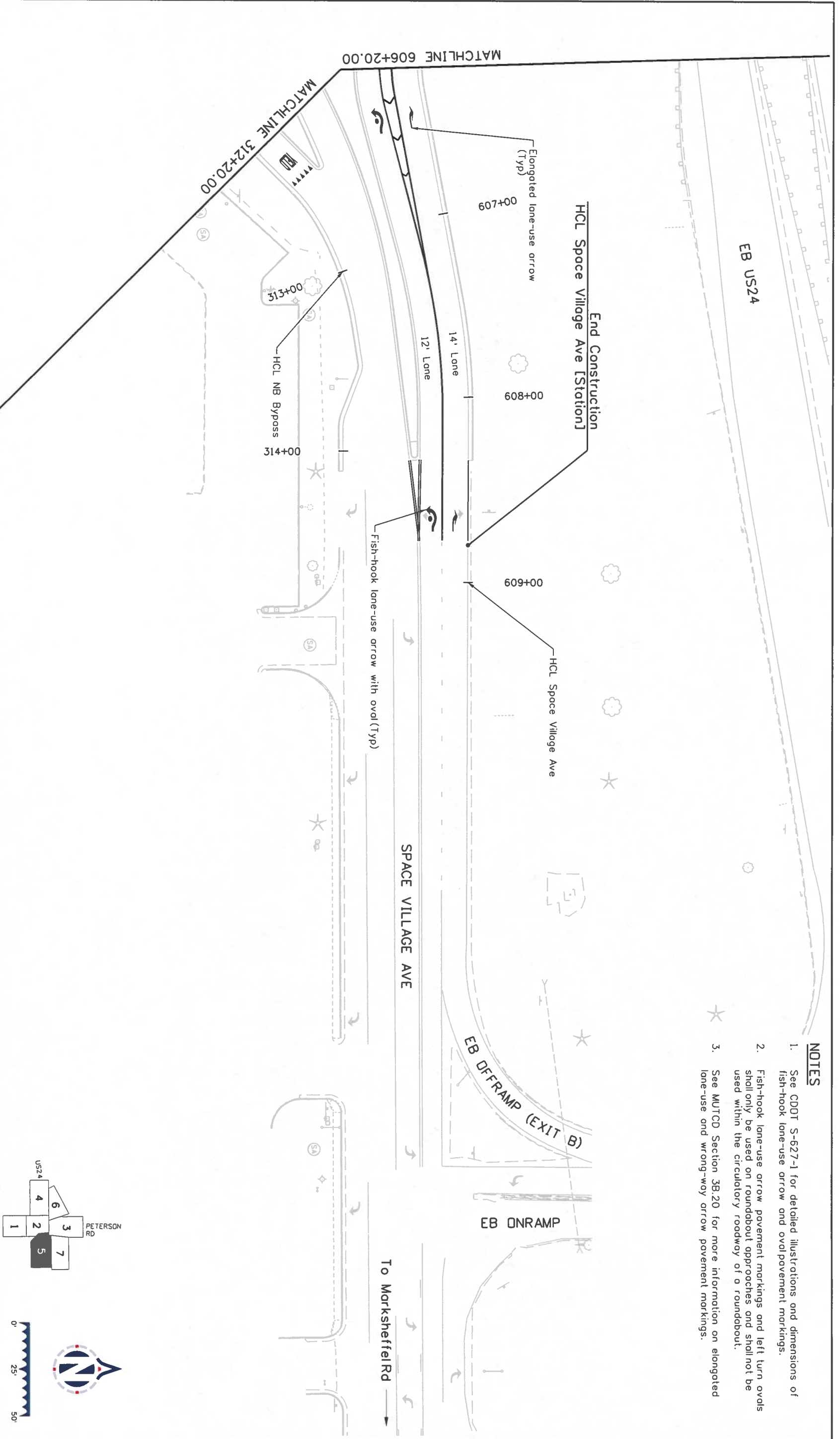
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Detailer: STV  
Designer: STV  
Reviewer: GB  
Print Date: 12/20/2023  
Horiz. Scale: 1"=50'  
Vert. Scale: N/A

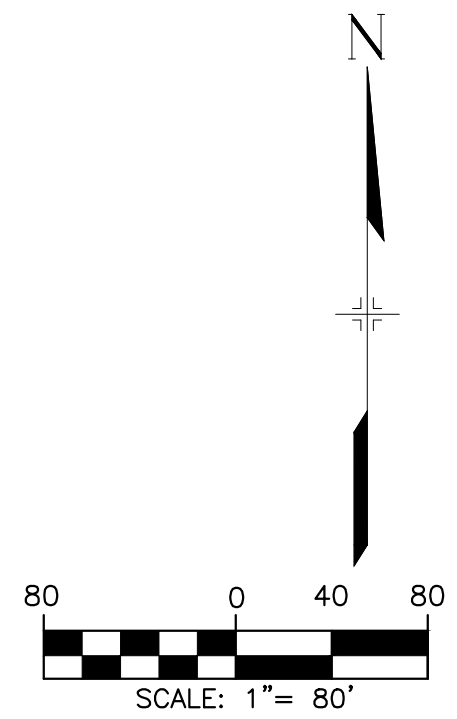
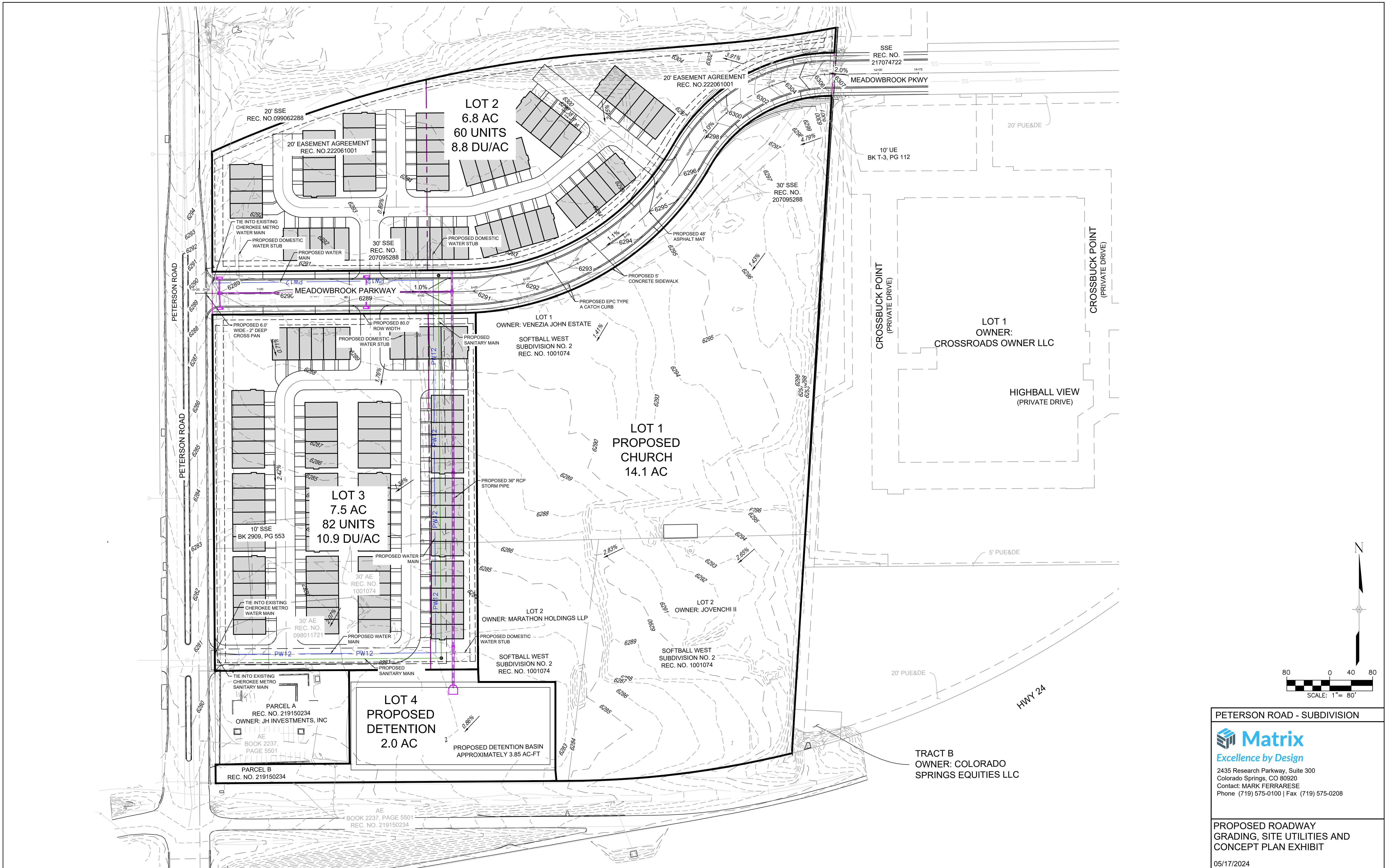


Sheet Revisions		
Date	Comments	Init

US Highway 24 & Peterson Blvd/Rd Roundabouts  
STRIPING PLAN  
SPACE VILLAGE AVE  
Striping 5 of 7  
Sheet Number 100



- NOTES**
1. See CDDT 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.



PETERSON ROAD - SUBDIVISION

**Matrix**  
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PROPOSED ROADWAY GRADING, SITE UTILITIES AND CONCEPT PLAN EXHIBIT

05/17/2024